

APPENDIX 9

Spectra Relevant to Appendix 7: Revised Route Toward the bis-THIQ

Natural Products and Synthesis of Non-Natural Analogs

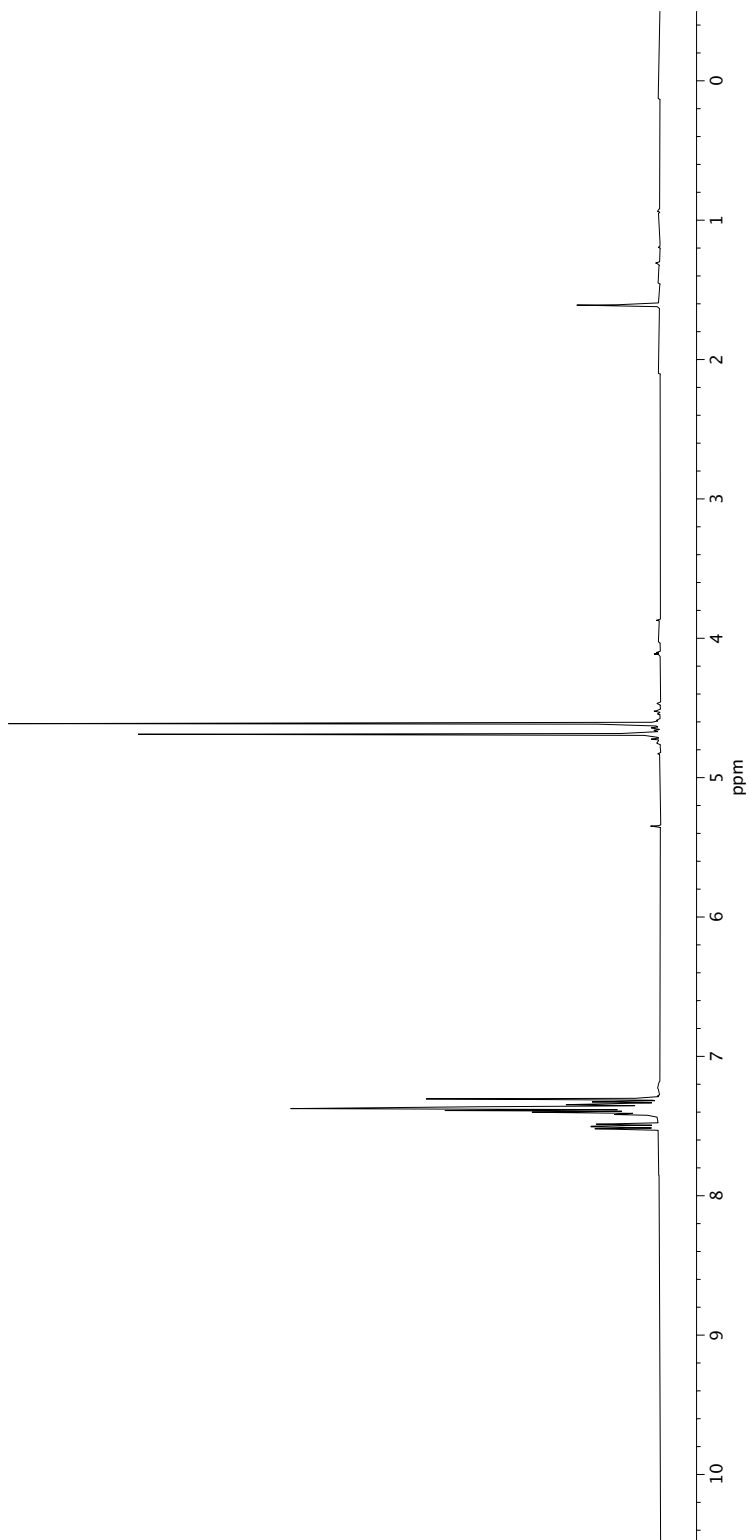
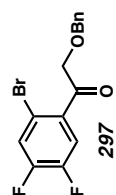


Figure A9.1 ^1H NMR (400 MHz, CDCl_3) of compound **297**.

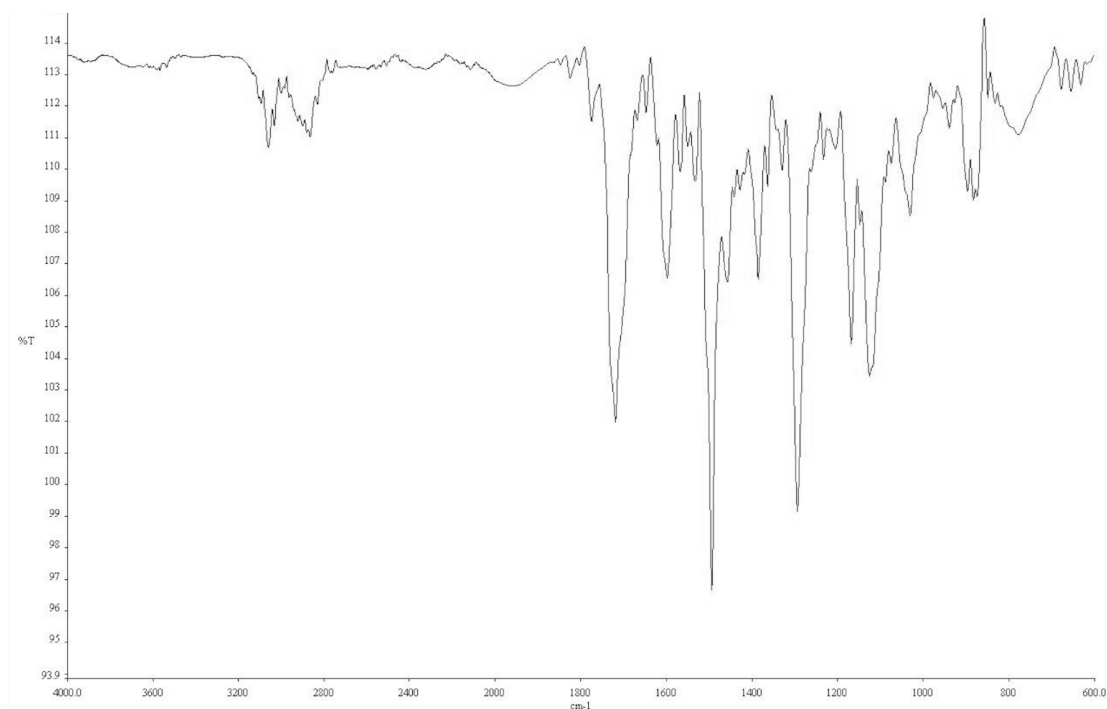


Figure A9.2 Infrared spectrum (Thin Film, NaCl) of compound **297**.

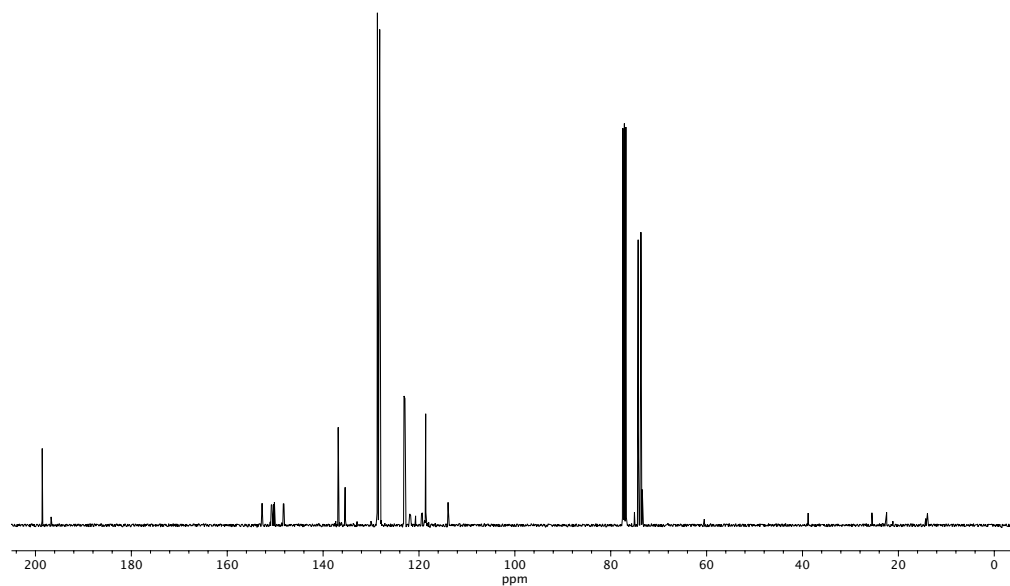


Figure A9.3 ¹³C NMR (100 MHz, CDCl₃) of compound **297**.

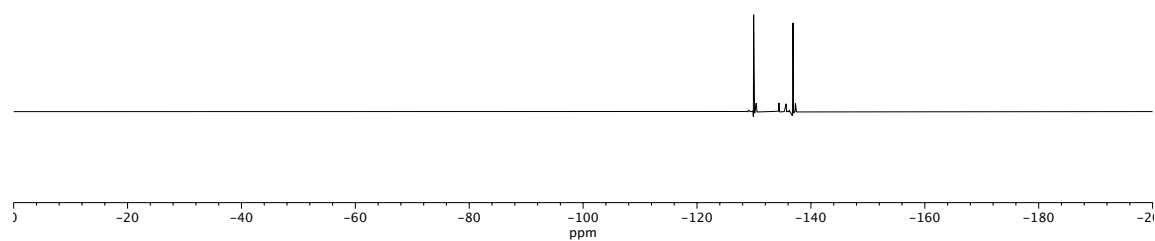


Figure A9.4 ^{19}F NMR (282 MHz, CDCl_3) of compound **297**.

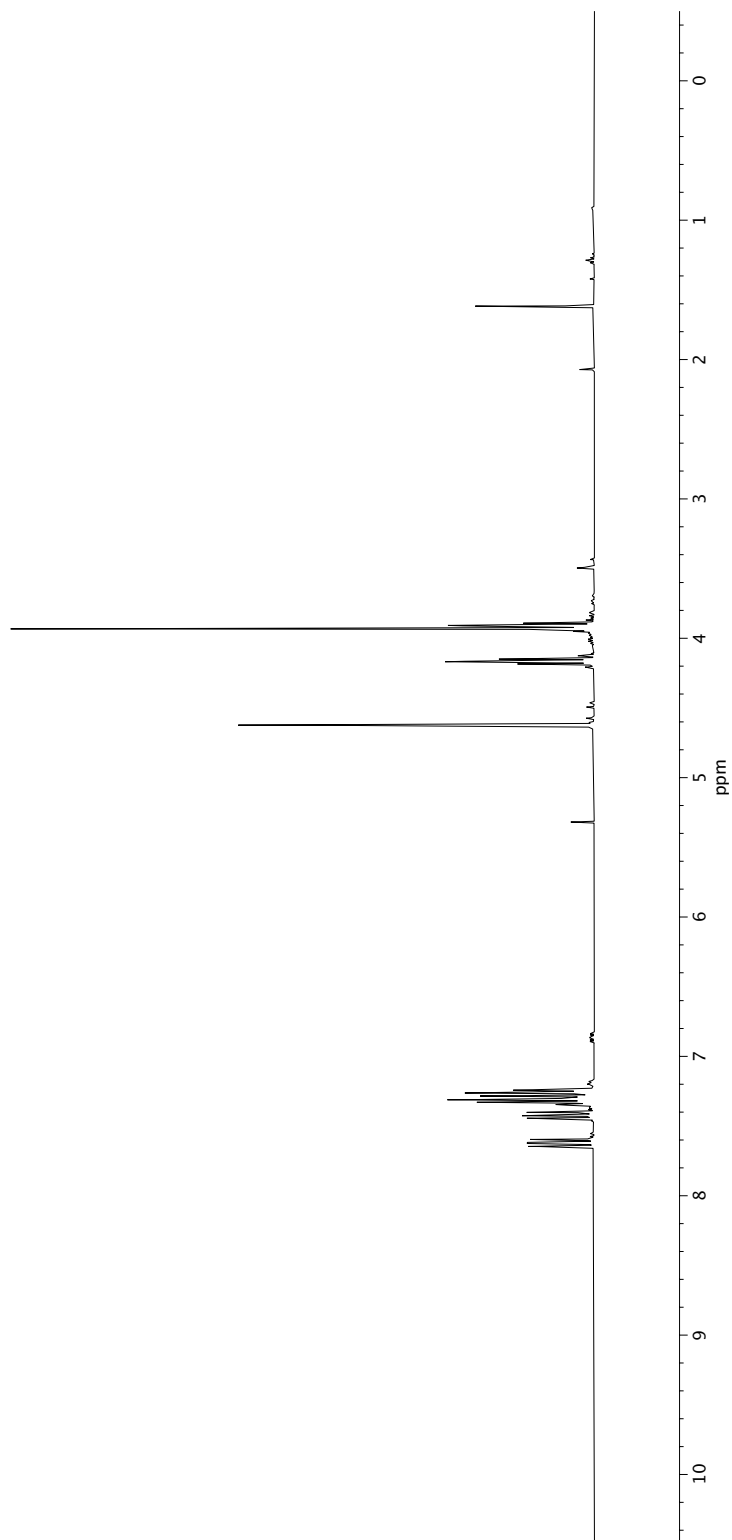
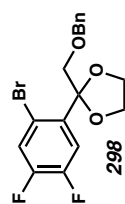


Figure A9.5 ¹H NMR (400 MHz, CDCl₃) of compound **298**.

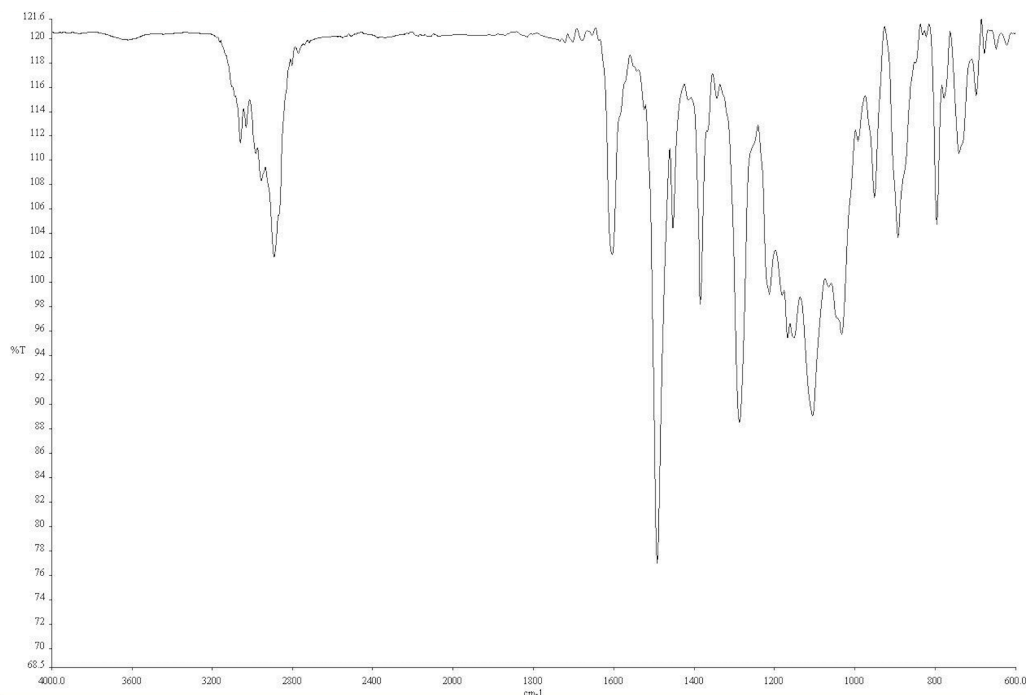


Figure A9.6 Infrared spectrum (Thin Film, NaCl) of compound **298**.

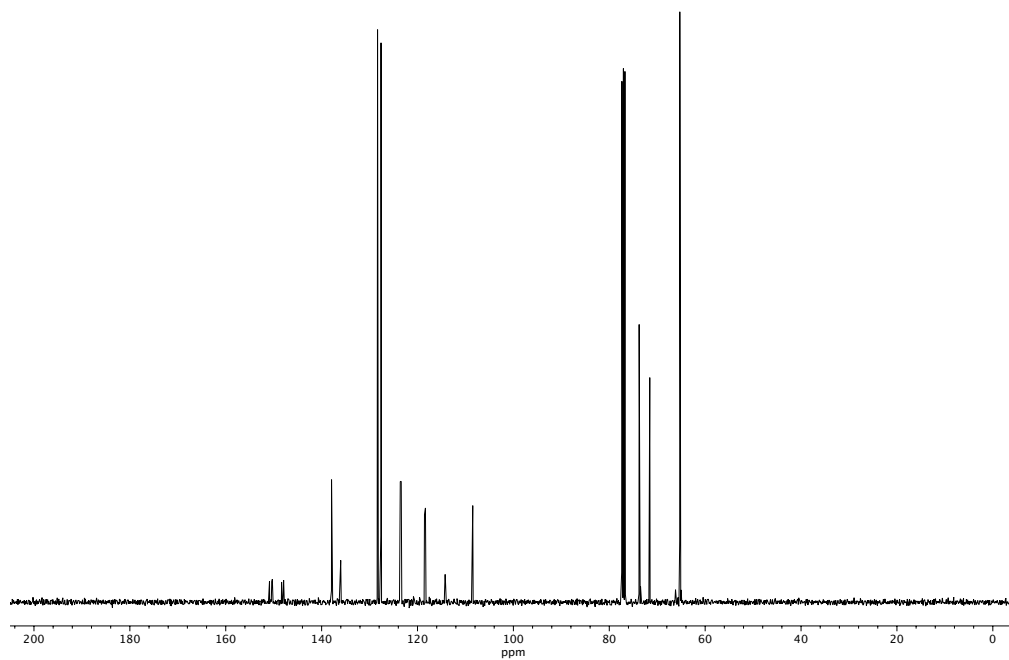


Figure A9.7 ¹³C NMR (100 MHz, CDCl₃) of compound **298**.

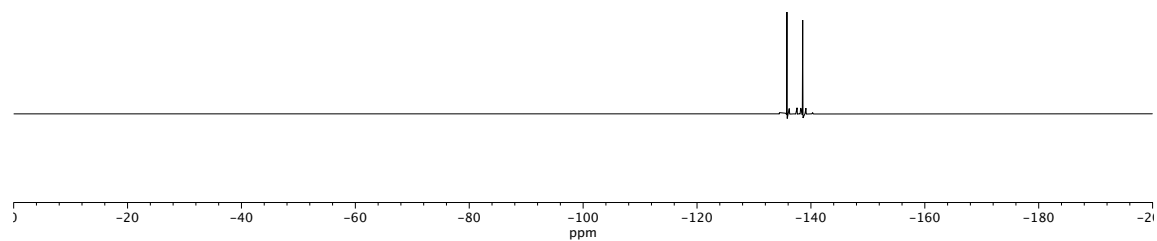


Figure A9.8 ^{19}F NMR (282 MHz, CDCl_3) of compound **298**.

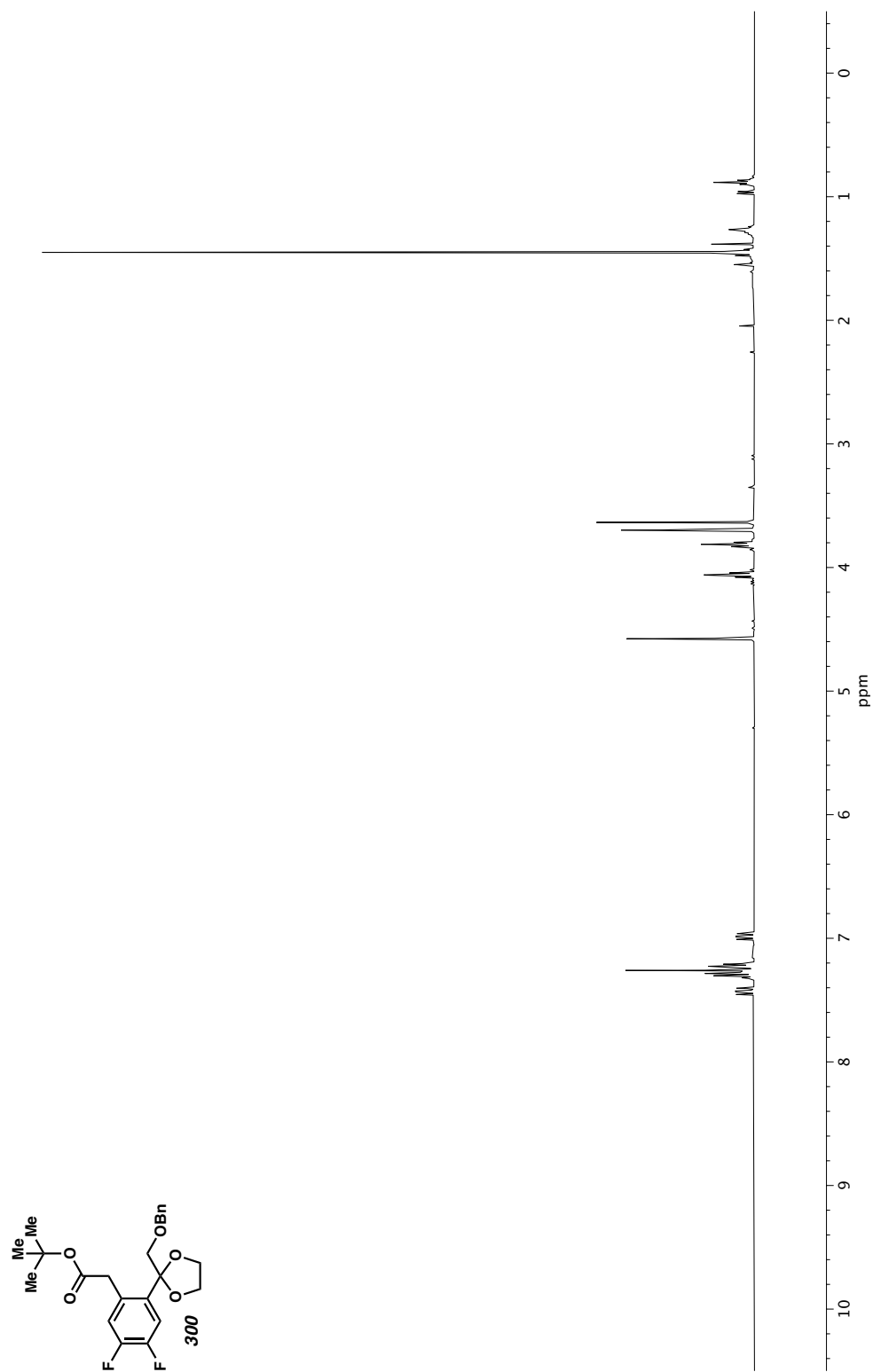


Figure A9.9 ¹H NMR (400 MHz, CDCl₃) of compound **300**.

