

Supplementary Information for

Visible-light-mediated difunctionalization of styrenes: an unprecedented approach to 5-aryl-2-imino-1,3-oxathiolanes

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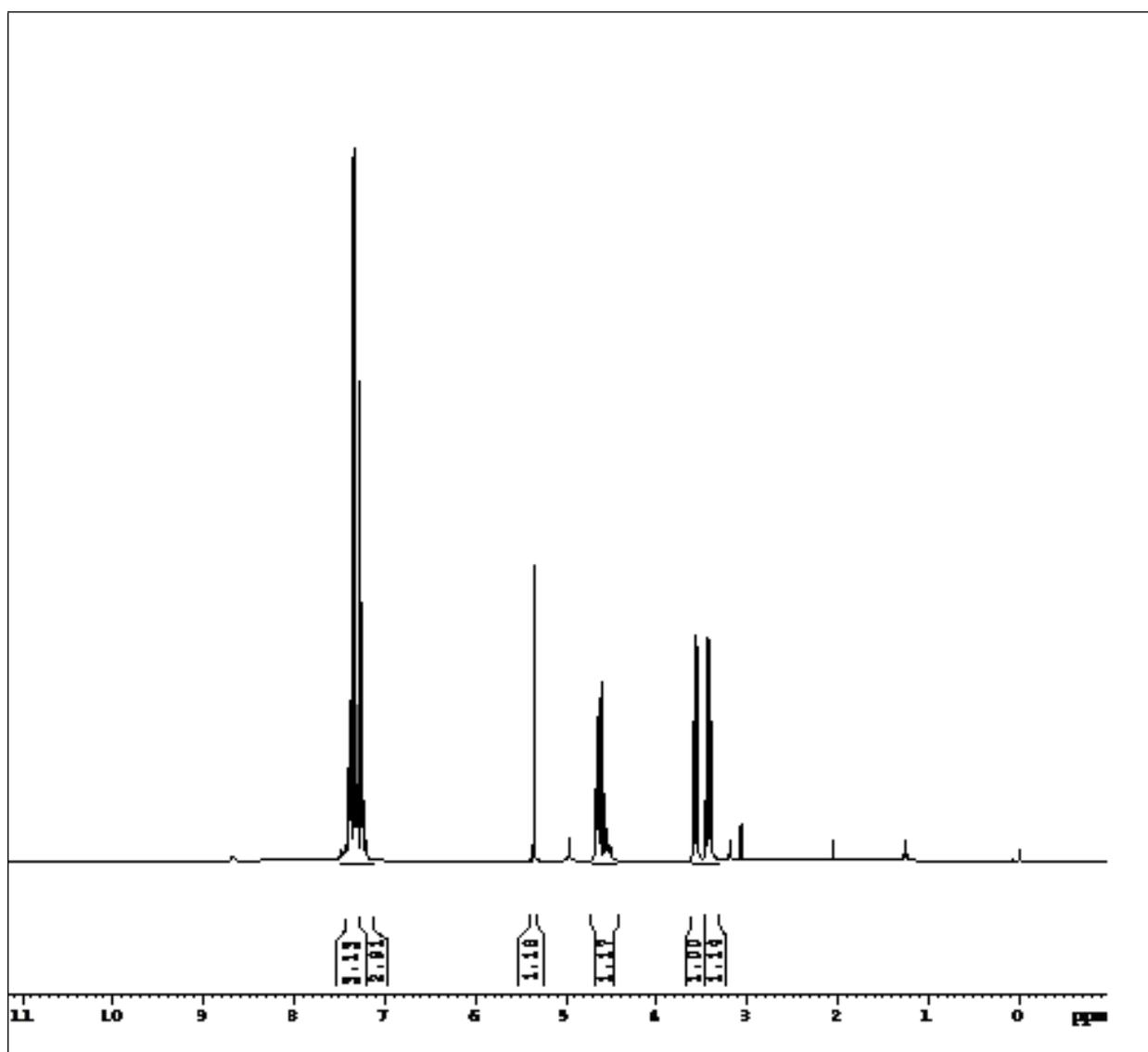
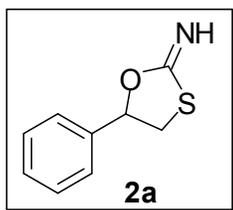
Allahabad-211002, India

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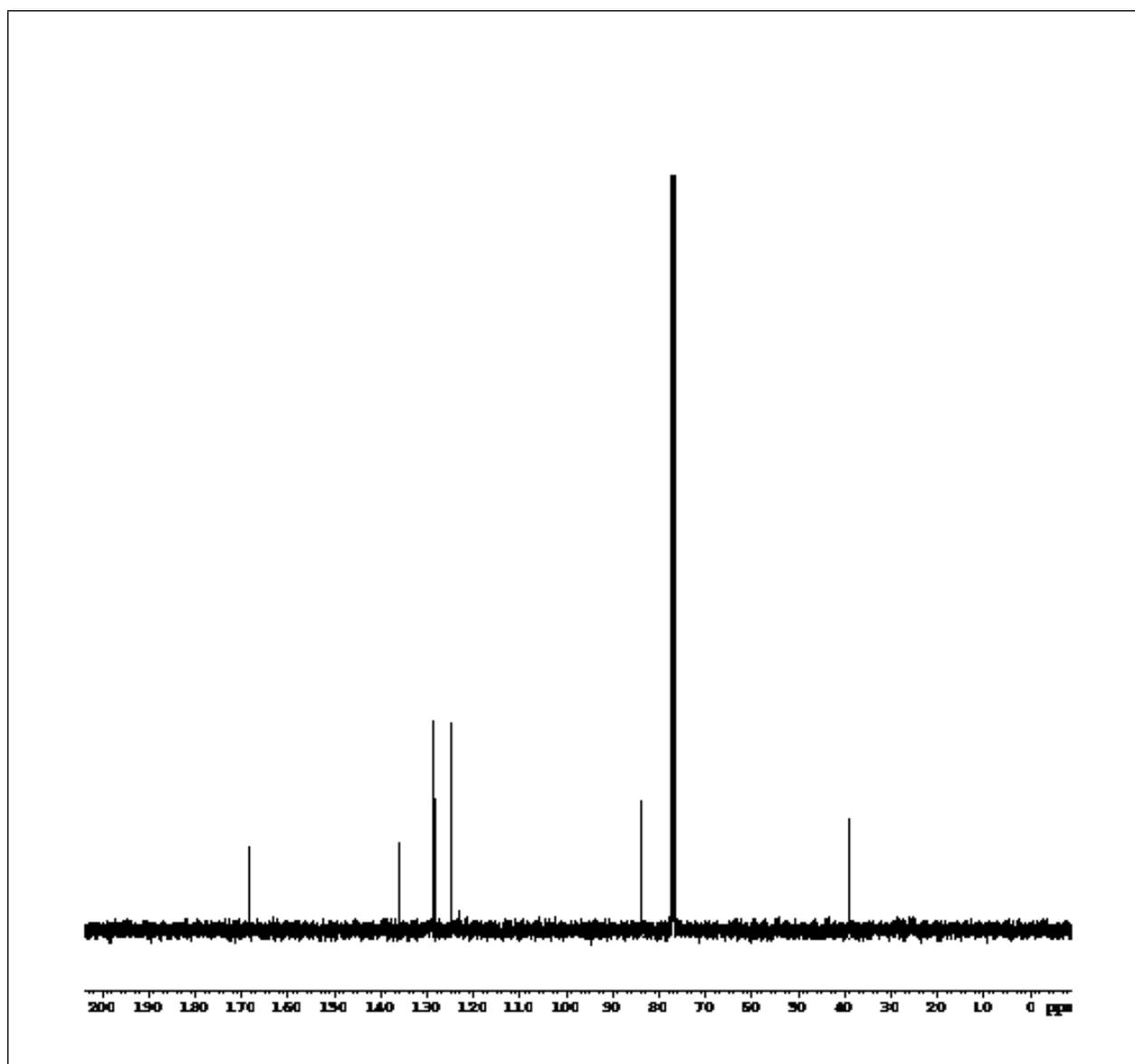
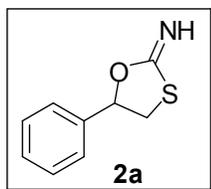
- I. General Information:** All commercially available reagents were used without further purification unless otherwise specified by a reference. Solvents were purified by the usual methods and stored over molecular sieves. All reactions were performed using oven-dried glassware. Organic solutions were concentrated using a Buchi rotary evaporator. Column chromatography was carried out over silica gel (Merck 100–200 mesh) and TLC was performed using silica gel GF254 (Merck) plates. IR spectra in KBr were recorded on a Perkin-Elmer 993 IR spectrophotometer and ^1H (400 MHz), ^{13}C (100 MHz) NMR spectra were recorded on a Bruker AVII spectrometer in CDCl_3 using TMS as internal reference. All chemical shifts are reported in δ/ppm and coupling constants (J) in Hertz (Hz). MS (EI) spectra were recorded on double focusing mass spectrometer. Green LEDs (2.50 W, $\lambda = 535$ nm) Rebel LED, mounted on a 25 mm cool base was purchased from commercial supplier Luxeon Star LEDs Quadica Developments Inc. 47 6th Concession Rd. Brantford, Ontario N 32 5L7 Canada.
- II. General procedure for the synthesis of 5-aryl-2-imino-1,3-oxathiolanes:** A round bottom flask was charged with styrene **1** (1.0 mmol), eosin Y (2 mol%), NH_4SCN (1.0 mmol) and CH_3CN (3 mL) and the contents were stirred in open air under irradiation with Luxeon Rebel high power green LEDs [2.50 W, $\lambda = 535$ nm] at room temperature for 12-18 h. After the completion of reaction (as indicated by TLC), it was quenched with water (5 mL) and extracted with ethyl acetate (3×5 mL). The organic phase was dried over anhydrous magnesium sulfate and concentrated under reduced pressure to yield the crude product, which was purified by silica gel column chromatography using a mixture of EtOAc-Hexane to give the pure product **2**. The copies of ^1H and ^{13}C NMR spectra of the product **2** are given below:

