

**APPENDIX THREE**

**Spectra Relevant to Chapter Three:**

**The Total Syntheses of (+)- and (-)-Dragmacidin F**

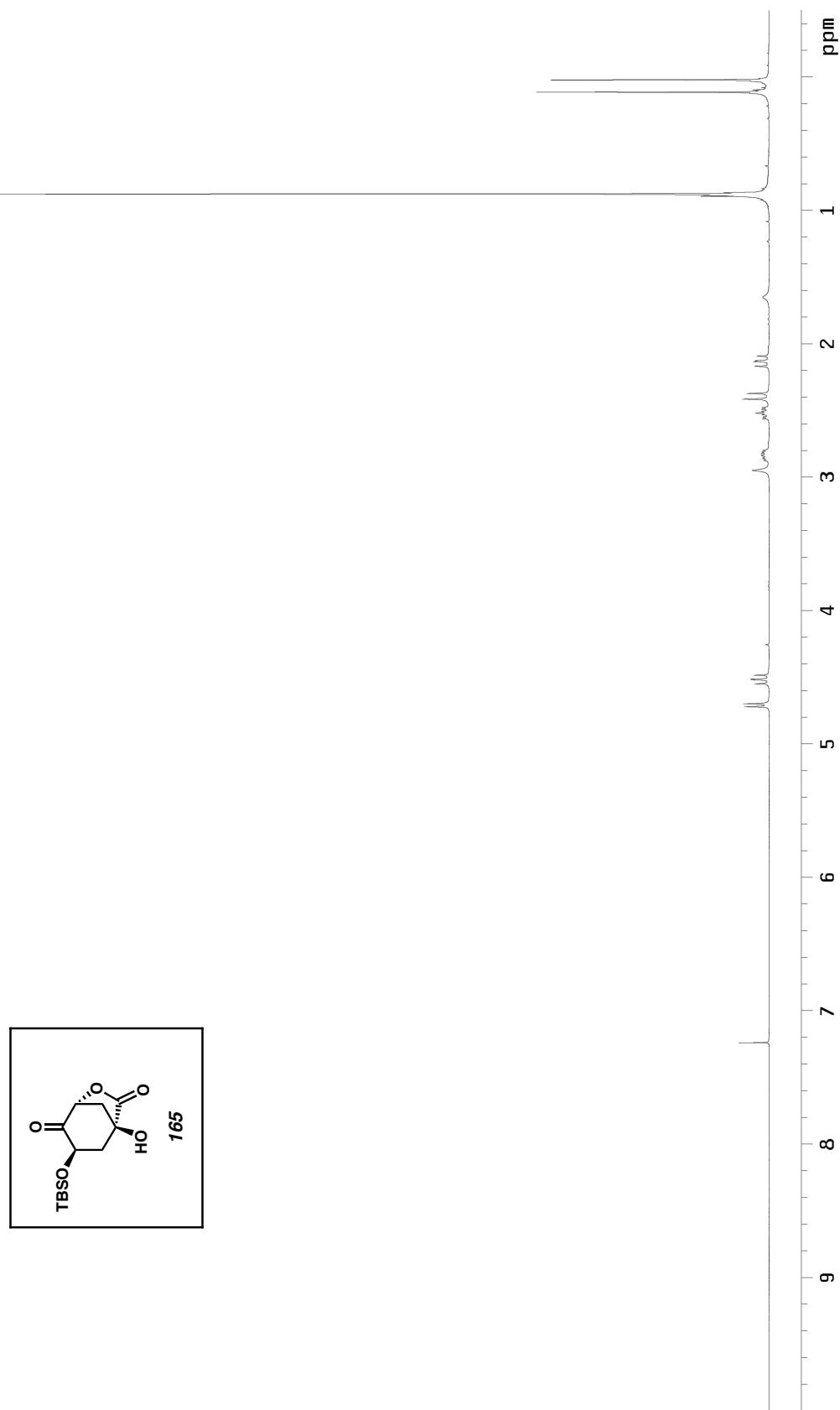


Figure A3.1  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 165

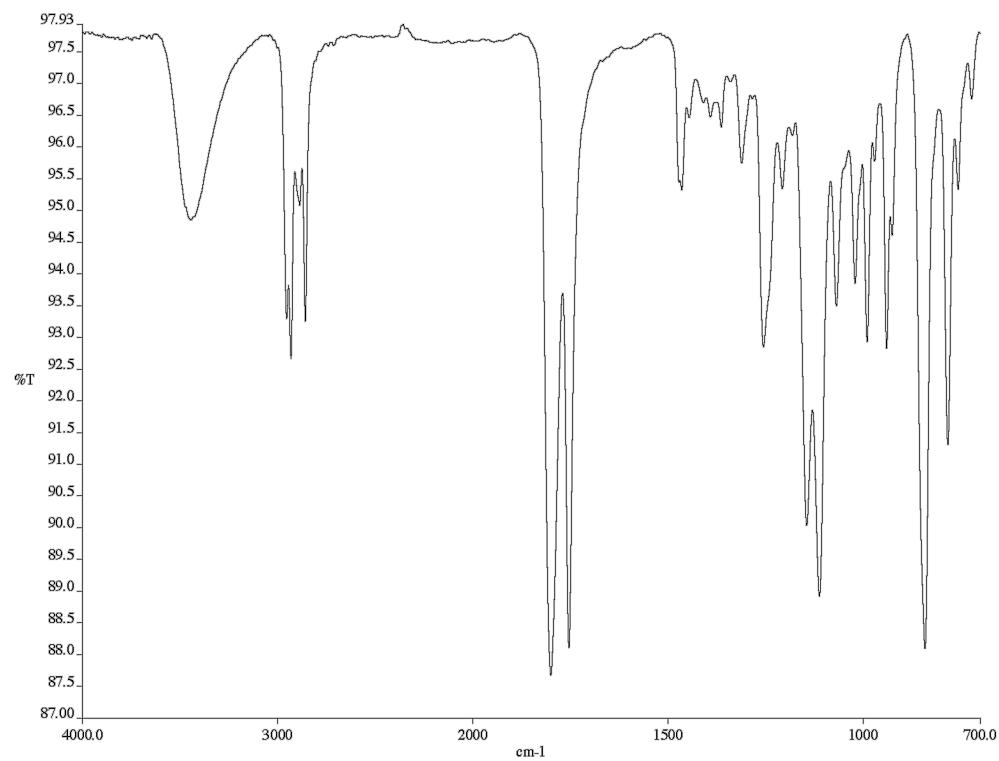


Figure A3.2 Infrared spectrum (thin film/NaCl) of compound **165**

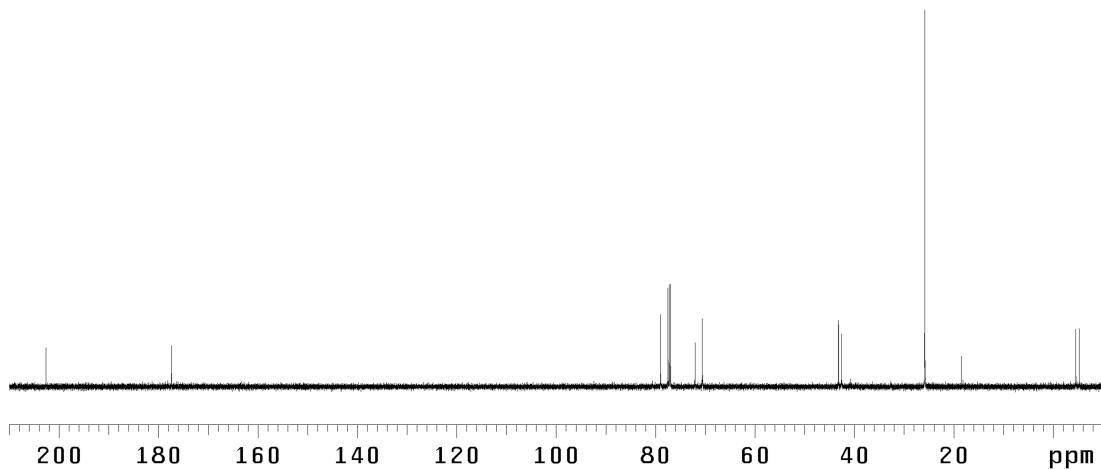


Figure A3.3  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **165**

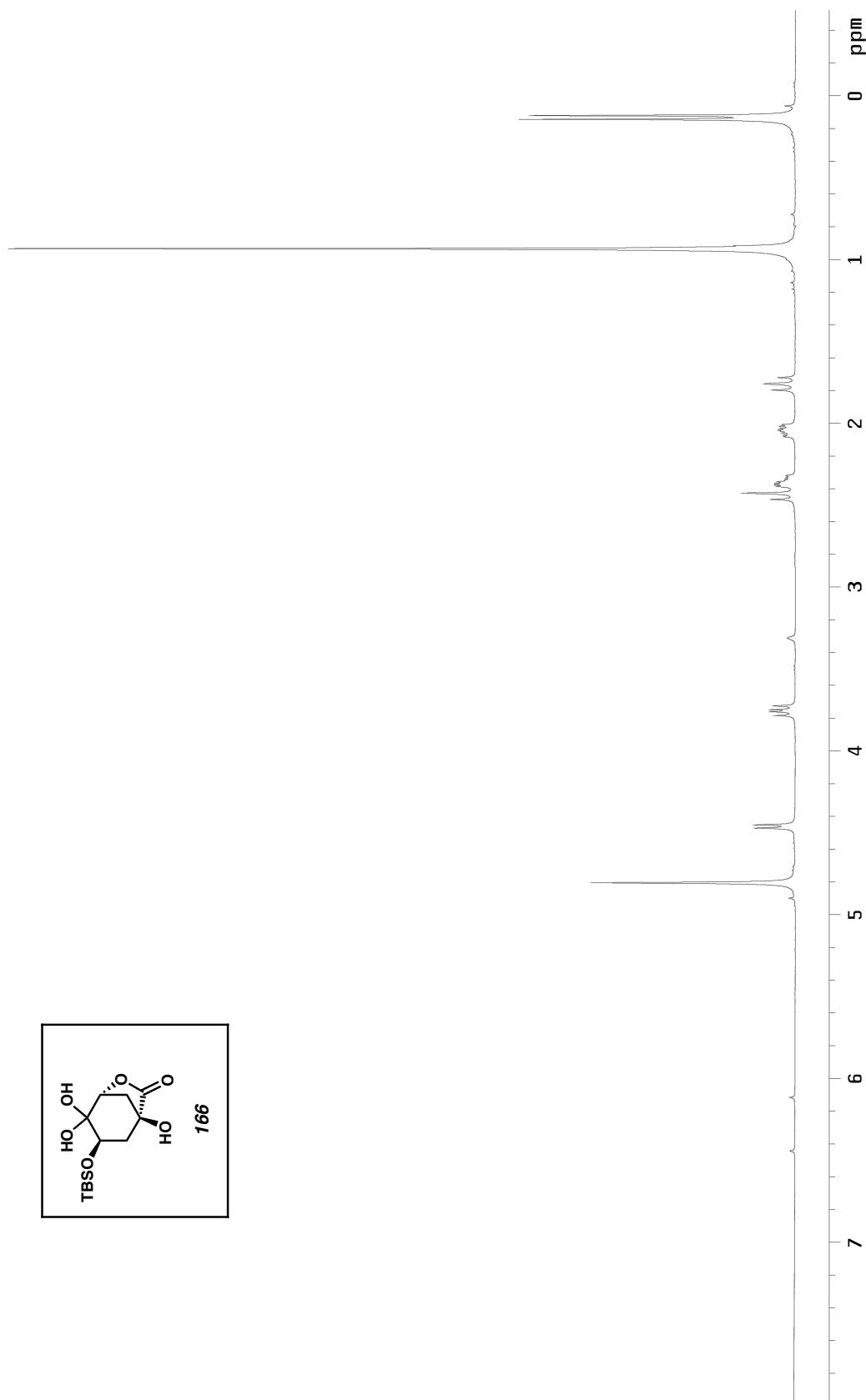


Figure A3.4  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_3\text{OD}$ ) of compound 166

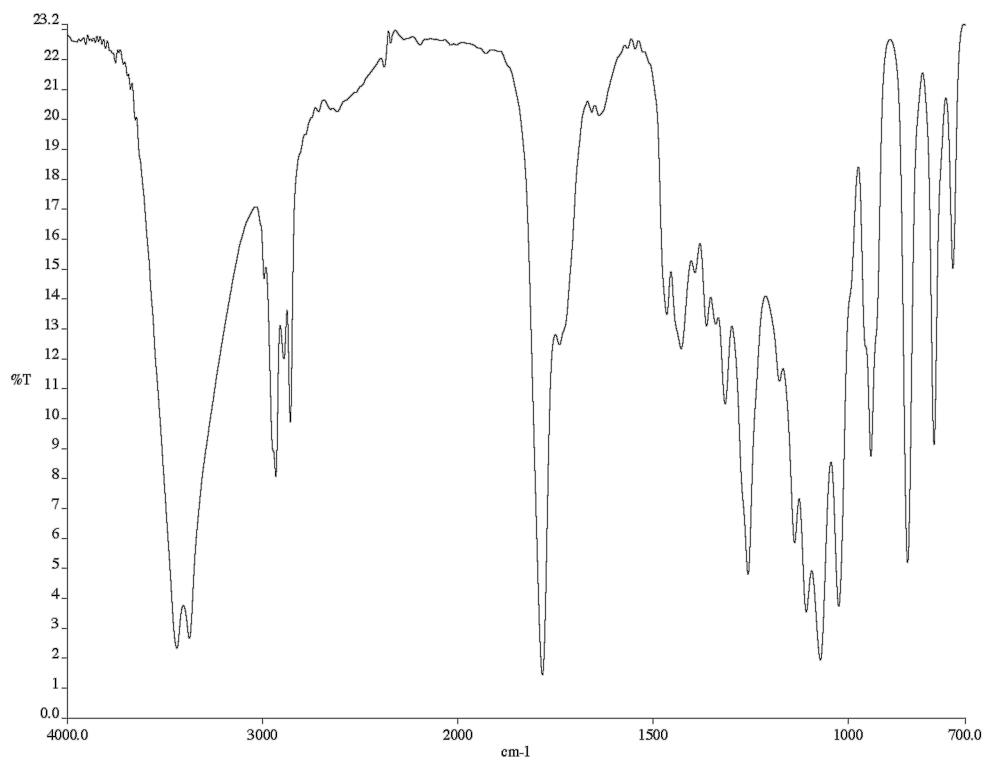


Figure A3.5 Infrared spectrum (KBr pellet) of compound **166**

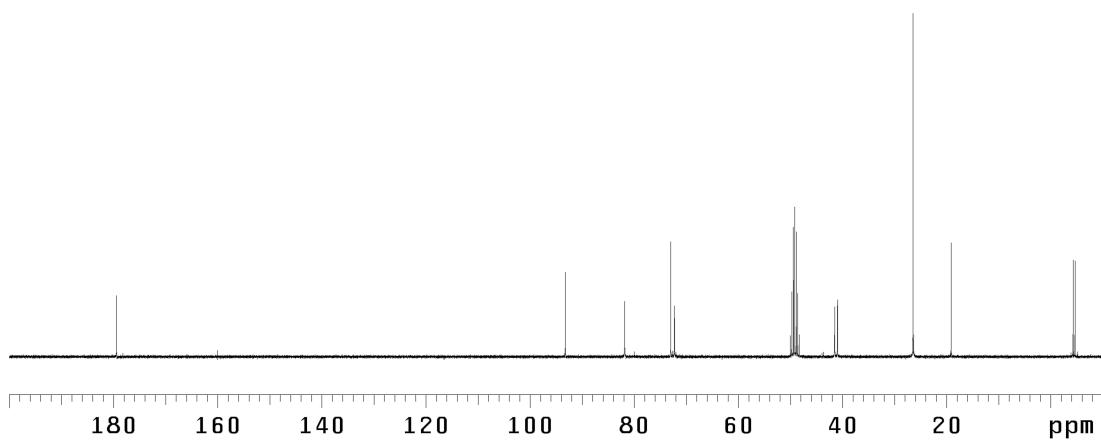


Figure A3.6  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_3\text{OD}$ ) of compound **166**

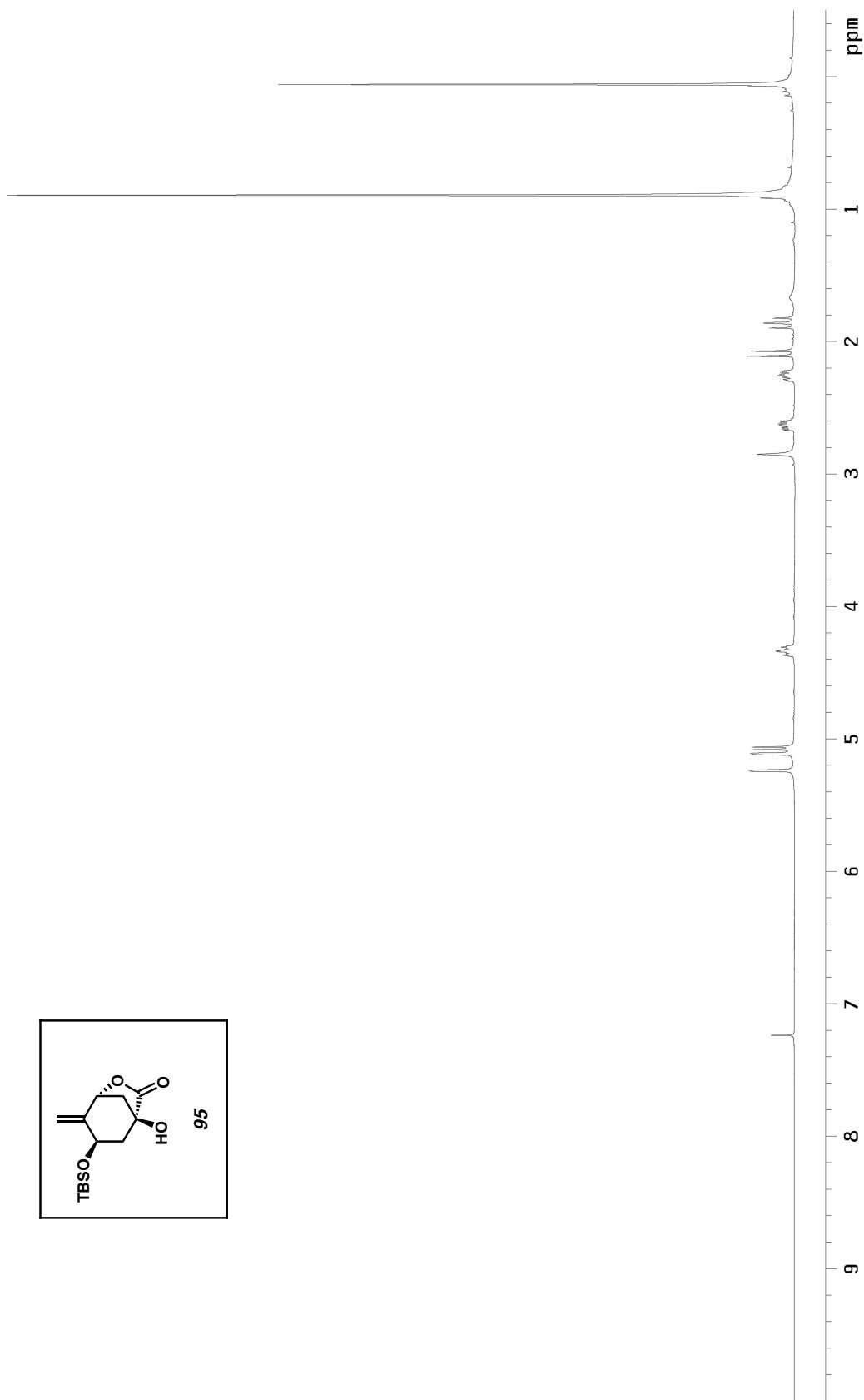
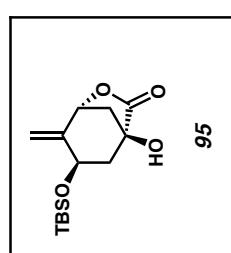


Figure A3.7  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 95

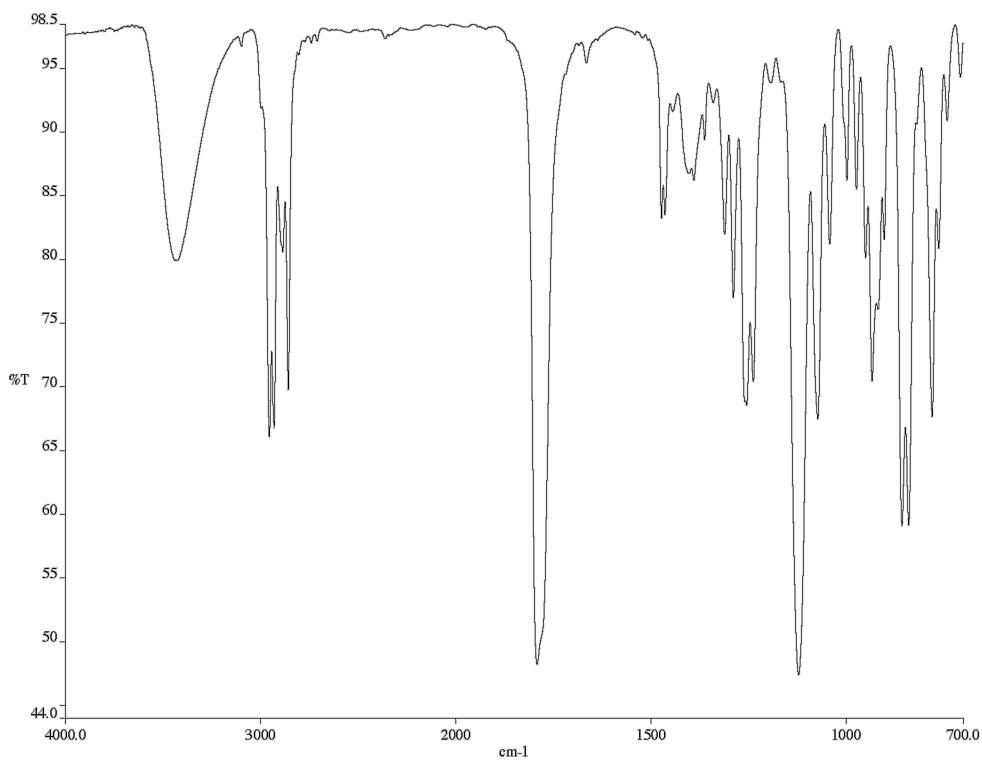


Figure A3.8 Infrared spectrum (thin film/NaCl) of compound **95**

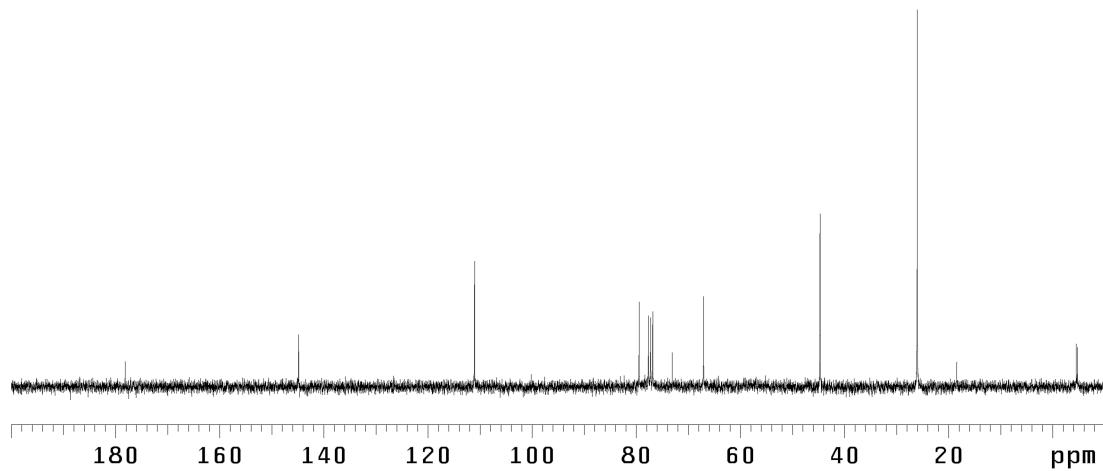
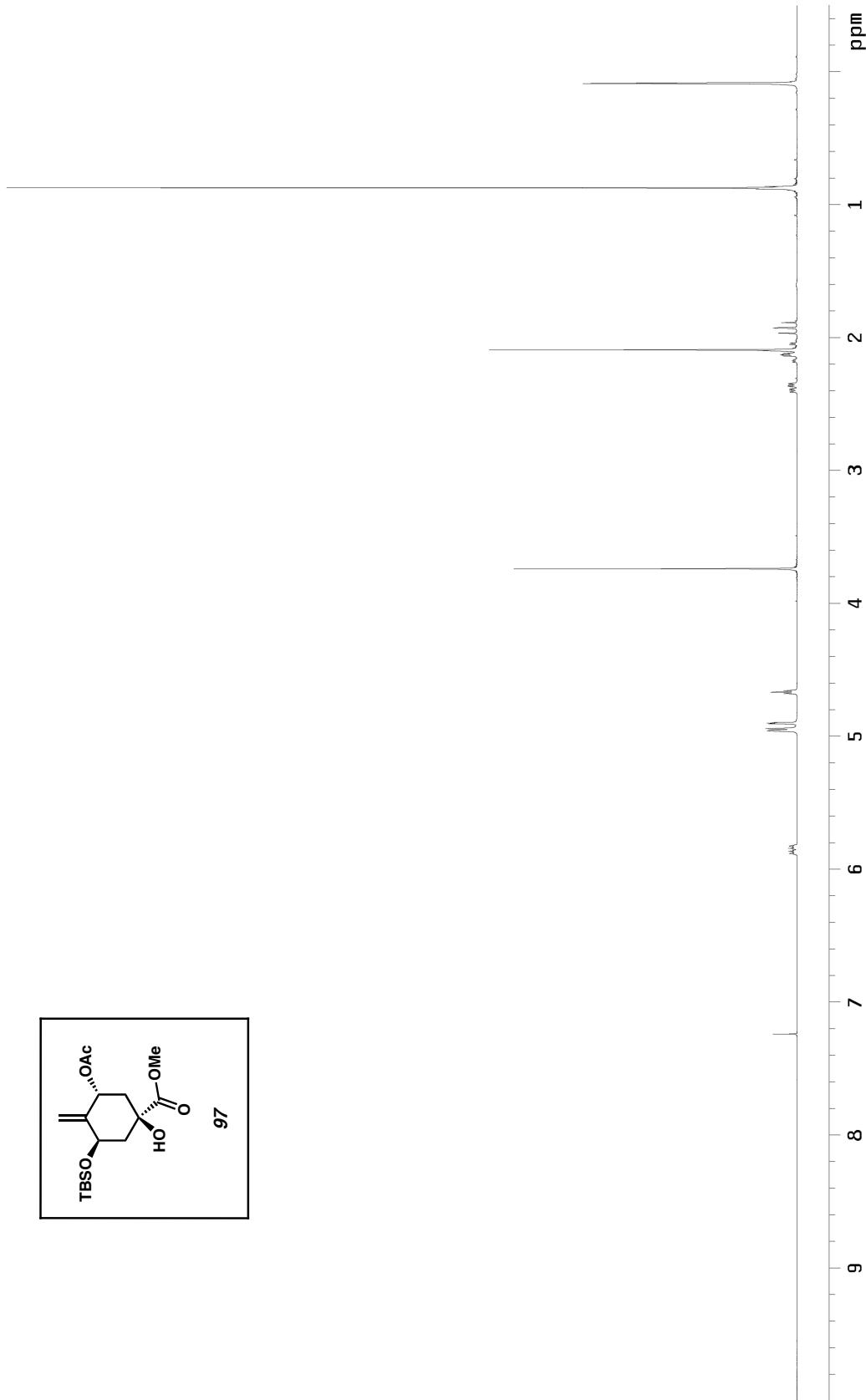


Figure A3.9  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **95**



*Figure A3.10*  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 97

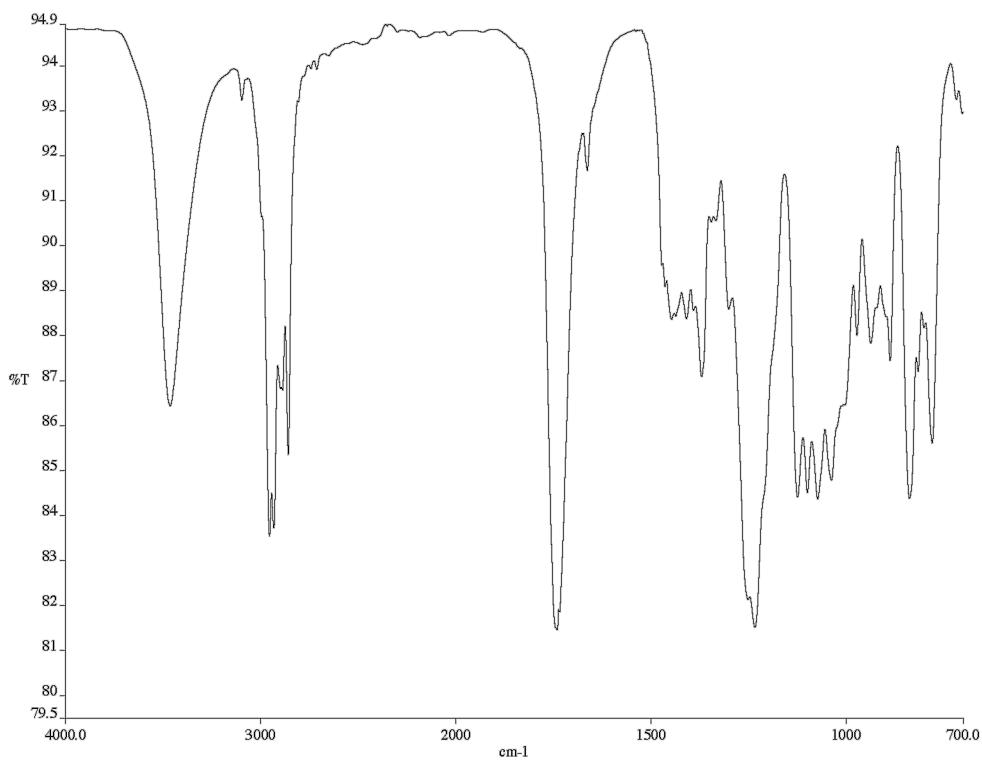


Figure A3.11 Infrared spectrum (thin film/NaCl) of compound **97**

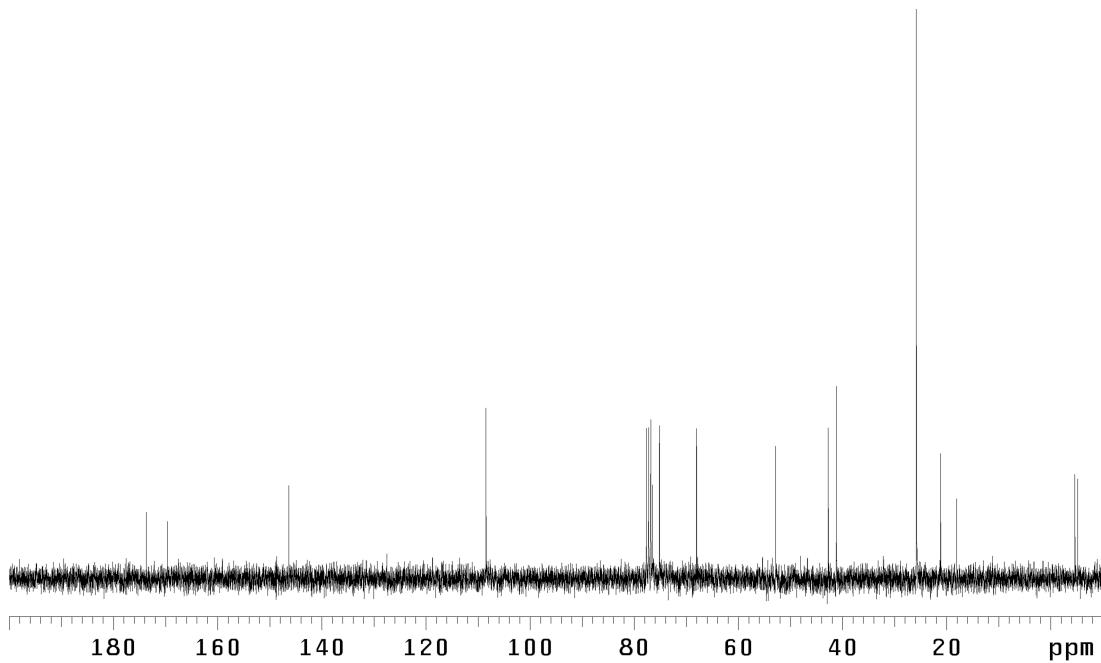
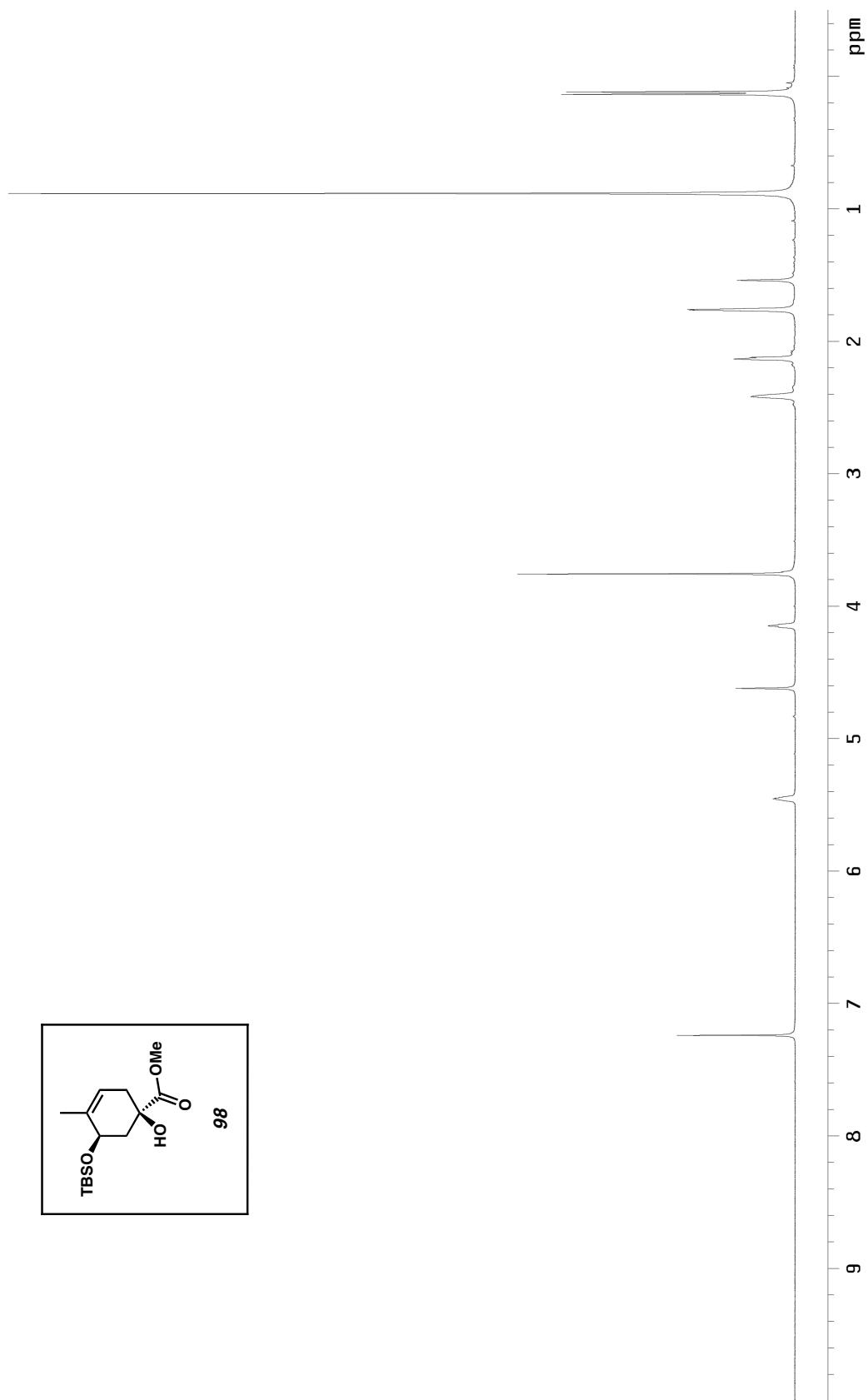


Figure A3.12  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **97**

Figure A3.13  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 98



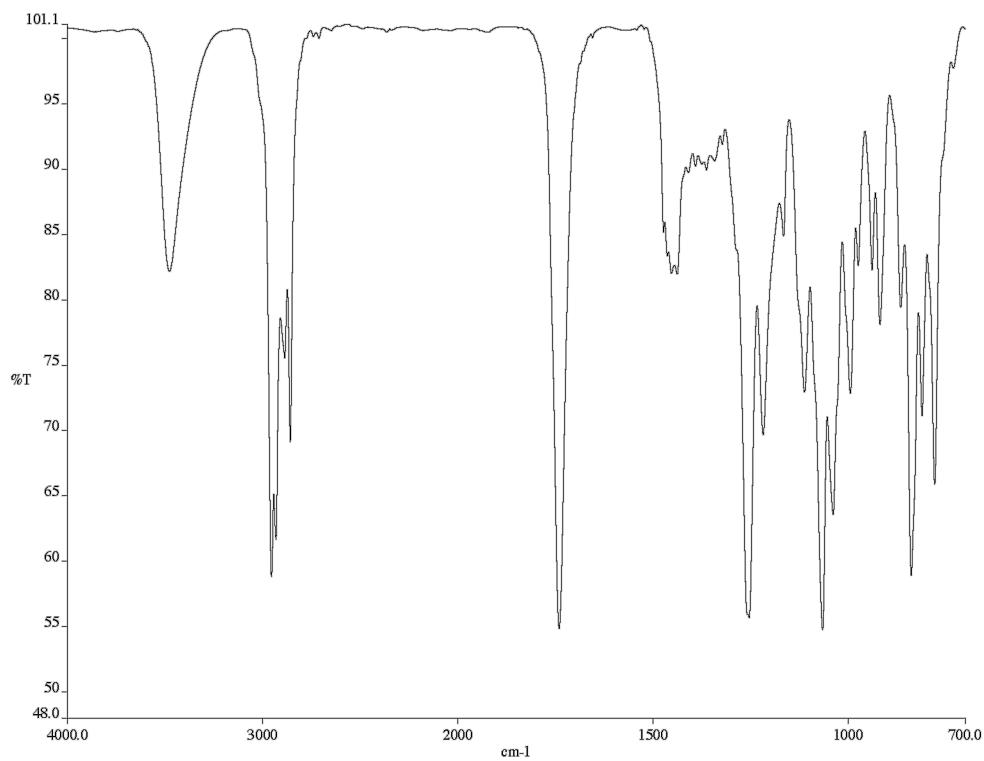


Figure A3.14 Infrared spectrum (thin film/NaCl) of compound **98**

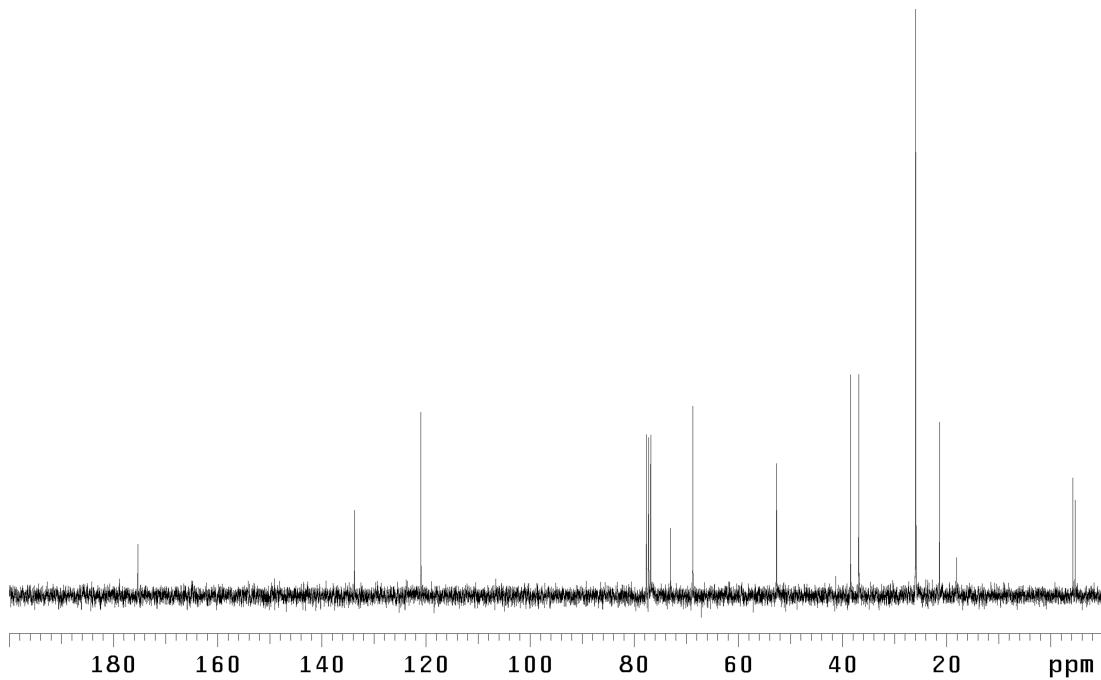


Figure A3.15  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **98**

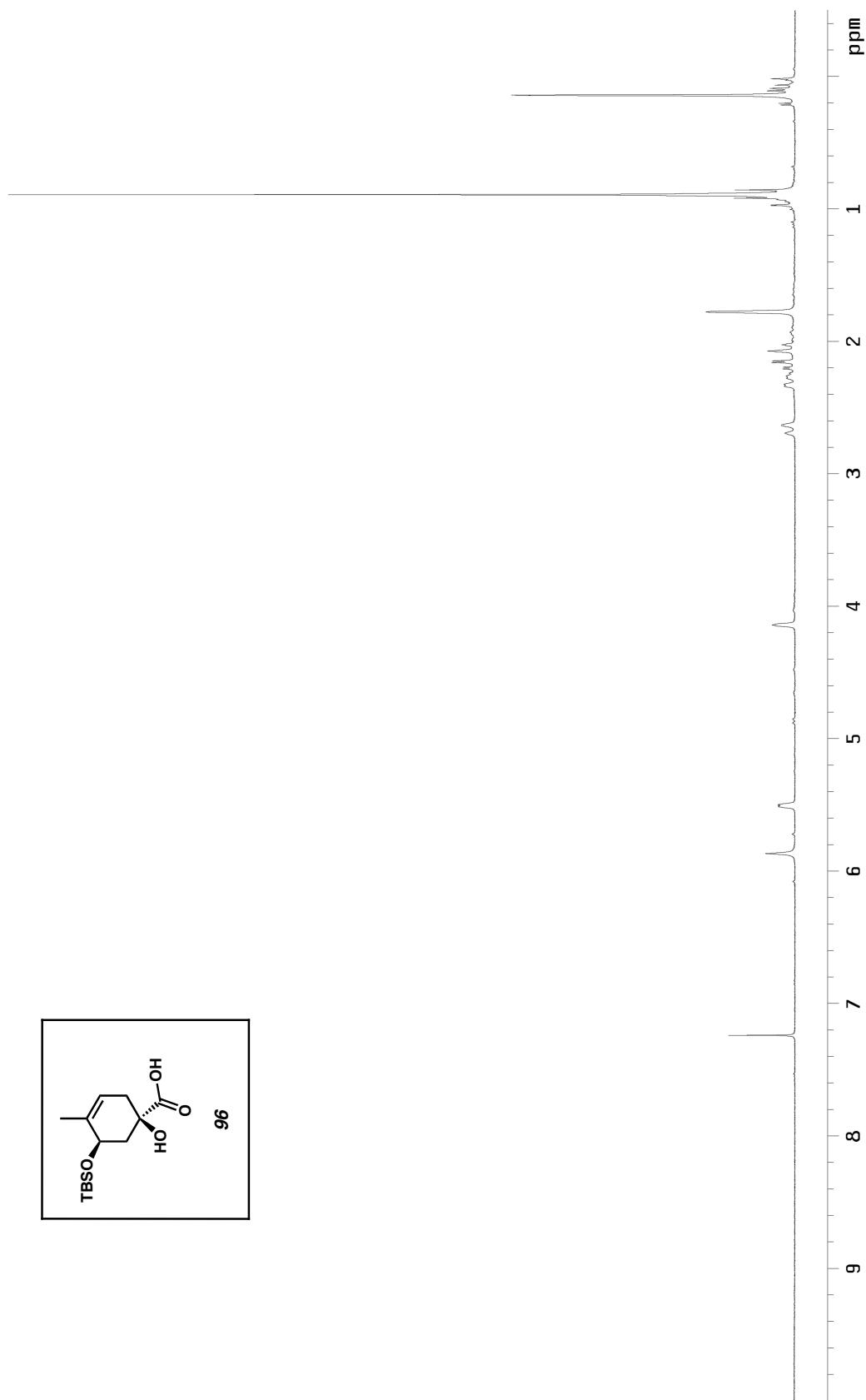


Figure A3.16  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 96

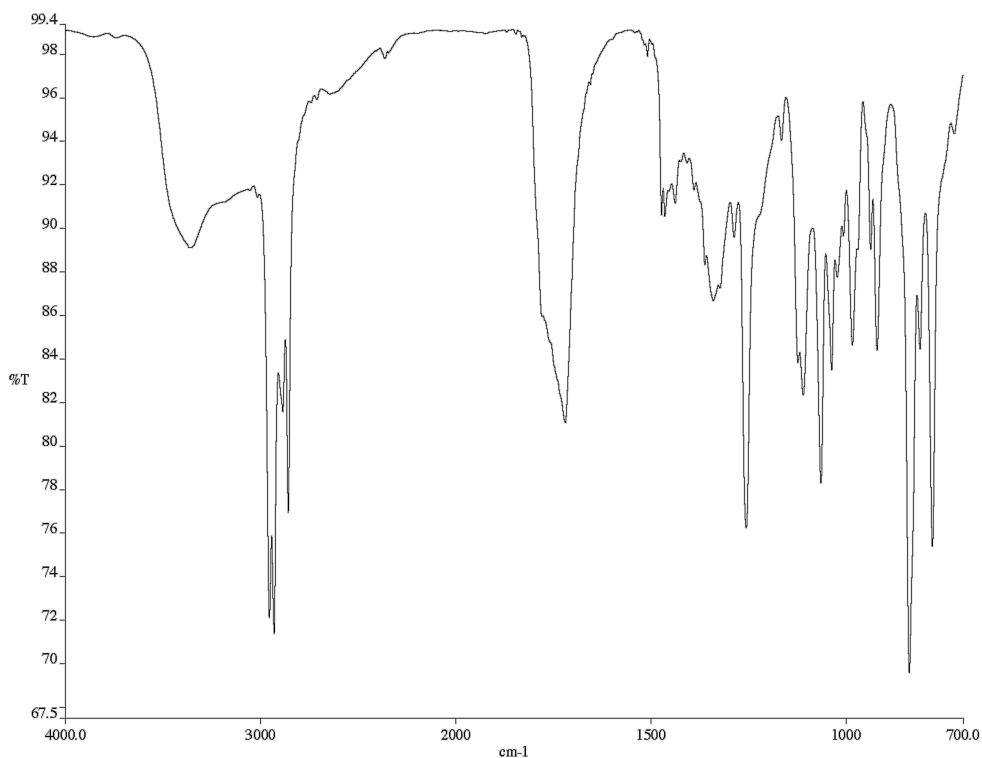


Figure A3.17 Infrared spectrum (thin film/NaCl) of compound **96**

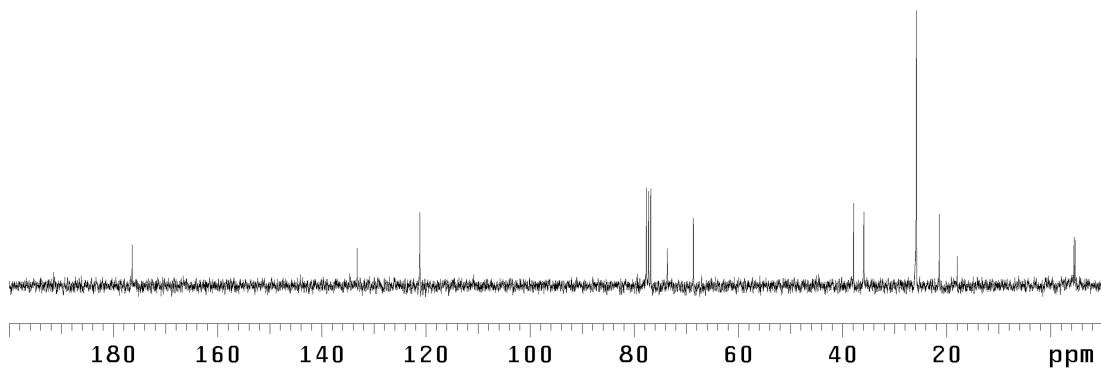
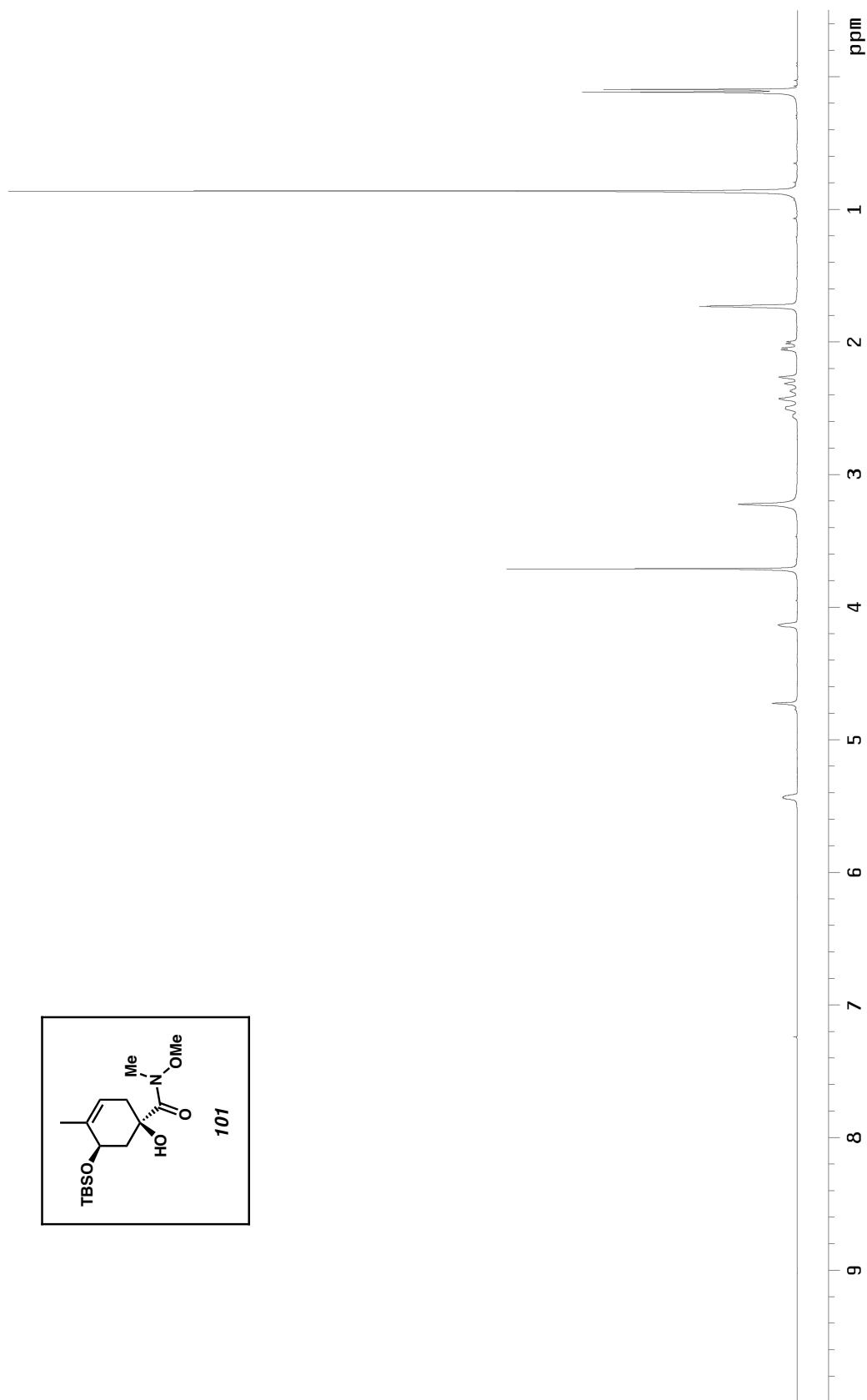


Figure A3.18  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **96**

Figure A3.19  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 101



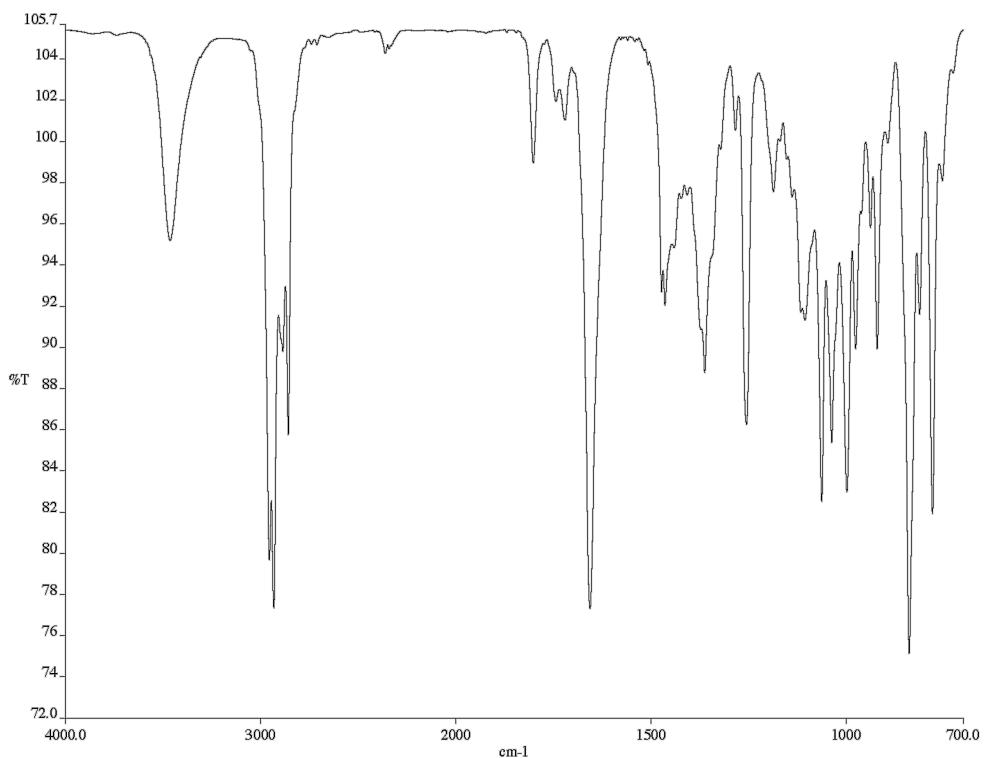


Figure A3.20 Infrared spectrum (thin film/NaCl) of compound **101**

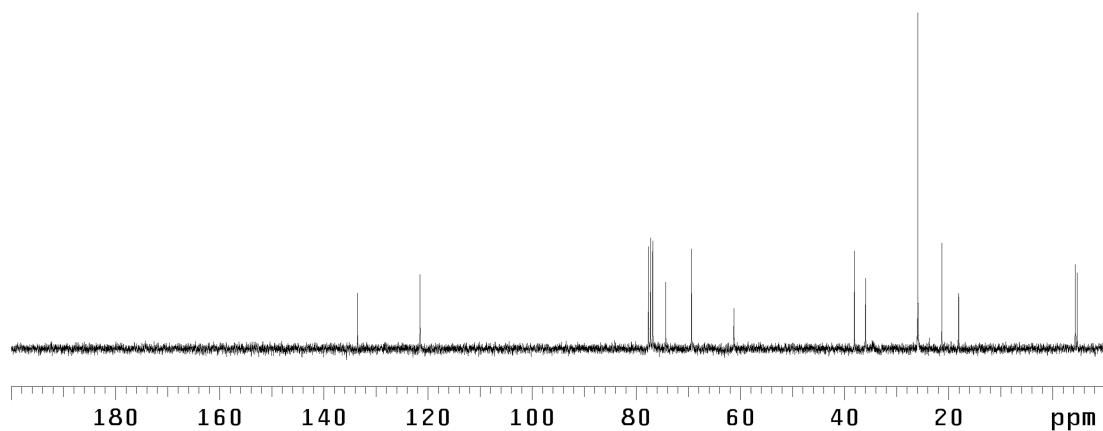


Figure A3.21  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **101**

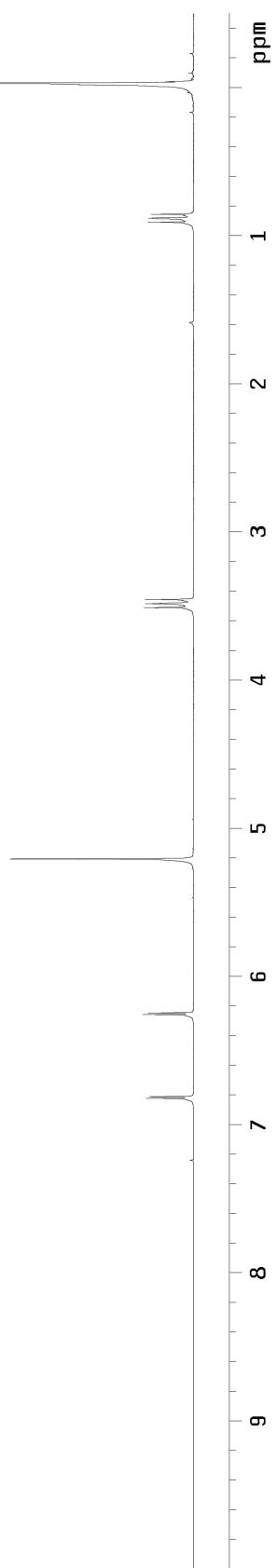
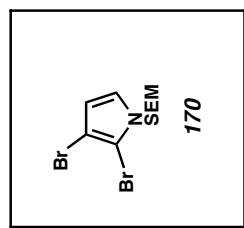


Figure A3.22 <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) of compound 170



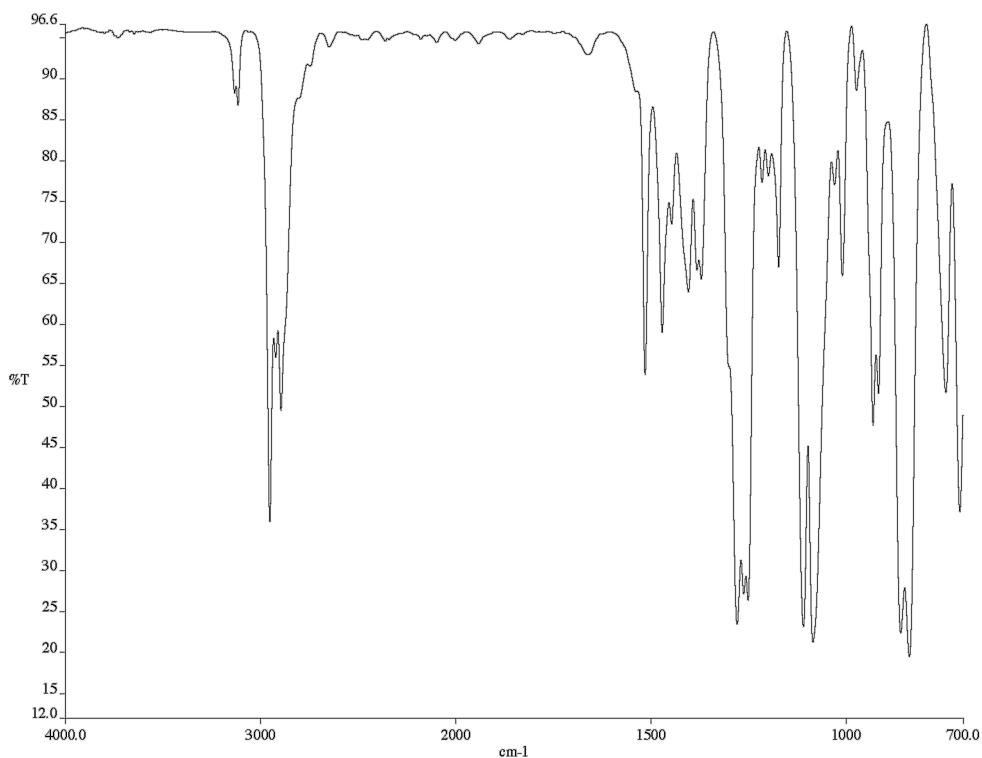


Figure A3.23 Infrared spectrum (thin film/NaCl) of compound **170**

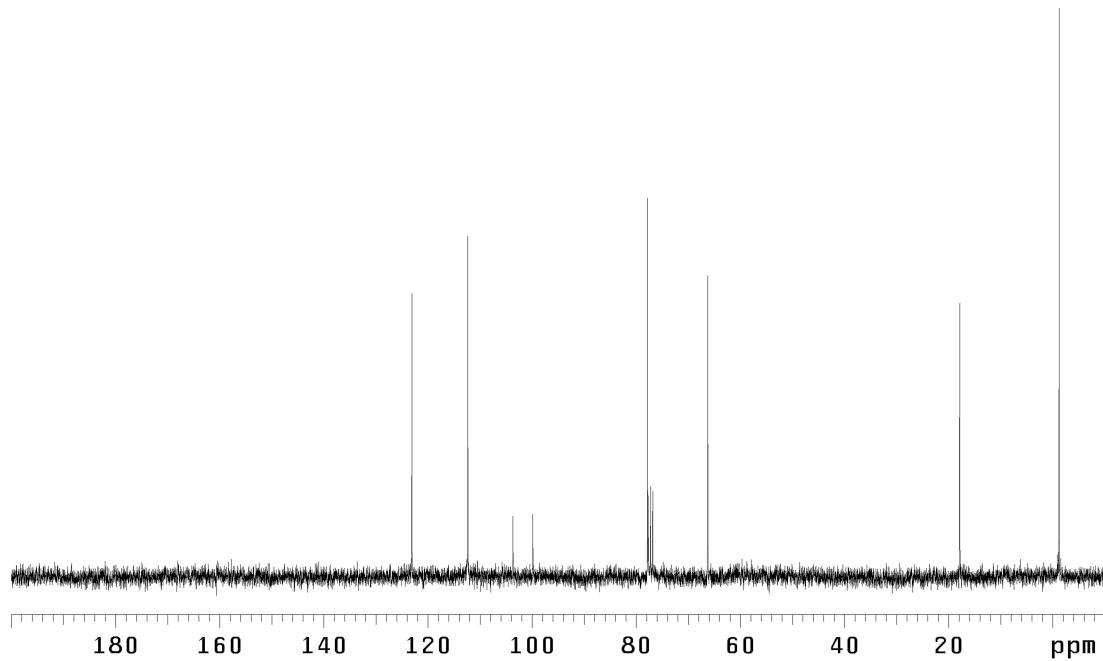
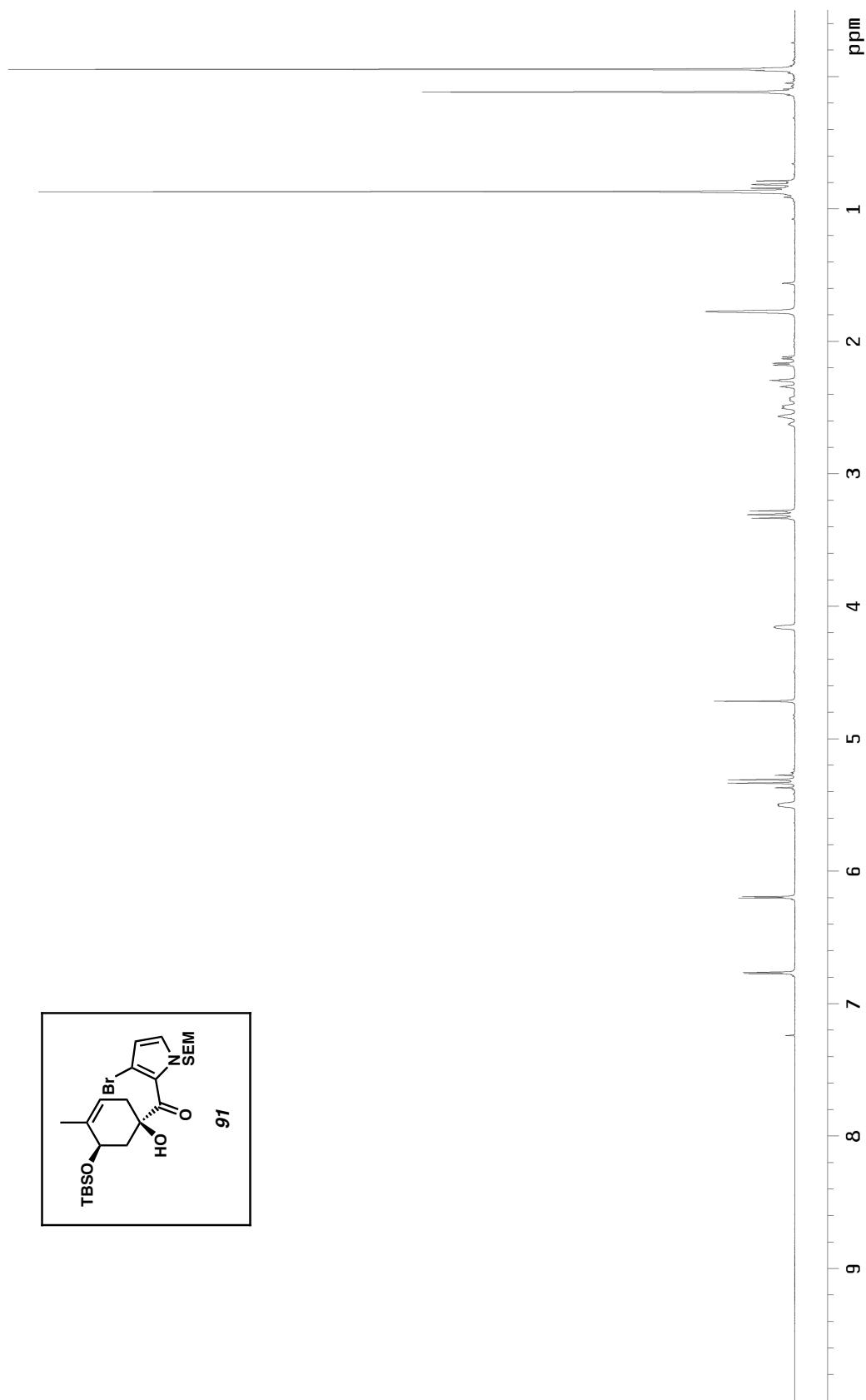