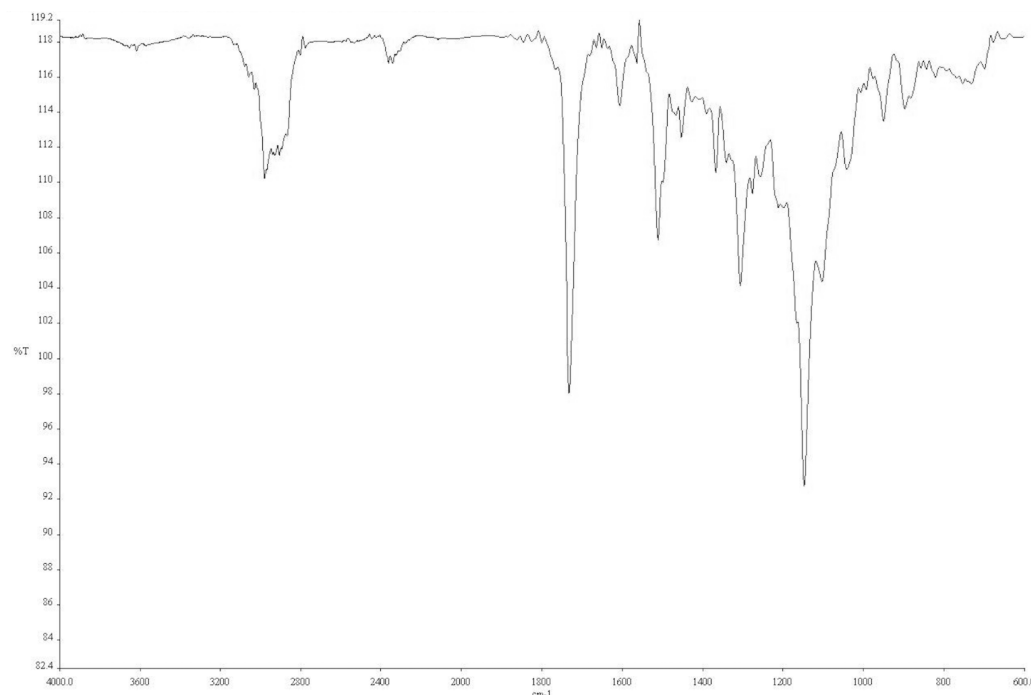


Figure A9.10 Infrared spectrum (Thin Film, NaCl) of compound **300**.

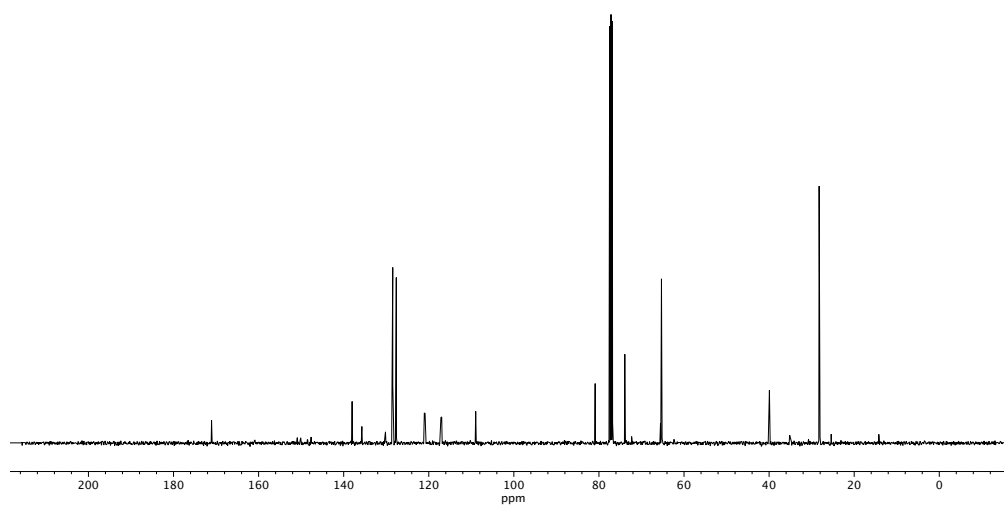


Figure A9.11 ^{13}C NMR (100 MHz, CDCl_3) of compound **300**.

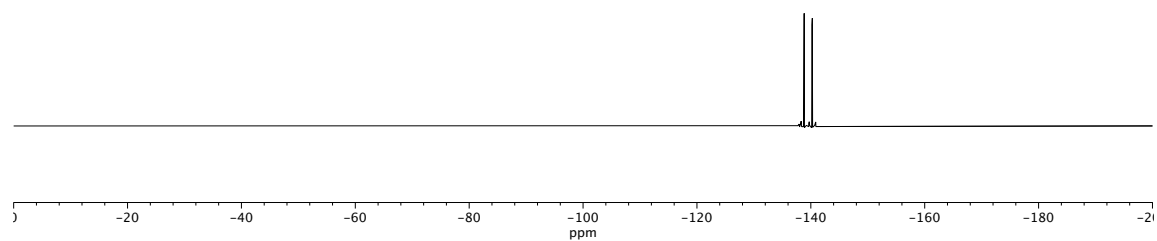
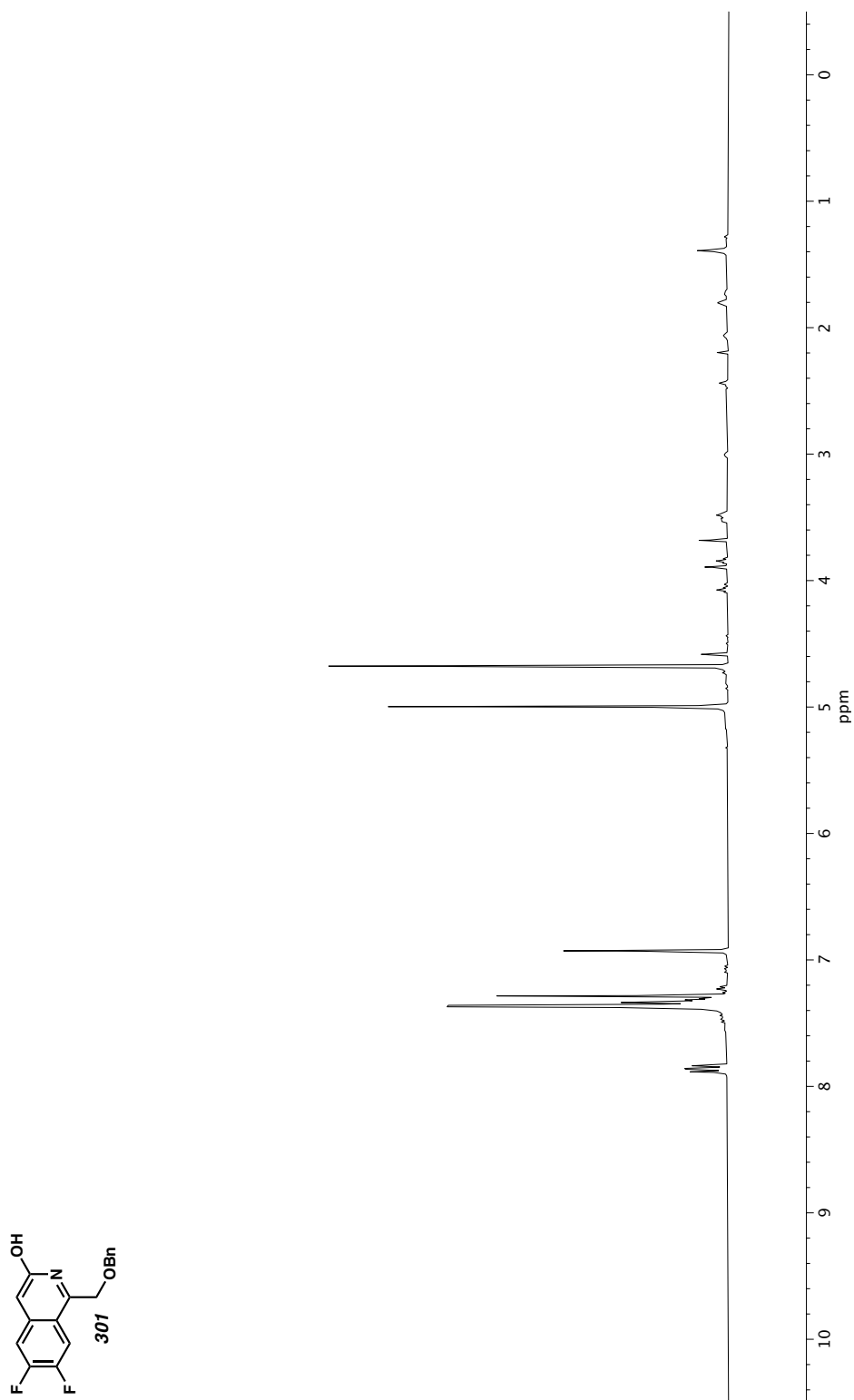


Figure A9.12 ^{19}F NMR (282 MHz, CDCl_3) of compound **300**.



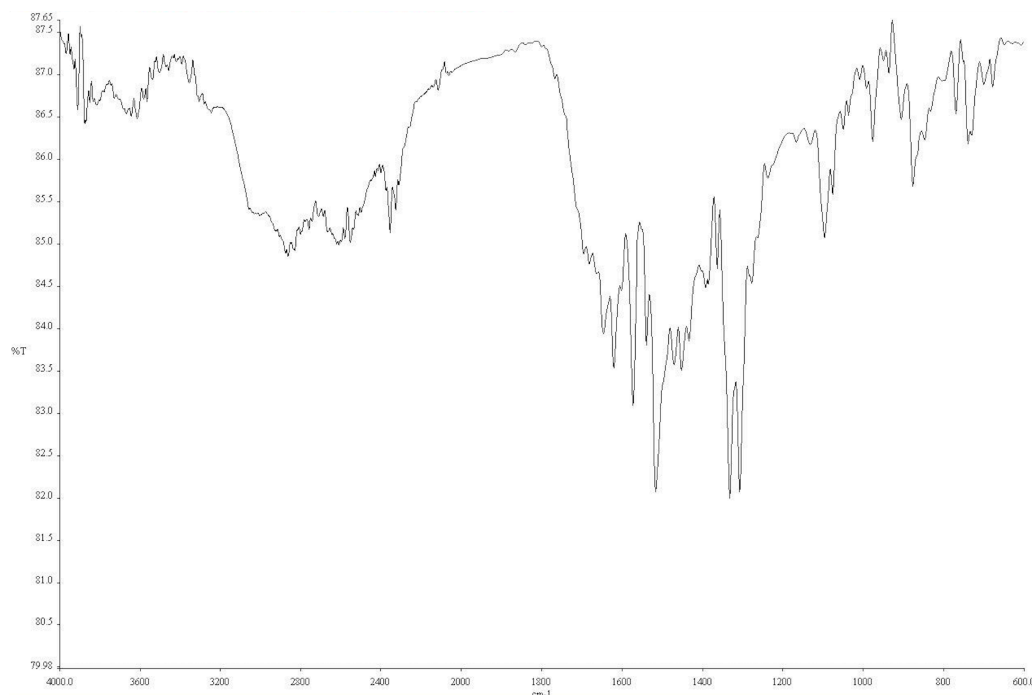


Figure A9.14 Infrared spectrum (Thin Film, NaCl) of compound **301**.

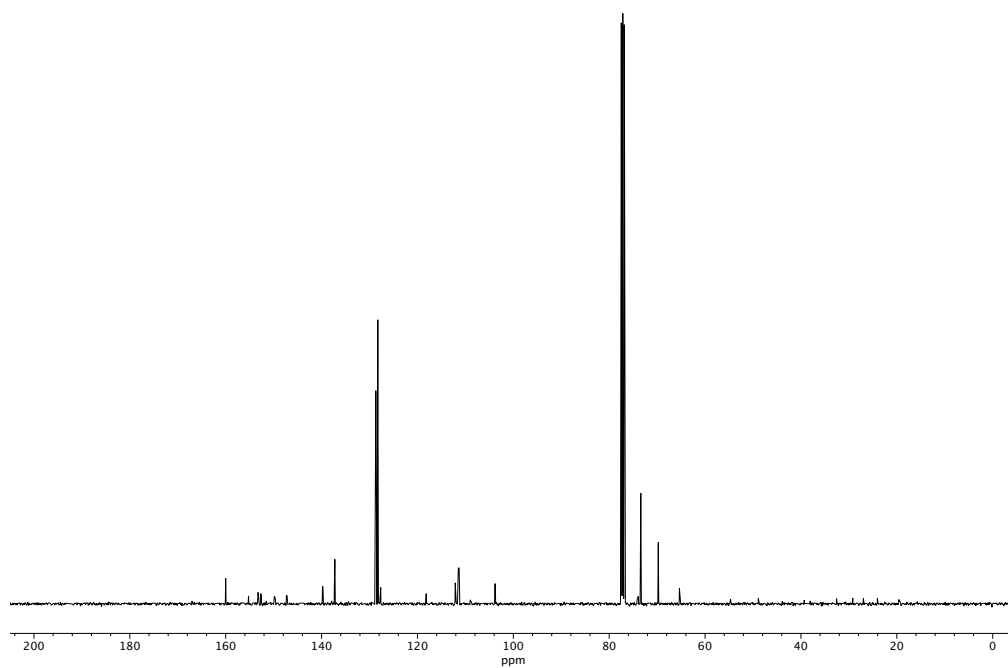


Figure A9.15 ^{13}C NMR (100 MHz, CDCl_3) of compound **301**.

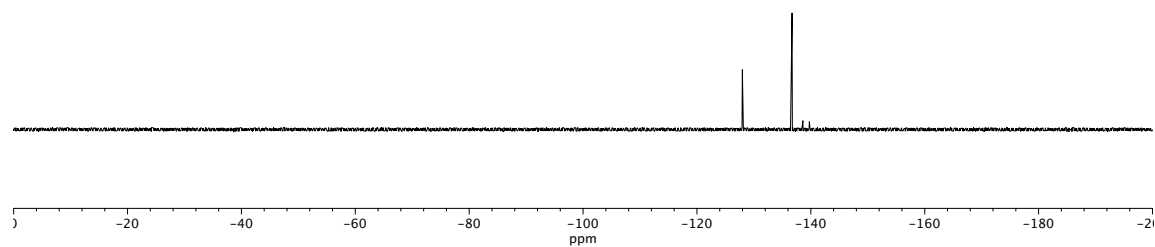


Figure A9.16 ^{19}F NMR (282 MHz, CDCl_3) of compound **301**.

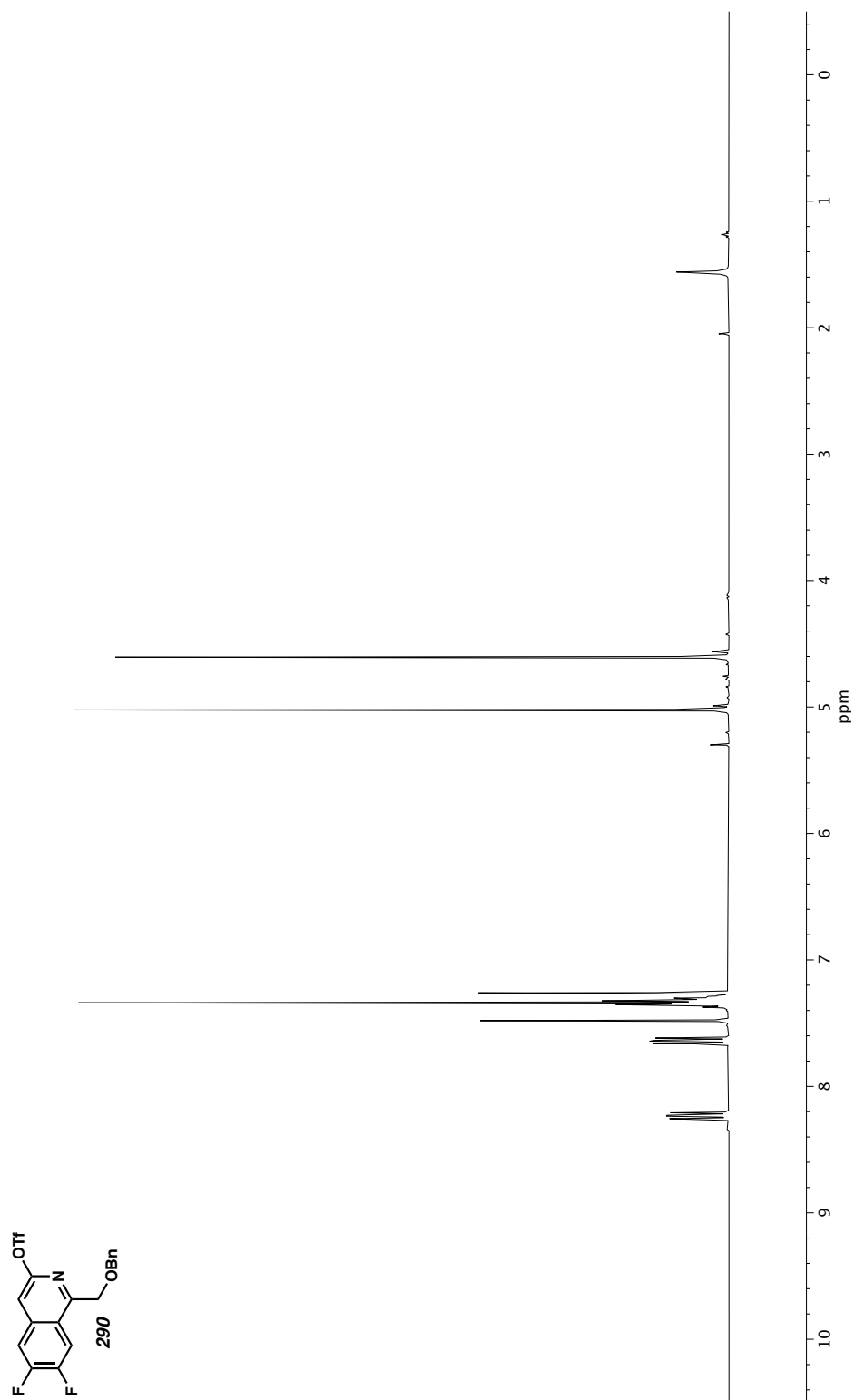


Figure A9.17 ¹H NMR (400 MHz, CDCl₃) of compound **290**.

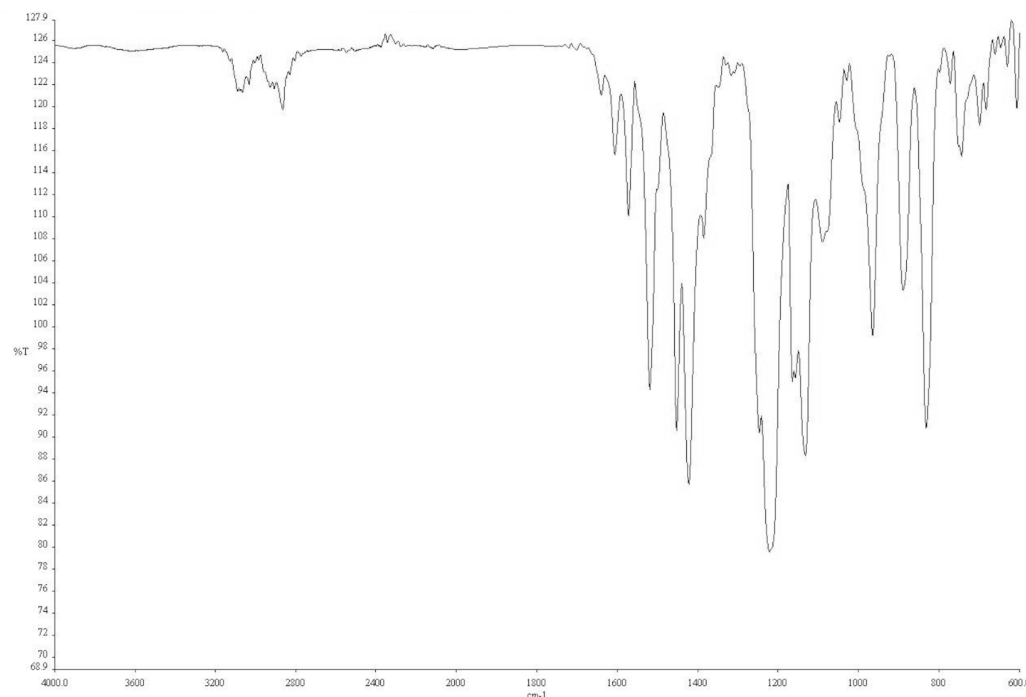


Figure A9.18 Infrared spectrum (Thin Film, NaCl) of compound **290**.

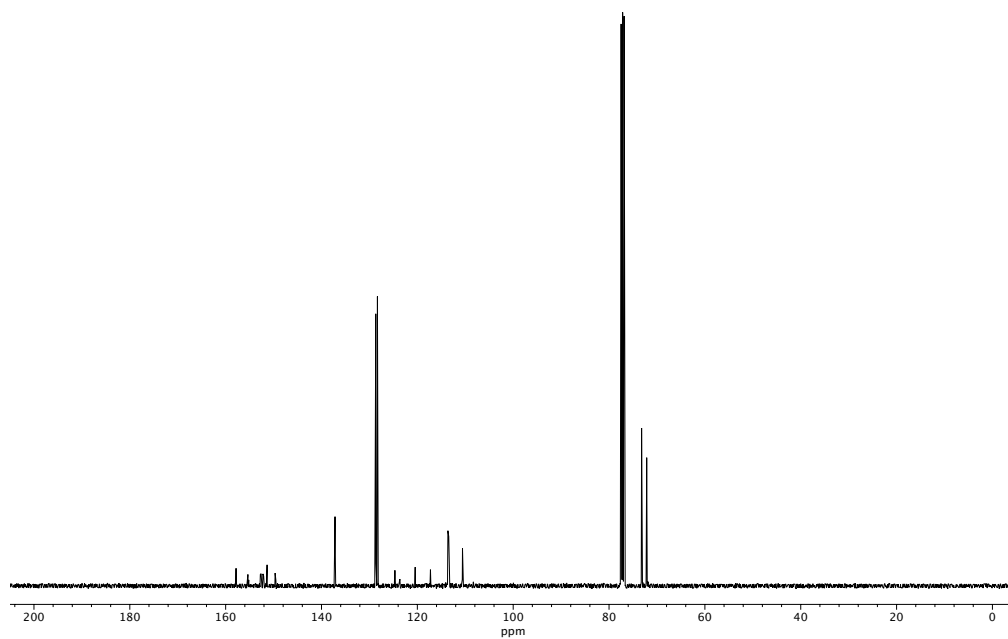


Figure A9.19 ¹³C NMR (100 MHz, CDCl₃) of compound **290**.

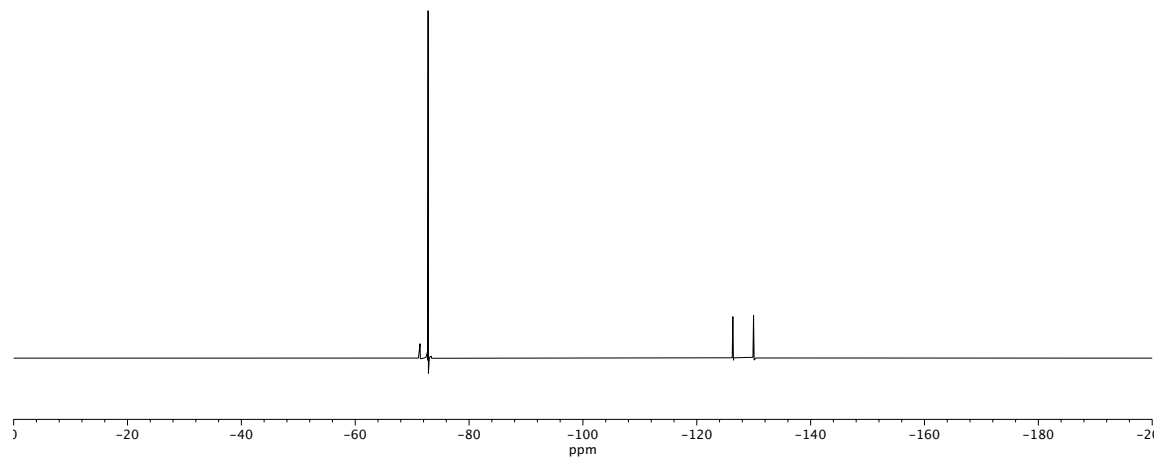


Figure A9.20 ^{19}F NMR (282 MHz, CDCl_3) of compound **290**.