III. Copies of ^1H and ^{13}C NMR spectra.

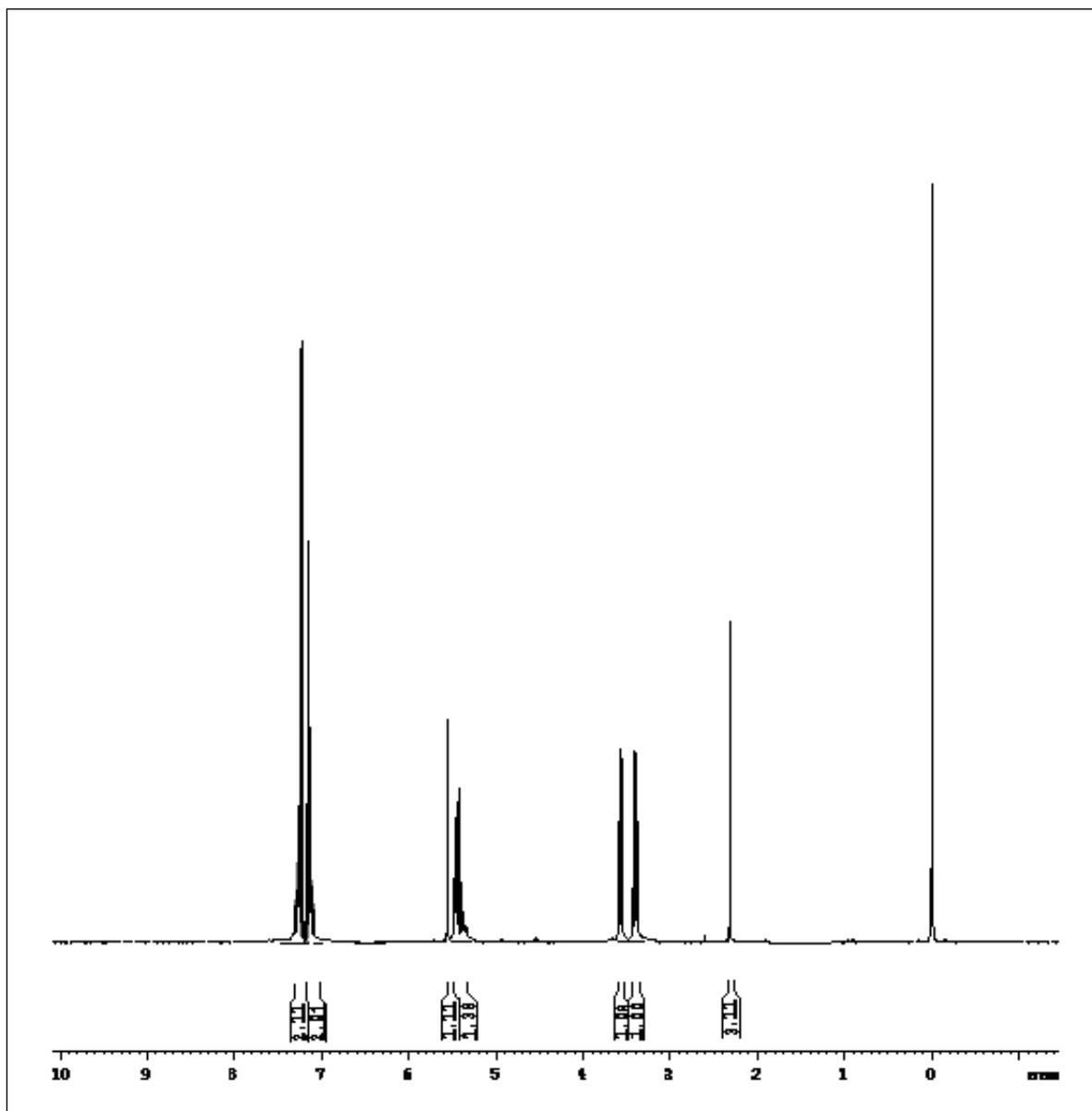
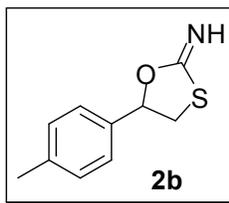
Compound 2a. ^1H NMR Spectrum (CDCl_3).



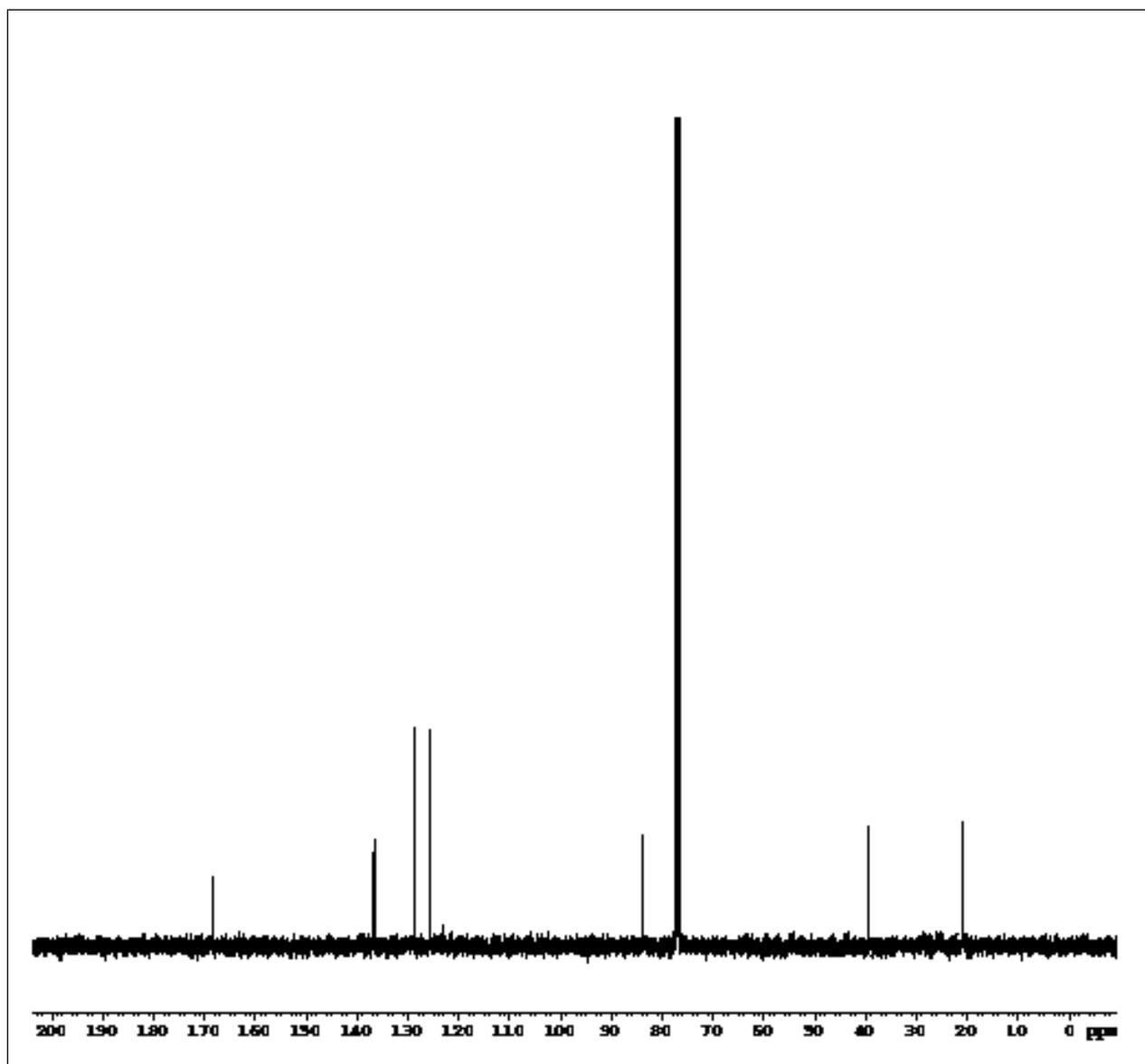
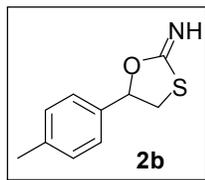
Compound 2a. ^{13}C NMR Spectrum (CDCl_3).



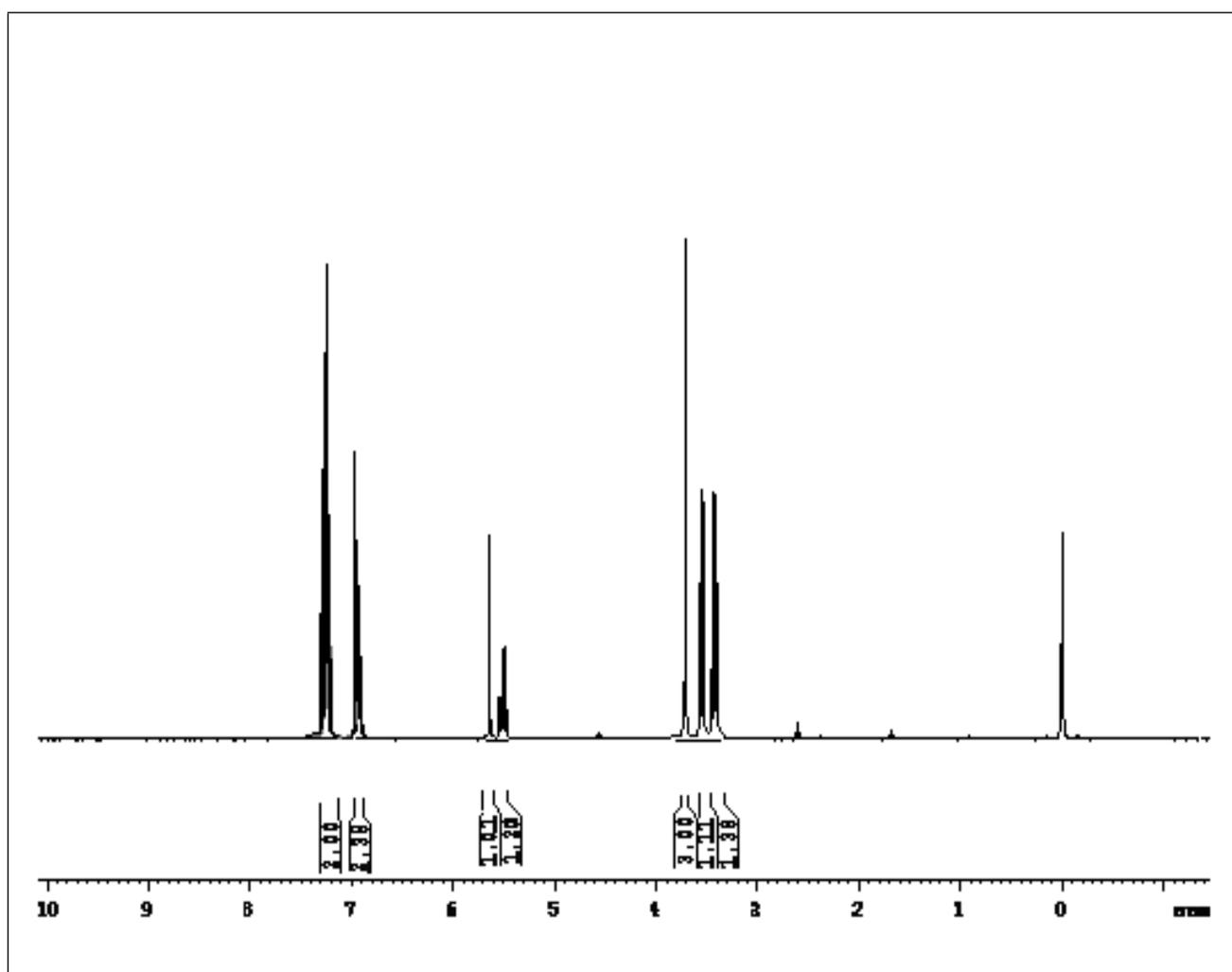
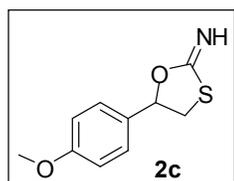
Compound 2b. ^1H NMR Spectrum (CDCl_3).