Figure A3.24  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **170**

Figure A3.25  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 91



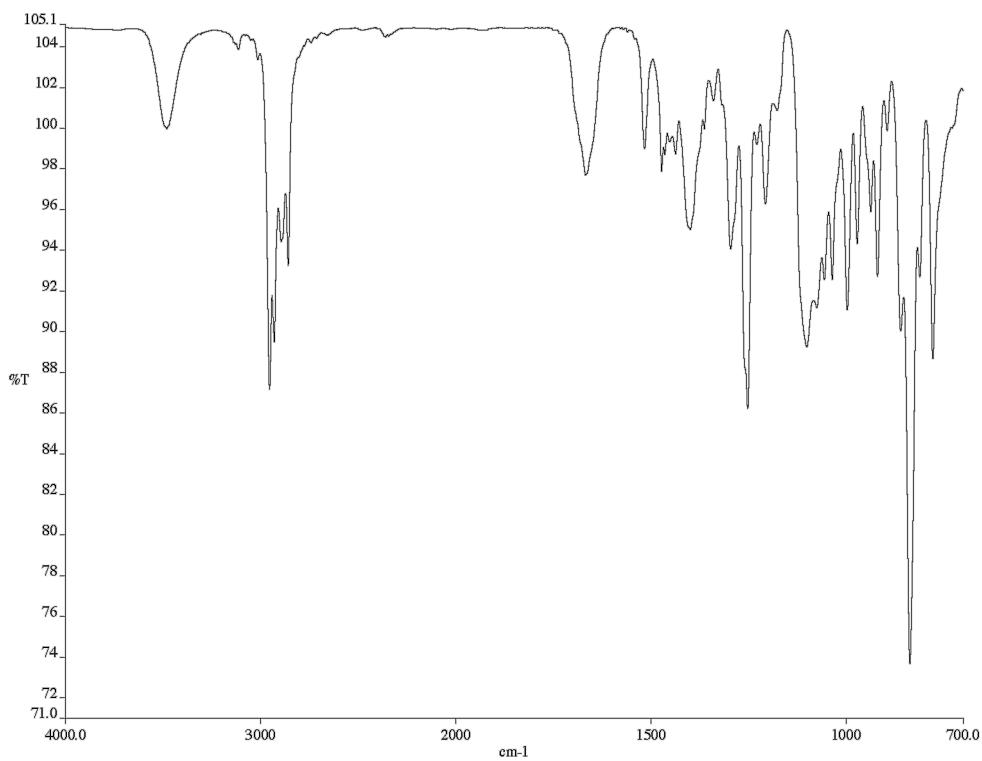


Figure A3.26 Infrared spectrum (thin film/NaCl) of compound **91**

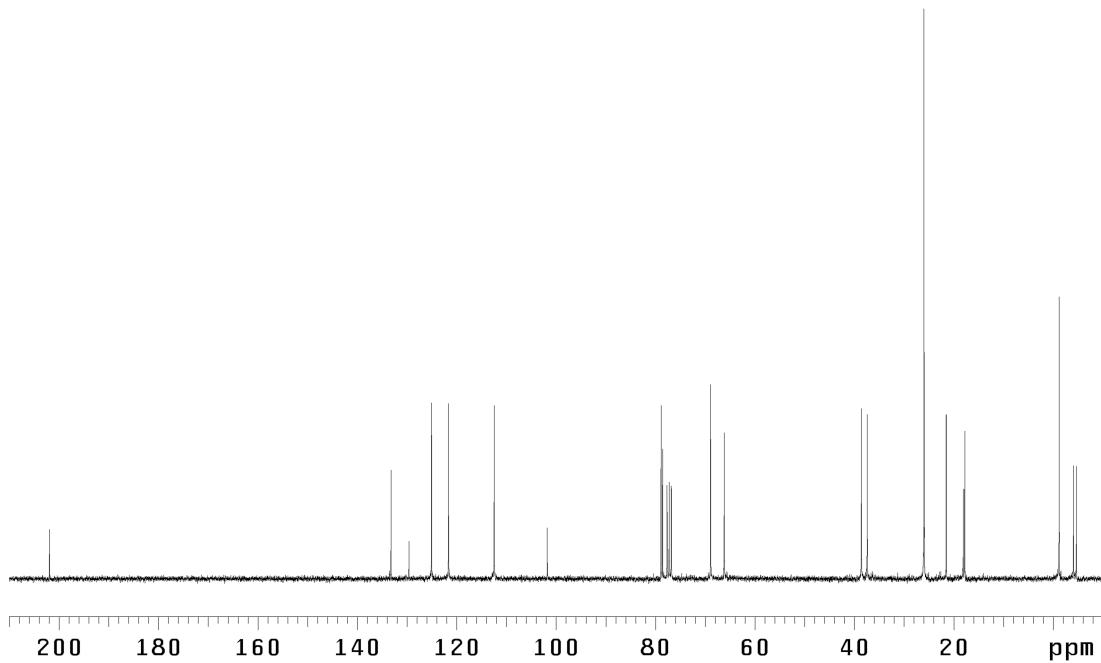


Figure A3.27  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **91**

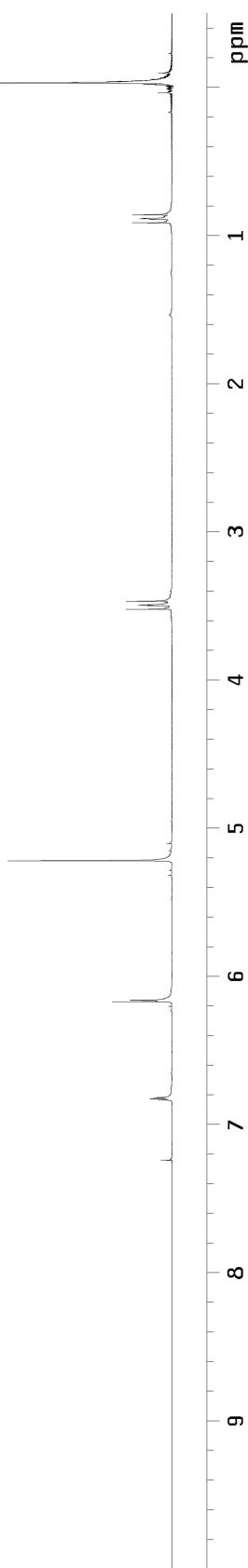
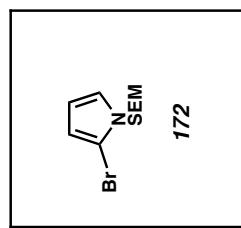


Figure A3.28 <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) of compound 172



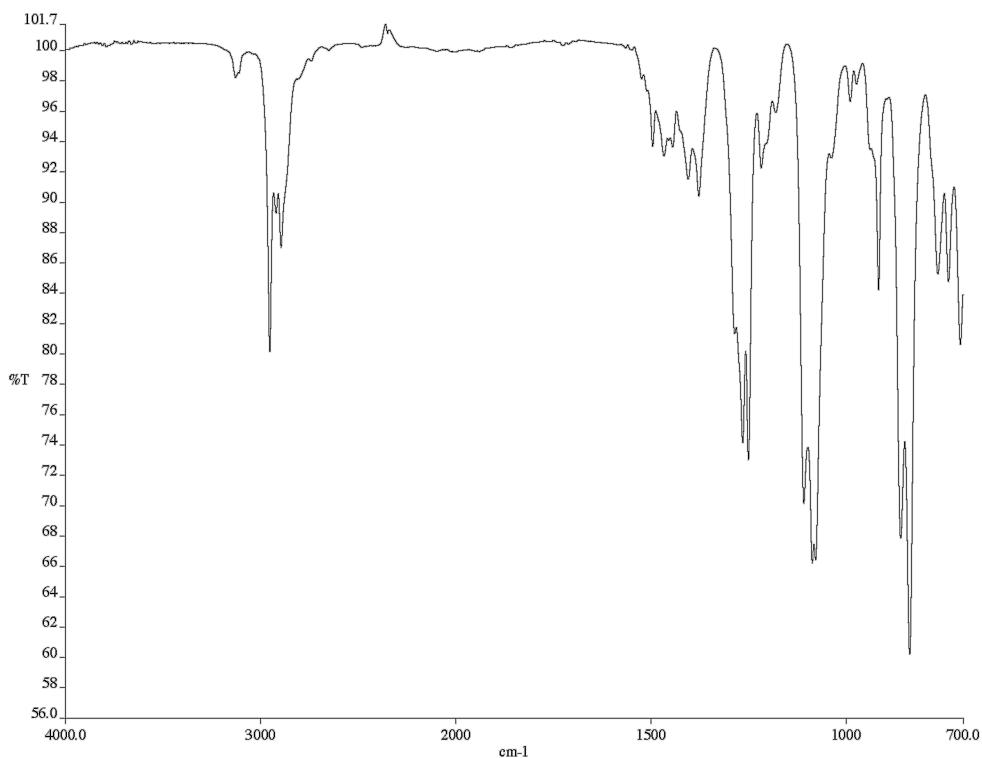


Figure A3.29 Infrared spectrum (thin film/NaCl) of compound **172**

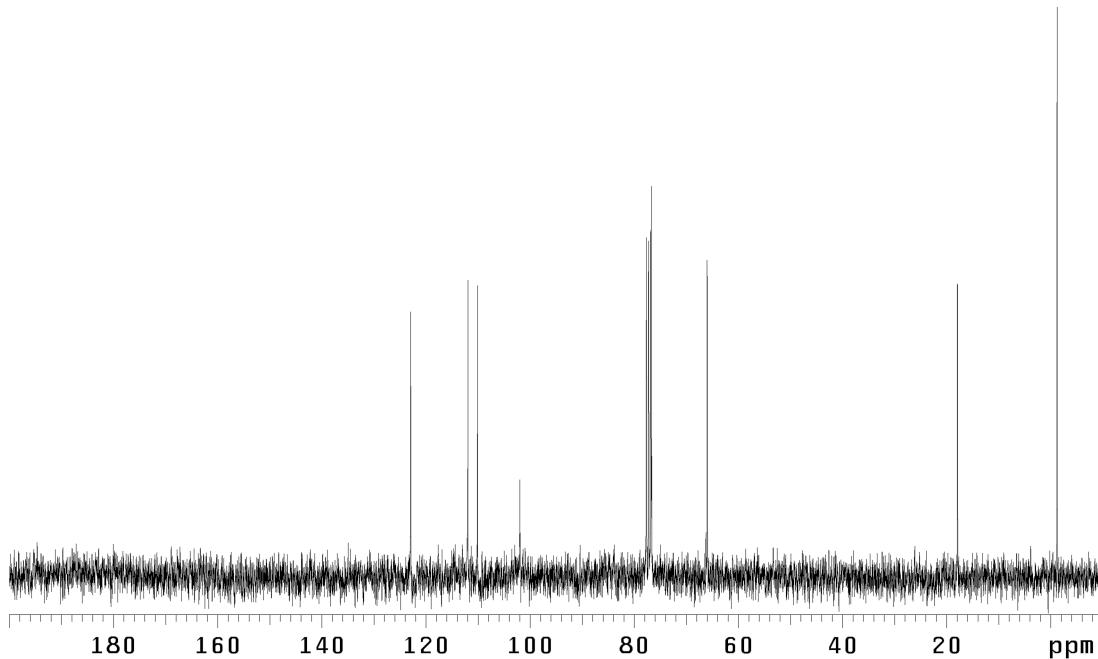


Figure A3.30  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **172**

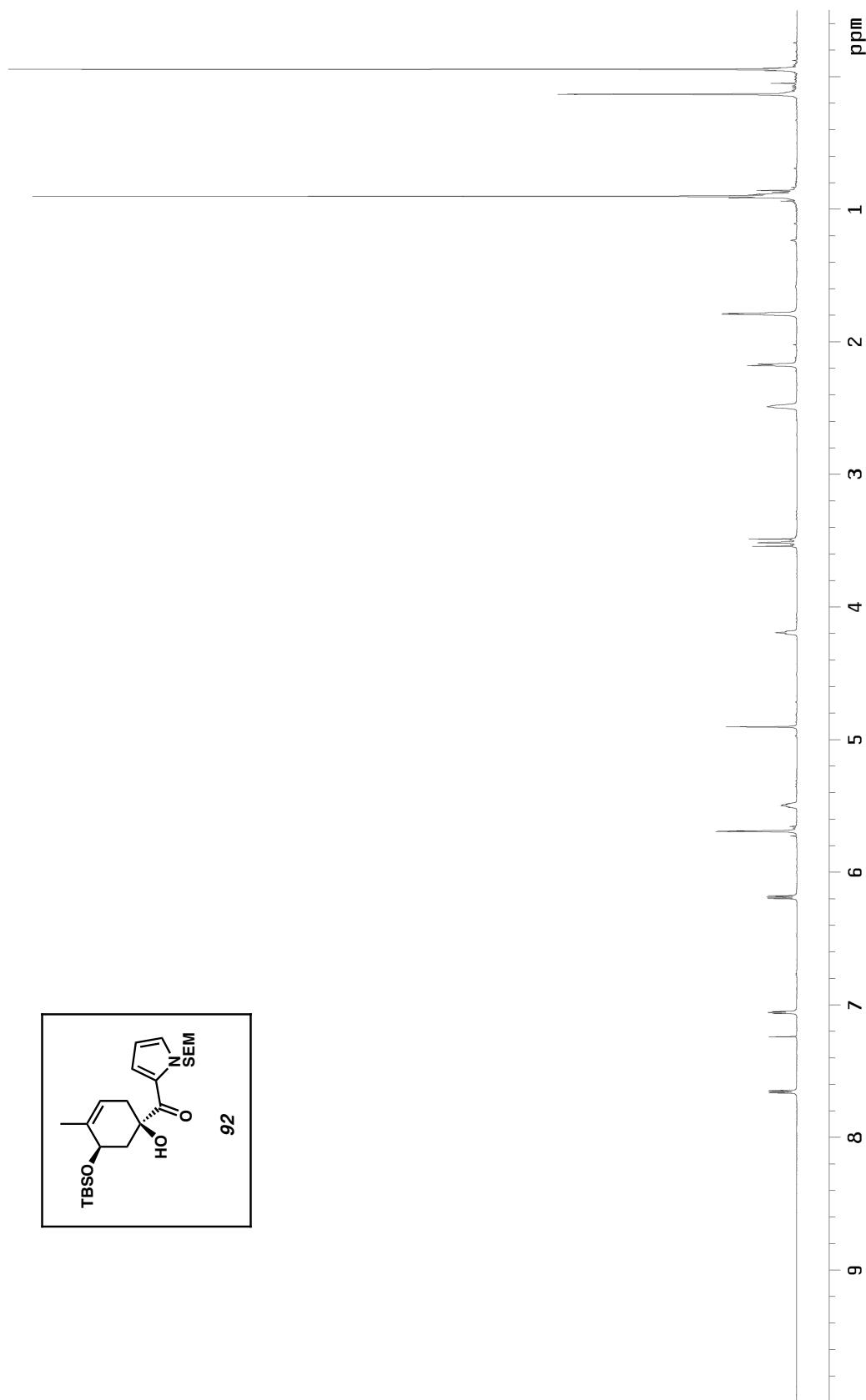


Figure A3.31  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 92

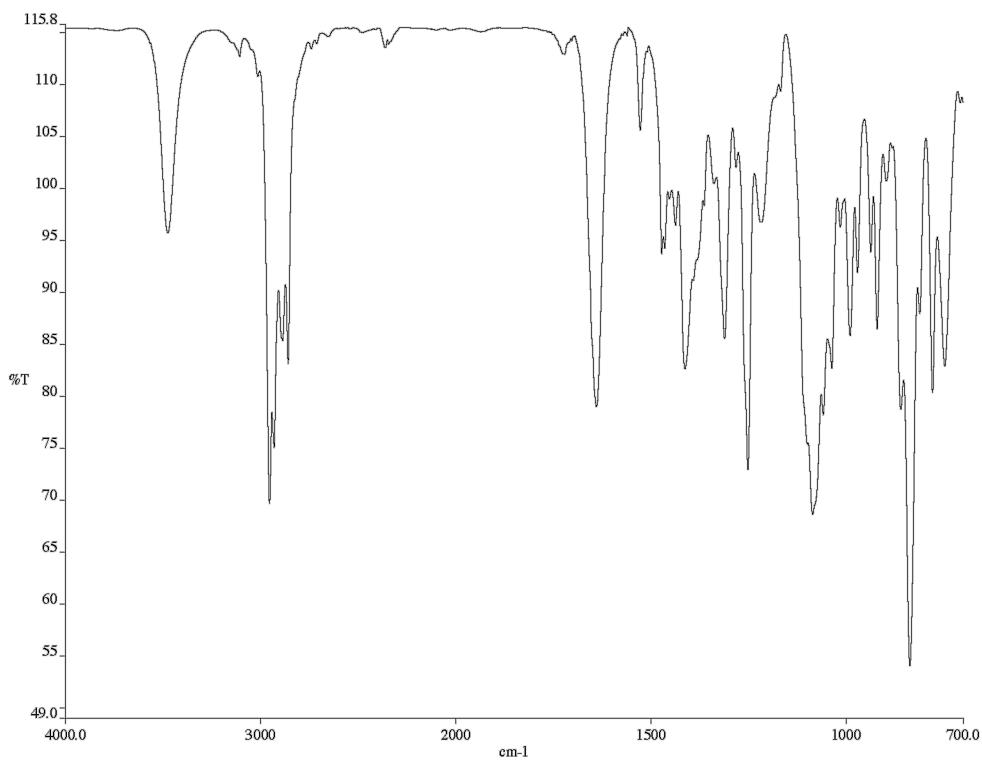


Figure A3.32 Infrared spectrum (thin film/NaCl) of compound **92**

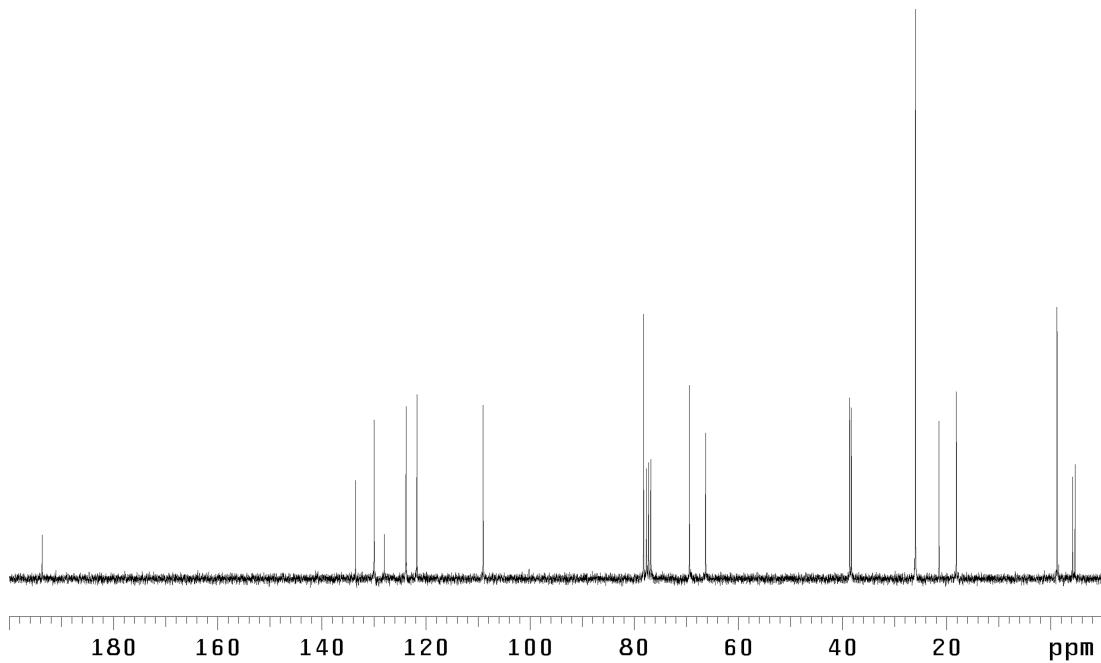


Figure A3.33  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **92**

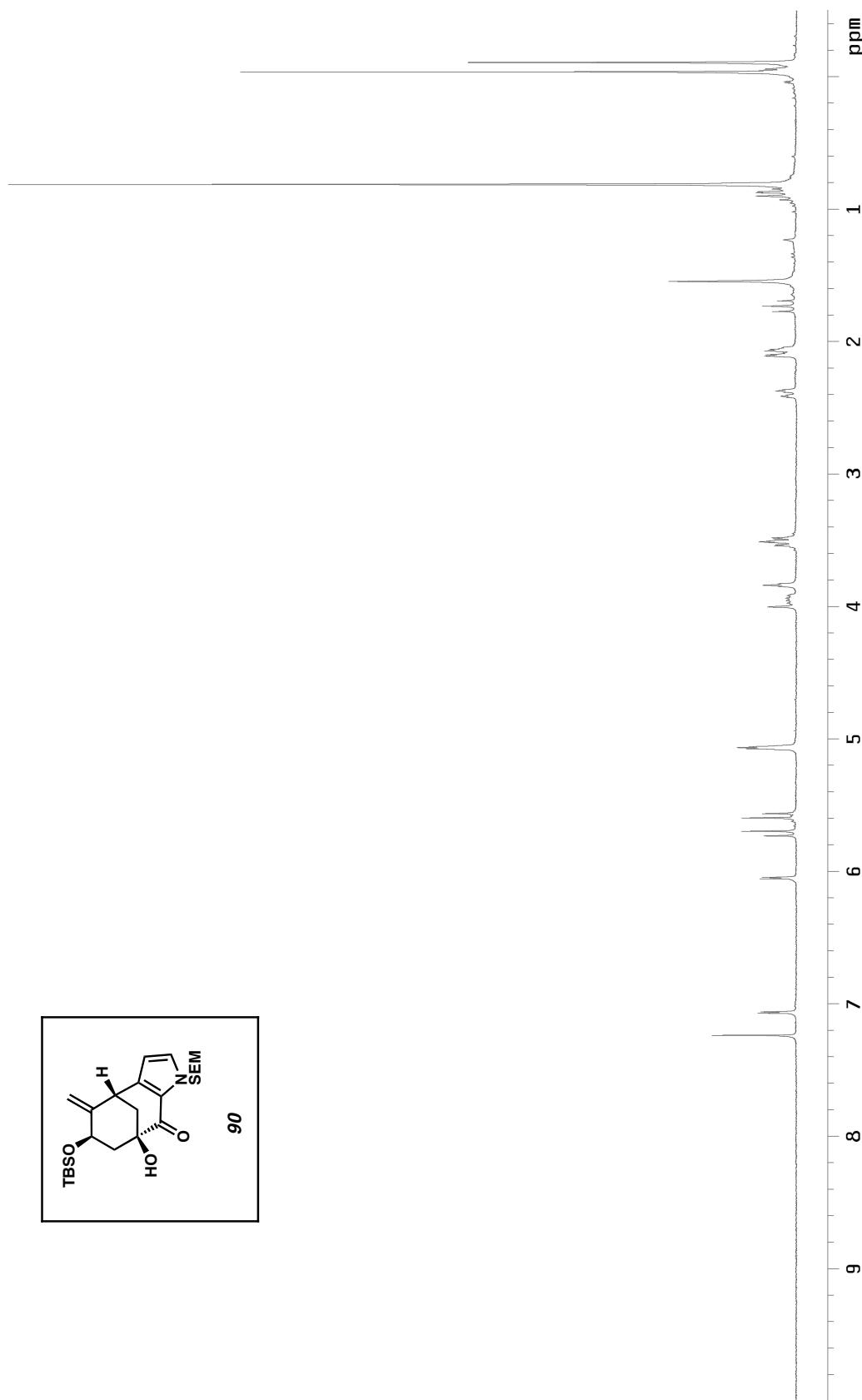
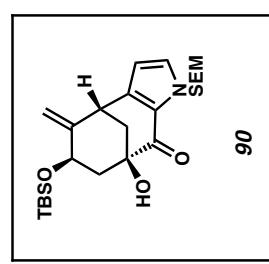


Figure A3.34  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 90

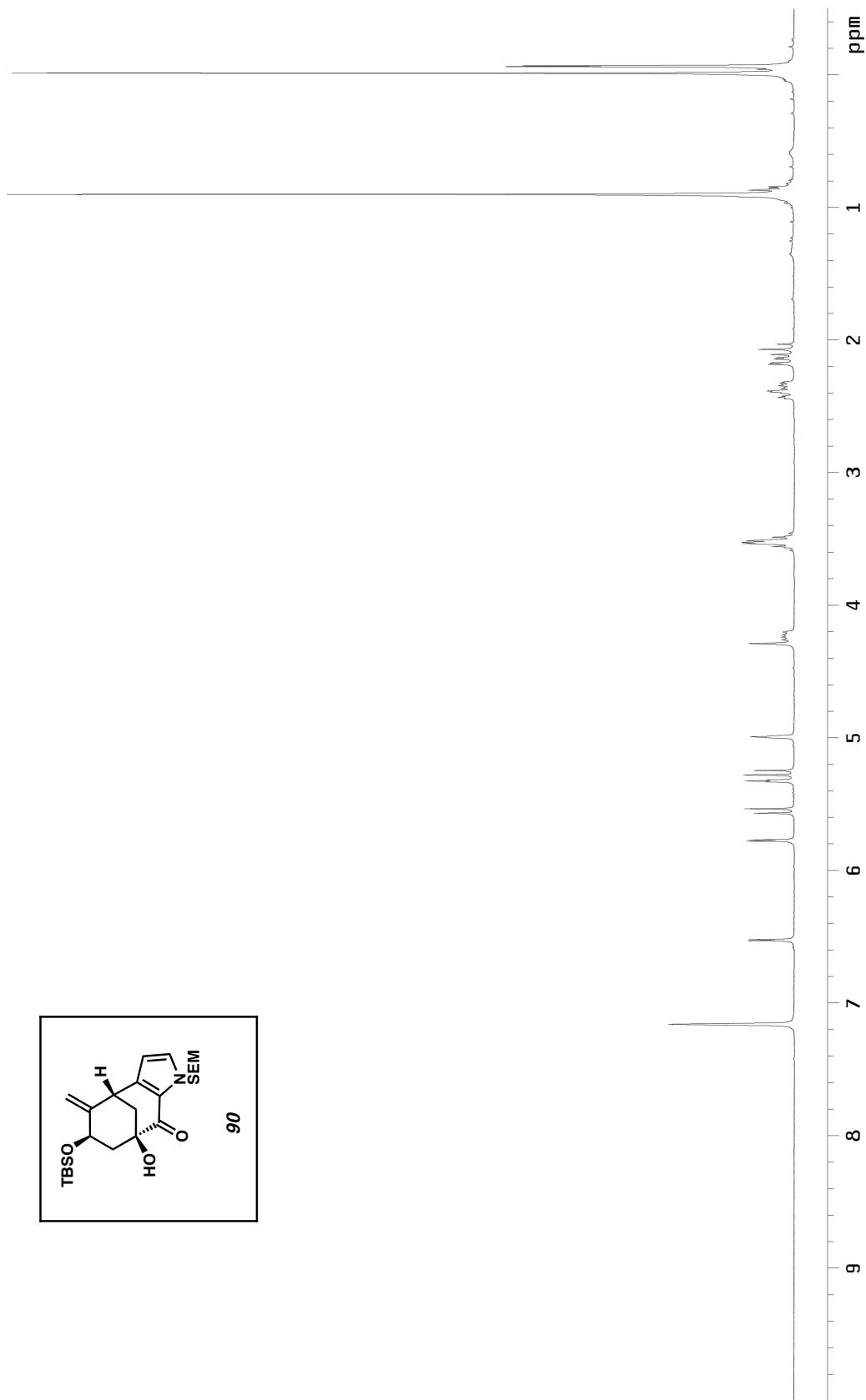
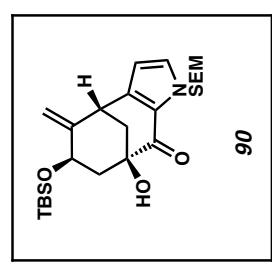


Figure A3.35 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 90

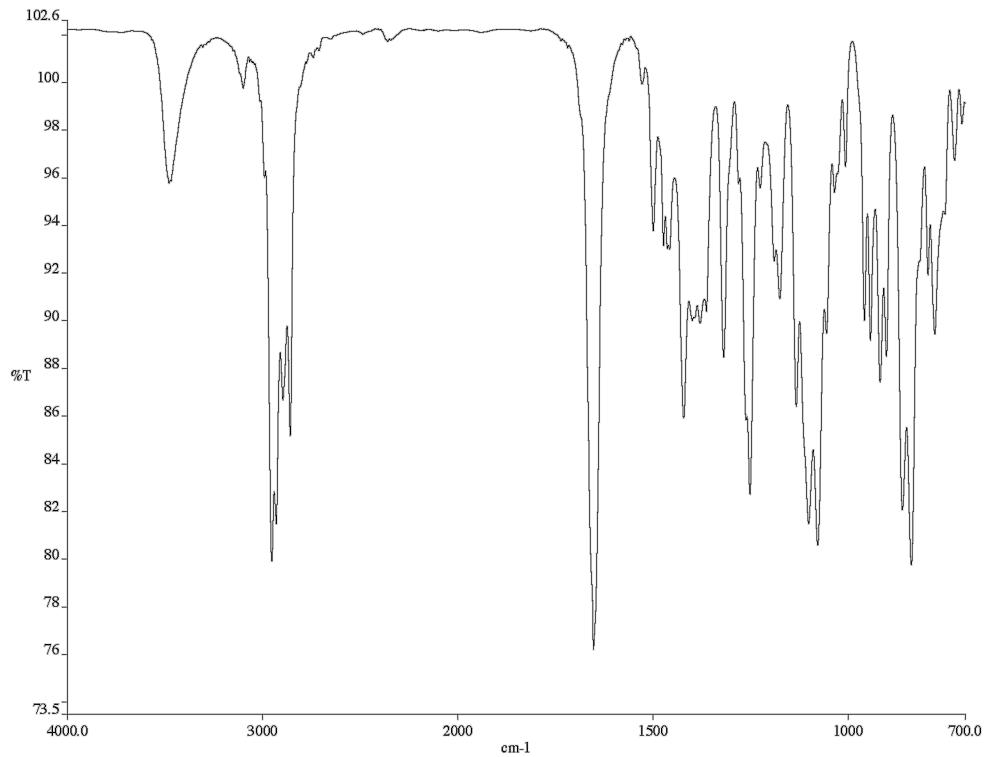


Figure A3.36 Infrared spectrum (thin film/NaCl) of compound **90**

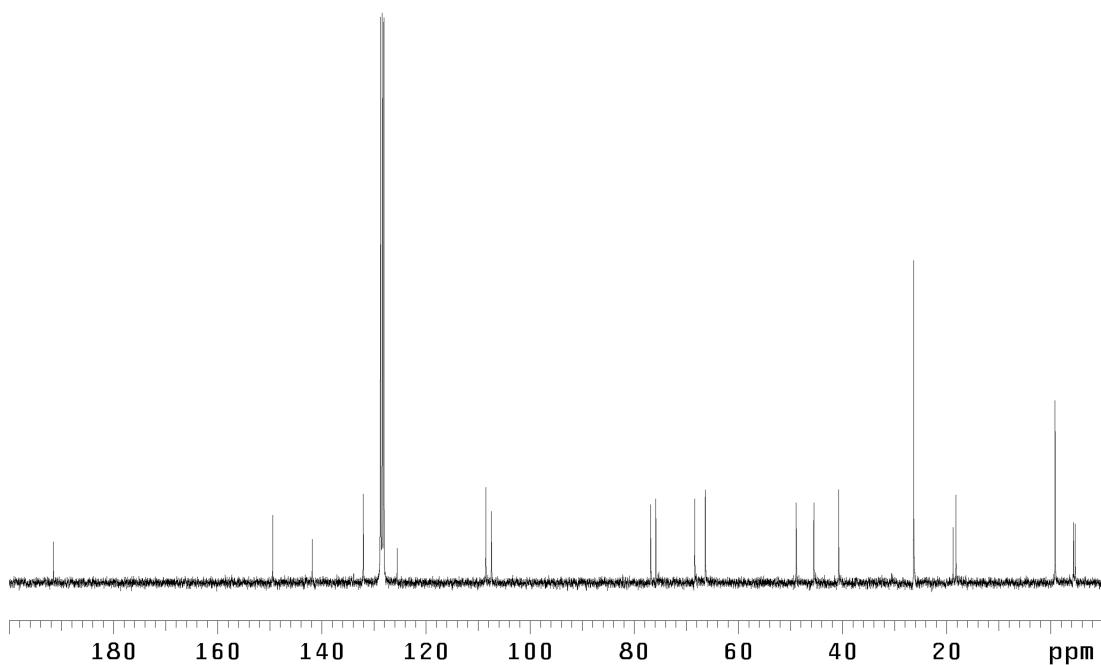


Figure A3.37  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **90**

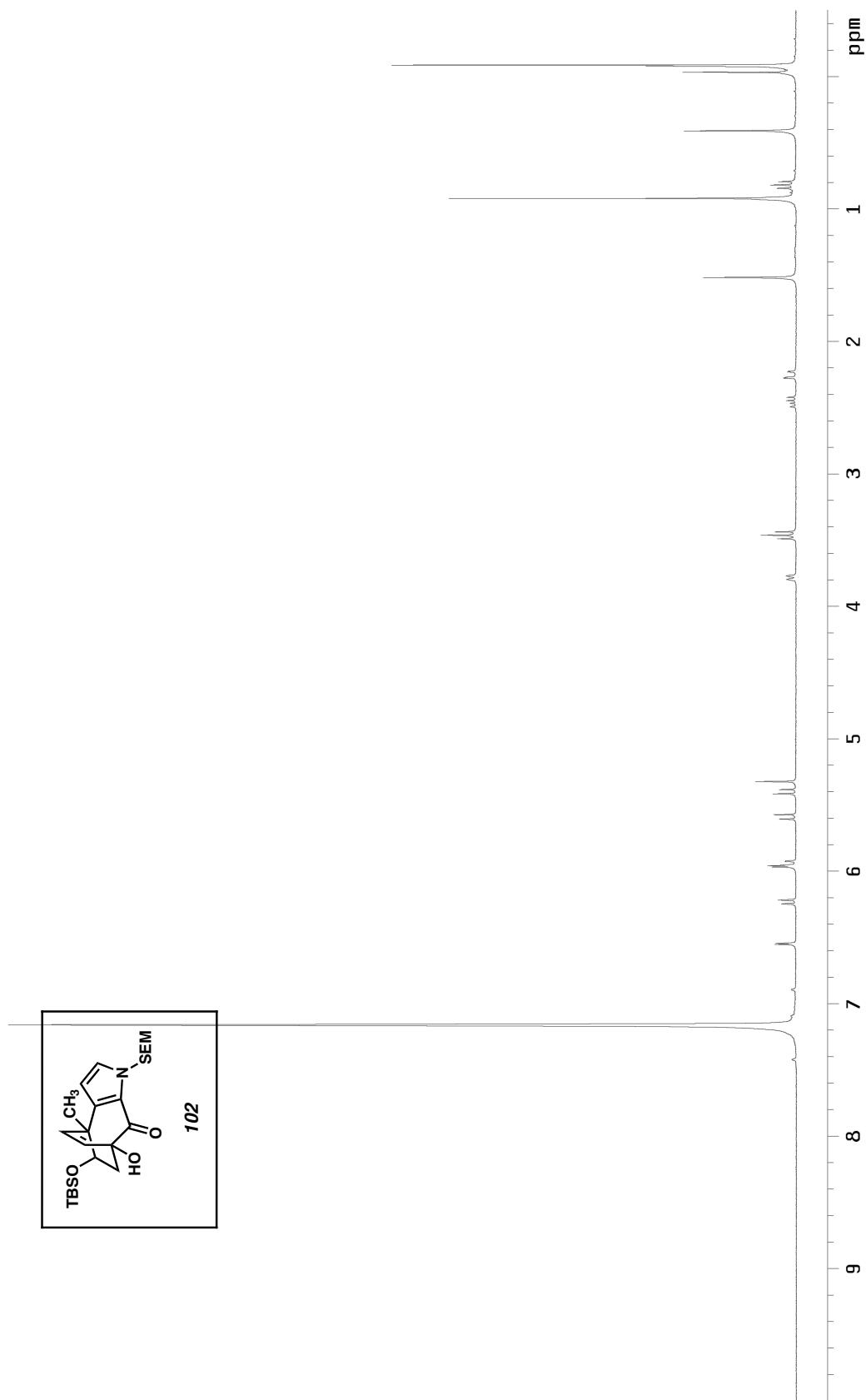


Figure A3.38  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 102

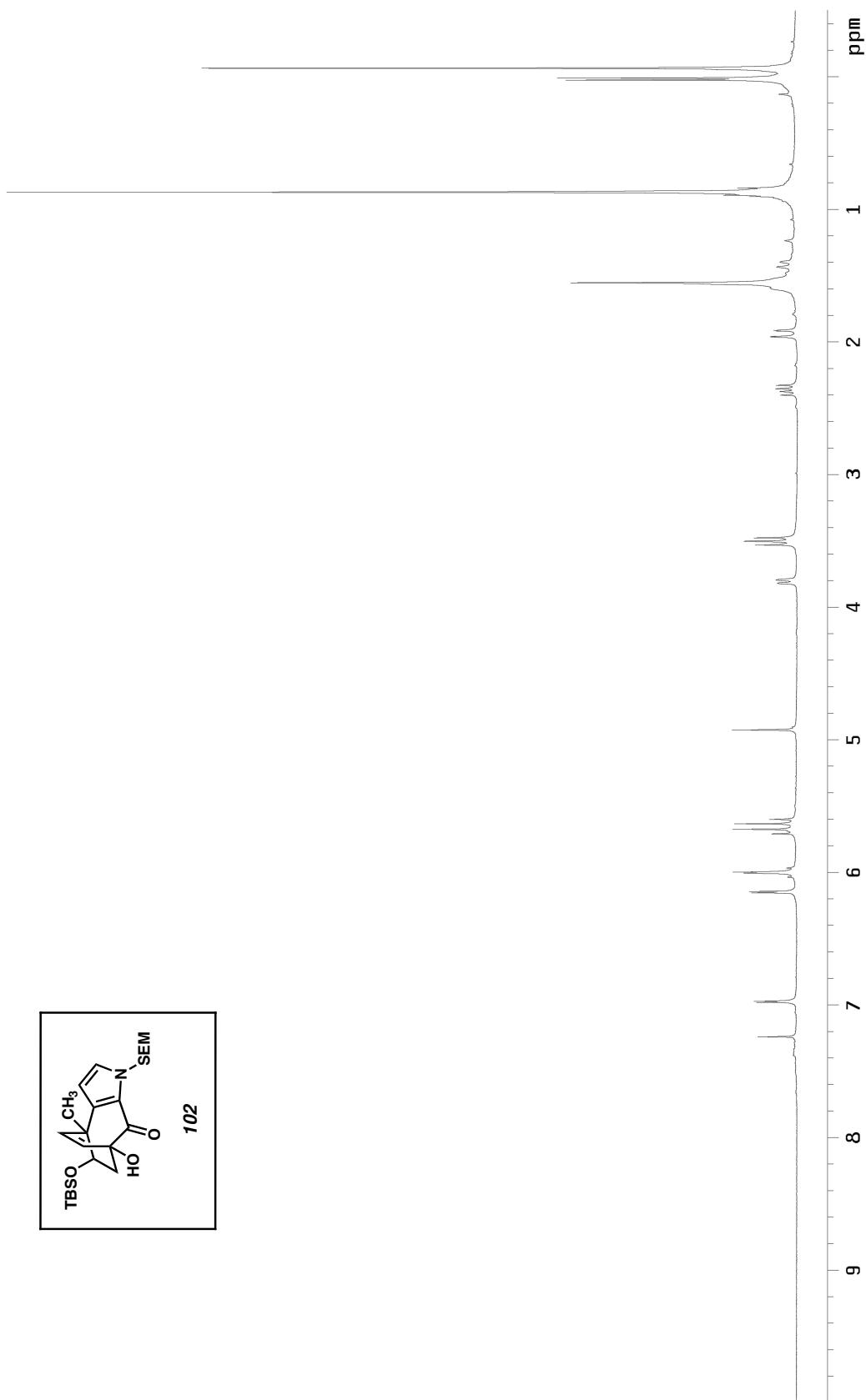
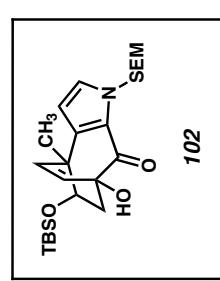


Figure A3.39 <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>) of compound 102

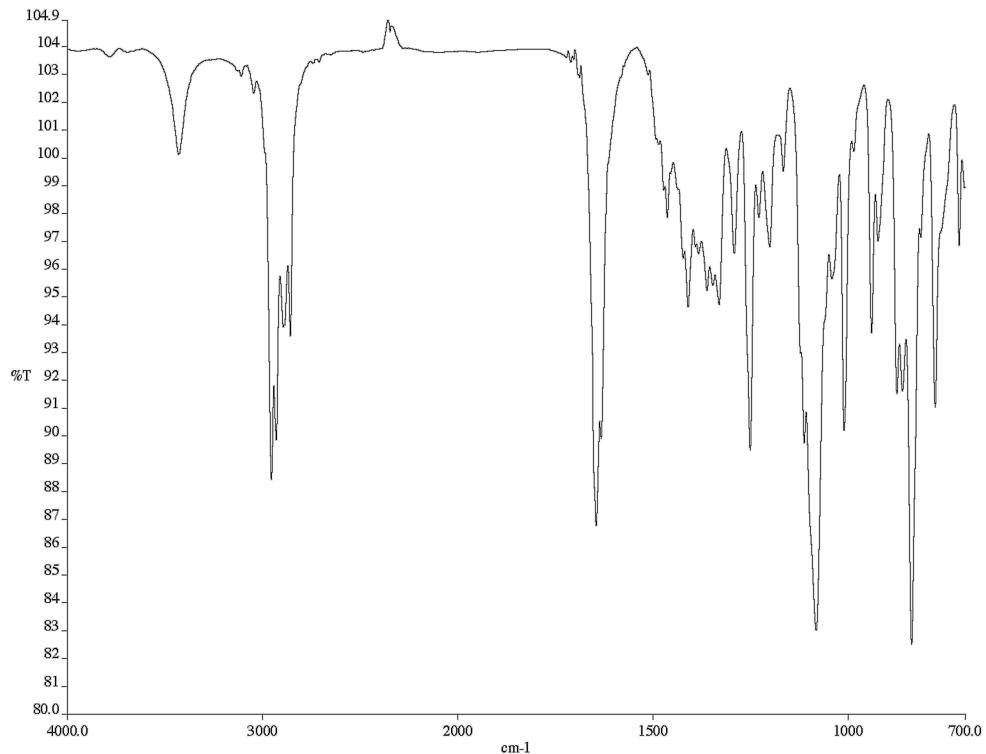


Figure A3.40 Infrared spectrum (thin film/NaCl) of compound **102**

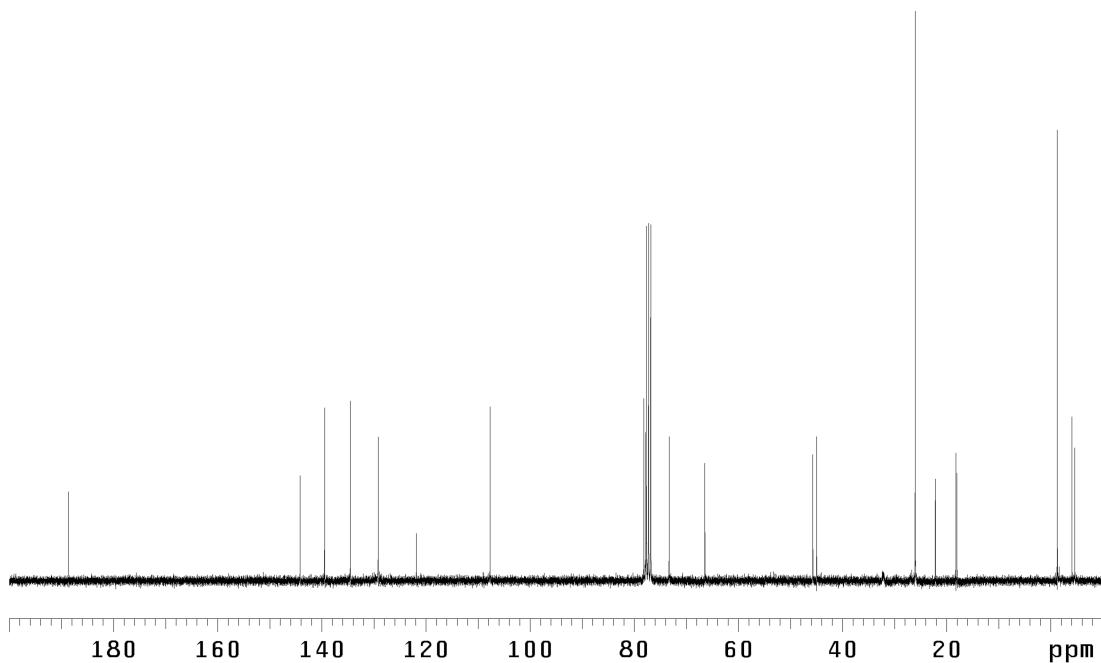
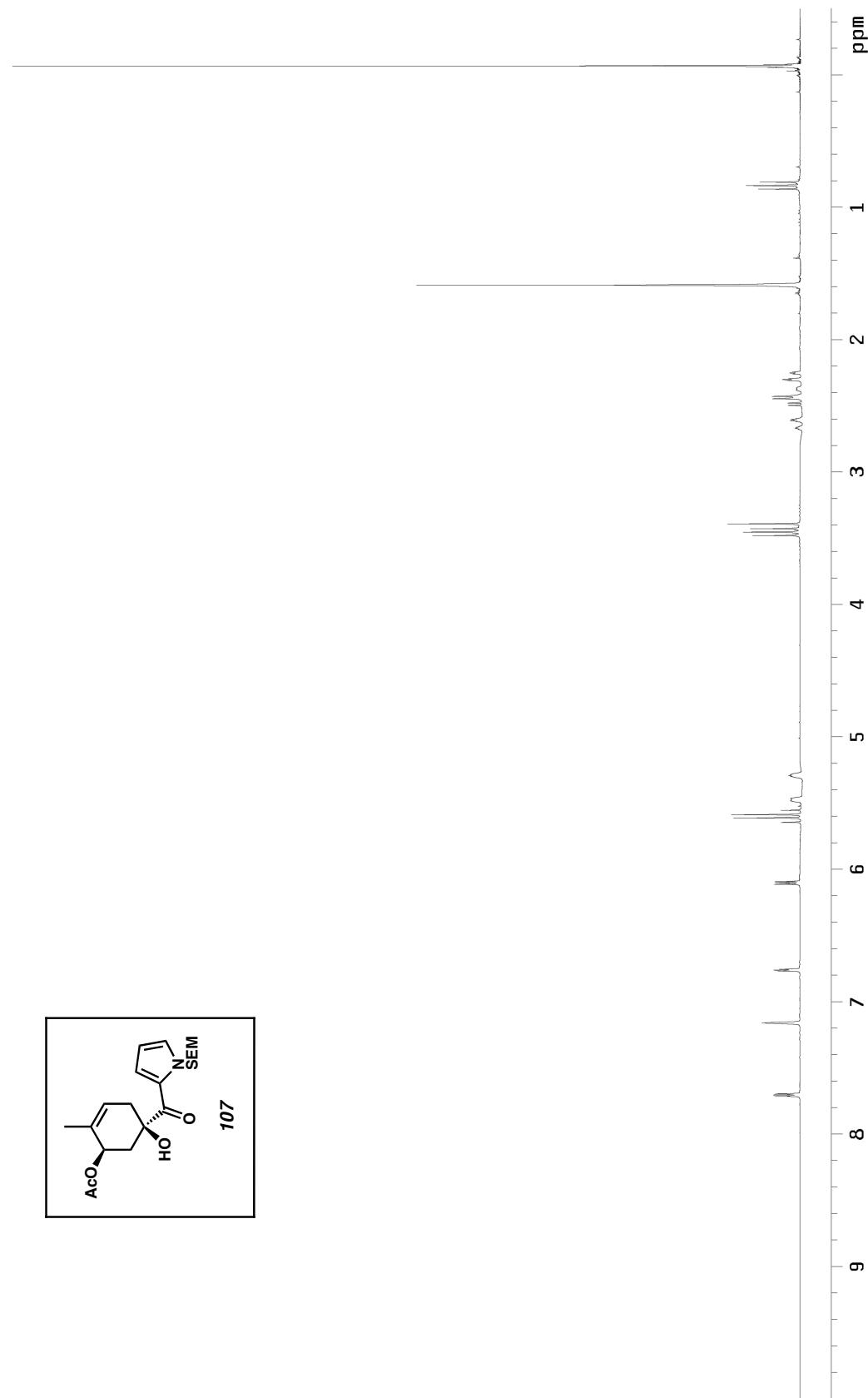


Figure A3.41  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **102**



*Figure A3.42*  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 107

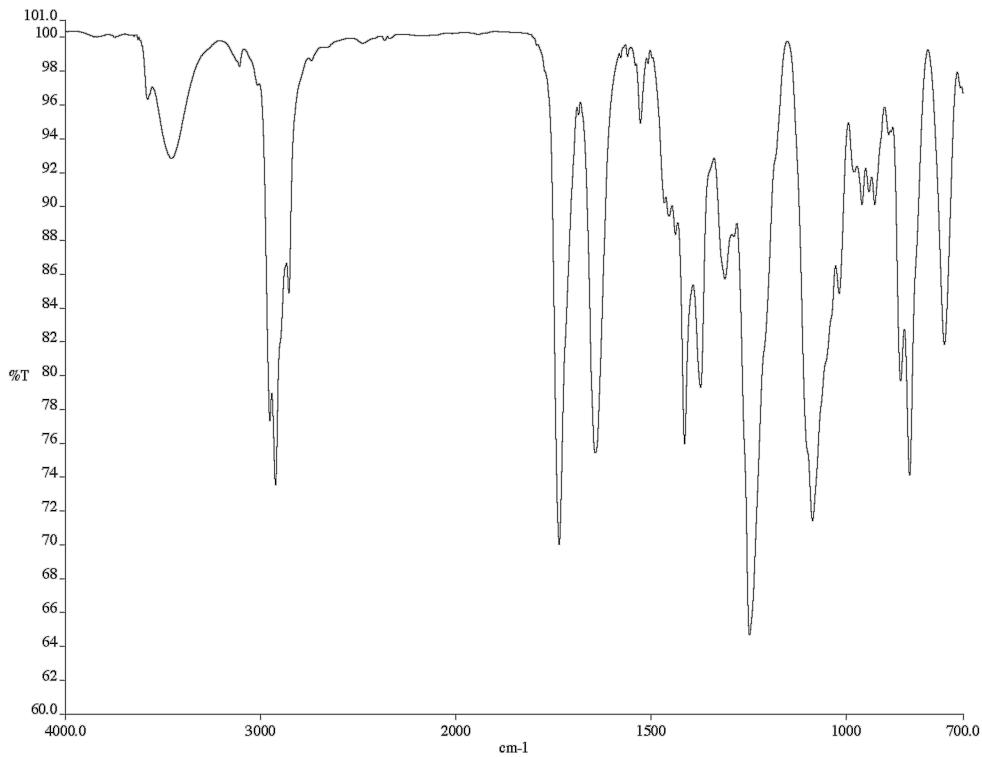


Figure A3.43 Infrared spectrum (thin film/NaCl) of compound **107**

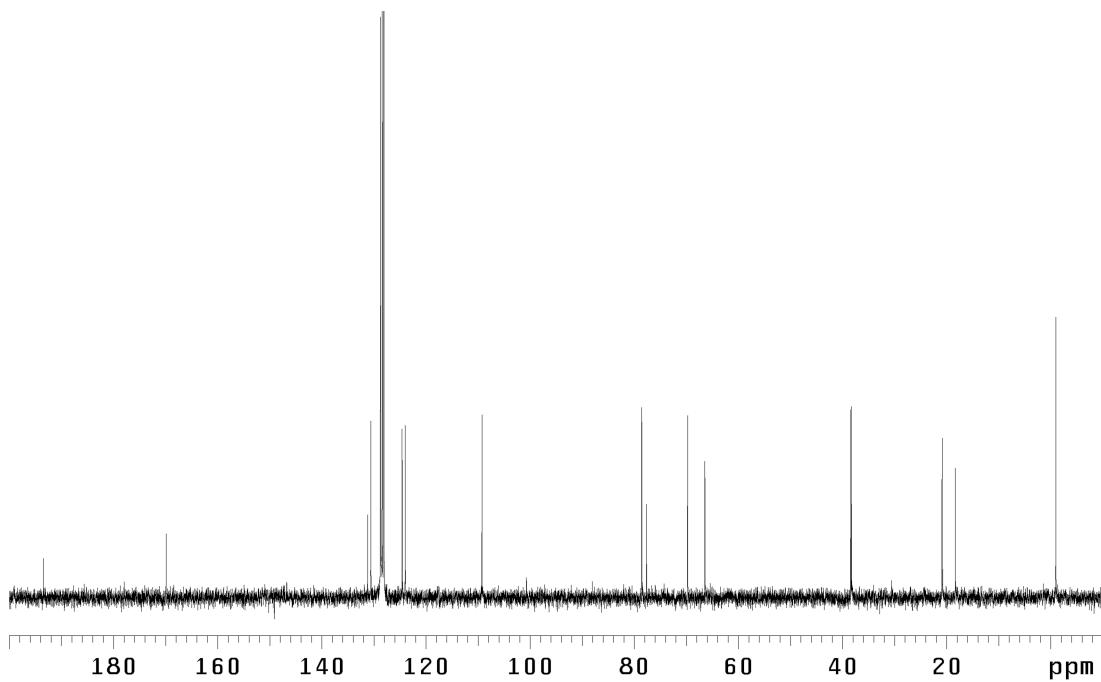


Figure A3.44  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **107**

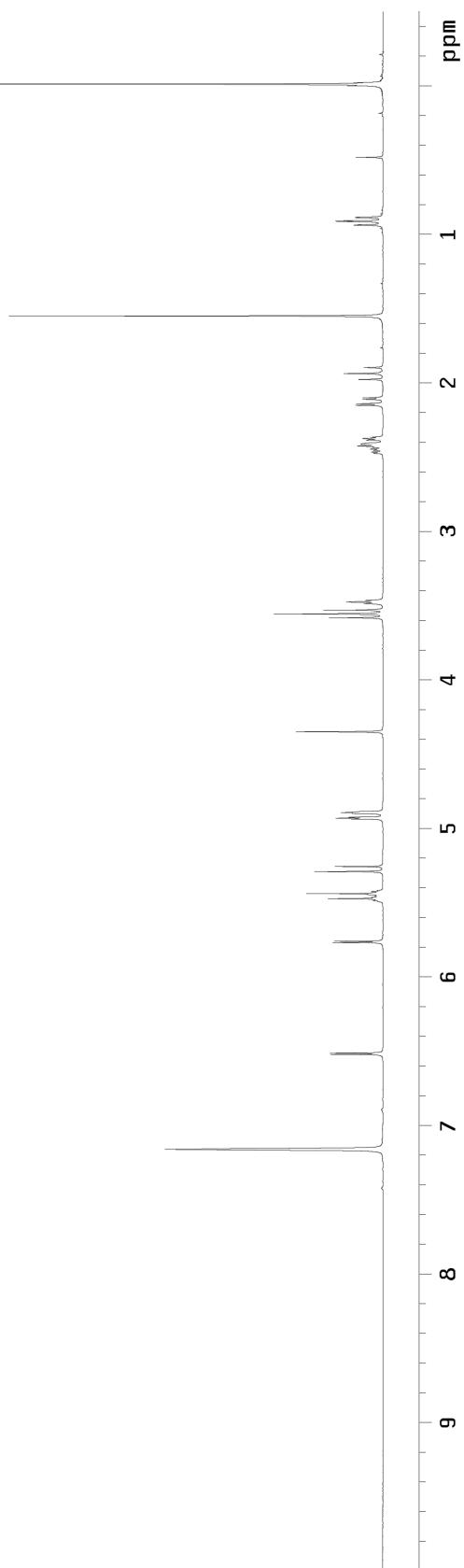
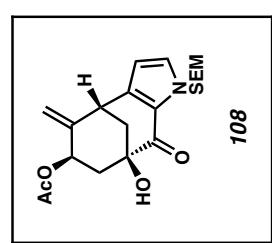


Figure A3.45 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 108

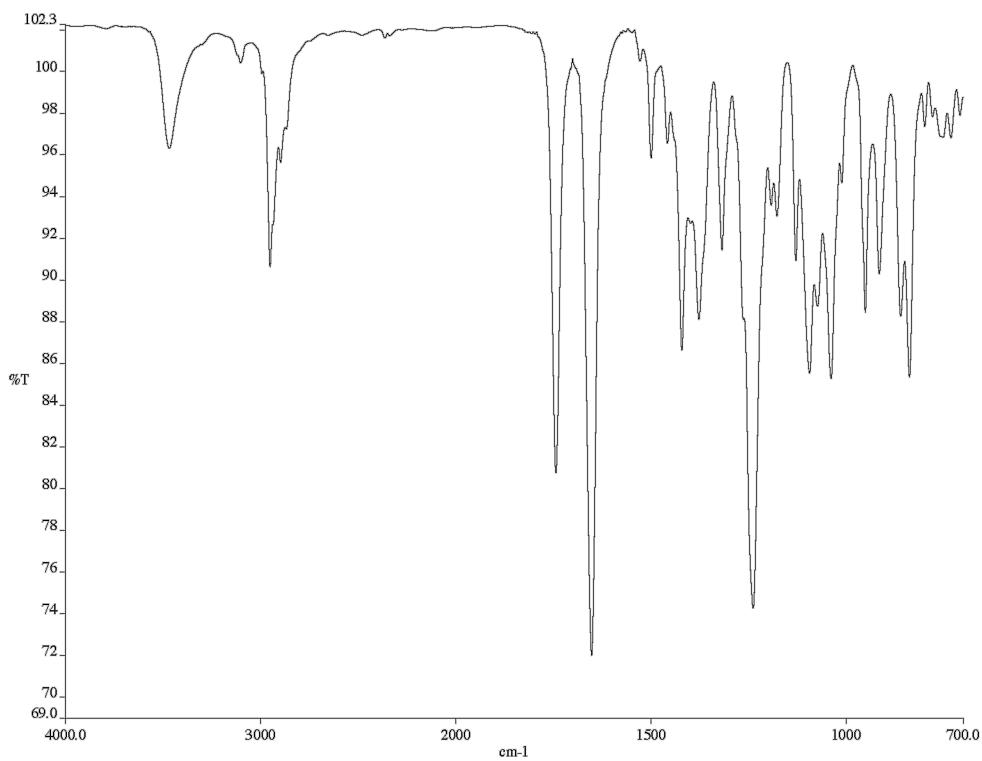


Figure A3.46 Infrared spectrum (thin film/NaCl) of compound **108**

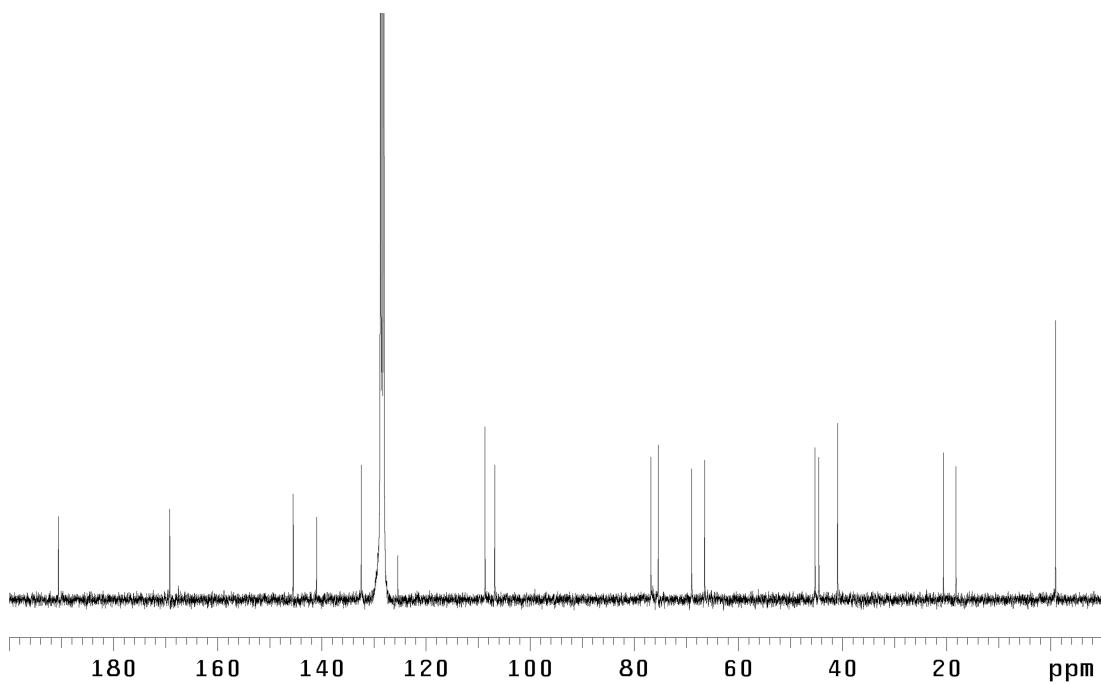


Figure A3.47  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **108**

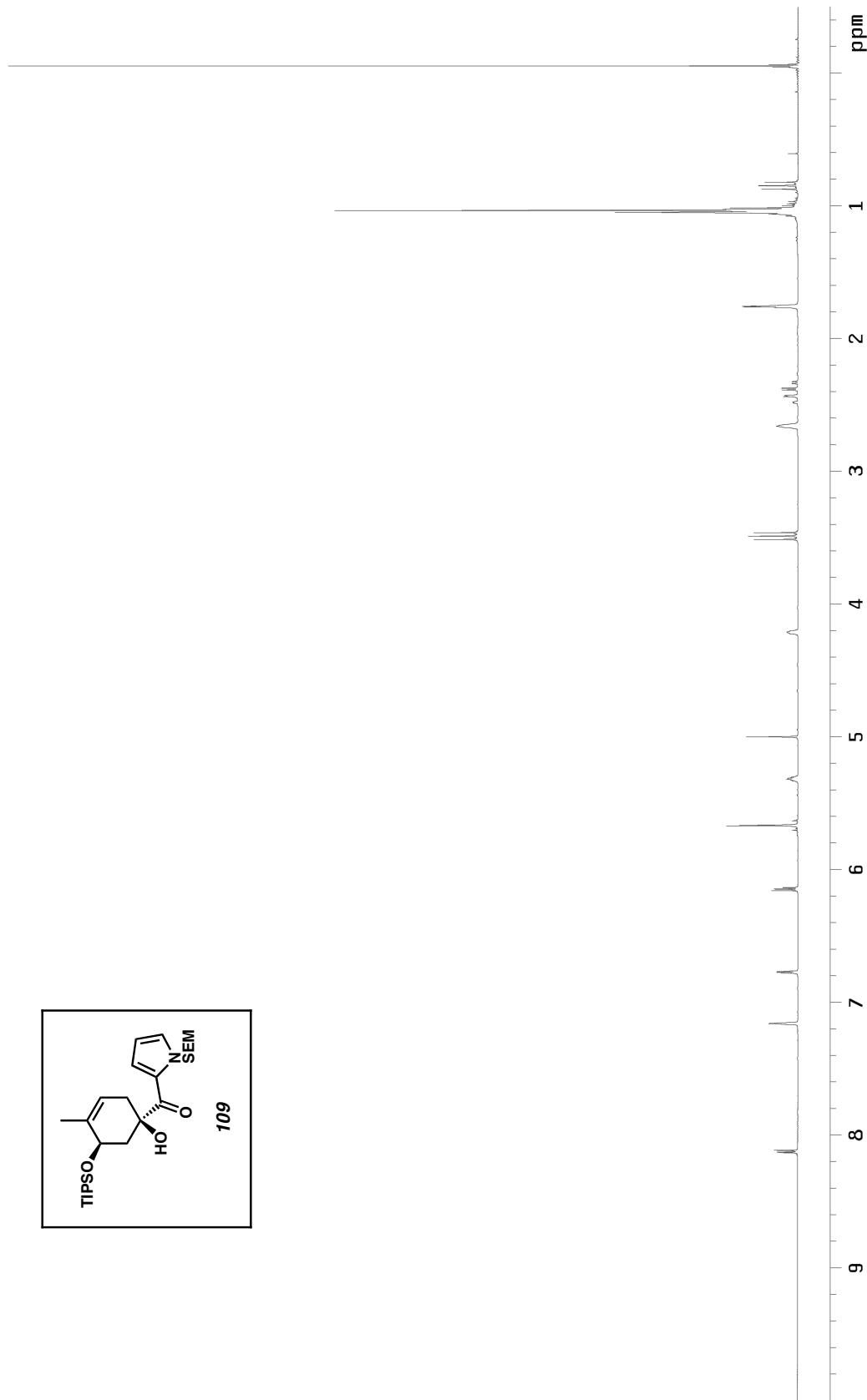
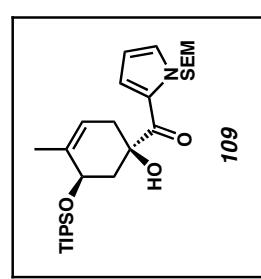


Figure A3.48 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 109

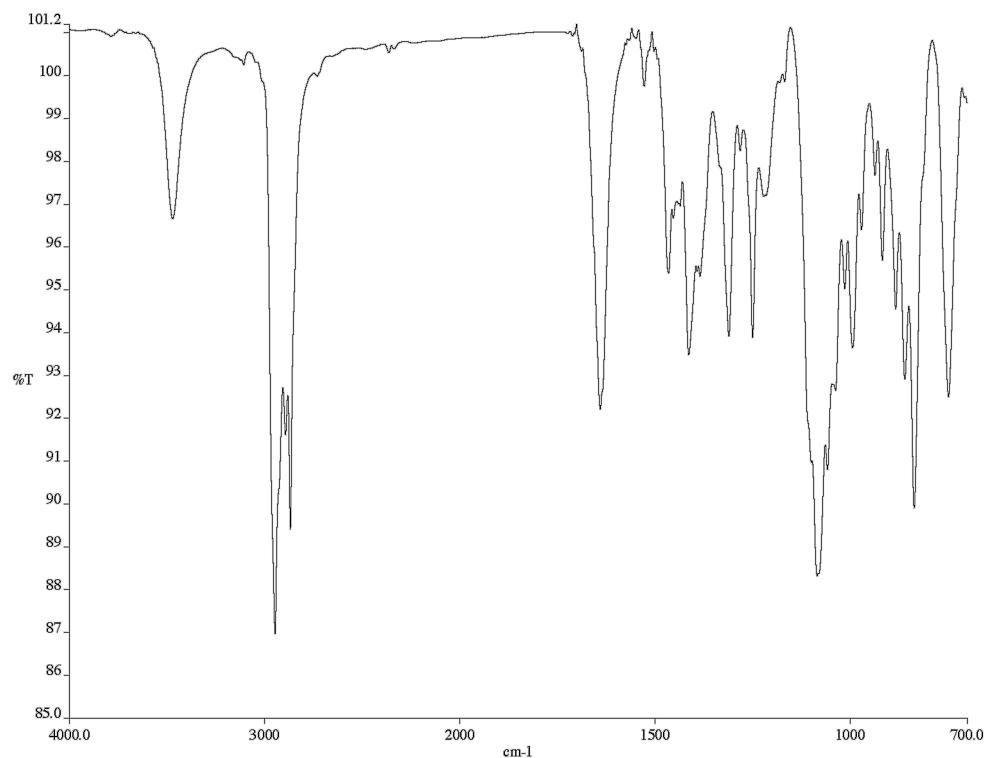


Figure A3.49 Infrared spectrum (thin film/NaCl) of compound **109**

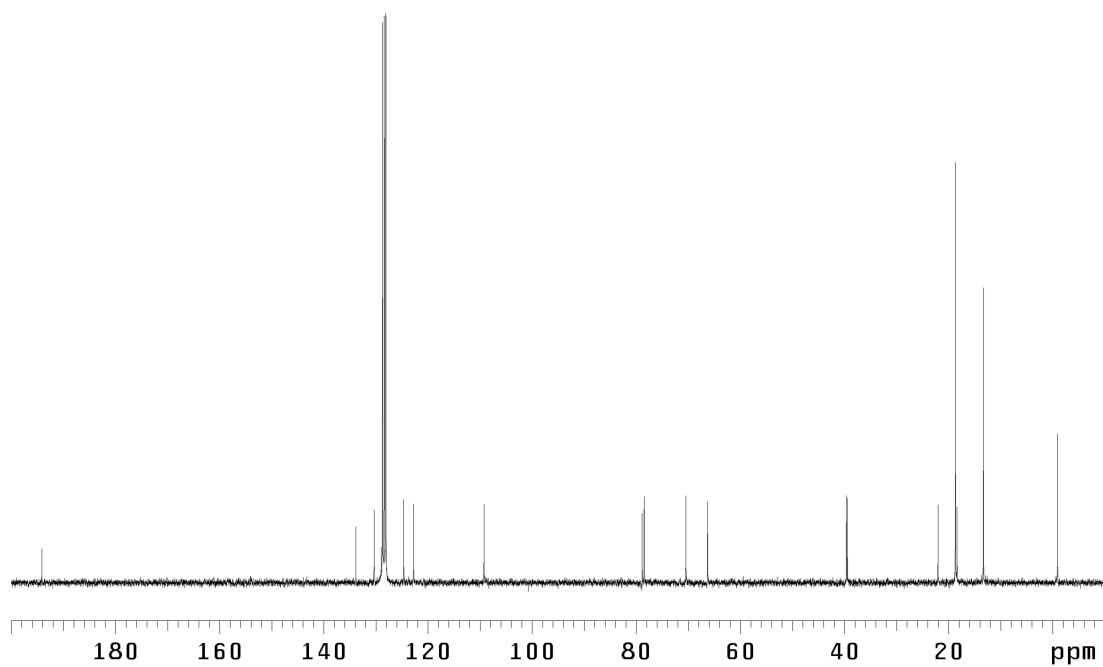


Figure A3.50  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **109**

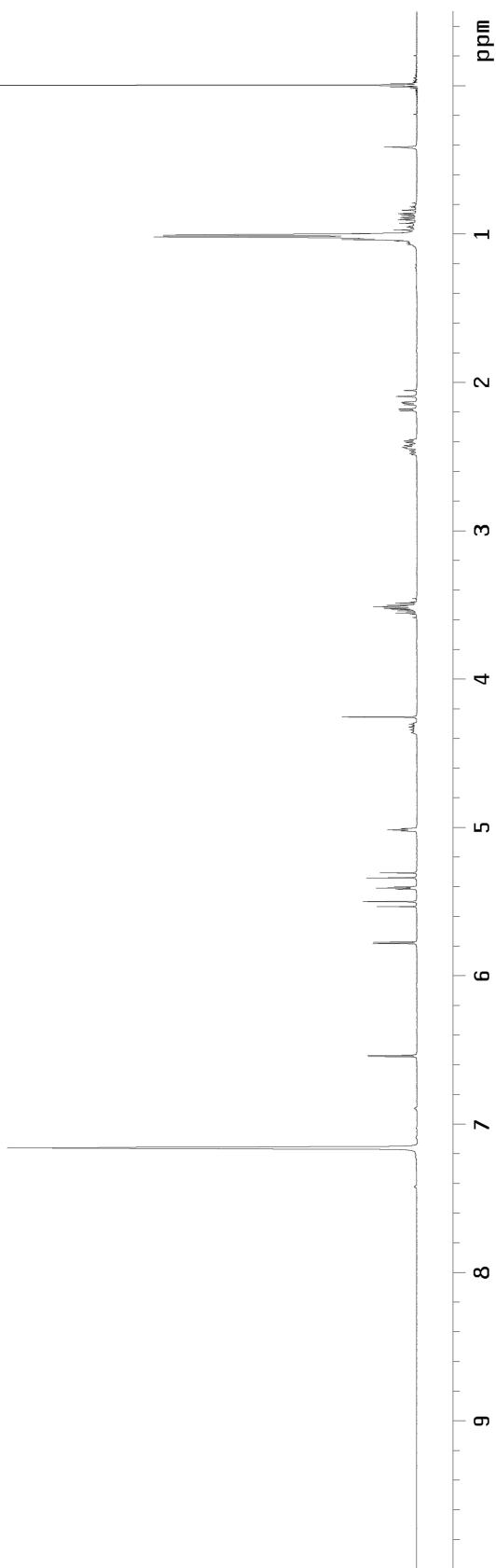
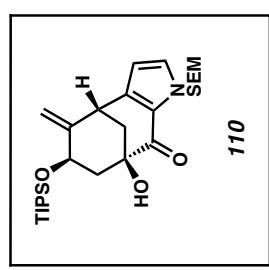