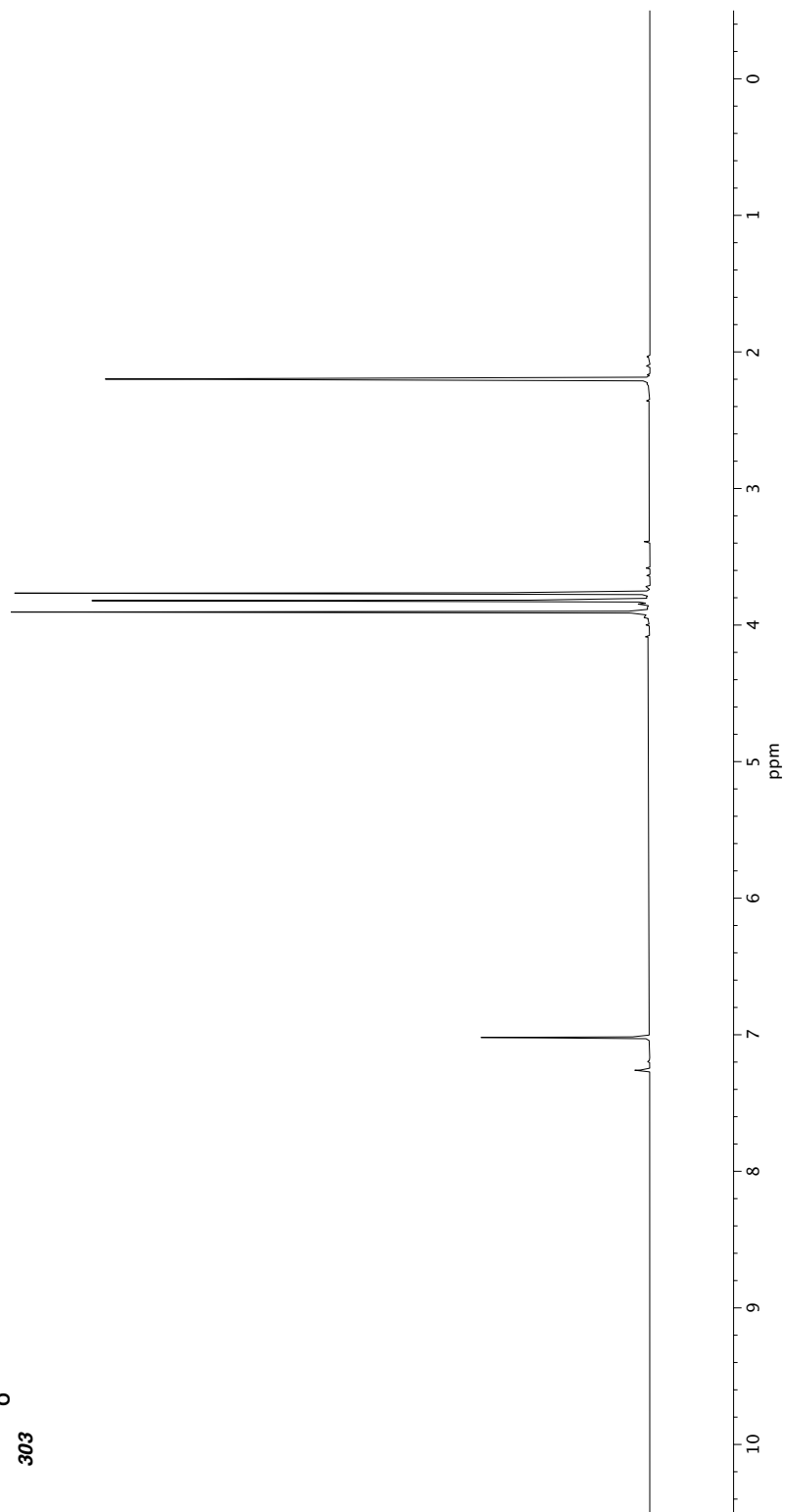
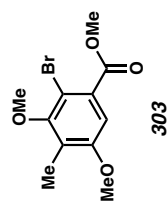


Figure A9.21 ^1H NMR (400 MHz, CDCl_3) of compound **303**.

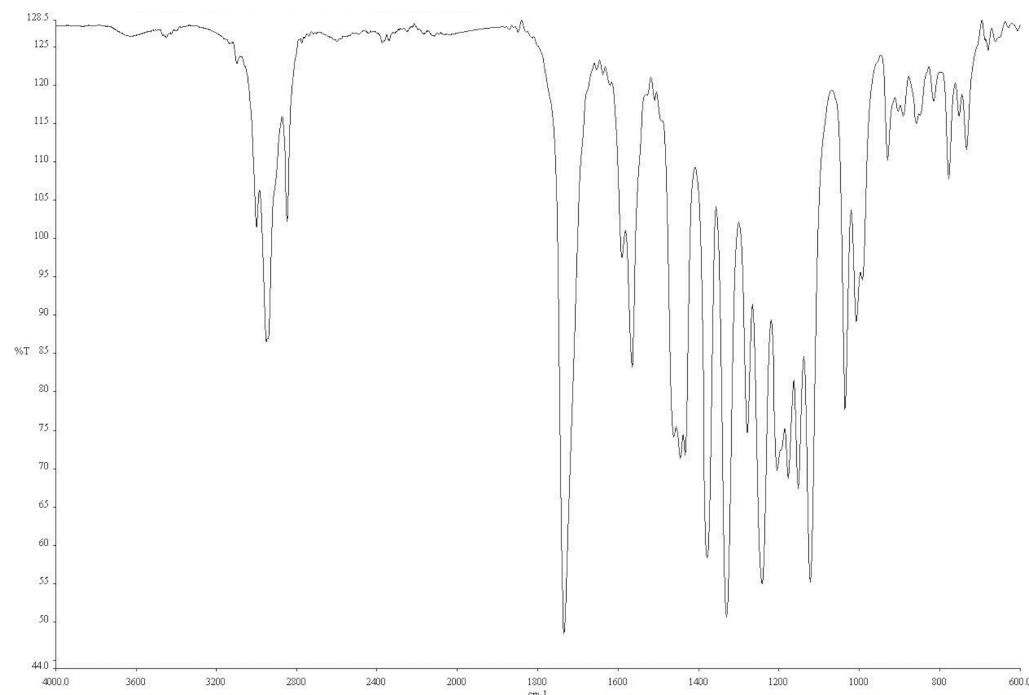


Figure A9.22 Infrared spectrum (Thin Film, NaCl) of compound **303**.

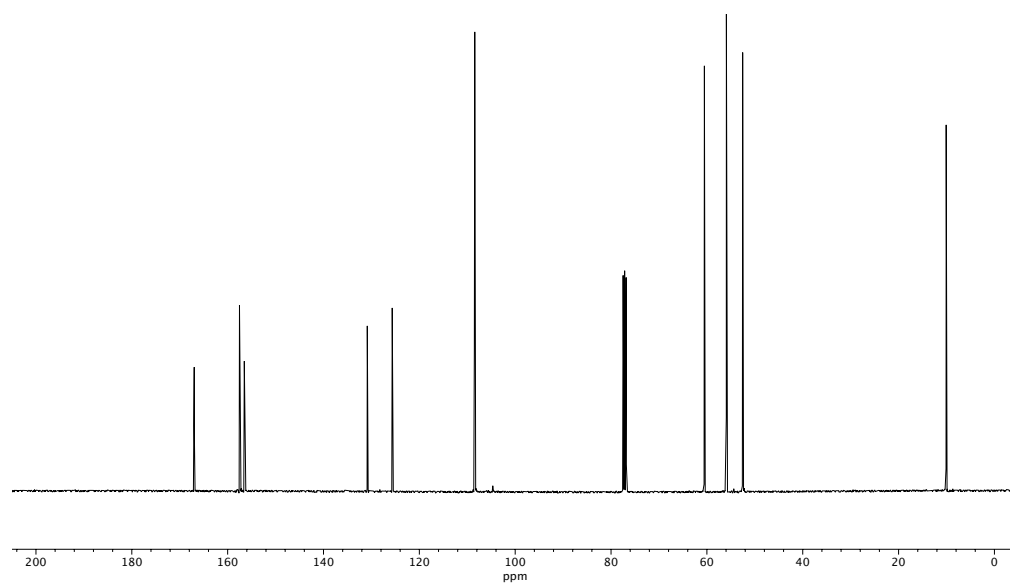


Figure A9.23 ¹³C NMR (100 MHz, CDCl₃) of compound **303**.

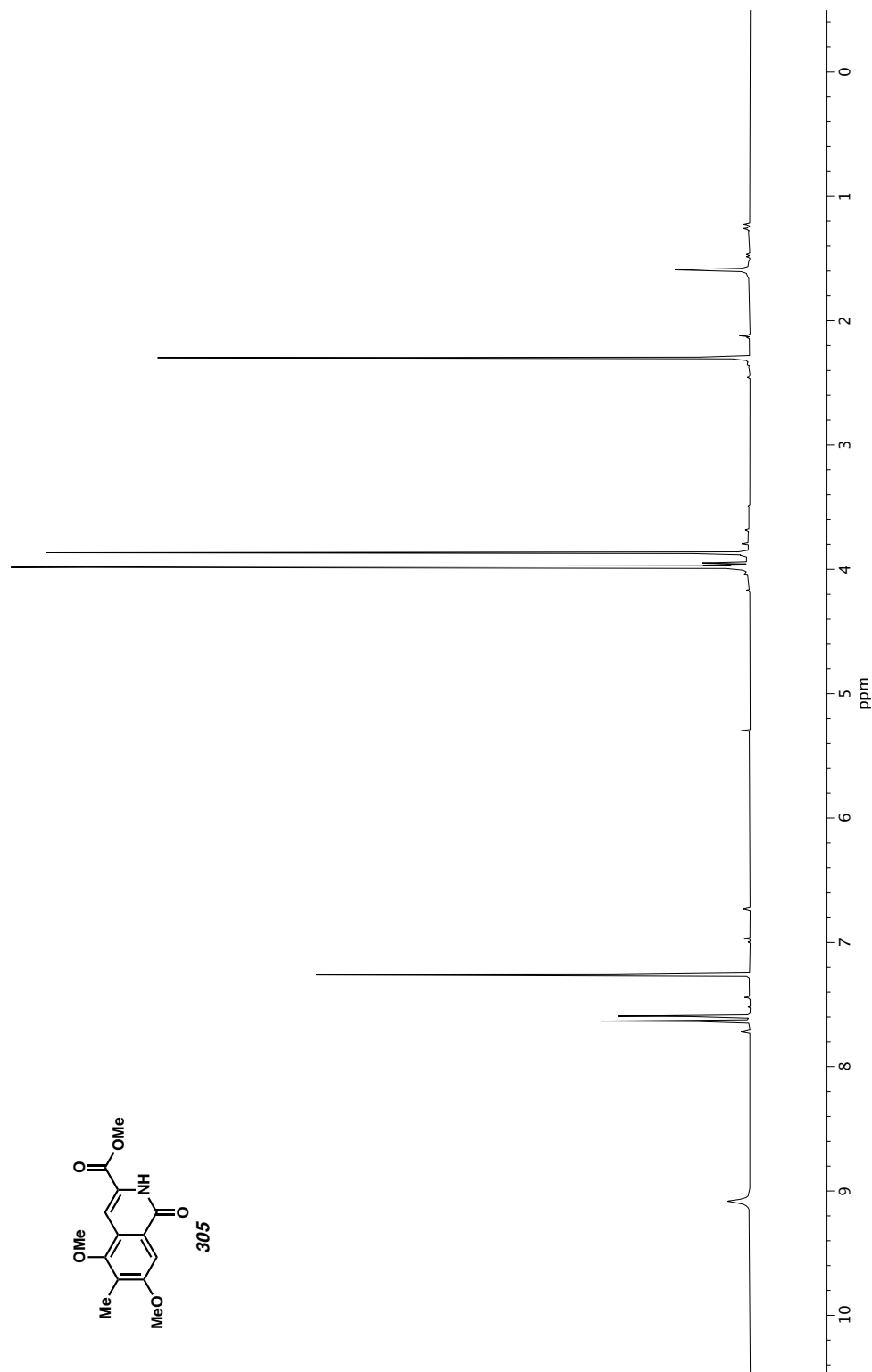


Figure A9.24 ¹H NMR (400 MHz, CDCl₃) of compound **305**.

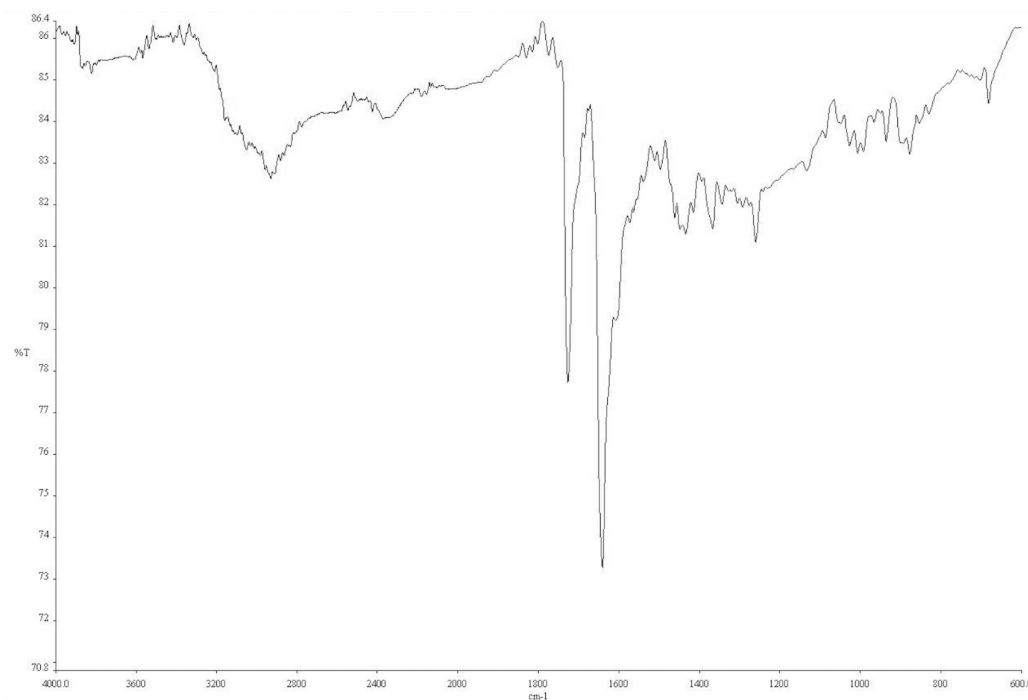


Figure A9.25 Infrared spectrum (Thin Film, NaCl) of compound **305**.

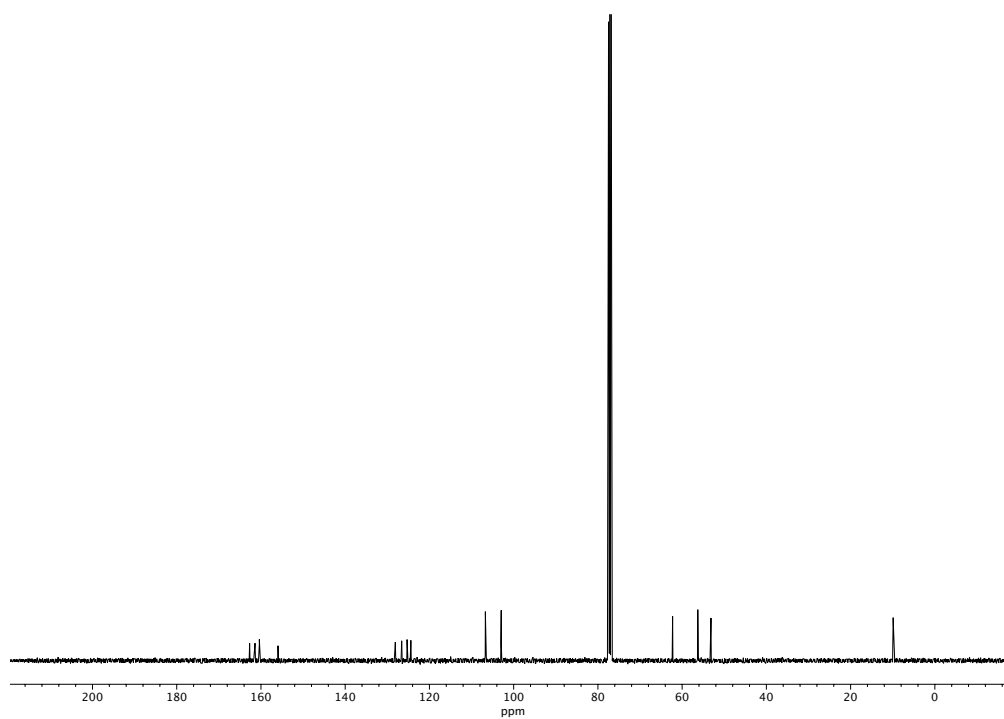


Figure A9.26 ^{13}C NMR (100 MHz, CDCl_3) of compound **305**.

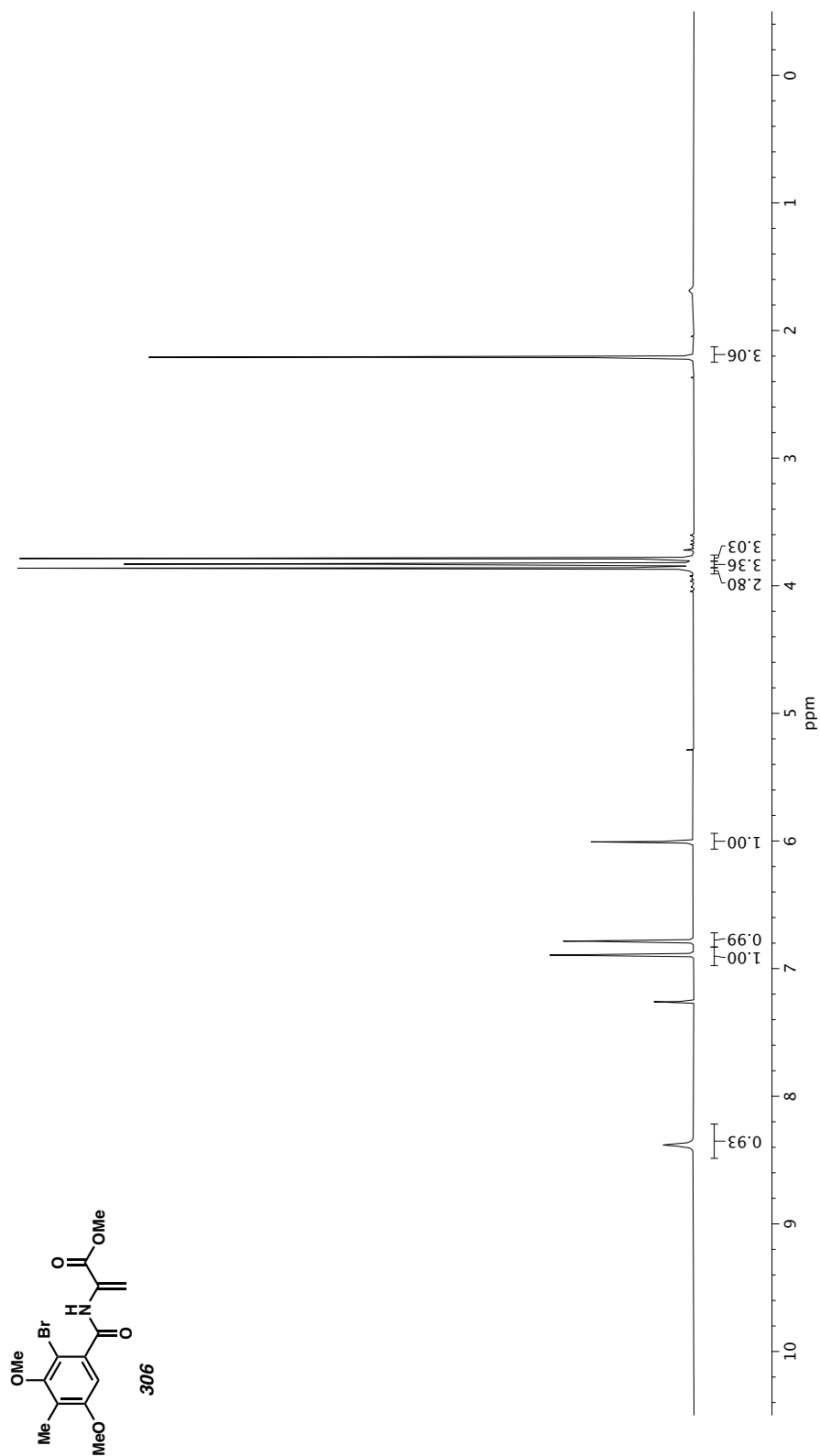


Figure A9.27 ¹H NMR (400 MHz, CDCl₃) of compound **306**.

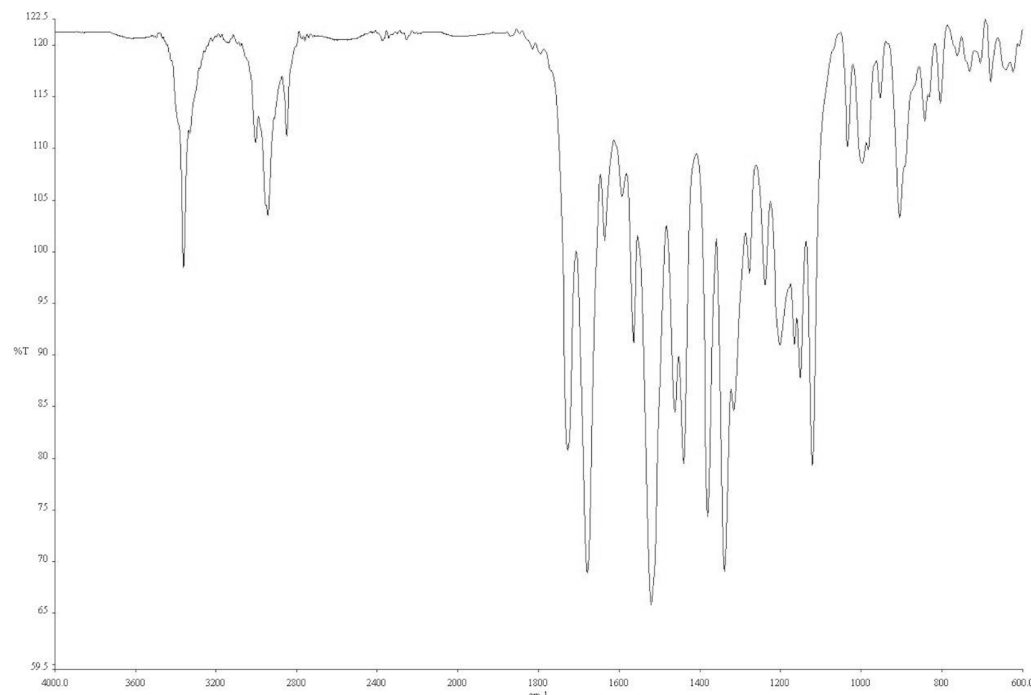


Figure A9.28 Infrared spectrum (Thin Film, NaCl) of compound **306**.

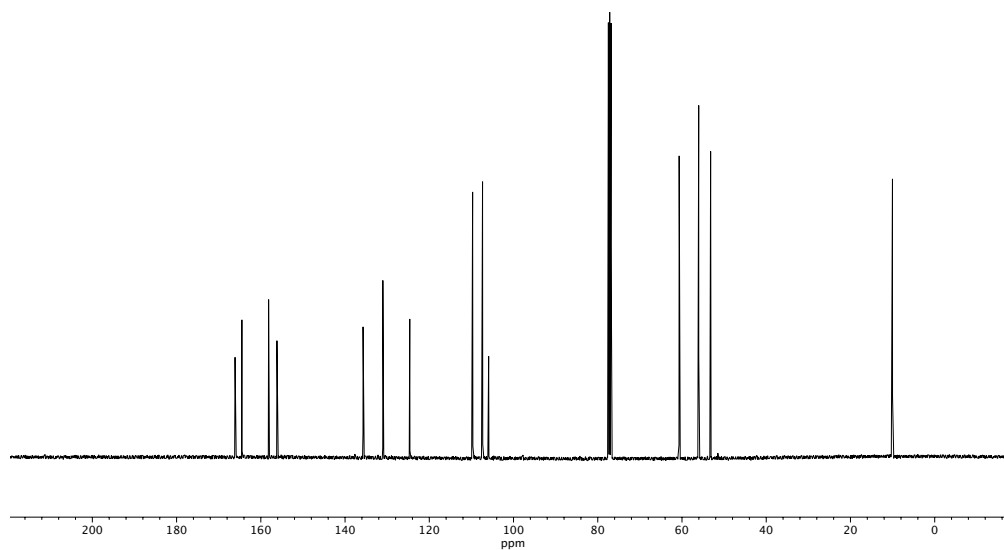


Figure A9.29 ¹³C NMR (100 MHz, CDCl₃) of compound **306**.