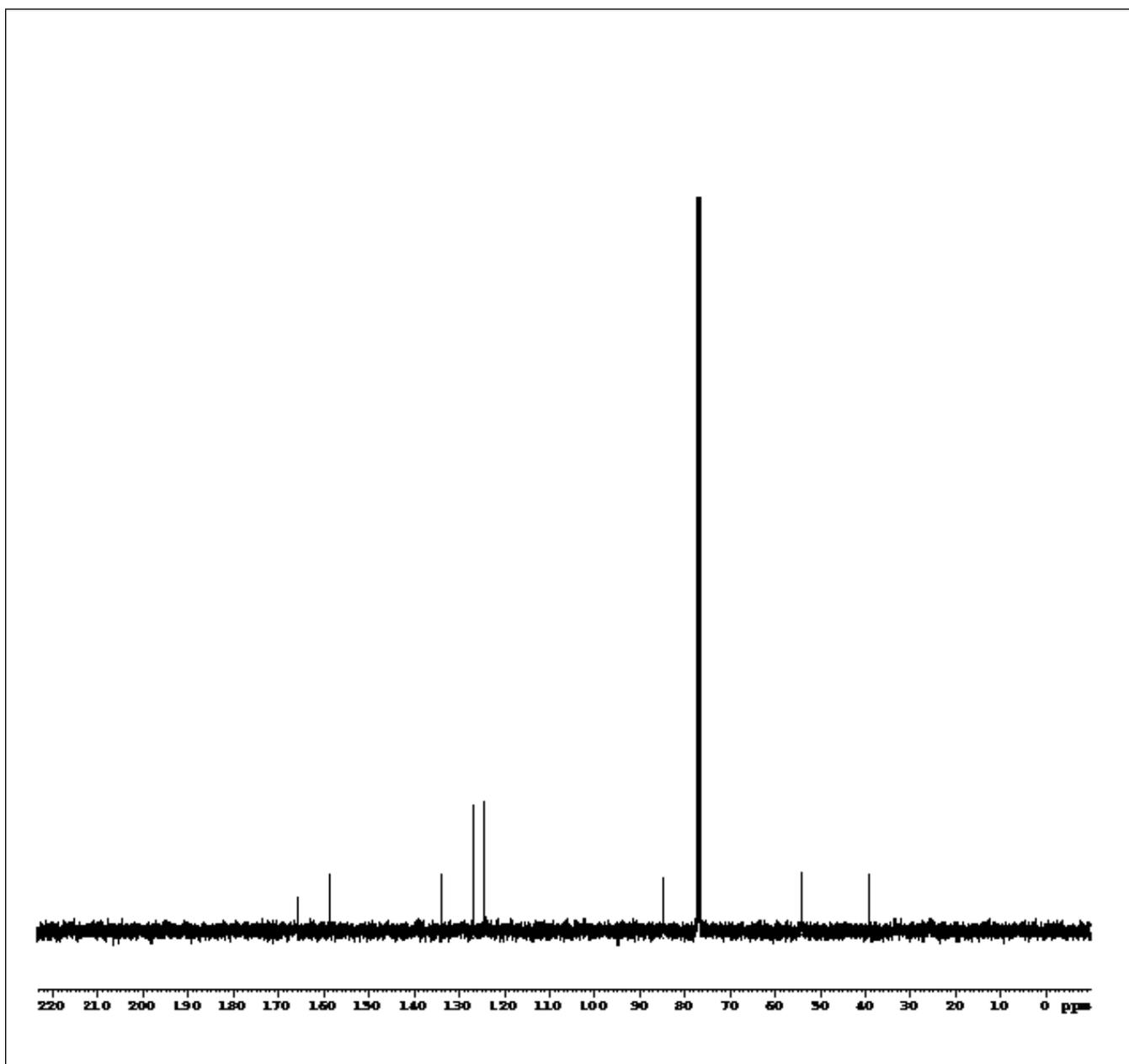
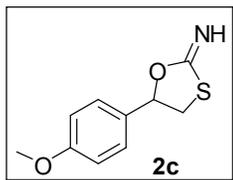
Compound 2b. ^{13}C NMR Spectrum (CDCl_3).



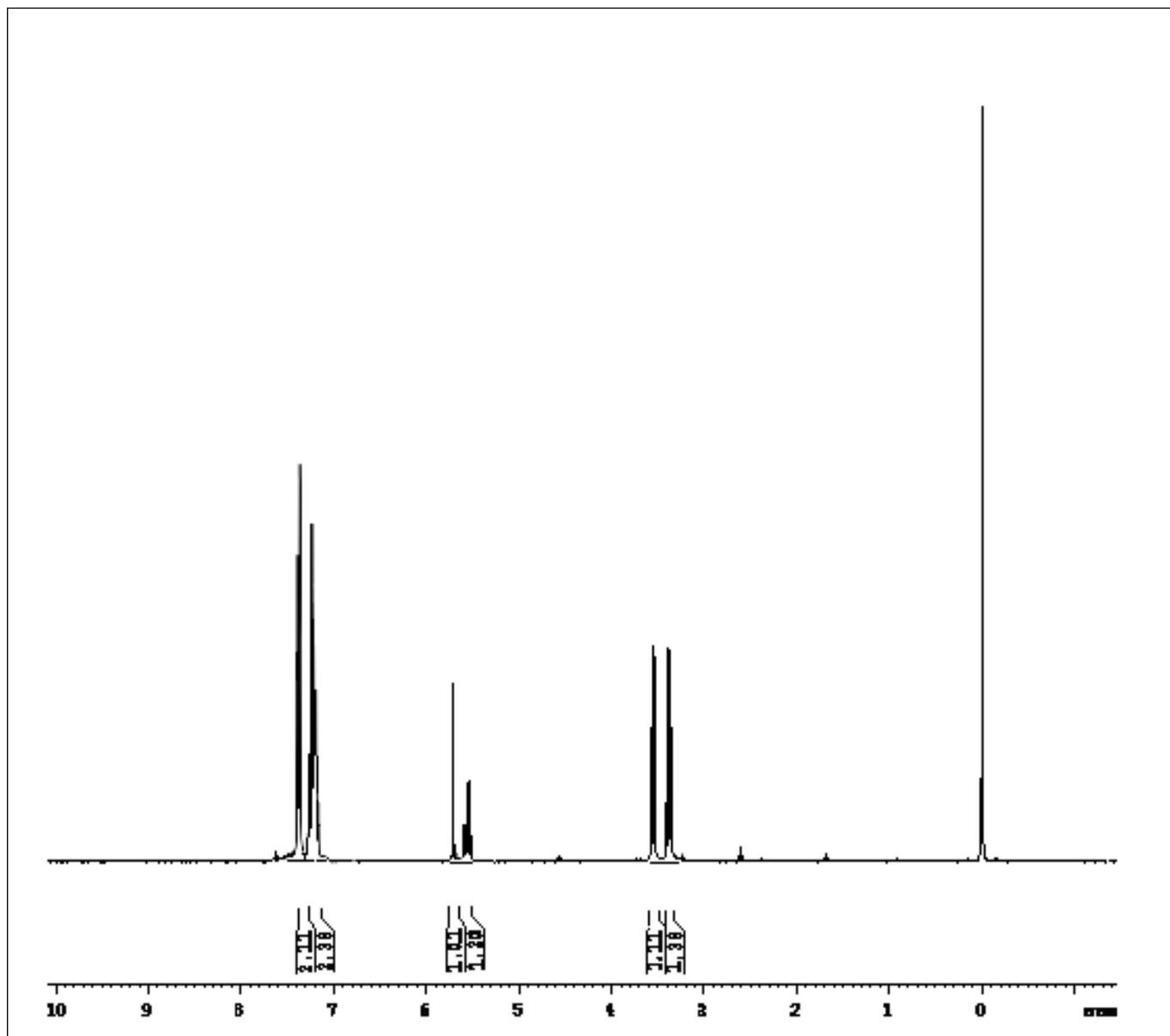
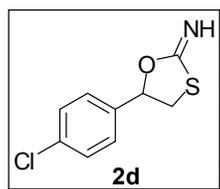
Compound 2c. ^1H NMR Spectrum (CDCl_3).



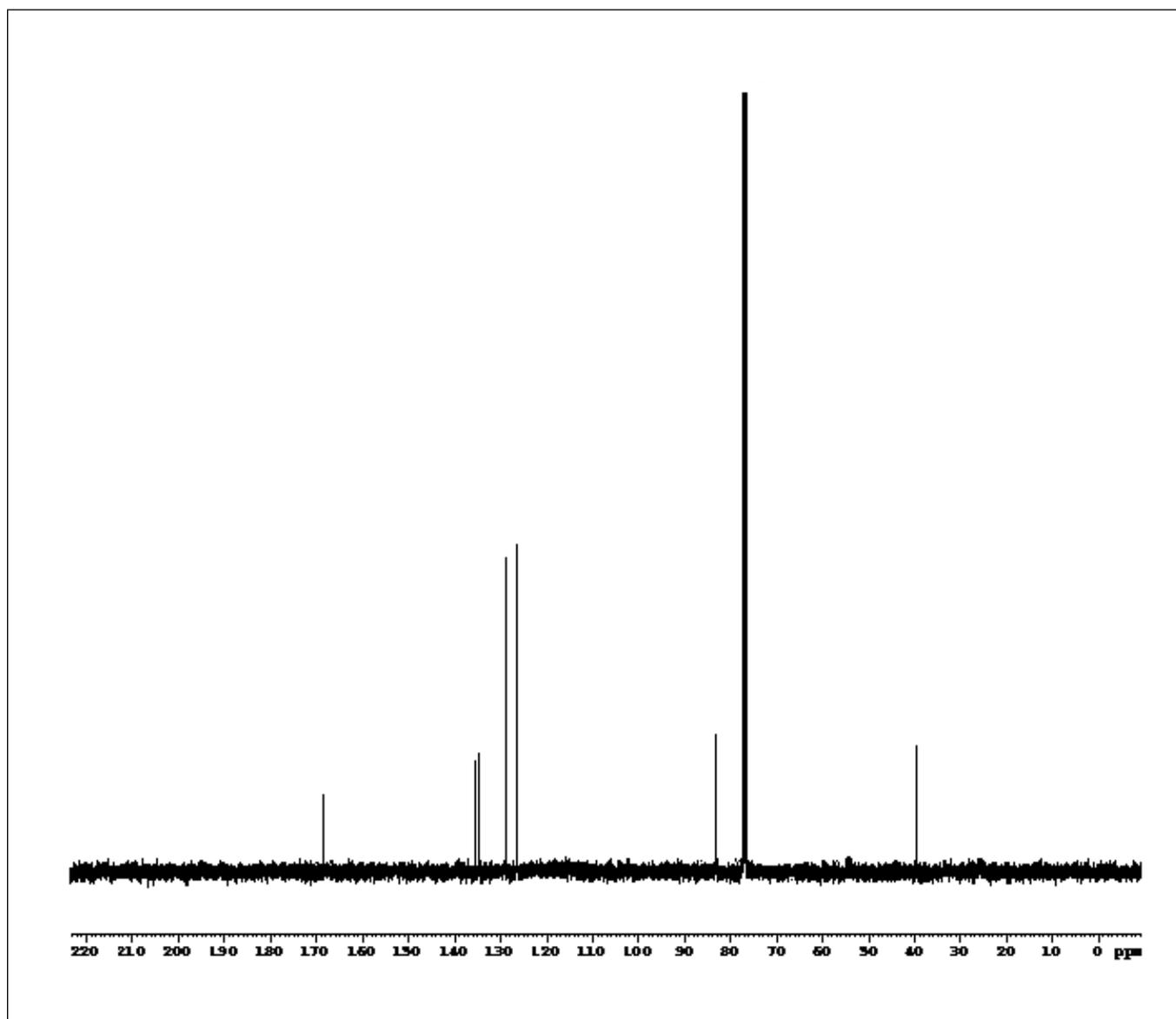
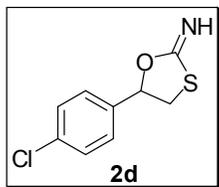
Compound **2c**. ^{13}C NMR Spectrum (CDCl_3).