Figure A3.51  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 110

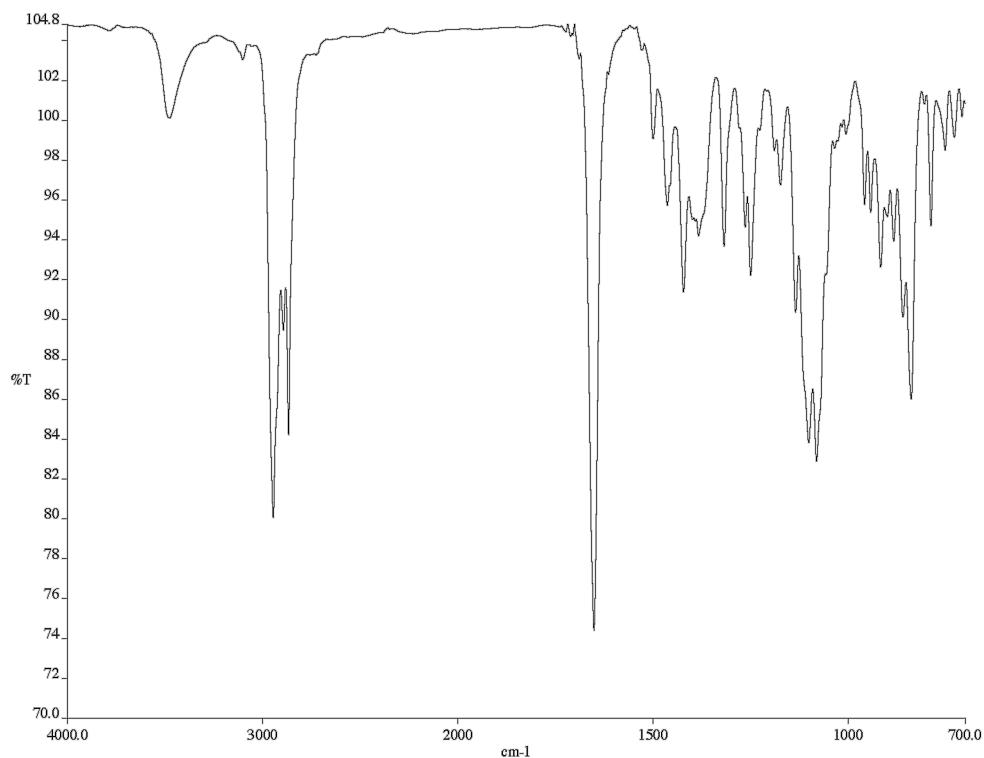


Figure A3.52 Infrared spectrum (thin film/NaCl) of compound **110**

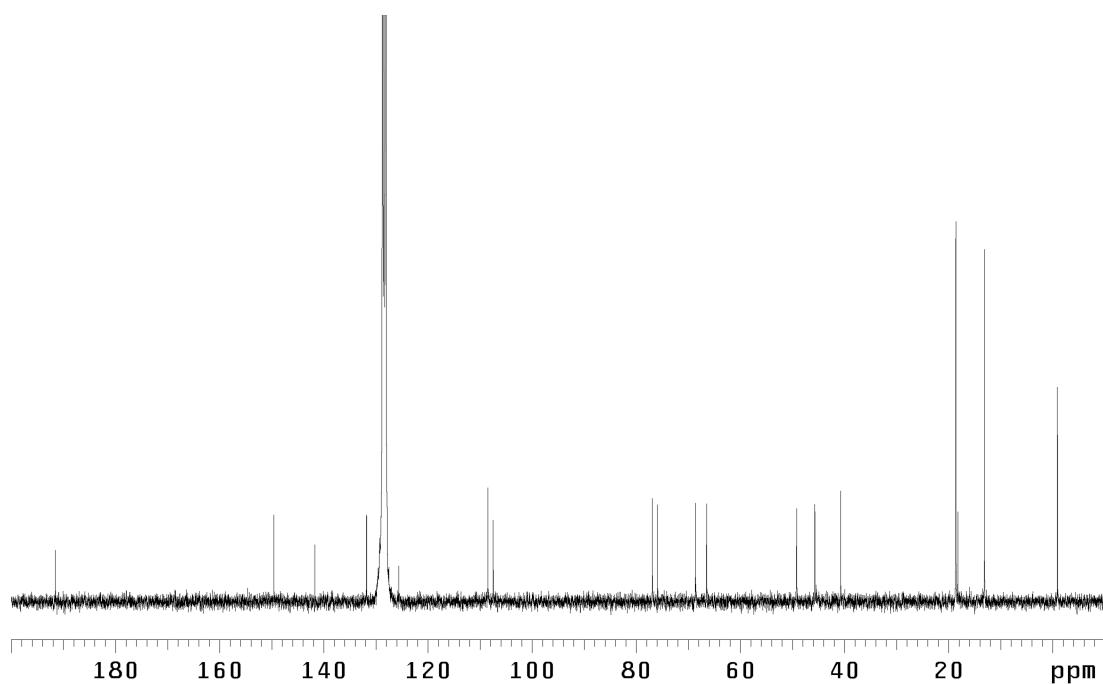


Figure A3.53  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **110**

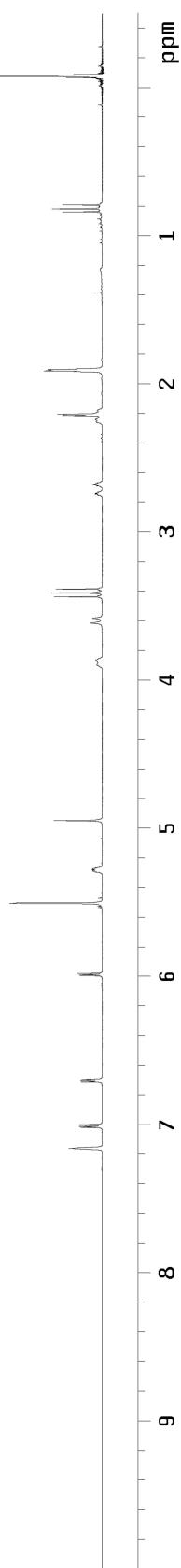
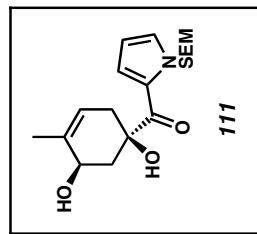


Figure A3.54 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 111

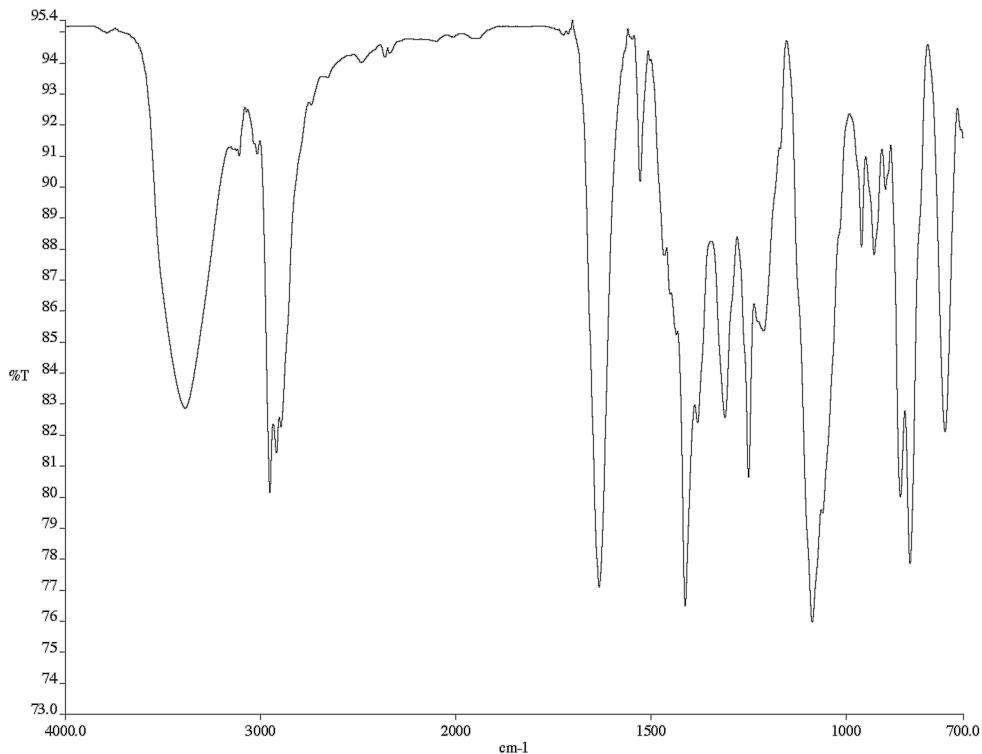


Figure A3.55 Infrared spectrum (thin film/NaCl) of compound **111**

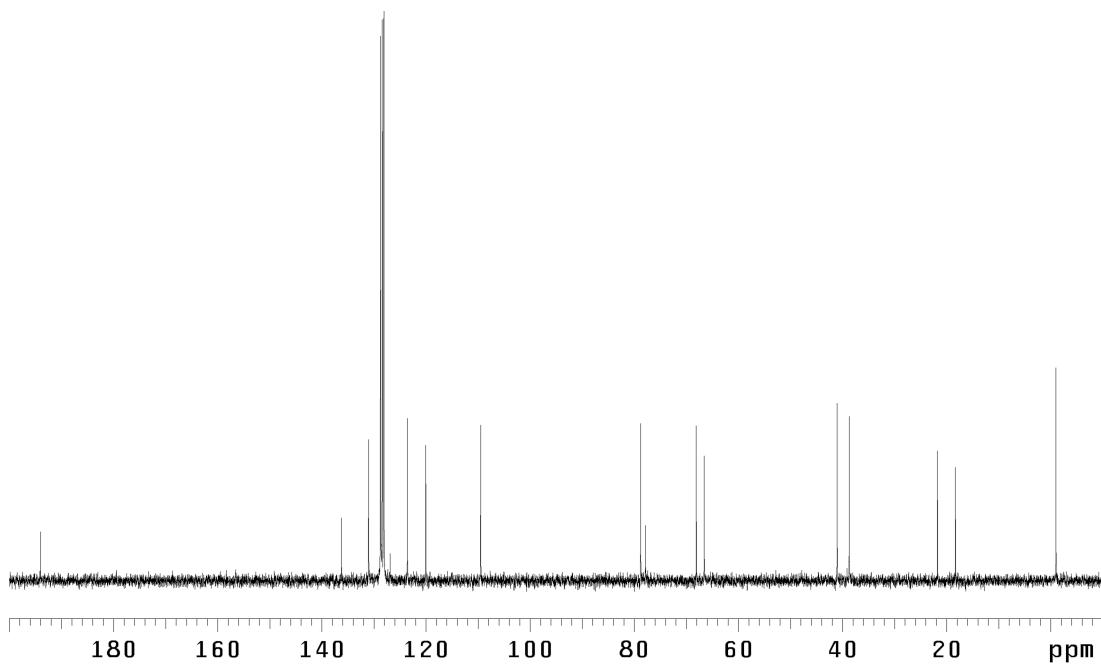


Figure A3.56  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **111**

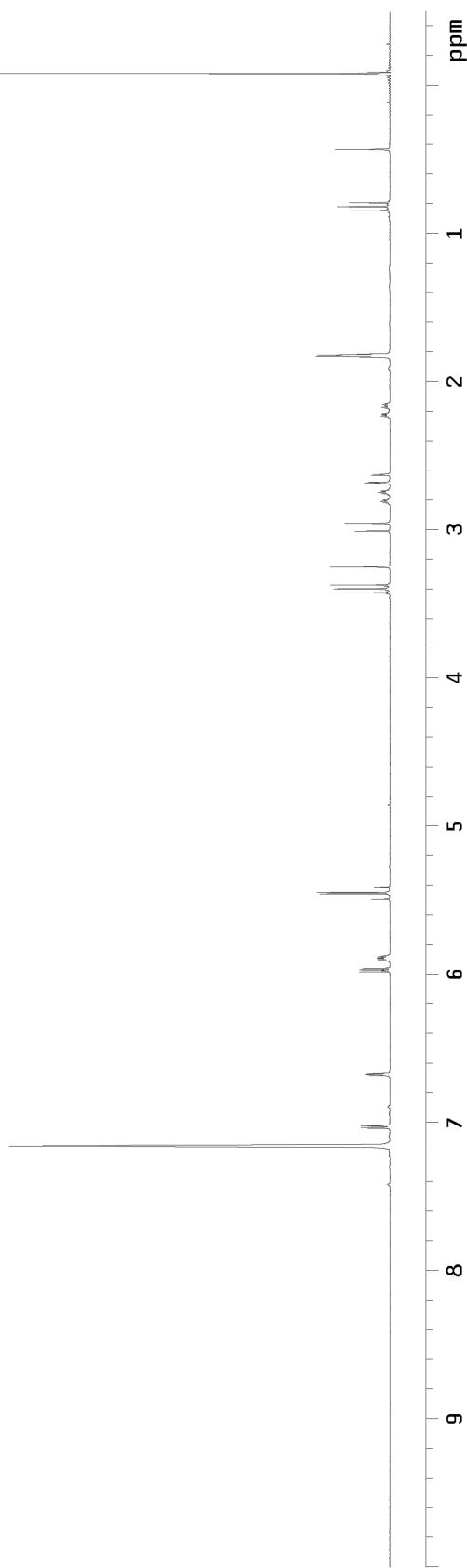
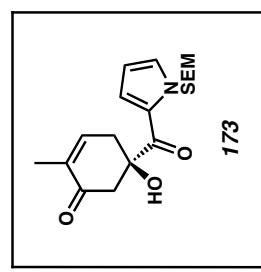


Figure A3.57 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 173

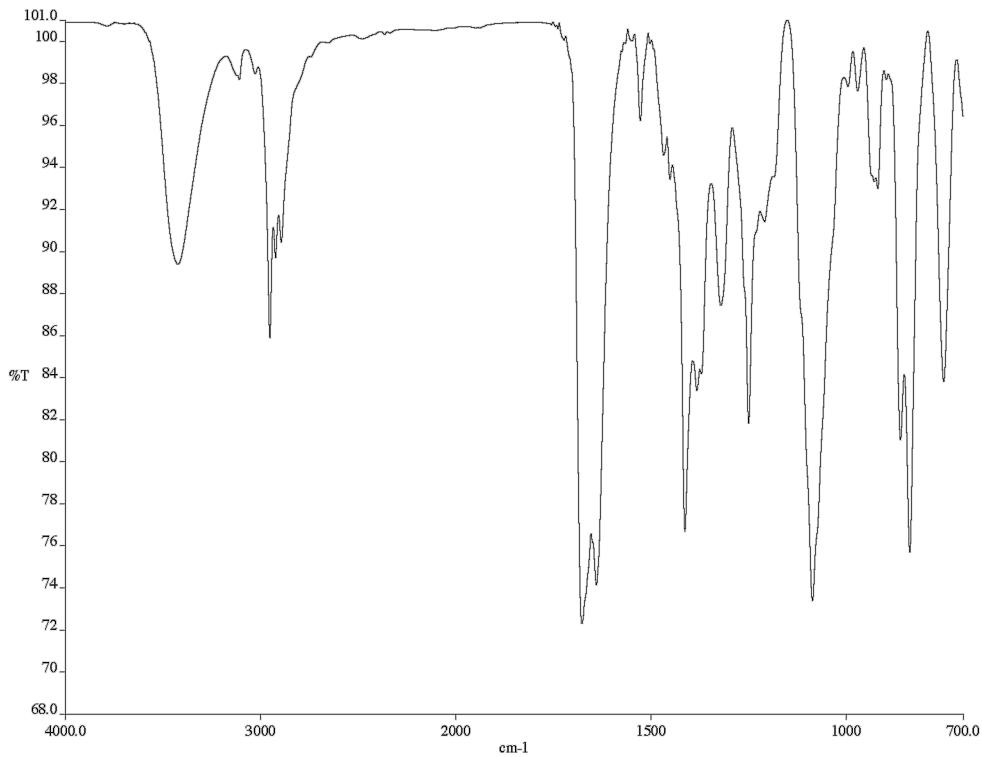


Figure A3.58 Infrared spectrum (thin film/NaCl) of compound **173**

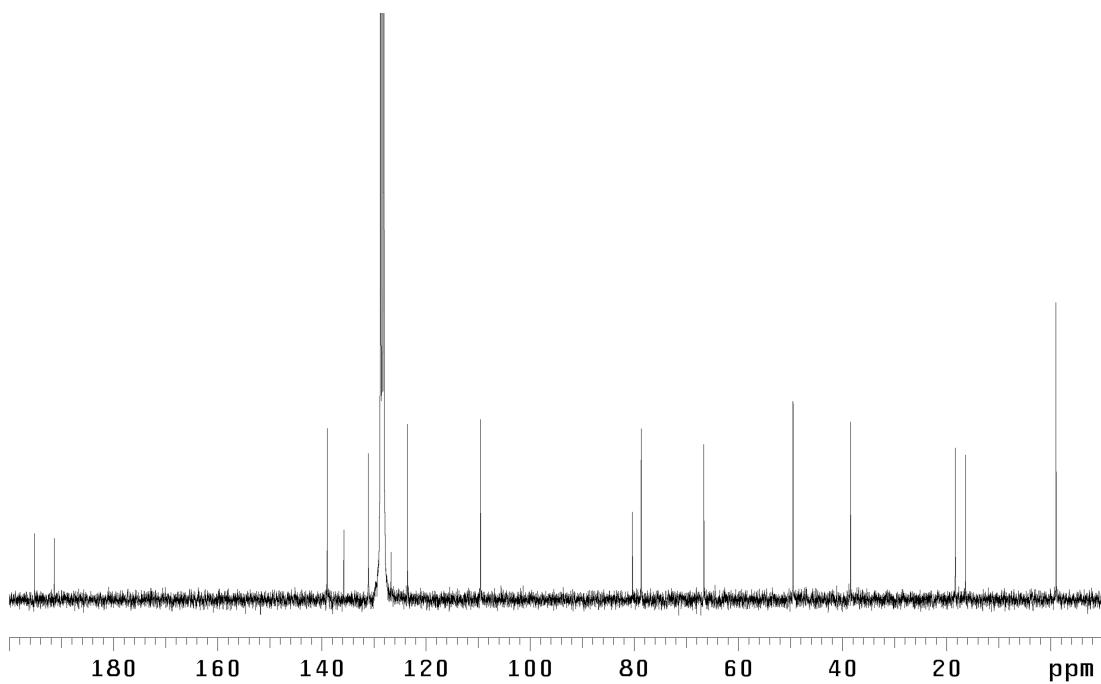


Figure A3.59  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **173**

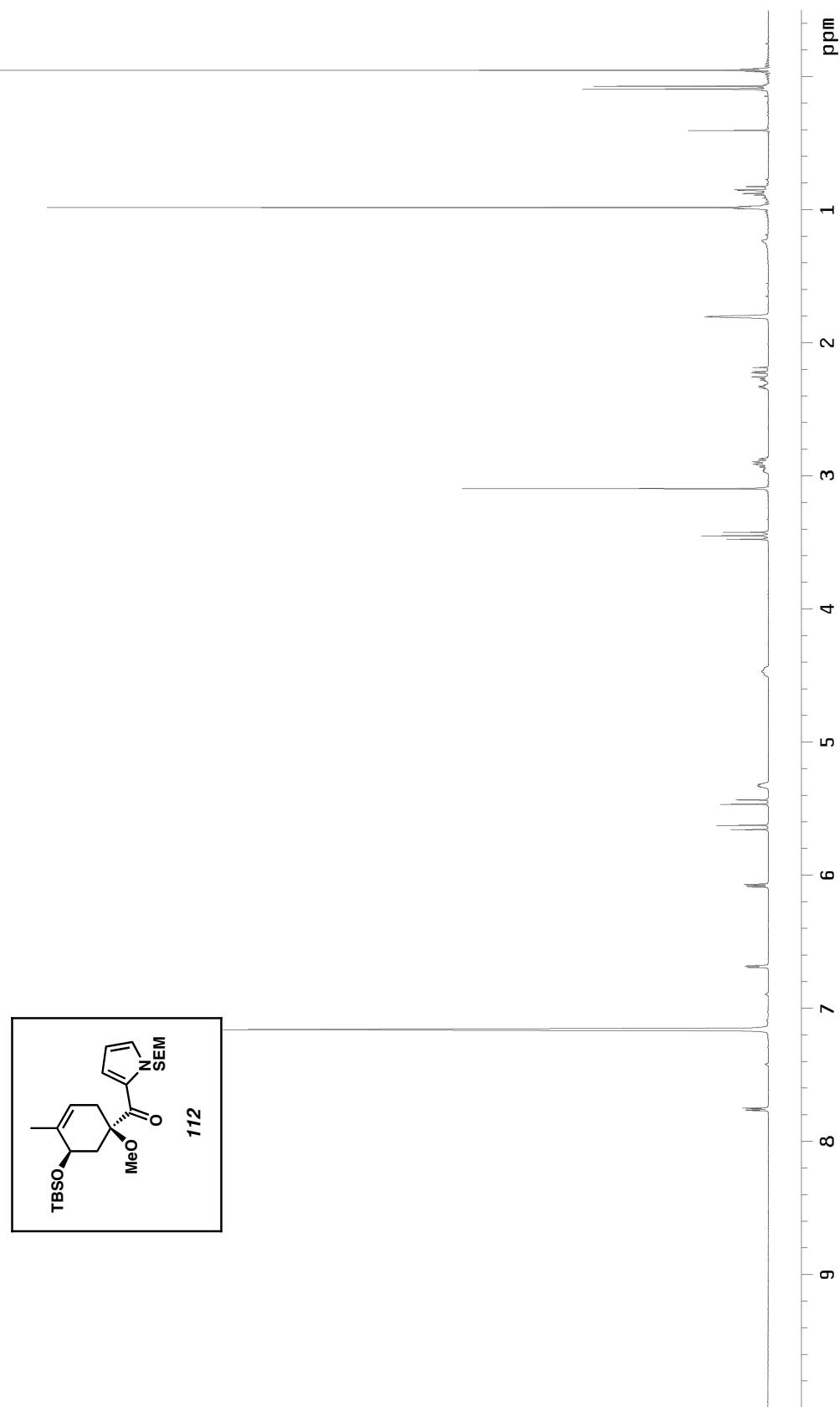


Figure A3.60  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 112

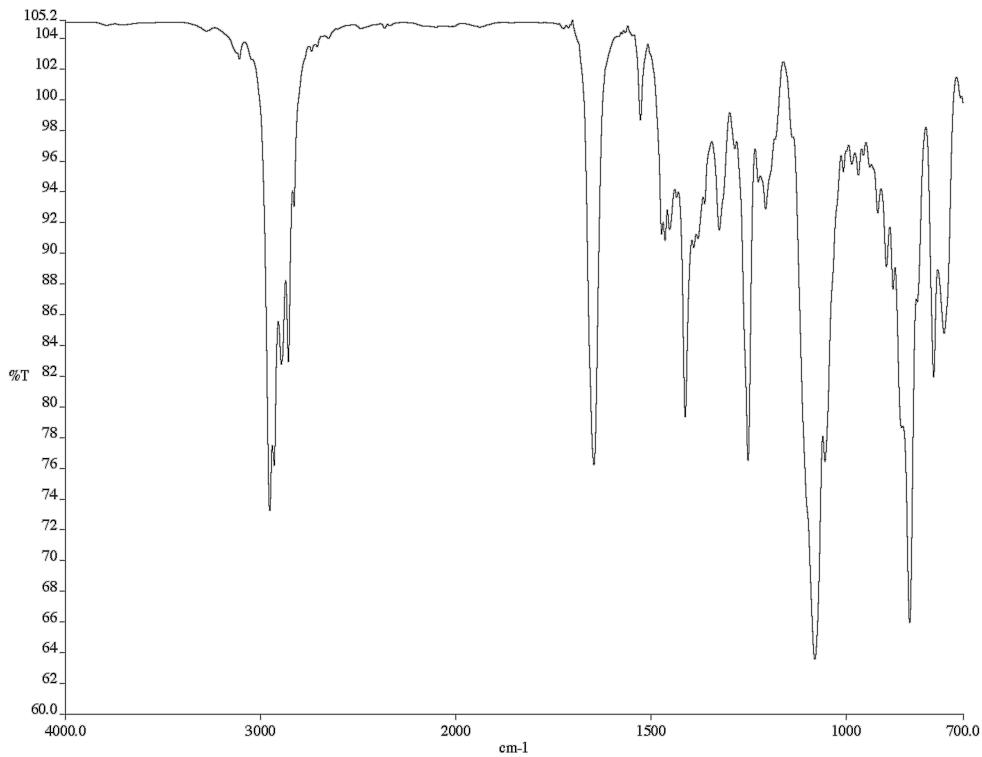


Figure A3.61 Infrared spectrum (thin film/NaCl) of compound **112**

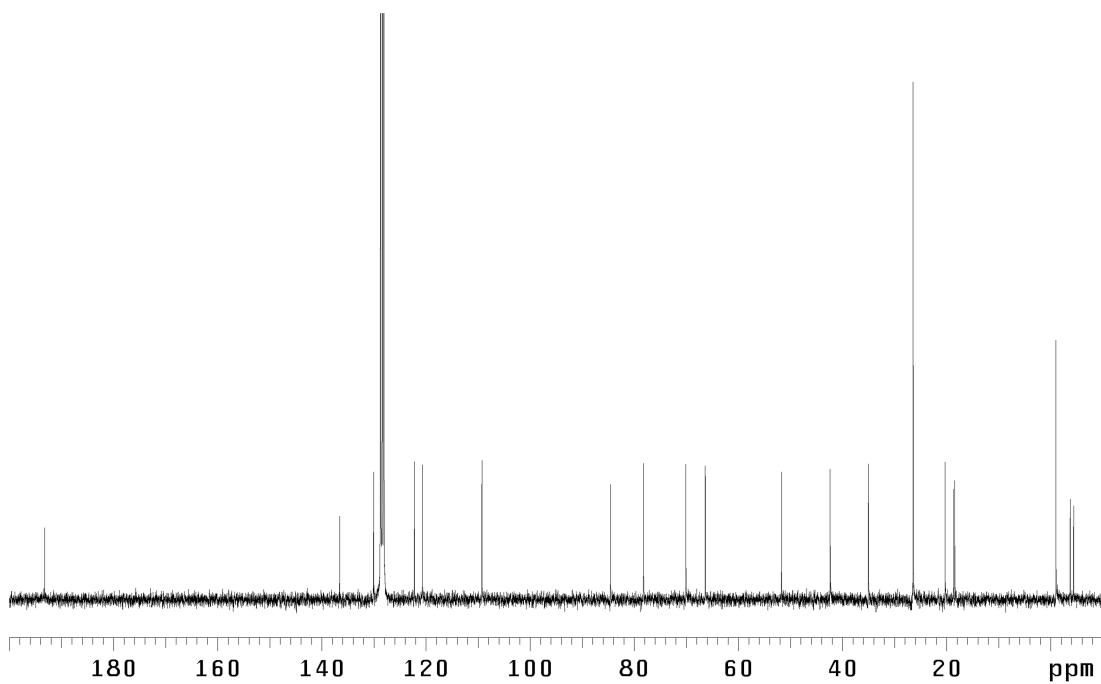


Figure A3.62  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **112**

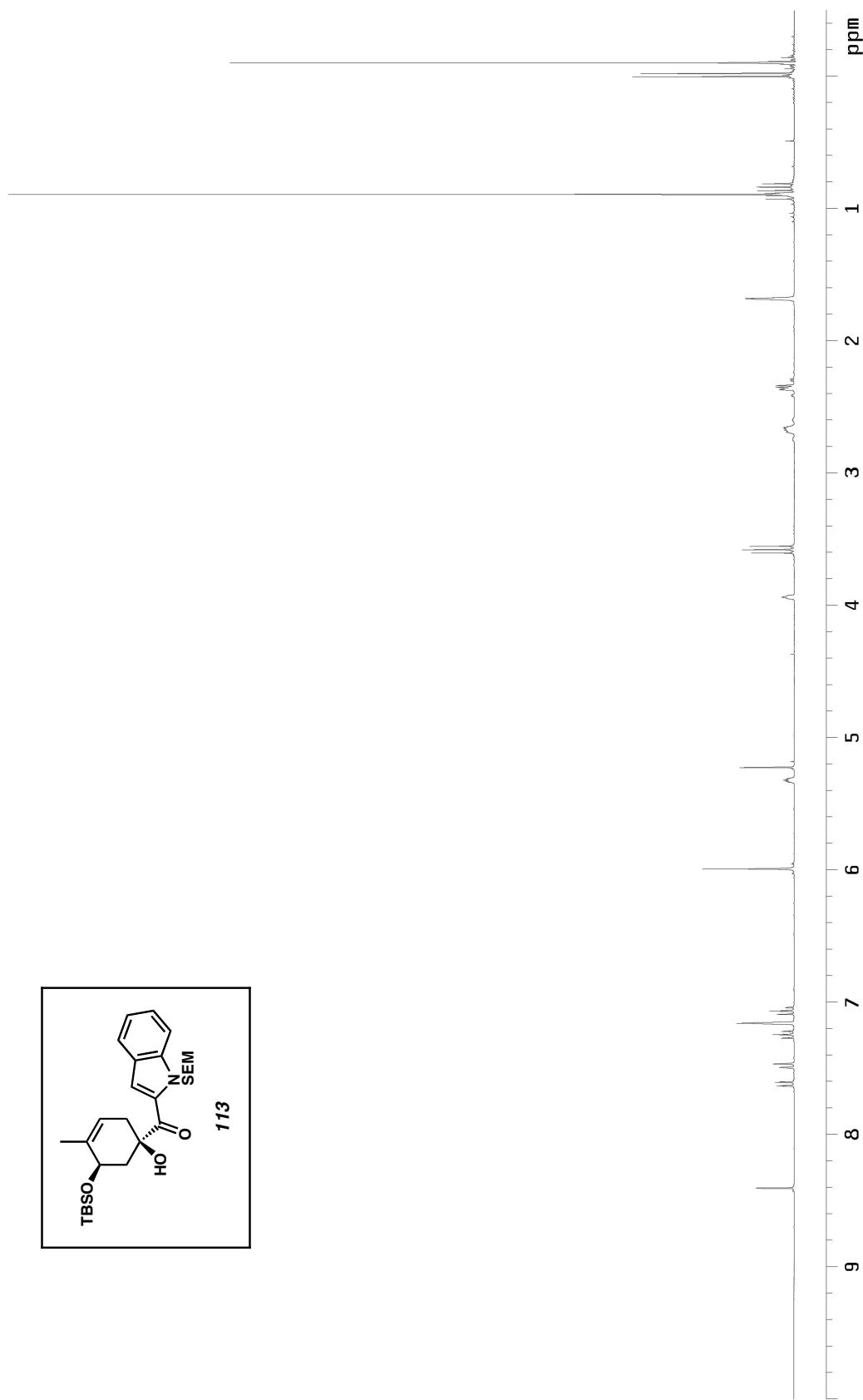


Figure A3.63  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 113

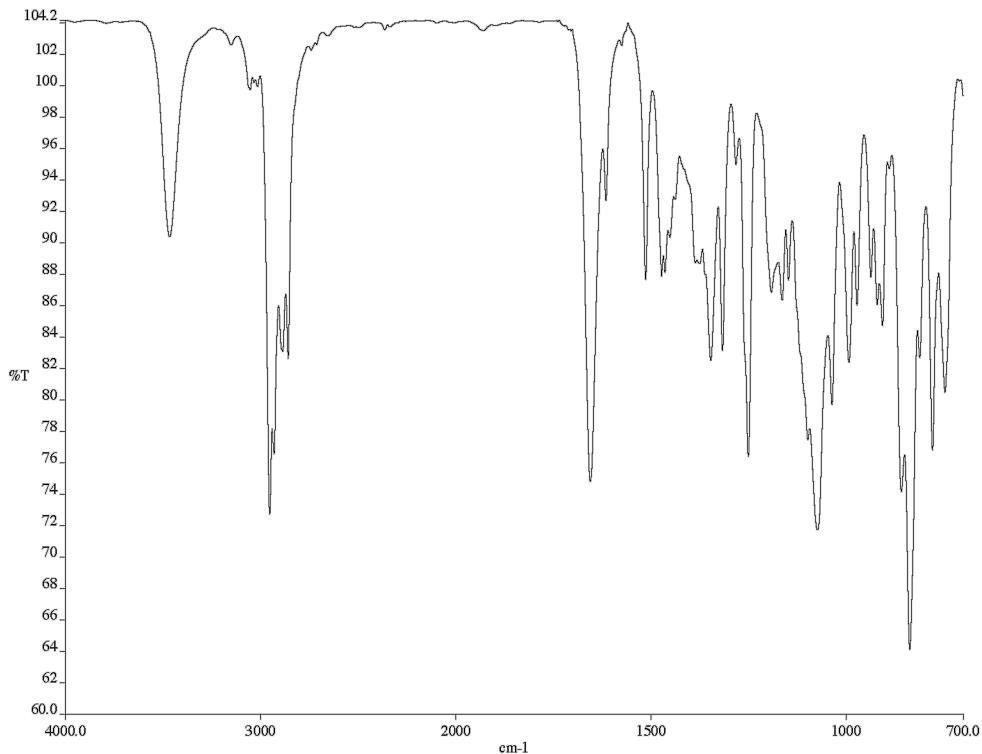


Figure A3.64 Infrared spectrum (thin film/NaCl) of compound **113**

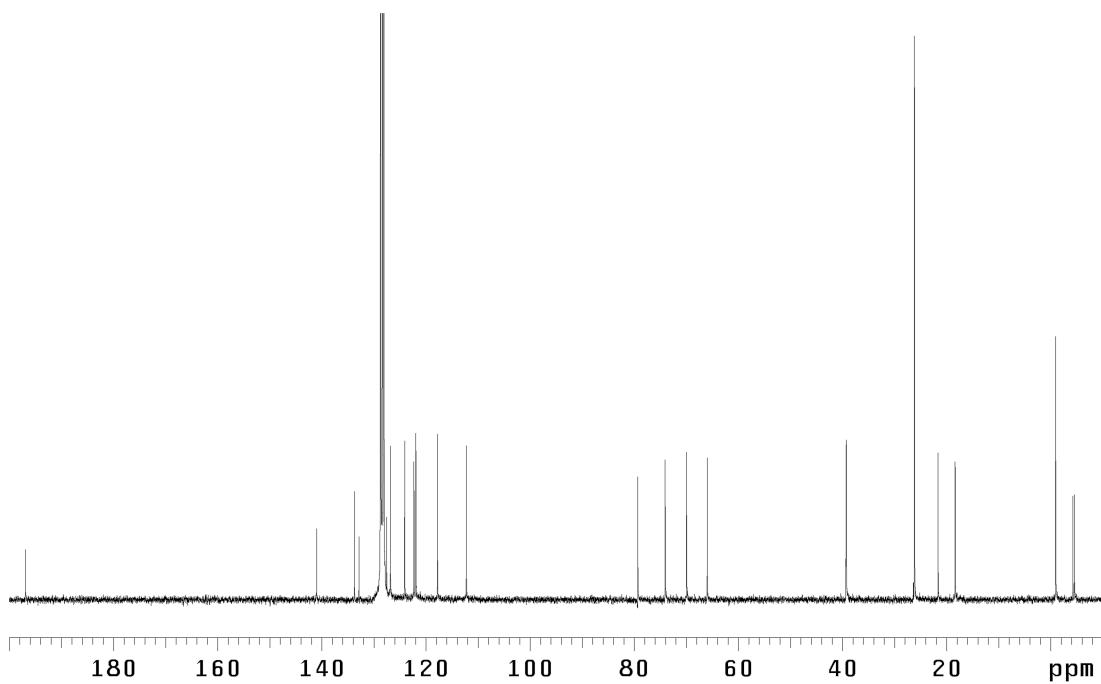


Figure A3.65  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **113**

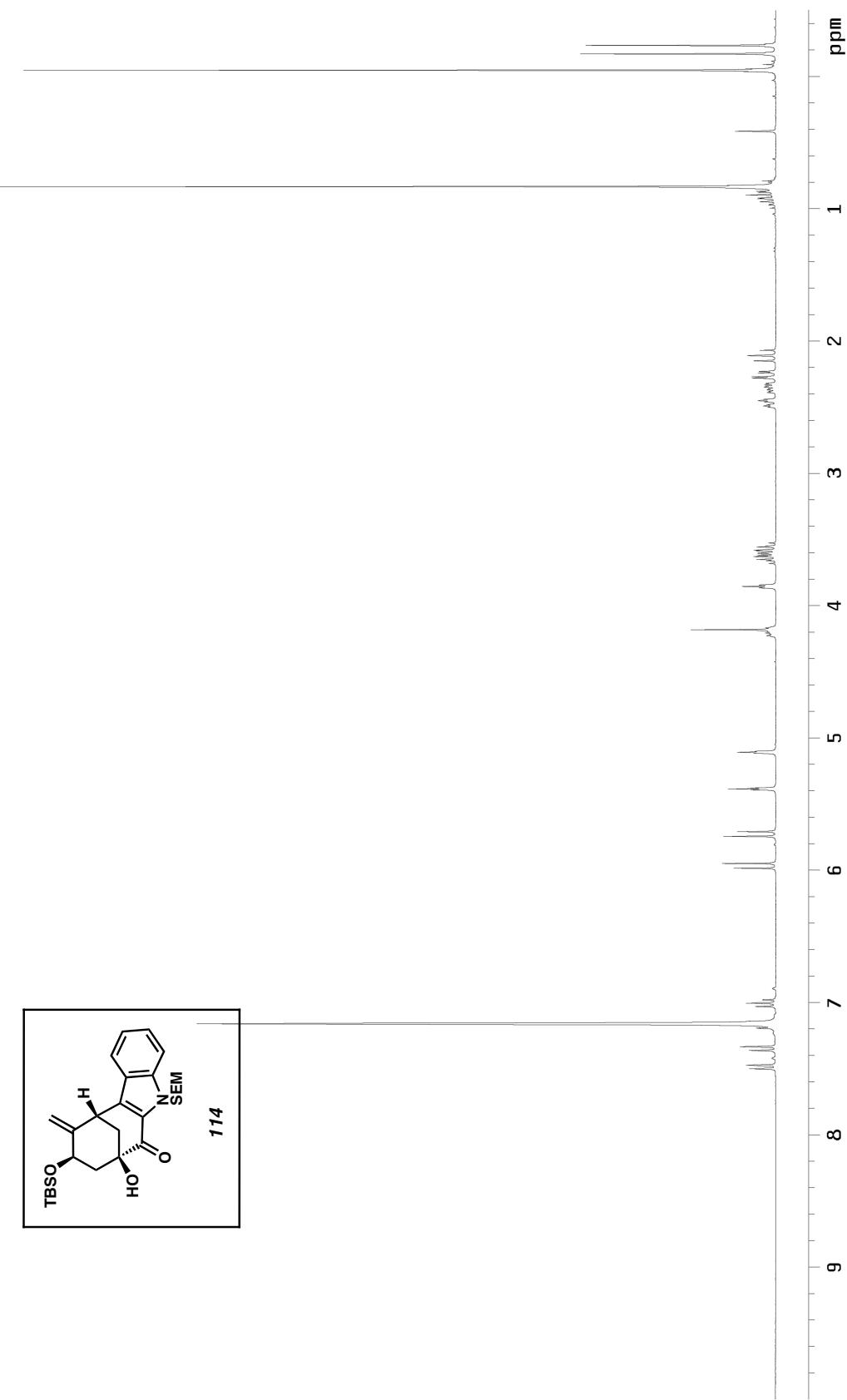


Figure A3.66  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 114.

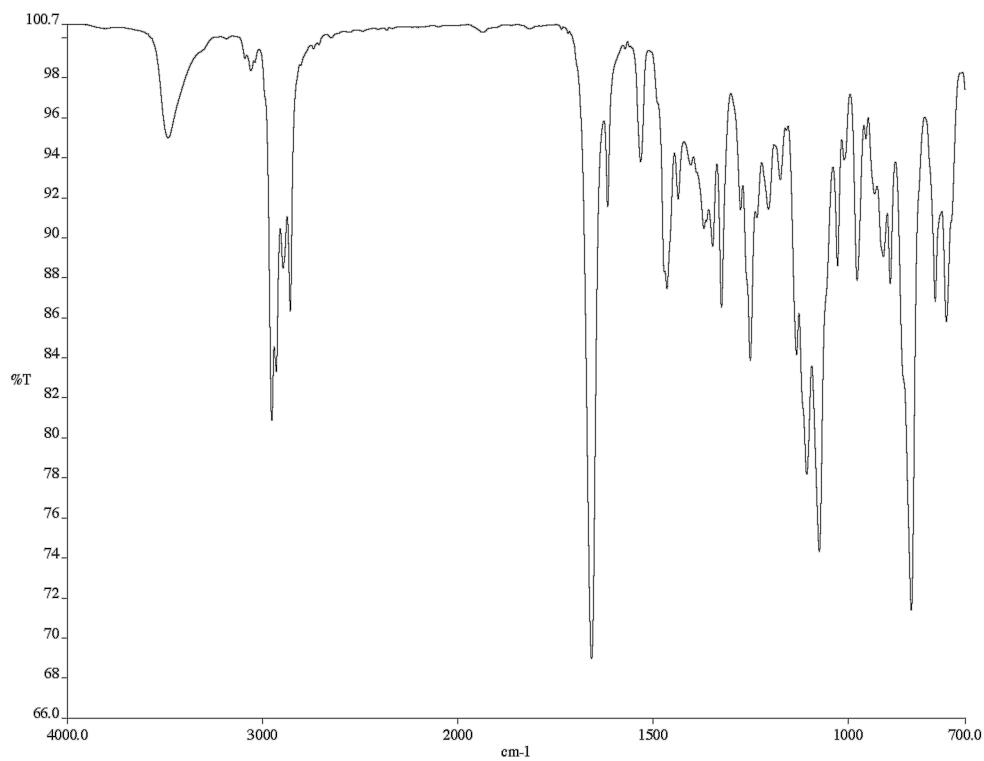


Figure A3.67 Infrared spectrum (thin film/NaCl) of compound **114**

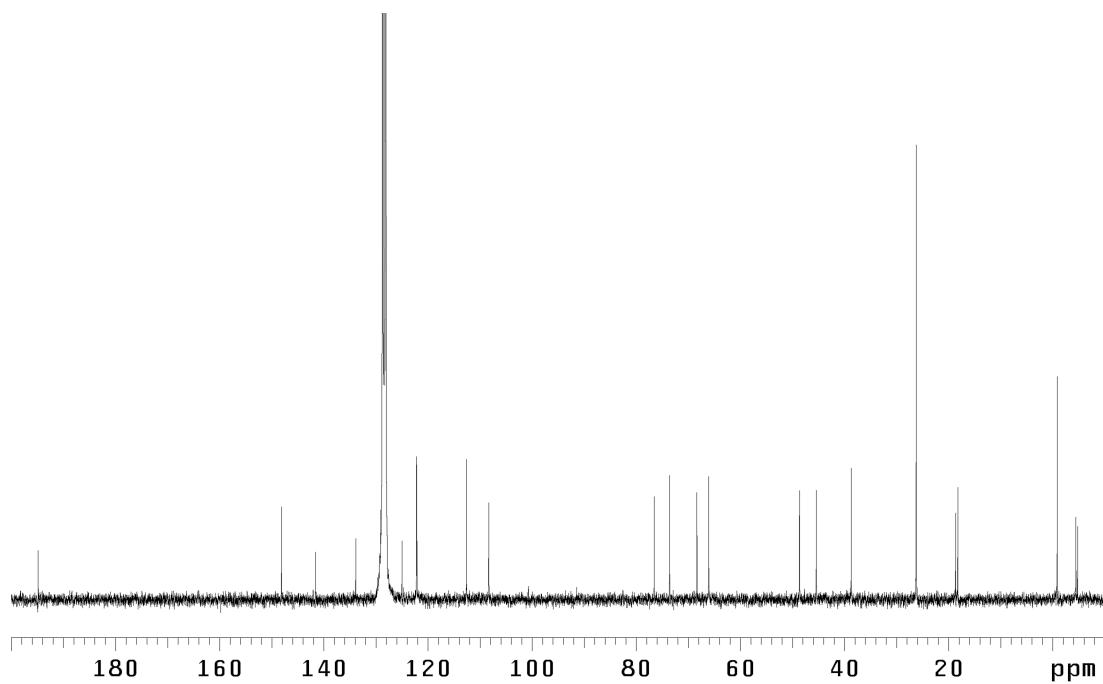


Figure A3.68  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **114**

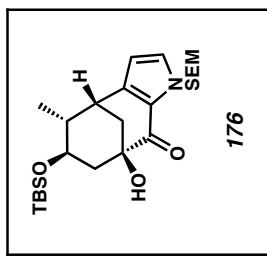
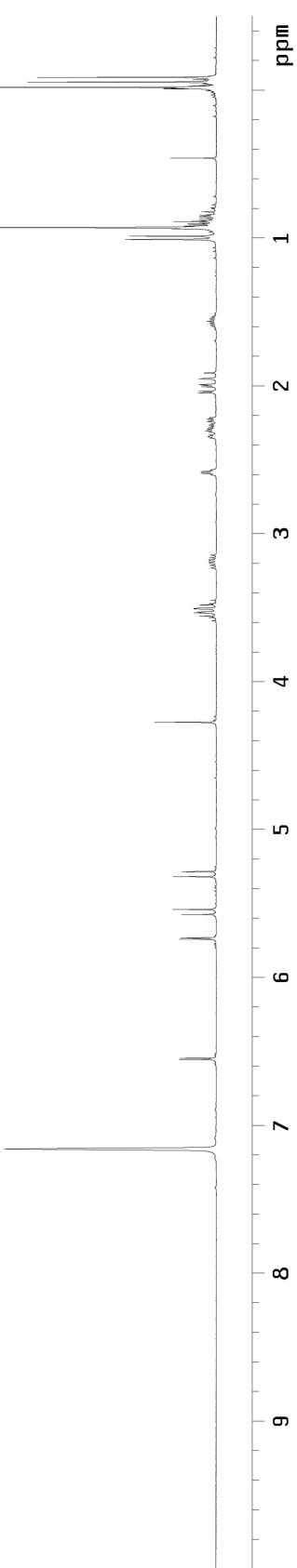


Figure A3.69 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 176

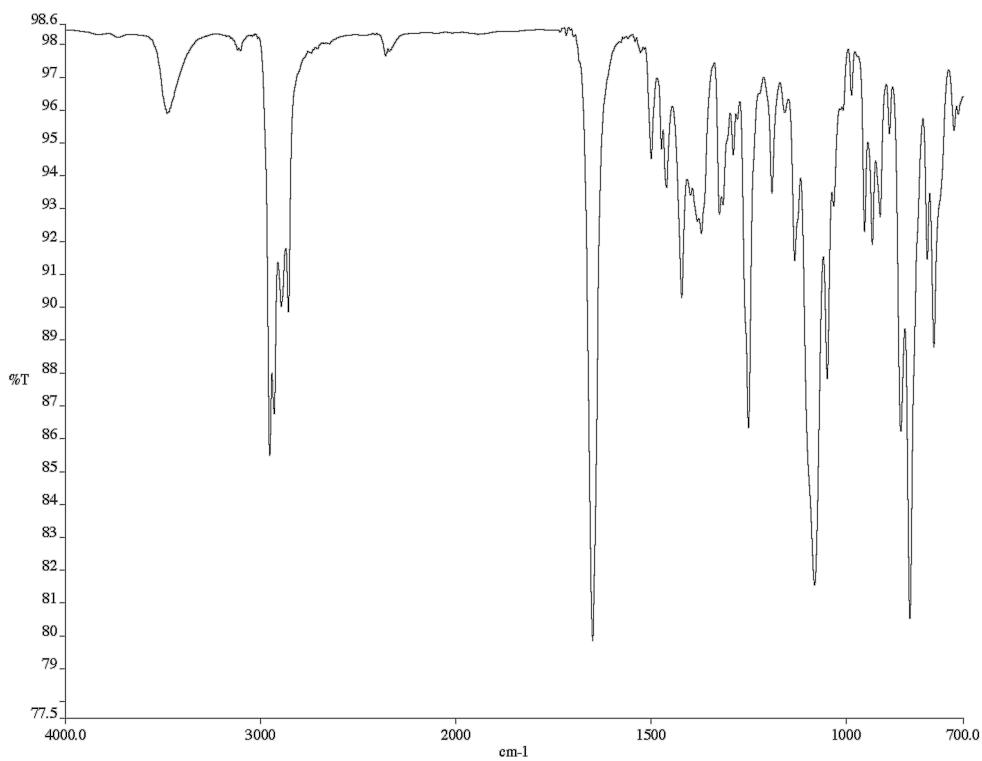


Figure A3.70 Infrared spectrum (thin film/NaCl) of compound **176**

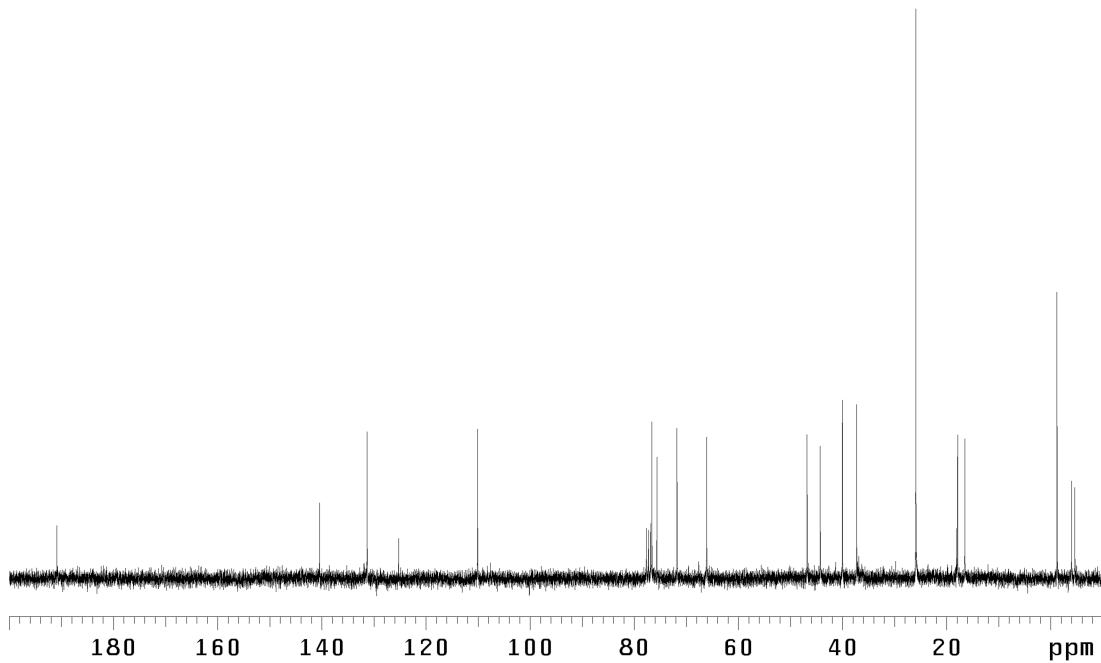


Figure A3.71  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **176**

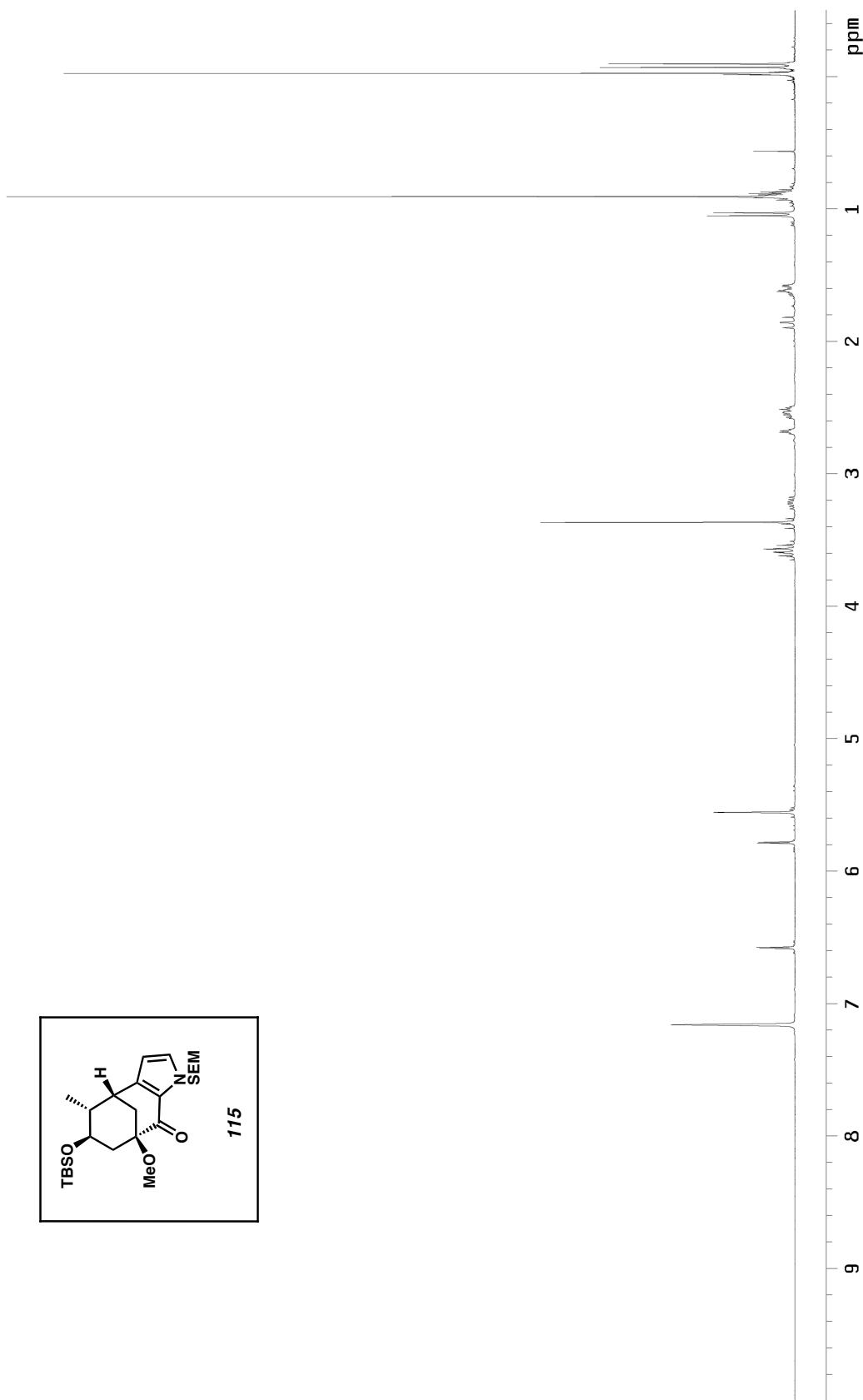


Figure A3.72  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 115

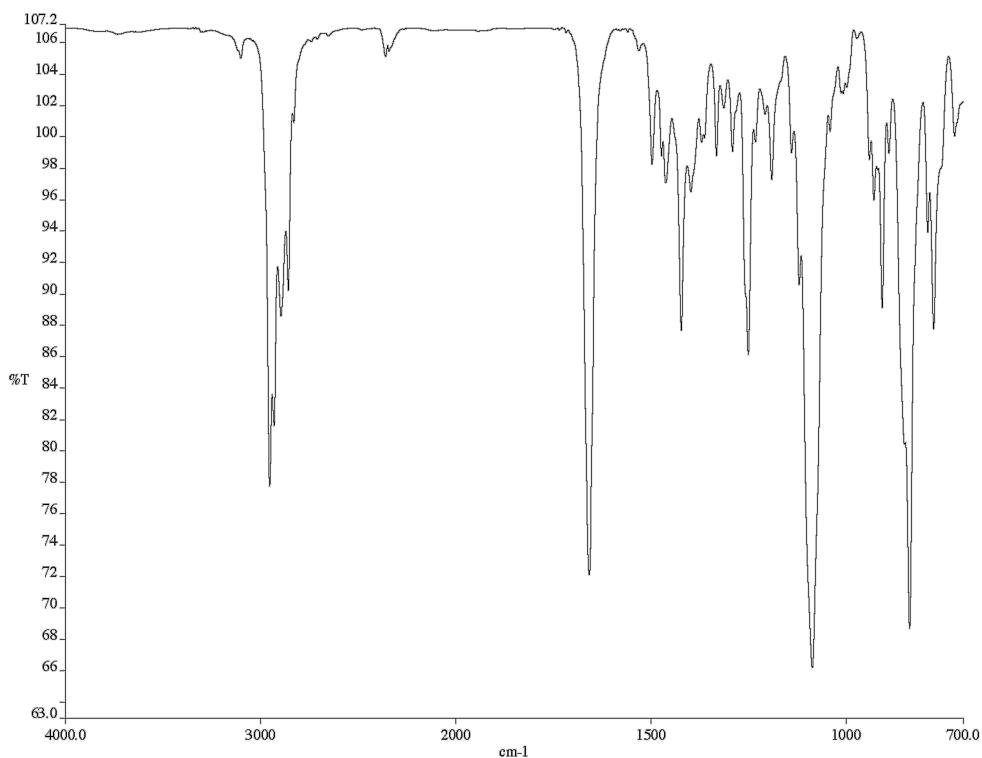


Figure A3.73 Infrared spectrum (thin film/NaCl) of compound **115**

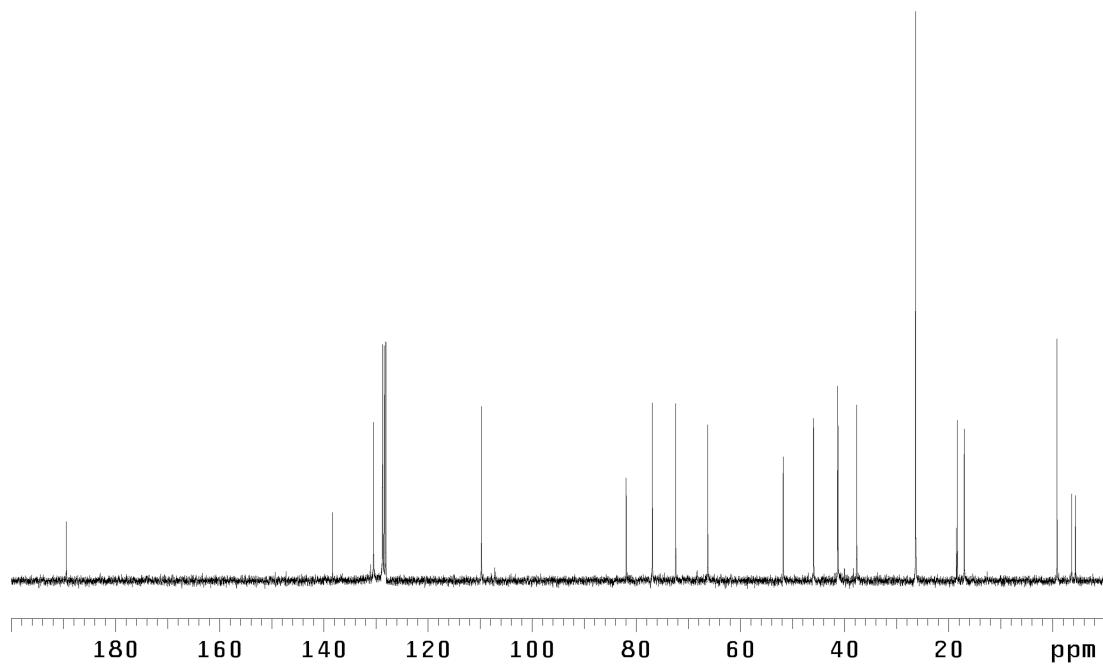
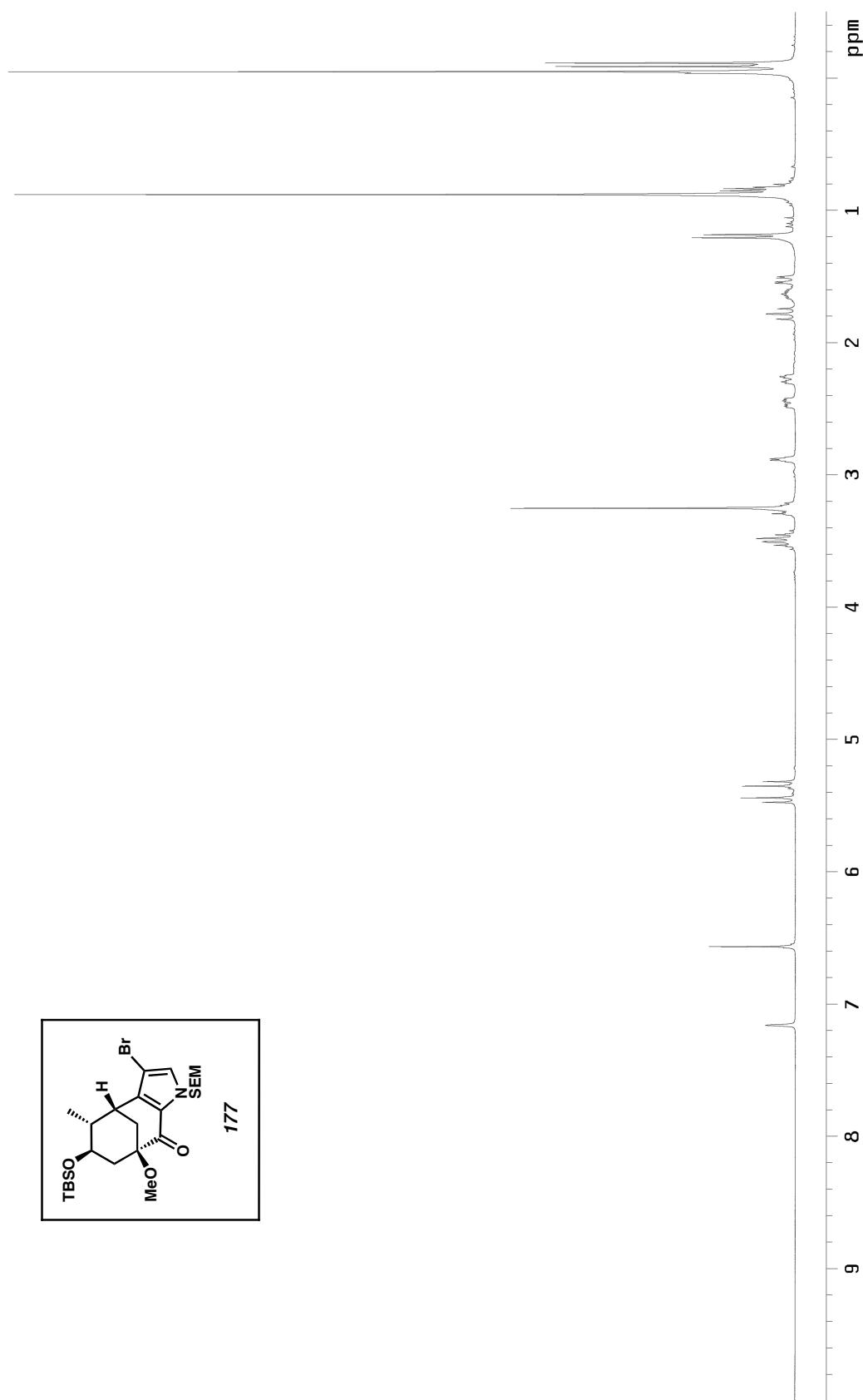


Figure A3.74  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **115**

Figure A3.75  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 177



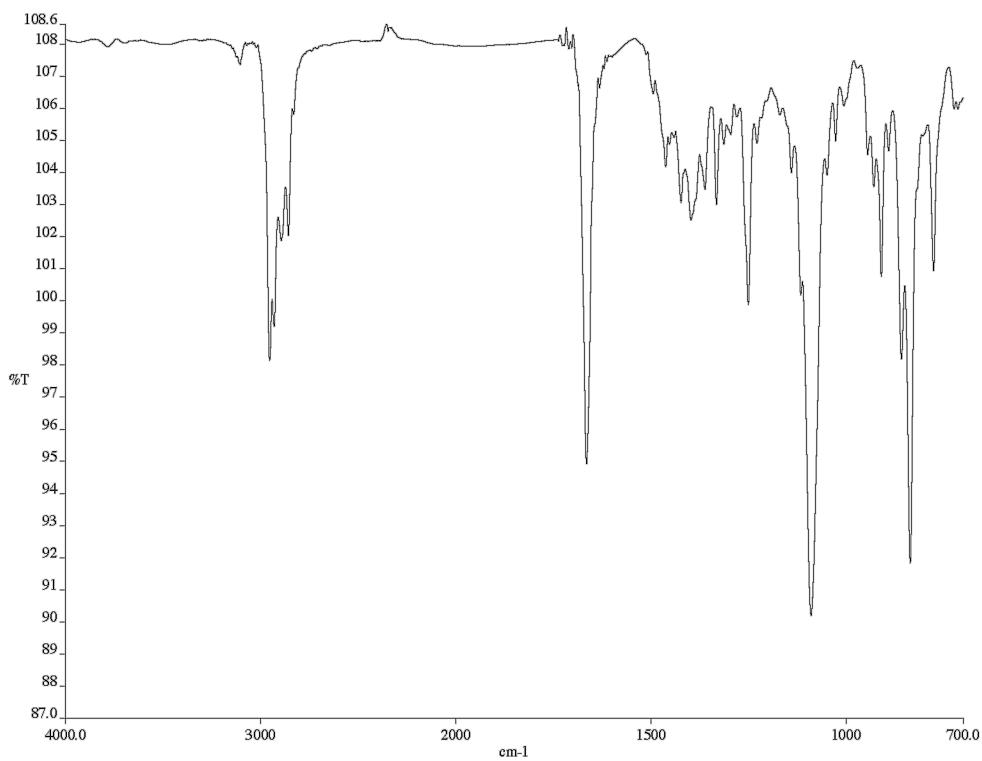


Figure A3.76 Infrared spectrum (thin film/NaCl) of compound 177

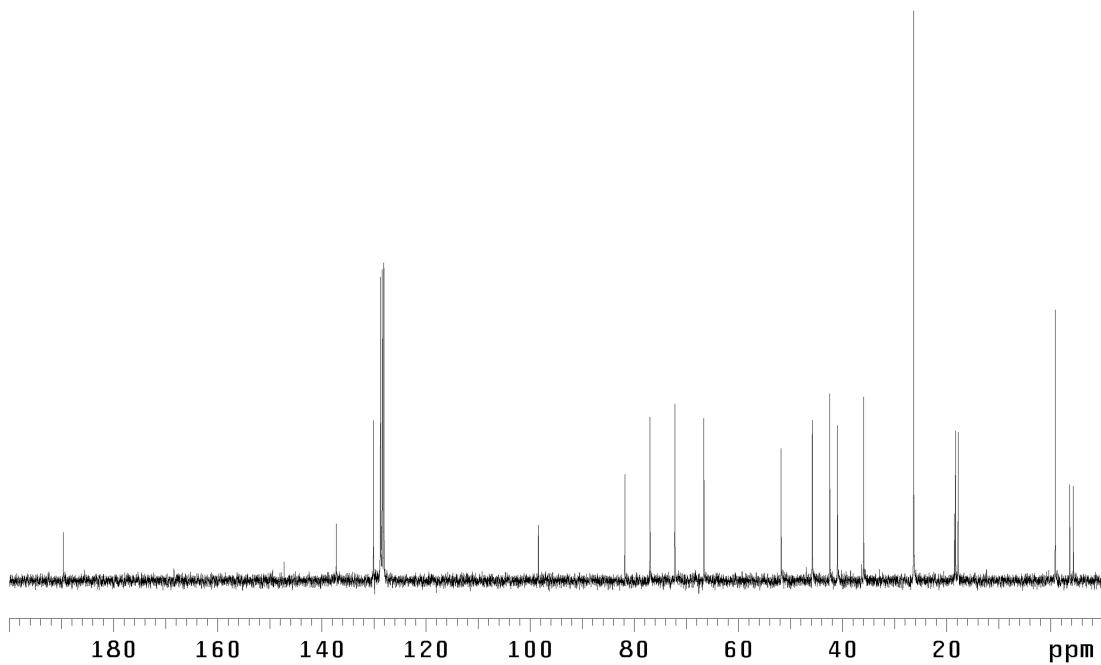


Figure A3.77  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound 177

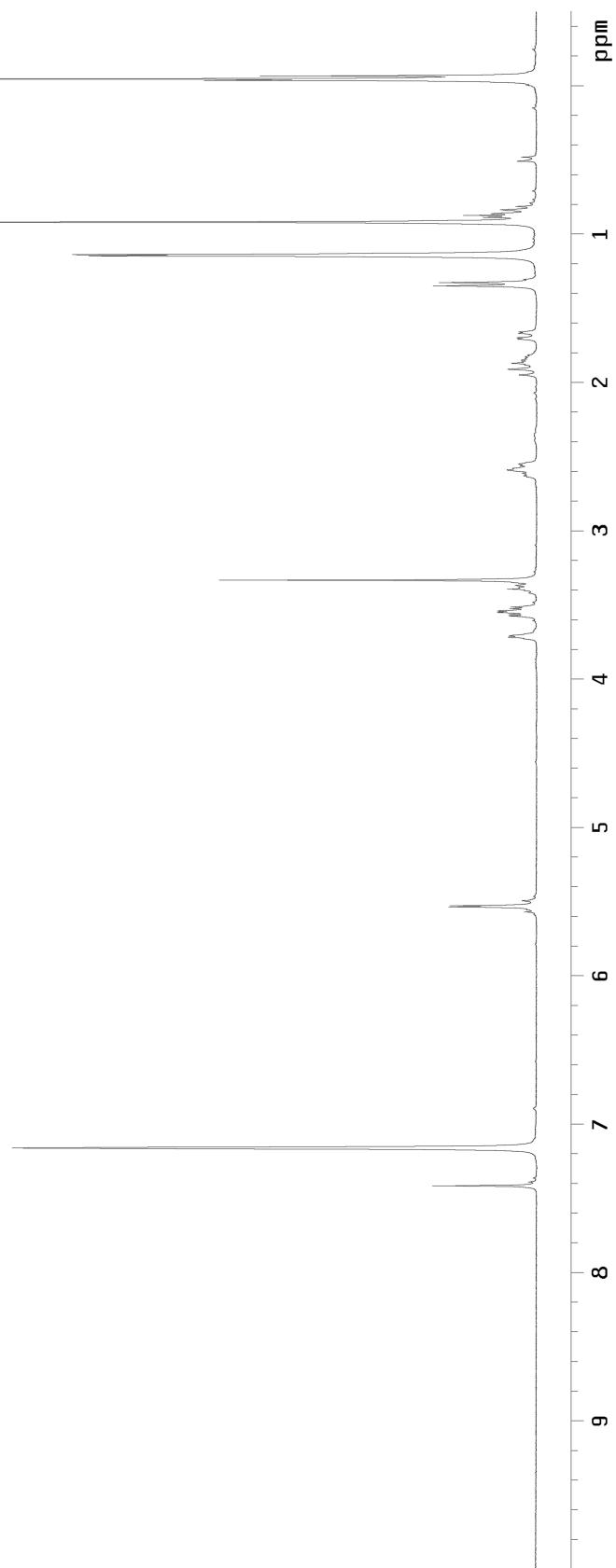
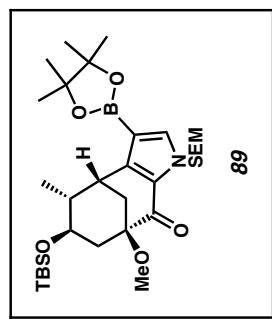