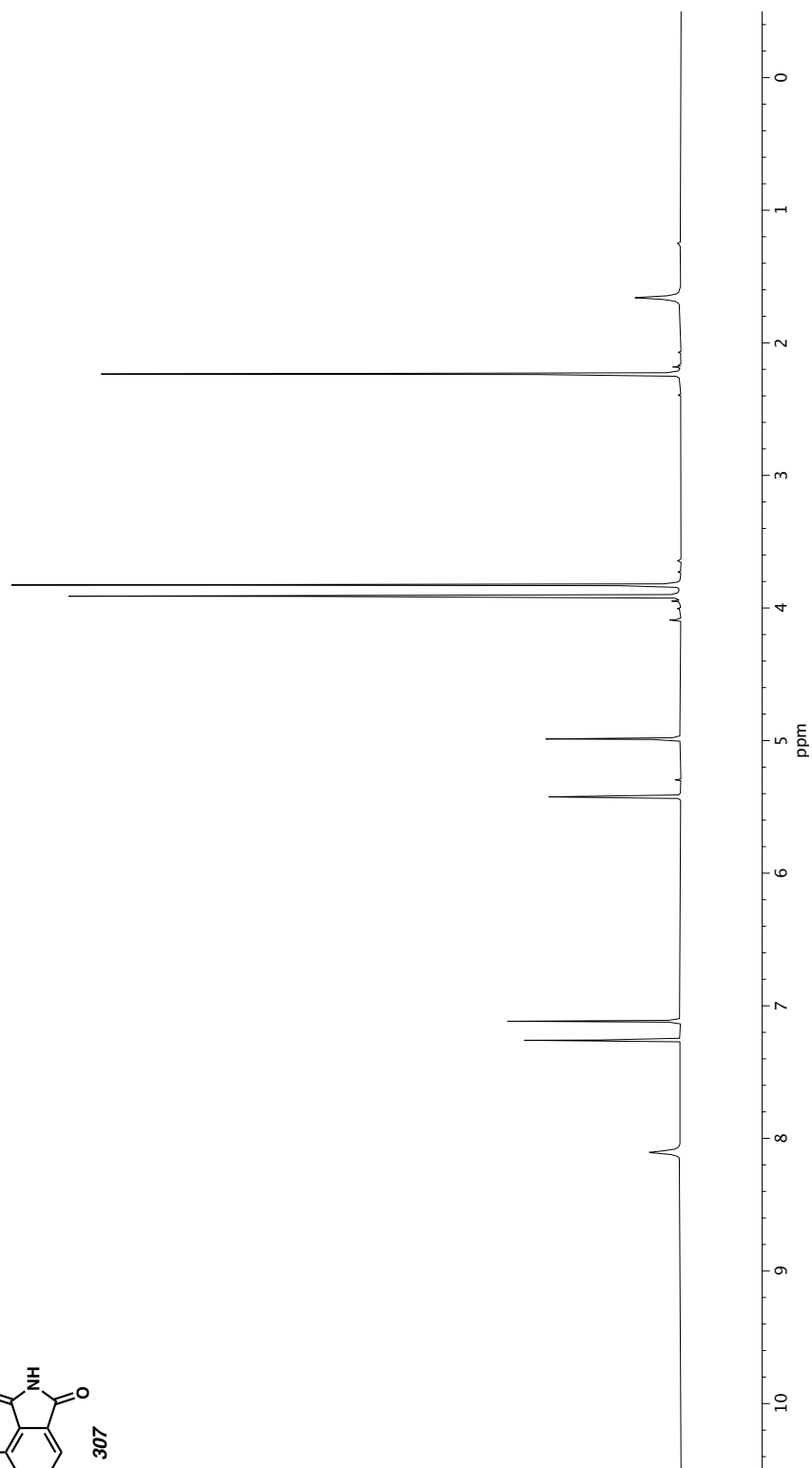
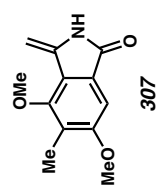


Figure A9.30 ¹H NMR (400 MHz, CDCl₃) of compound **307**.

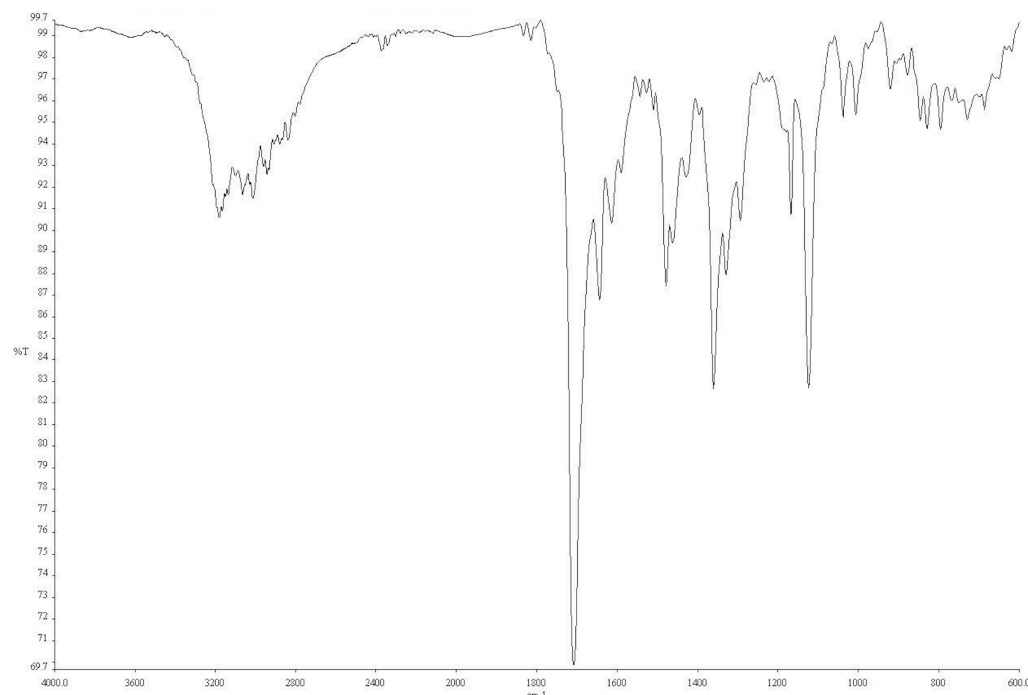


Figure A9.31 Infrared spectrum (Thin Film, NaCl) of compound **307**.

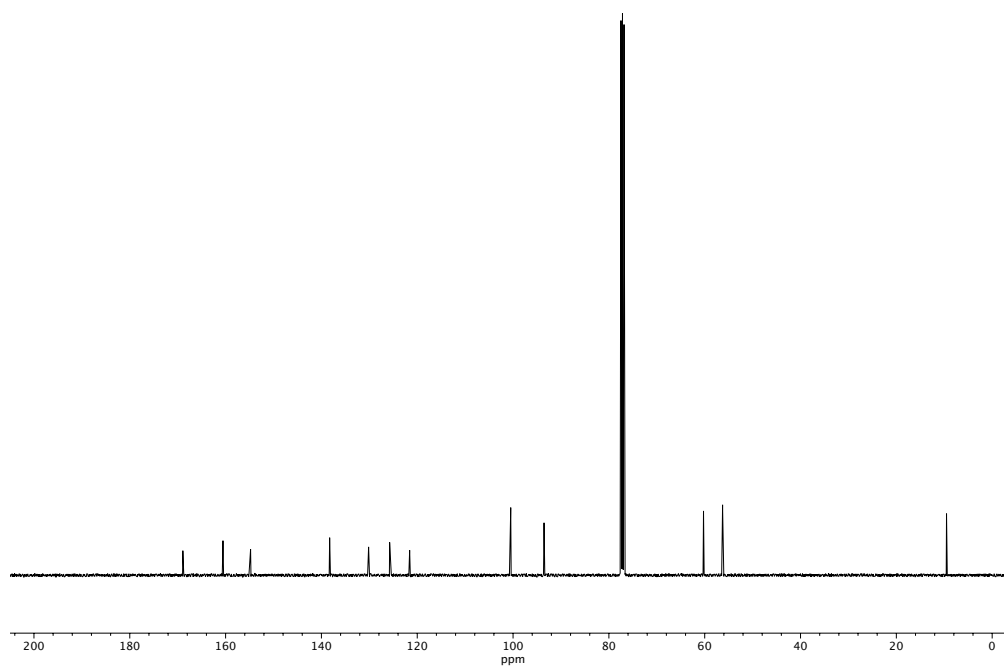


Figure A9.32 ¹³C NMR (100 MHz, CDCl₃) of compound **307**.

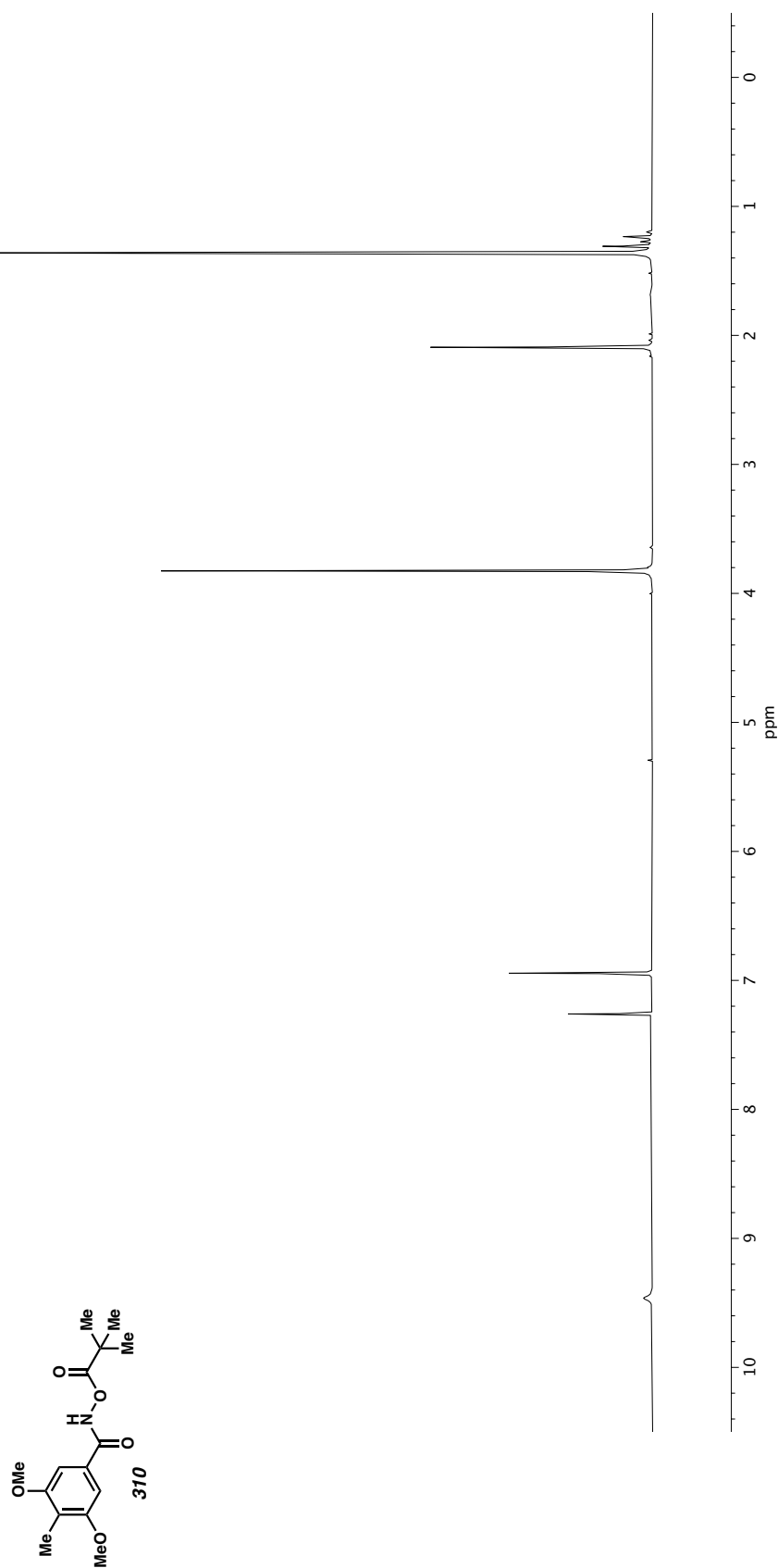


Figure A9.33 ^1H NMR (400 MHz, CDCl_3) of compound **310**.

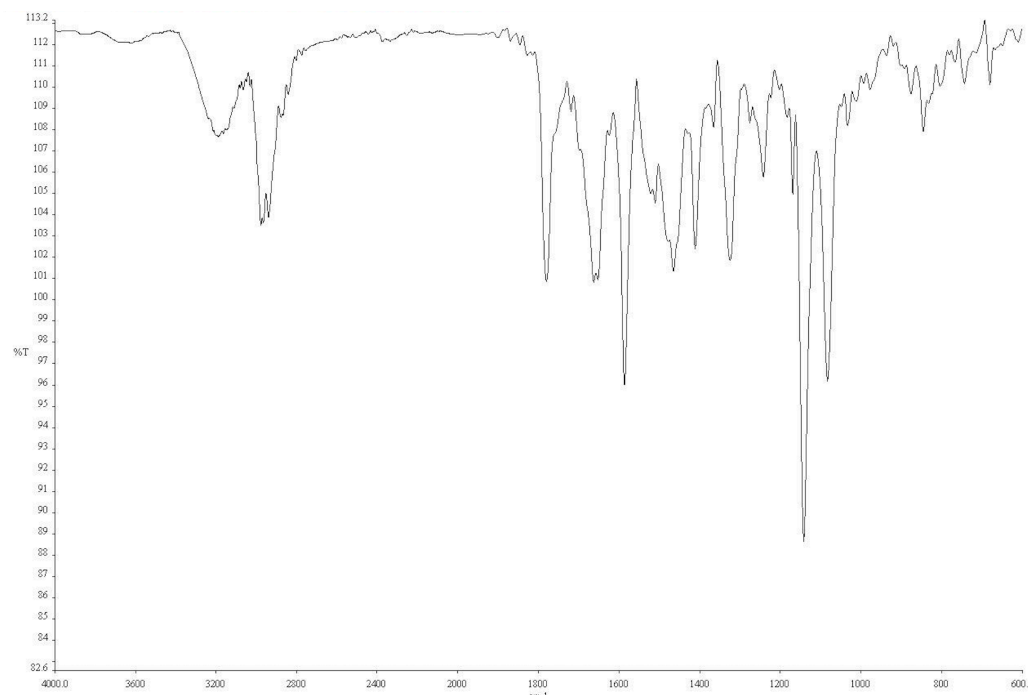


Figure A9.34 Infrared spectrum (Thin Film, NaCl) of compound **310**.

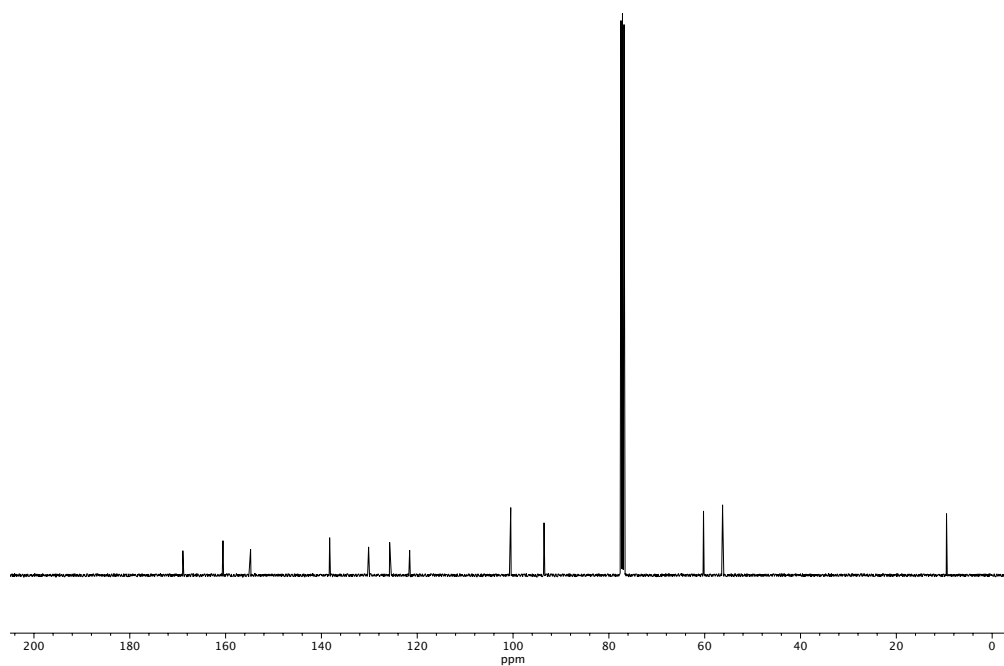


Figure A9.35 ^{13}C NMR (100 MHz, CDCl_3) of compound **310**.

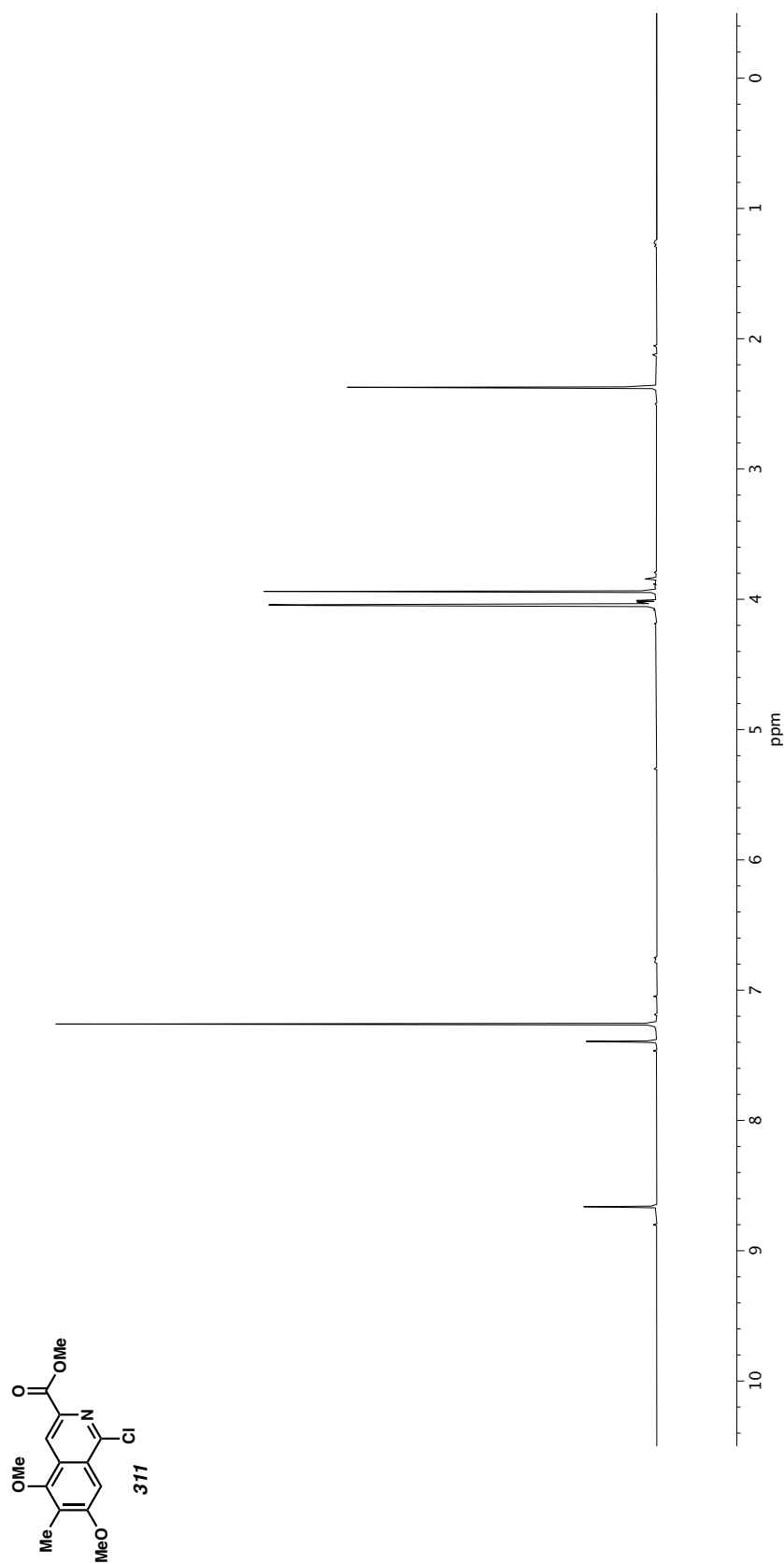


Figure A9.36 ^1H NMR (400 MHz, CDCl_3) of compound **311**.

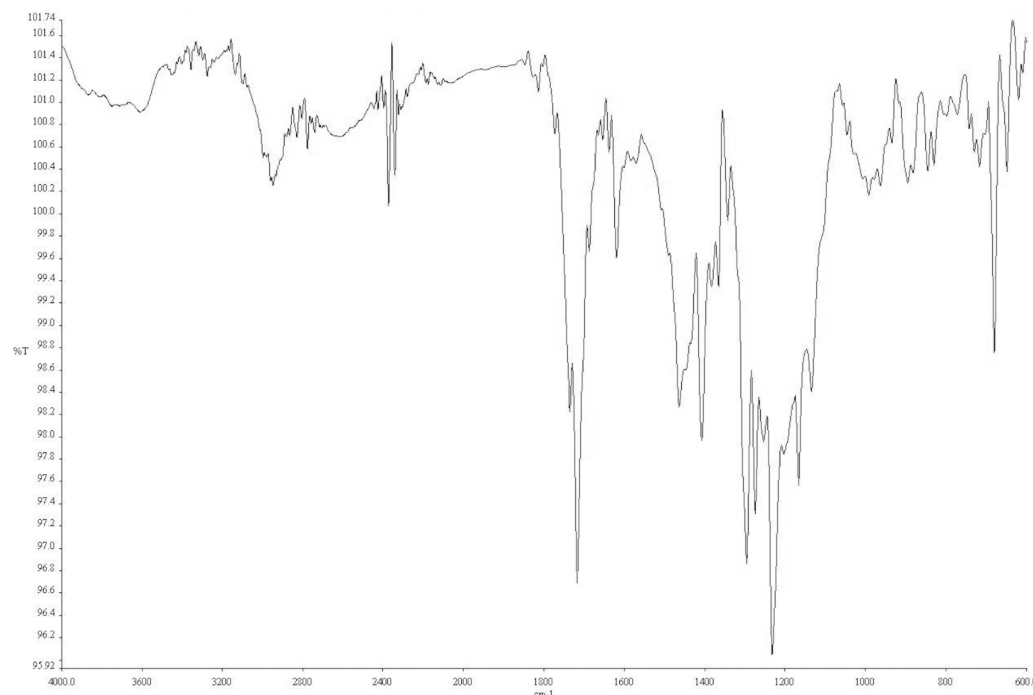


Figure A9.37 Infrared spectrum (Thin Film, NaCl) of compound **311**.