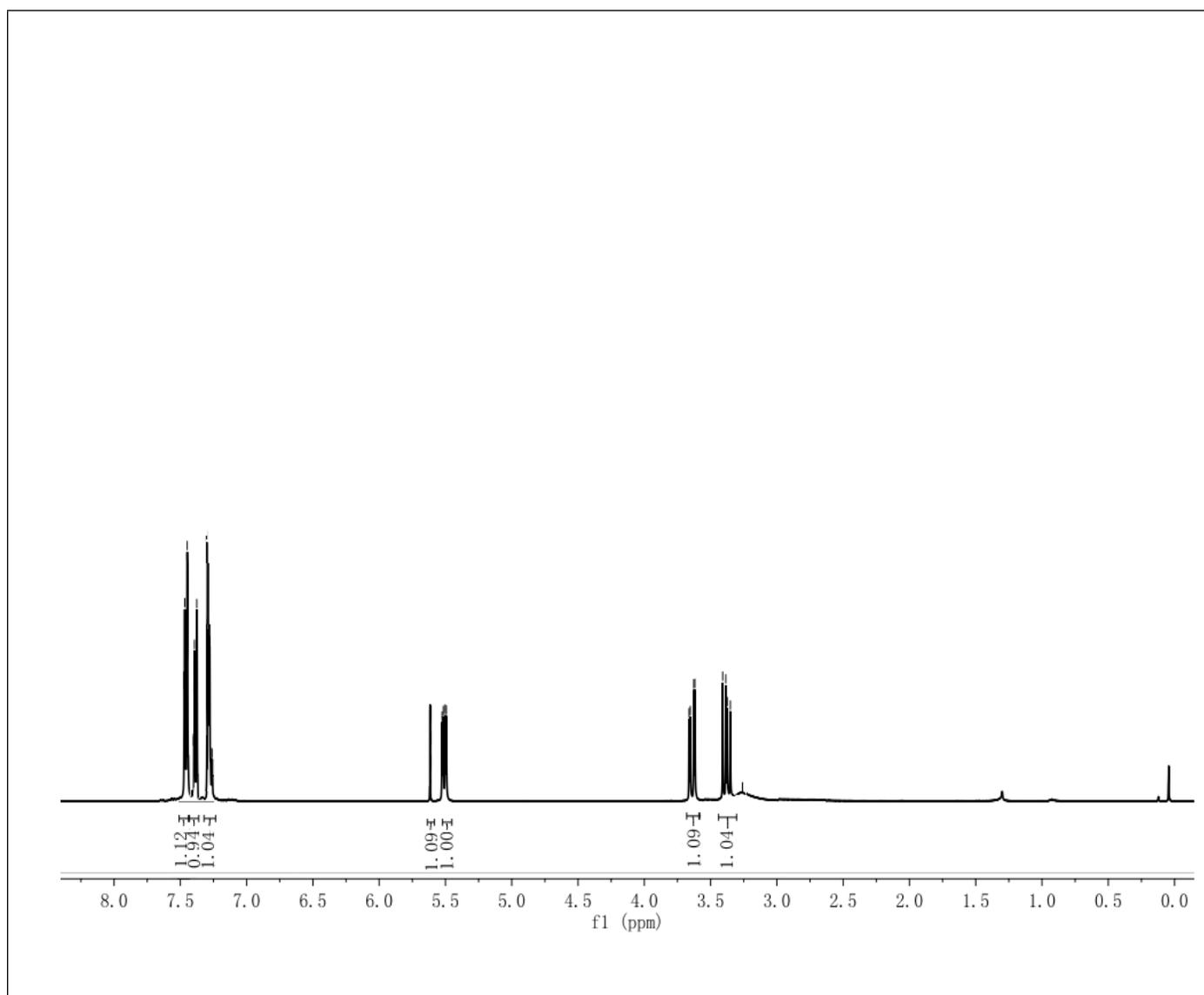
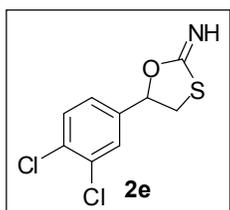
Compound 2d. ^1H NMR Spectrum (CDCl_3).



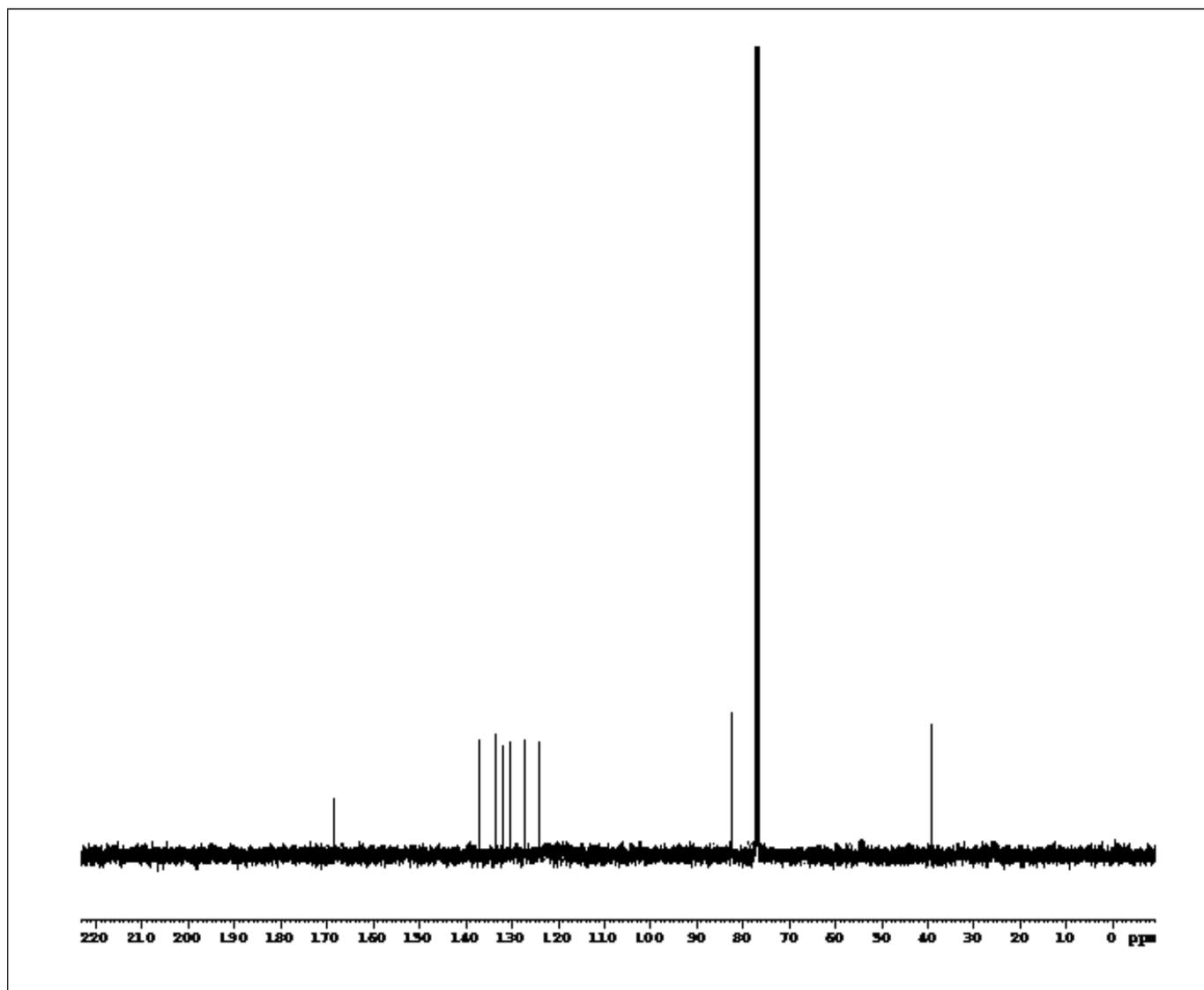
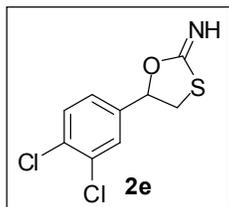
Compound 2d. ^{13}C NMR Spectrum (CDCl_3).



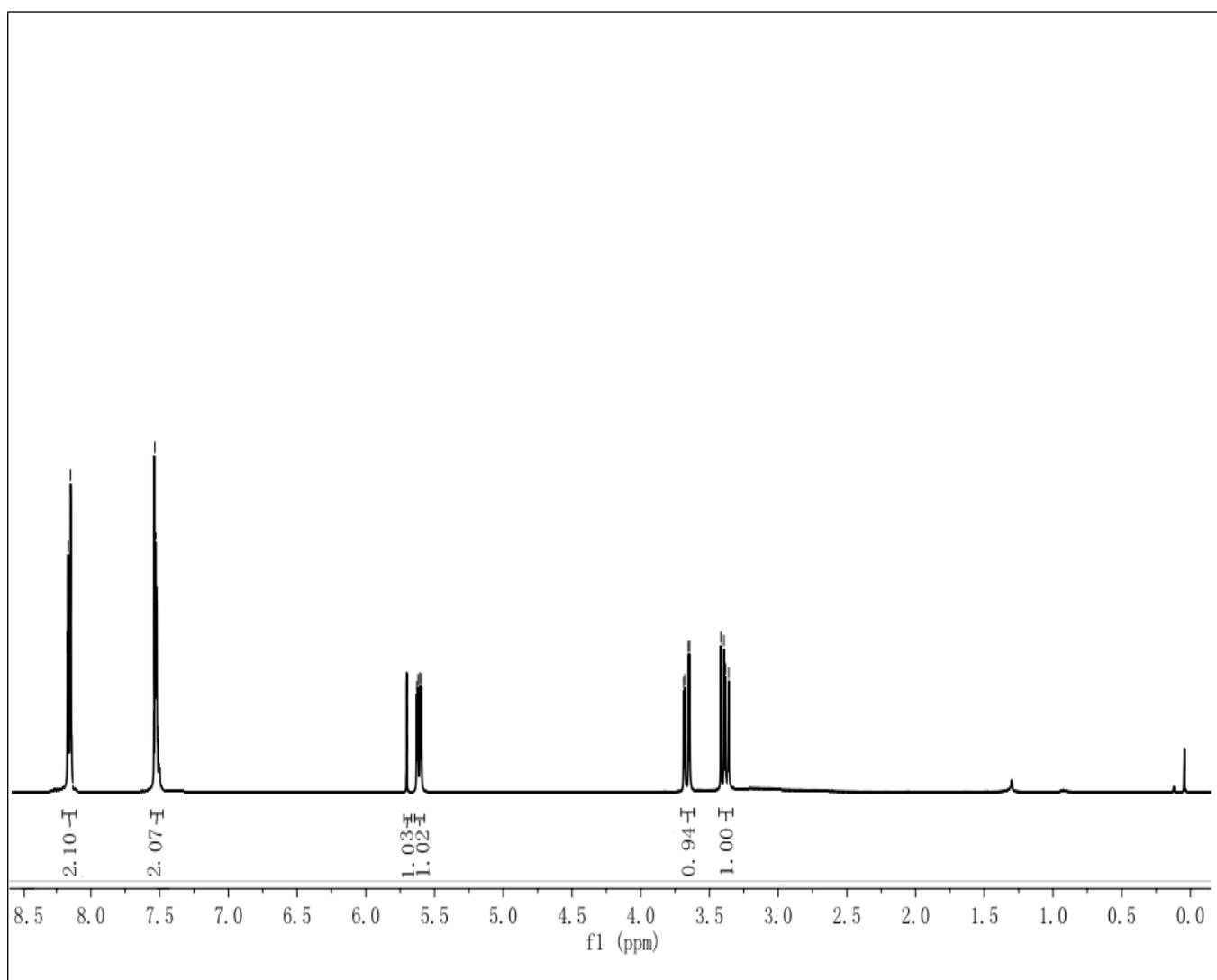
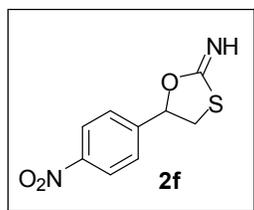
Compound 2e. ^1H NMR Spectrum (CDCl_3).



