

SUPPLEMENTARY MATERIAL FOR:

Synthetic Studies Concerning the Crinine Alkaloid Haemultine

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Anisotropic Displacement Ellipsoid Plots for the 2,5-Dibromobenzoate of Compounds (+)-1 and (-)-1

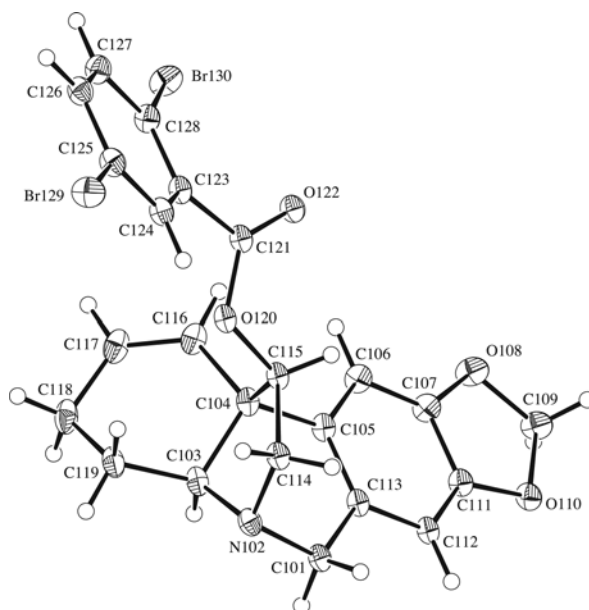


Figure S1. Anisotropic displacement ellipsoid plot of molecule 1 of the 2,5-dibromobenzoate of compound (+)-1 (CCDC 860930) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

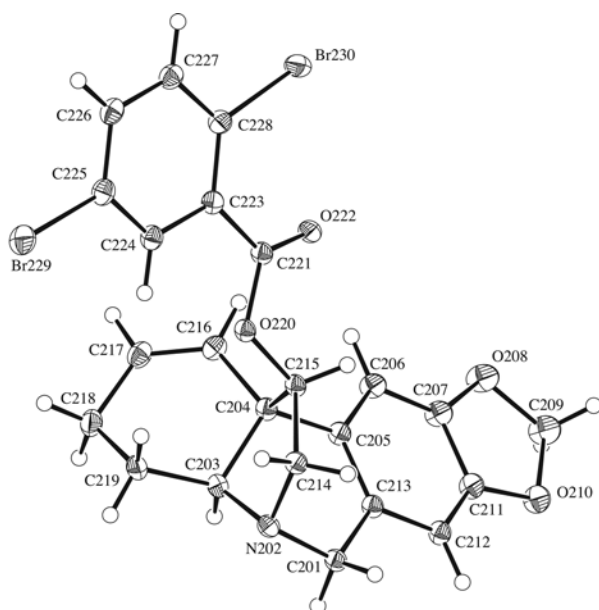


Figure S2. Anisotropic displacement ellipsoid plot of molecule 2 of the 2,5-dibromobenzoate of compound (+)-1 (CCDC 860930) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

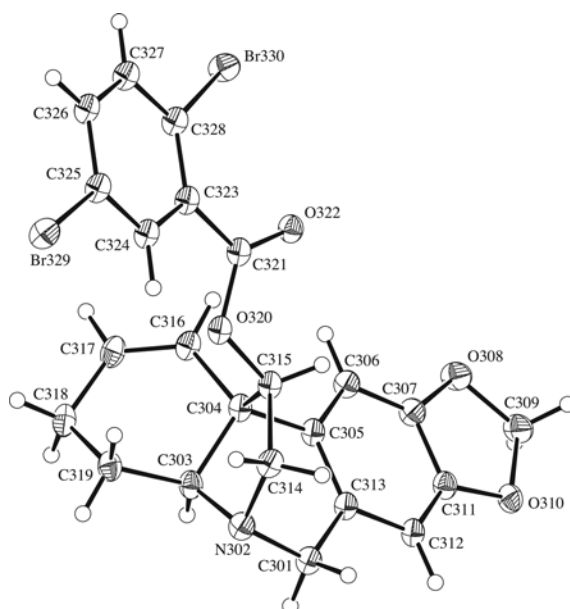


Figure S3. Anisotropic displacement ellipsoid plot of molecule 3 of the 2,5-dibromobenzoate of compound (+)-**1** (CCDC 860930) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

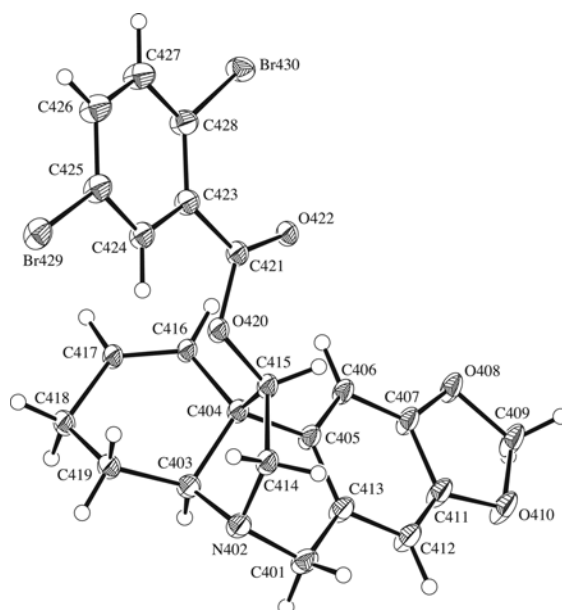


Figure S4. Anisotropic displacement ellipsoid plot of molecule 4 of the 2,5-dibromobenzoate of compound (+)-**1** (CCDC 860930) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