Figure A3.78 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 89

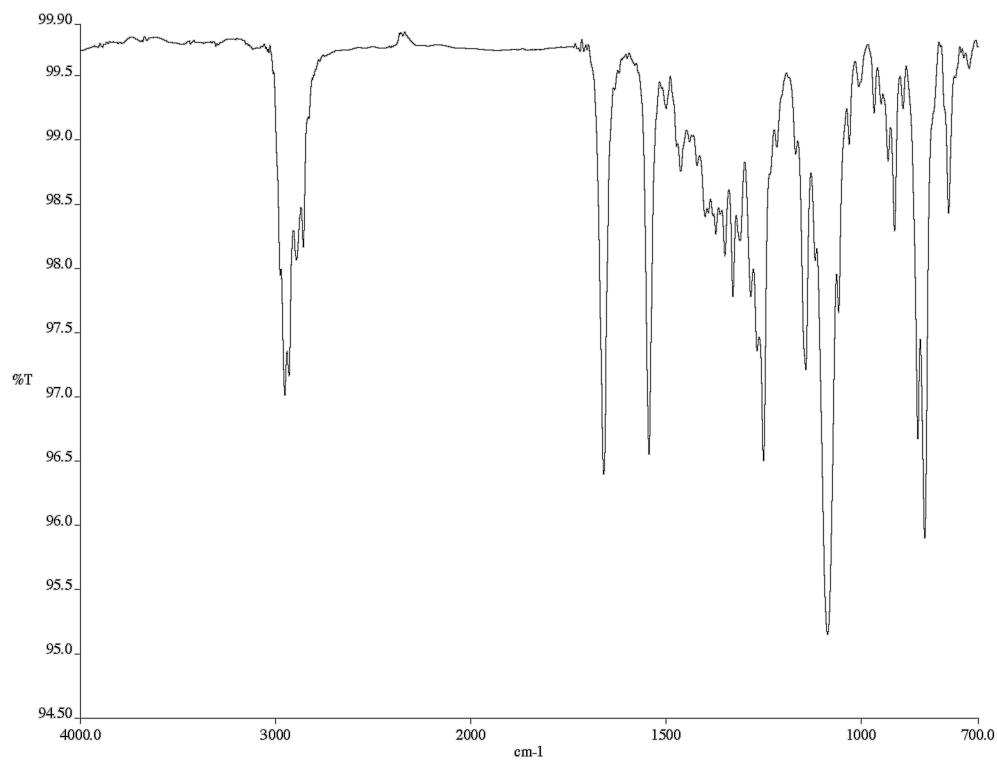


Figure A3.79 Infrared spectrum (thin film/NaCl) of compound **89**

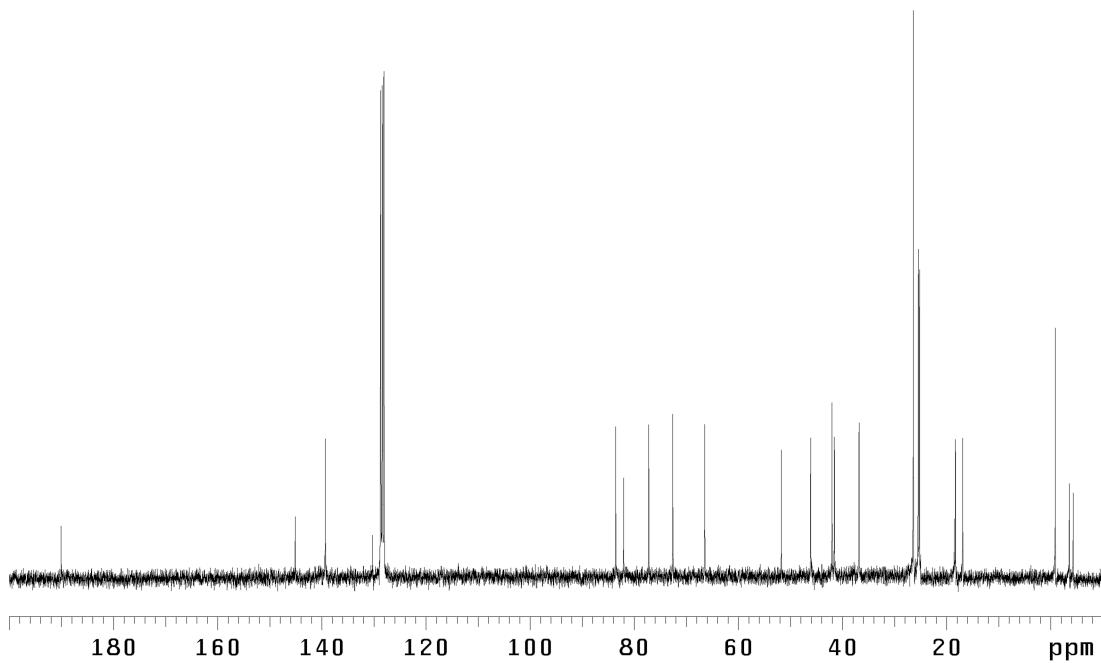


Figure A3.80  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **89**

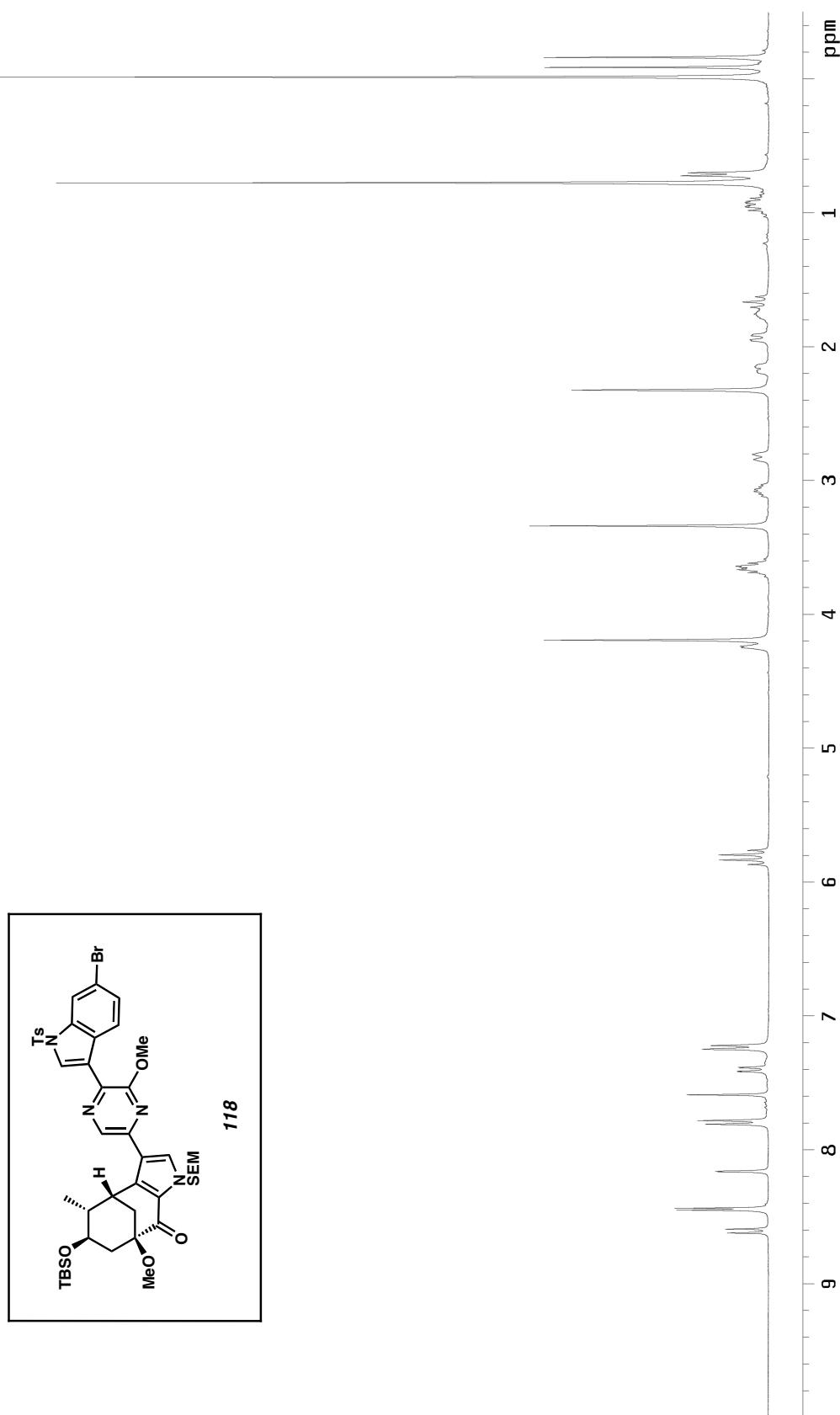


Figure A3.81  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 118

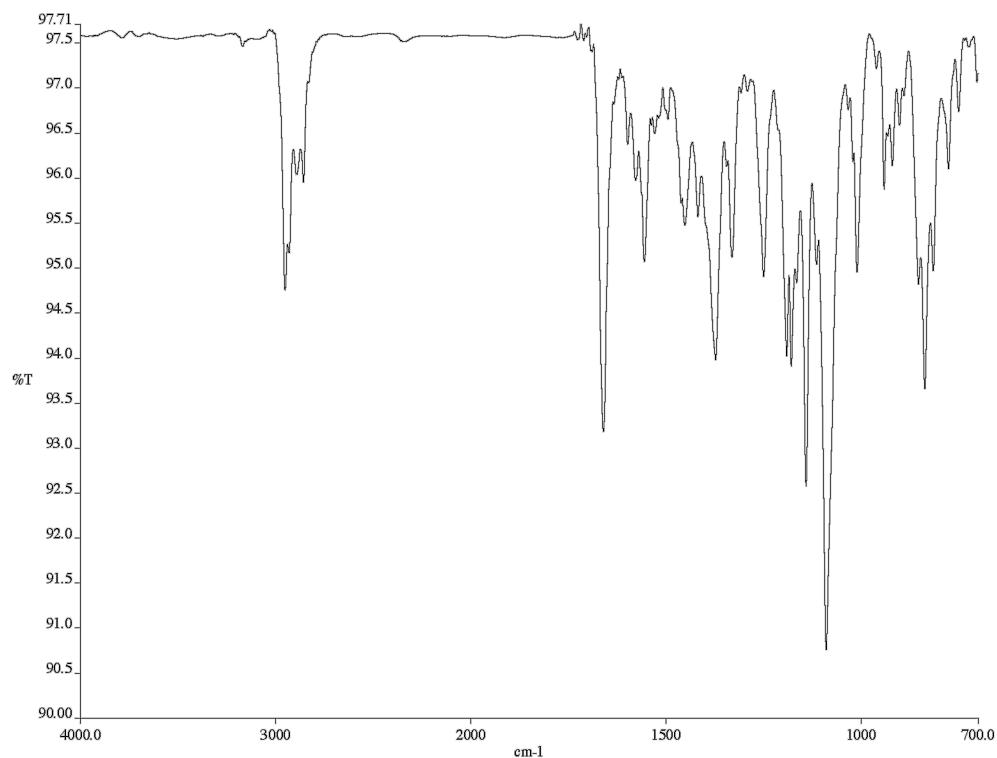


Figure A3.82 Infrared spectrum (thin film/NaCl) of compound **118**

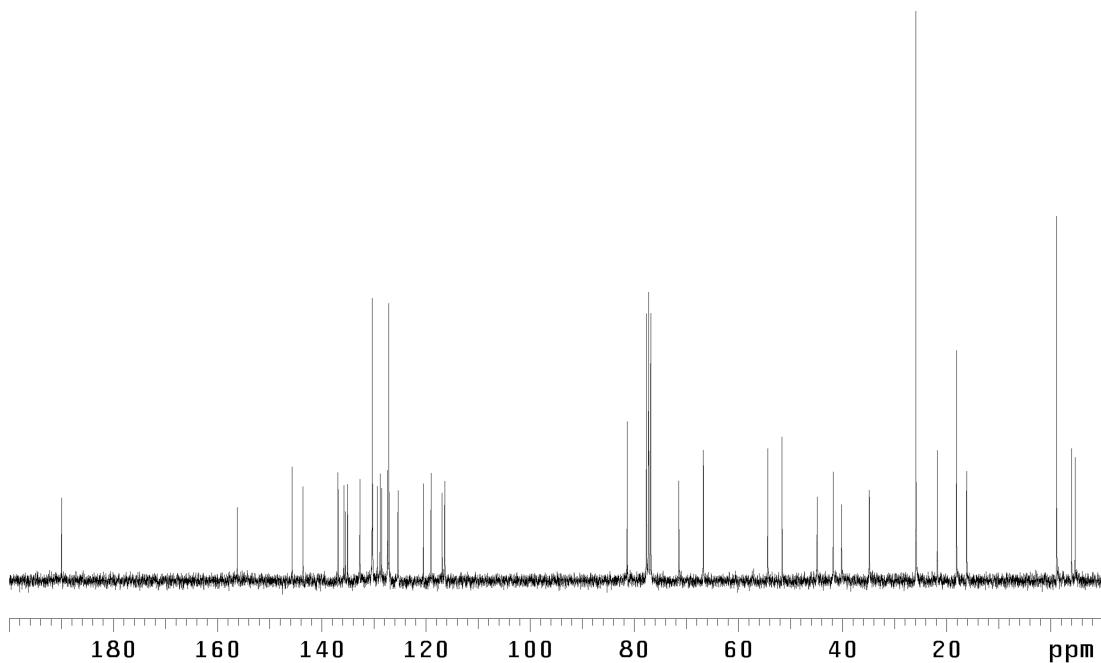


Figure A3.83  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **118**

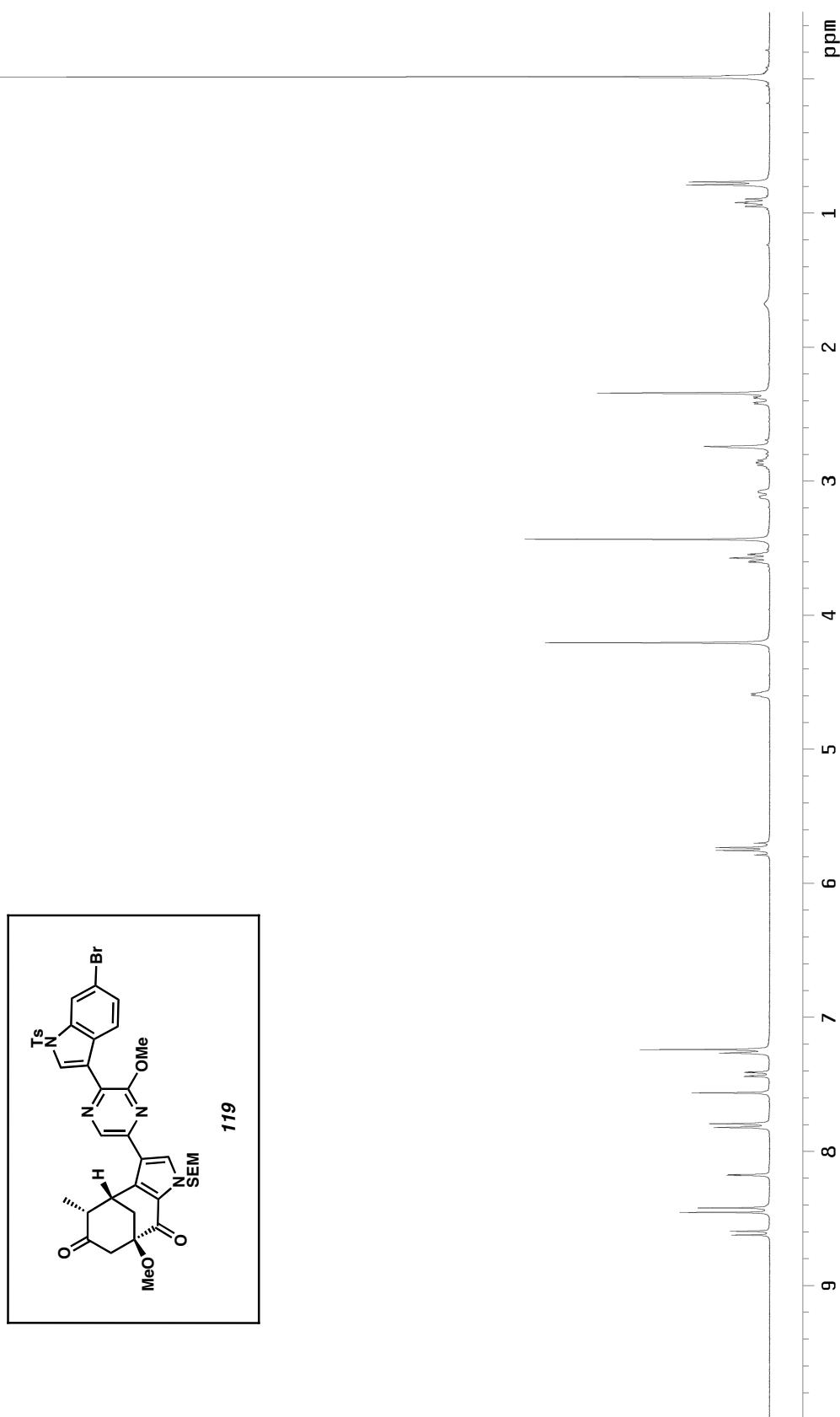


Figure A3.84  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 119

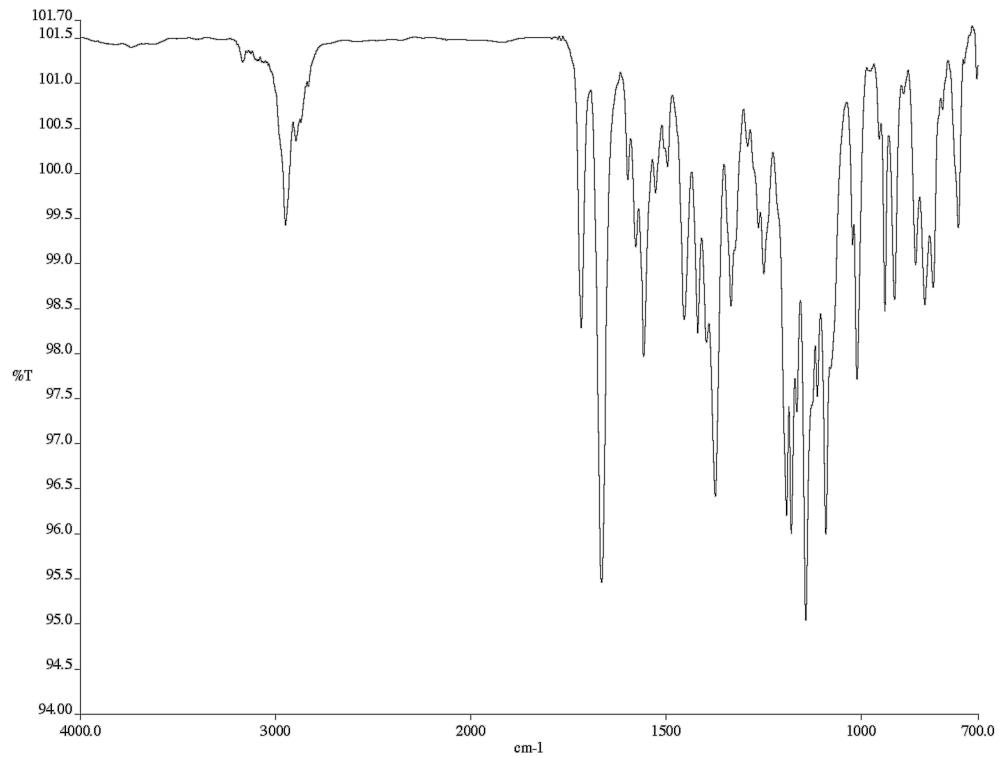


Figure A3.85 Infrared spectrum (thin film/NaCl) of compound **119**

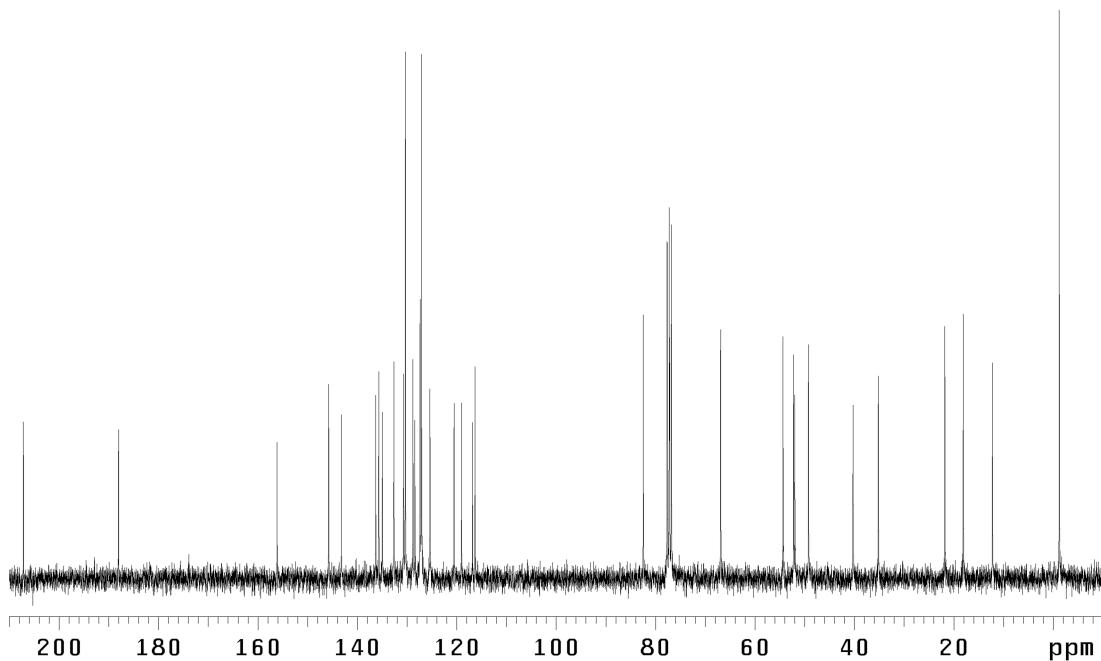


Figure A3.86  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **119**

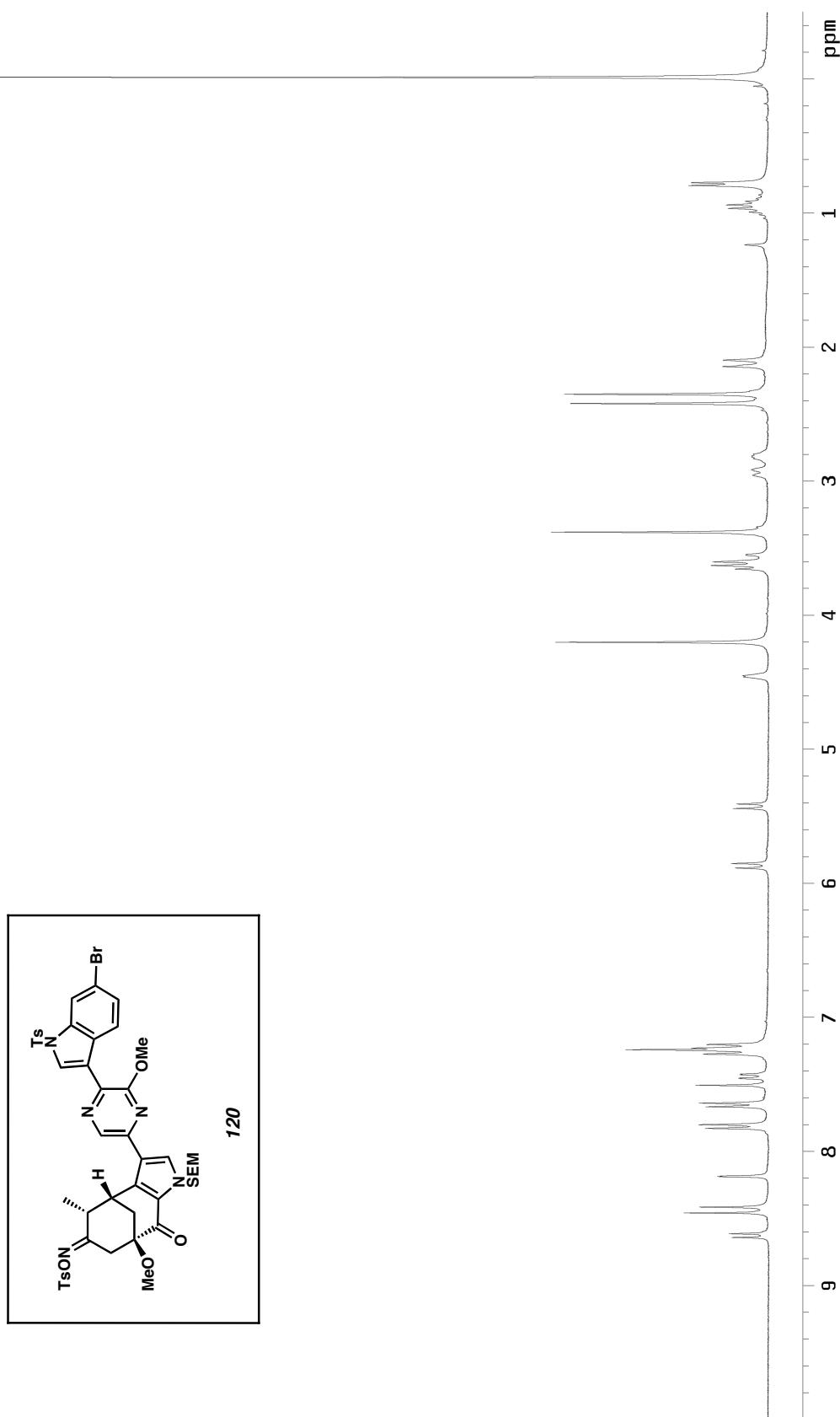


Figure A3.87  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 120

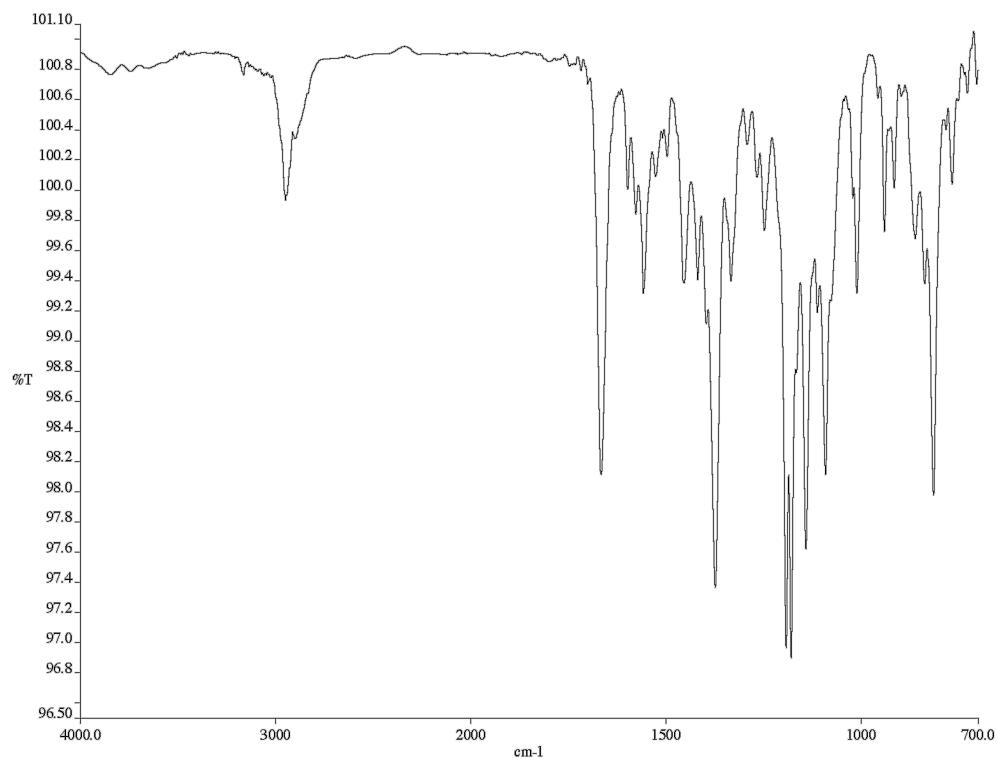


Figure A3.88 Infrared spectrum (thin film/NaCl) of compound **120**

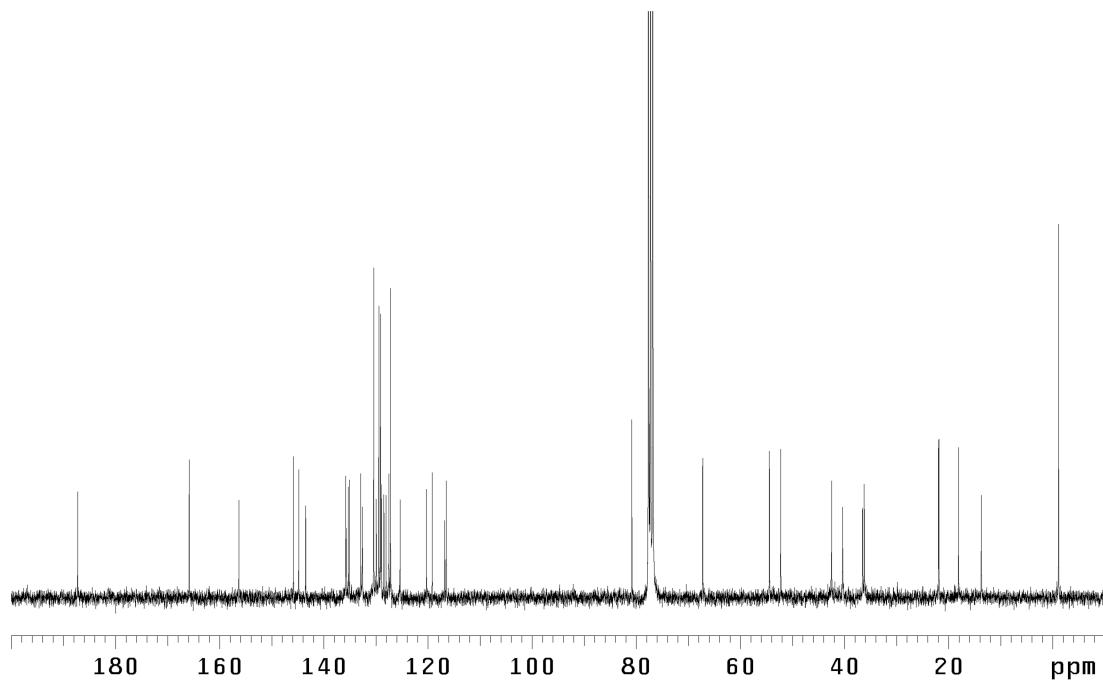


Figure A3.89  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **120**

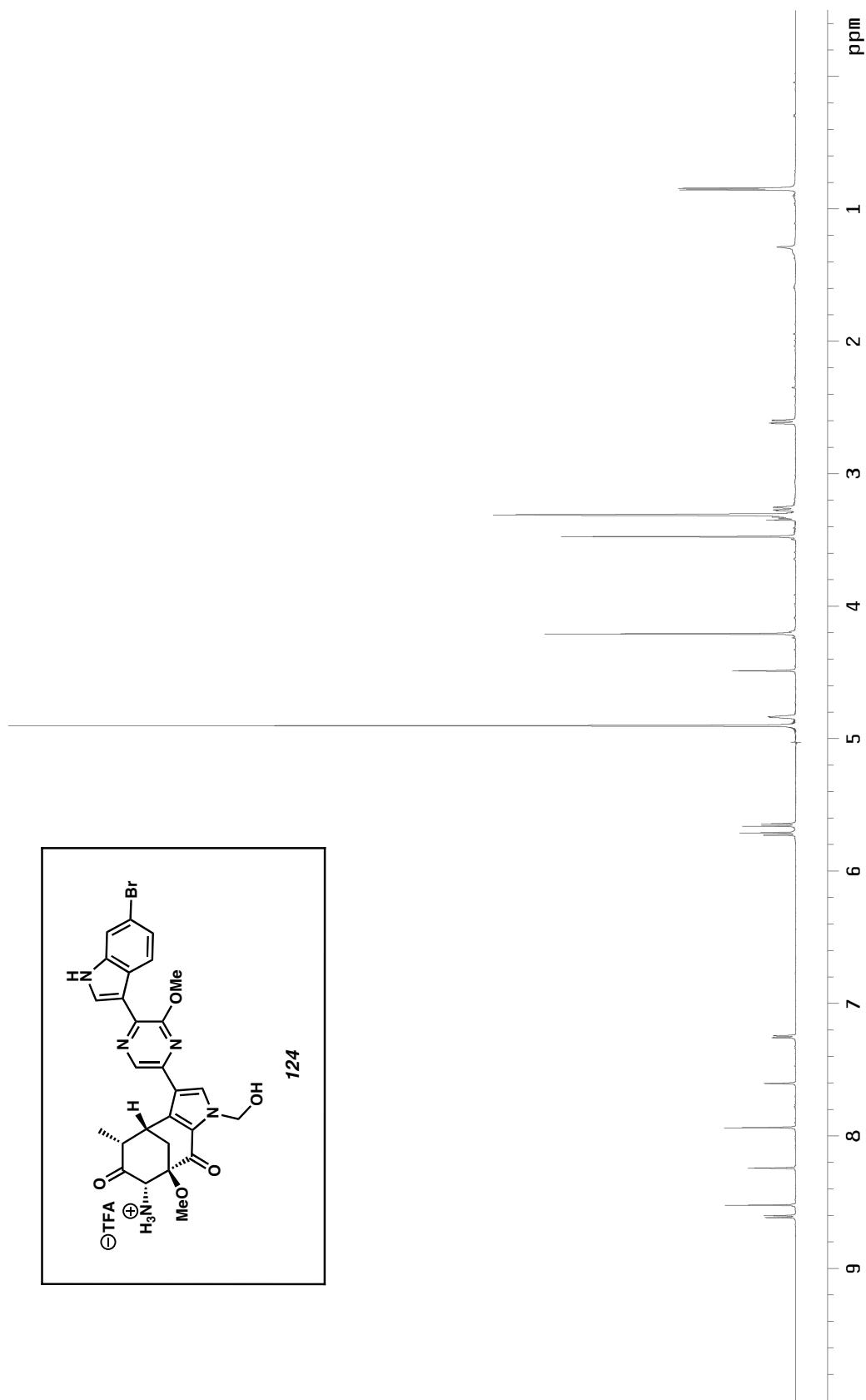


Figure A3.90  $^1\text{H}$  NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) of compound 124

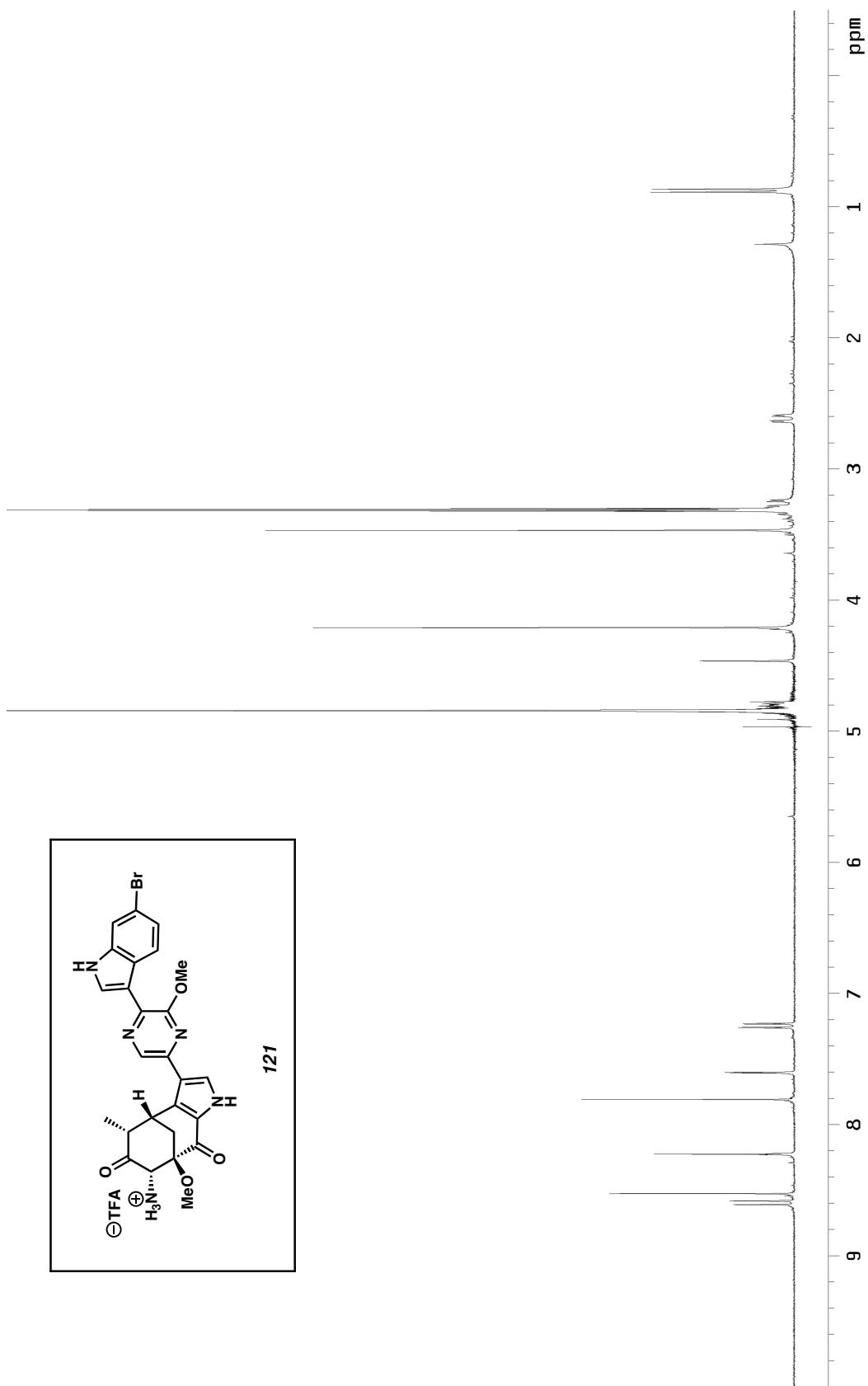


Figure A3.91  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_3\text{OD}$ ) of compound 121

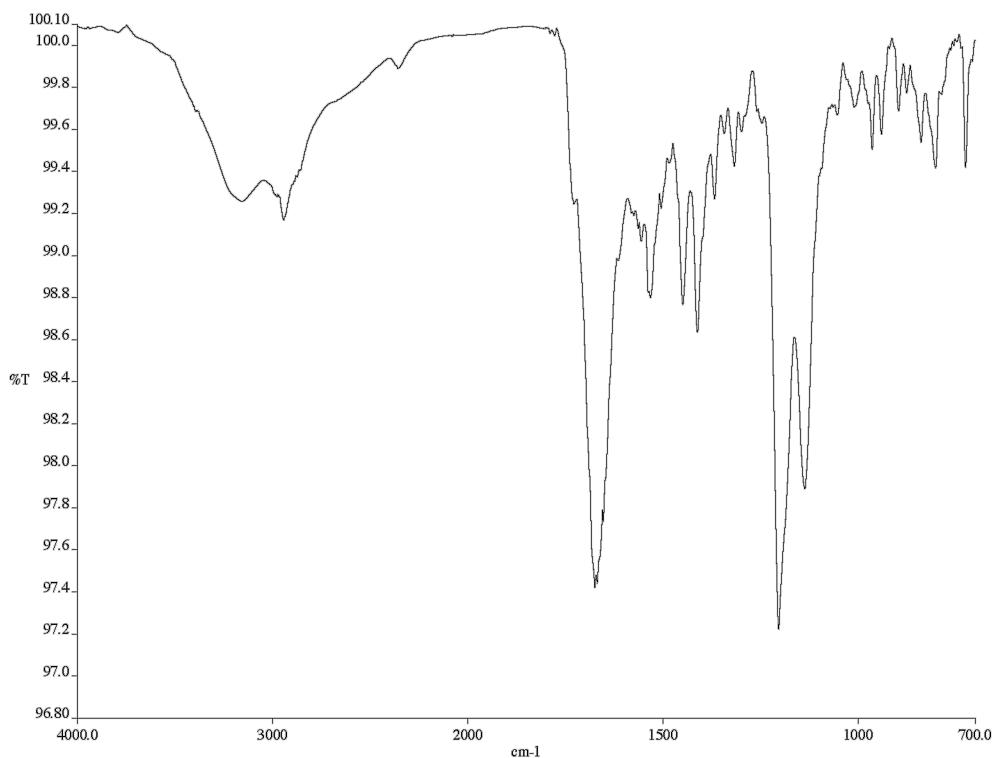


Figure A3.92 Infrared spectrum (thin film/NaCl) of compound **121**

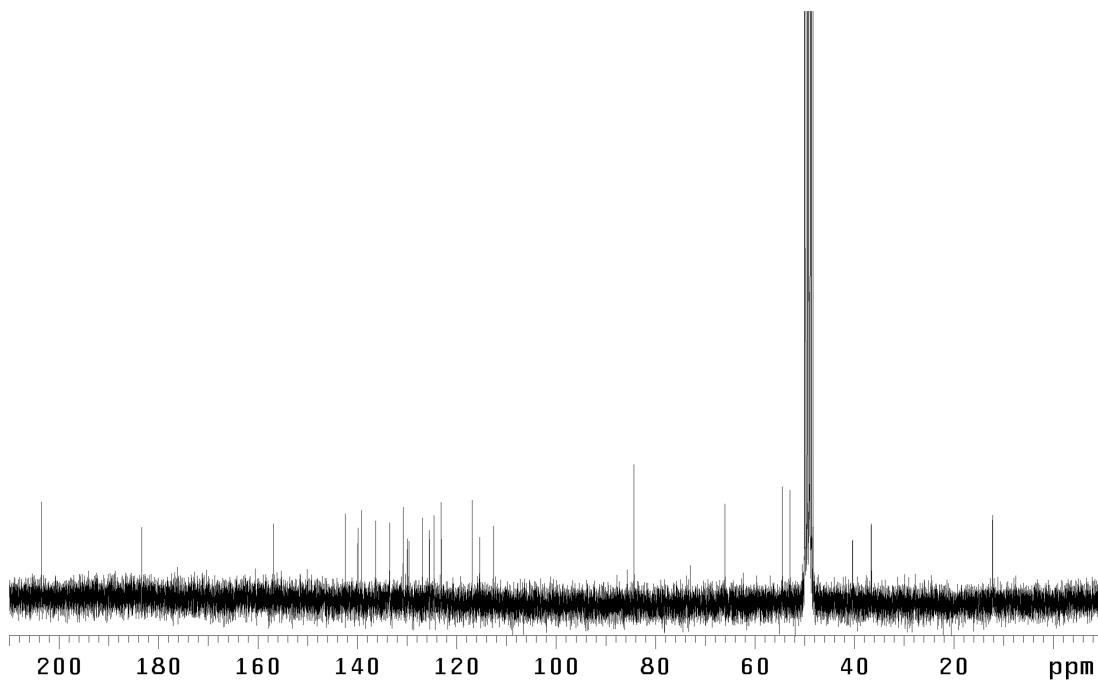


Figure A3.93  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_3\text{OD}$ ) of compound **121**

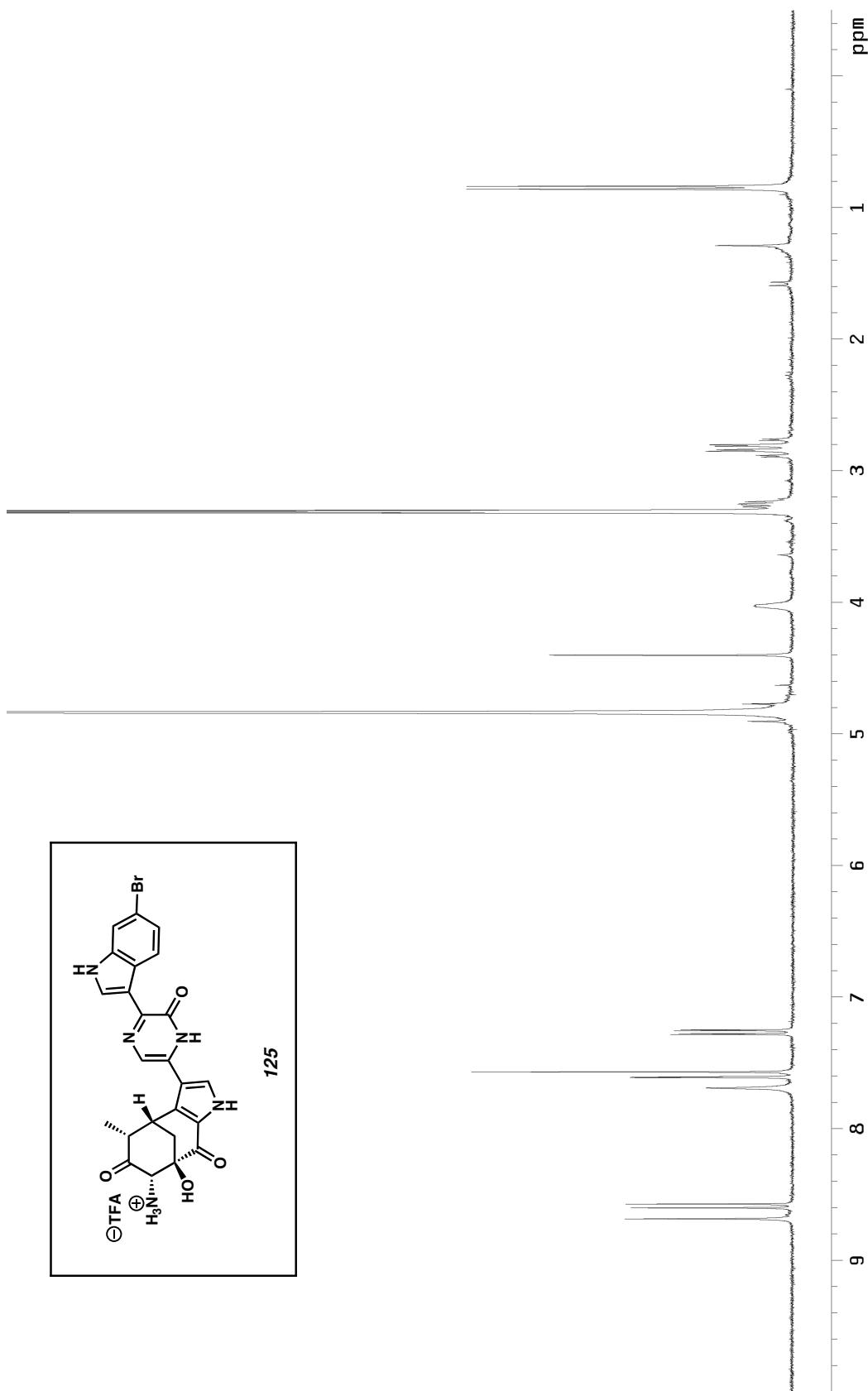


Figure A3.94  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_3\text{OD}$ ) of compound 125

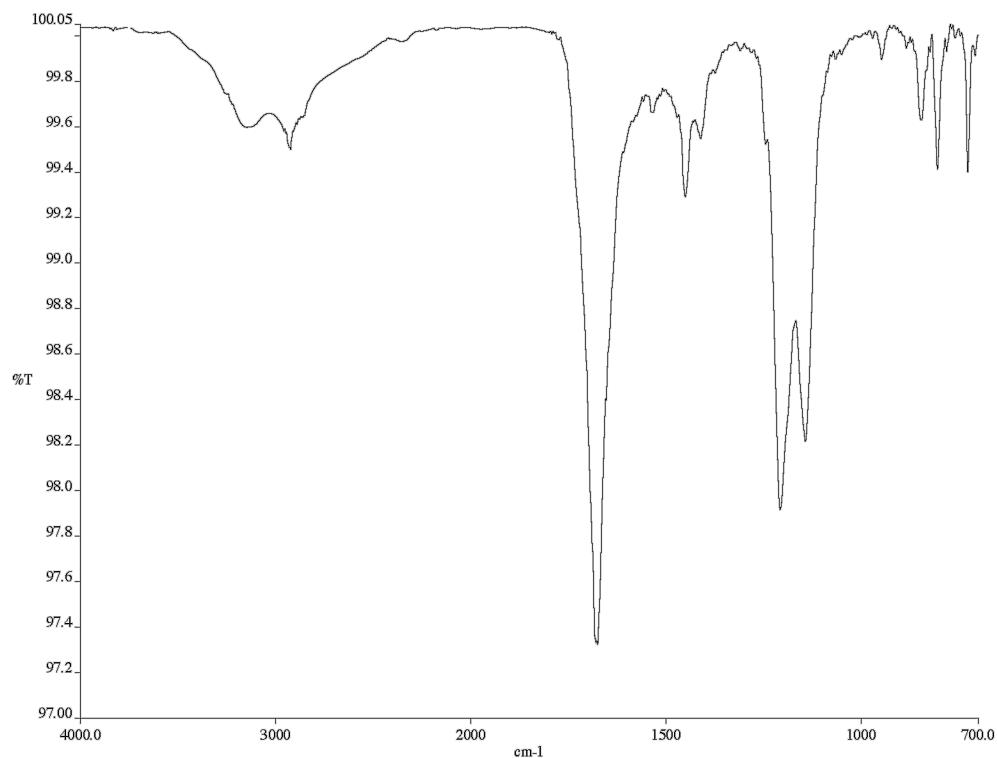


Figure A3.95 Infrared spectrum (thin film/NaCl) of compound **125**

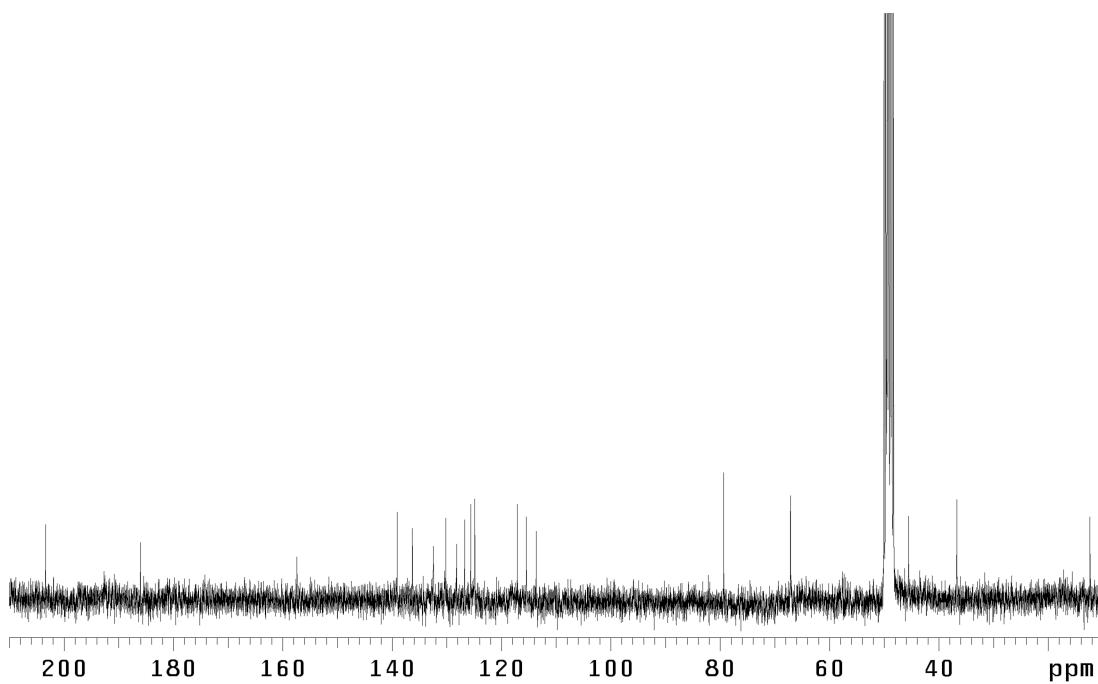


Figure A3.96  $^{13}\text{C}$  NMR (75 MHz,  $\text{CD}_3\text{OD}$ ) of compound **125**

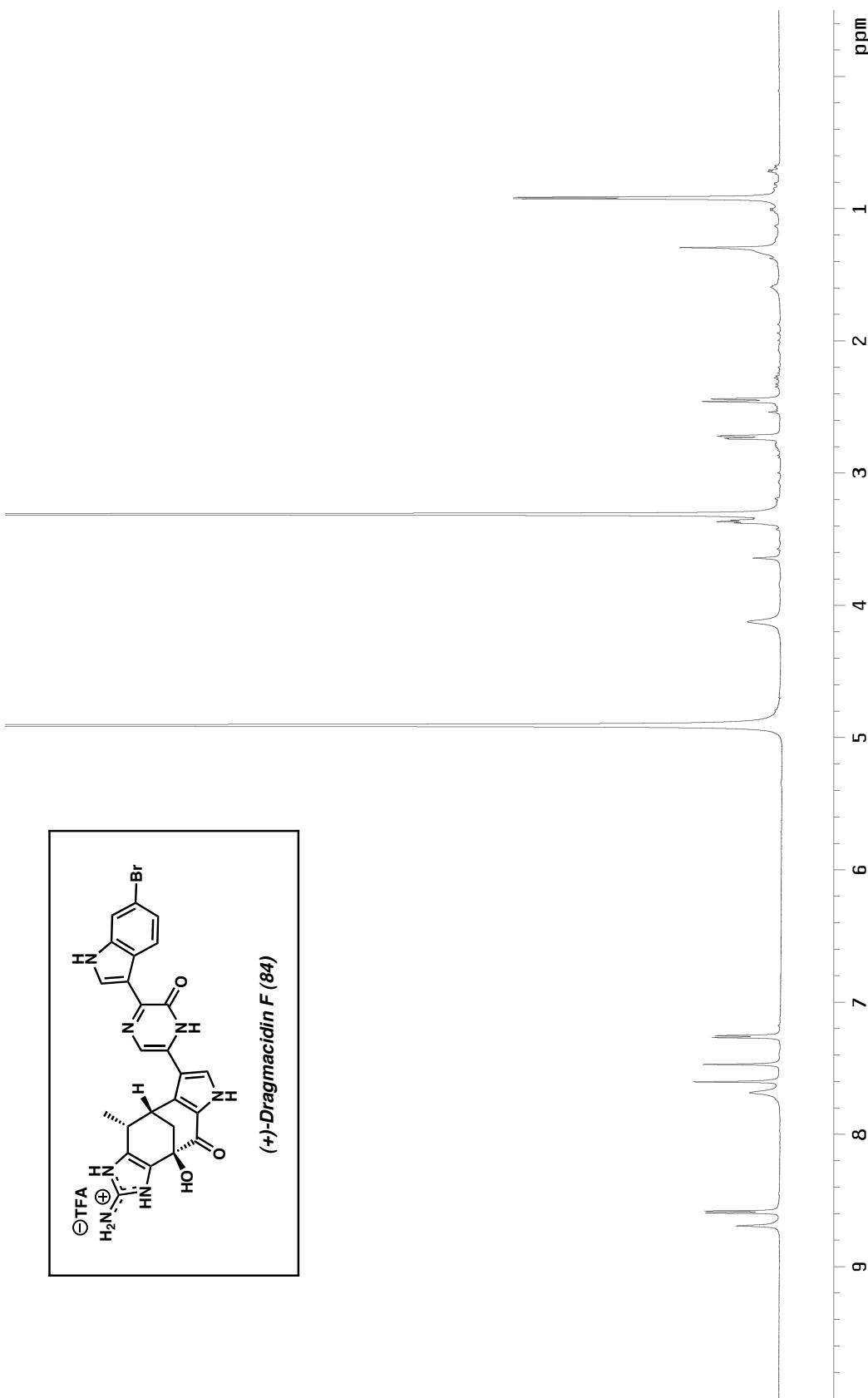


Figure A3.97  $^1\text{H}$  NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) of (+)-dragmacidin F (**84**)

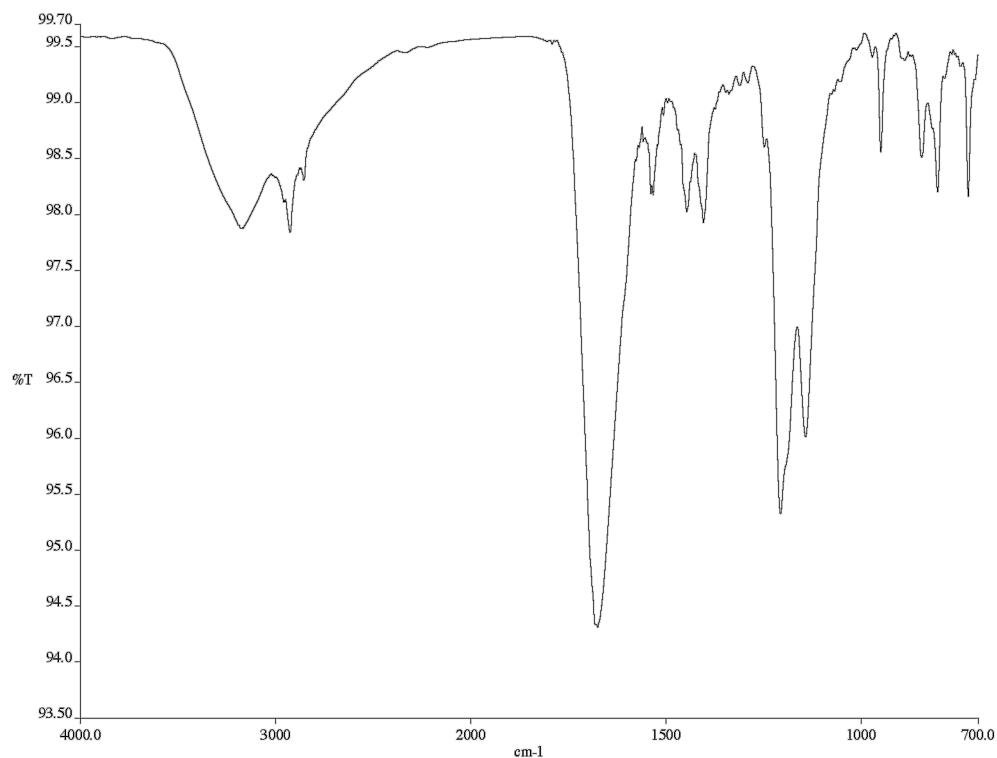


Figure A3.98 Infrared spectrum (thin film/NaCl) of (+)-dragmacidin F (**84**)

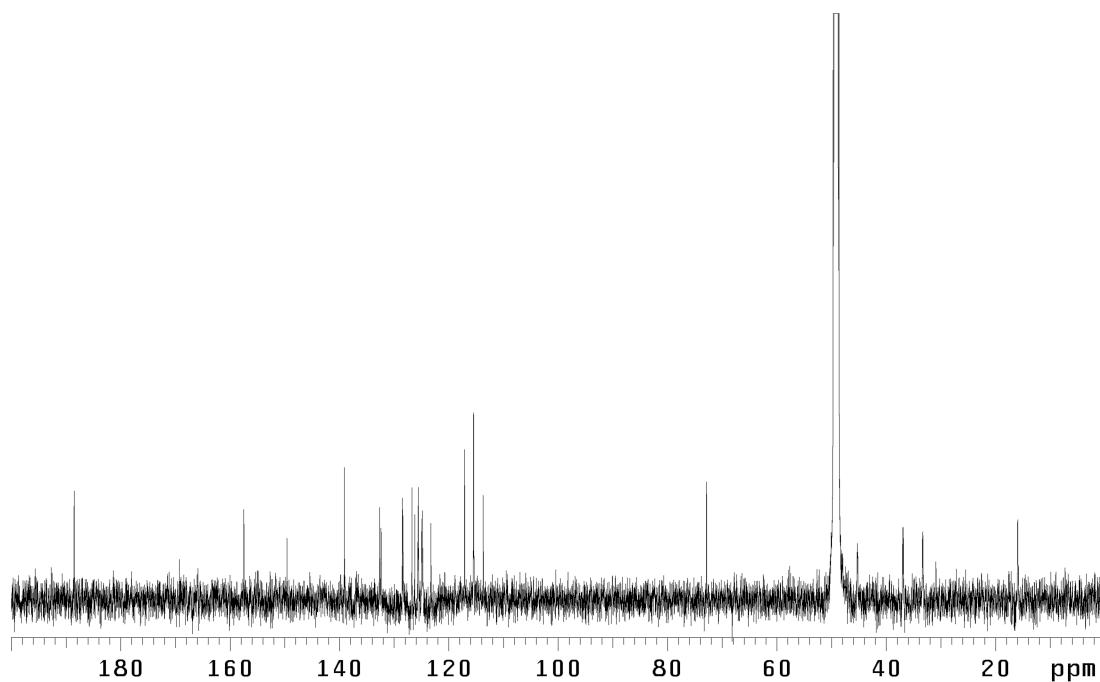
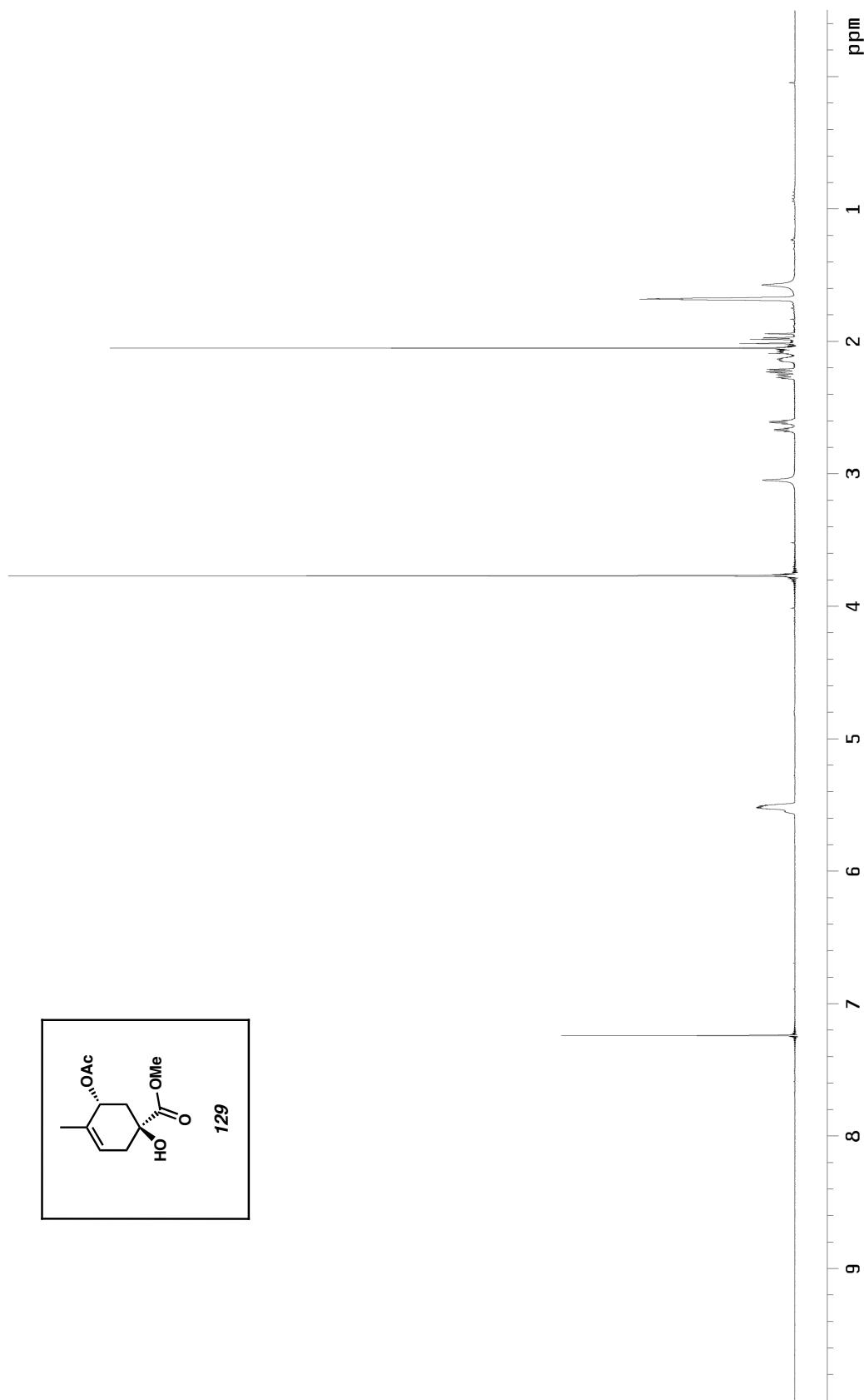


Figure A3.99  $^{13}\text{C}$  NMR (125 MHz,  $\text{CD}_3\text{OD}$ ) of (+)-dragmacidin F (**84**)