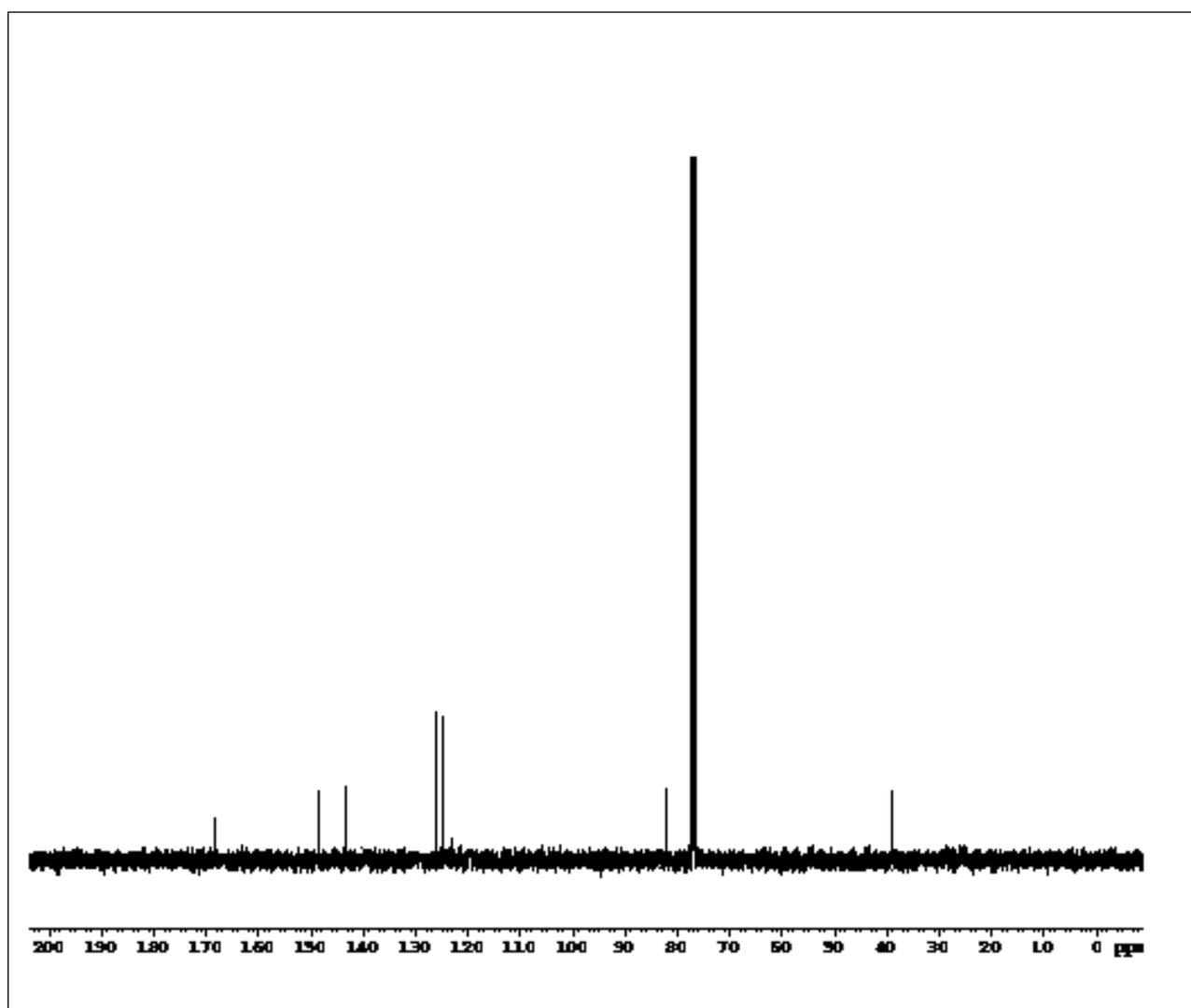
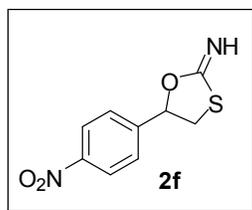
Compound 2e. ^{13}C NMR Spectrum (CDCl_3).



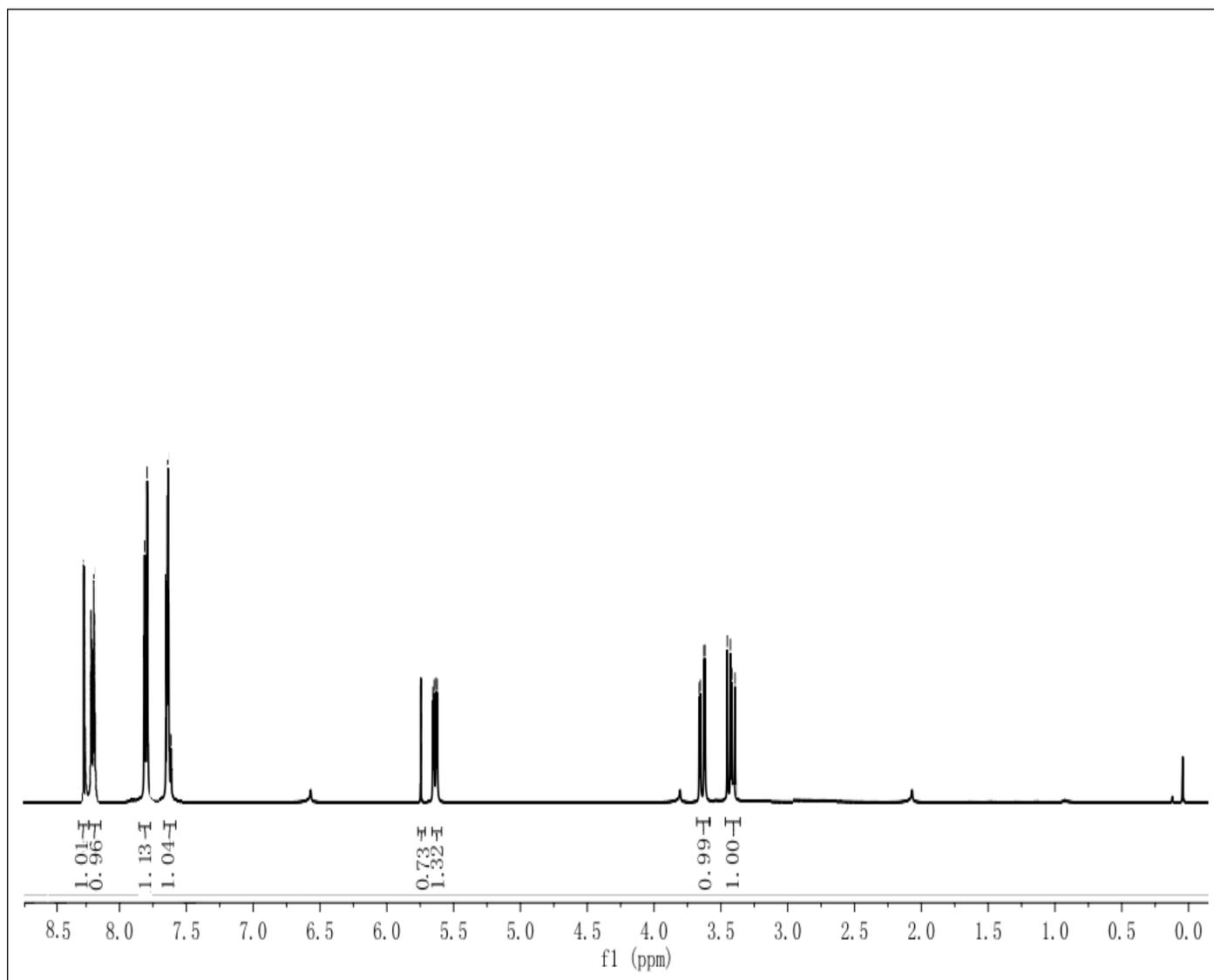
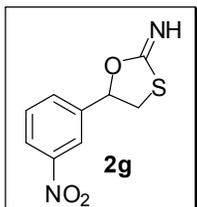
Compound 2f. ^1H NMR Spectrum (CDCl_3).



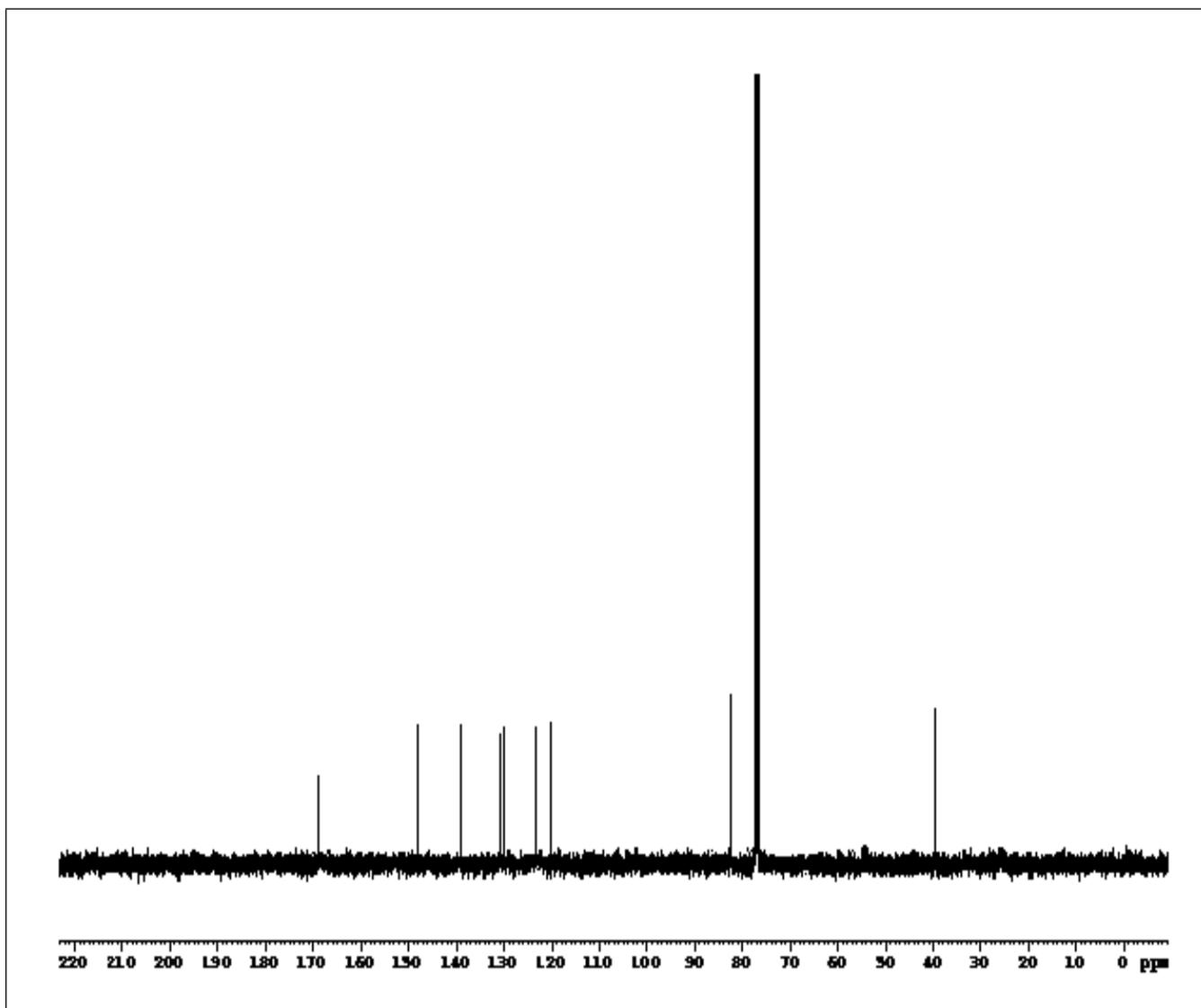
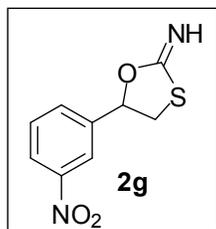
Compound 2f. ^{13}C NMR Spectrum (CDCl_3).