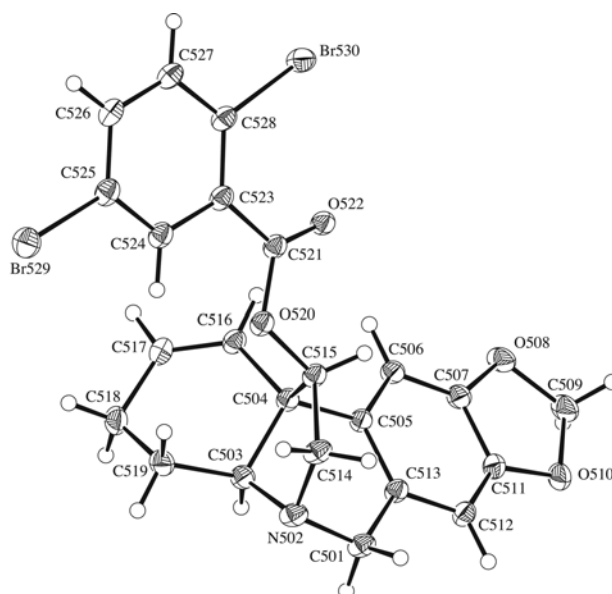


Figure S5. Anisotropic displacement ellipsoid plot of molecule 5 of the 2,5-dibromobenzoate of compound (+)-**1** (CCDC 860930) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

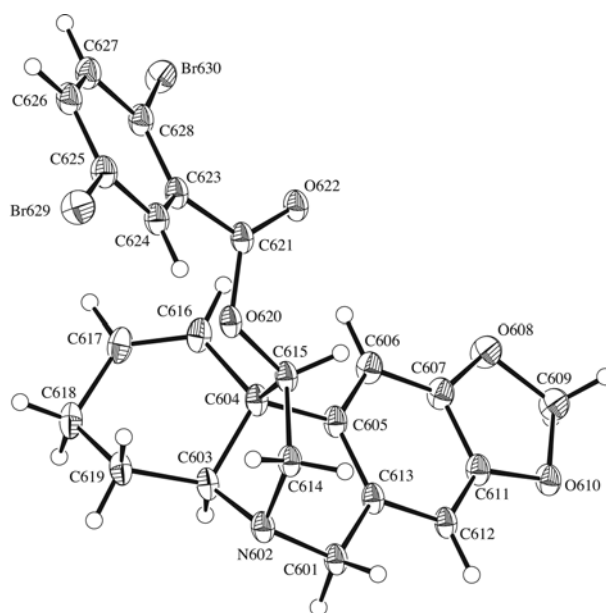


Figure S6. Anisotropic displacement ellipsoid plot of molecule 6 of the 2,5-dibromobenzoate of compound (+)-**1** (CCDC 860930) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

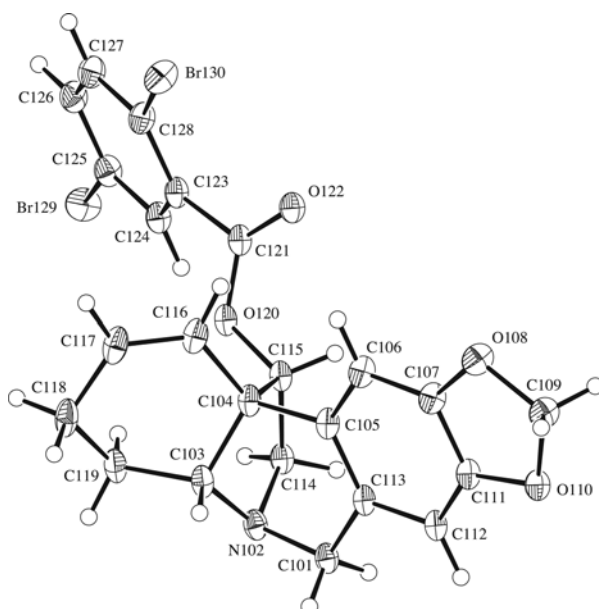


Figure S7. Anisotropic displacement ellipsoid plot of molecule 1 of the 2,5-dibromobenzoate of compound (-)-**1** (CCDC 860929) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