Figure A3.100  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 129



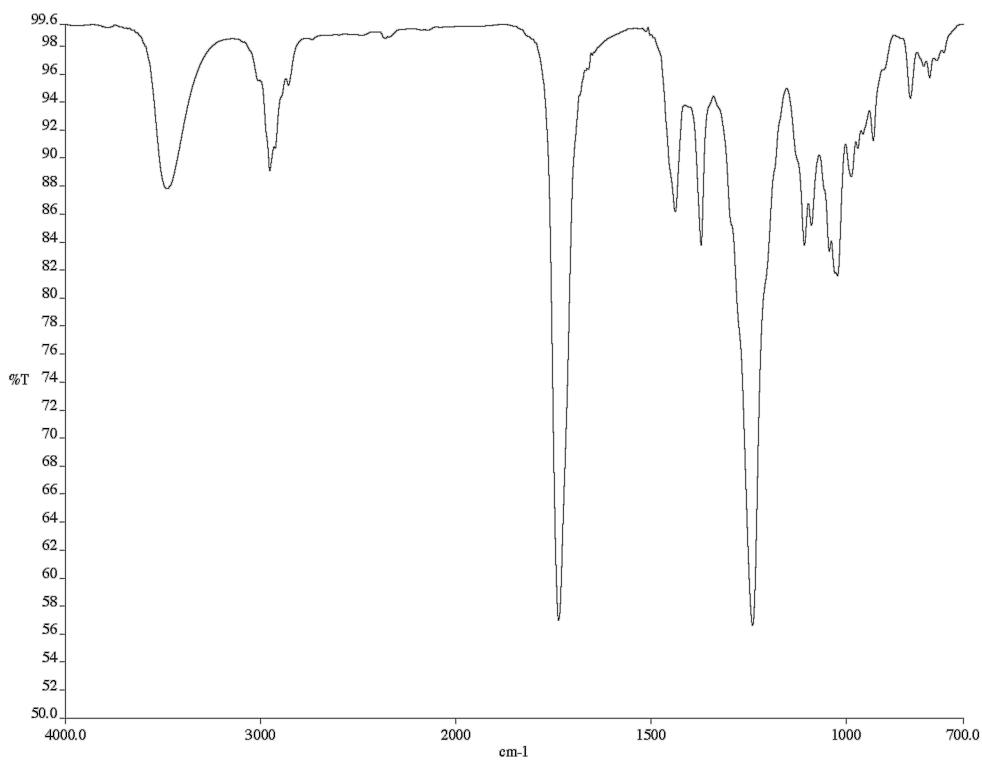


Figure A3.101 Infrared spectrum (thin film/NaCl) of compound **129**

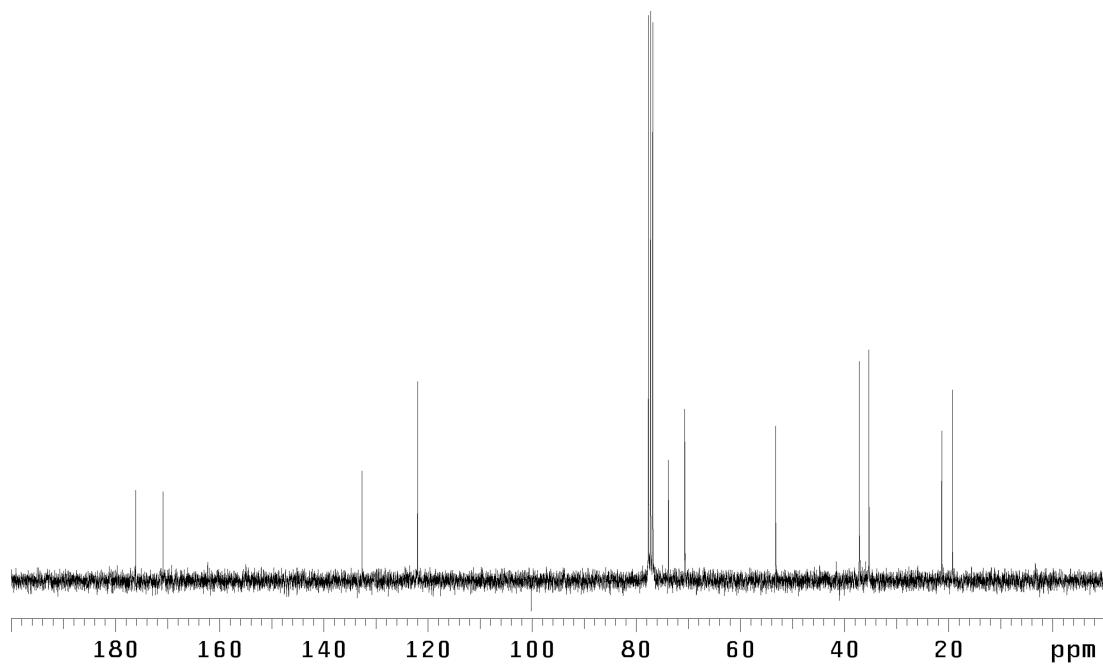


Figure A3.102  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **129**

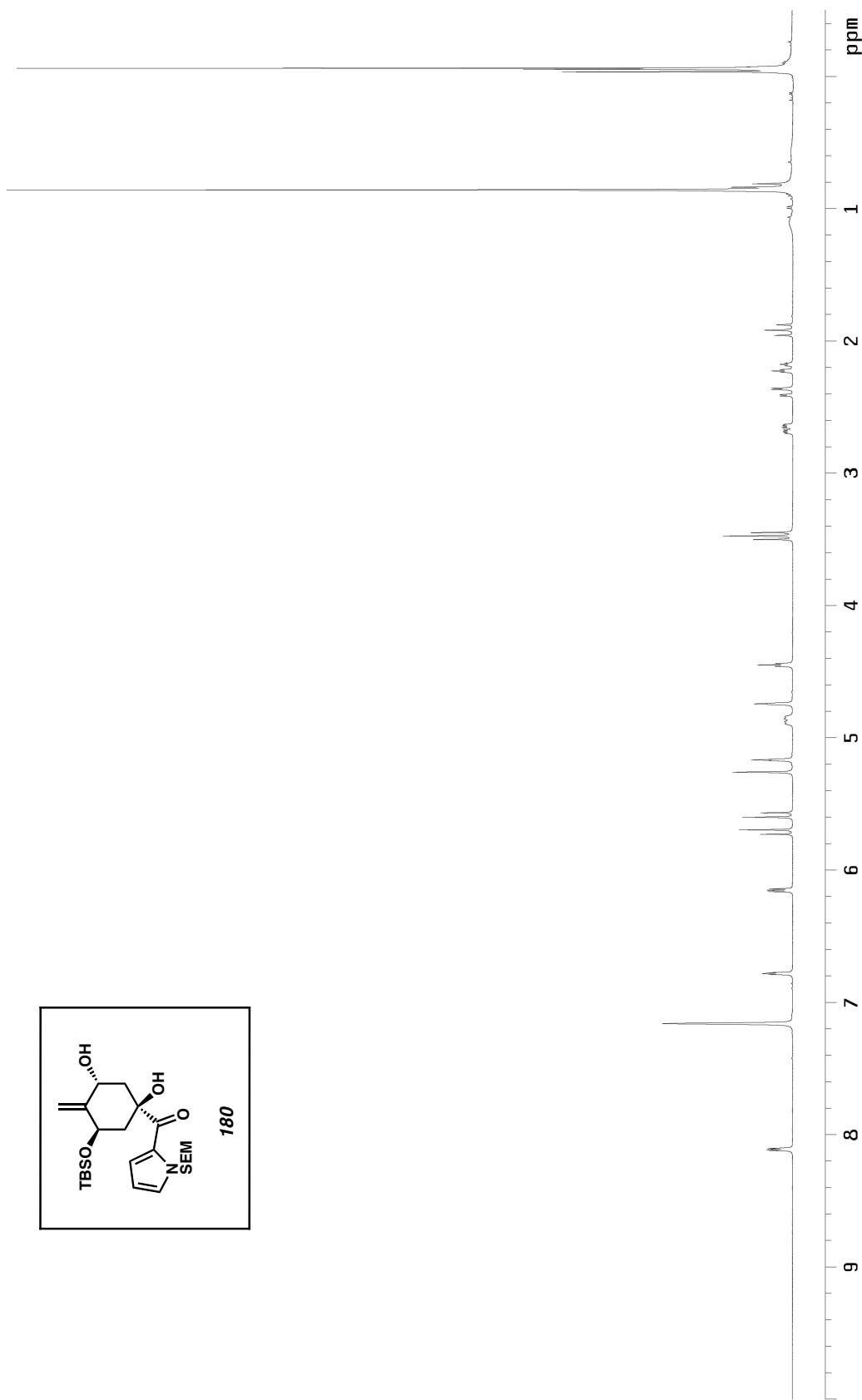
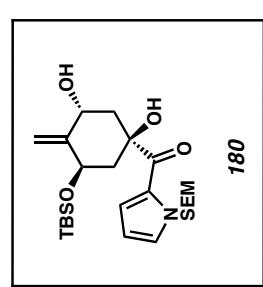


Figure A3.103 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 180

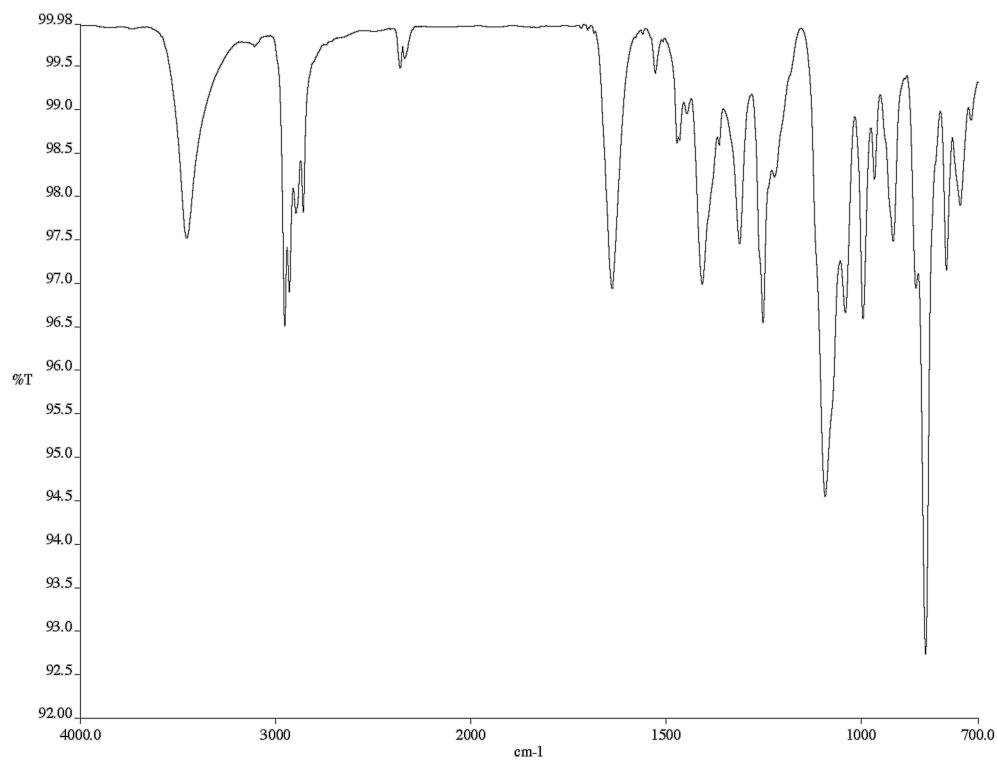


Figure A3.104 Infrared spectrum (thin film/NaCl) of compound **180**

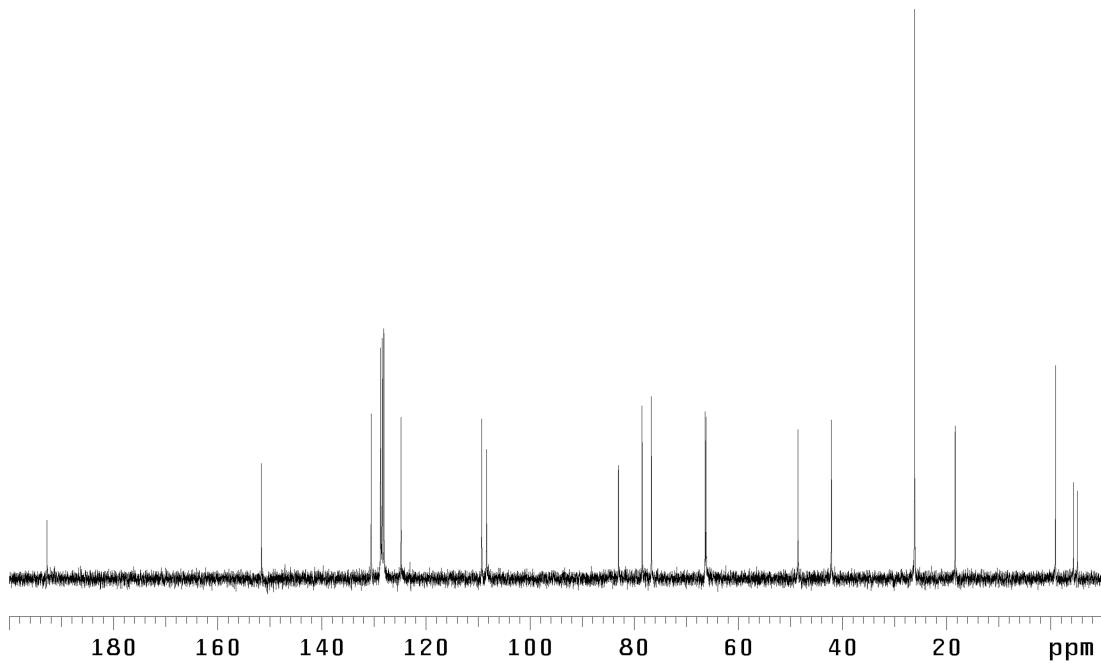


Figure A3.105  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **180**

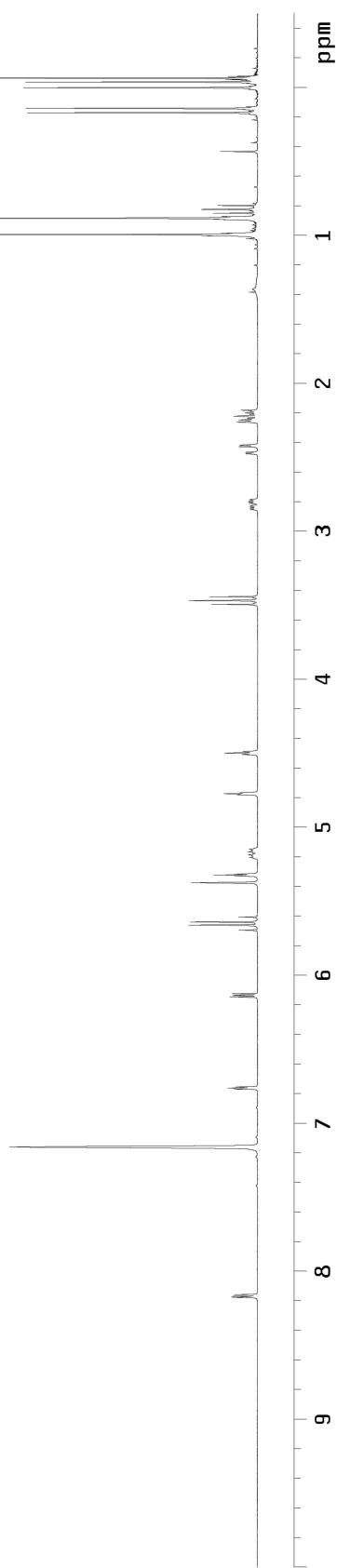
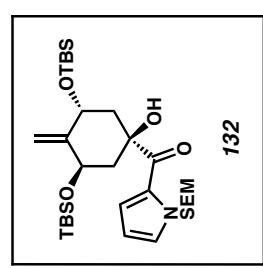


Figure A3.106 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 132

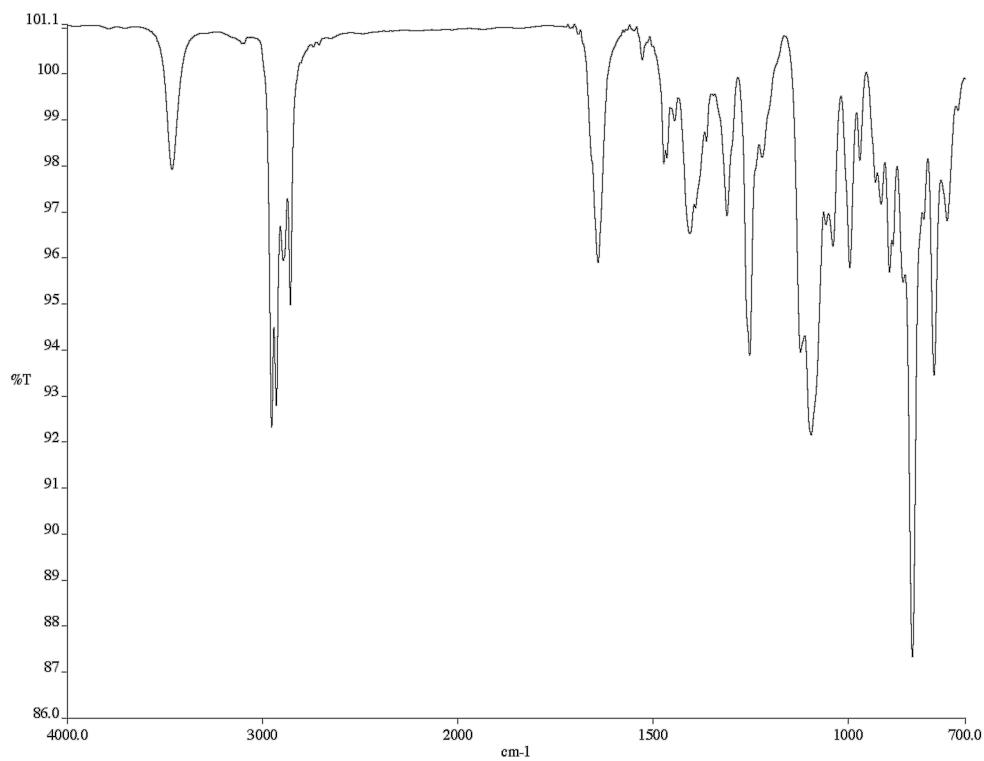


Figure A3.107 Infrared spectrum (thin film/NaCl) of compound **132**

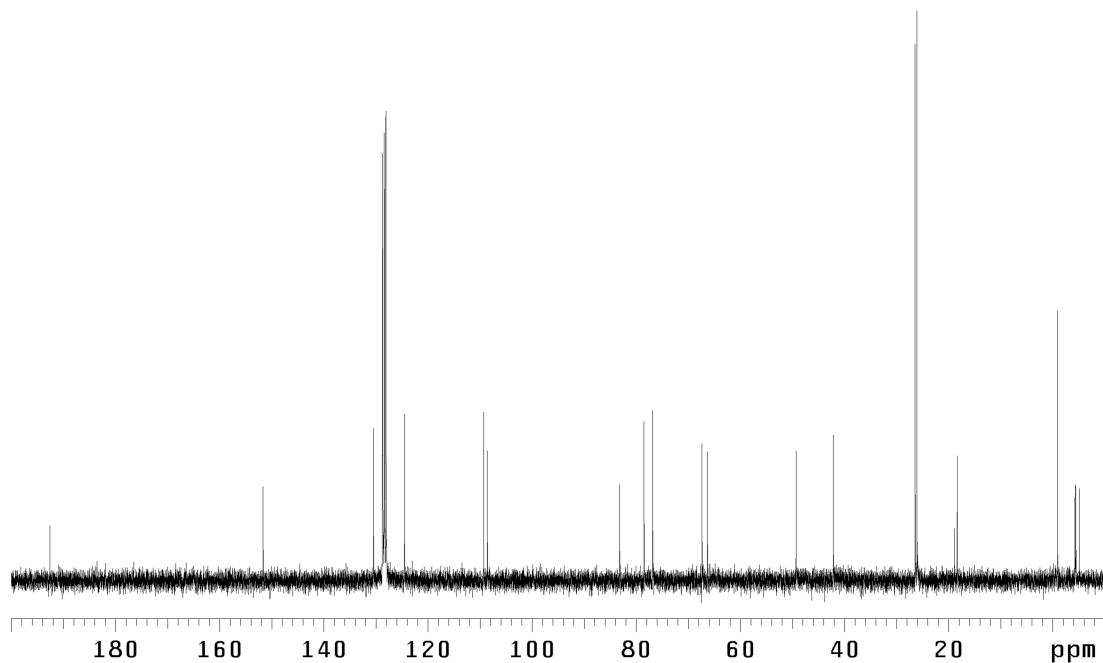
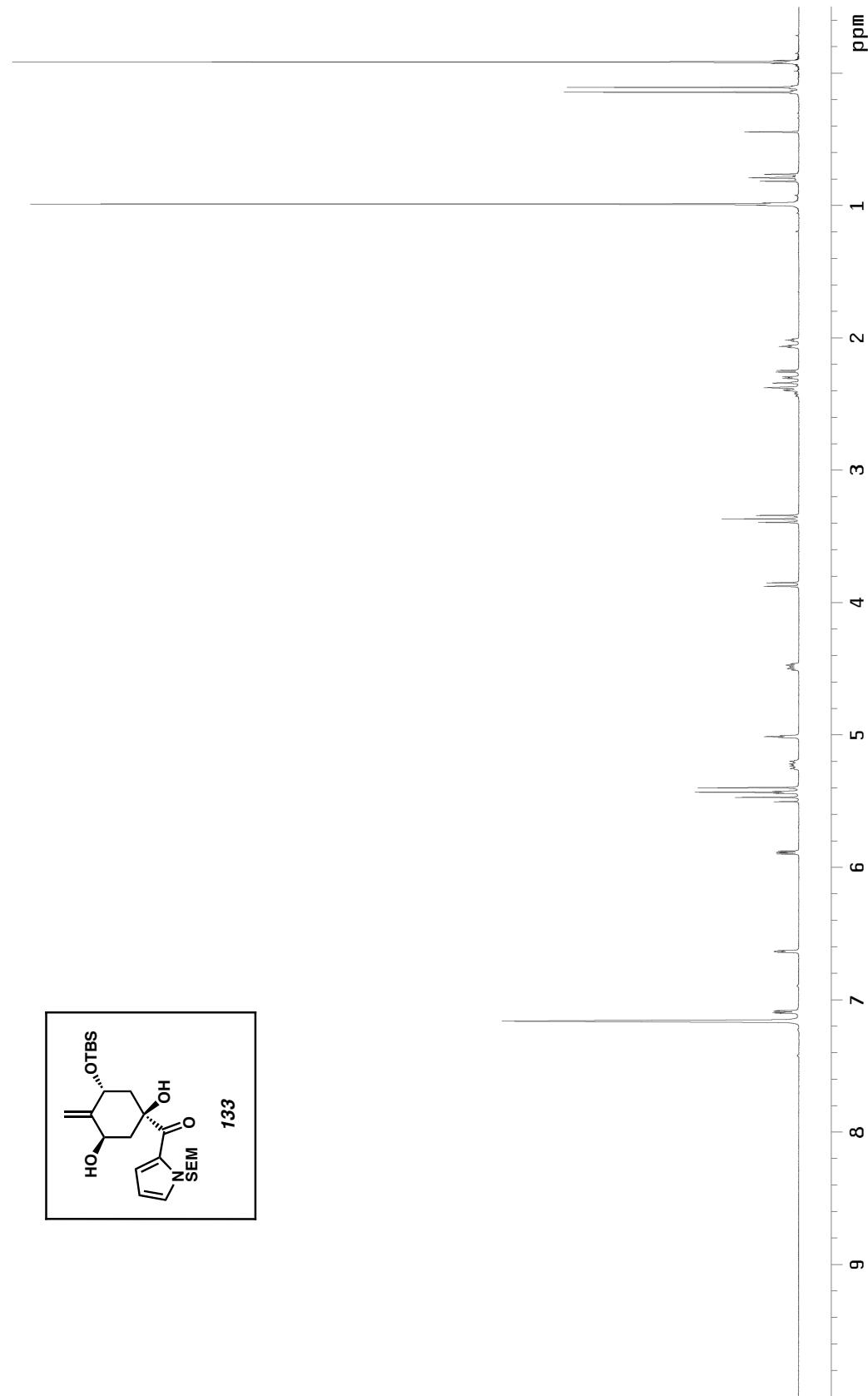


Figure A3.108  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **132**



*Figure A3.109*  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 133

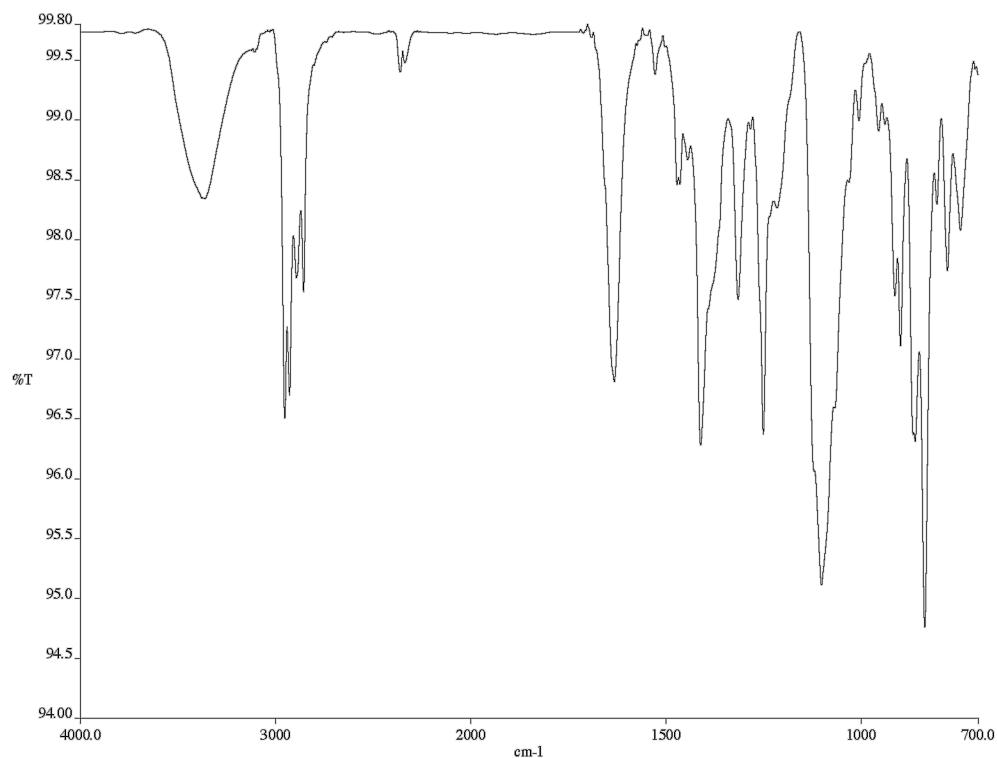


Figure A3.110 Infrared spectrum (thin film/NaCl) of compound **133**

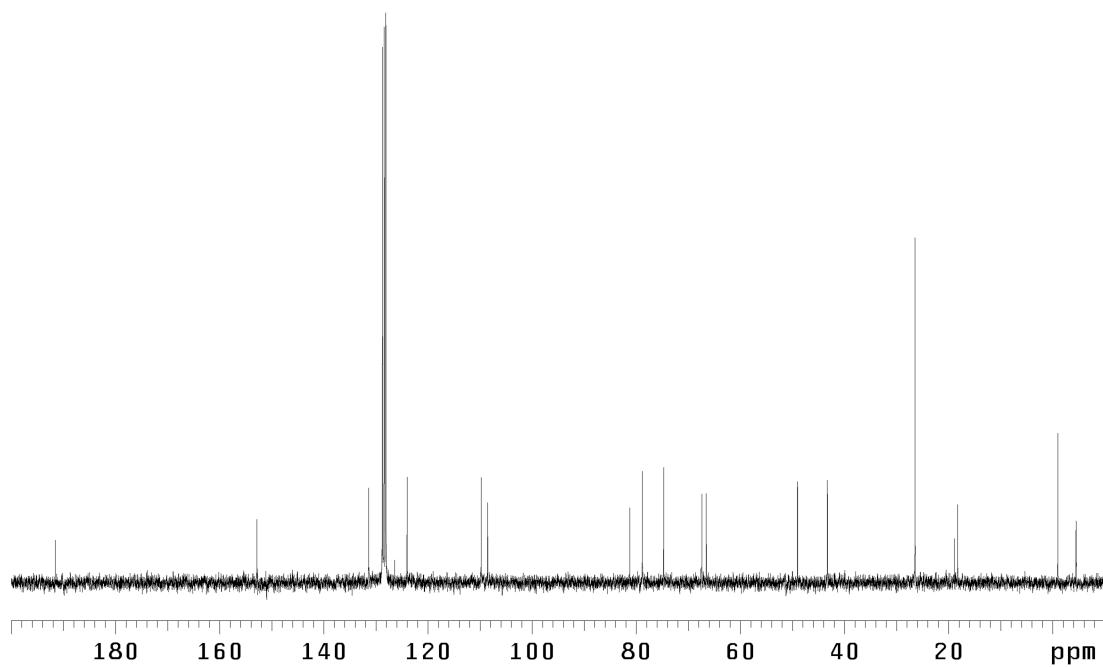


Figure A3.111  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **133**

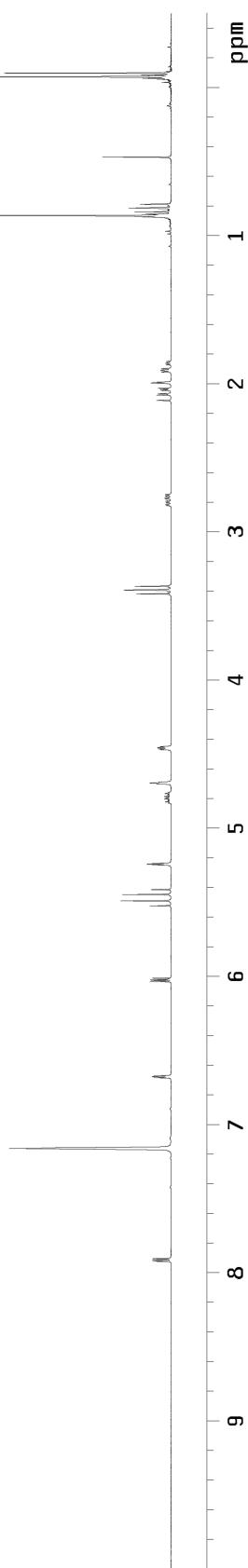
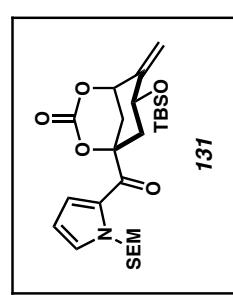


Figure A3.112 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 131

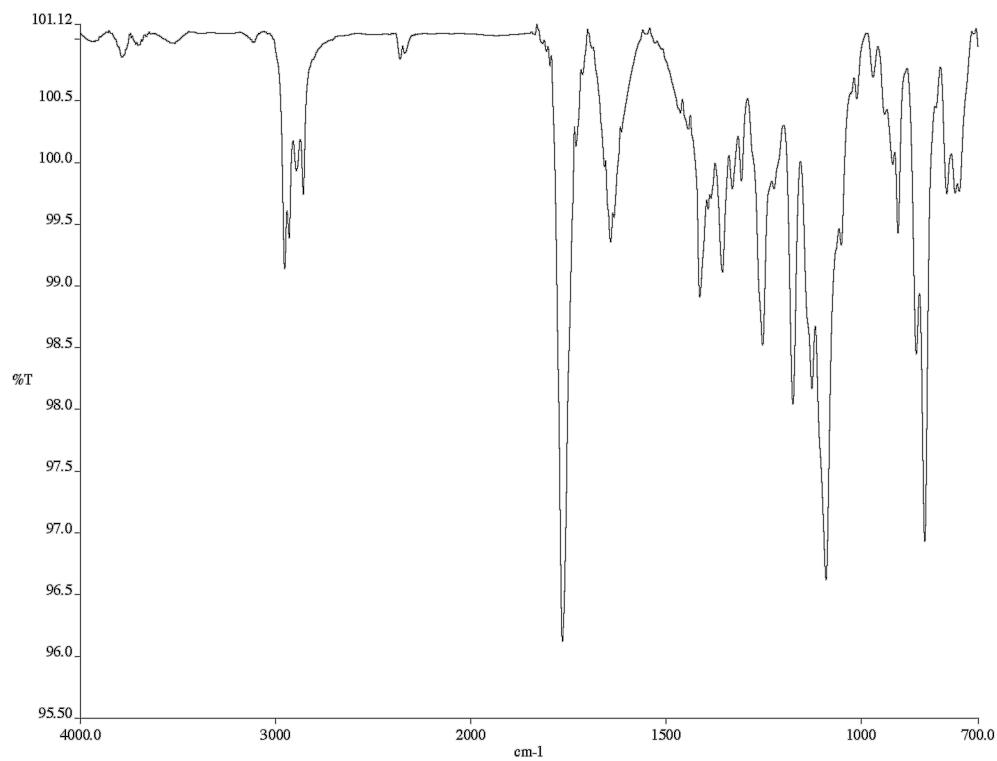


Figure A3.113 Infrared spectrum (thin film/NaCl) of compound **131**

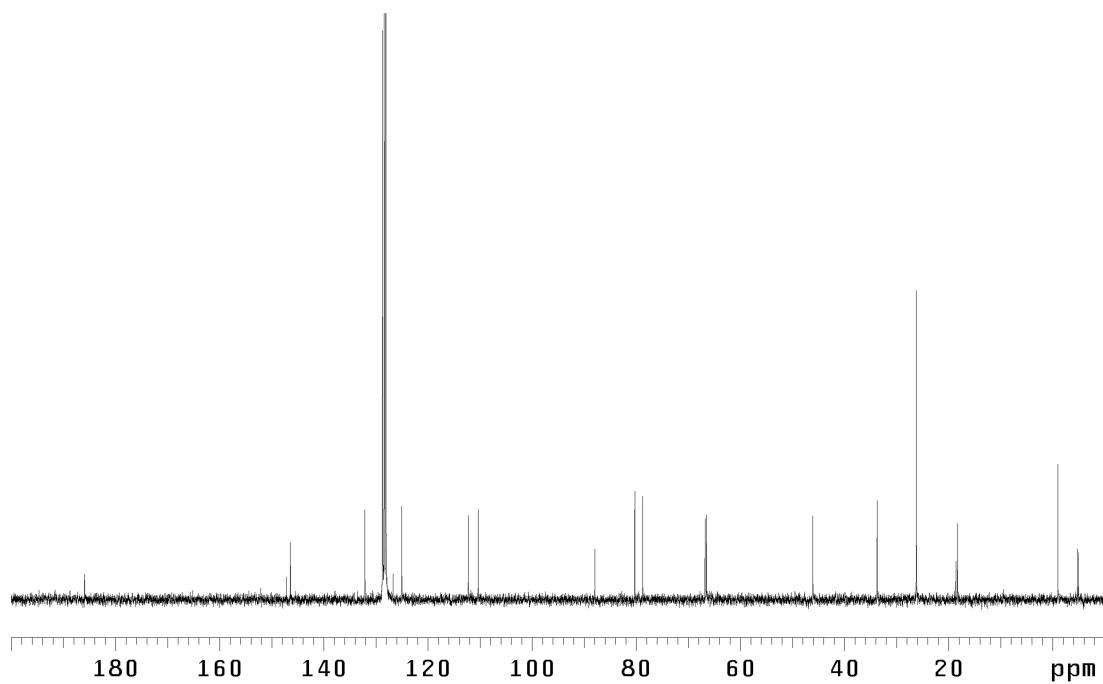


Figure A3.114  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **131**

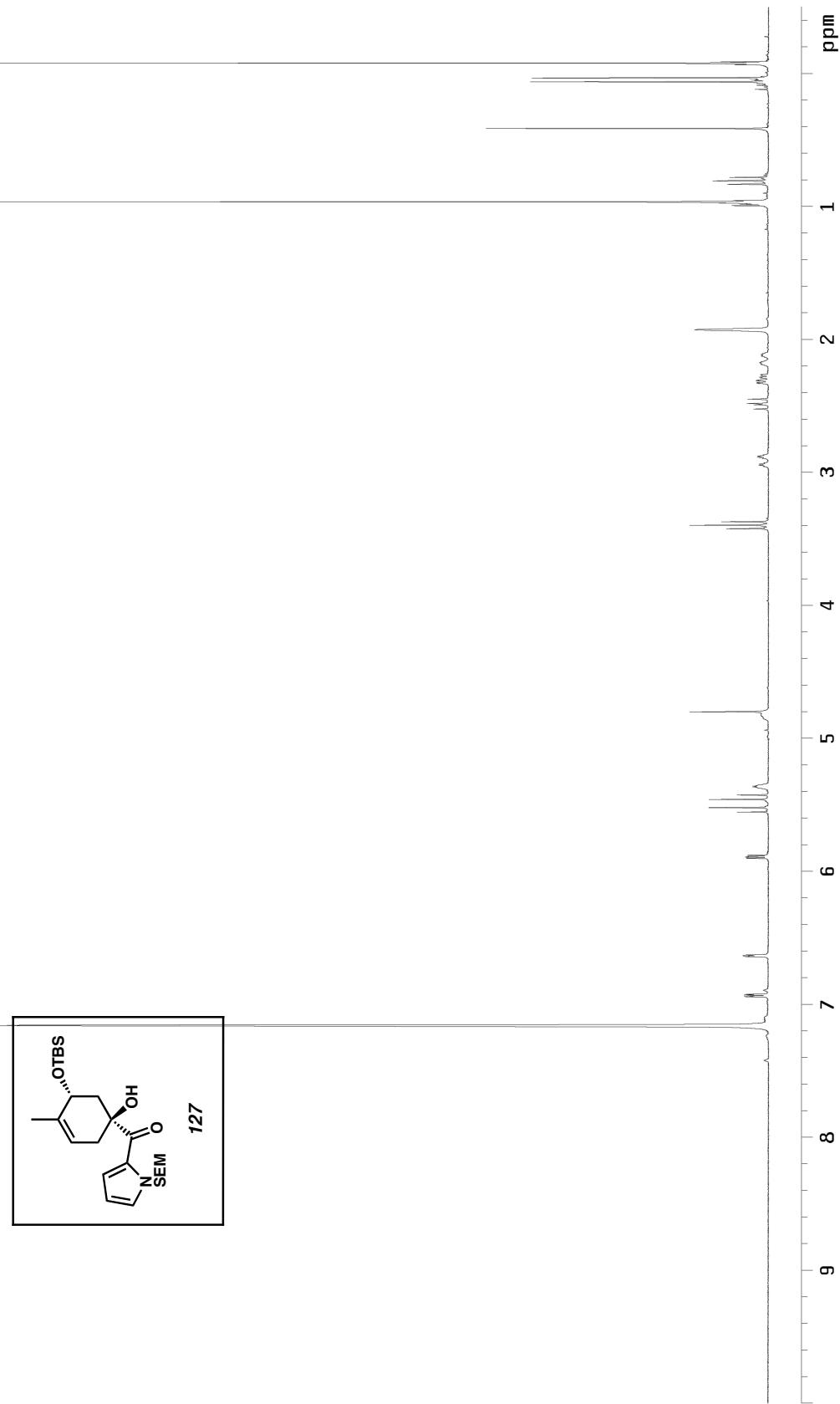


Figure A3.115  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 127

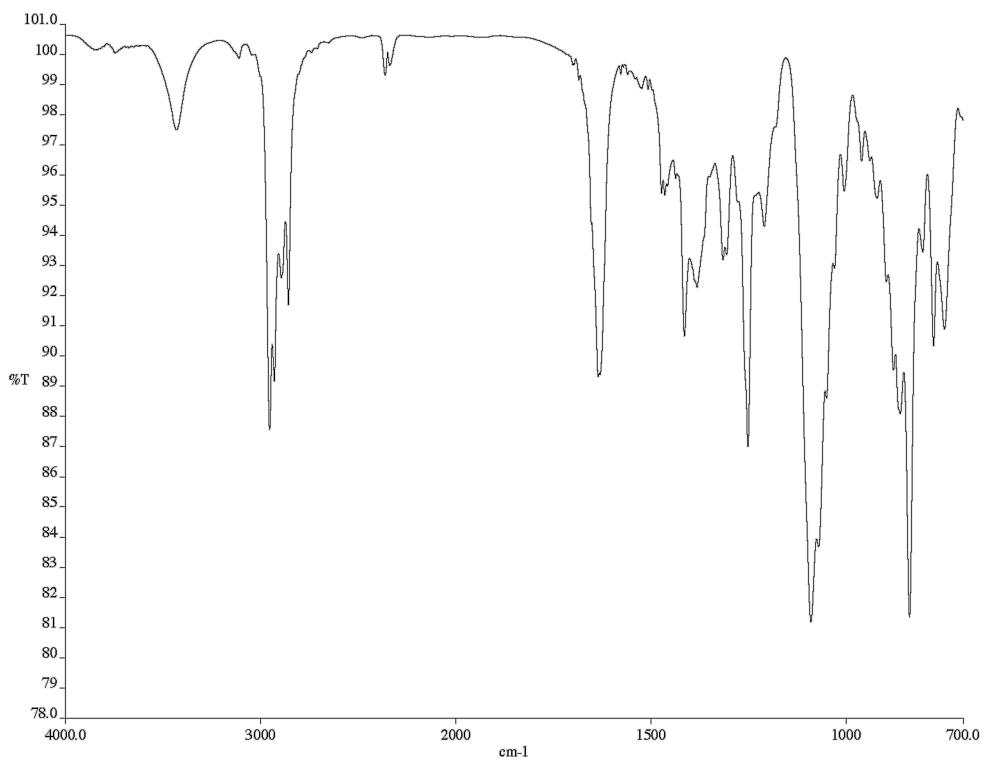


Figure A3.116 Infrared spectrum (thin film/NaCl) of compound **127**

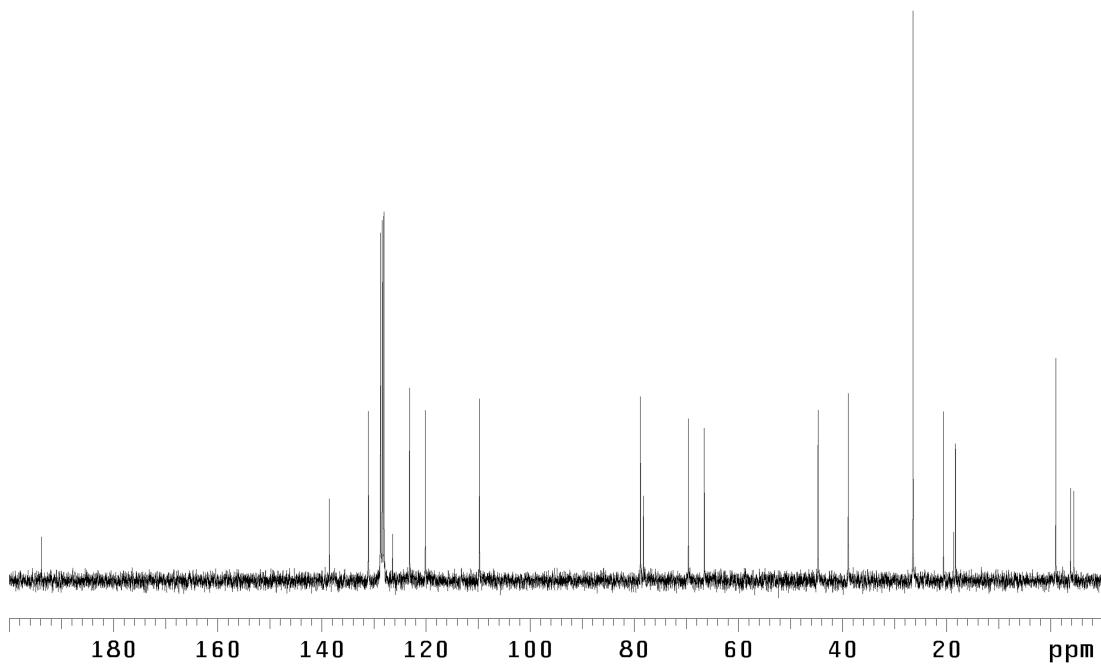
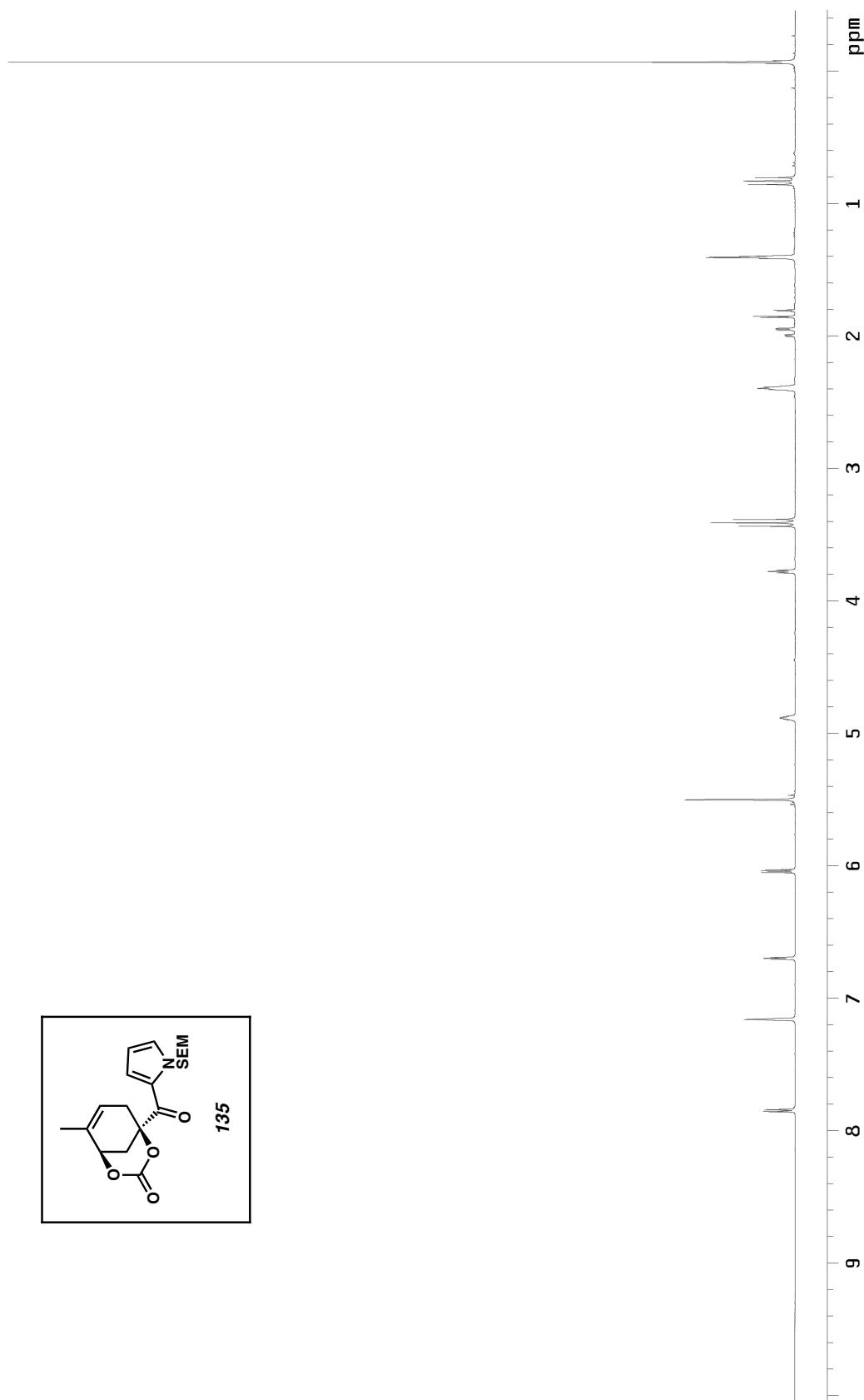


Figure A3.117  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **127**

Figure A3.118  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 135



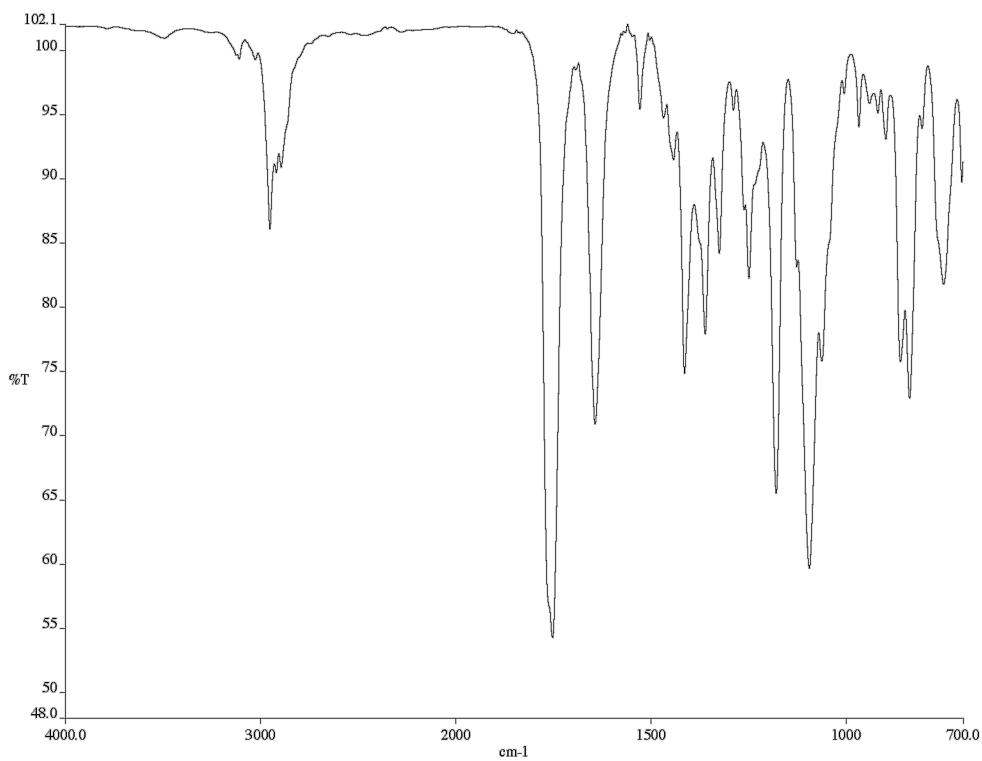


Figure A3.119 Infrared spectrum (thin film/NaCl) of compound **135**

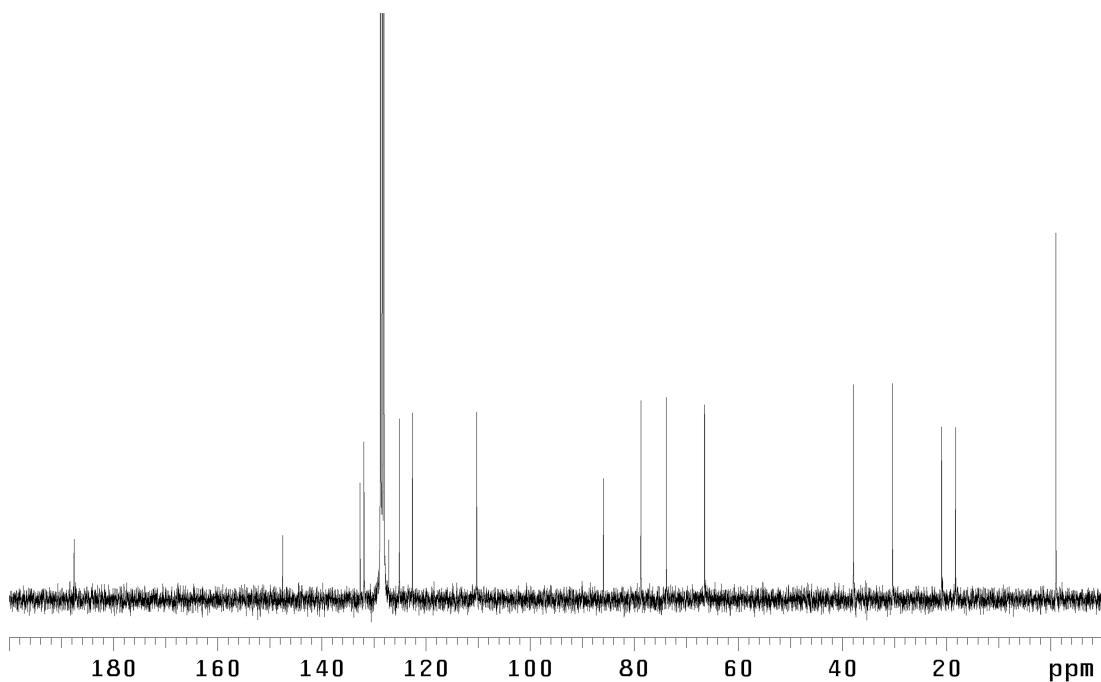


Figure A3.120 <sup>13</sup>C NMR (75 MHz, C<sub>6</sub>D<sub>6</sub>) of compound **135**

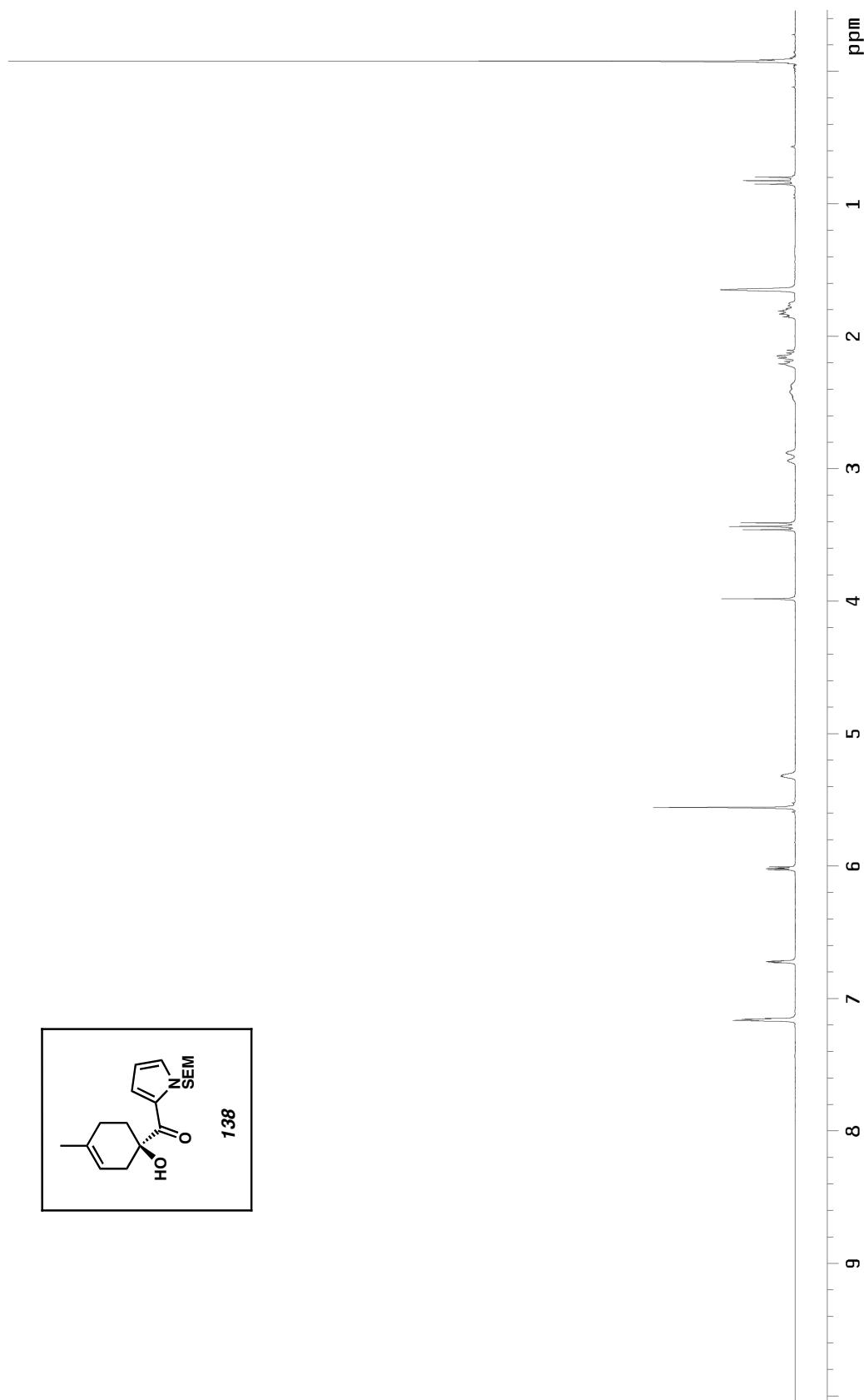


Figure A3.121  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 138

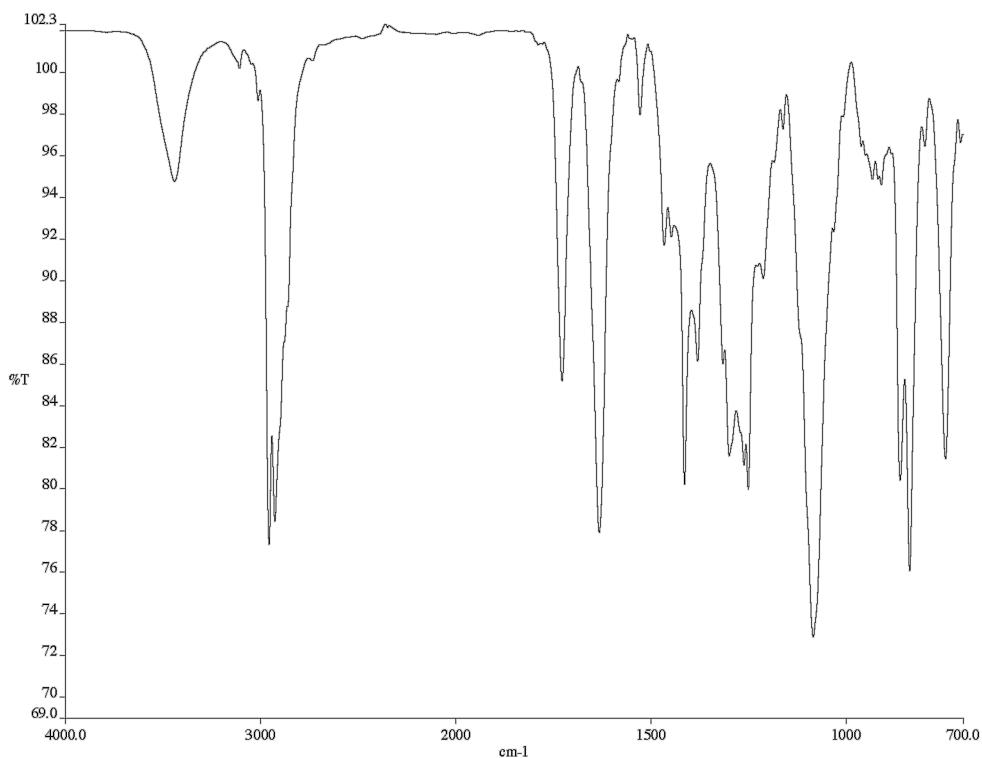


Figure A3.122 Infrared spectrum (thin film/NaCl) of compound **138**

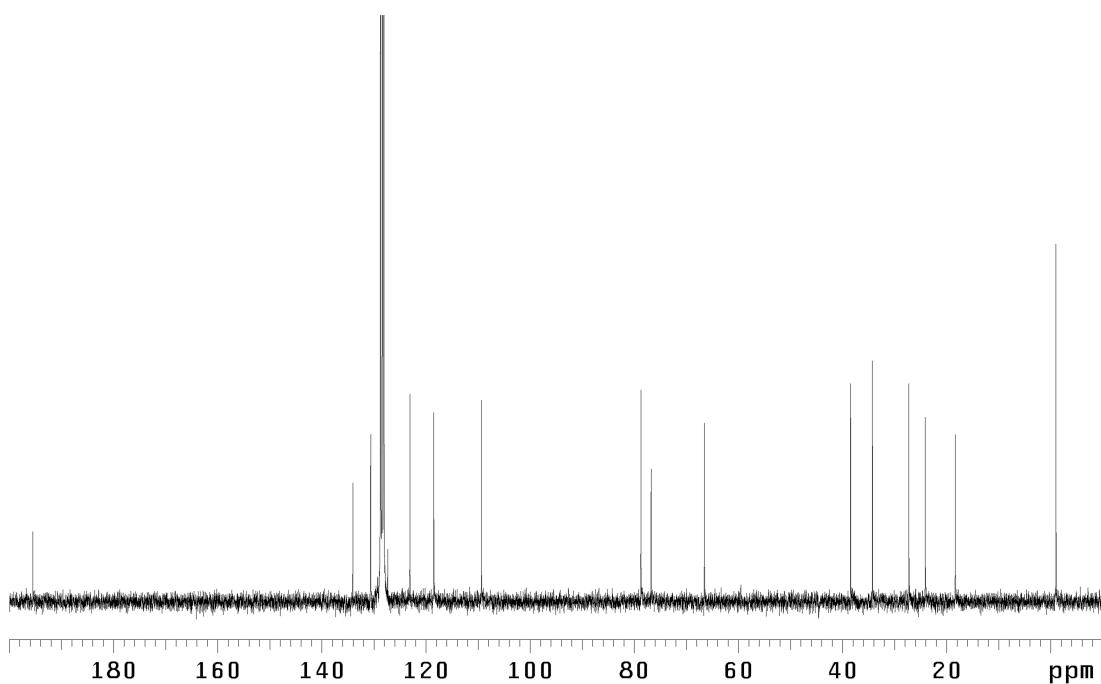
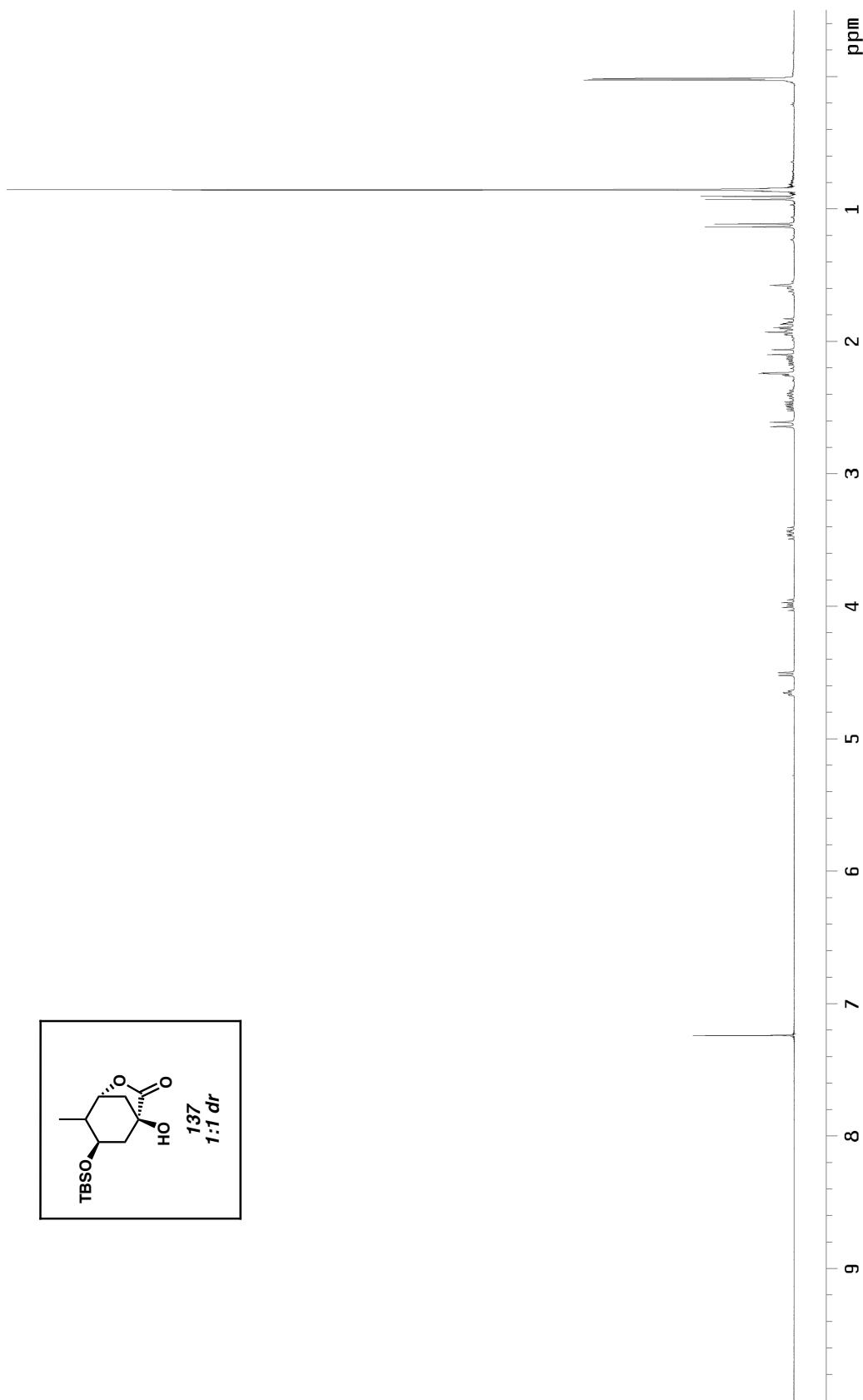


Figure A3.123  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **138**

Figure A3.124  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 137



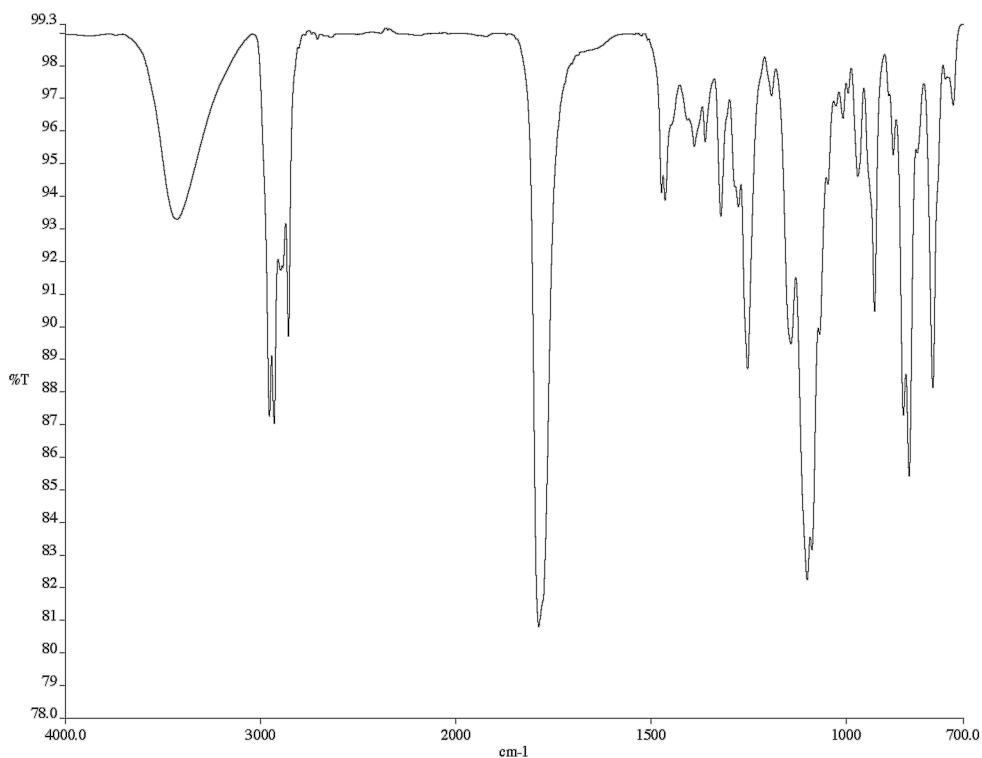


Figure A3.125 Infrared spectrum (thin film/NaCl) of compound **137**

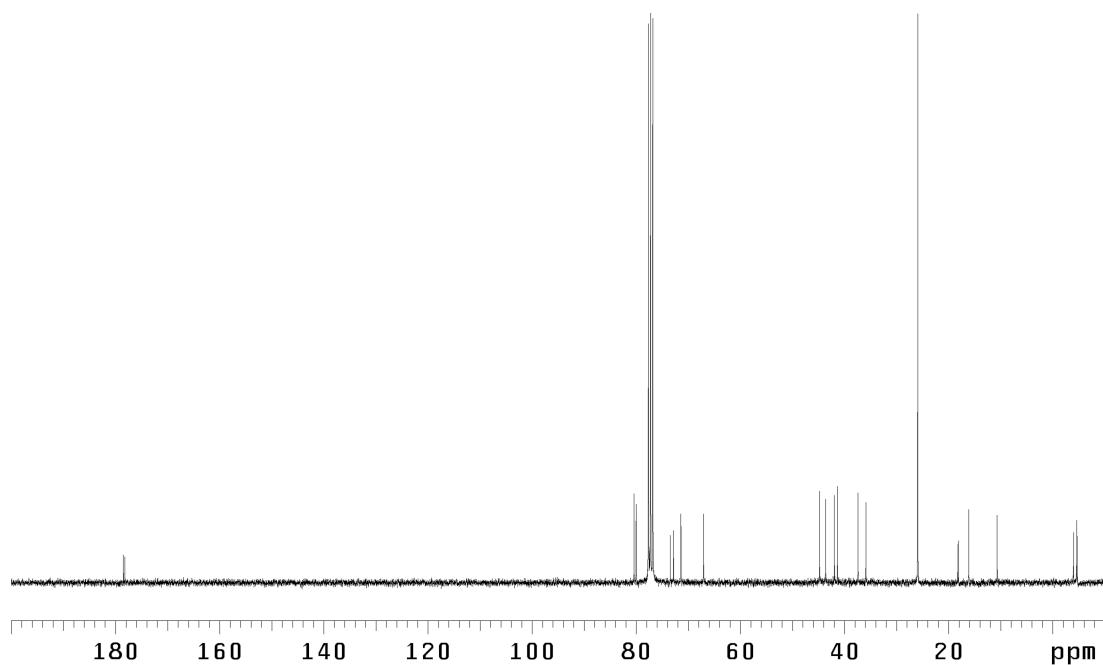


Figure A3.126  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **137**

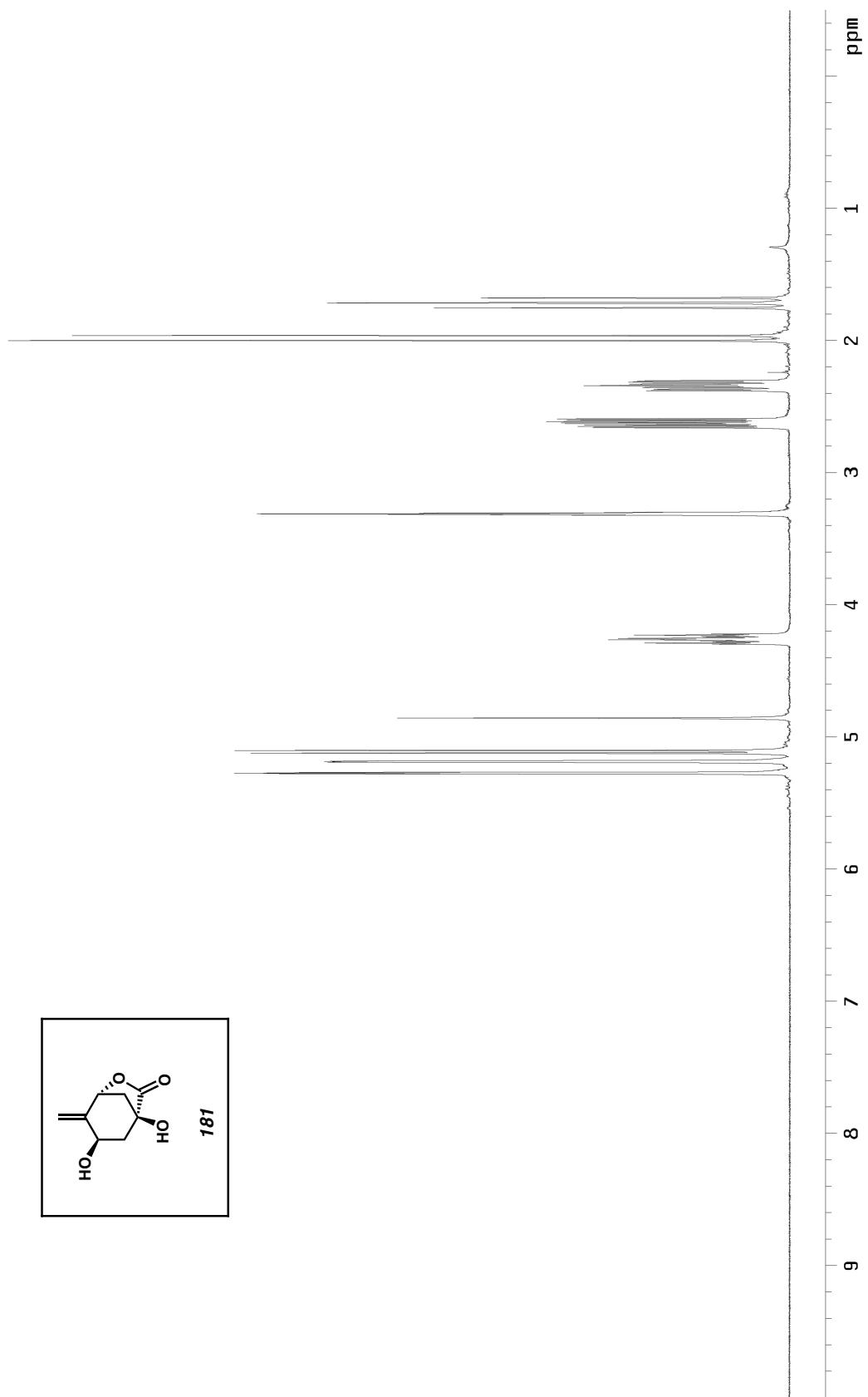


Figure A3.127  $^1\text{H}$  NMR (300 MHz,  $\text{CD}_3\text{OD}$ ) of compound 181