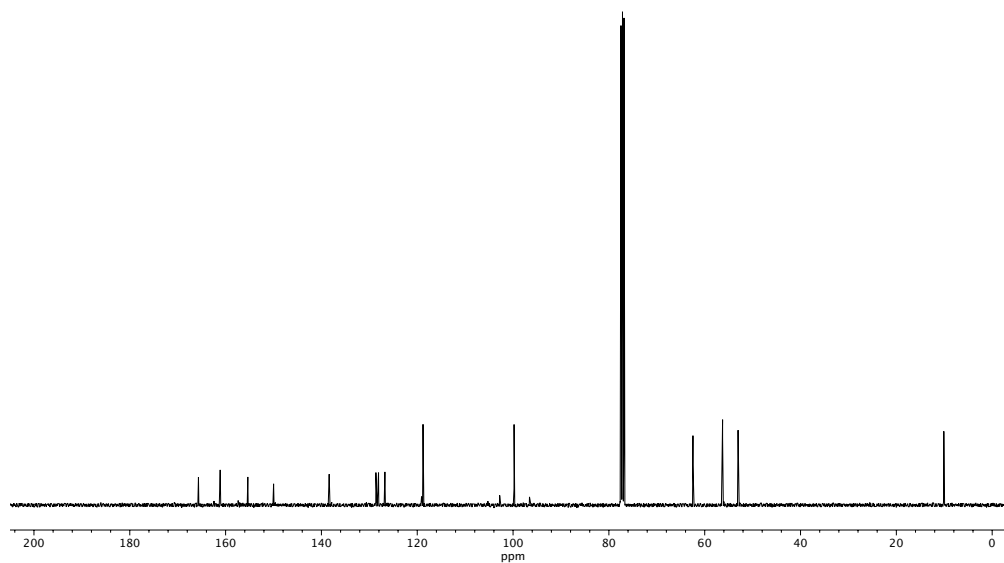


Figure A9.38 ¹³C NMR (100 MHz, CDCl₃) of compound **311**.

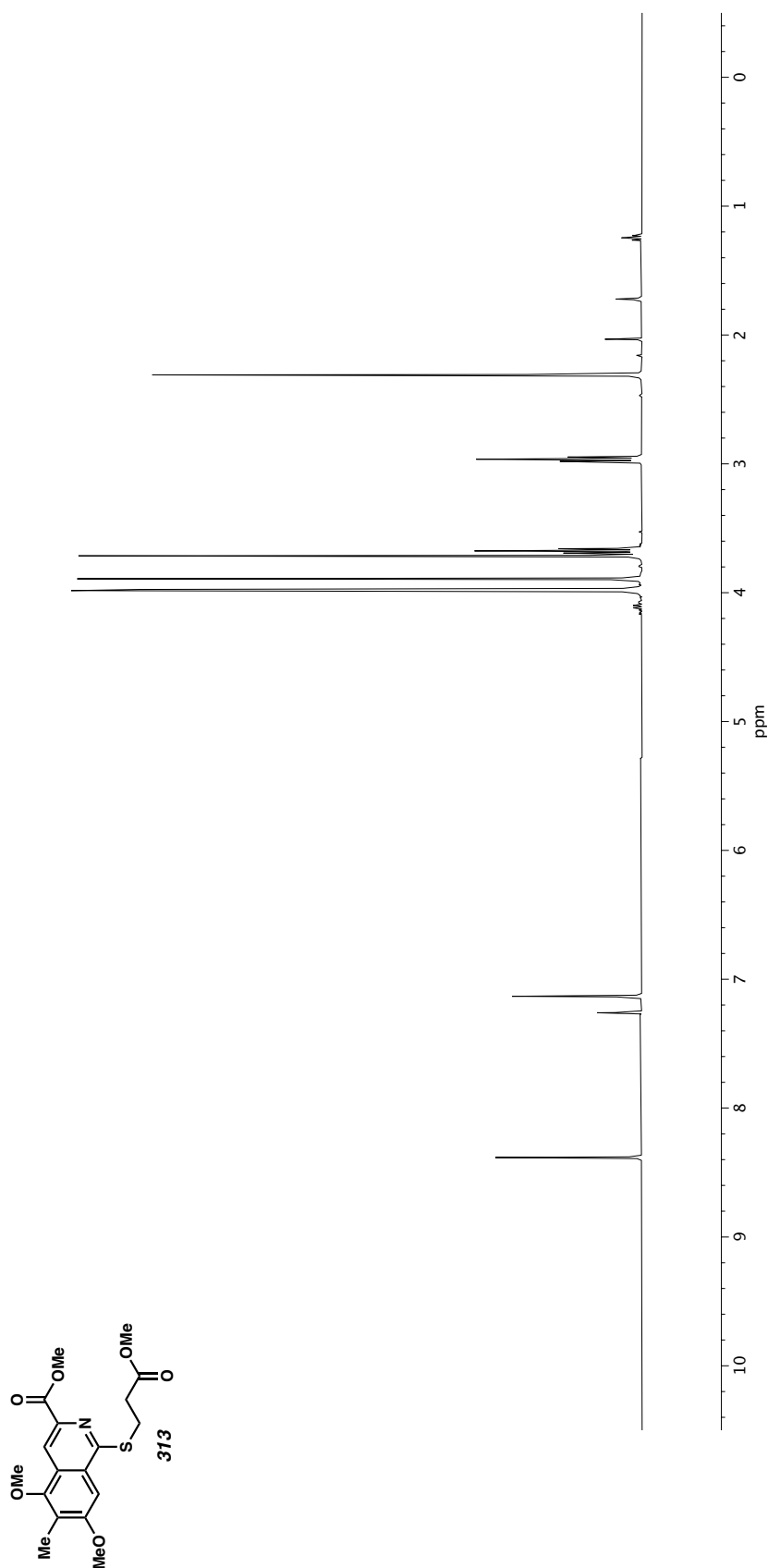


Figure A9.39 ¹H NMR (400 MHz, CDCl₃) of compound **313**.

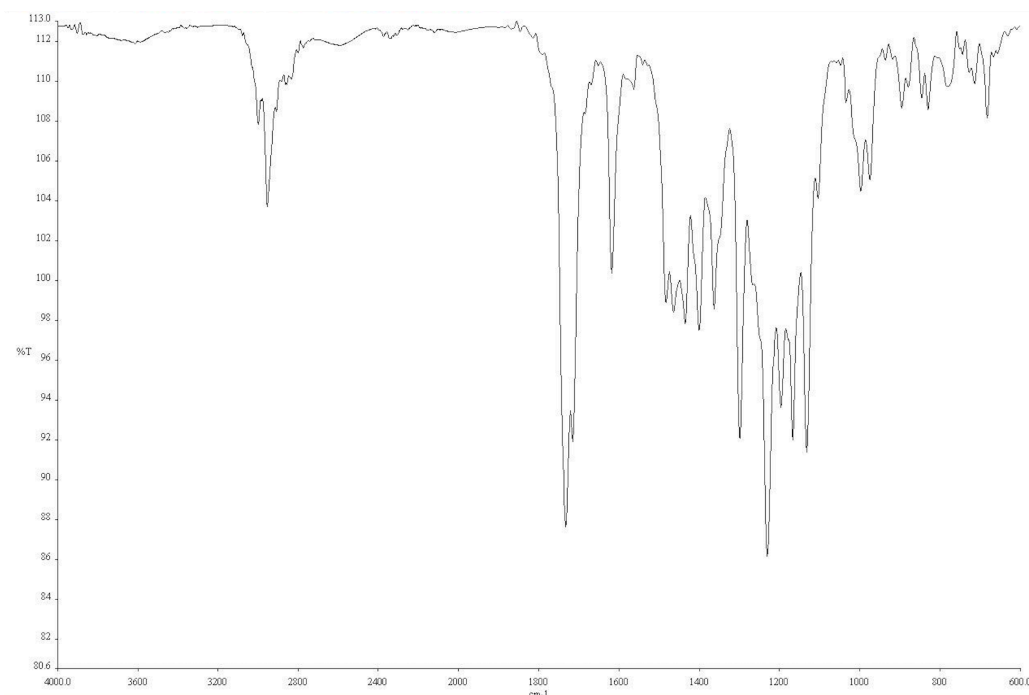


Figure A9.40 Infrared spectrum (Thin Film, NaCl) of compound **313**.

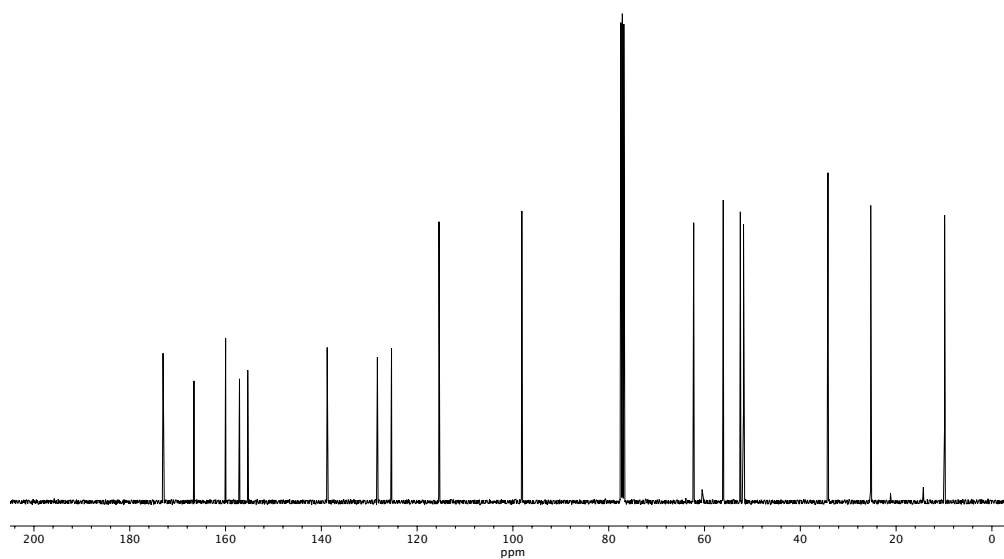


Figure A9.41 ¹³C NMR (100 MHz, CDCl₃) of compound **313**.

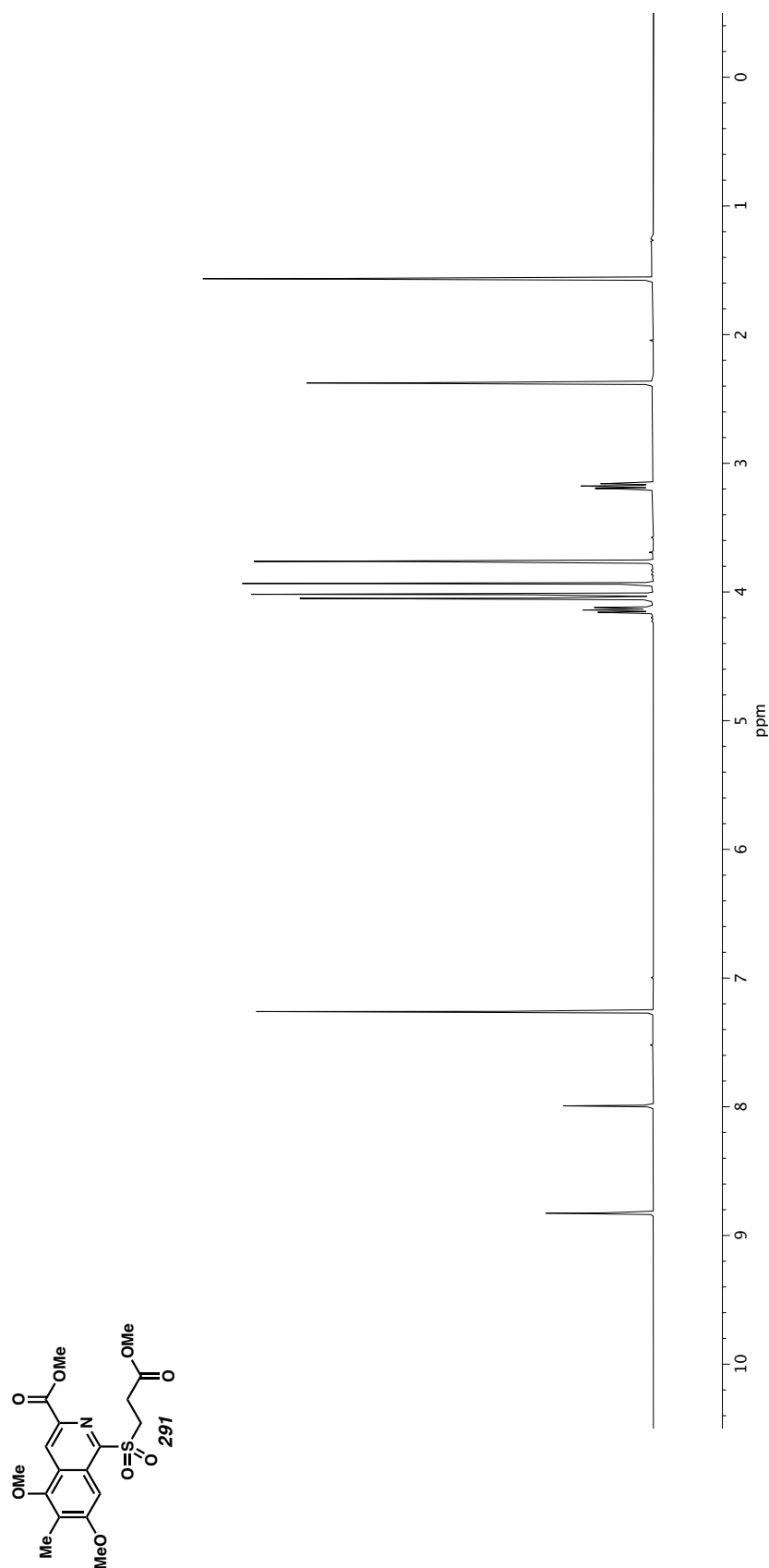


Figure A9.42 ^1H NMR (400 MHz, CDCl_3) of compound **291**.

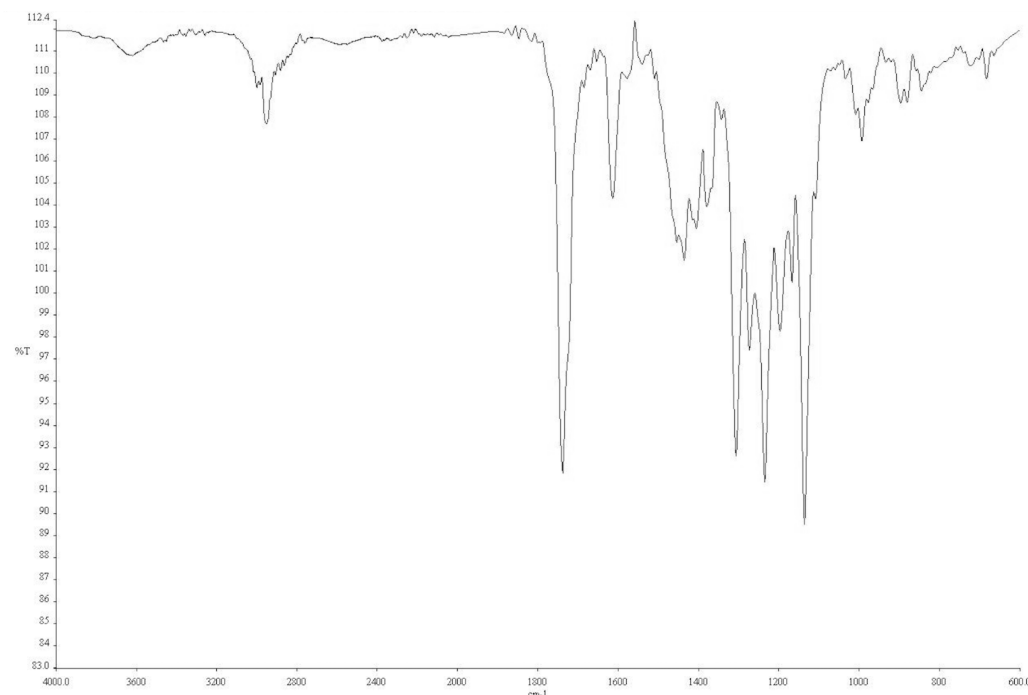


Figure A9.43 Infrared spectrum (Thin Film, NaCl) of compound **291**.

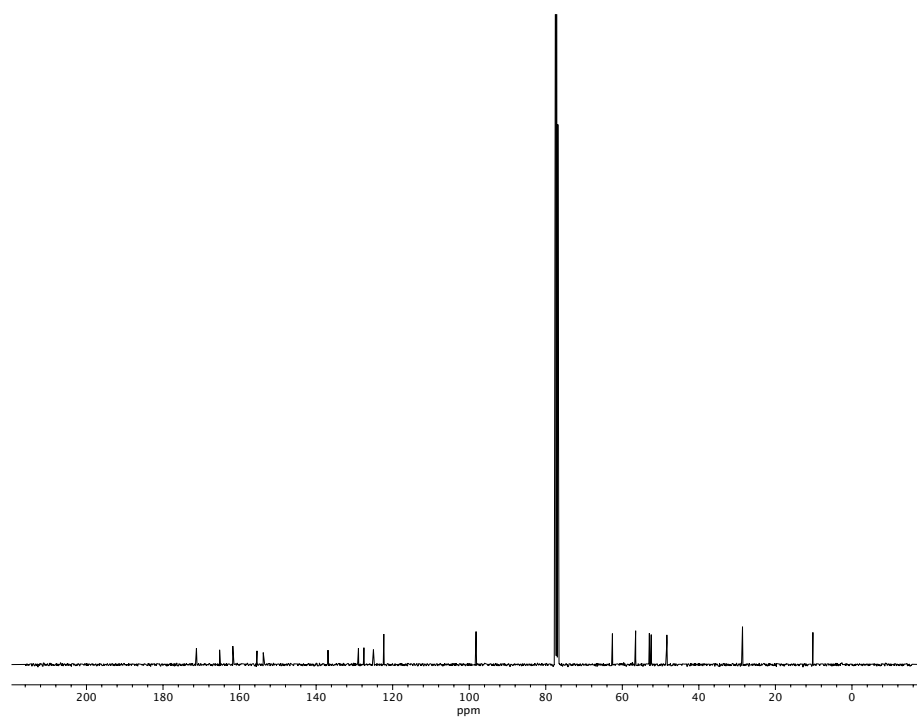


Figure A9.44 ¹³C NMR (100 MHz, CDCl₃) of compound **291**.

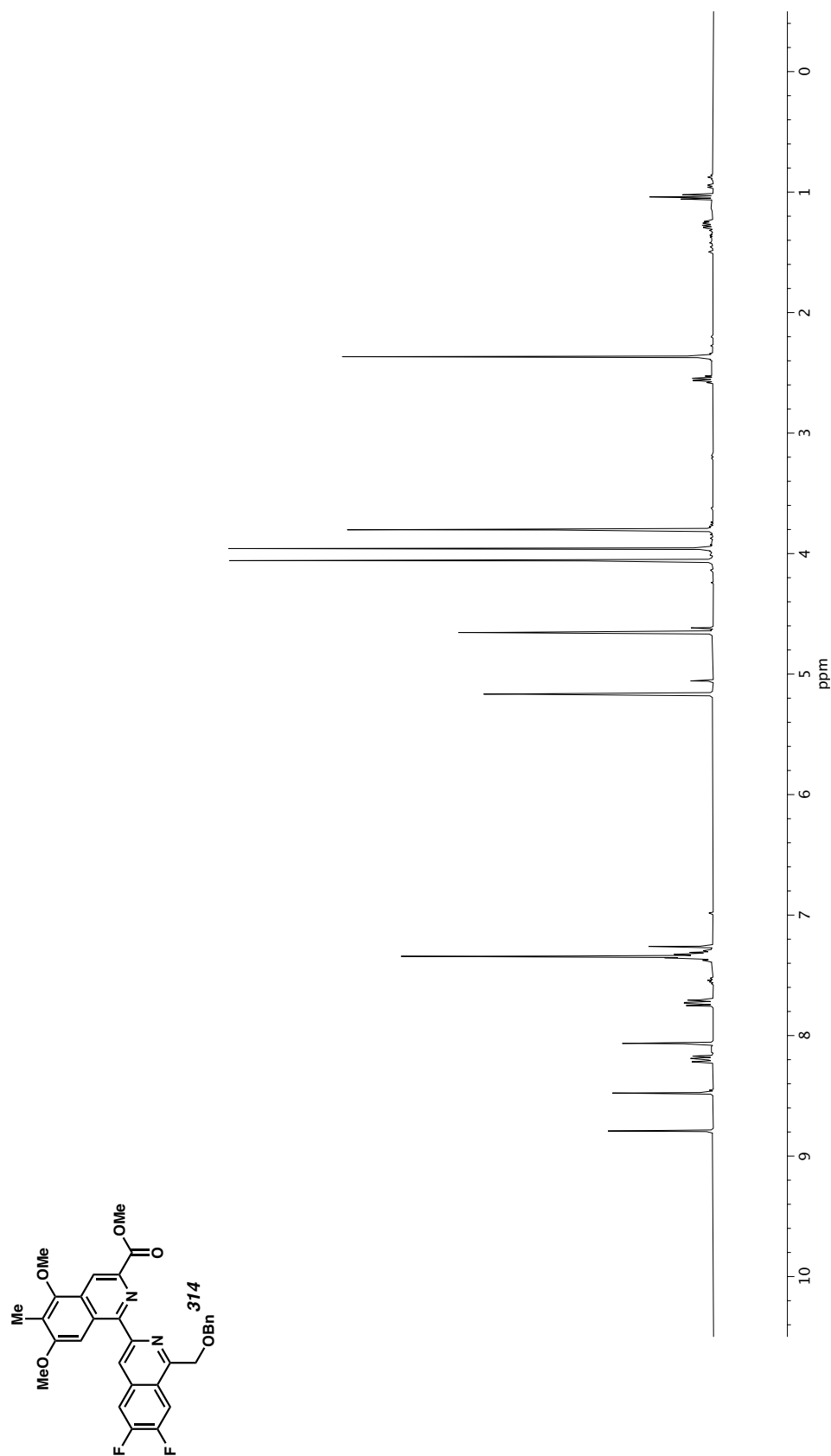


Figure A9.45 ^1H NMR (400 MHz, CDCl_3) of compound **314**.

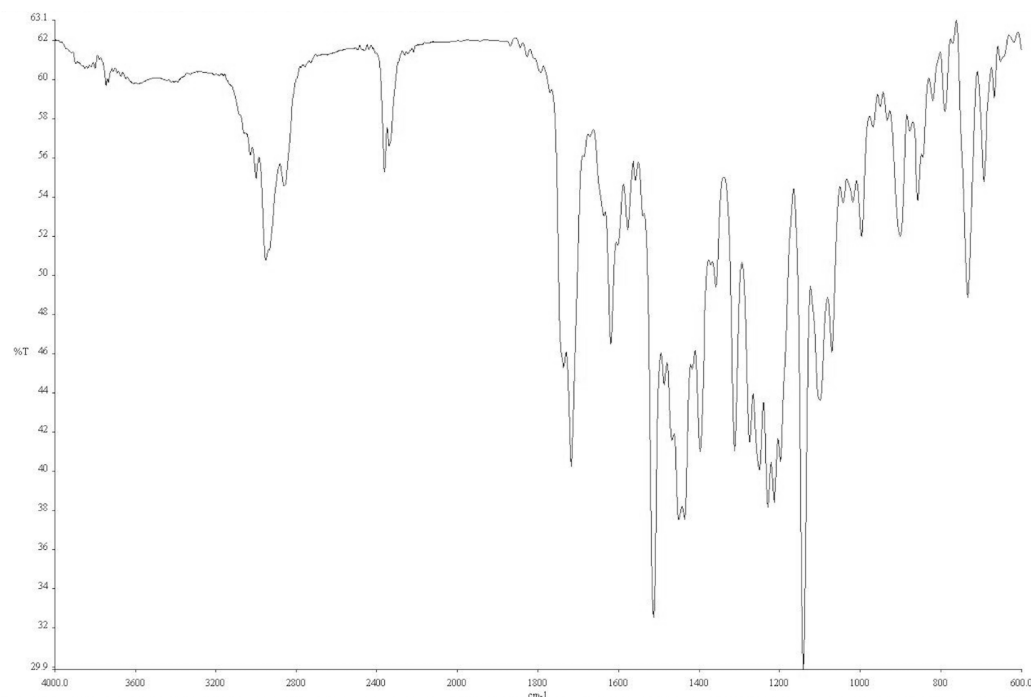


Figure A9.46 Infrared spectrum (Thin Film, NaCl) of compound **314**.