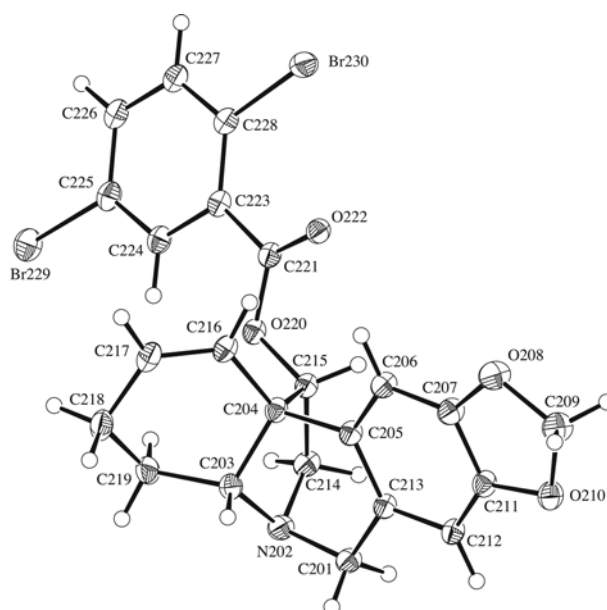


Figure S8. Anisotropic displacement ellipsoid plot of molecule 2 of the 2,5-dibromobenzoate of compound (-)-**1** (CCDC 860929) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

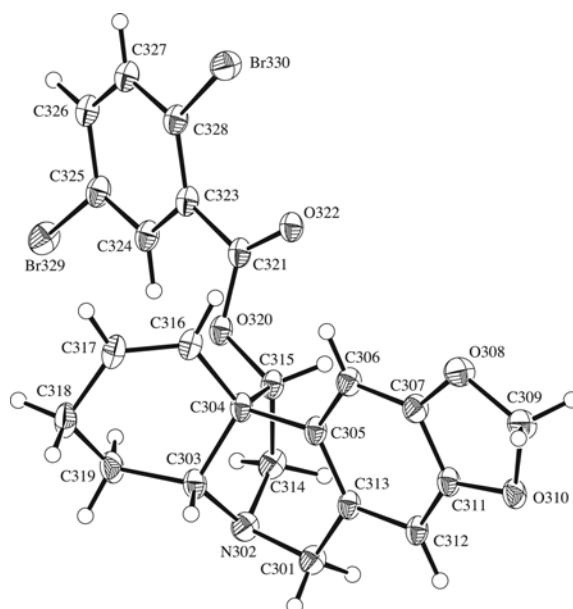


Figure S9. Anisotropic displacement ellipsoid plot of molecule 3 of the 2,5-dibromobenzoate of compound (-)-**1** (CCDC 860929) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

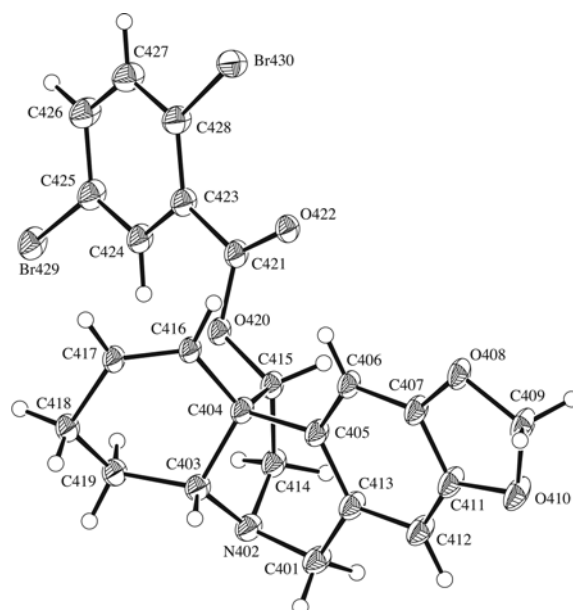


Figure S10. Anisotropic displacement ellipsoid plot of molecule 4 of the 2,5-dibromobenzoate of compound (-)-**1** (CCDC 860929) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

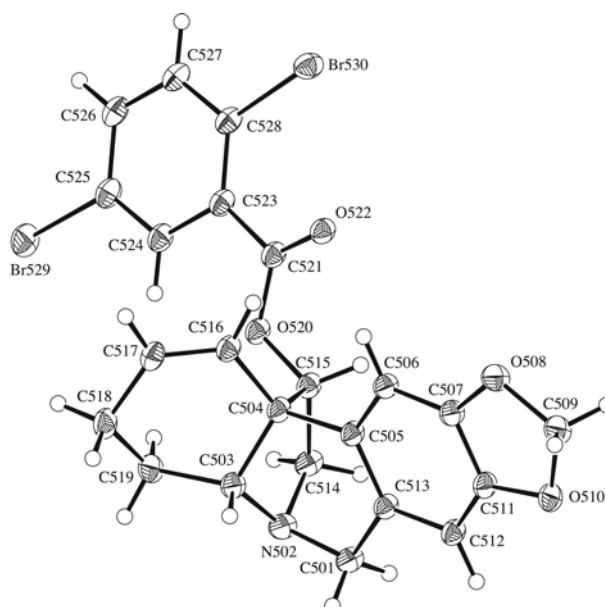


Figure S11. Anisotropic displacement ellipsoid plot of molecule 5 of the 2,5-dibromobenzoate of compound (-)-**1** (CCDC 860929) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