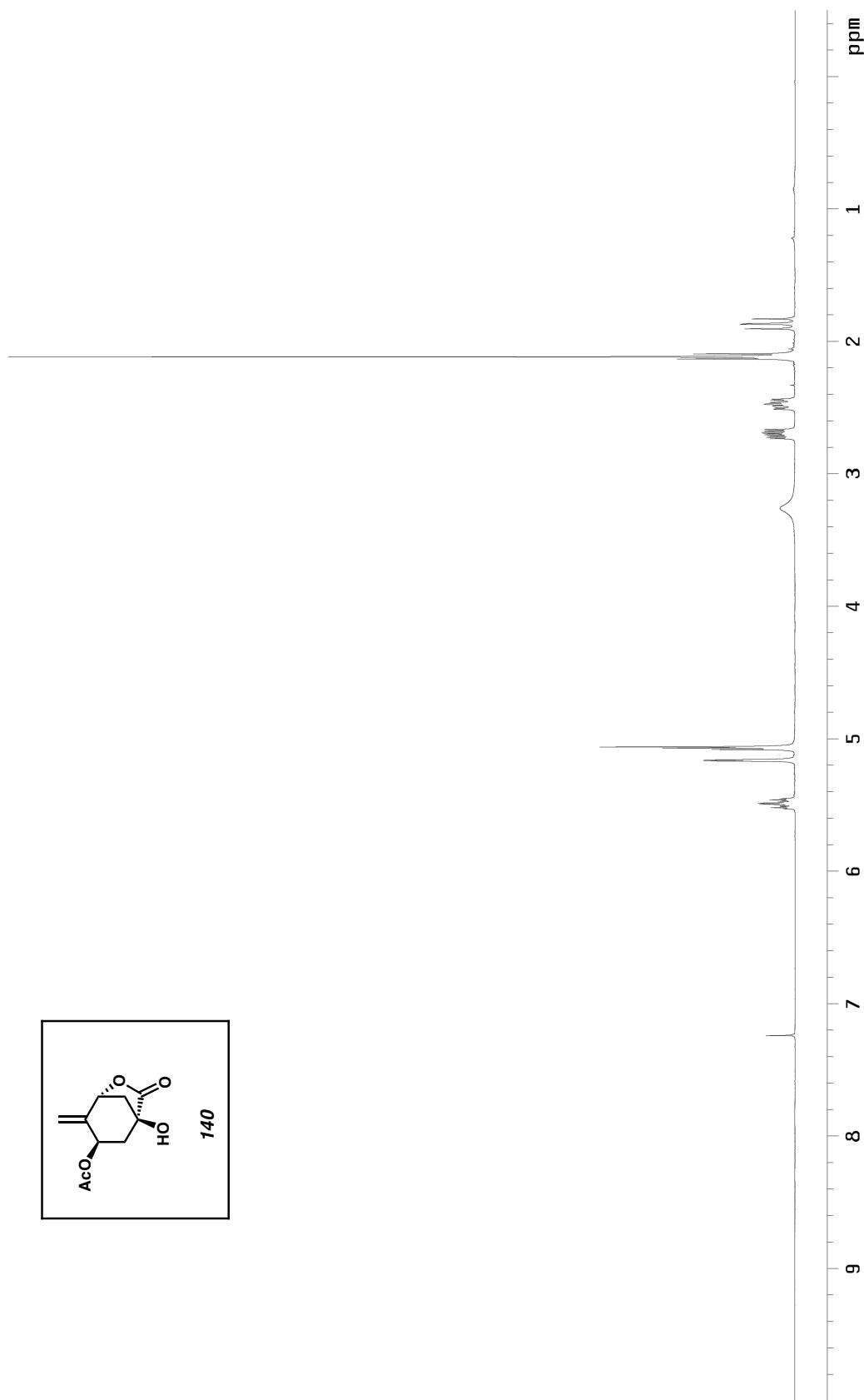


Figure A3.128  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 140

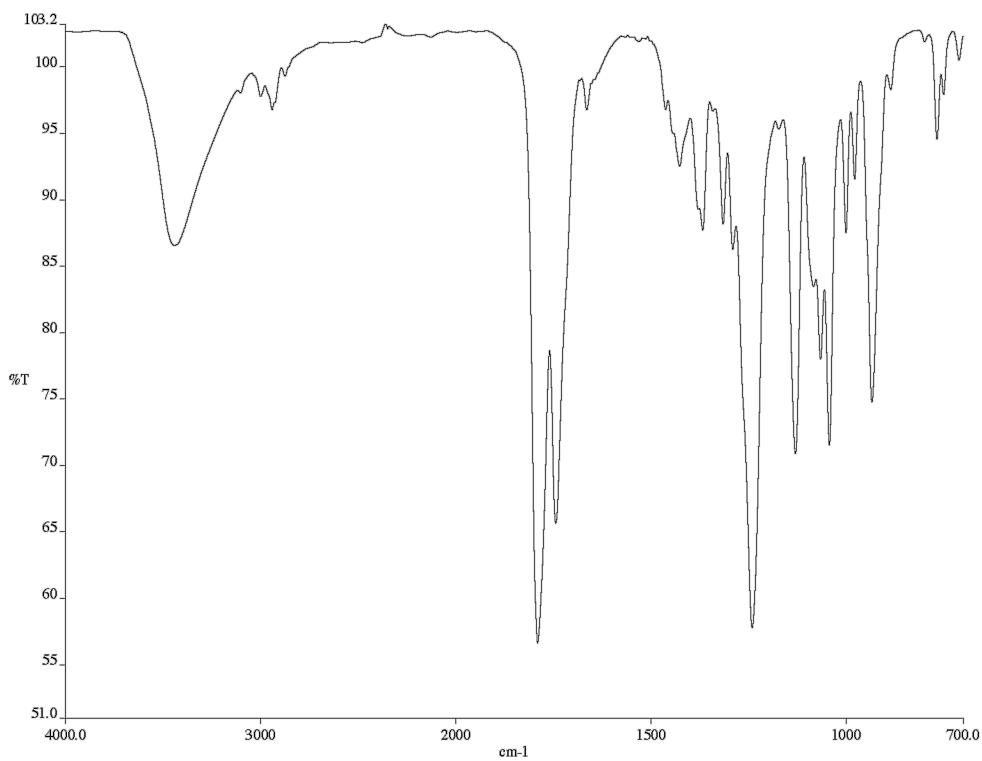


Figure A3.129 Infrared spectrum (thin film/NaCl) of compound **140**

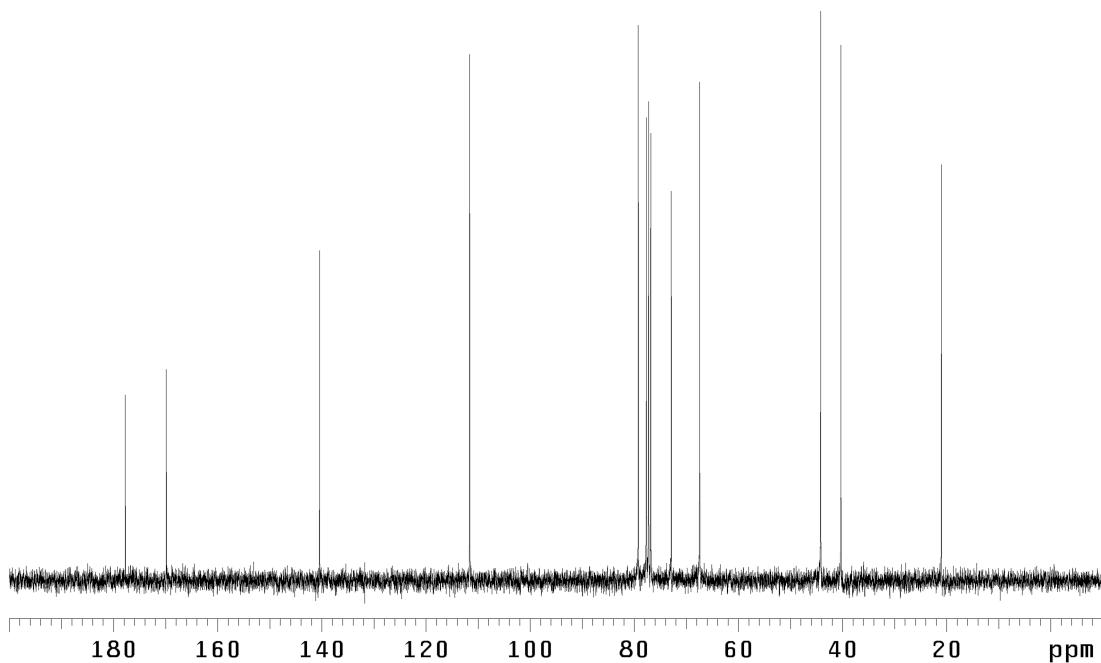
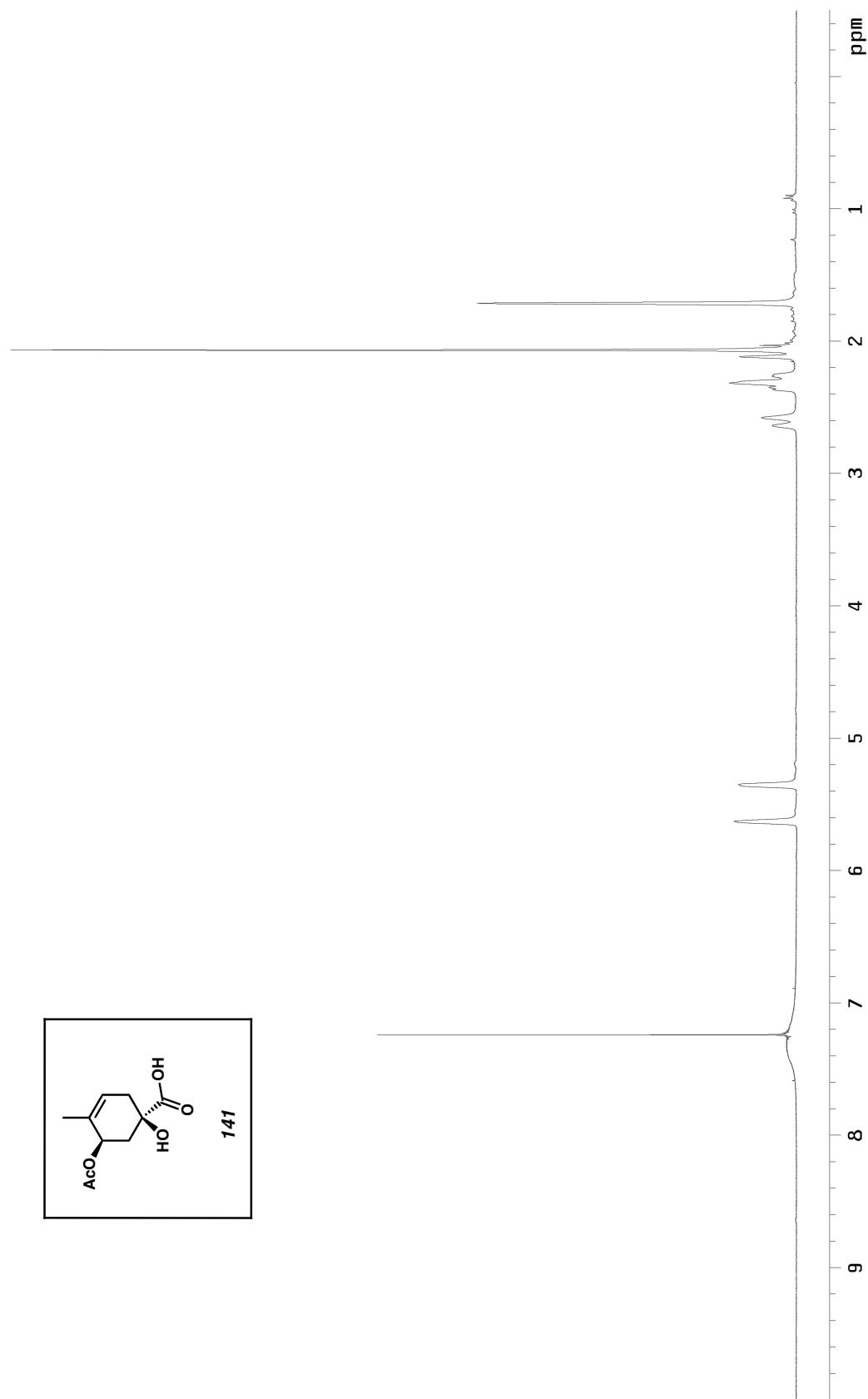


Figure A3.130  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **140**

Figure A3.131  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 141



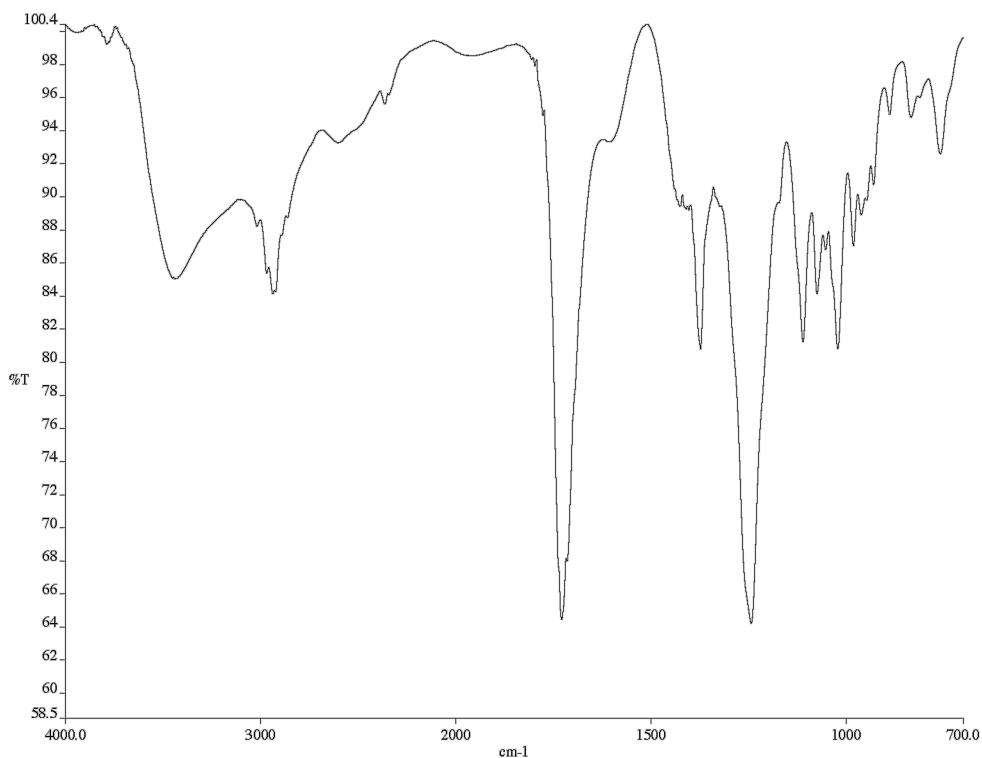


Figure A3.132 Infrared spectrum (thin film/NaCl) of compound **141**

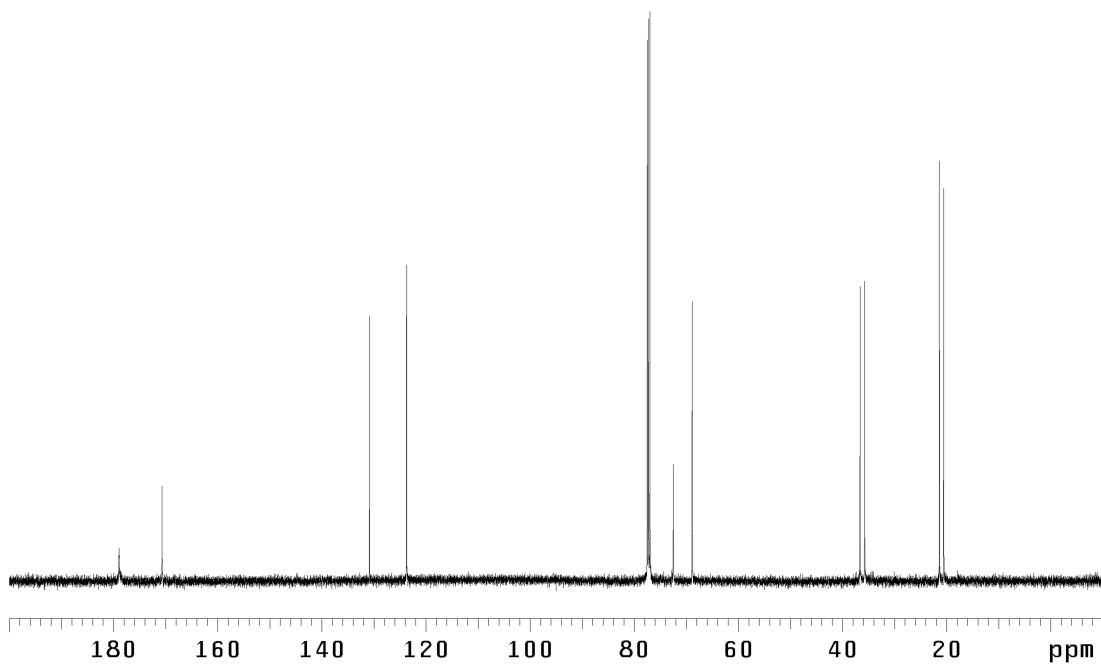
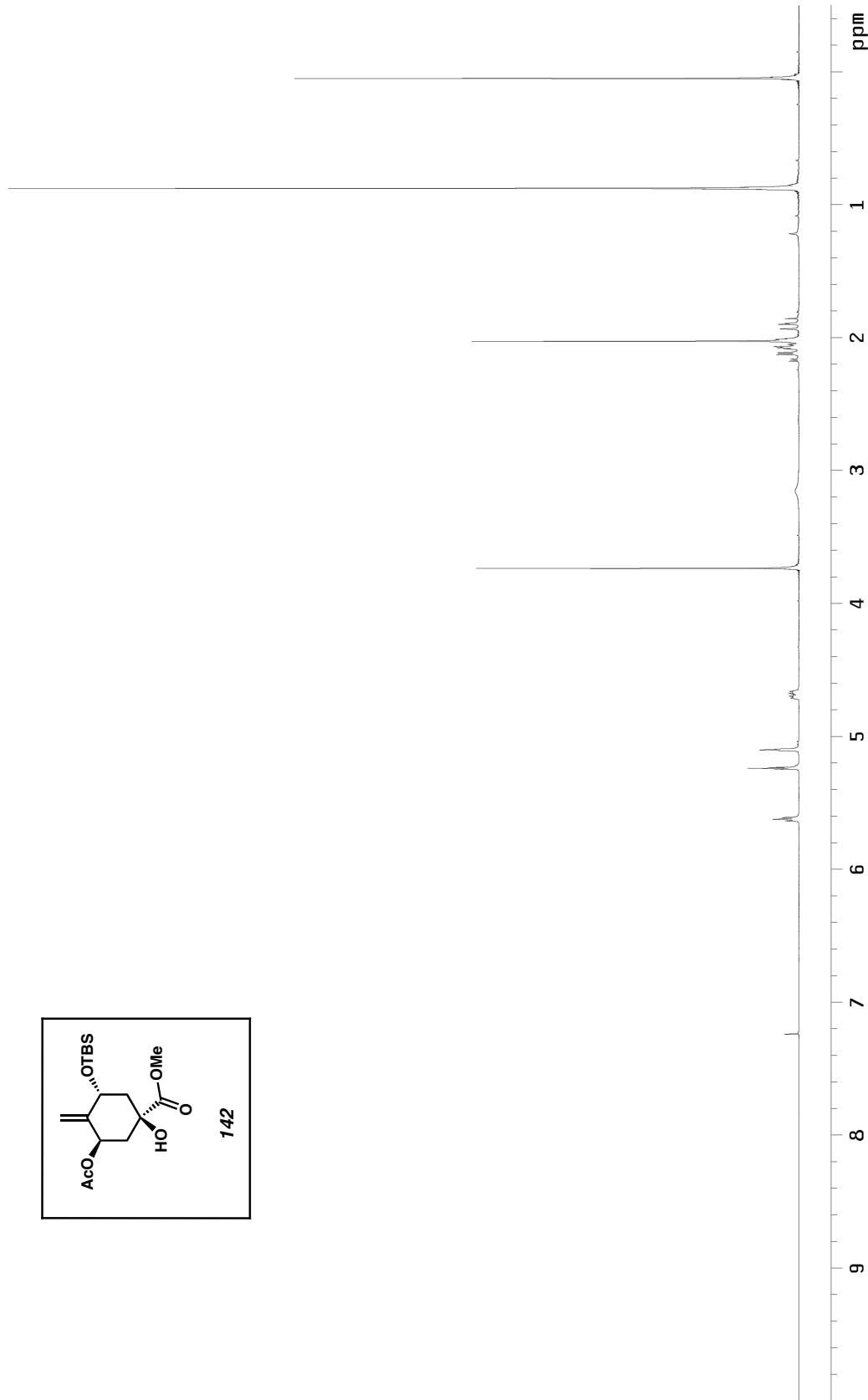


Figure A3.133  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) of compound **141**



*Figure A3.134*  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 142

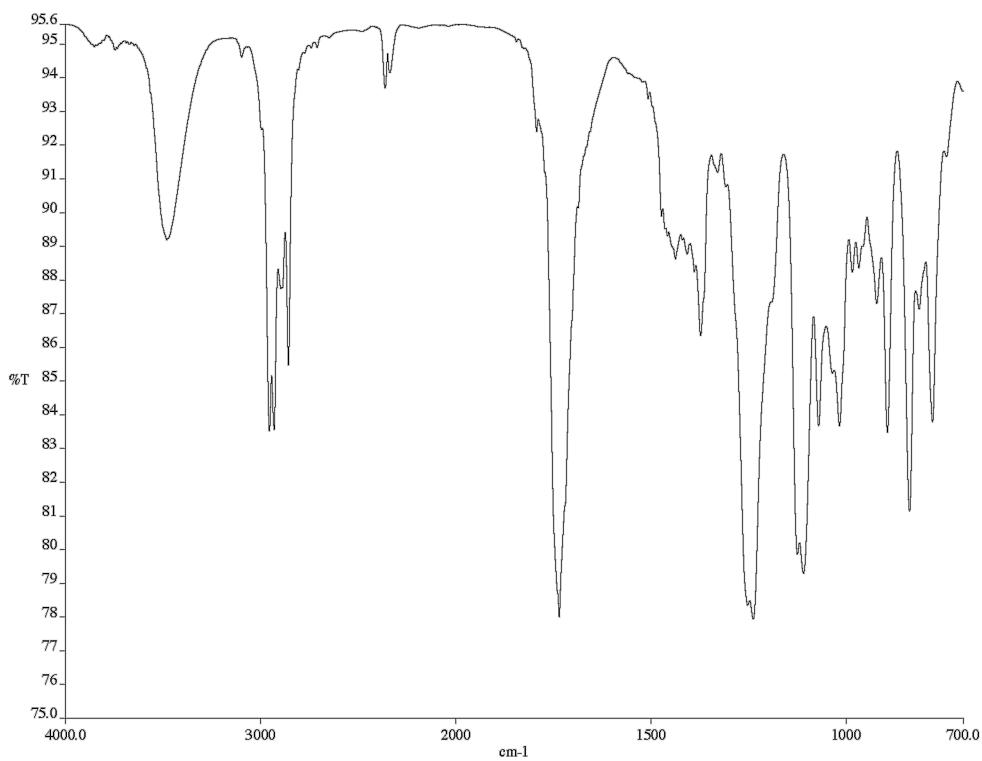


Figure A3.135 Infrared spectrum (thin film/NaCl) of compound **142**

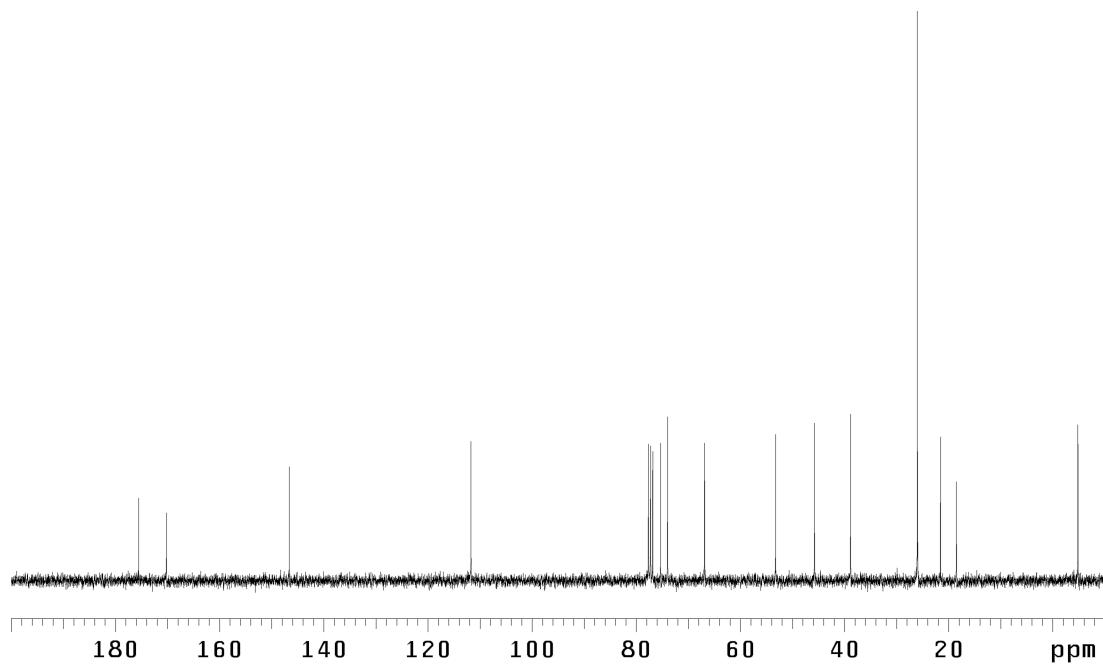
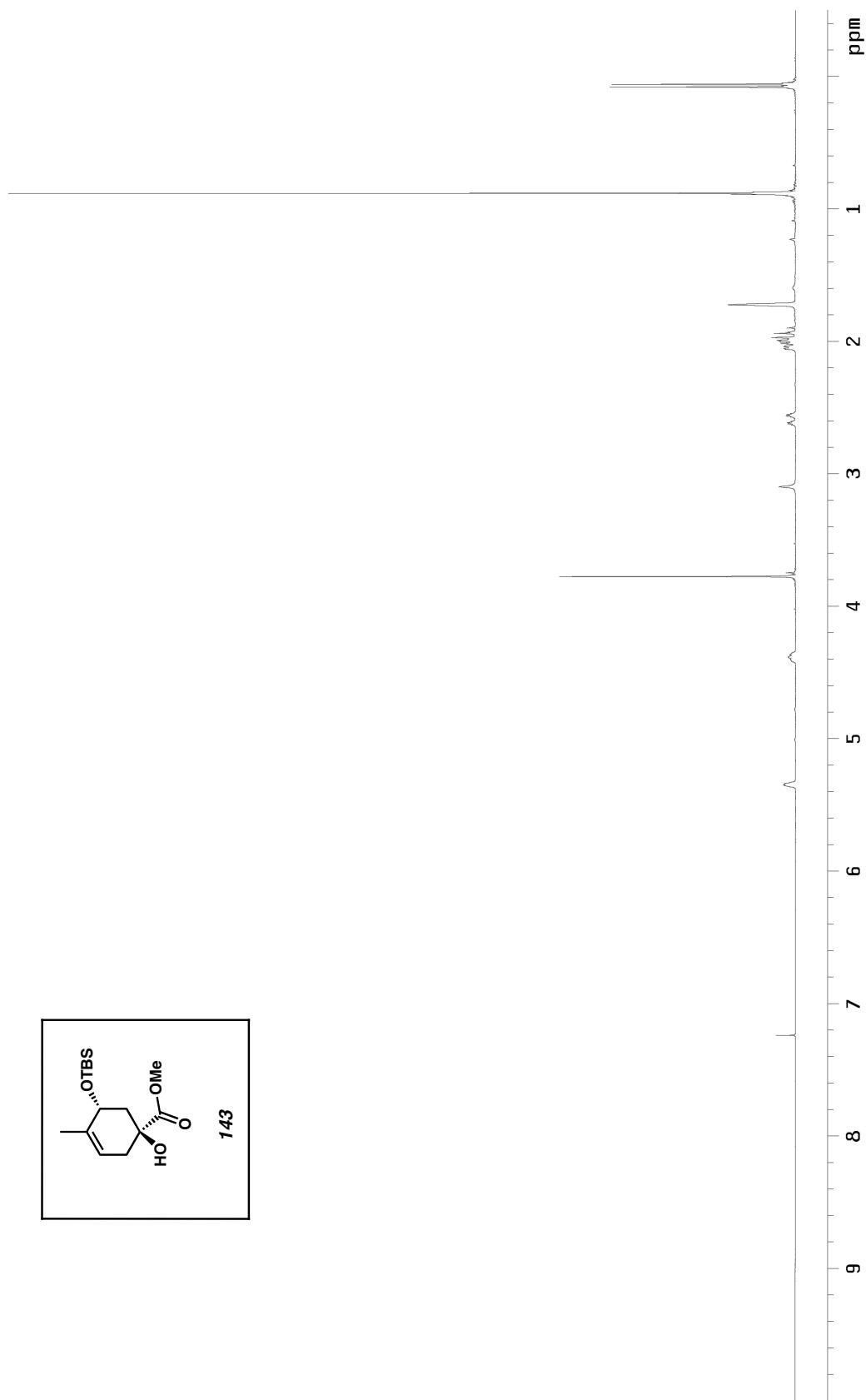


Figure A3.136  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **142**

Figure A3.137  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 143



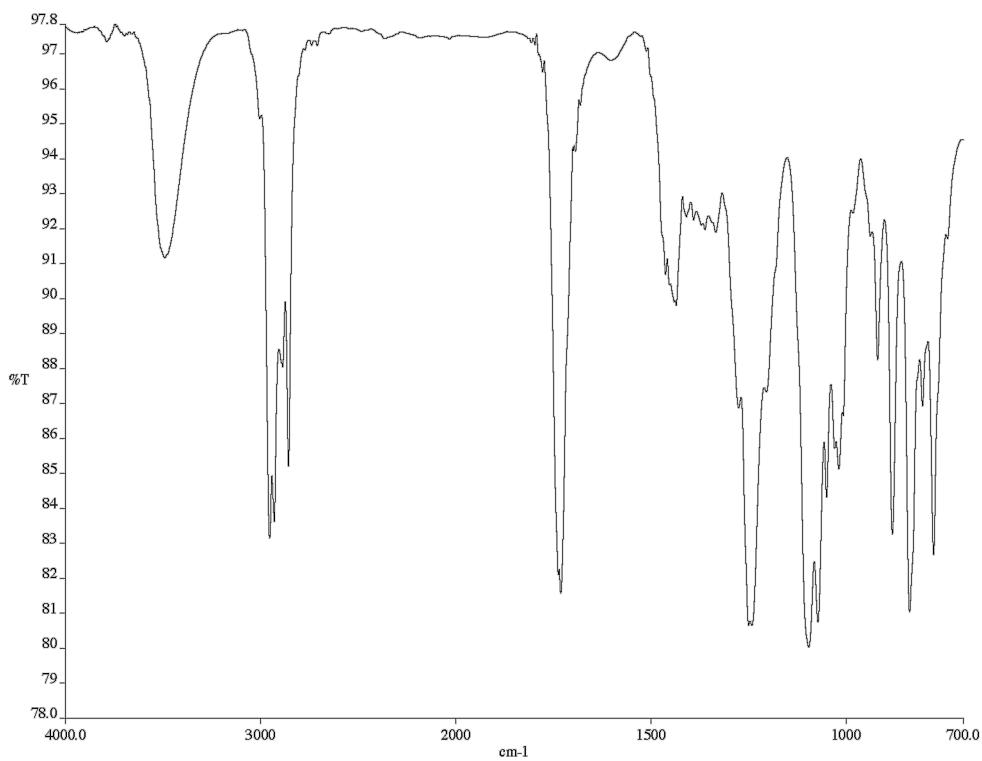


Figure A3.138 Infrared spectrum (thin film/NaCl) of compound **143**

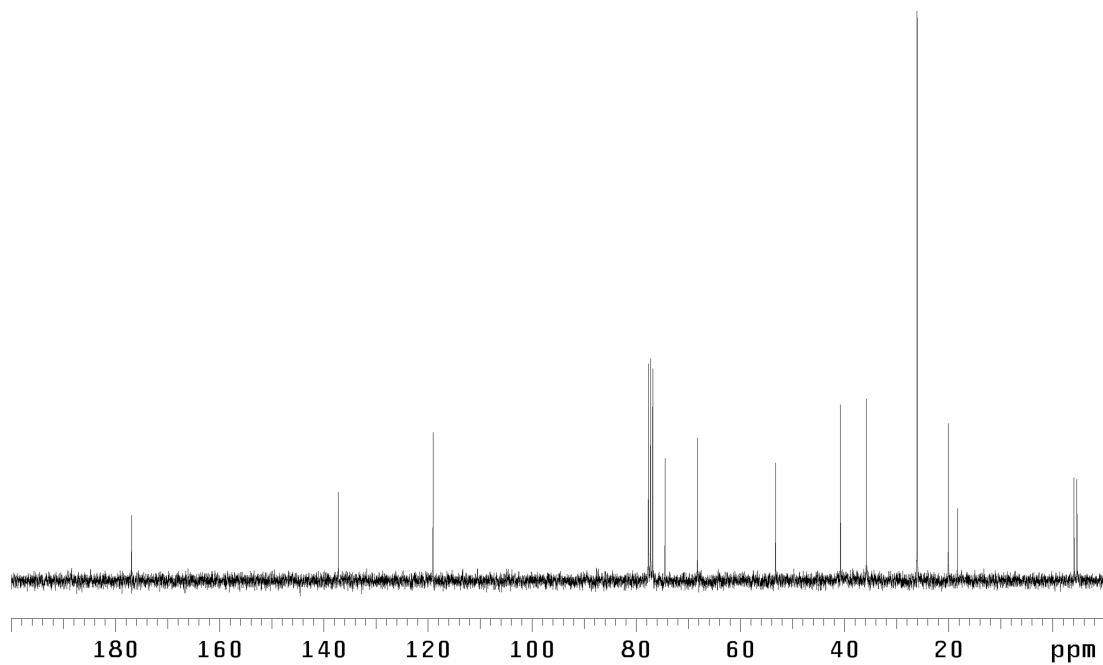


Figure A3.139  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **143**

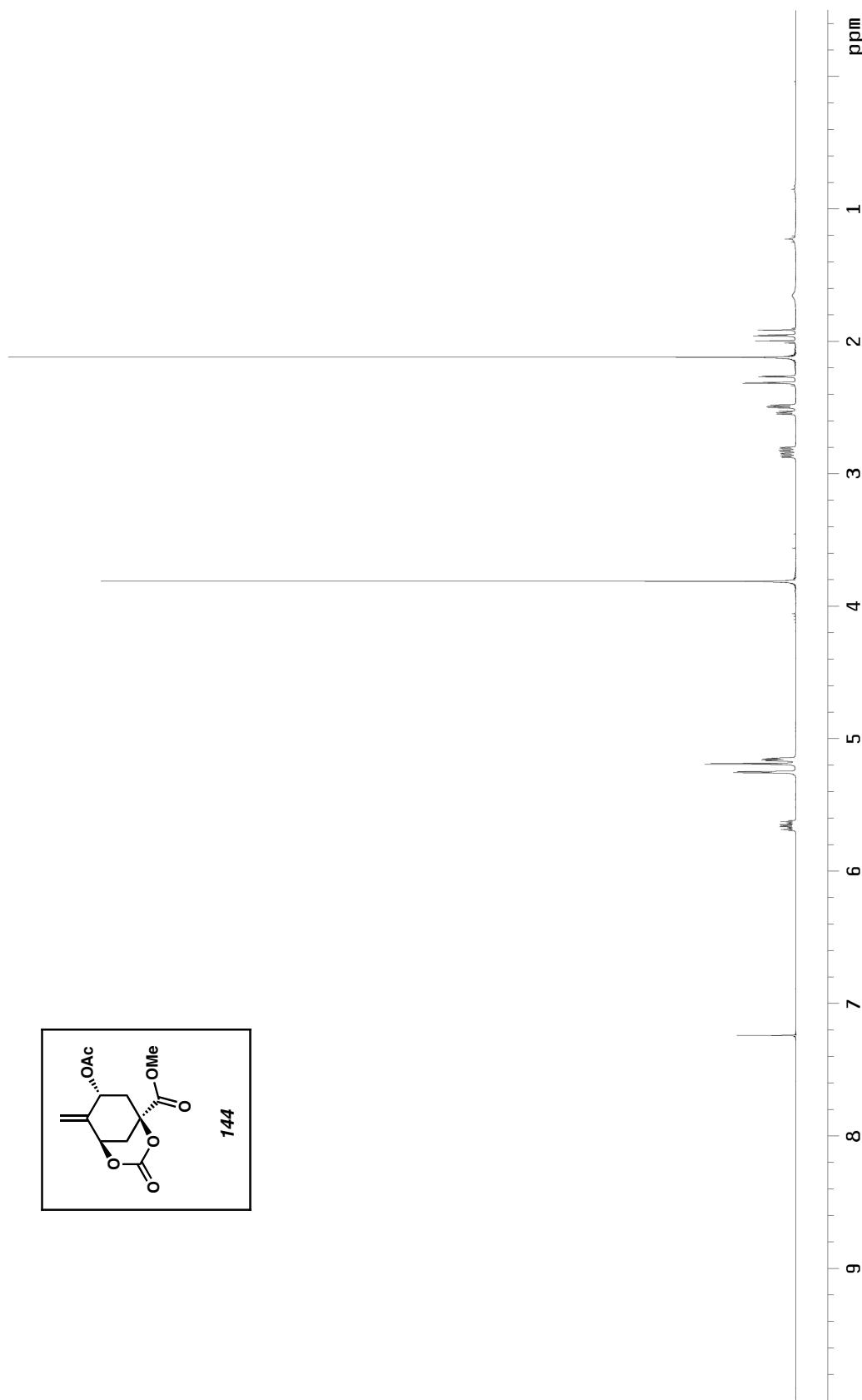


Figure A3.140  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 144

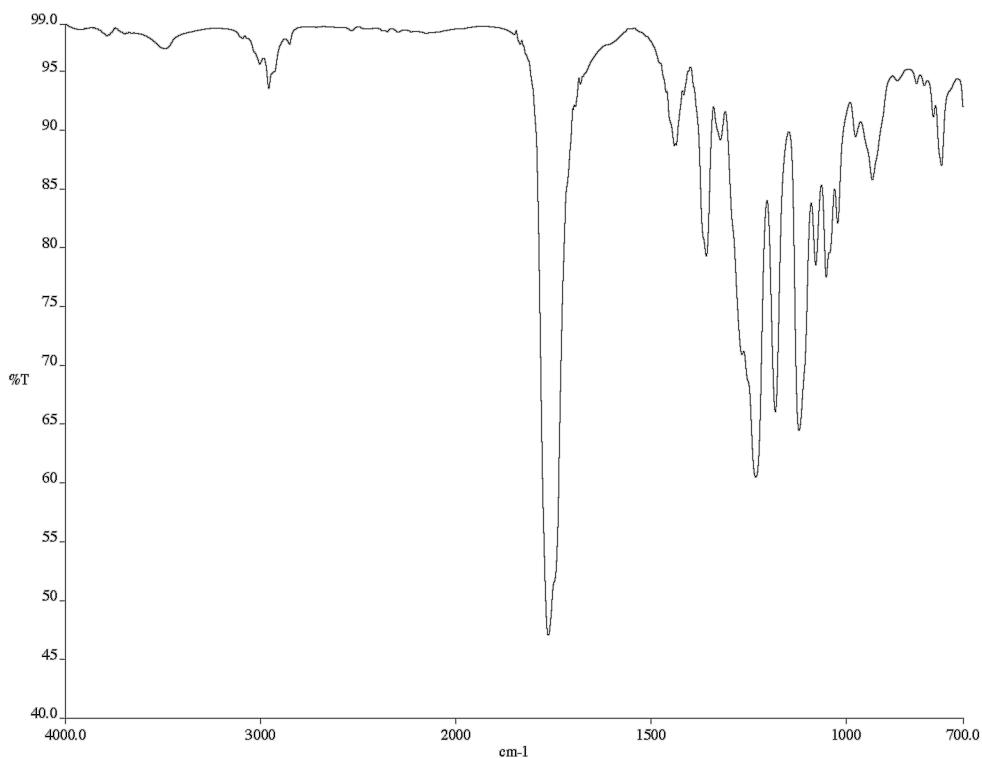


Figure A3.141 Infrared spectrum (thin film/NaCl) of compound **144**

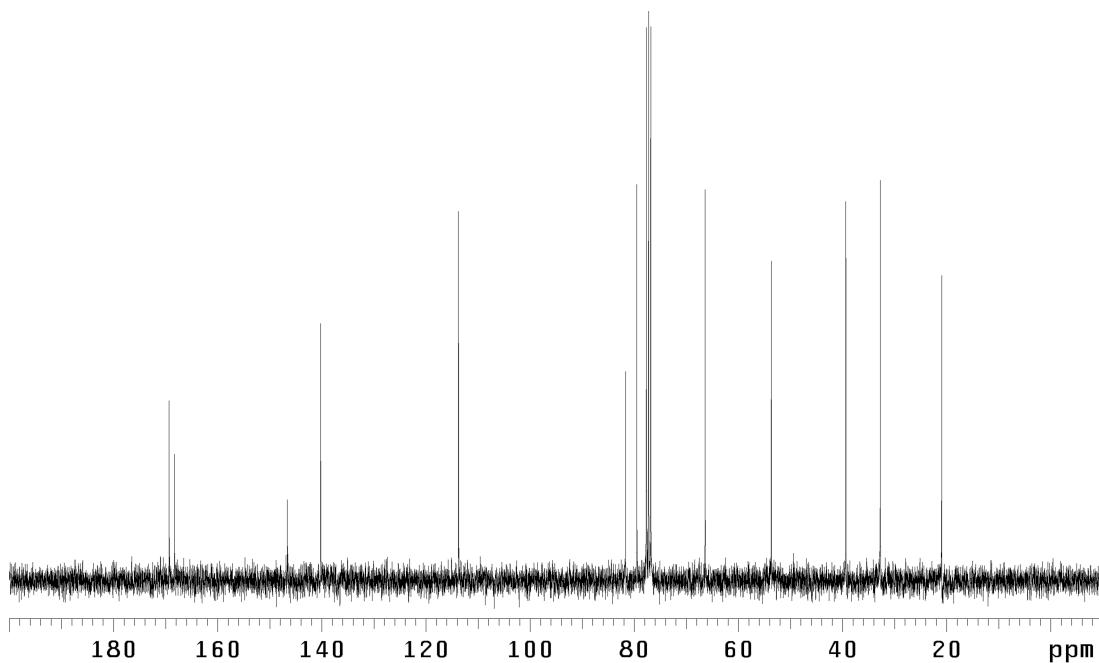


Figure A3.142  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **144**

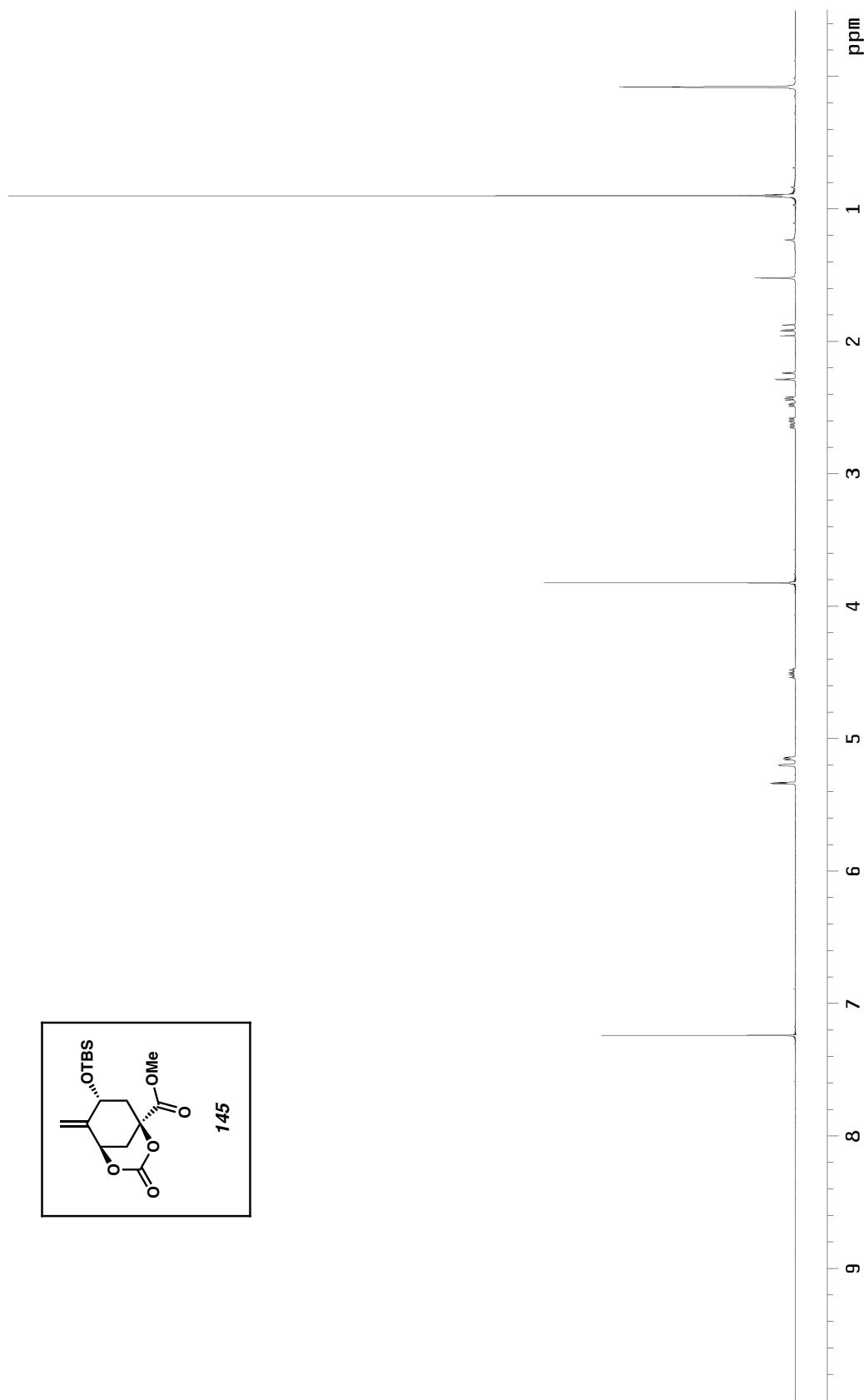


Figure A3.143  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 145

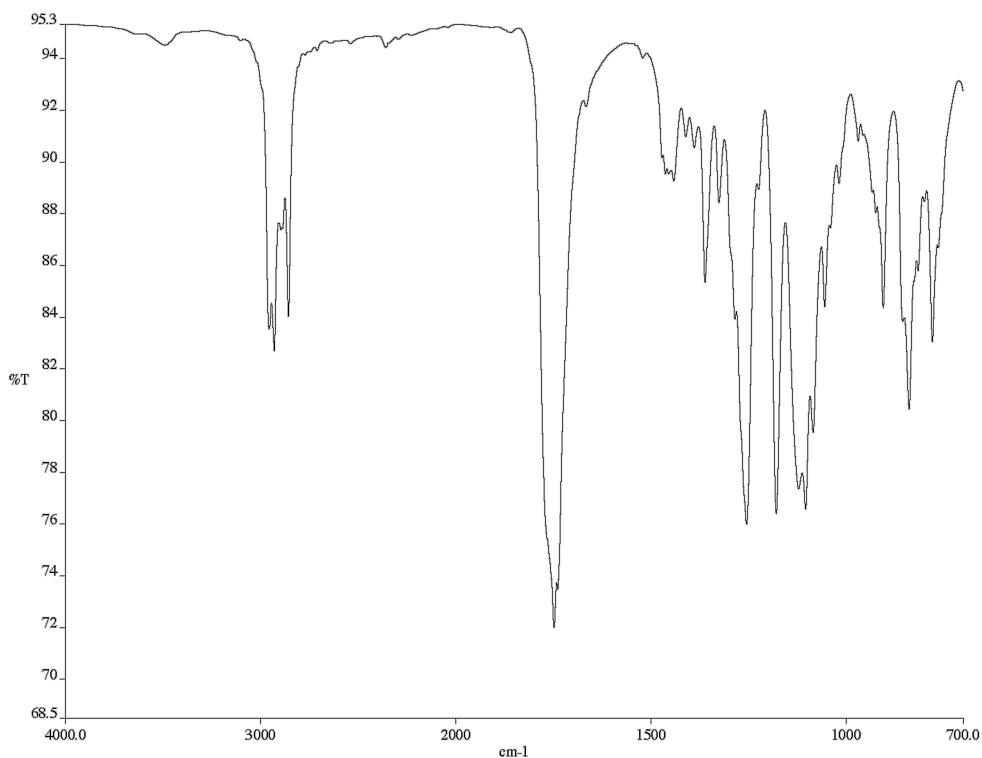


Figure A3.144 Infrared spectrum (thin film/NaCl) of compound **145**

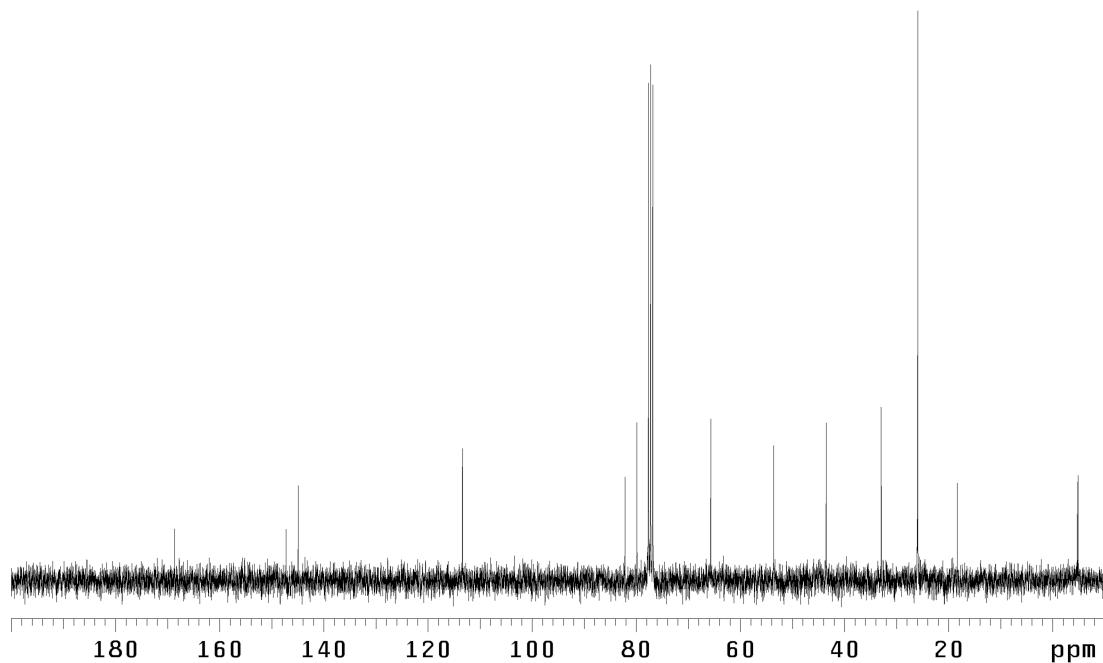


Figure A3.145  $^{13}\text{C}$  NMR (75 MHz,  $\text{CDCl}_3$ ) of compound **145**

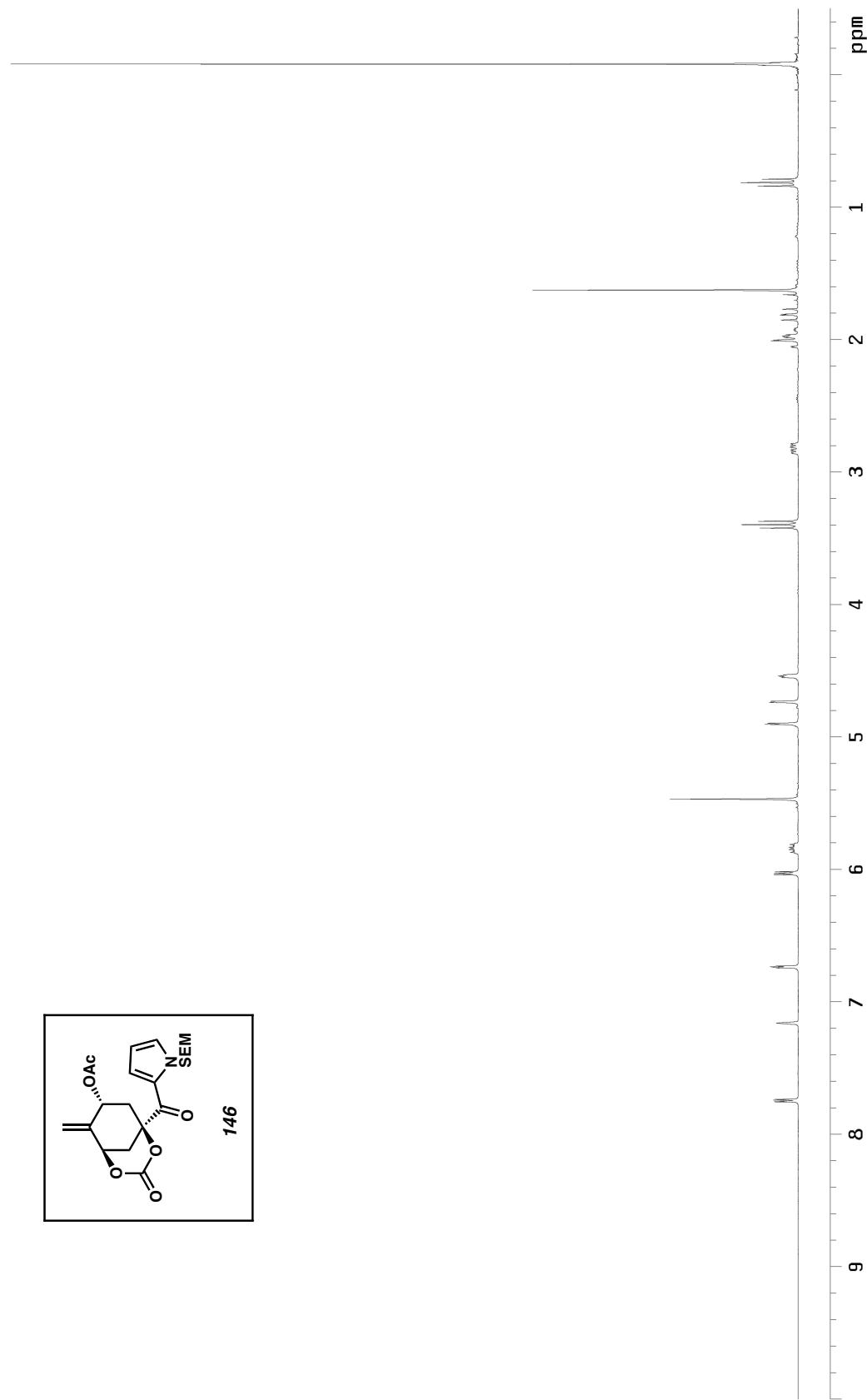


Figure A3.146  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 146

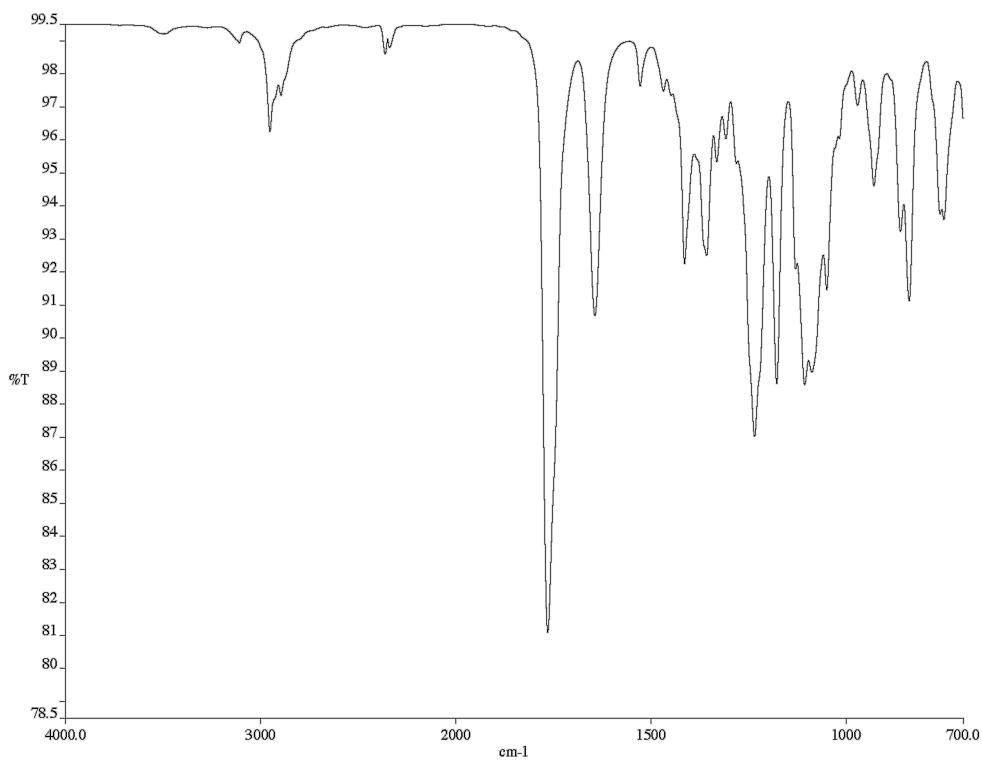


Figure A3.147 Infrared spectrum (thin film/NaCl) of compound **146**

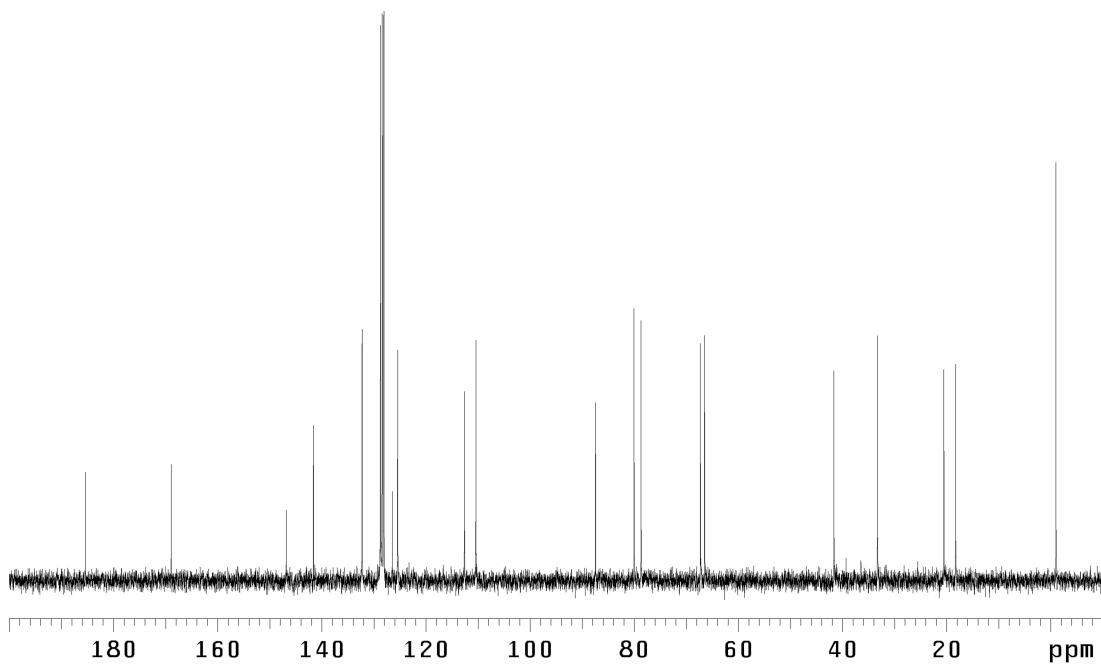


Figure A3.148  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **146**

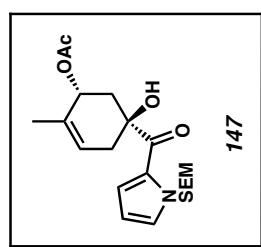
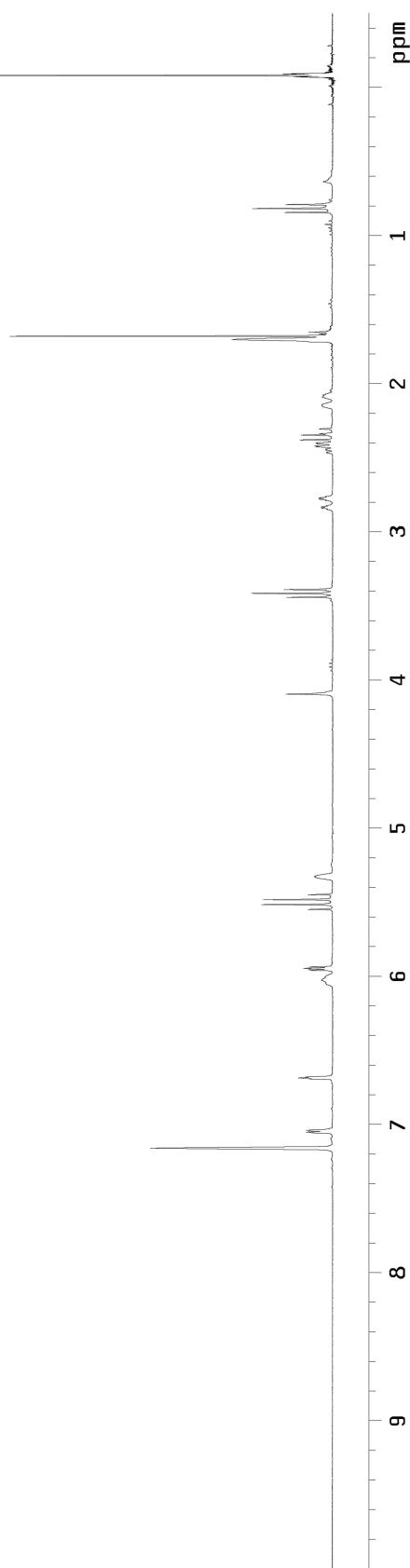


Figure A3.149  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 147



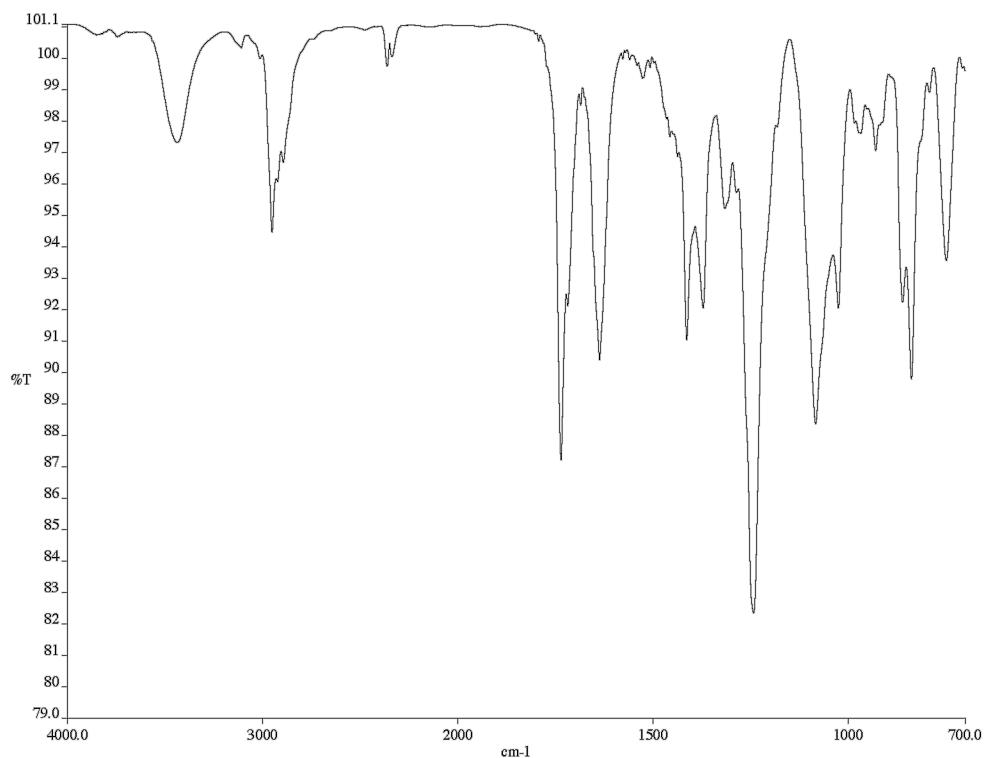


Figure A3.150 Infrared spectrum (thin film/NaCl) of compound **147**

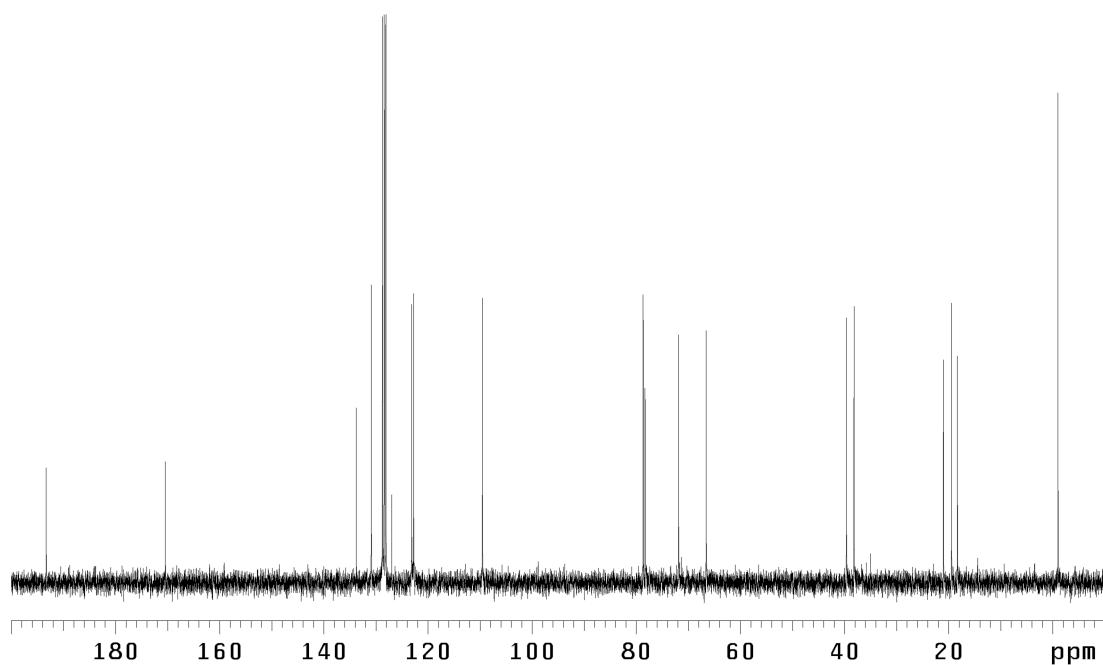


Figure A3.151  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **147**

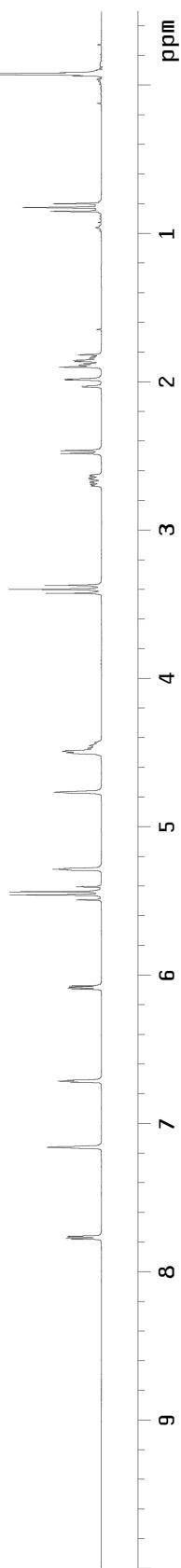
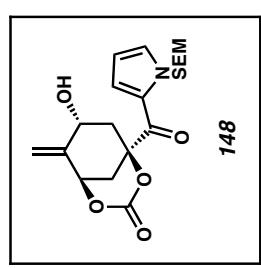