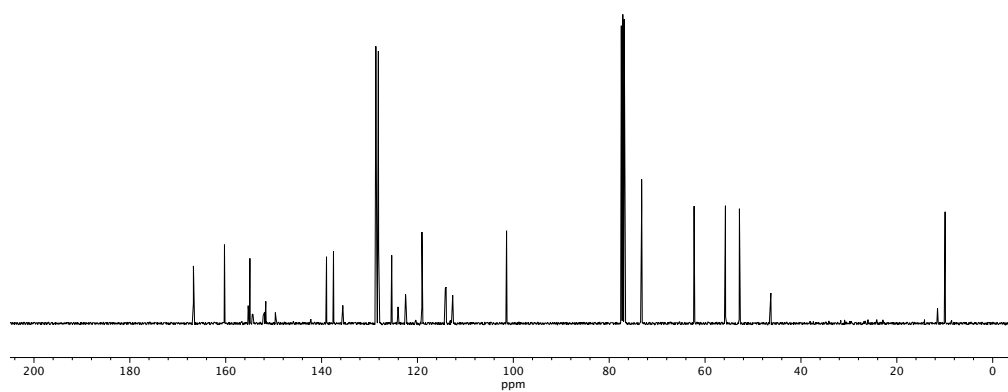


Figure A9.47 ¹³C NMR (100 MHz, CDCl₃) of compound **314**.

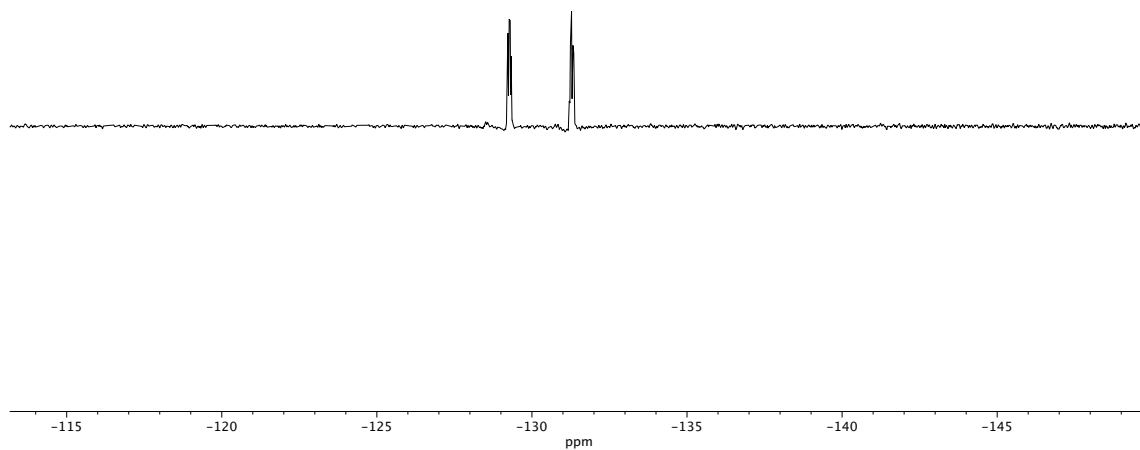


Figure A9.48 ^{19}F NMR (282 MHz, CDCl_3) of compound **314**.

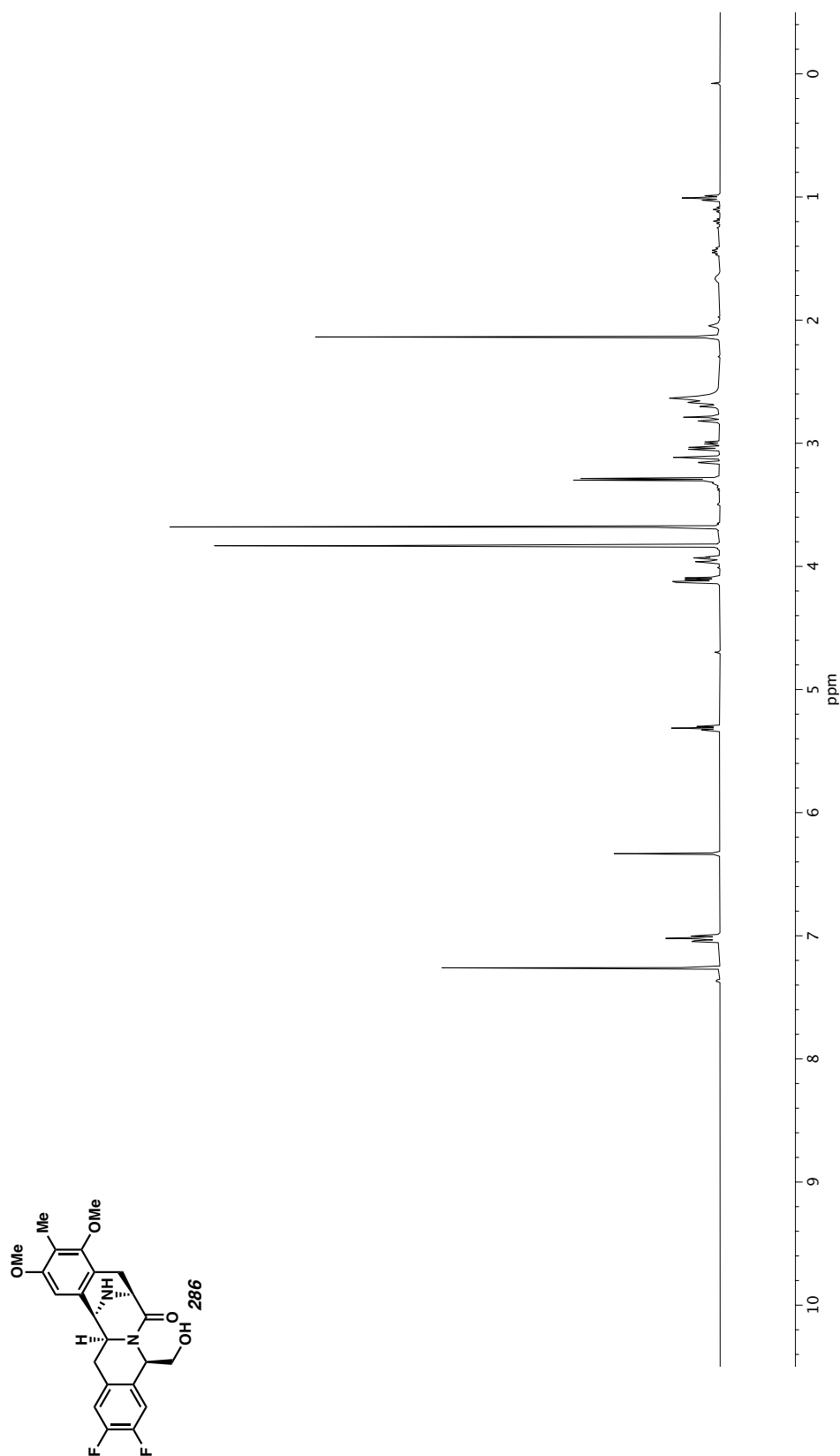


Figure A9.49 ¹H NMR (400 MHz, CDCl₃) of compound 286.

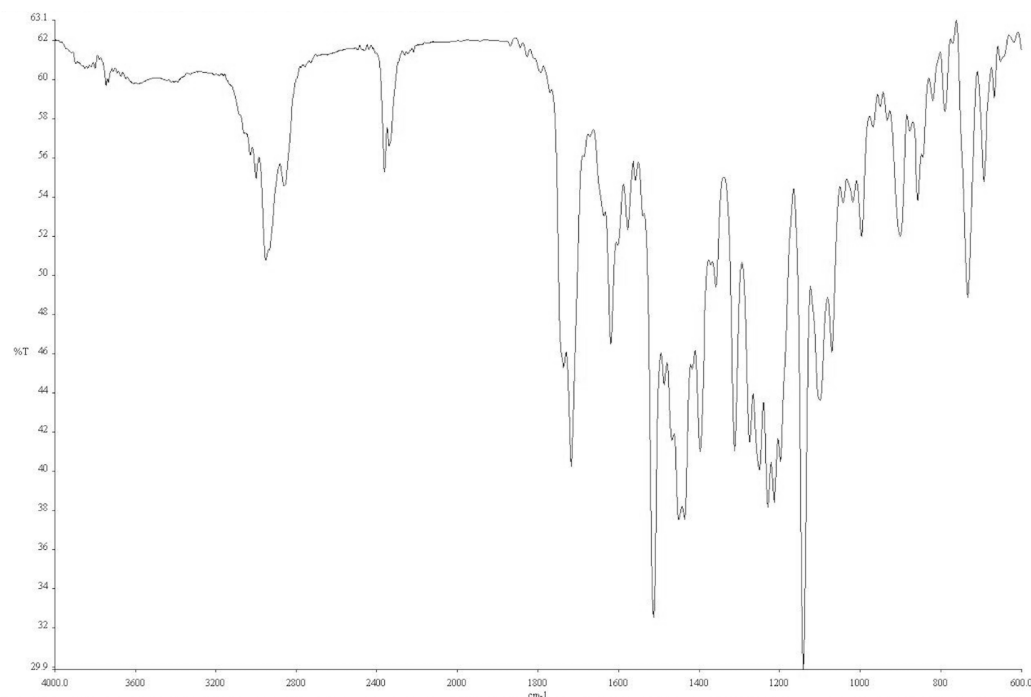


Figure A9.50 Infrared spectrum (Thin Film, NaCl) of compound **286**.

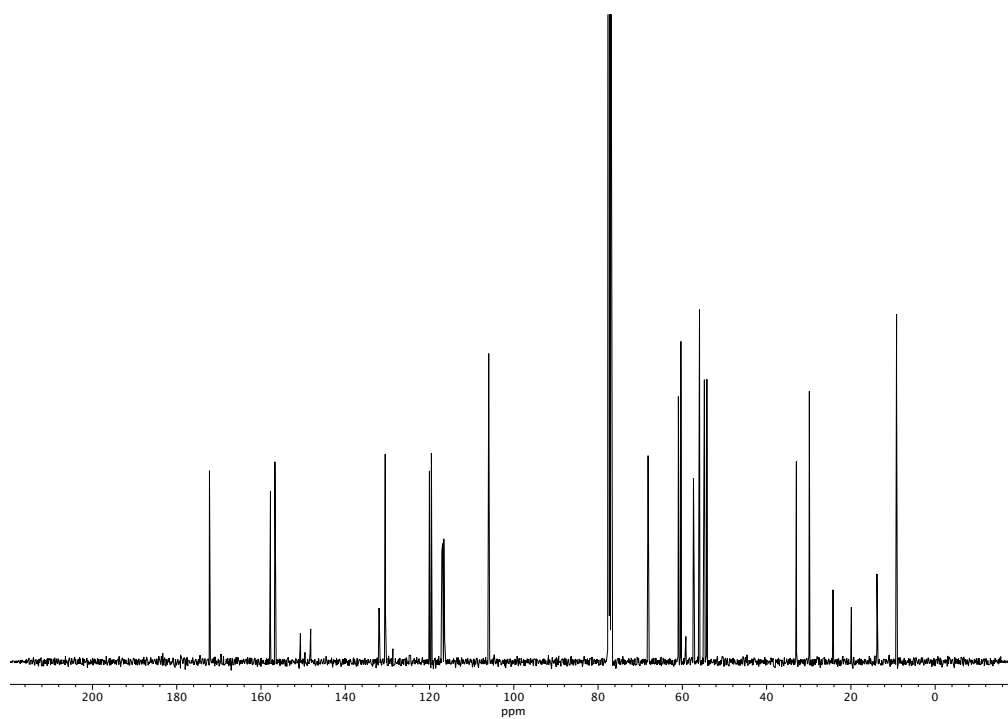


Figure A9.51 ¹³C NMR (100 MHz, CDCl₃) of compound **286**.

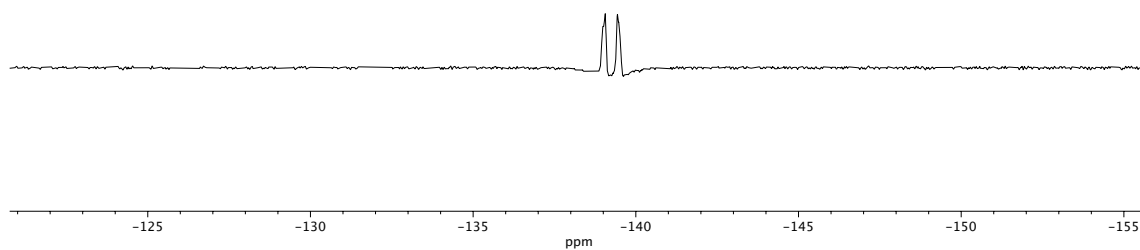


Figure A9.52 ^{19}F NMR (282 MHz, CDCl_3) of compound **286**.

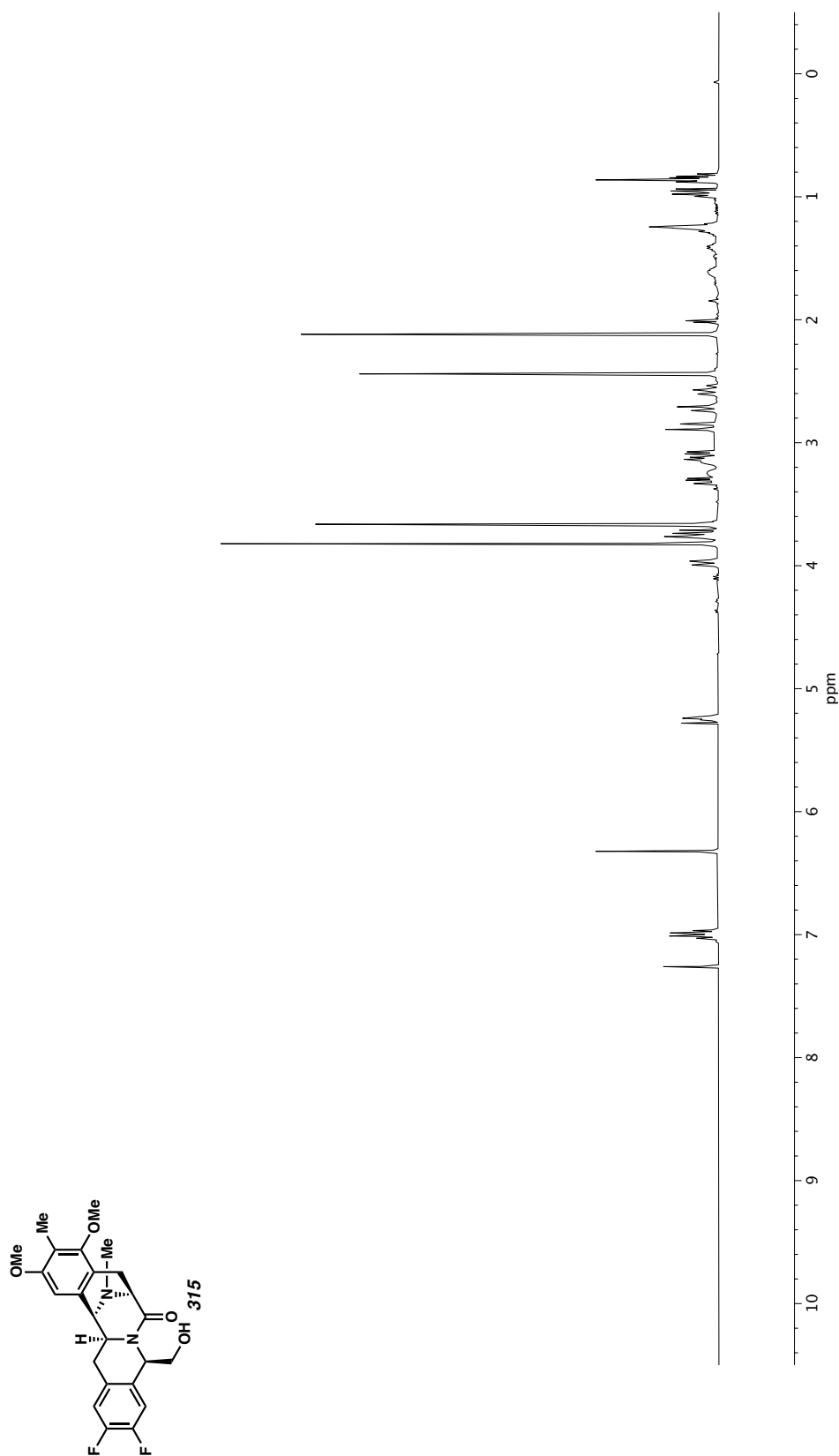


Figure A9.53 ^1H NMR (400 MHz, CDCl_3) of compound **315**.

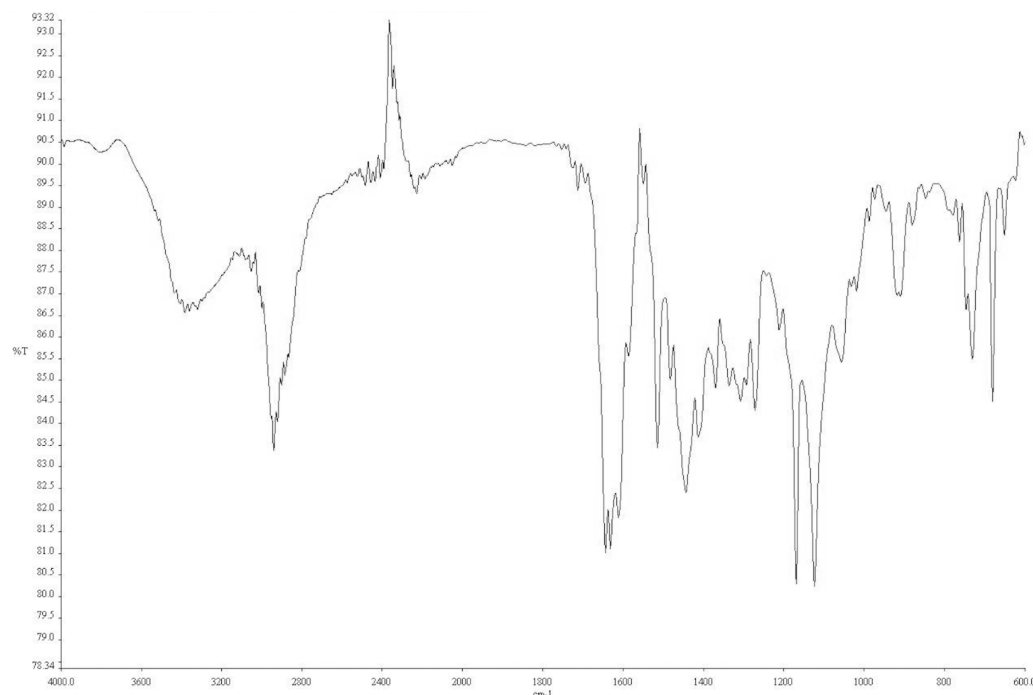


Figure A9.54 Infrared spectrum (Thin Film, NaCl) of compound **315**.

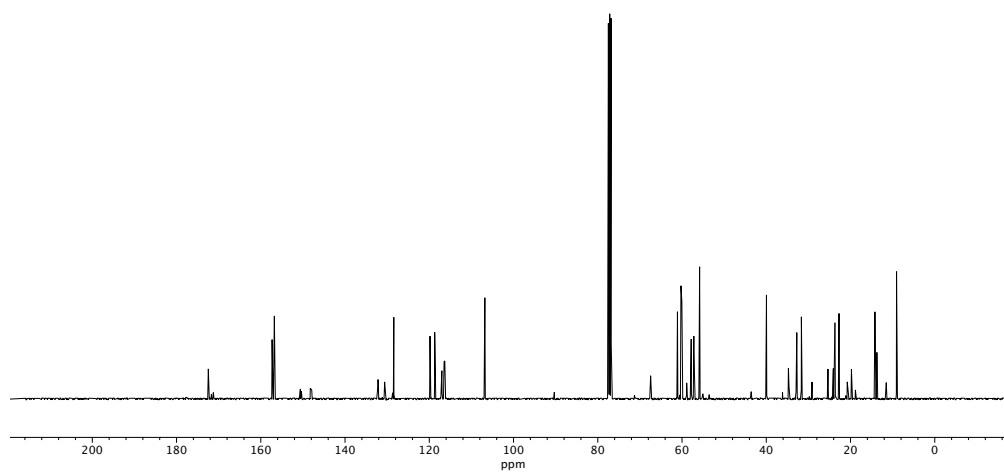


Figure A9.55 ¹³C NMR (100 MHz, CDCl₃) of compound **315**.

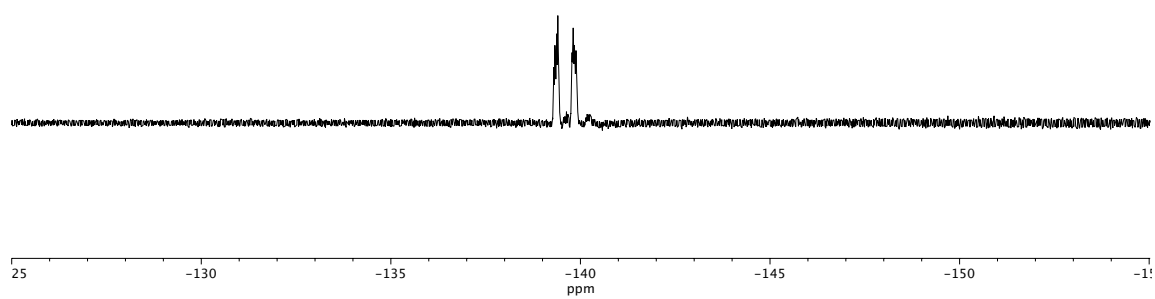


Figure A9.56 ^{19}F NMR (282 MHz, CDCl_3) of compound **315**.