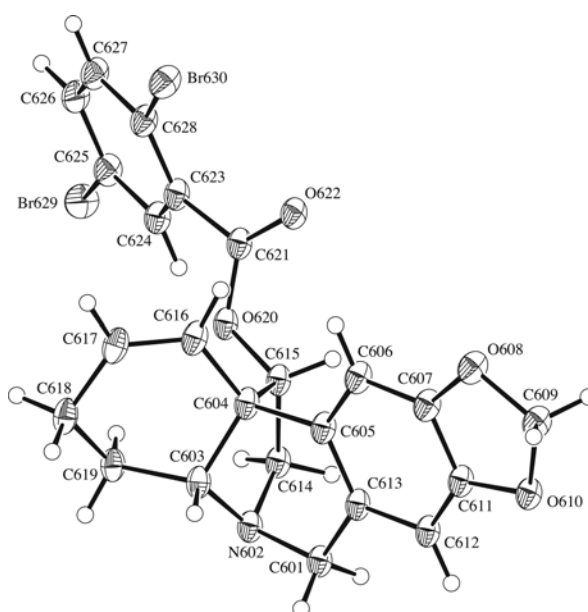
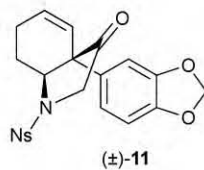
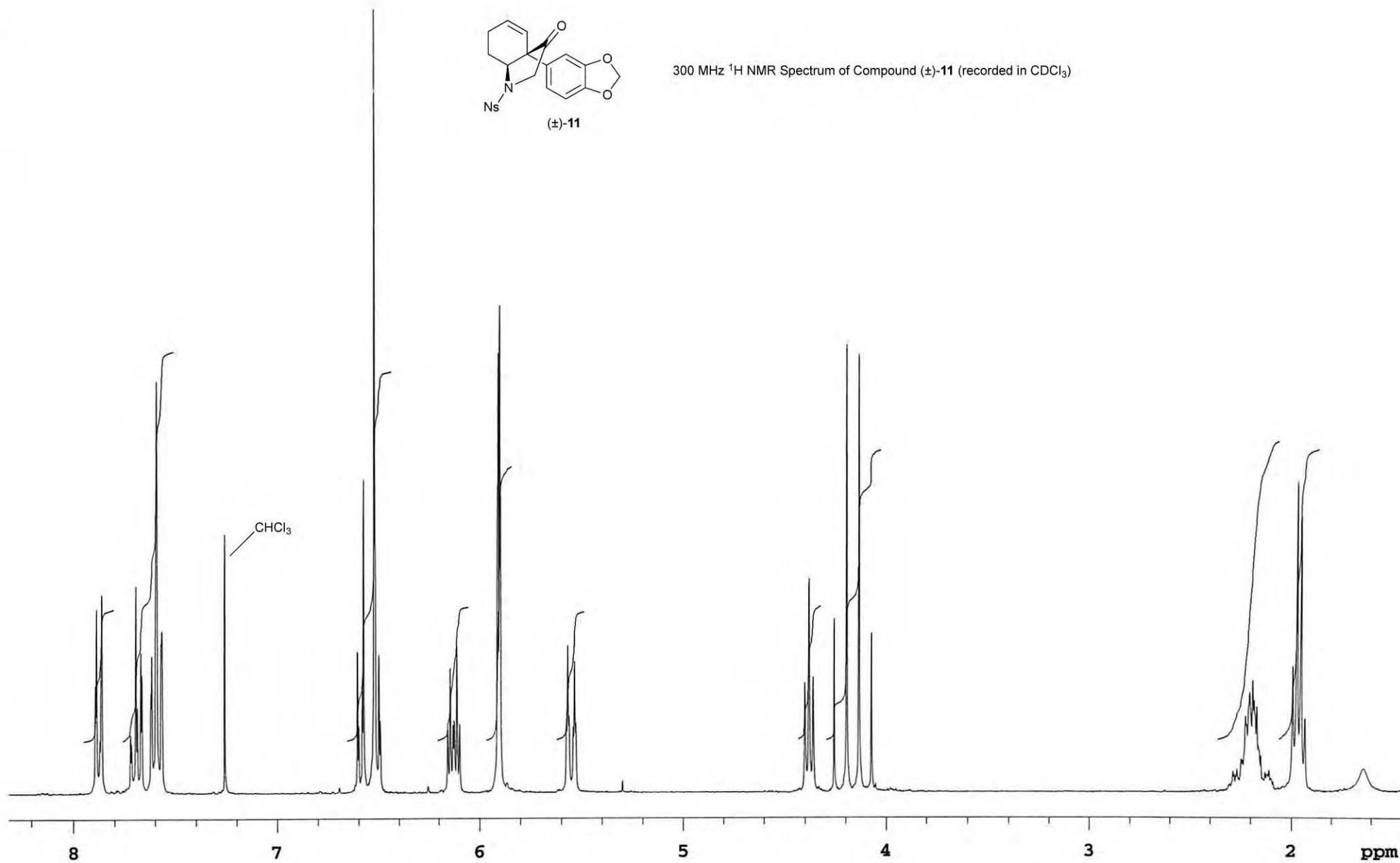