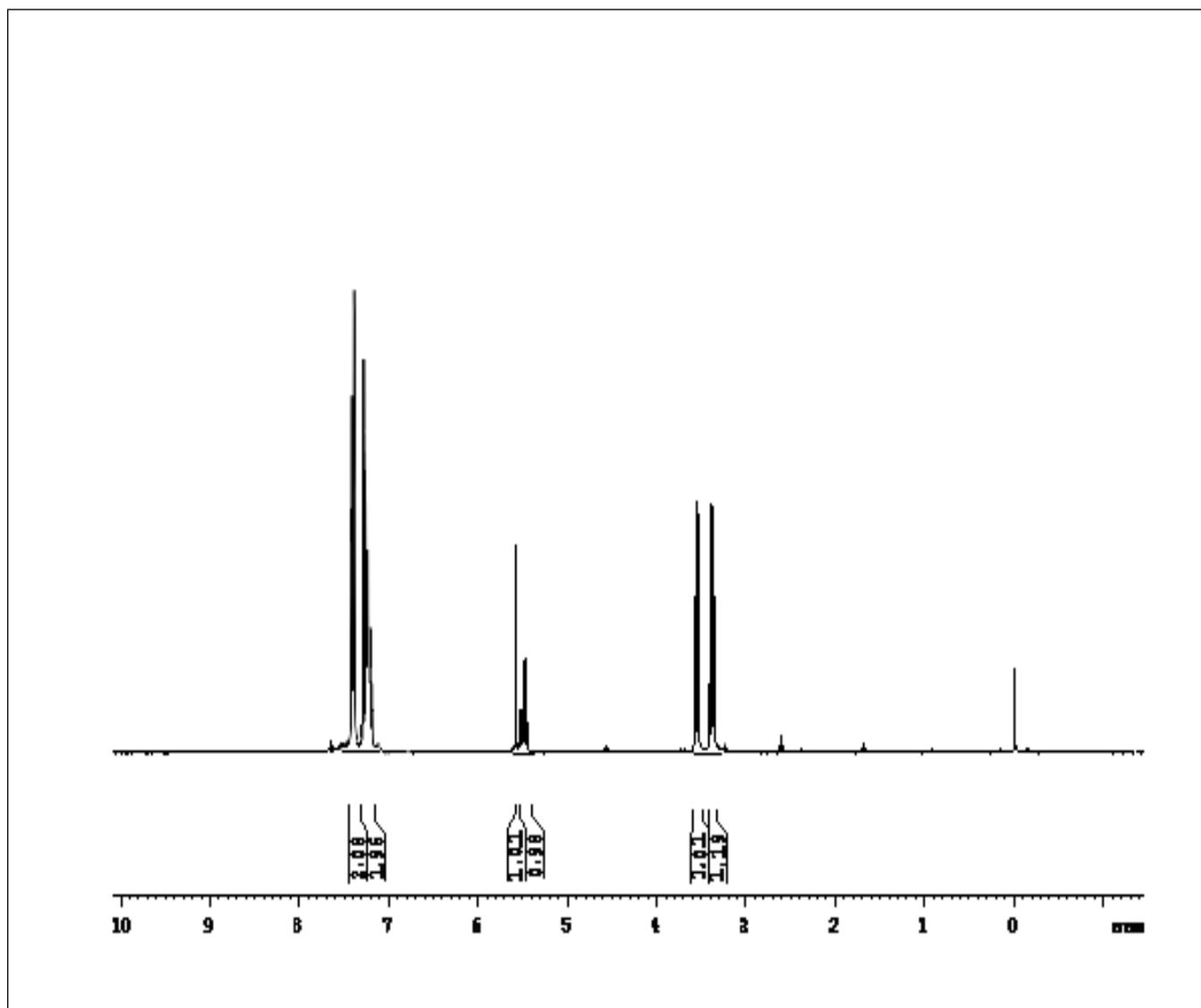
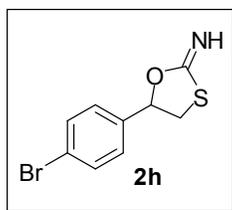
Compound 2g. ^1H NMR Spectrum (CDCl_3).



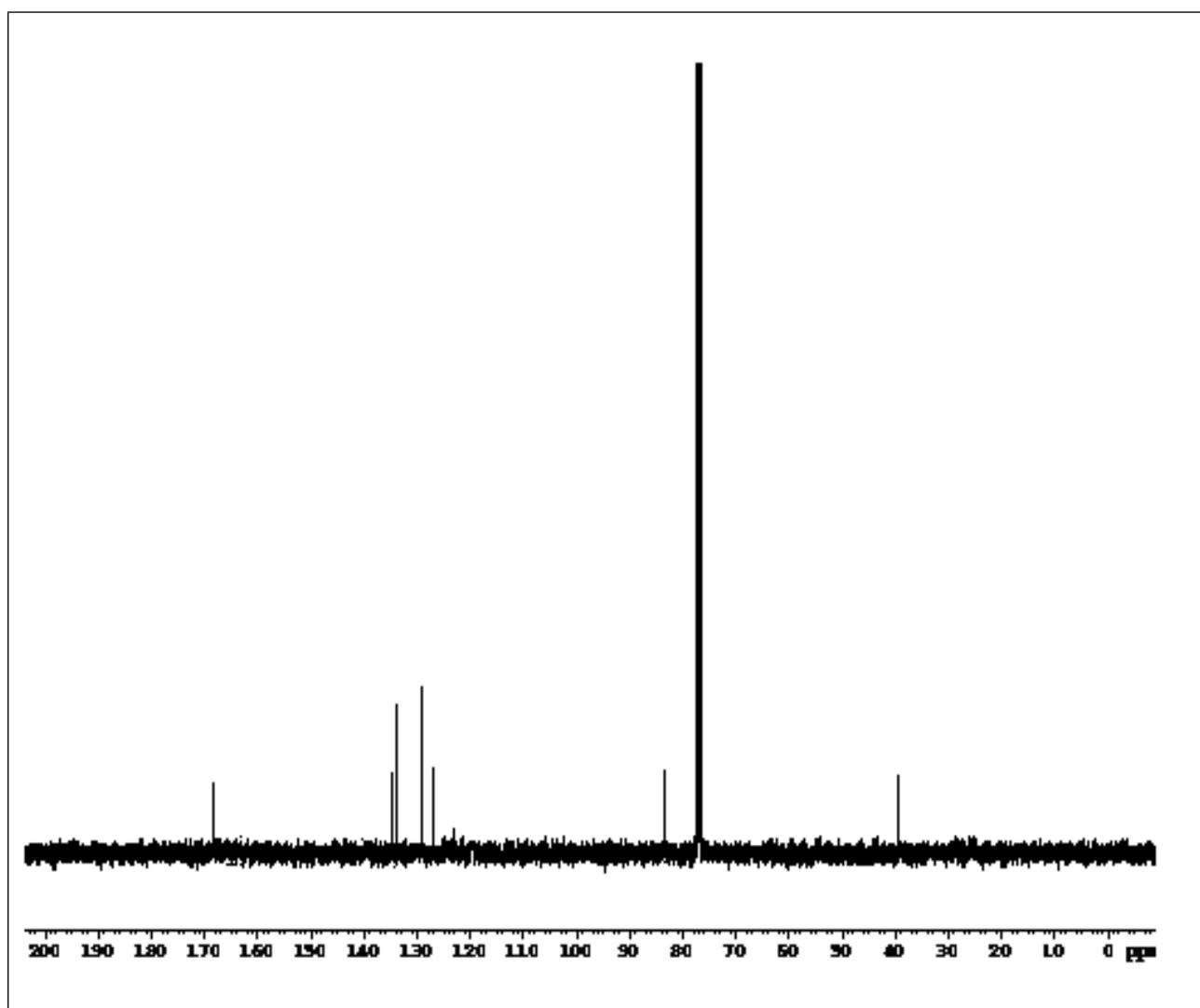
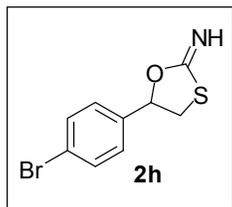
Compound 2g. ^{13}C NMR Spectrum (CDCl_3).



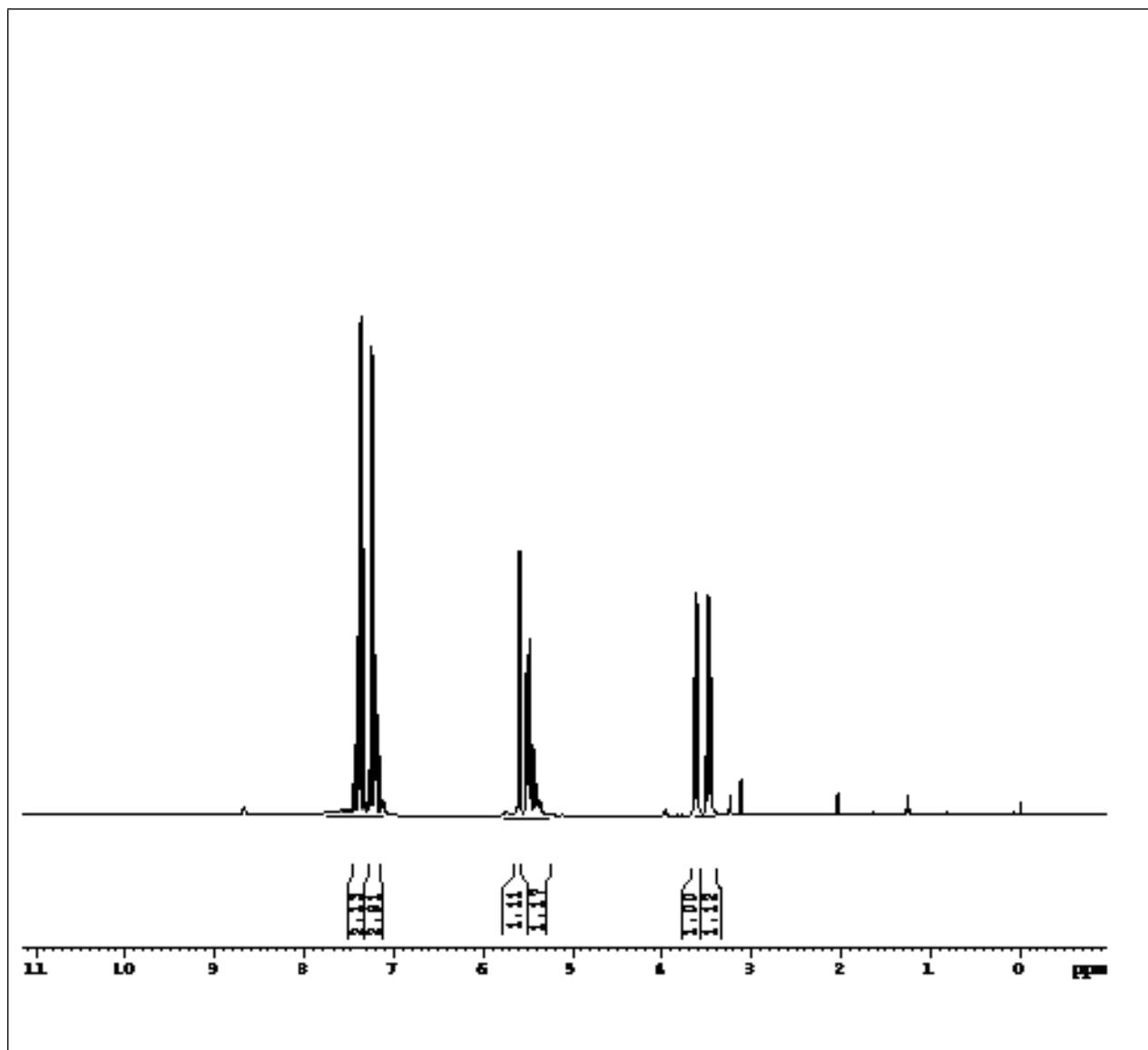
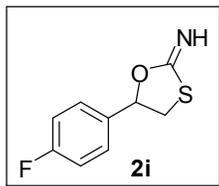
Compound 2h. ^1H NMR Spectrum (CDCl_3).