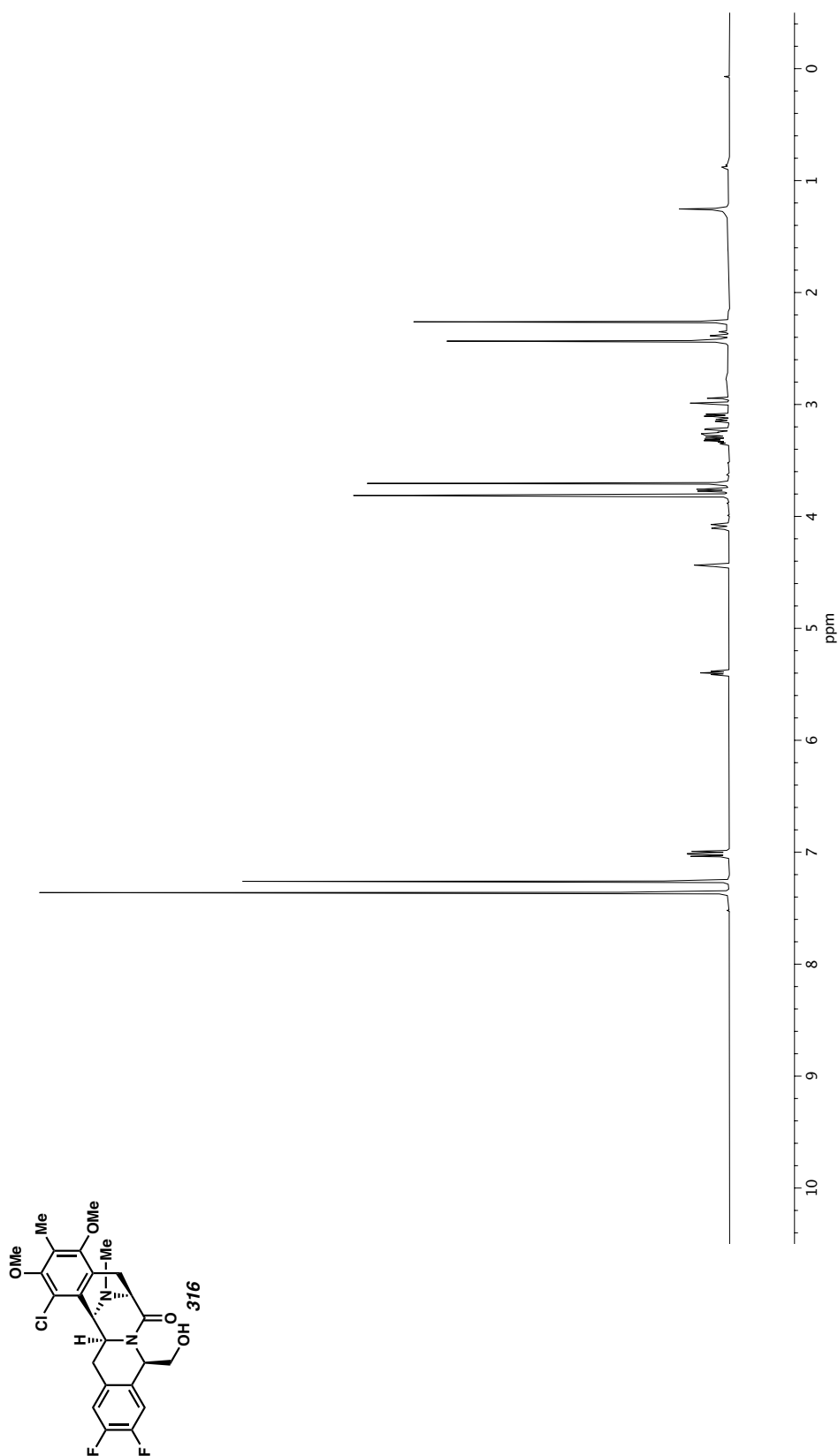


Figure A9.57 ¹H NMR (400 MHz, CDCl₃) of compound **316**.

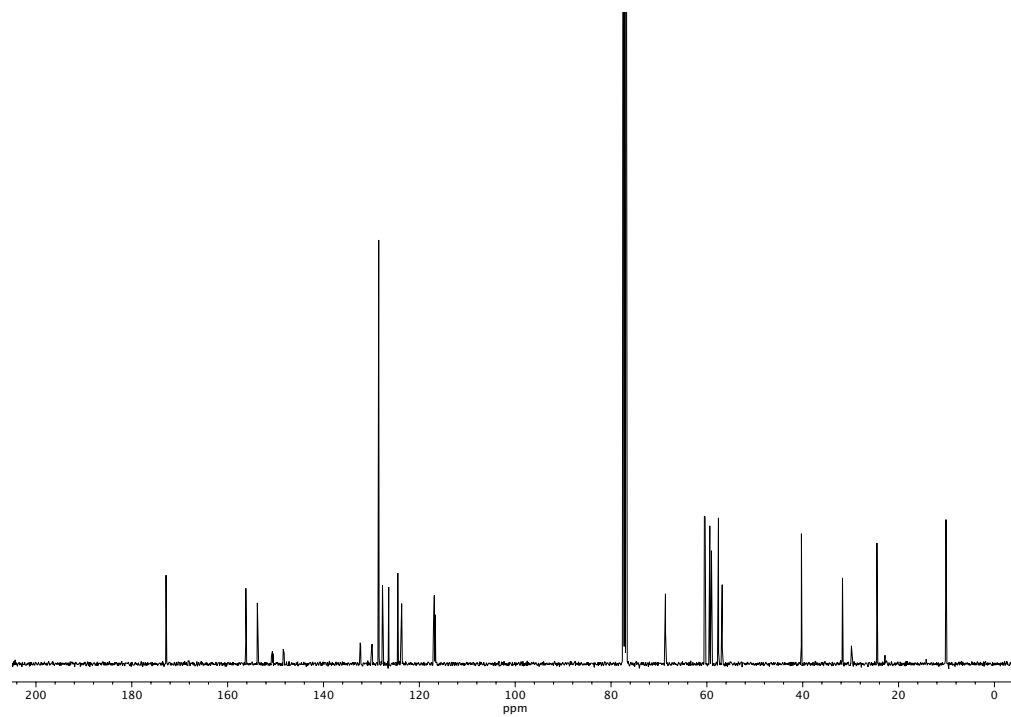


Figure A9.58 ^{13}C NMR (100 MHz, CDCl_3) of compound **316**.

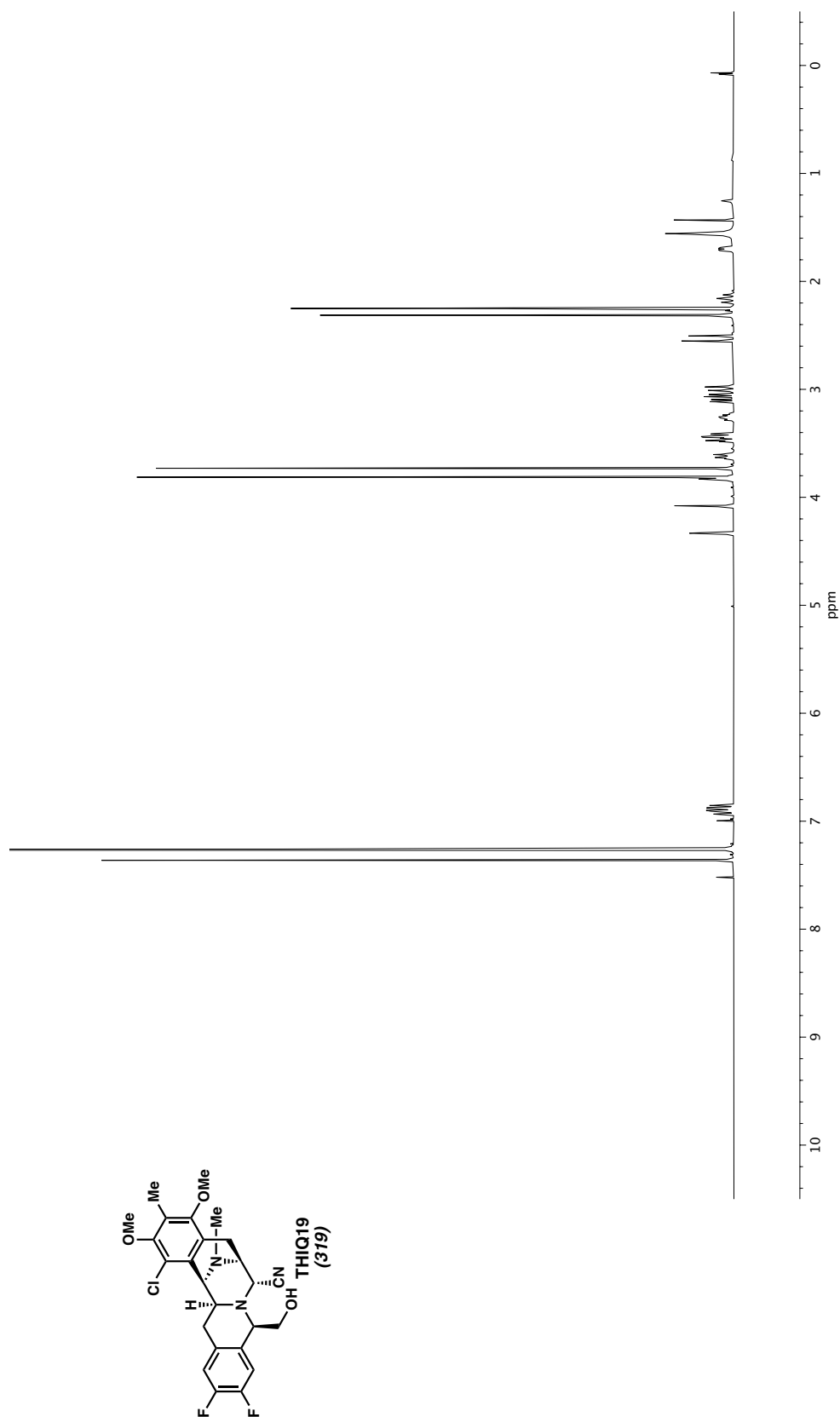


Figure A9.59 ^1H NMR (400 MHz, CDCl_3) of compound **319** (THIQ19).

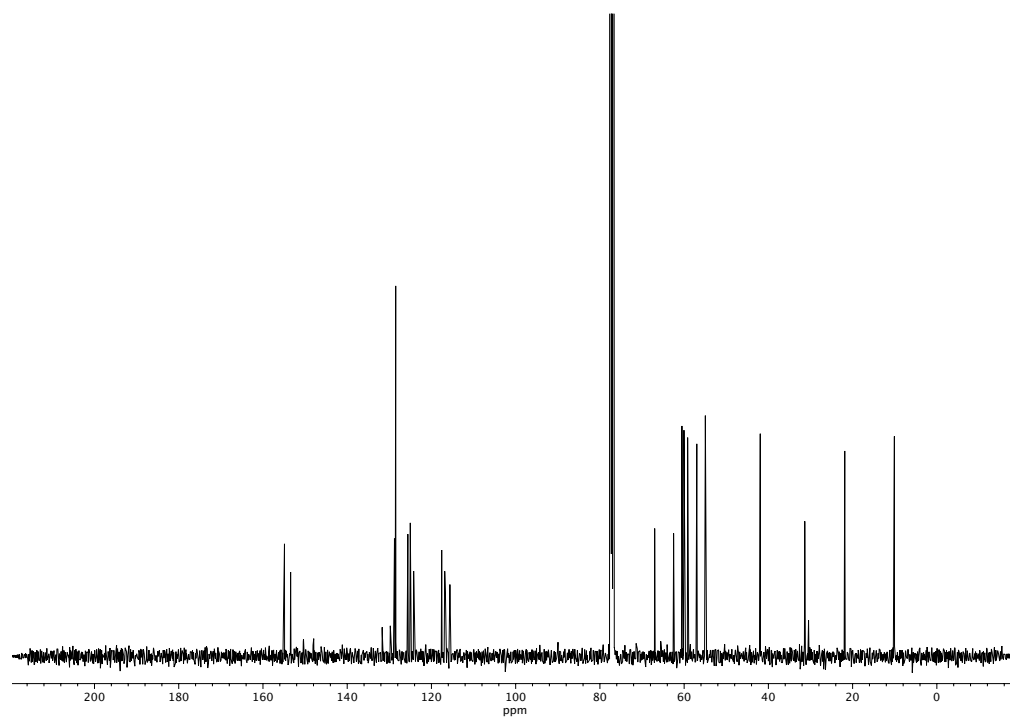


Figure A9.60 ^{13}C NMR (100 MHz, CDCl_3) of compound **319** (THIQ19).

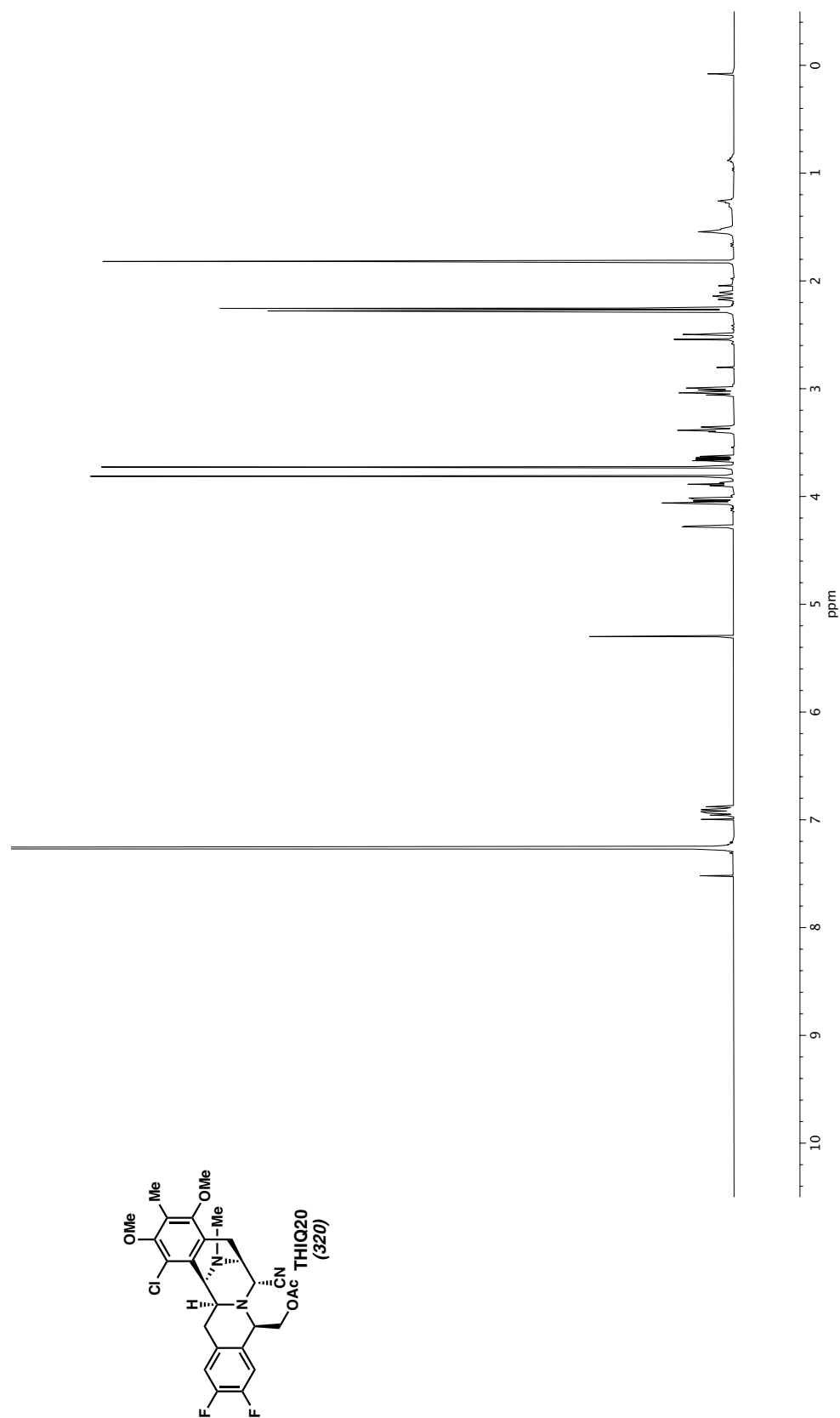


Figure A9.61 ^1H NMR (400 MHz, CDCl_3) of compound **320** (THIQ20).

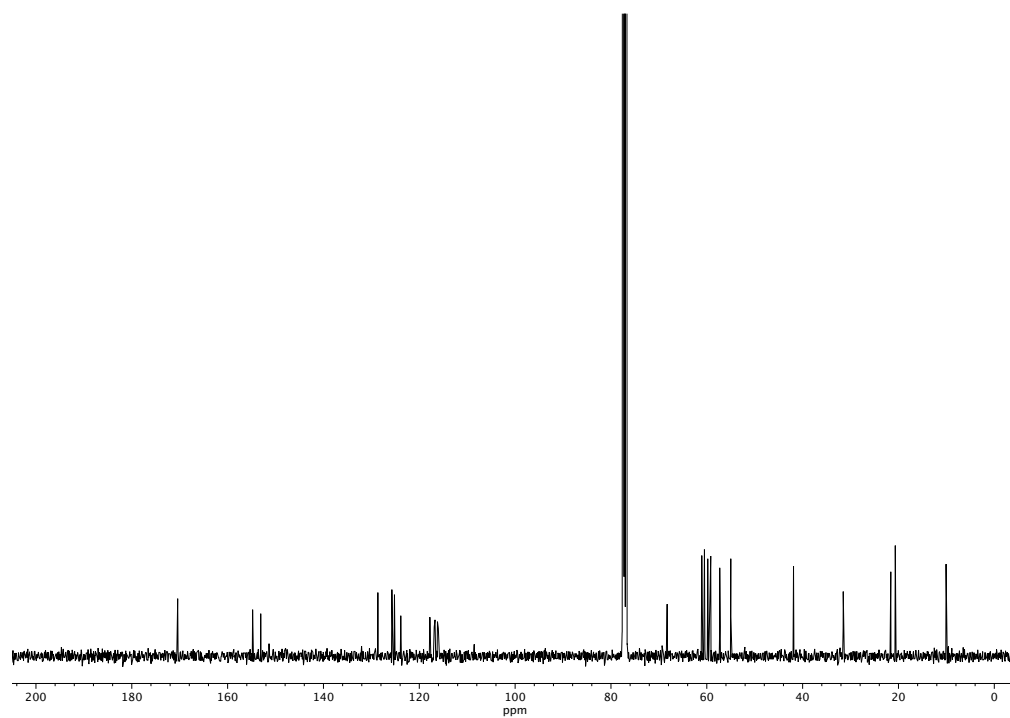


Figure A9.62 ^{13}C NMR (100 MHz, CDCl_3) of compound **320** (THIQ20).

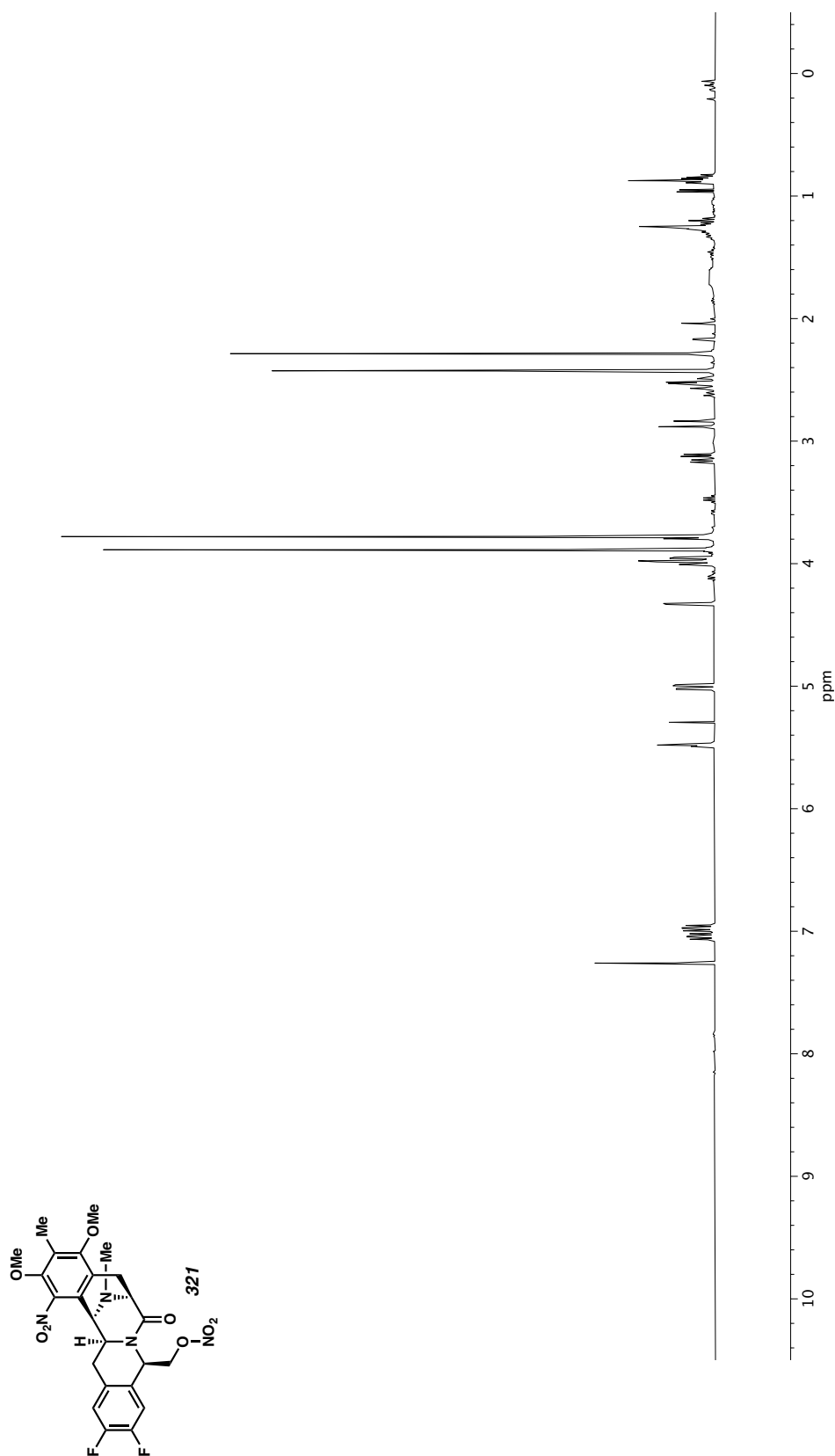


Figure A9.63 ^1H NMR (400 MHz, CDCl_3) of compound **321**.

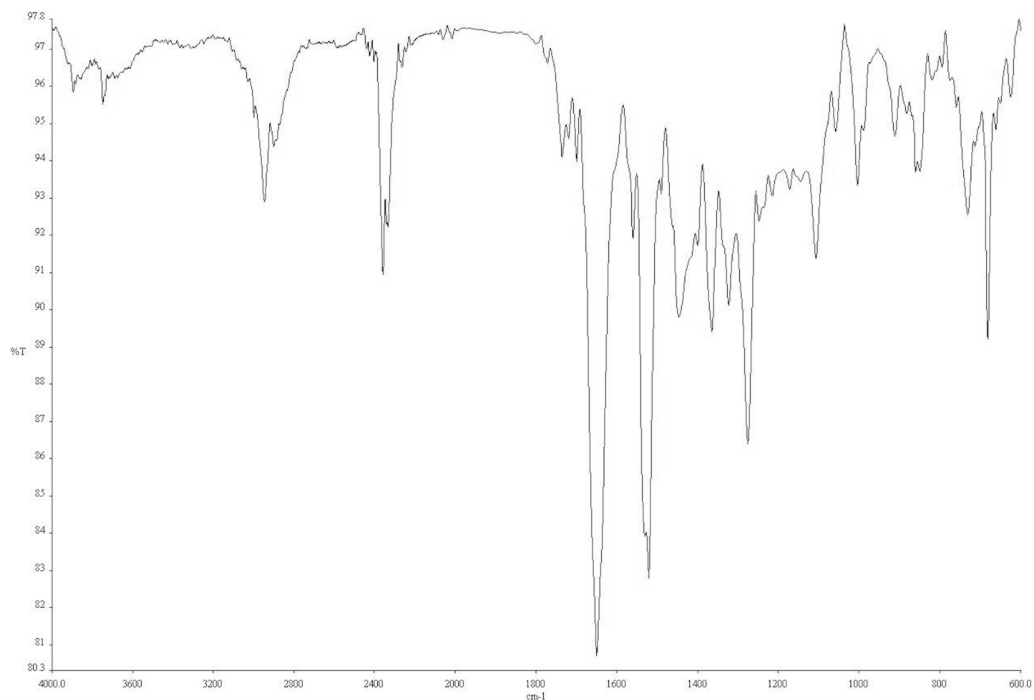


Figure A9.64 Infrared spectrum (Thin Film, NaCl) of compound **321**.