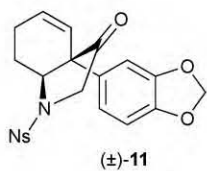
Figure S12. Anisotropic displacement ellipsoid plot of molecule 6 of the 2,5-dibromobenzoate of compound (-)-**1** (CCDC 860929) with labeling of selected atoms. Ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

^1H and/or ^{13}C NMR Spectra

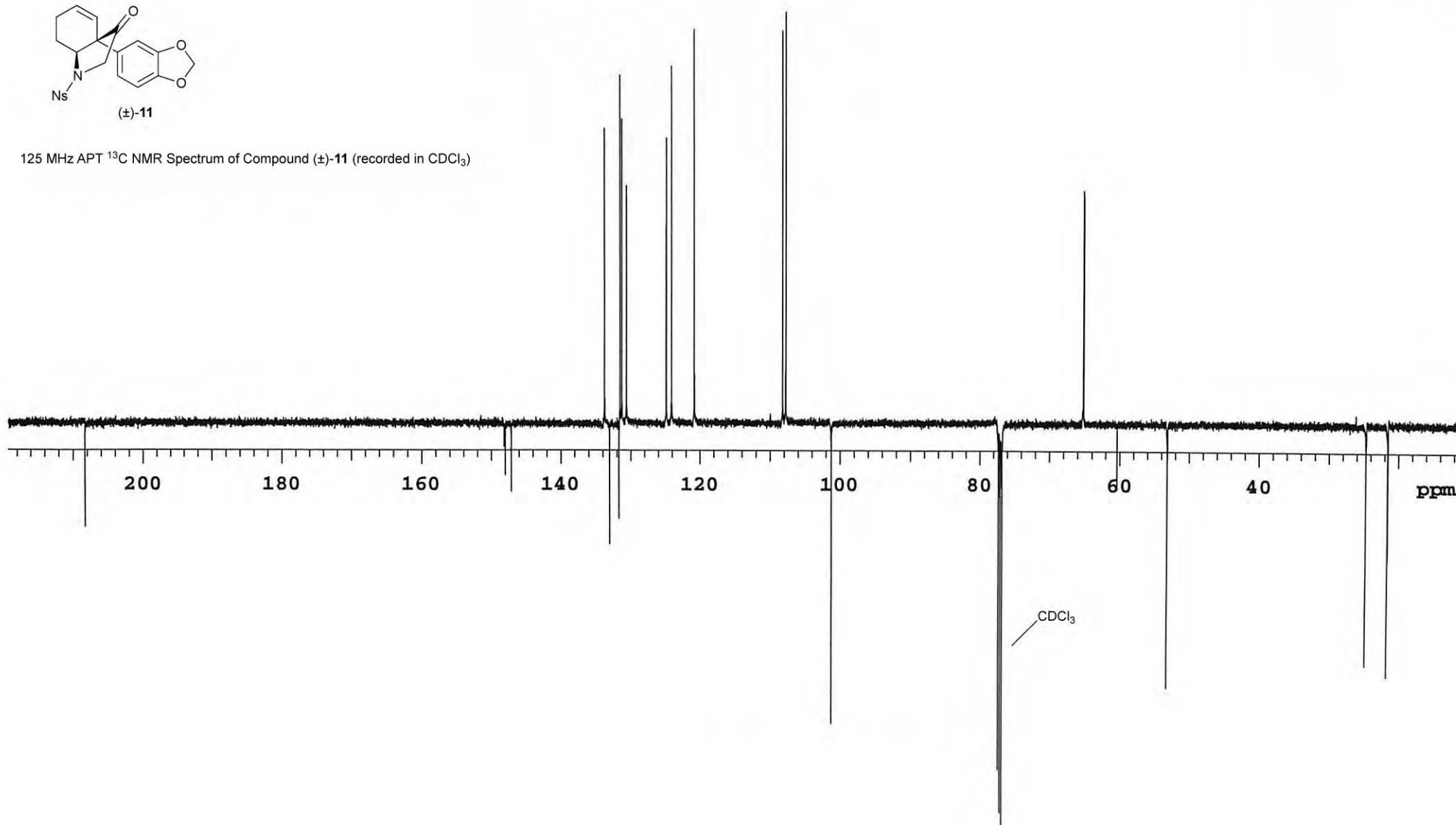


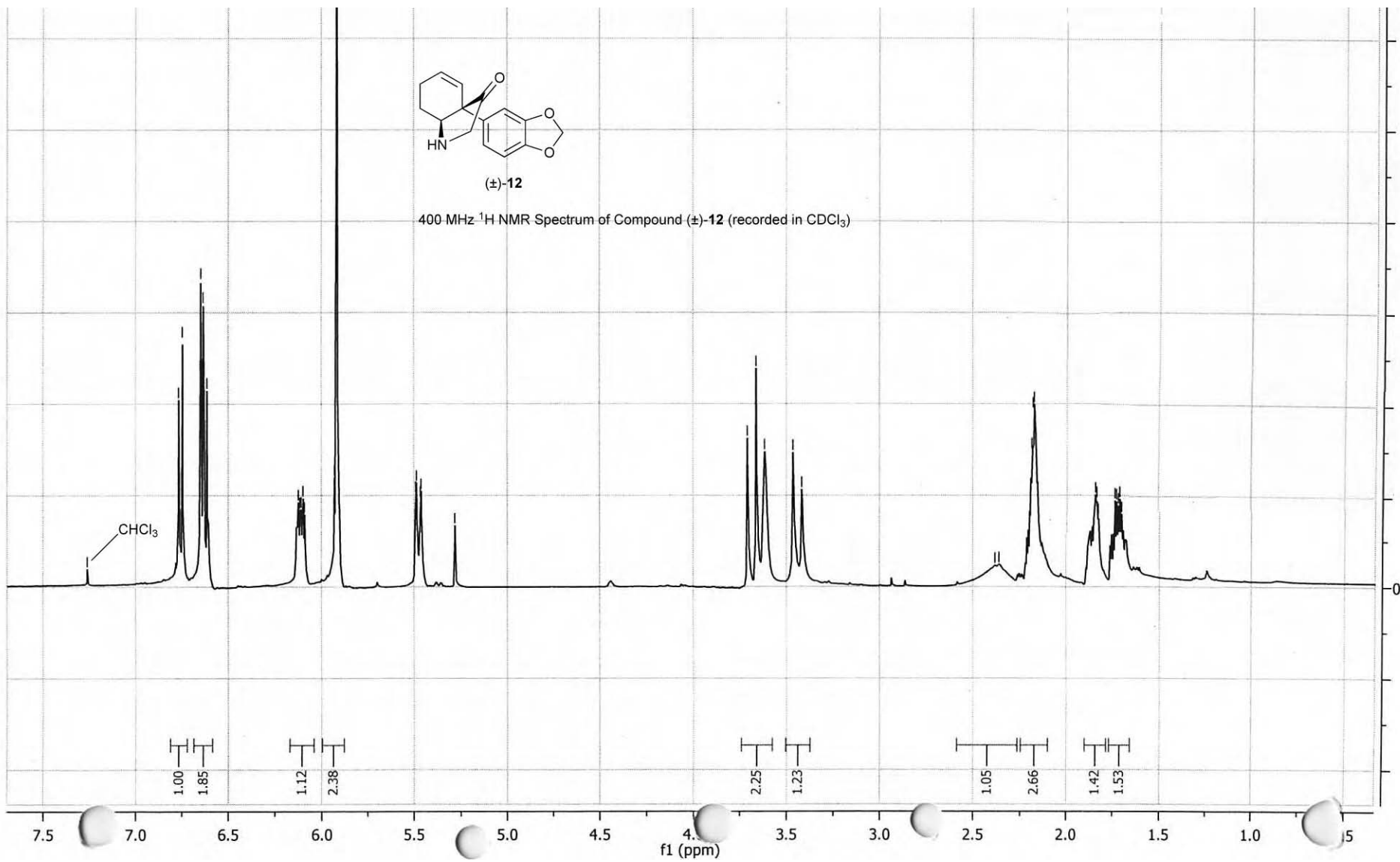
300 MHz ^1H NMR Spectrum of Compound (±)-11 (recorded in CDCl_3)