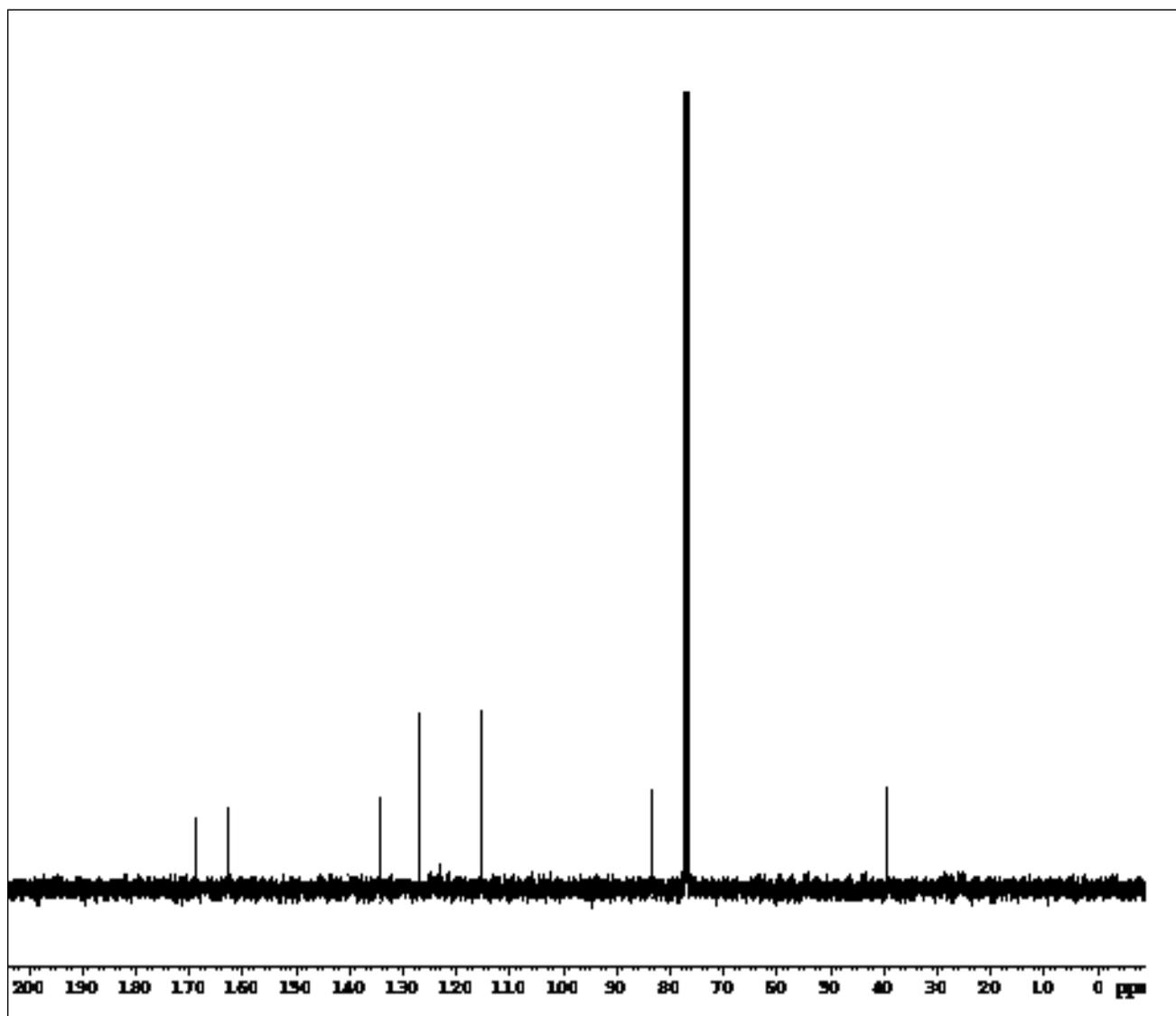
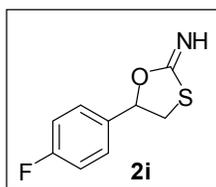
Compound 2h. ^{13}C NMR Spectrum (CDCl_3).



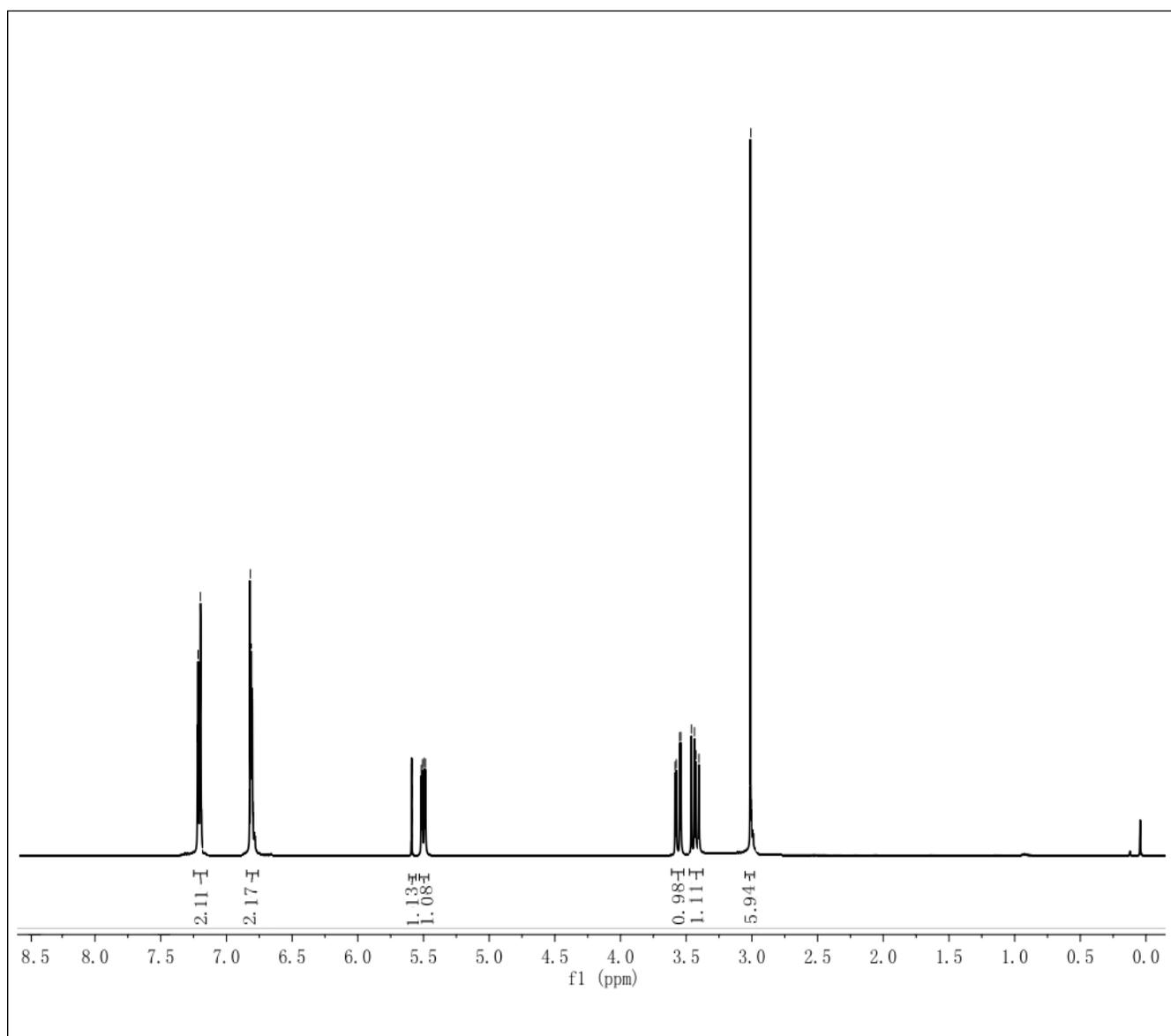
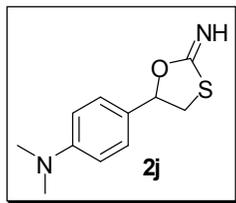
Compound 2i. ^1H NMR Spectrum (CDCl_3).



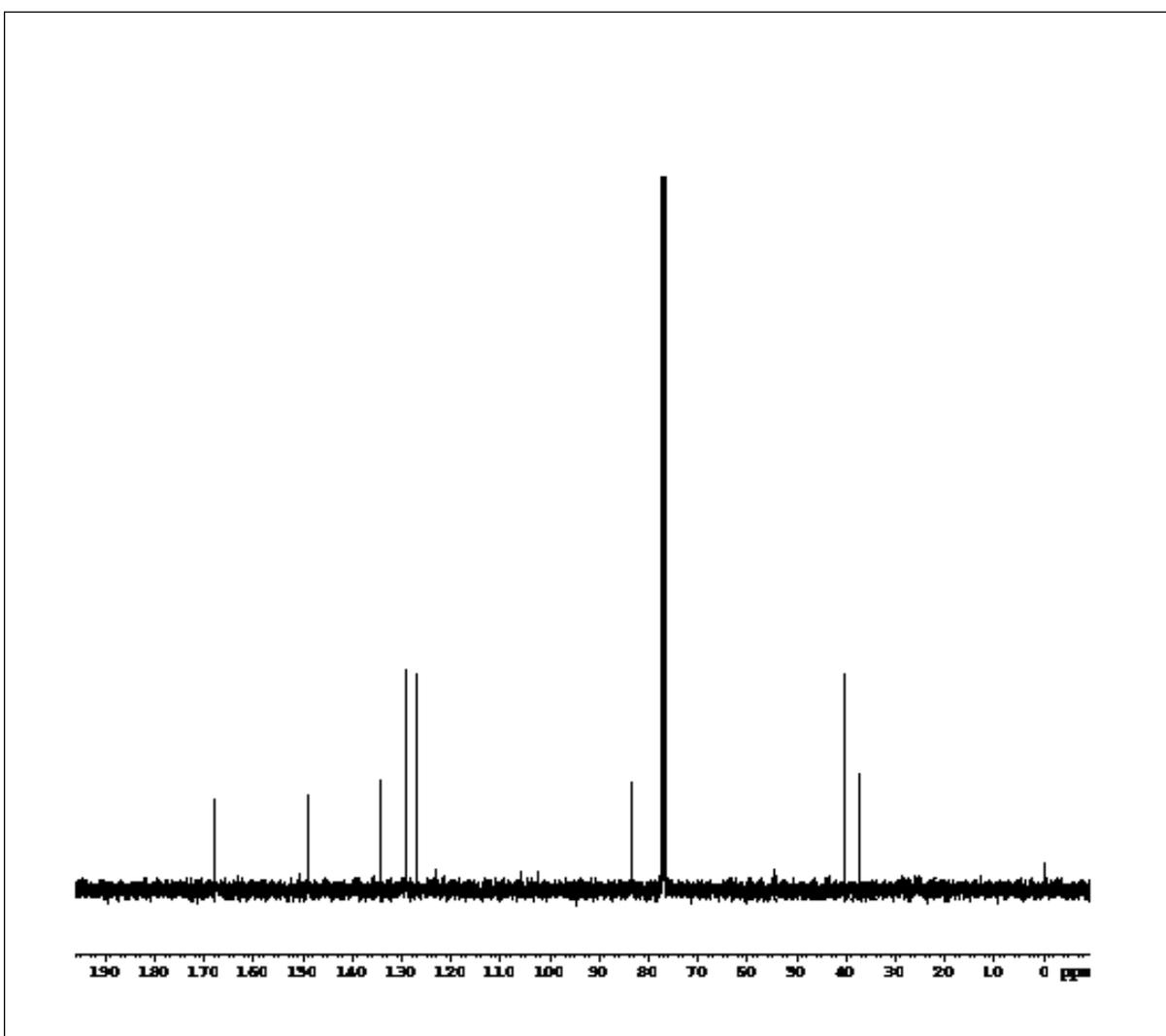
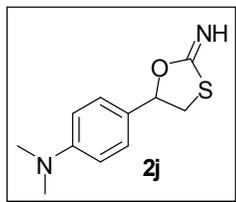
Compound **2i**. ^{13}C NMR Spectrum (CDCl_3).