Figure A3.152 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 148

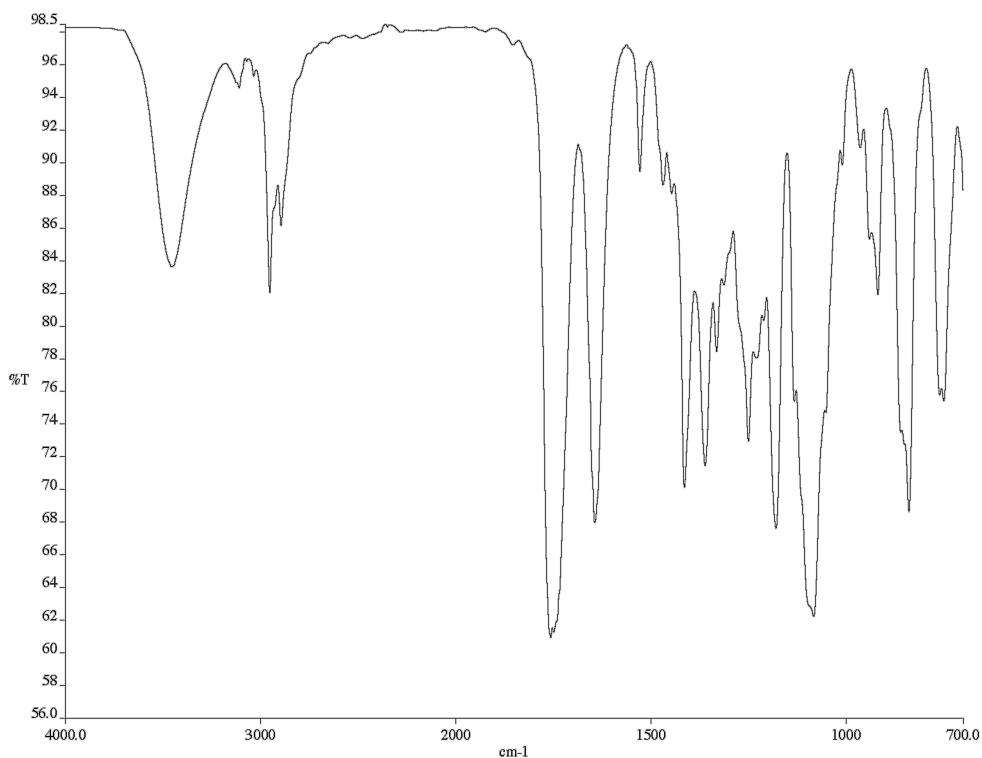


Figure A3.153 Infrared spectrum (thin film/NaCl) of compound **148**

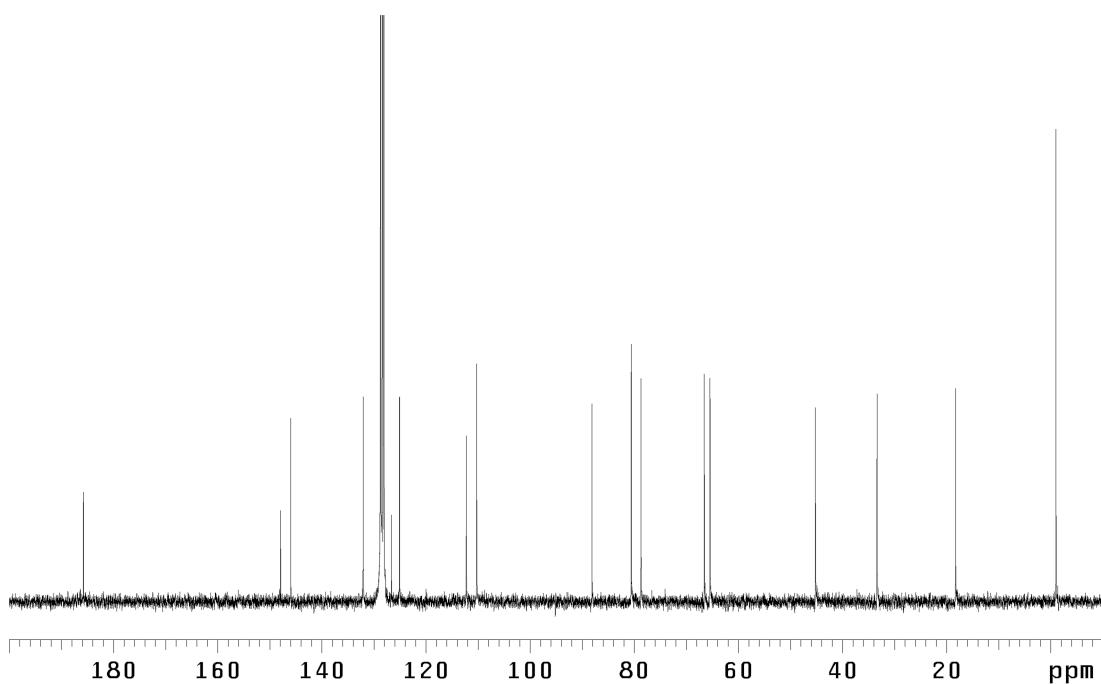


Figure A3.154  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **148**

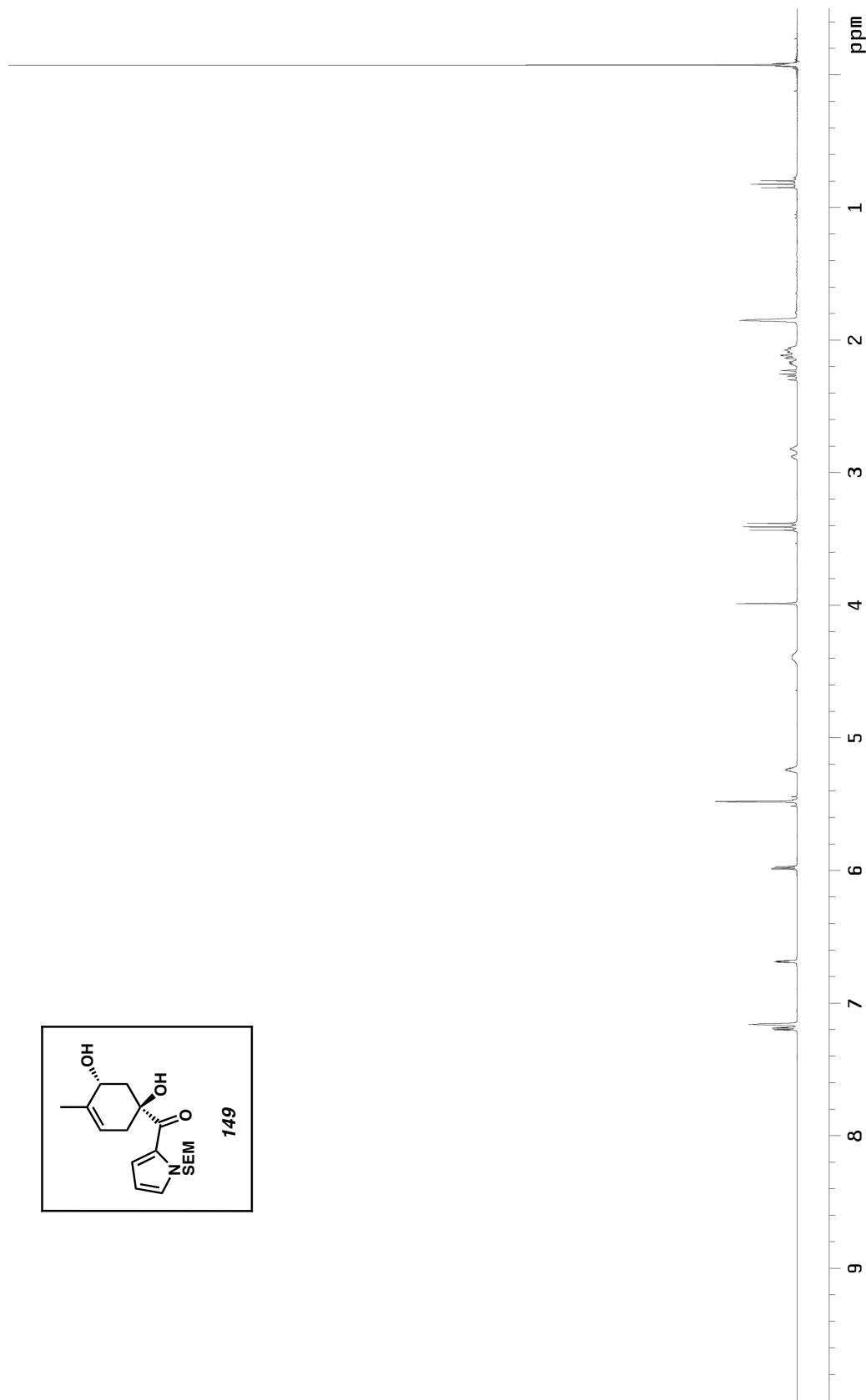
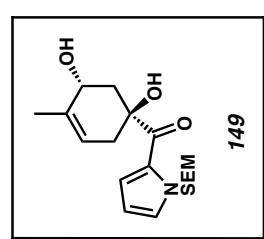


Figure A3.155  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 149

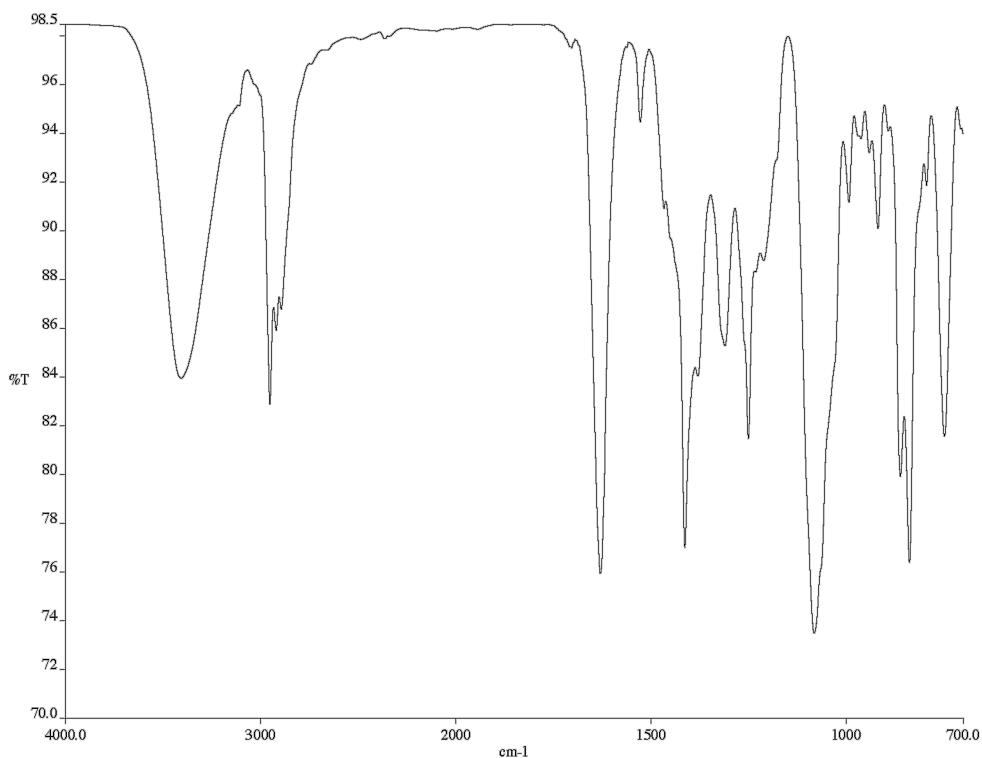


Figure A3.156 Infrared spectrum (thin film/NaCl) of compound **149**

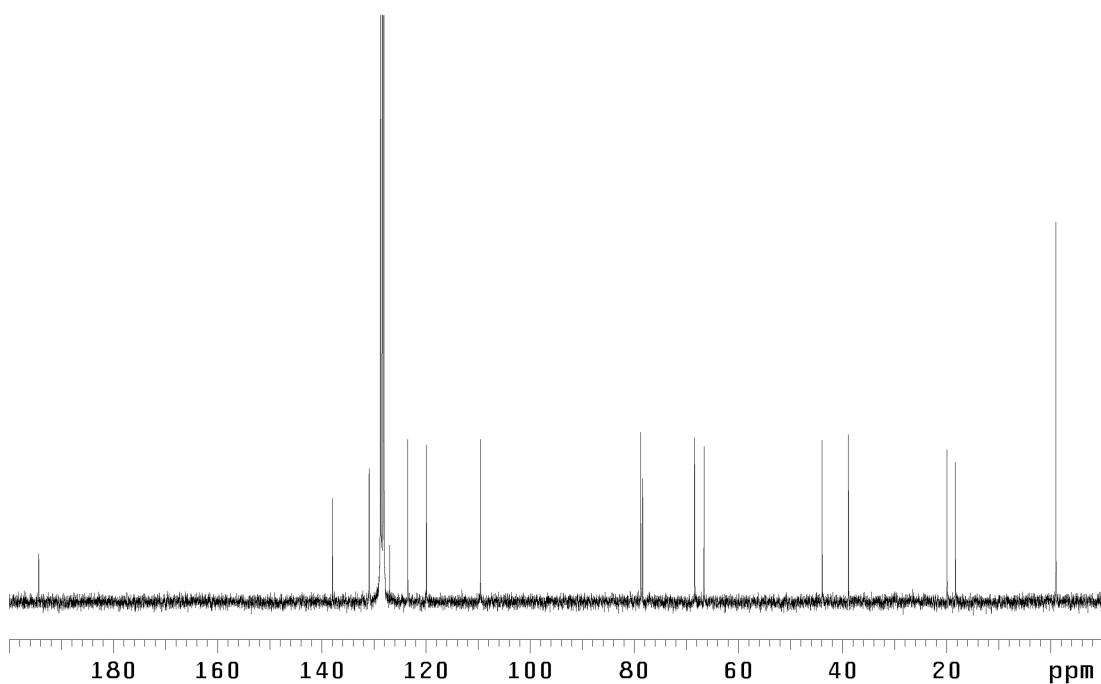


Figure A3.157  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **149**

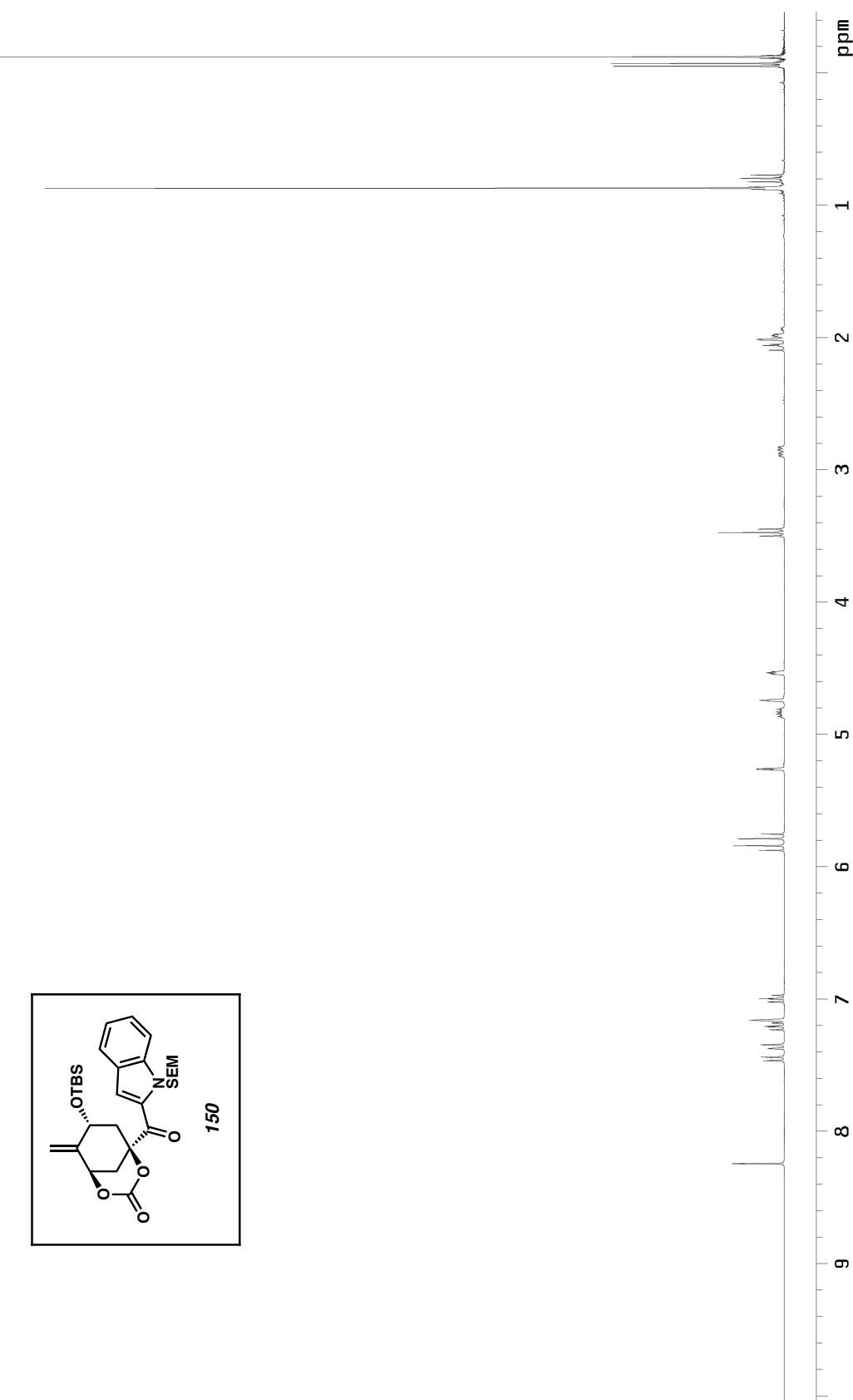


Figure A3.158  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 150

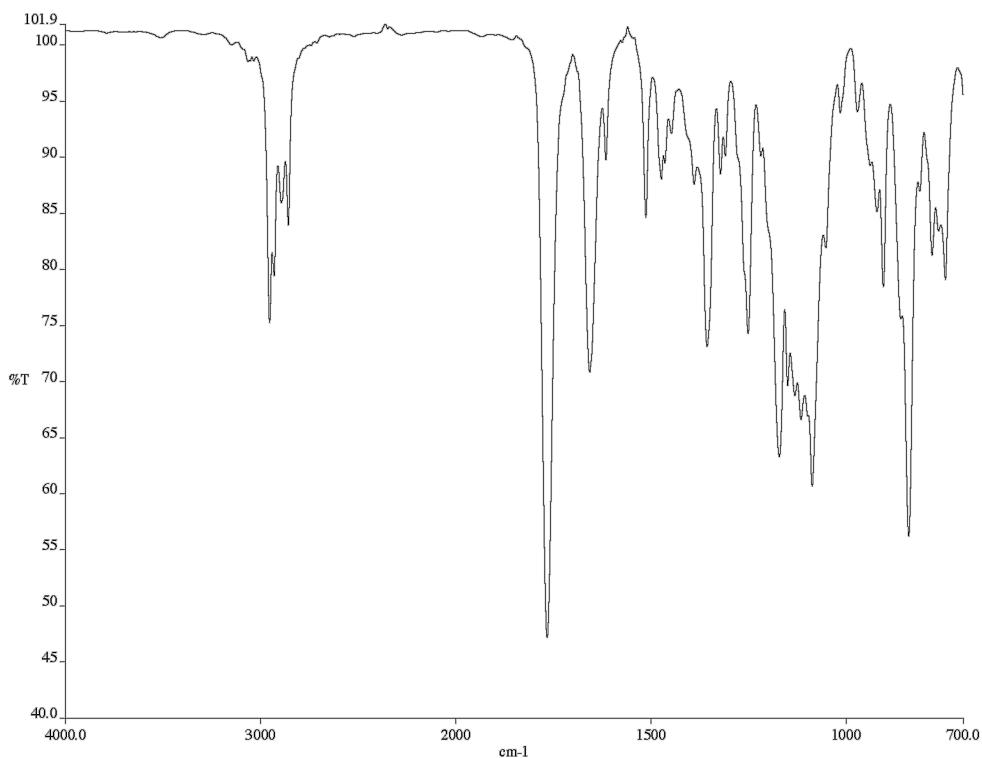


Figure A3.159 Infrared spectrum (thin film/NaCl) of compound **150**

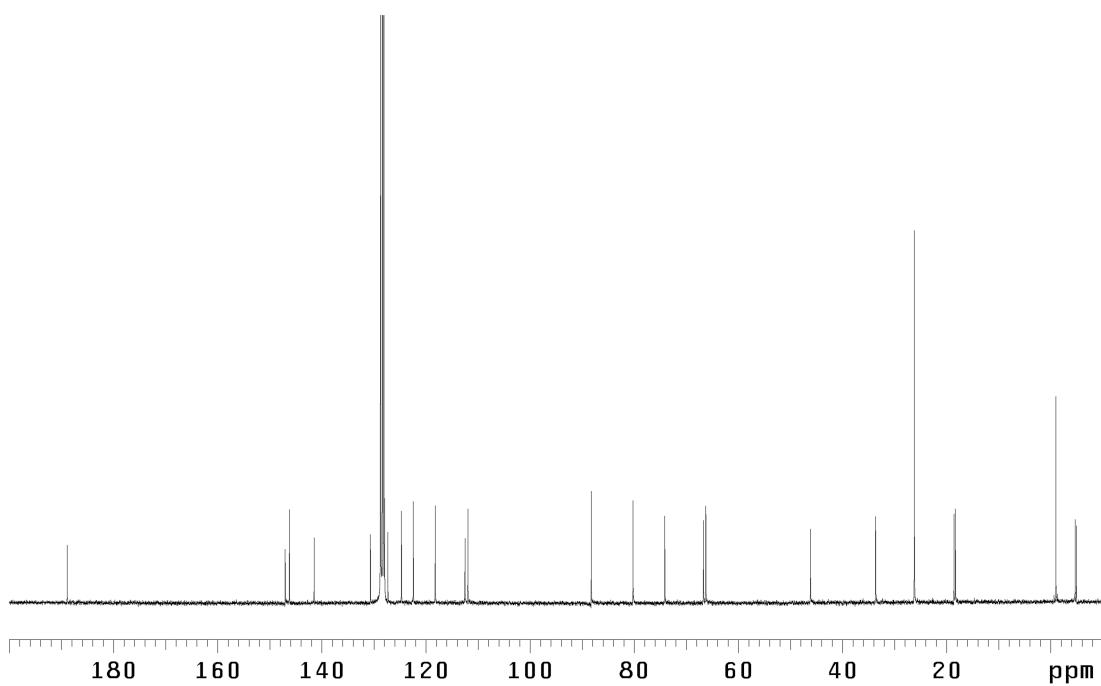
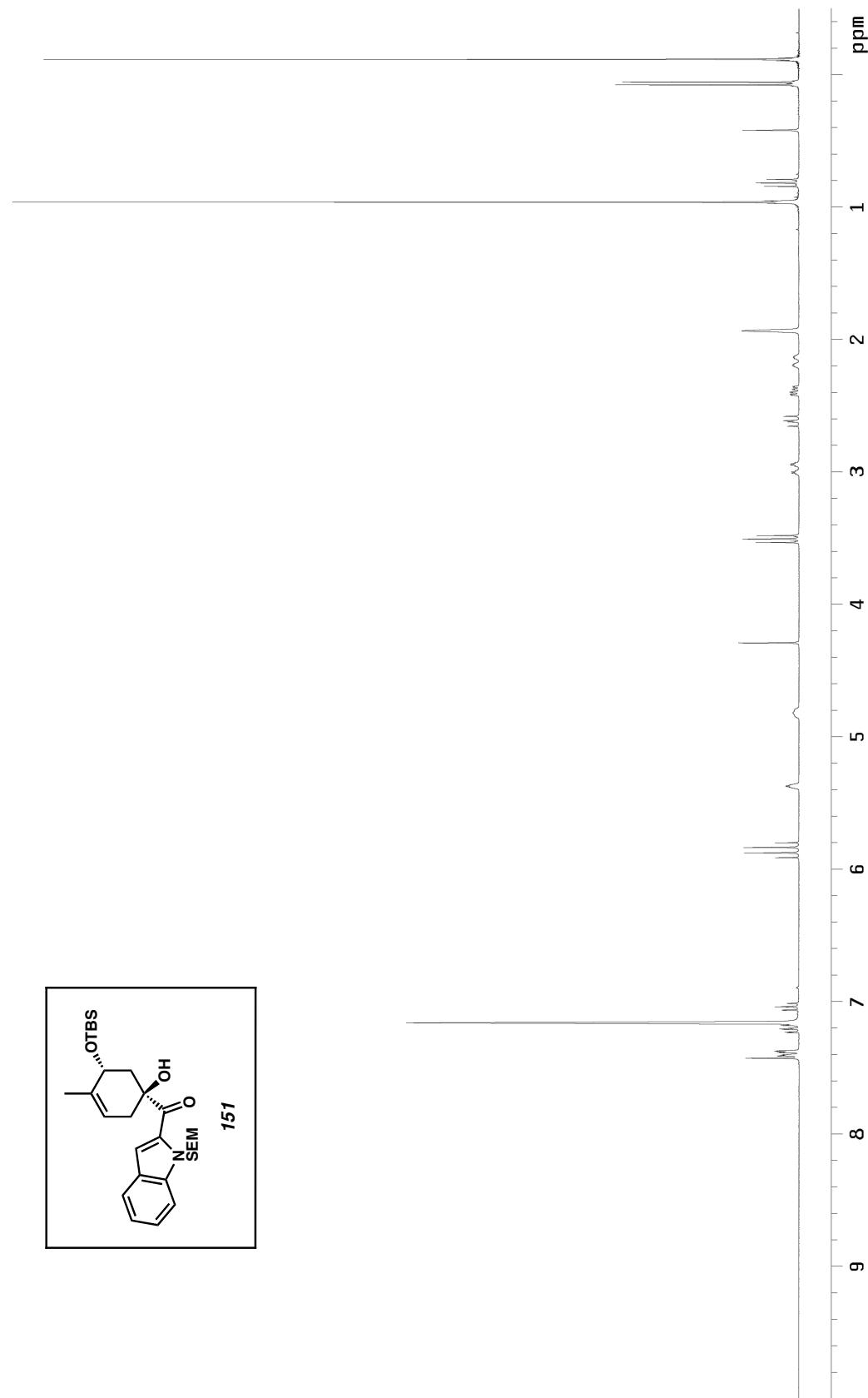


Figure A3.160  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **150**



*Figure A3.161*  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 151

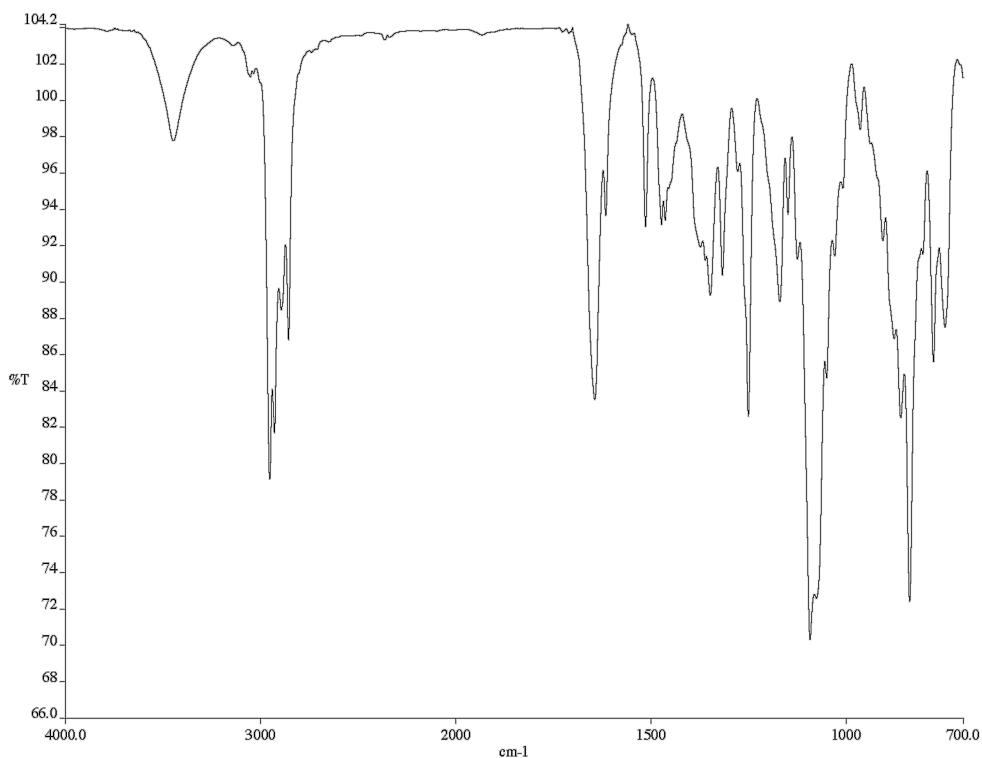


Figure A3.162 Infrared spectrum (thin film/NaCl) of compound **151**

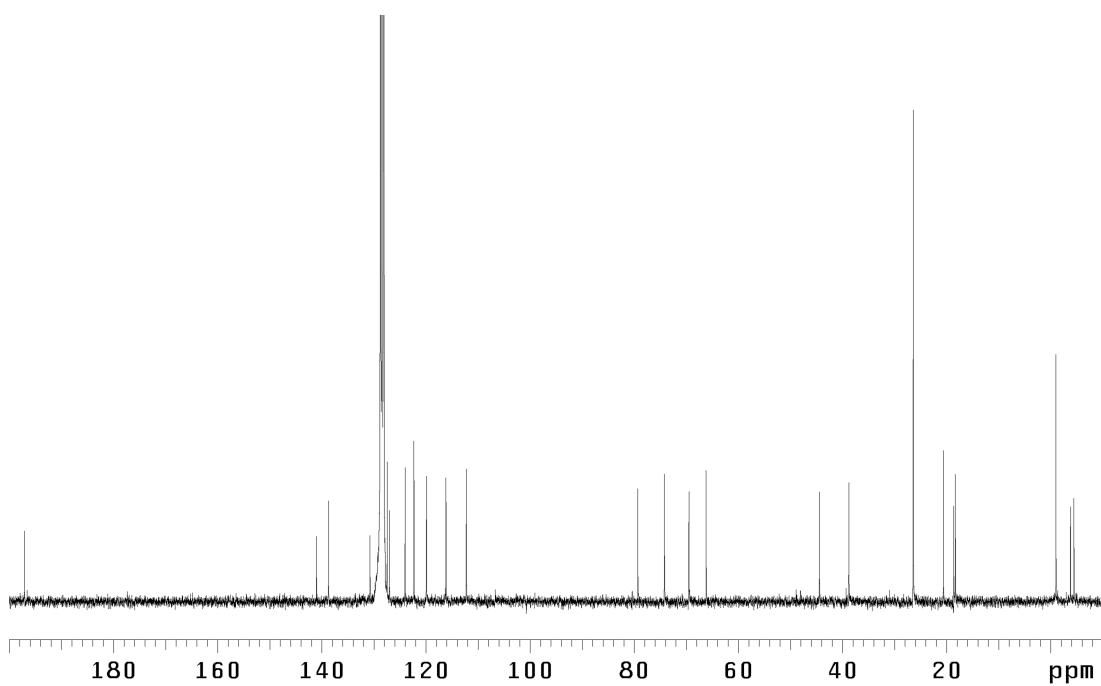
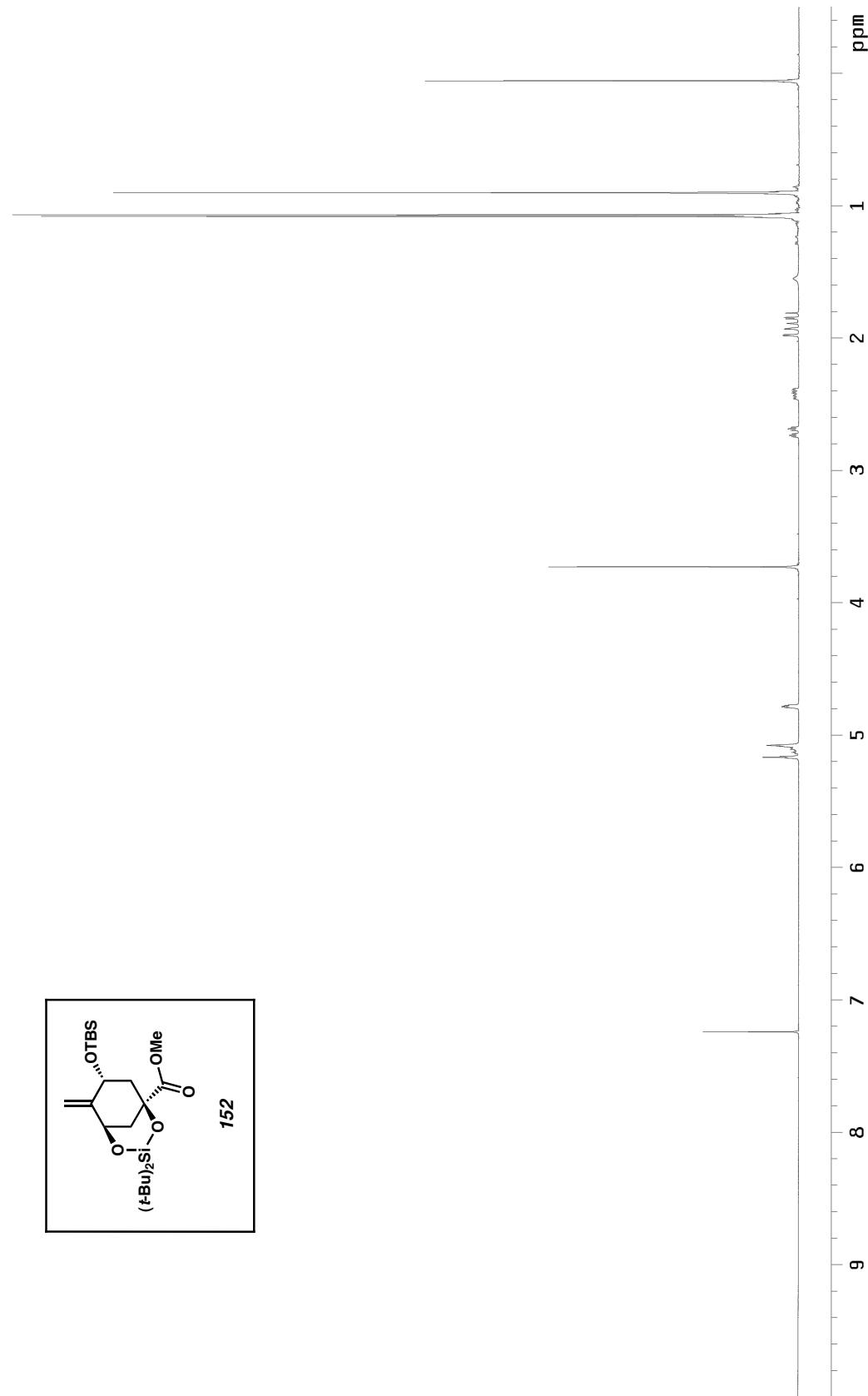


Figure A3.163  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **151**



*Figure A3.164*  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 152

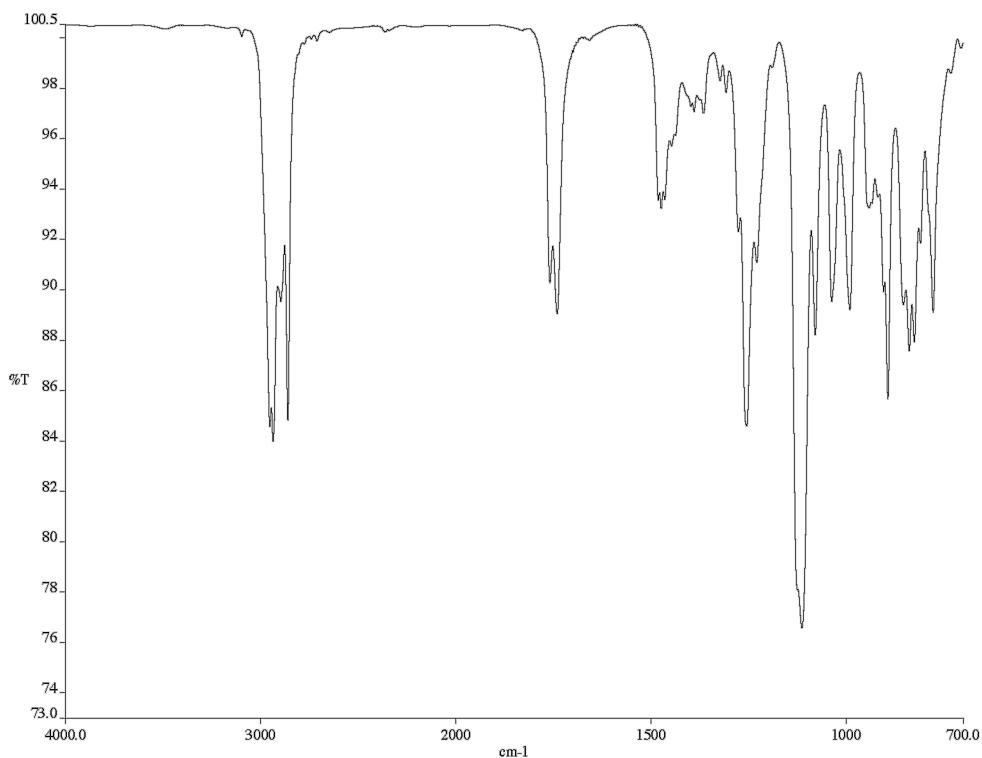


Figure A3.165 Infrared spectrum (thin film/NaCl) of compound **152**

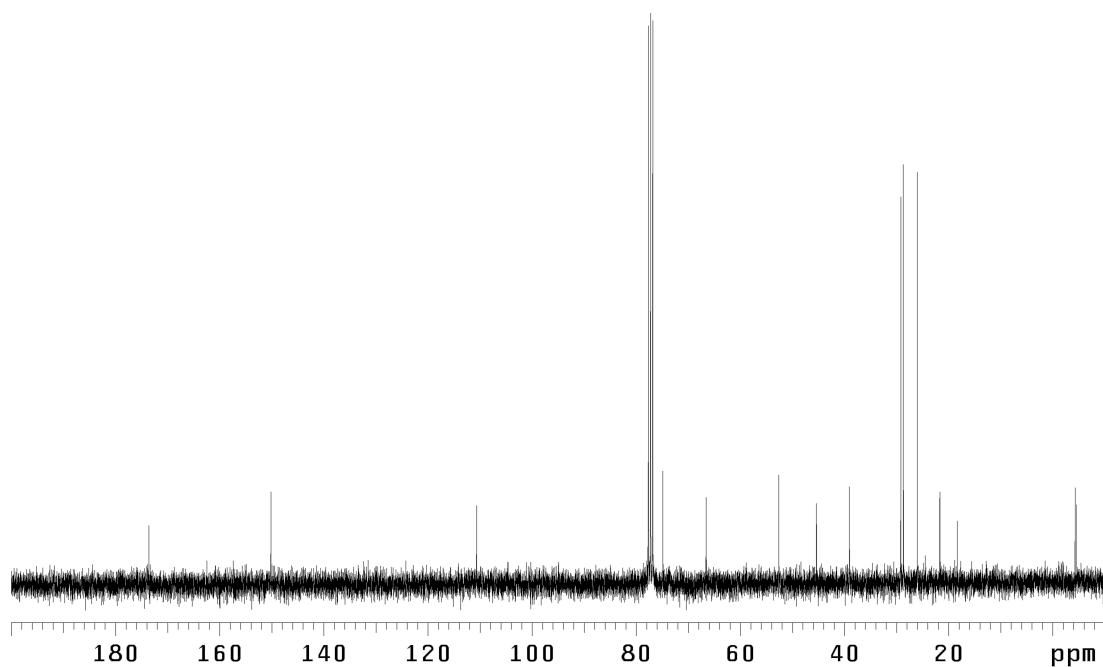
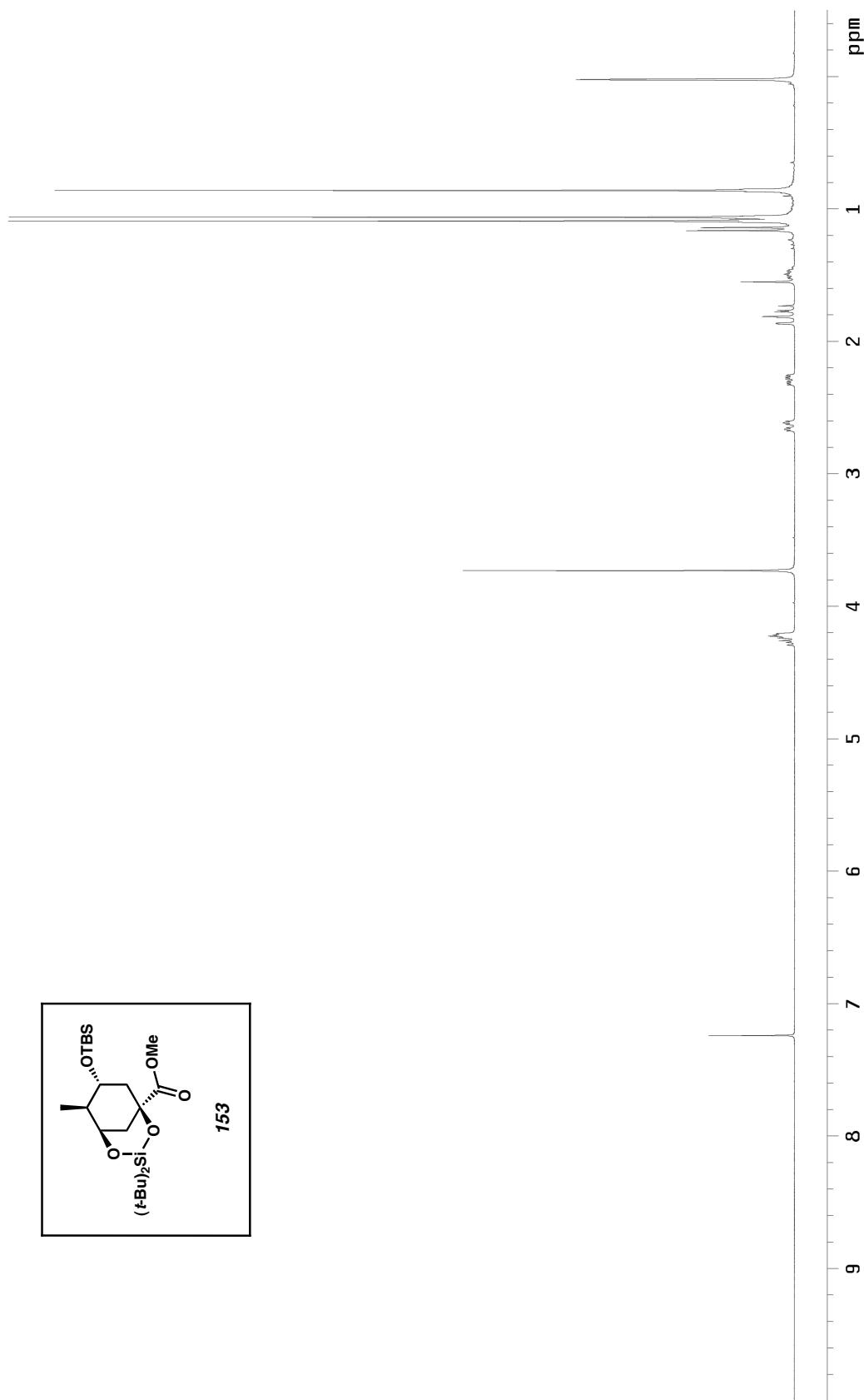


Figure A3.166 <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>) of compound **152**

Figure A3.167  $^1\text{H}$  NMR (300 MHz,  $\text{CDCl}_3$ ) of compound 153



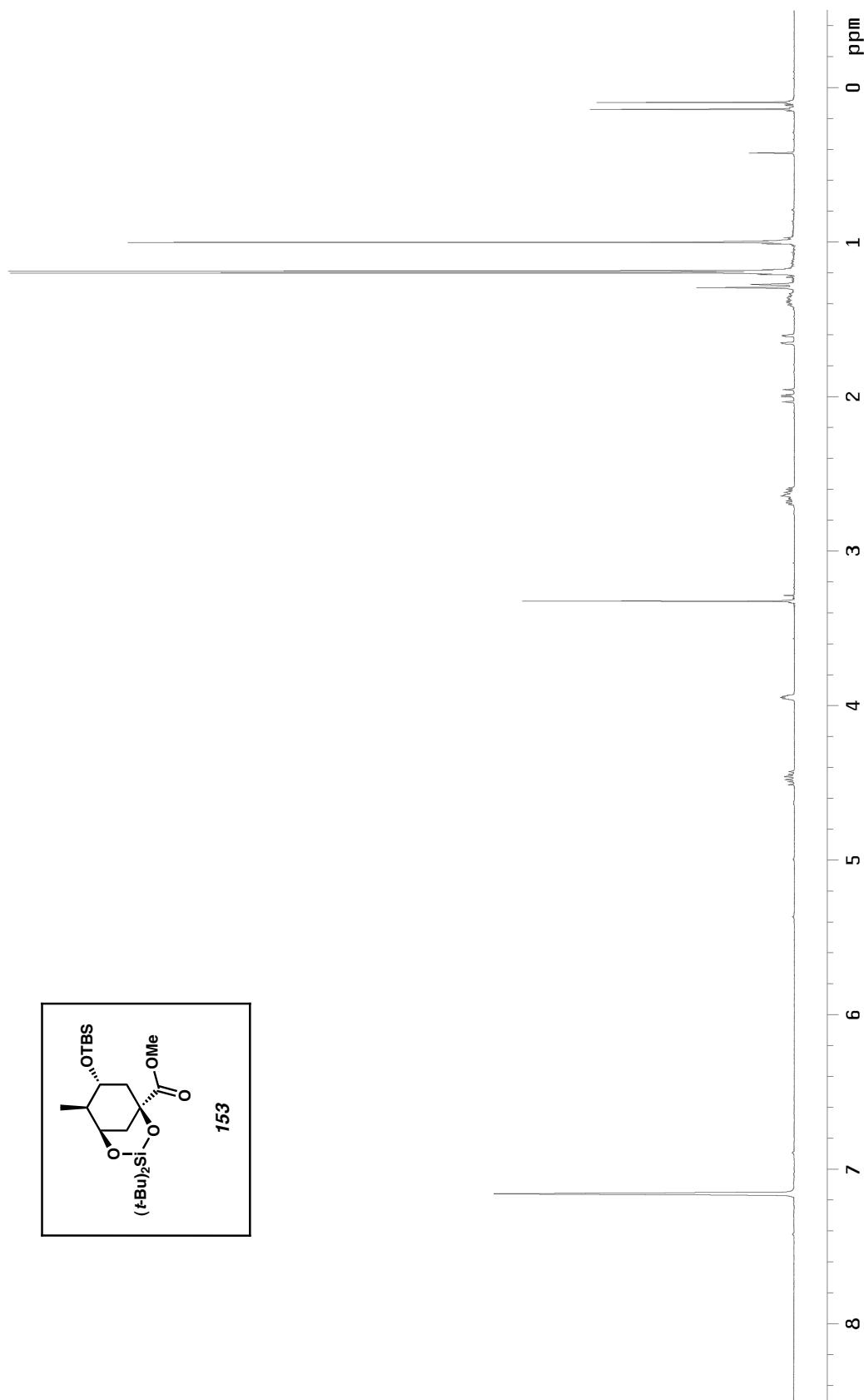


Figure A3.168  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 153

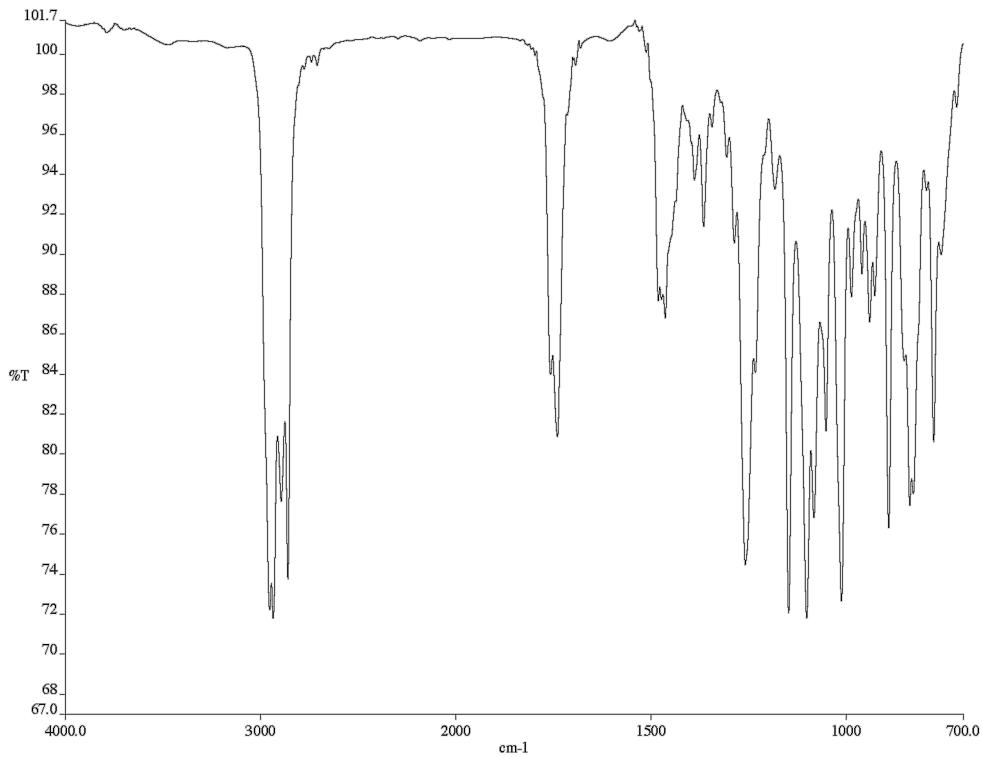


Figure A3.169 Infrared spectrum (thin film/NaCl) of compound **153**

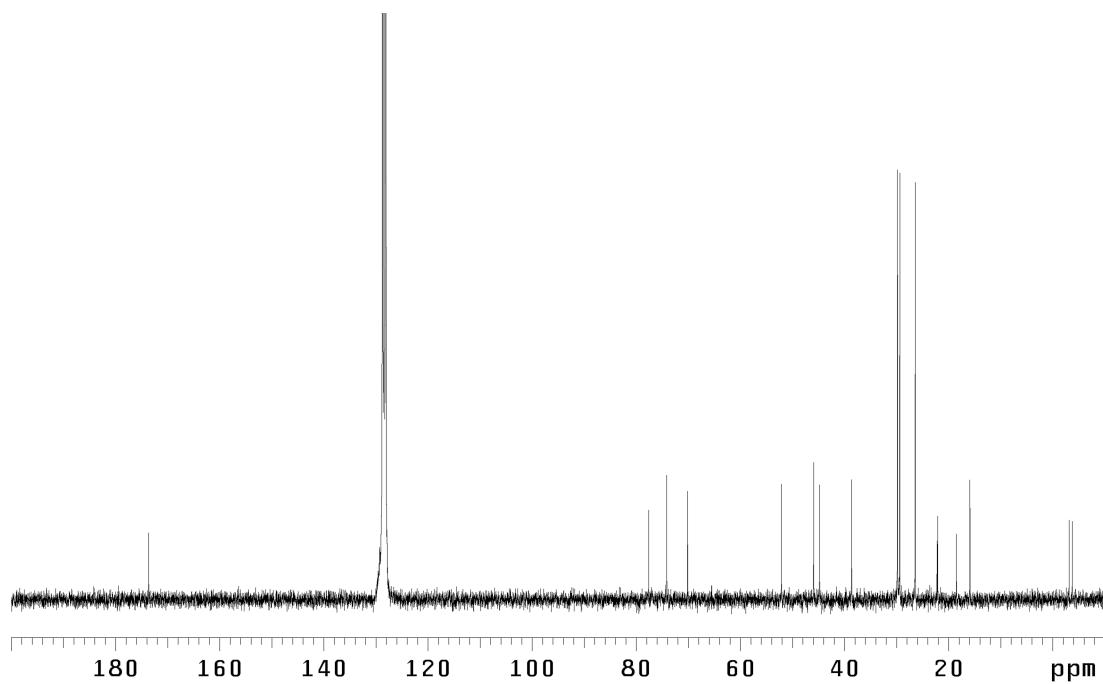


Figure A3.170  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **153**

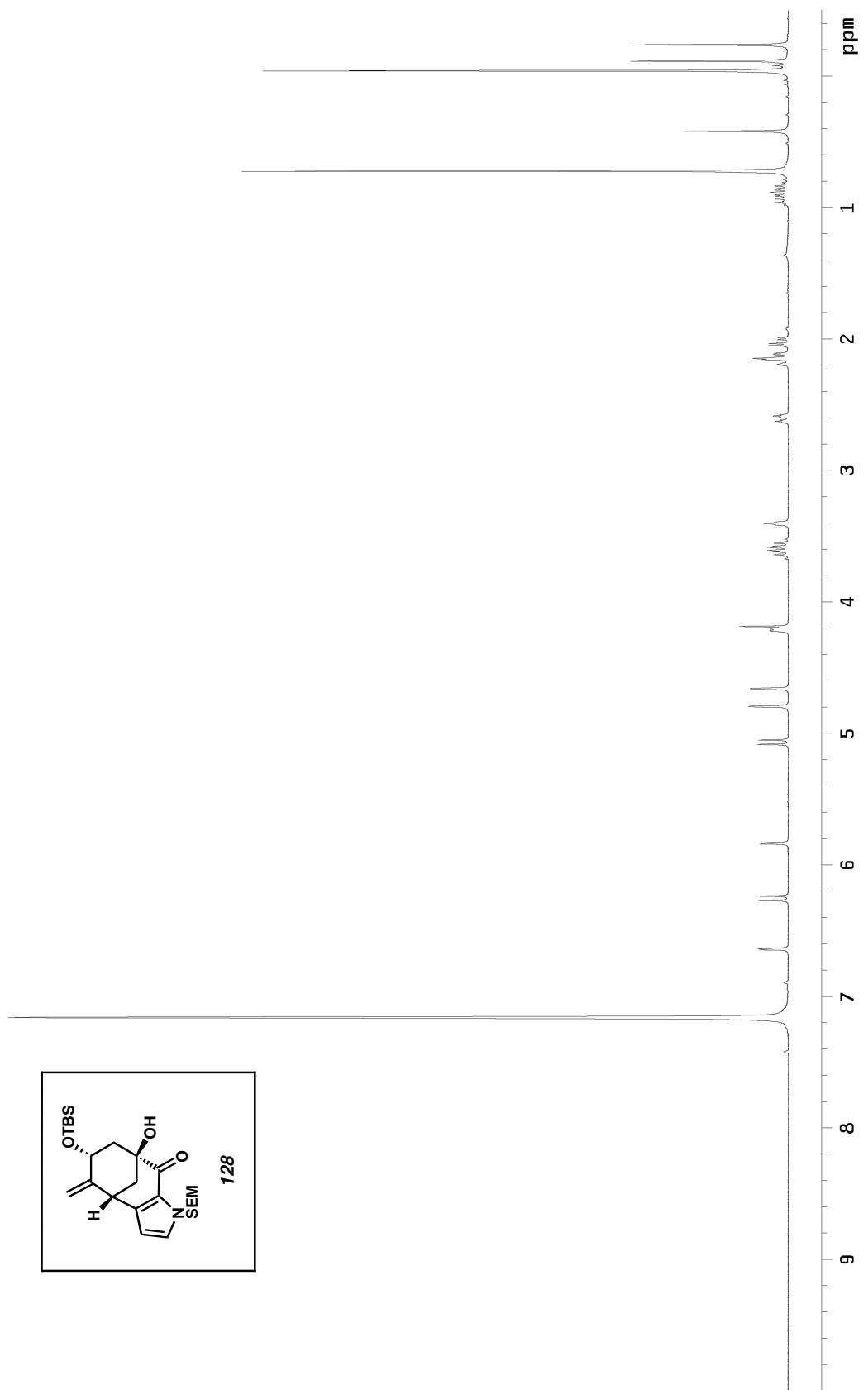


Figure A3.171  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 128

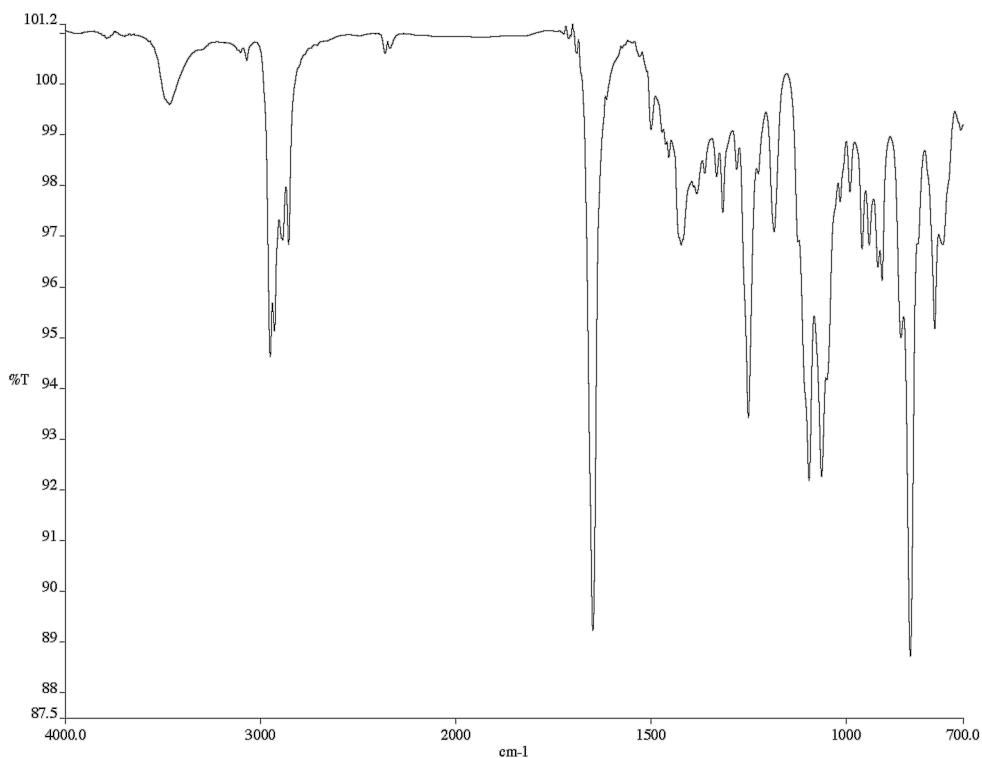


Figure A3.172 Infrared spectrum (thin film/NaCl) of compound **128**

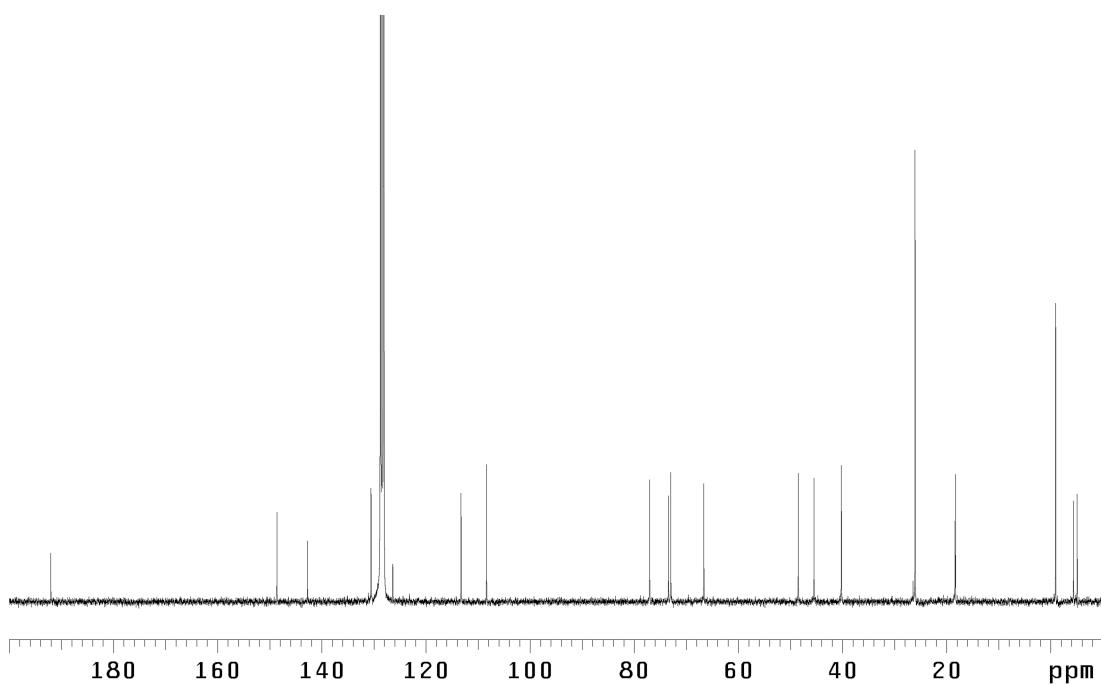


Figure A3.173  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **128**

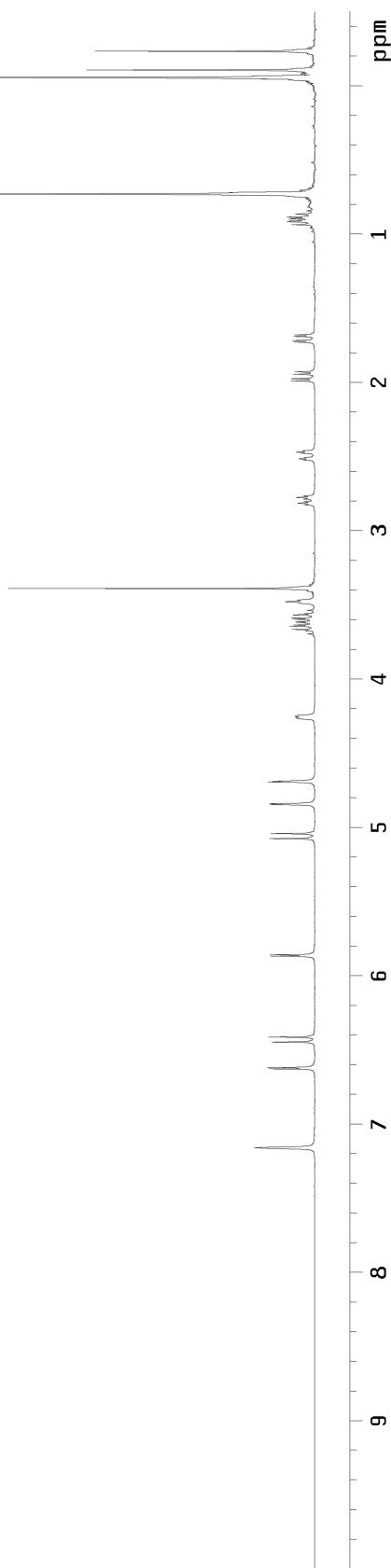
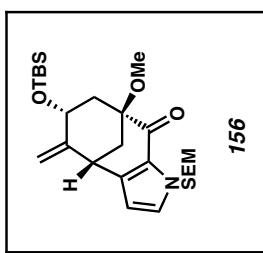