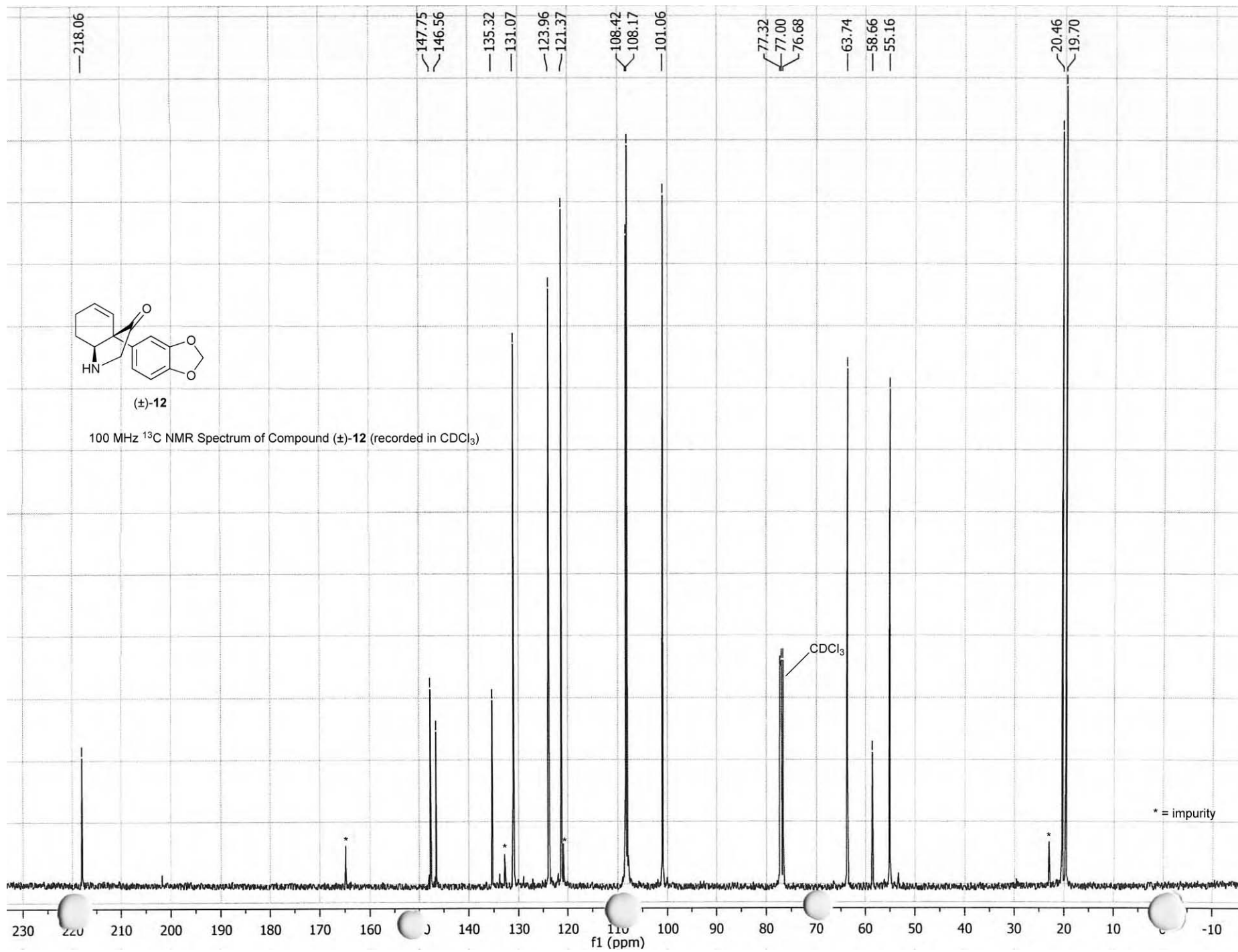


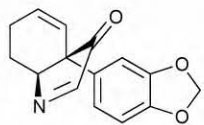


125 MHz APT ¹³C NMR Spectrum of Compound (±)-11 (recorded in CDCl₃)



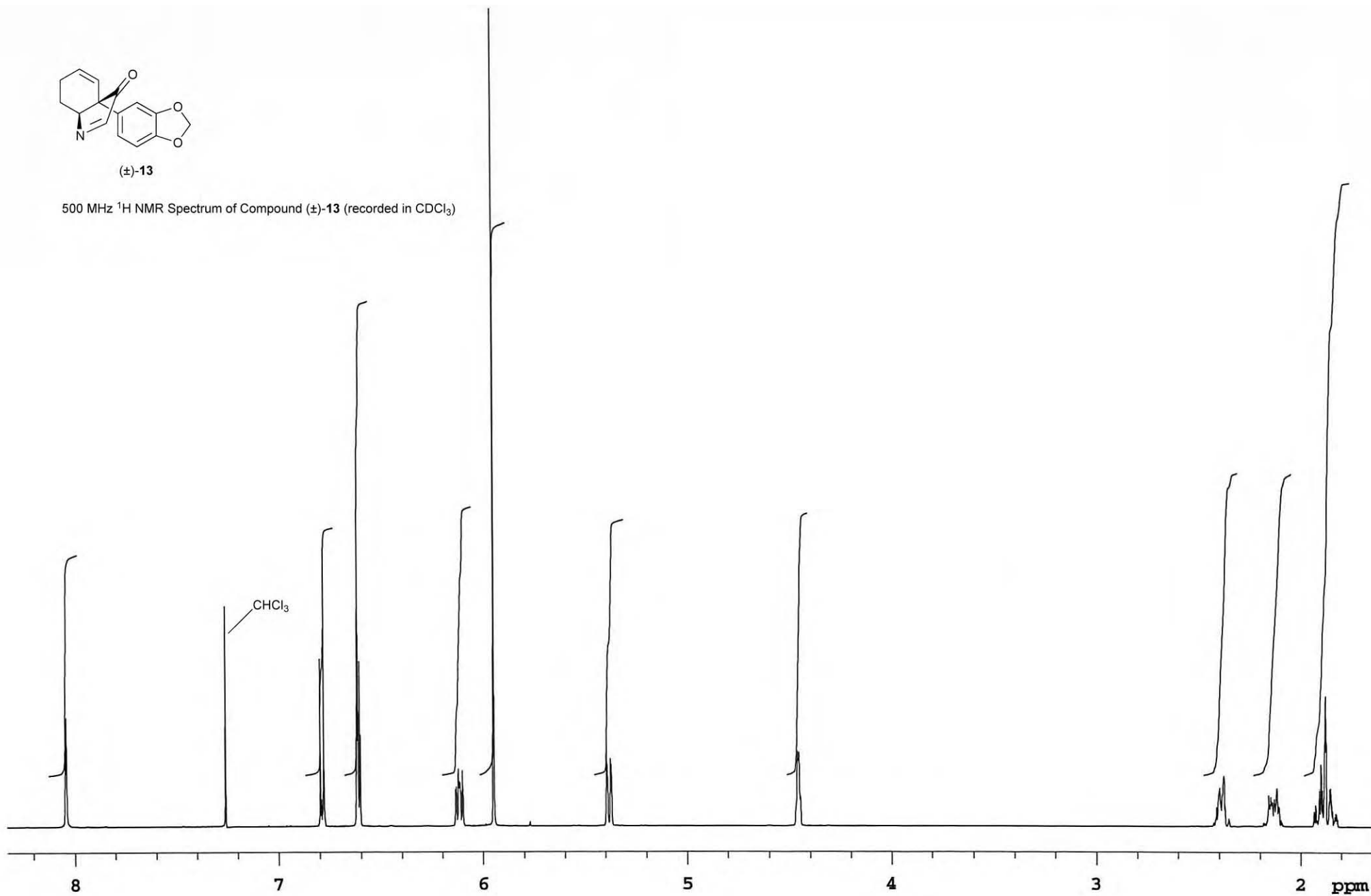