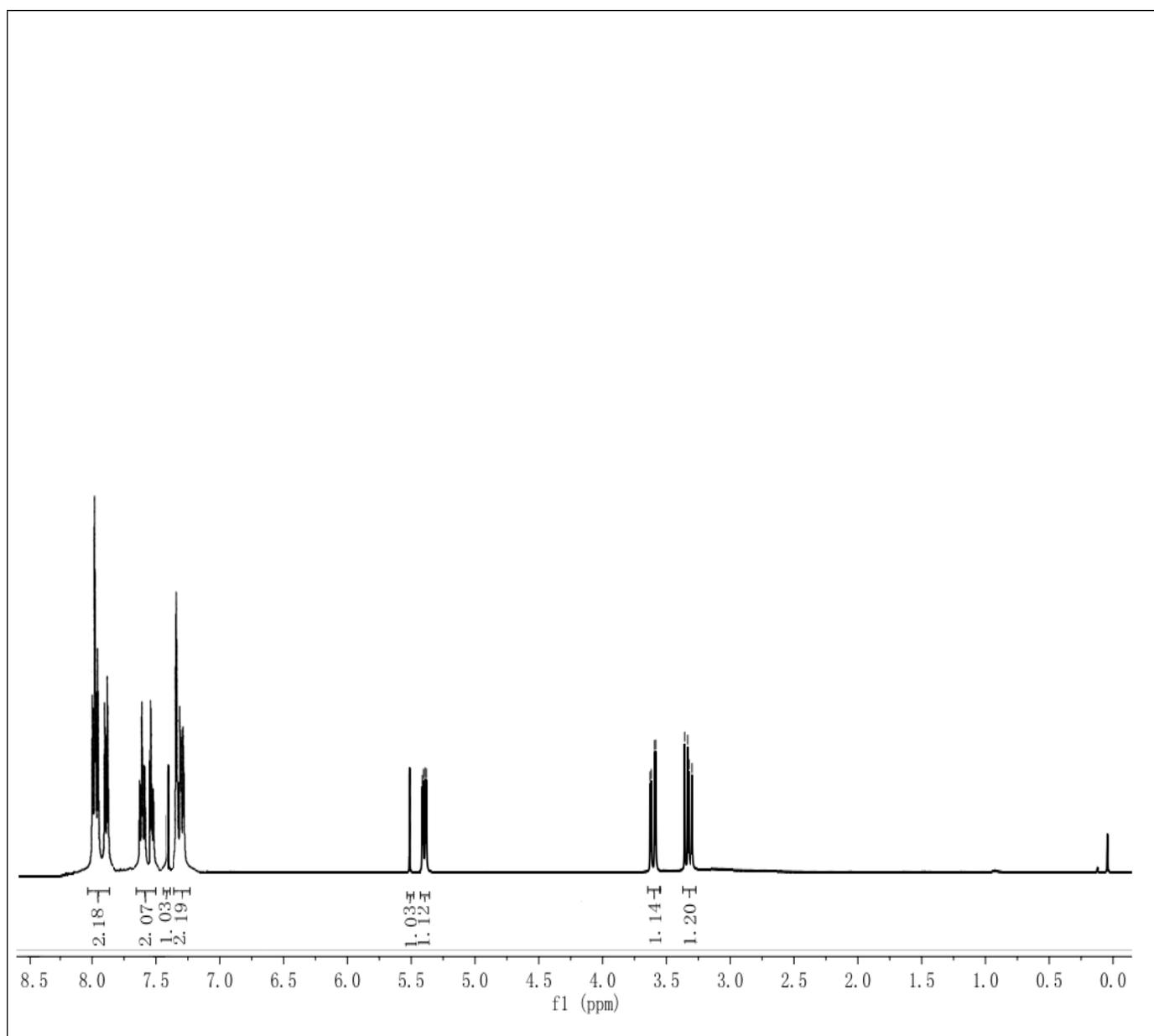
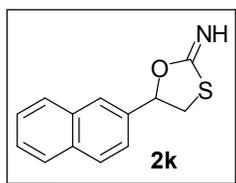
Compound 2j. ^1H NMR Spectrum (CDCl_3).



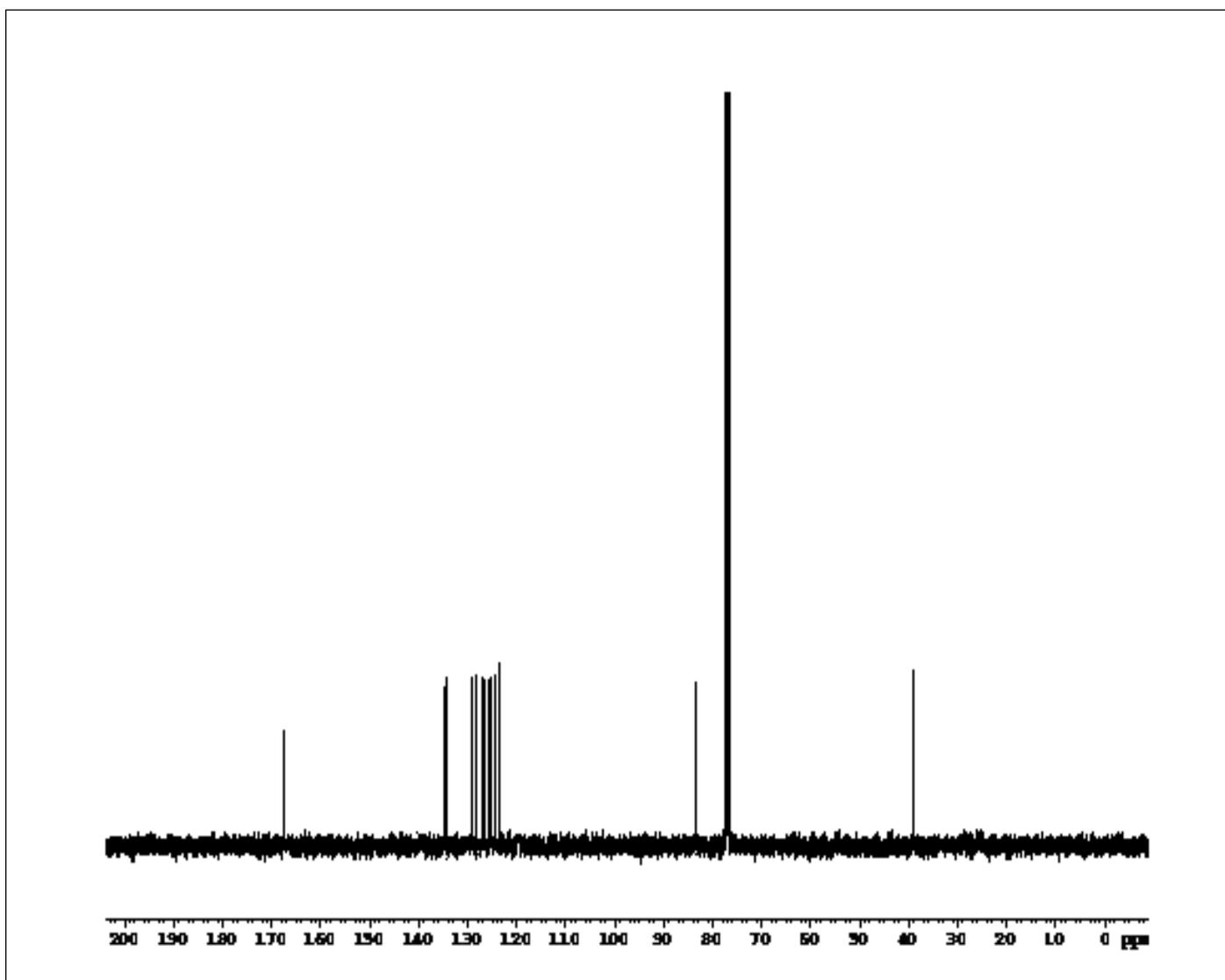
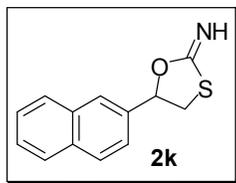
Compound 2j. ^{13}C NMR Spectrum (CDCl_3).



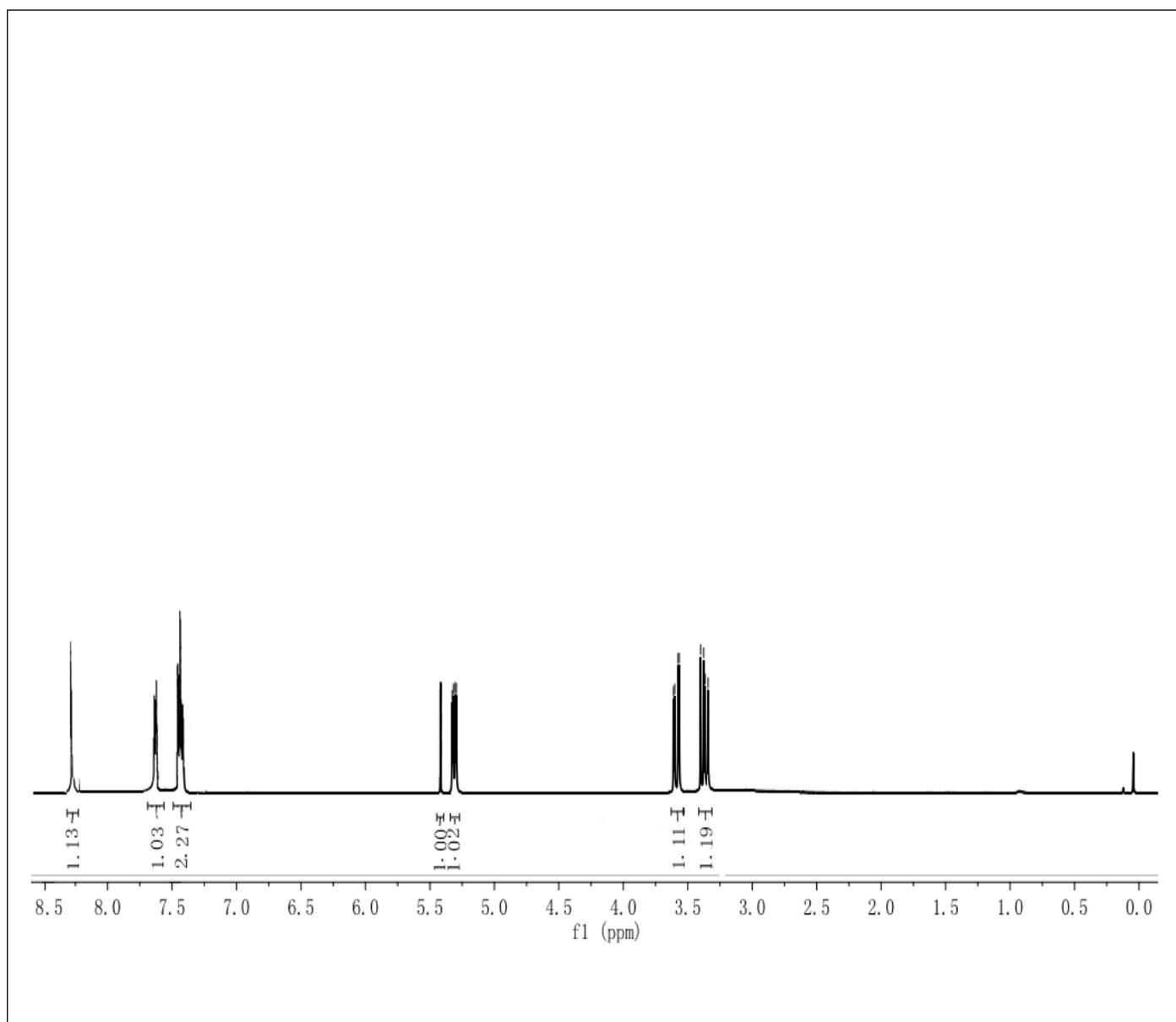
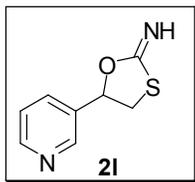
Compound 2k. ^1H NMR Spectrum (CDCl_3).



Compound 2k. ^{13}C NMR Spectrum (CDCl_3).



Compound 21. ^1H NMR Spectrum (CDCl_3).



Compound 21. ^{13}C NMR Spectrum (CDCl_3).