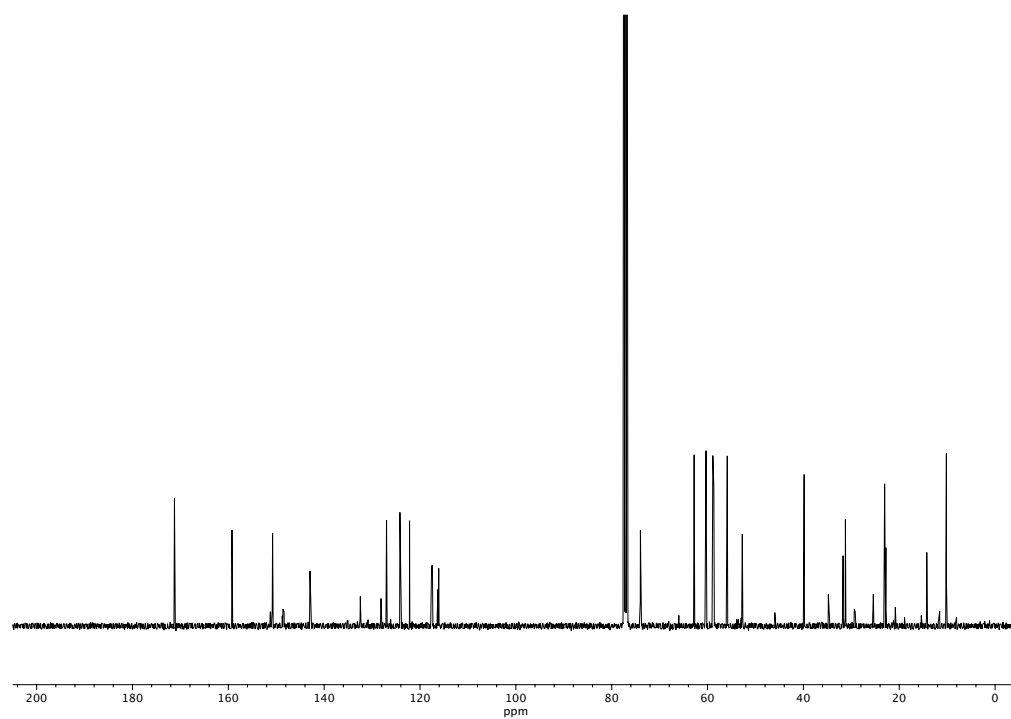


Figure A9.65 ¹³C NMR (100 MHz, CDCl₃) of compound **321**.

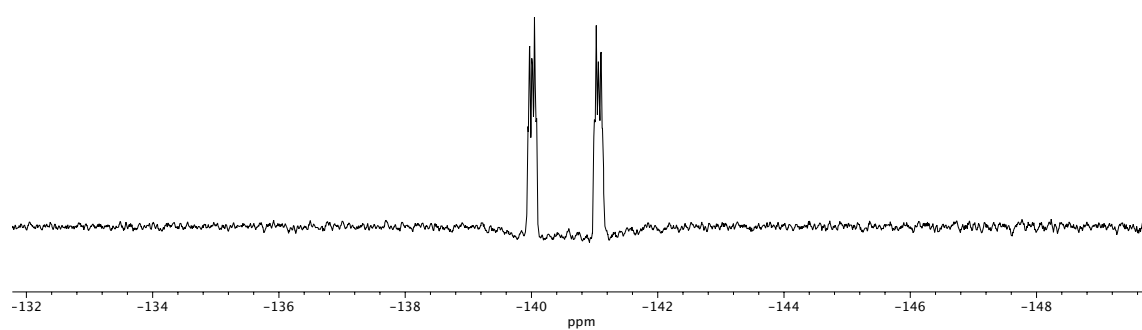


Figure A9.66 ^{19}F NMR (282 MHz, CDCl_3) of compound **321**.

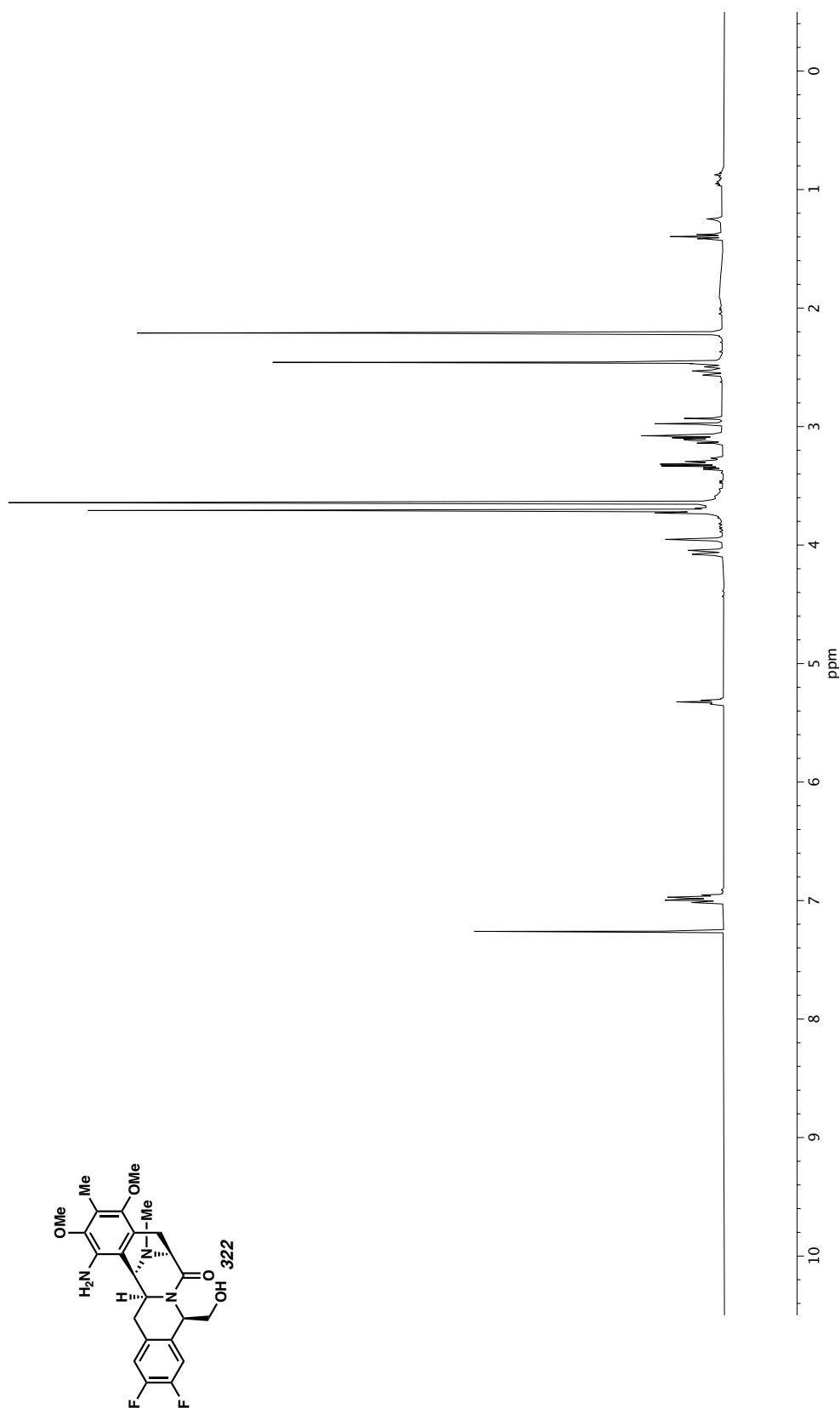


Figure A9.67 ¹H NMR (400 MHz, CDCl₃) of compound 322.

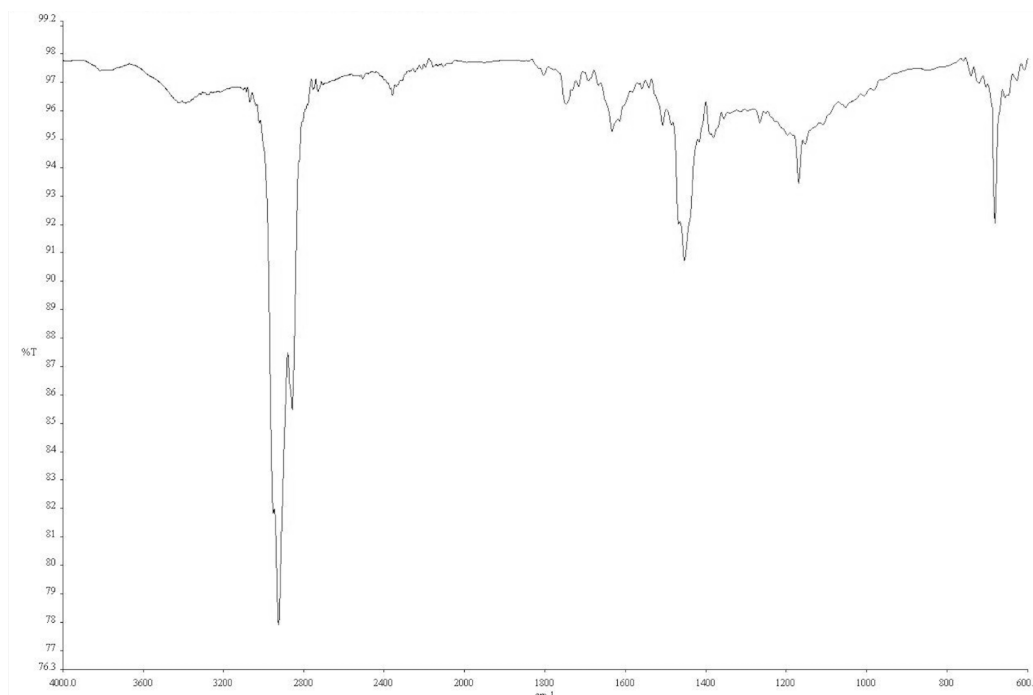


Figure A9.68 Infrared spectrum (Thin Film, NaCl) of compound **322**.

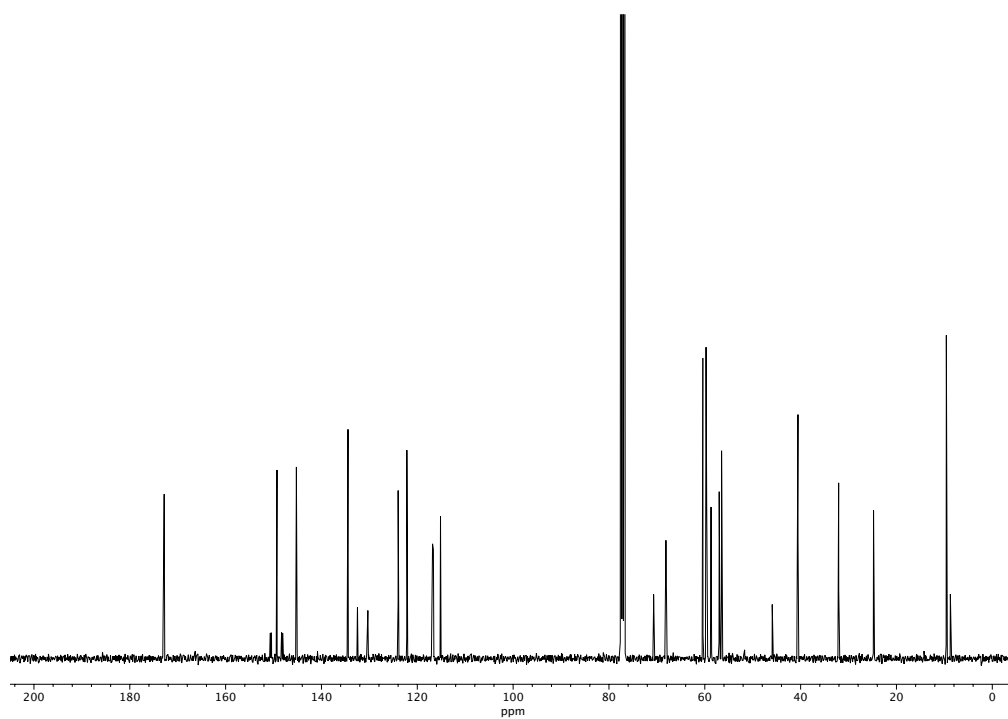


Figure A9.69 ¹³C NMR (100 MHz, CDCl₃) of compound **322**.

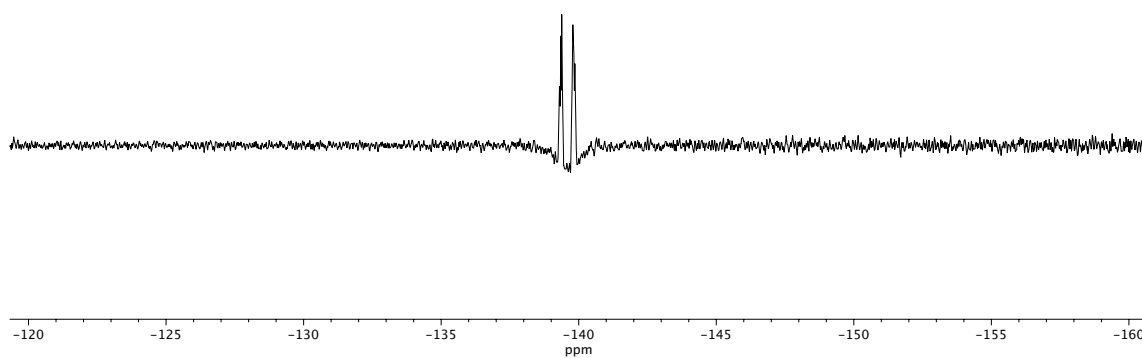


Figure A9.70 ^{19}F NMR (282 MHz, CDCl_3) of compound **322**.

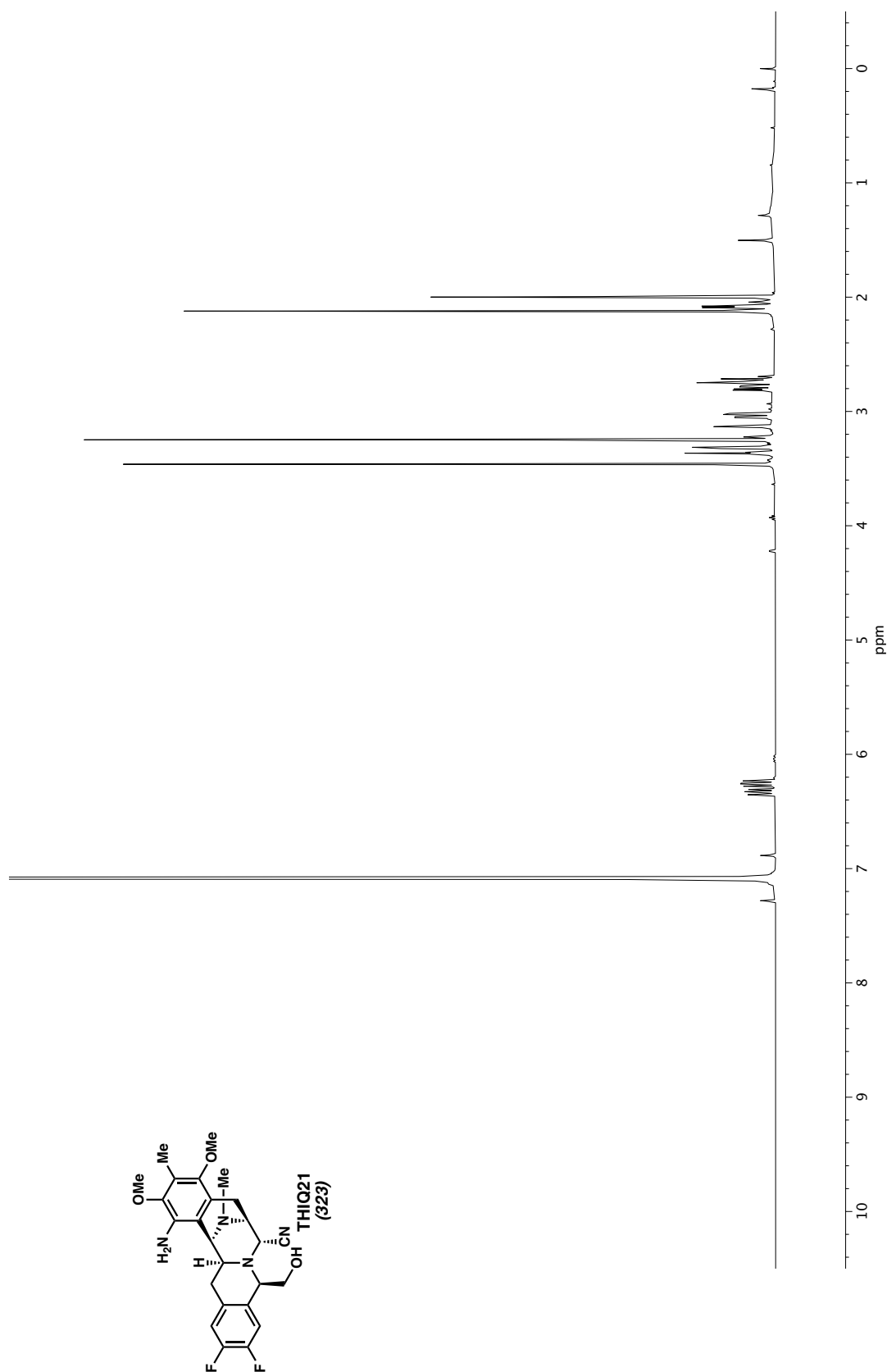


Figure A9.71 ^1H NMR (400 MHz, C_6D_6) of compound 323 (THIQ21).

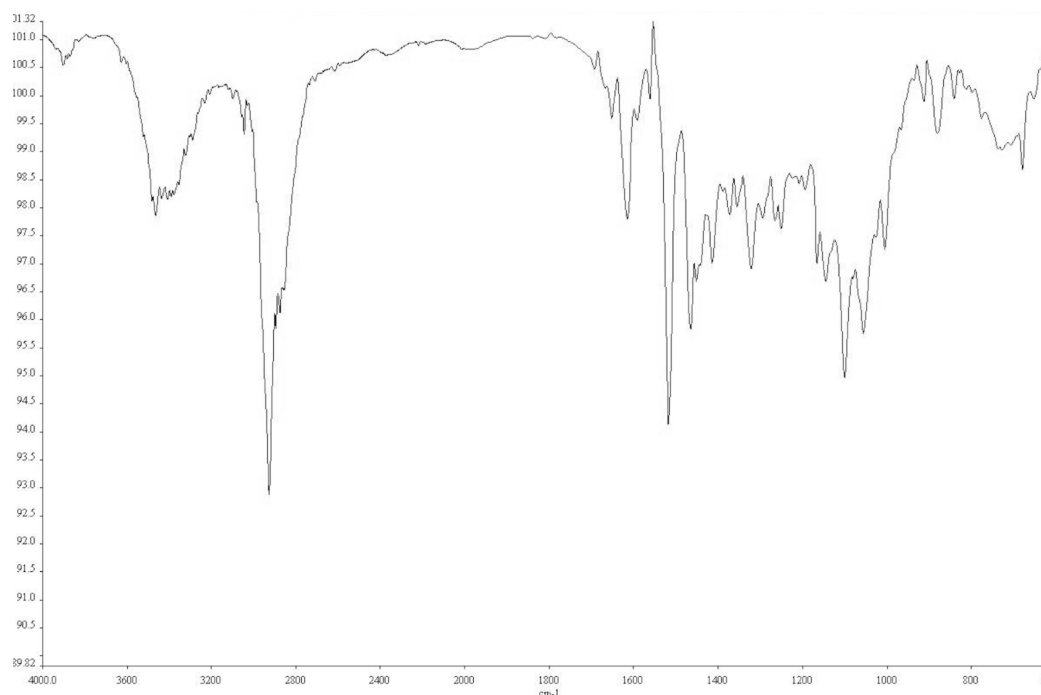


Figure A9.72 Infrared spectrum (Thin Film, NaCl) of compound **323** (THIQ21).

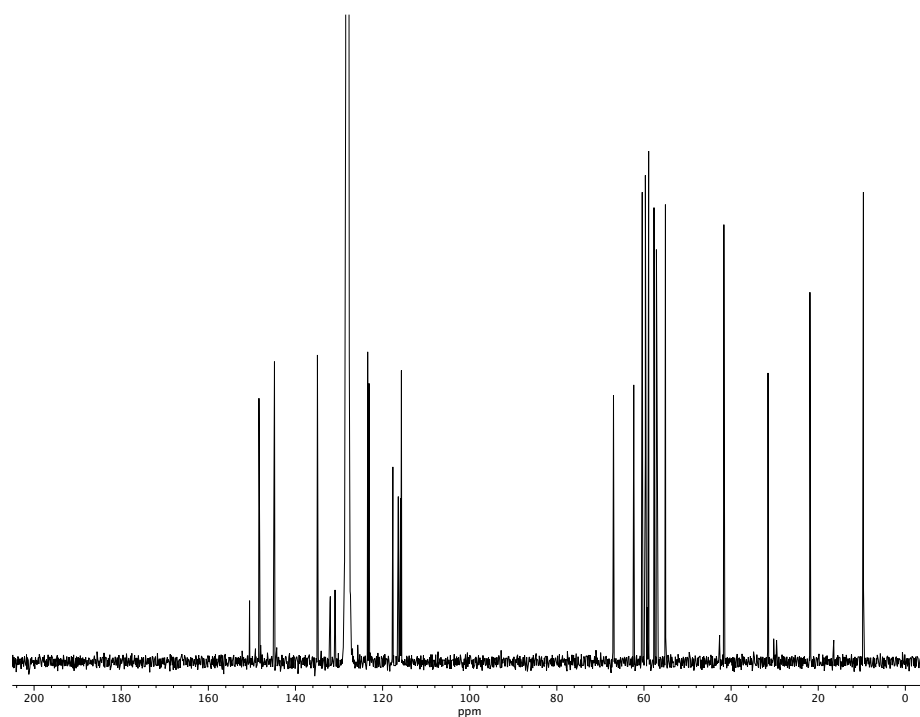


Figure A9.73 ¹³C NMR (100 MHz, C₆D₆) of compound **323** (THIQ21).

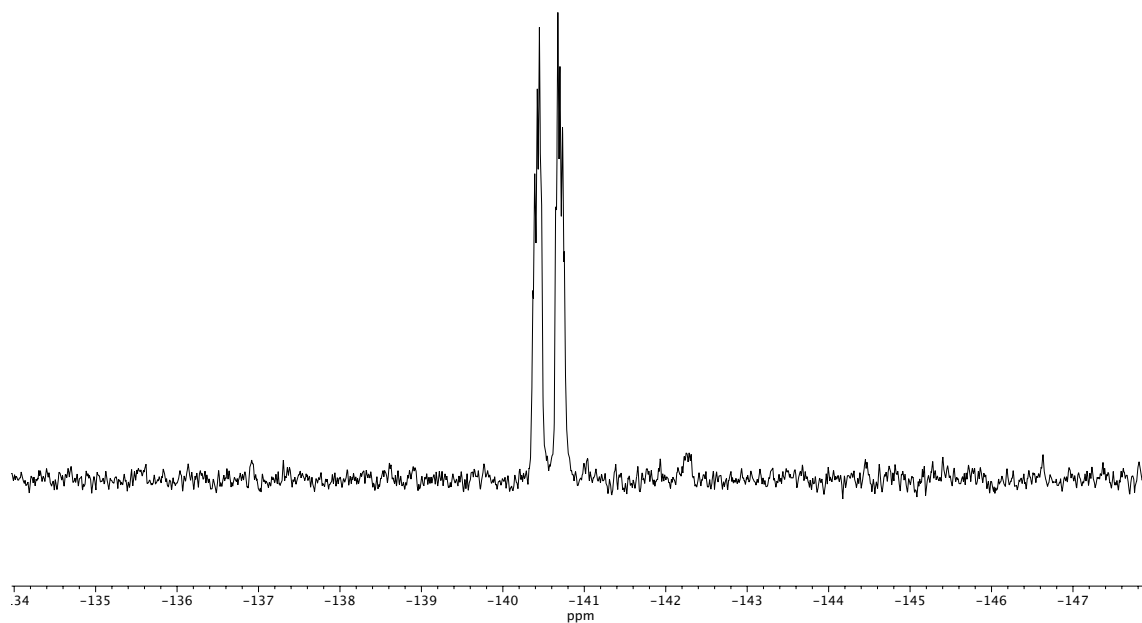


Figure A9.74 ^{19}F NMR (282 MHz, C_6D_6) of compound **323** (THIQ21).