Figure A3.174  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 156

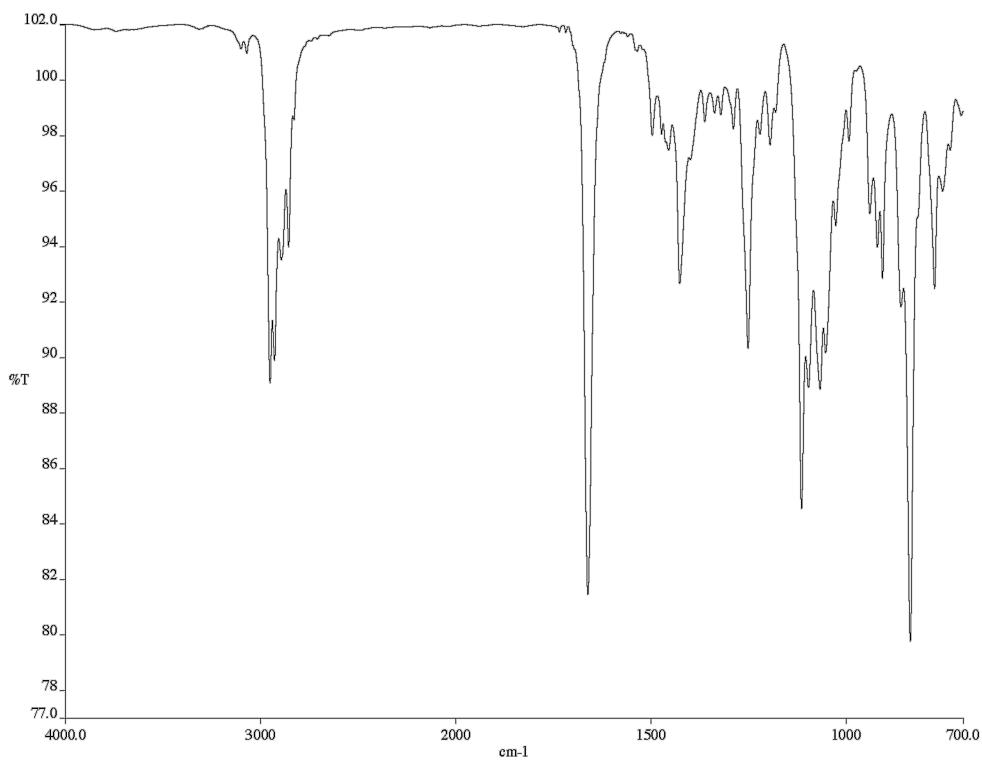


Figure A3.175 Infrared spectrum (thin film/NaCl) of compound **156**

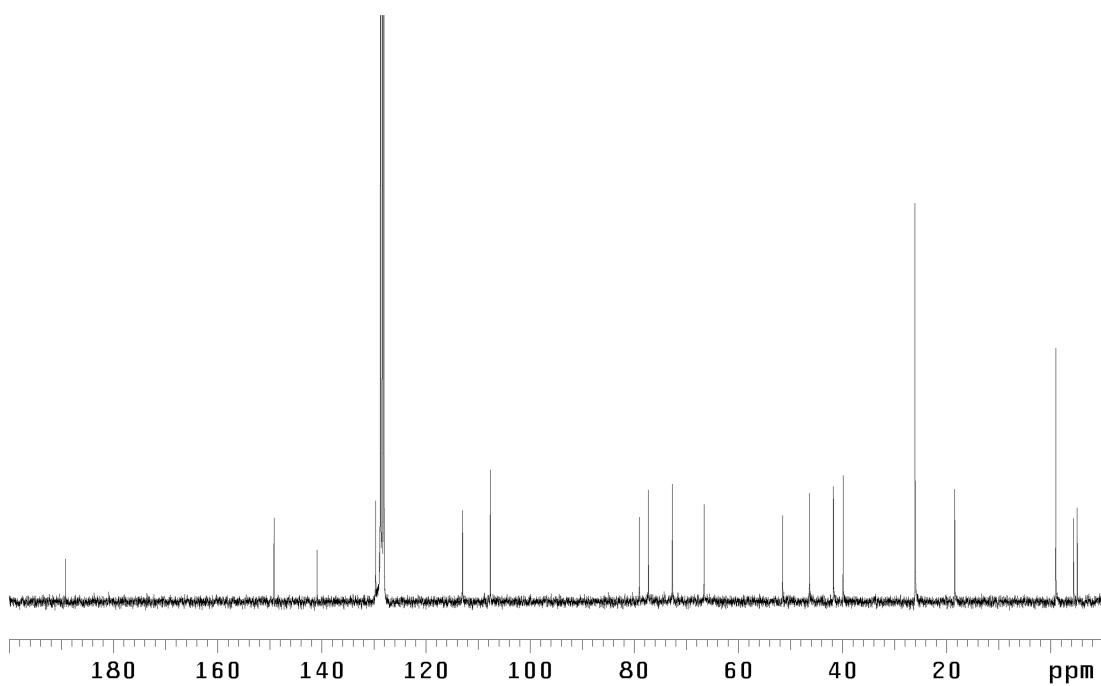


Figure A3.176  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **156**

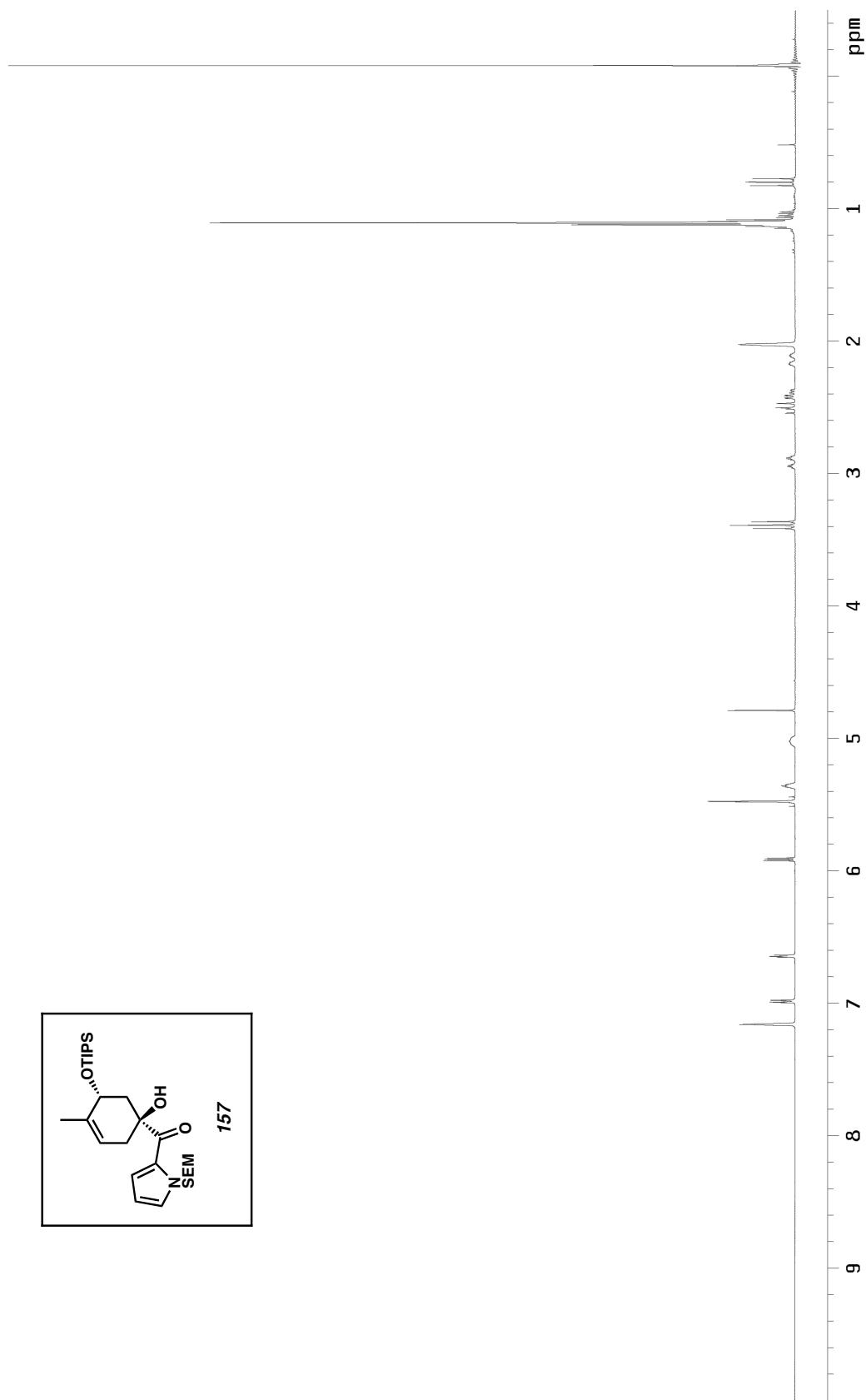


Figure A3.177  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 157

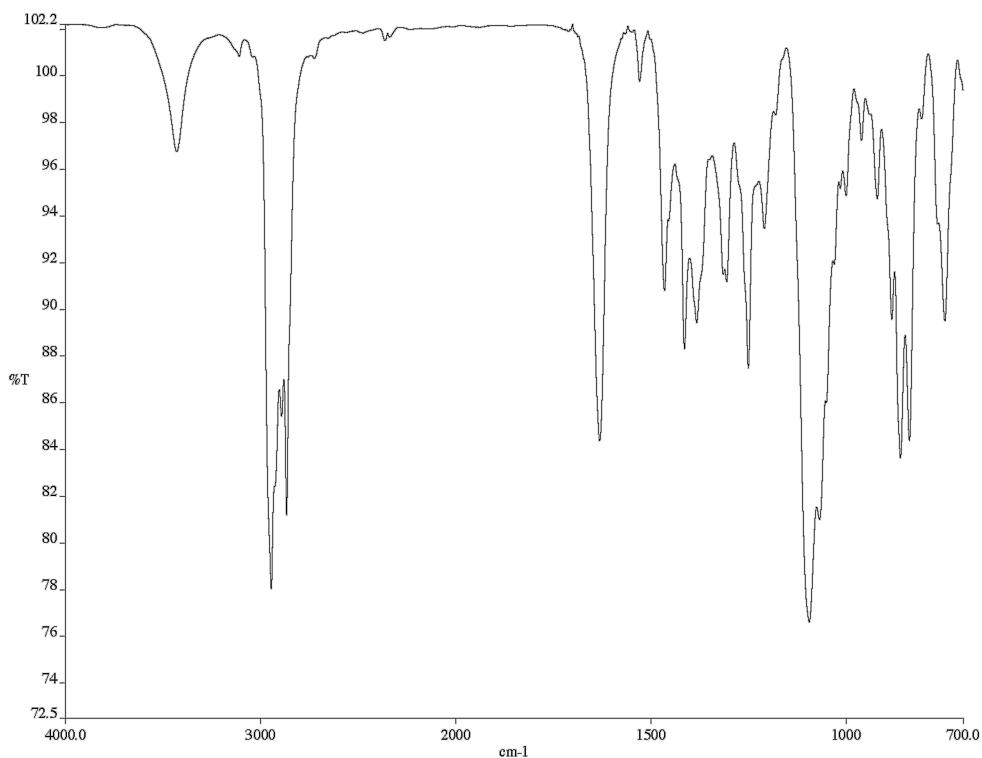


Figure A3.178 Infrared spectrum (thin film/NaCl) of compound **157**

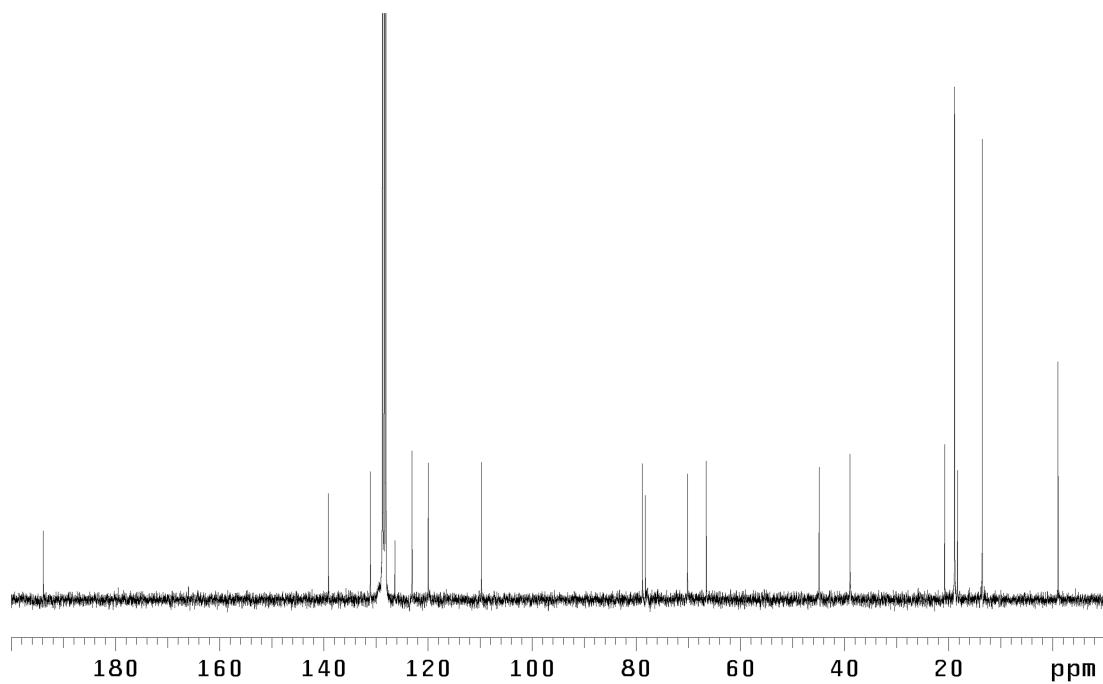
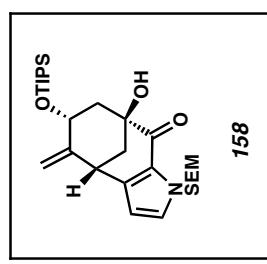


Figure A3.179  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **157**



158

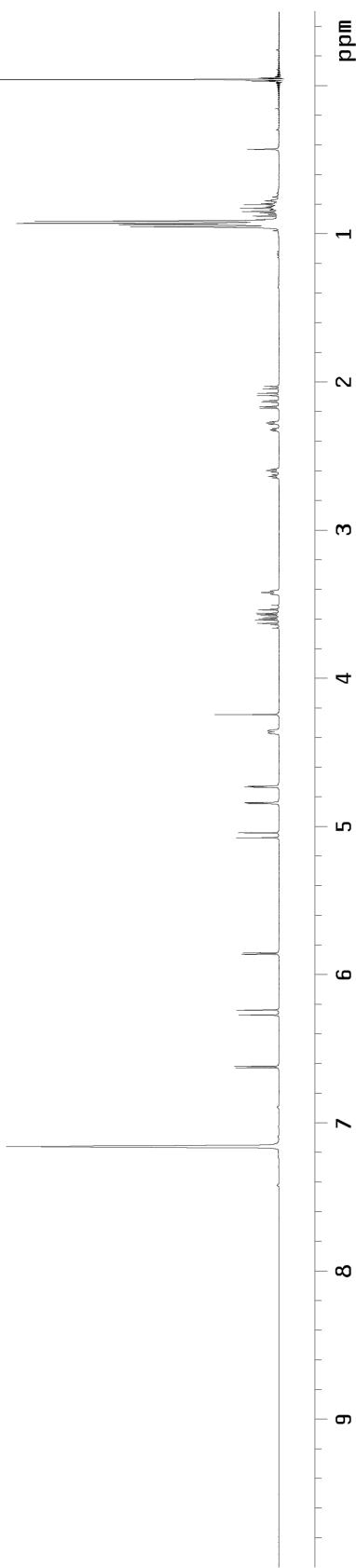


Figure A3.180  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 158

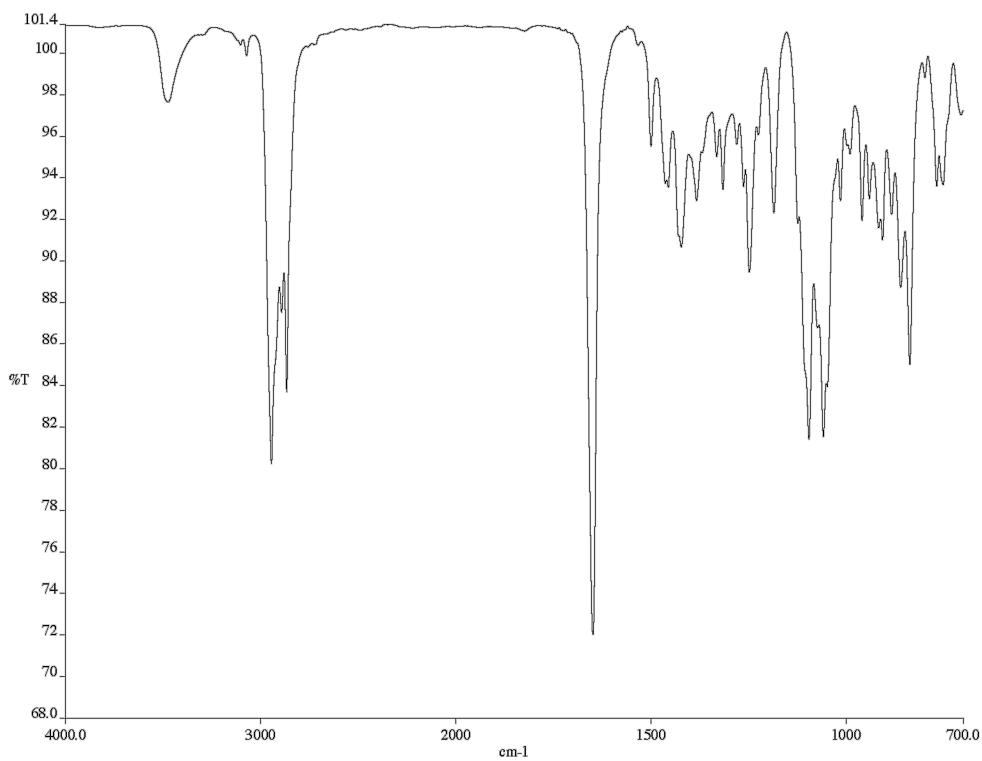


Figure A3.181 Infrared spectrum (thin film/NaCl) of compound **158**

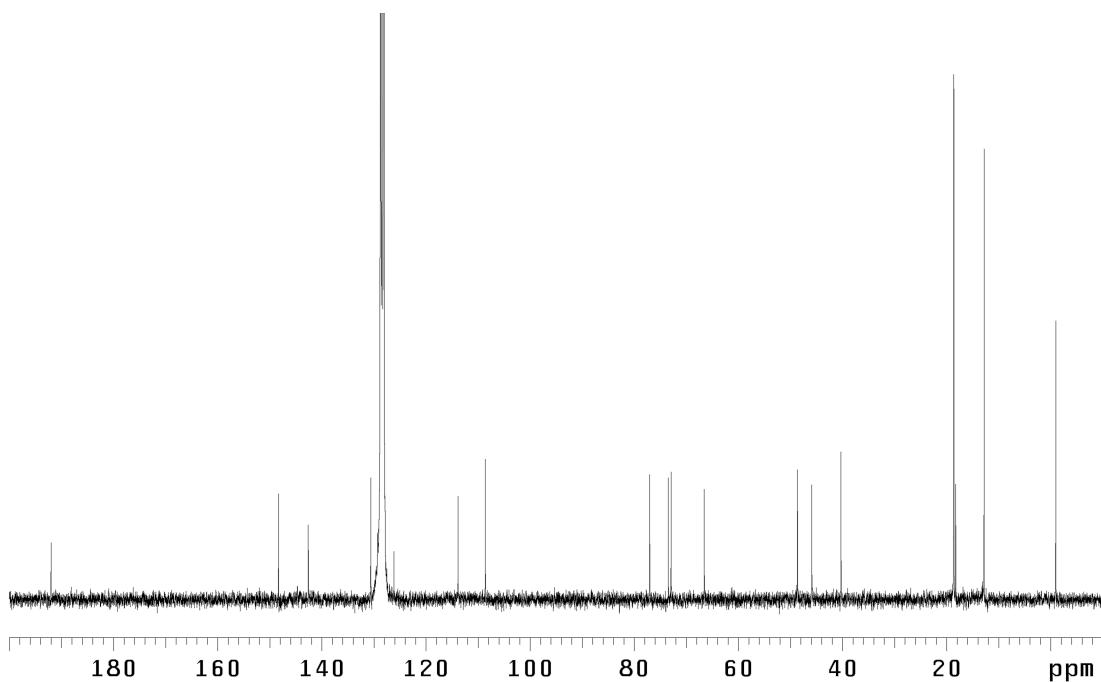


Figure A3.182  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **158**

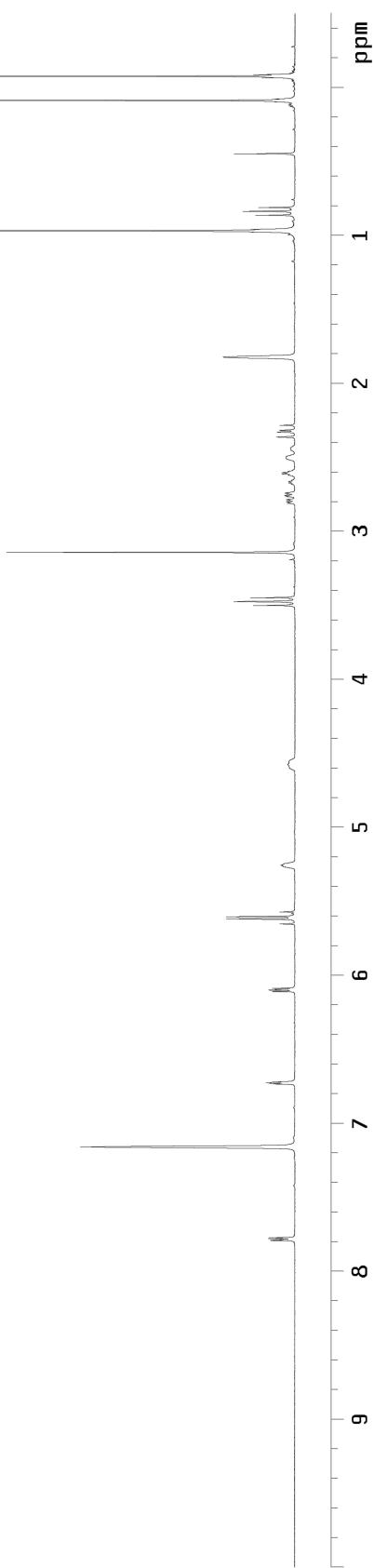
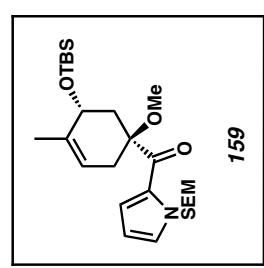


Figure A3.183  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 159

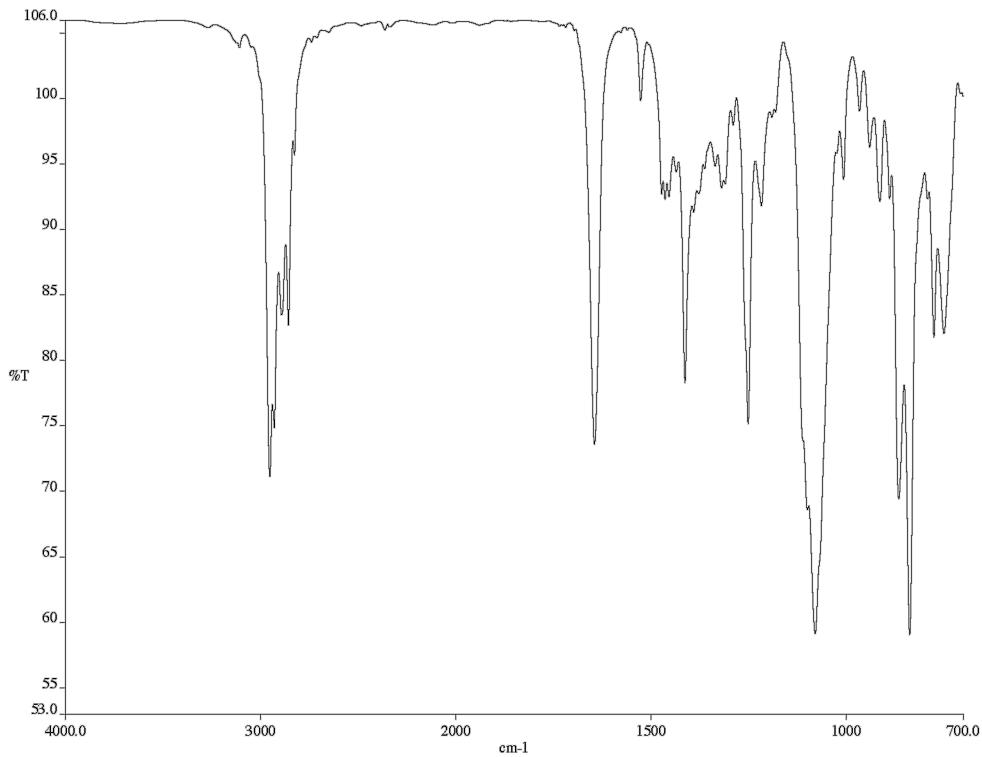


Figure A3.184 Infrared spectrum (thin film/NaCl) of compound **159**

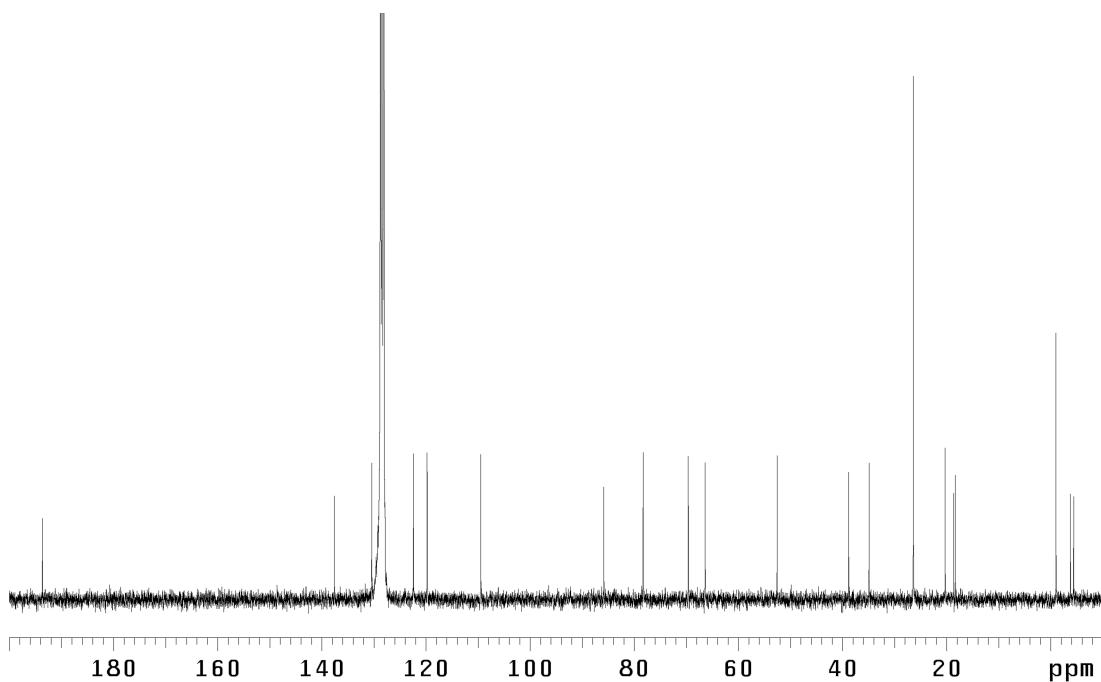


Figure A3.185  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **159**

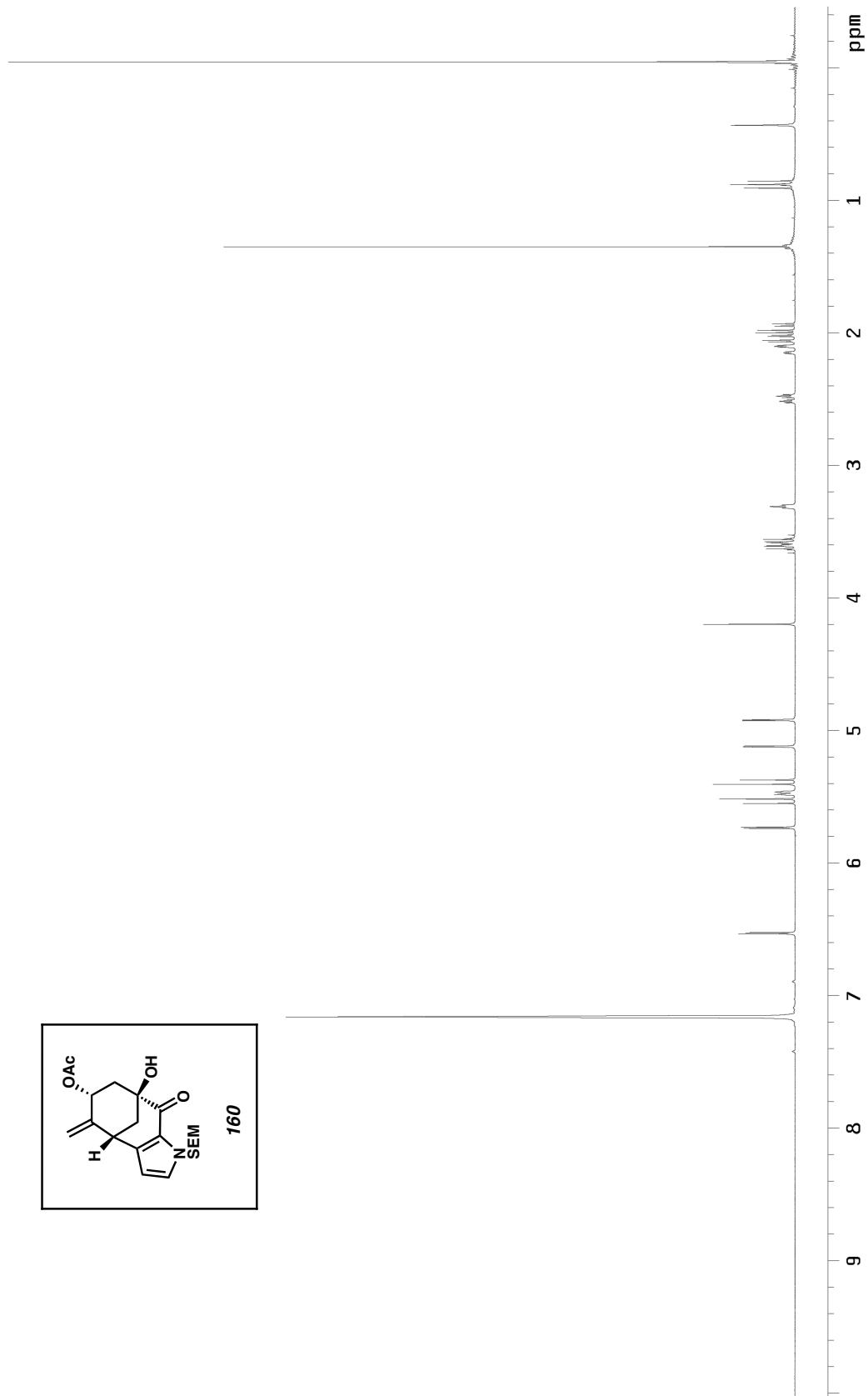
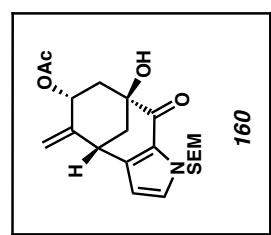


Figure A3.186  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 160

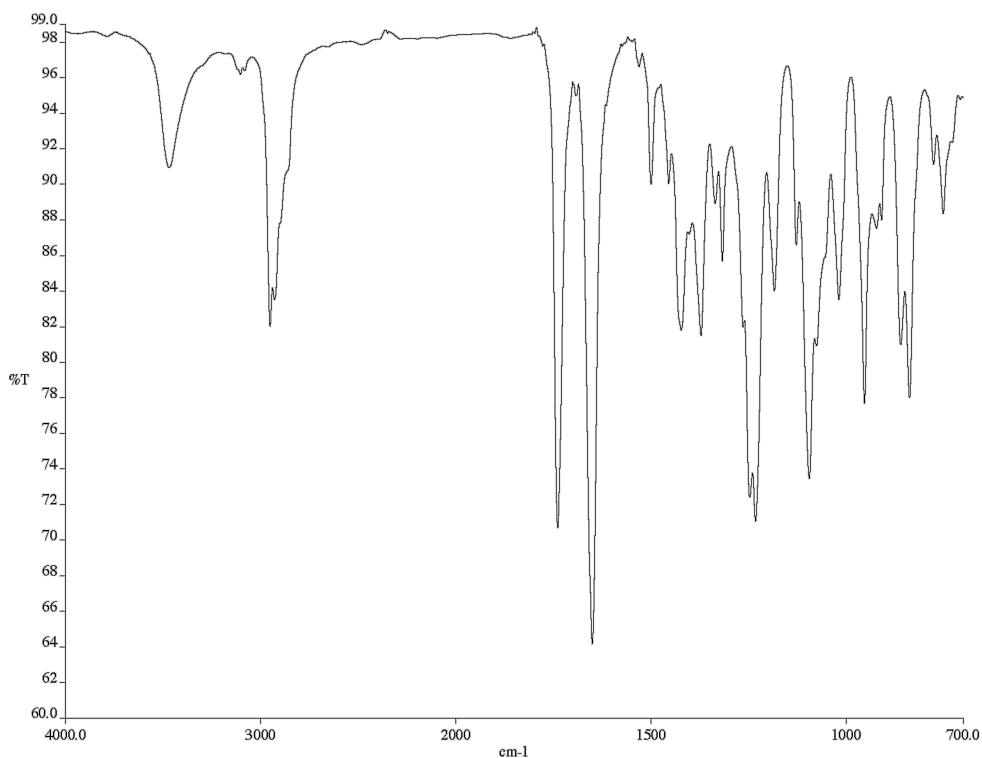


Figure A3.187 Infrared spectrum (thin film/NaCl) of compound **160**

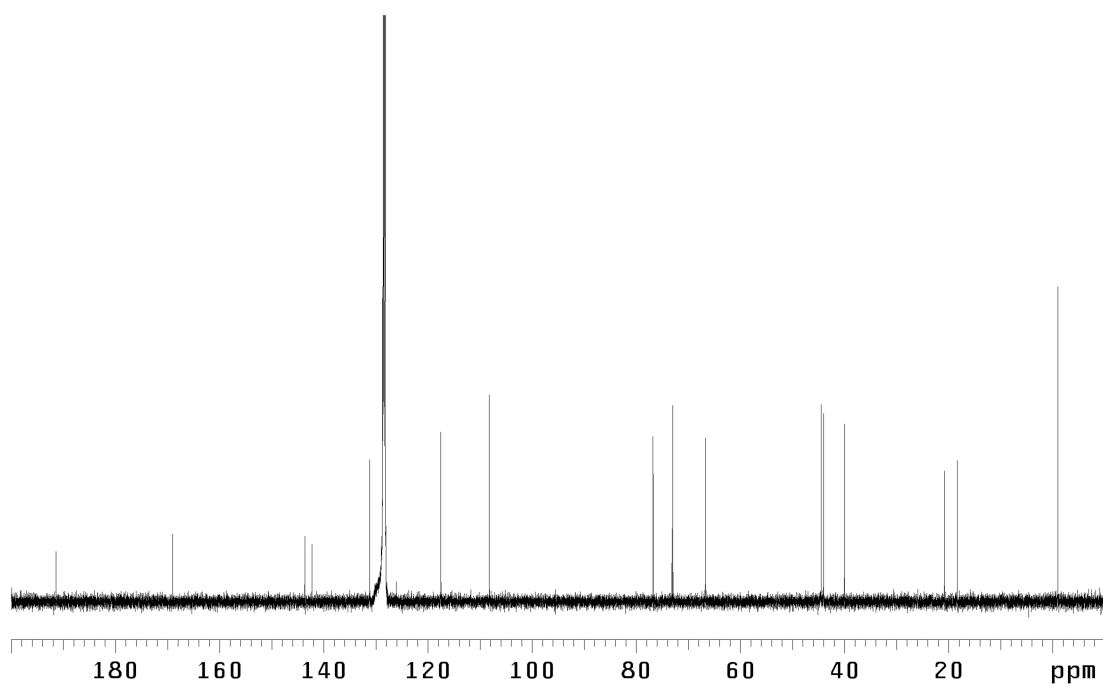


Figure A3.188  $^{13}\text{C}$  NMR (125 MHz,  $\text{C}_6\text{D}_6$ ) of compound **160**

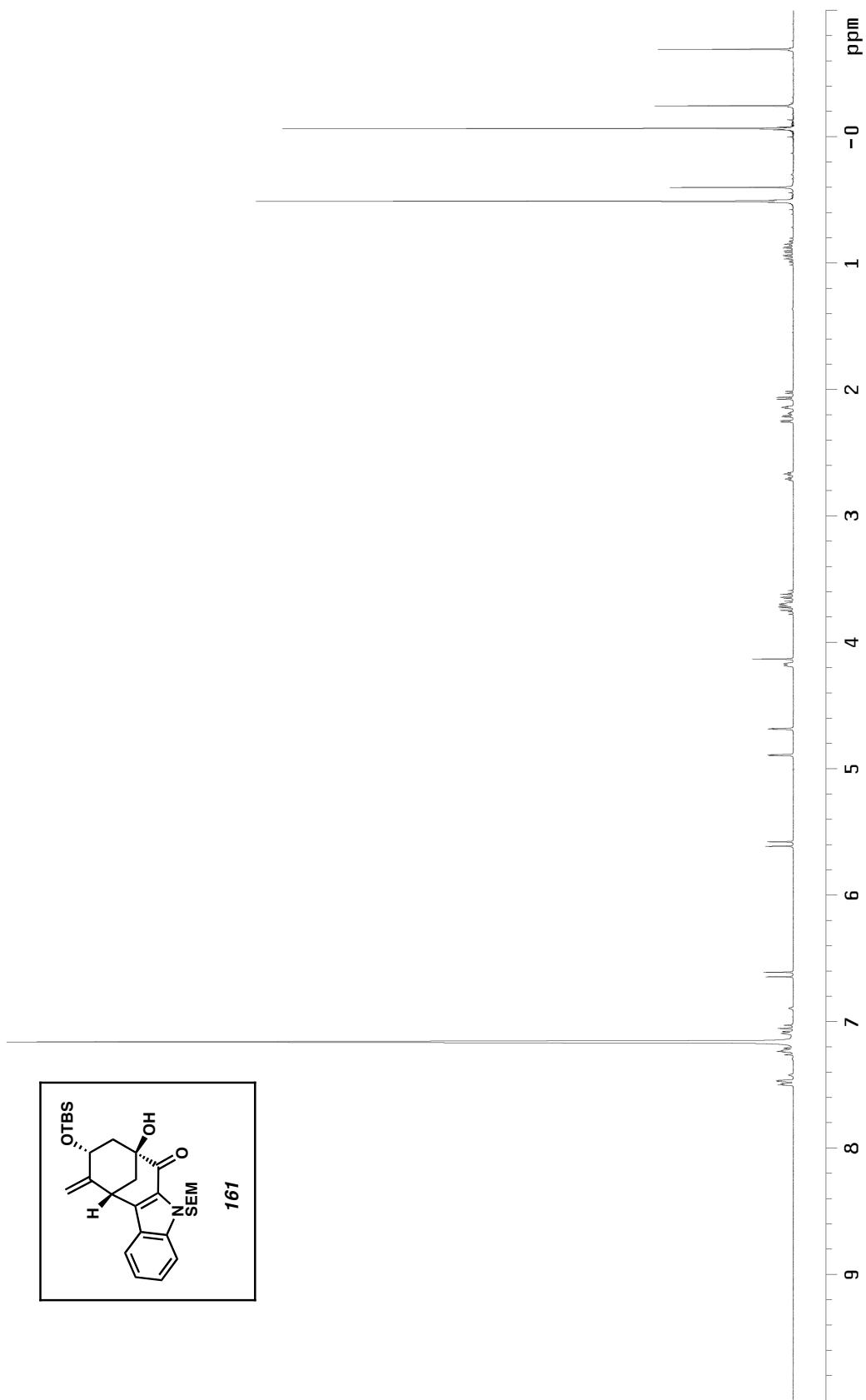


Figure A3.189  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 161

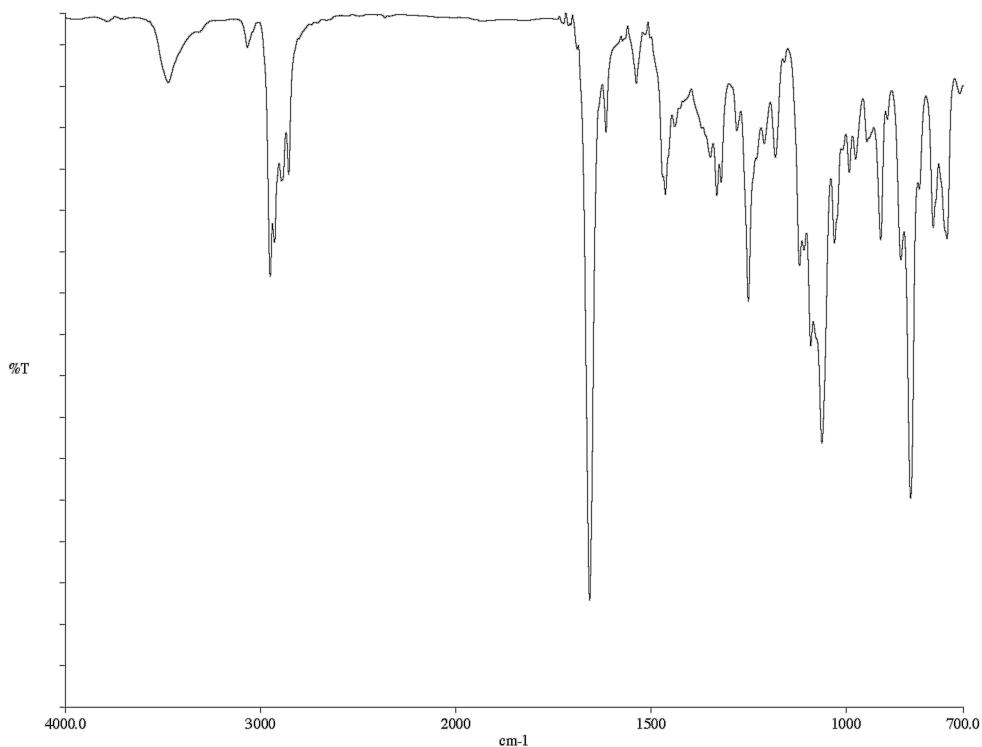


Figure A3.190 Infrared spectrum (thin film/NaCl) of compound **161**

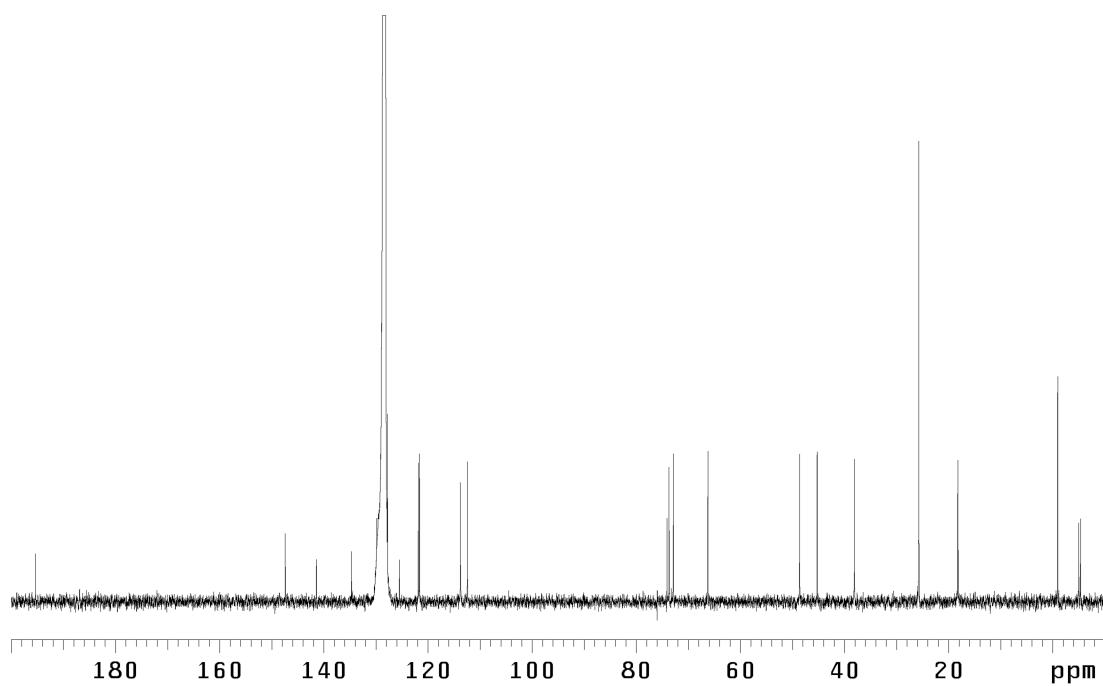


Figure A3.191  $^{13}\text{C}$  NMR (125 MHz,  $\text{C}_6\text{D}_6$ ) of compound **161**

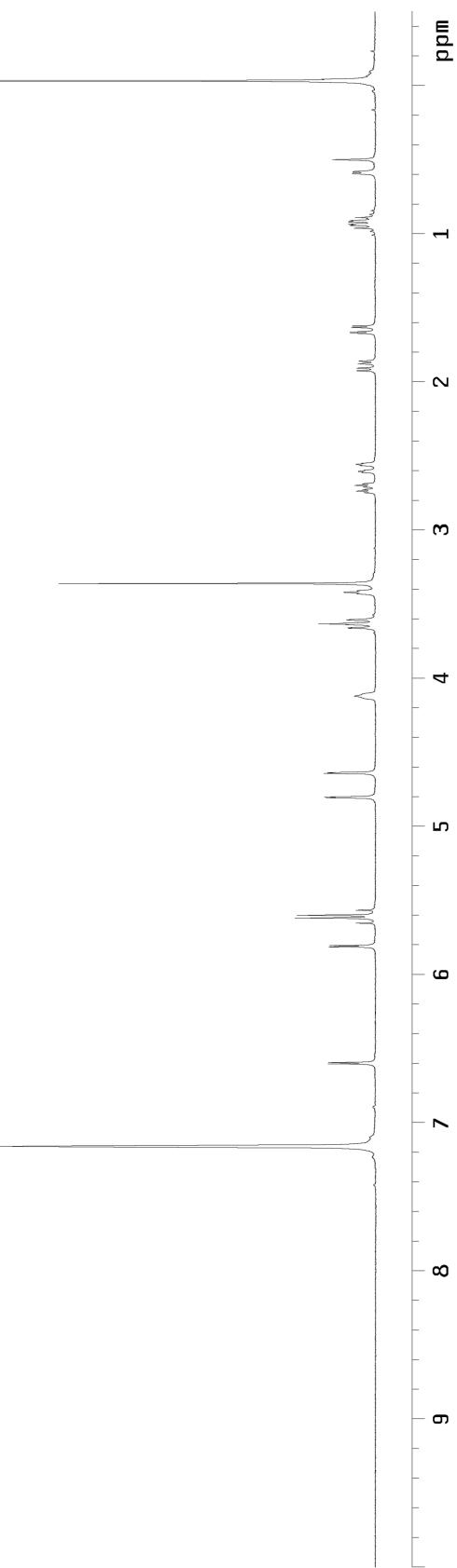
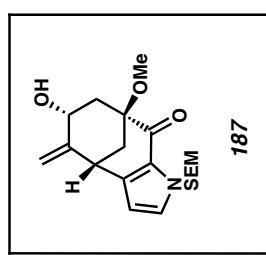


Figure A3.192 <sup>1</sup>H NMR (300 MHz, C<sub>6</sub>D<sub>6</sub>) of compound 187

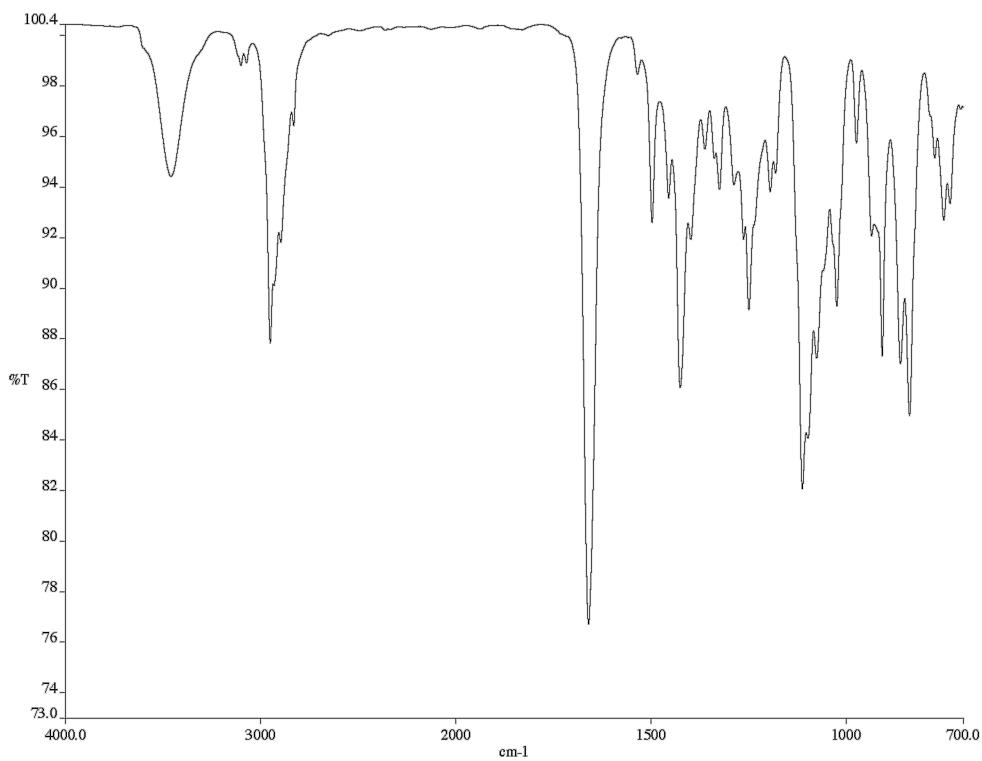


Figure A3.193 Infrared spectrum (thin film/NaCl) of compound **187**

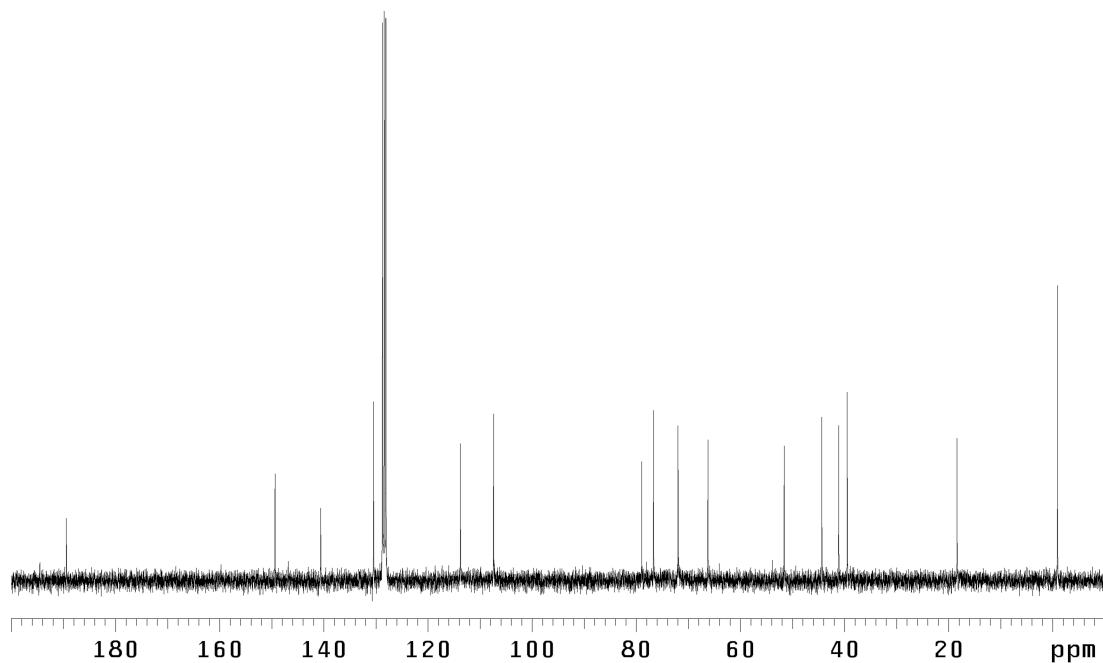


Figure A3.194  $^{13}\text{C}$  NMR (75 MHz,  $\text{C}_6\text{D}_6$ ) of compound **187**

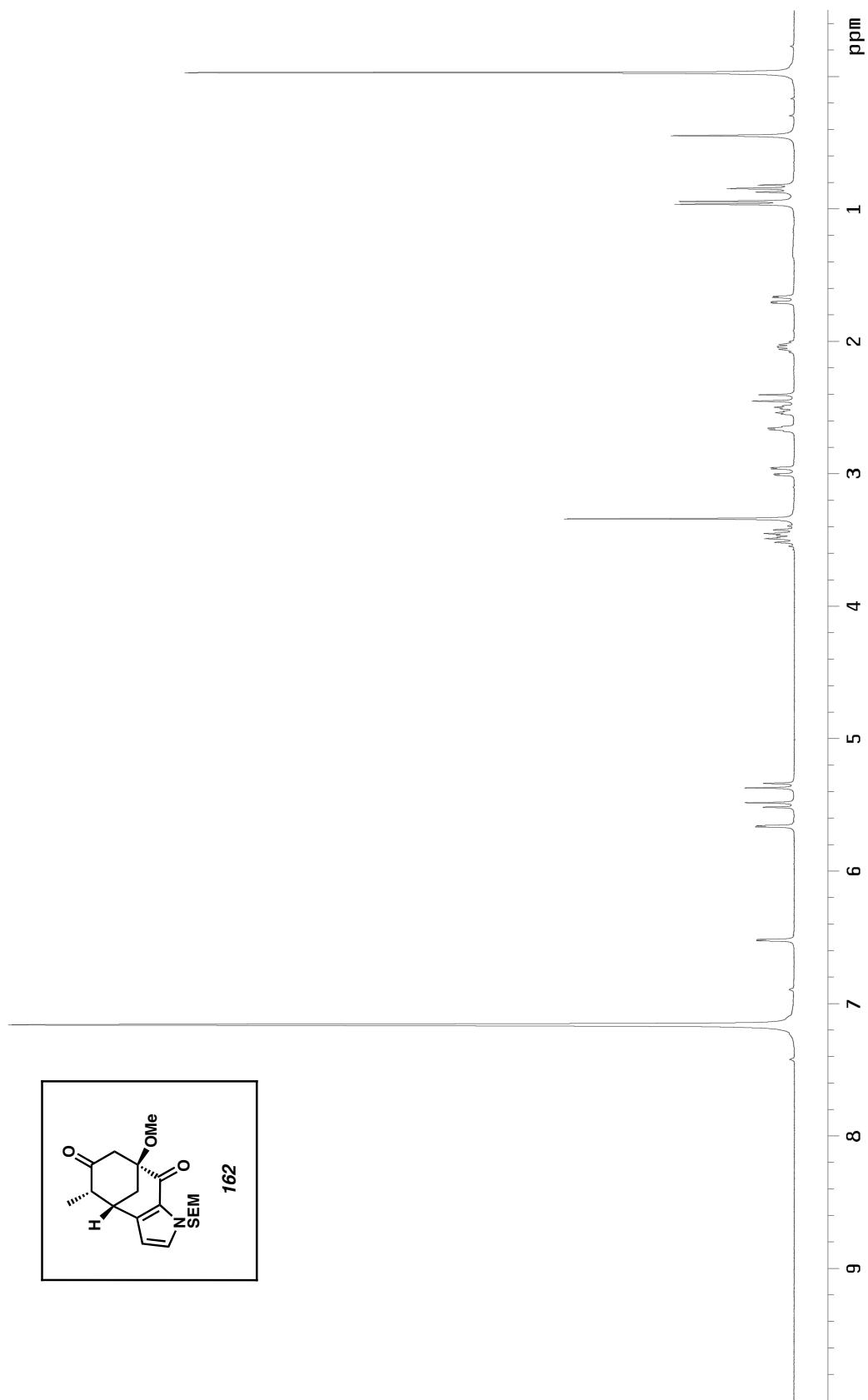


Figure A3.195  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 162

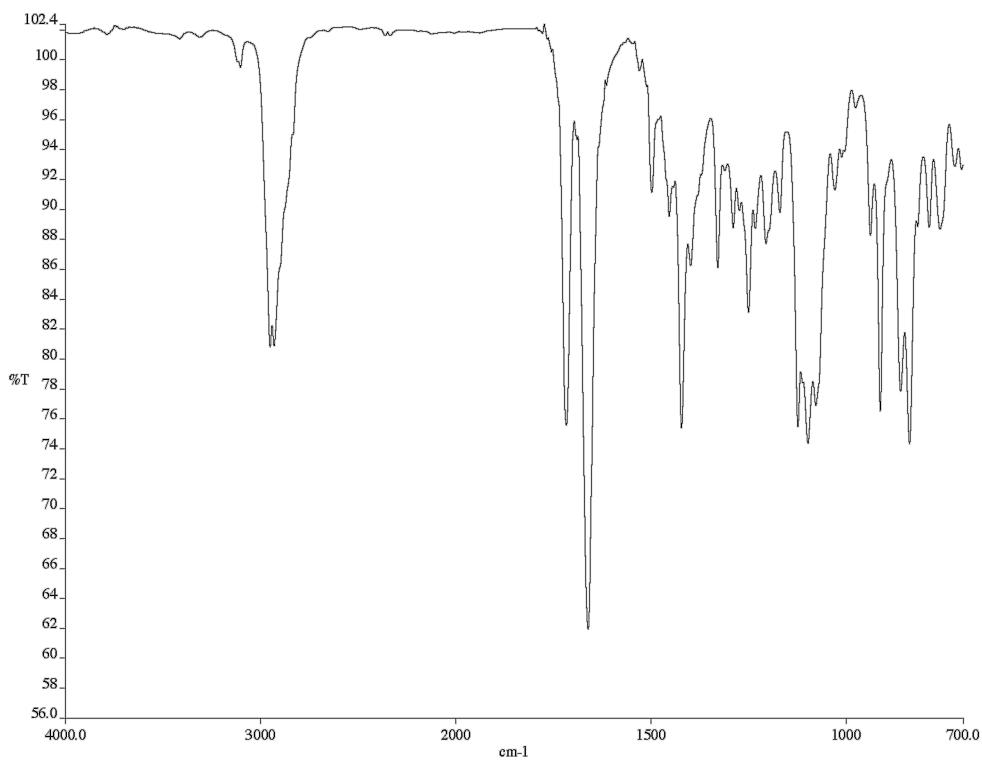


Figure A3.196 Infrared spectrum (thin film/NaCl) of compound **162**

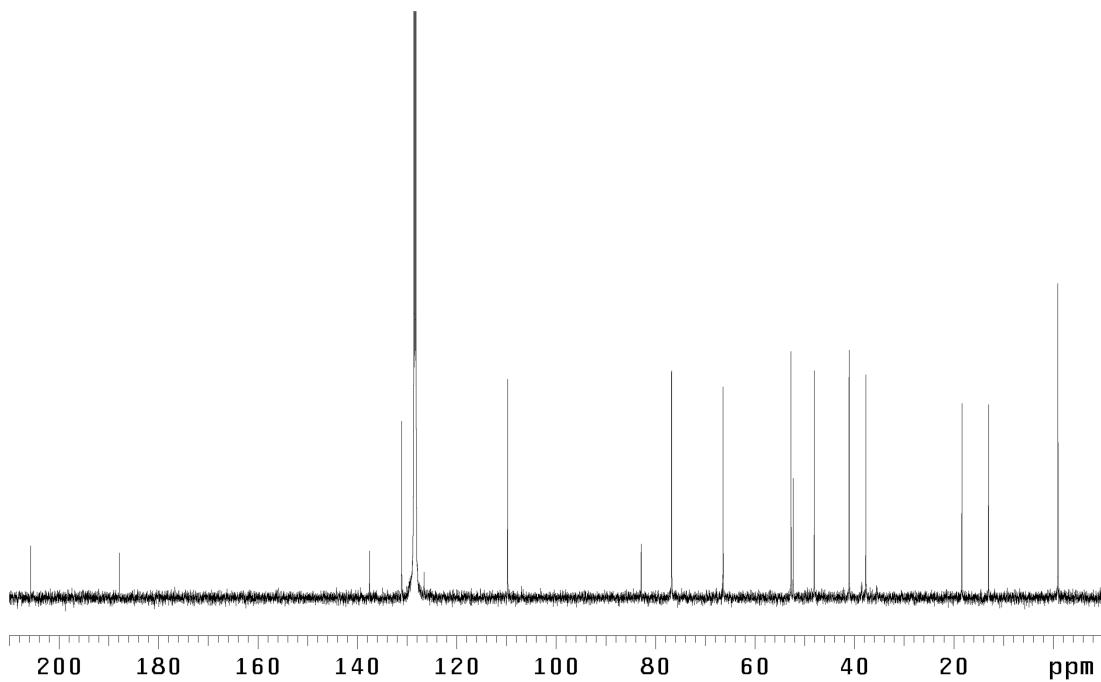


Figure A3.197 <sup>13</sup>C NMR (125 MHz, C<sub>6</sub>D<sub>6</sub>) of compound **162**

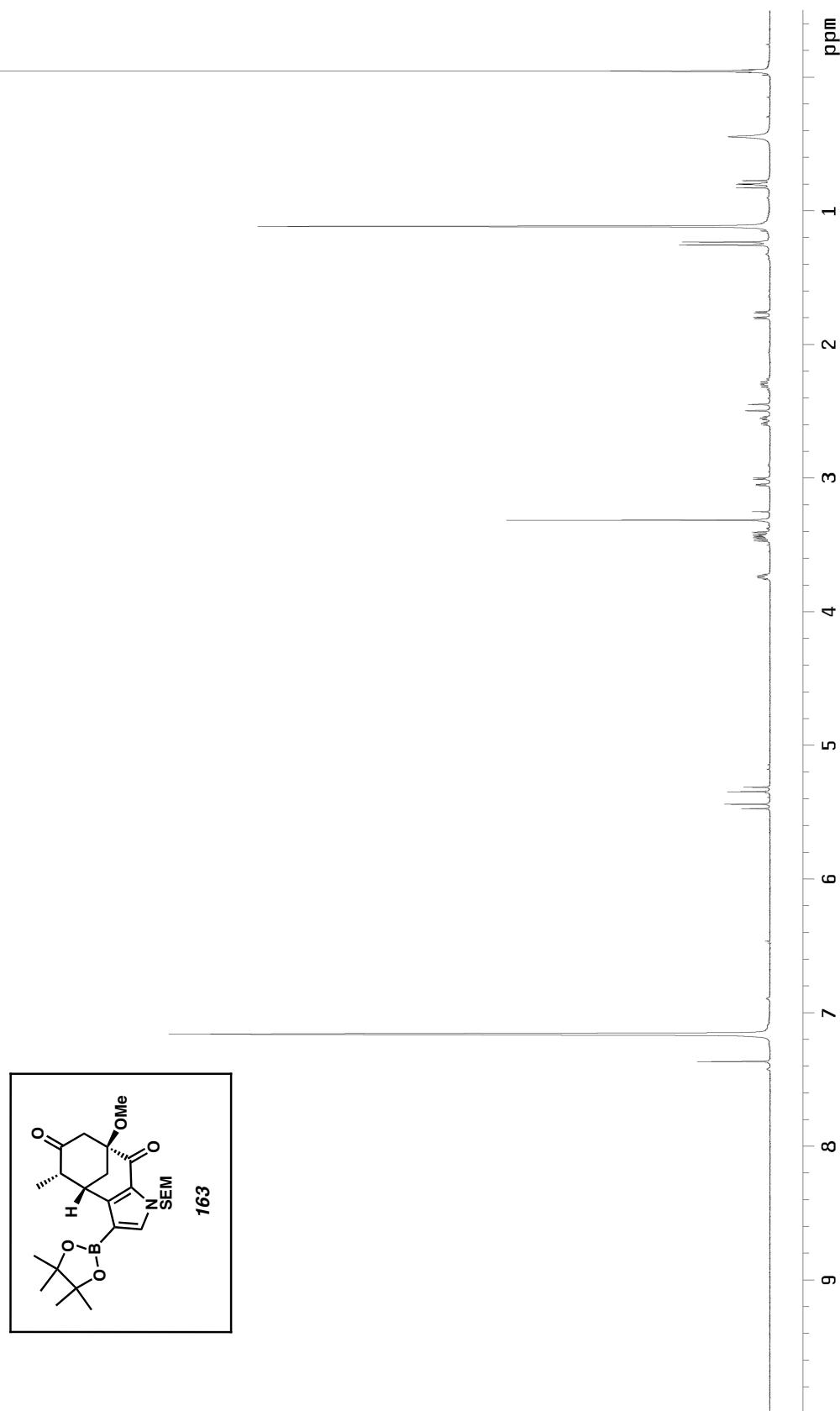


Figure A3.198  $^1\text{H}$  NMR (300 MHz,  $\text{C}_6\text{D}_6$ ) of compound 163

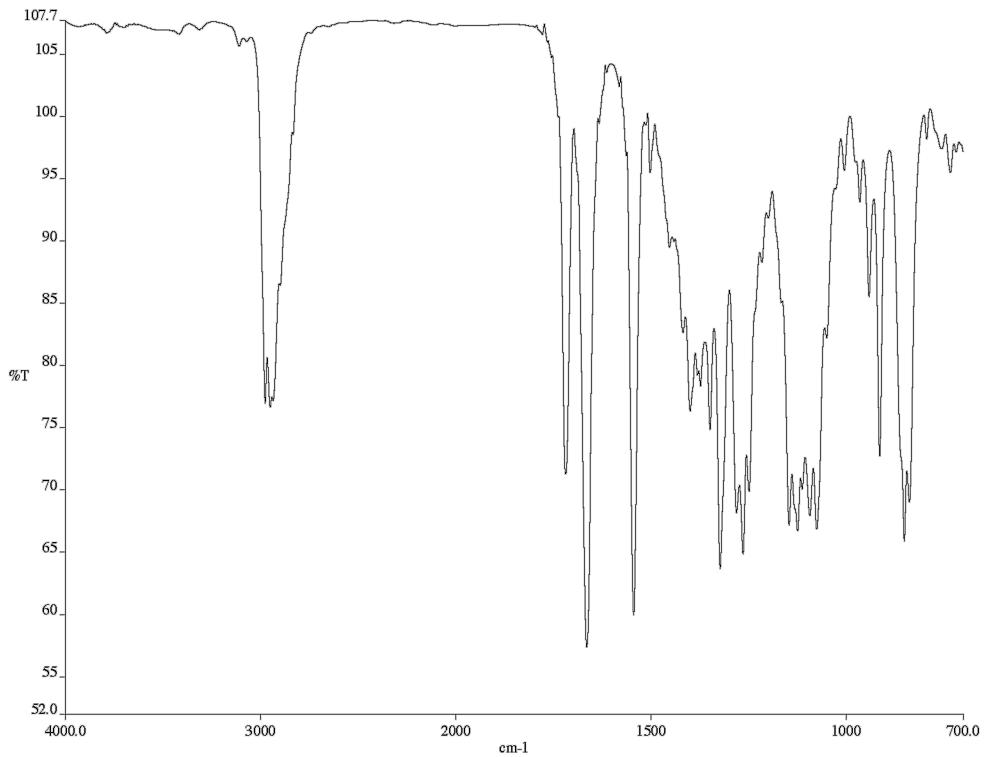


Figure A3.199 Infrared spectrum (thin film/NaCl) of compound **163**

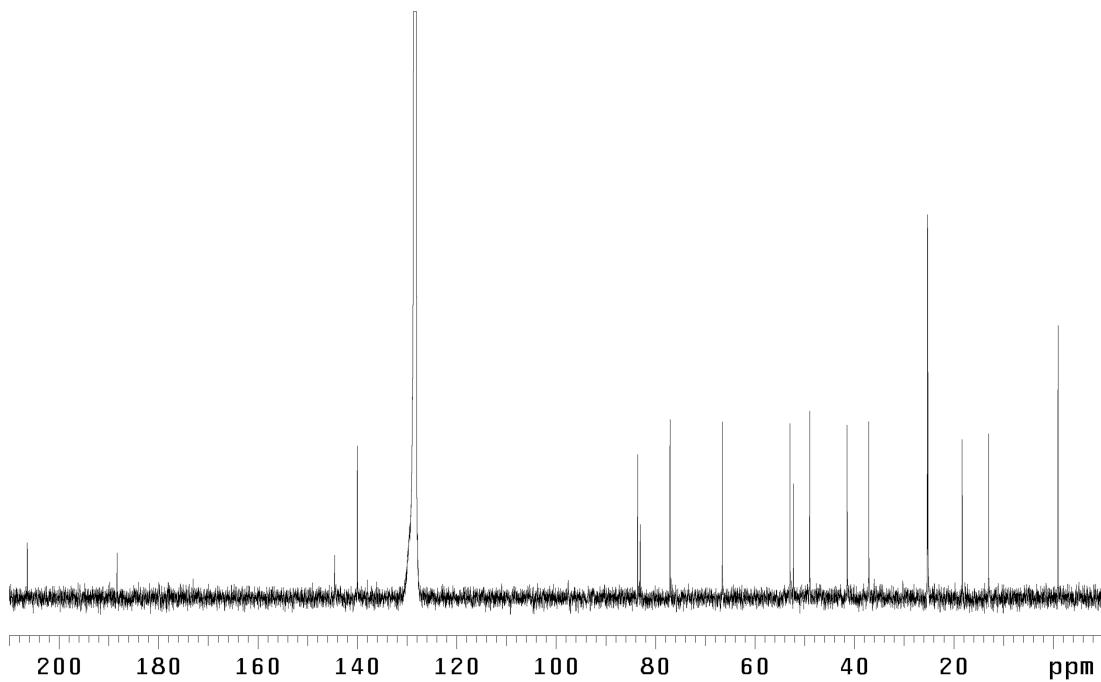


Figure A3.200  $^{13}\text{C}$  NMR (125 MHz,  $\text{C}_6\text{D}_6$ ) of compound **163**

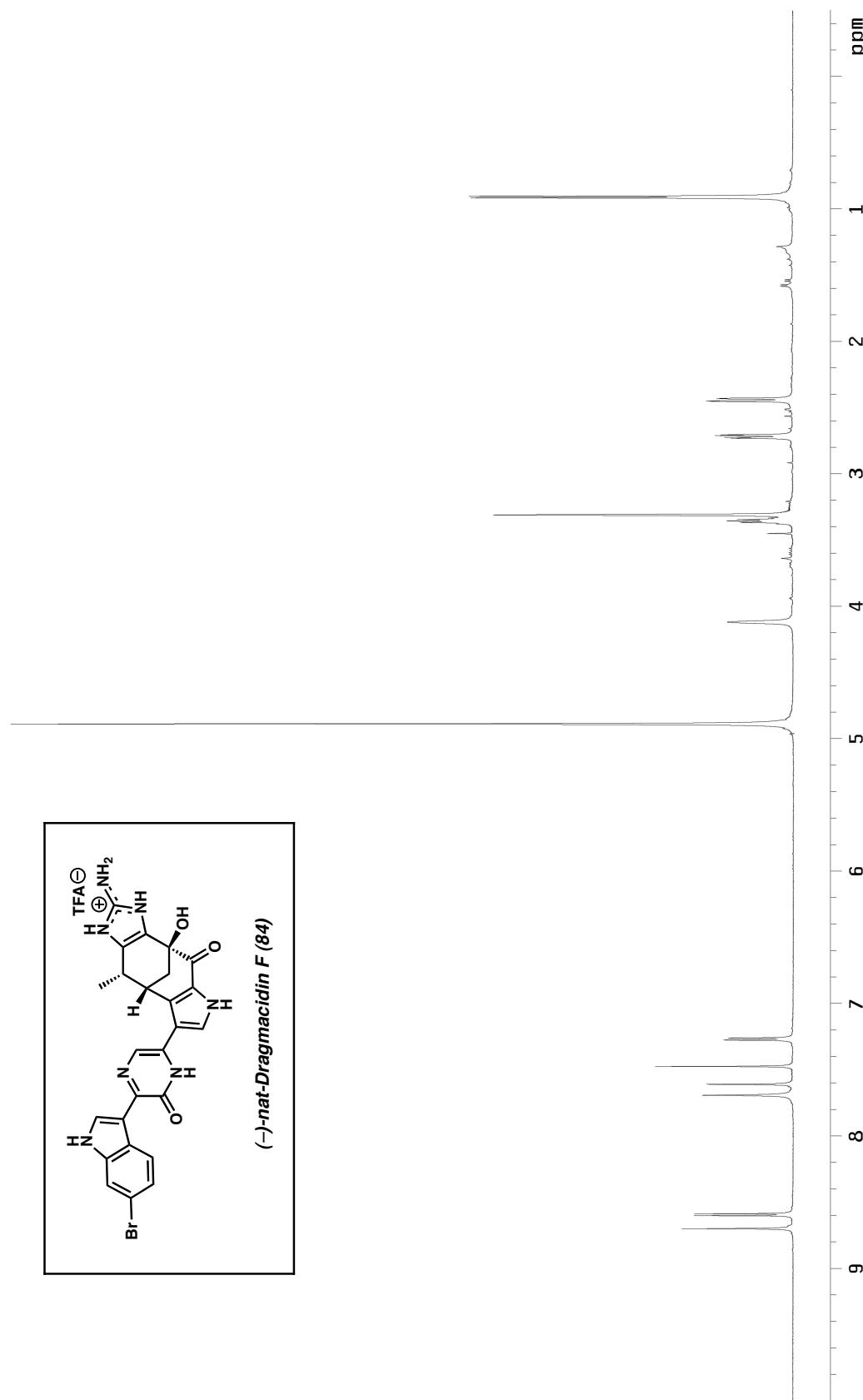


Figure A3.201  $^1\text{H}$  NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) of (-)-dragmacidin F (84)