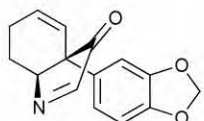




(±)-13

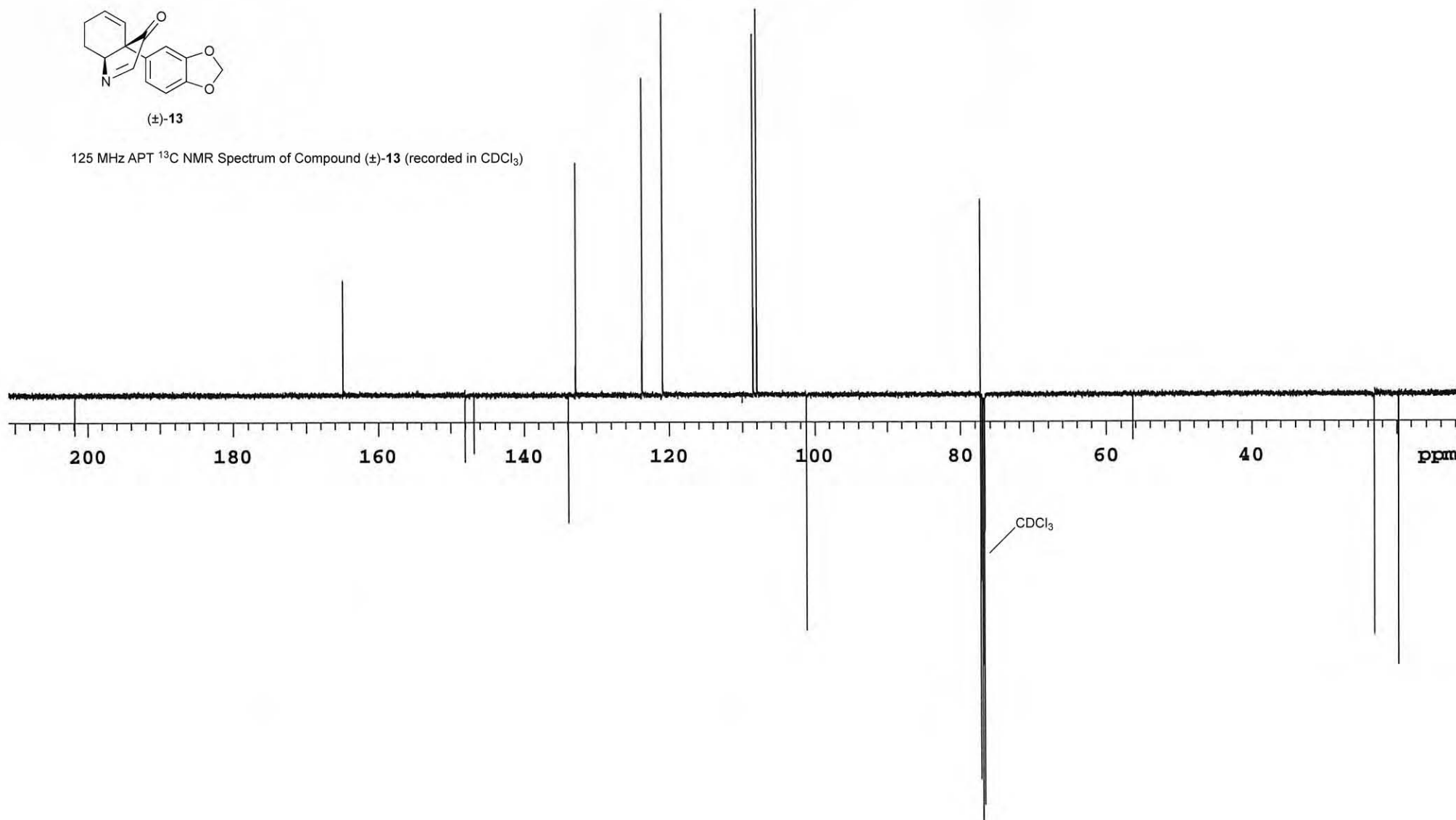
500 MHz ^1H NMR Spectrum of Compound (±)-13 (recorded in CDCl_3)

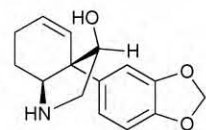




(±)-13

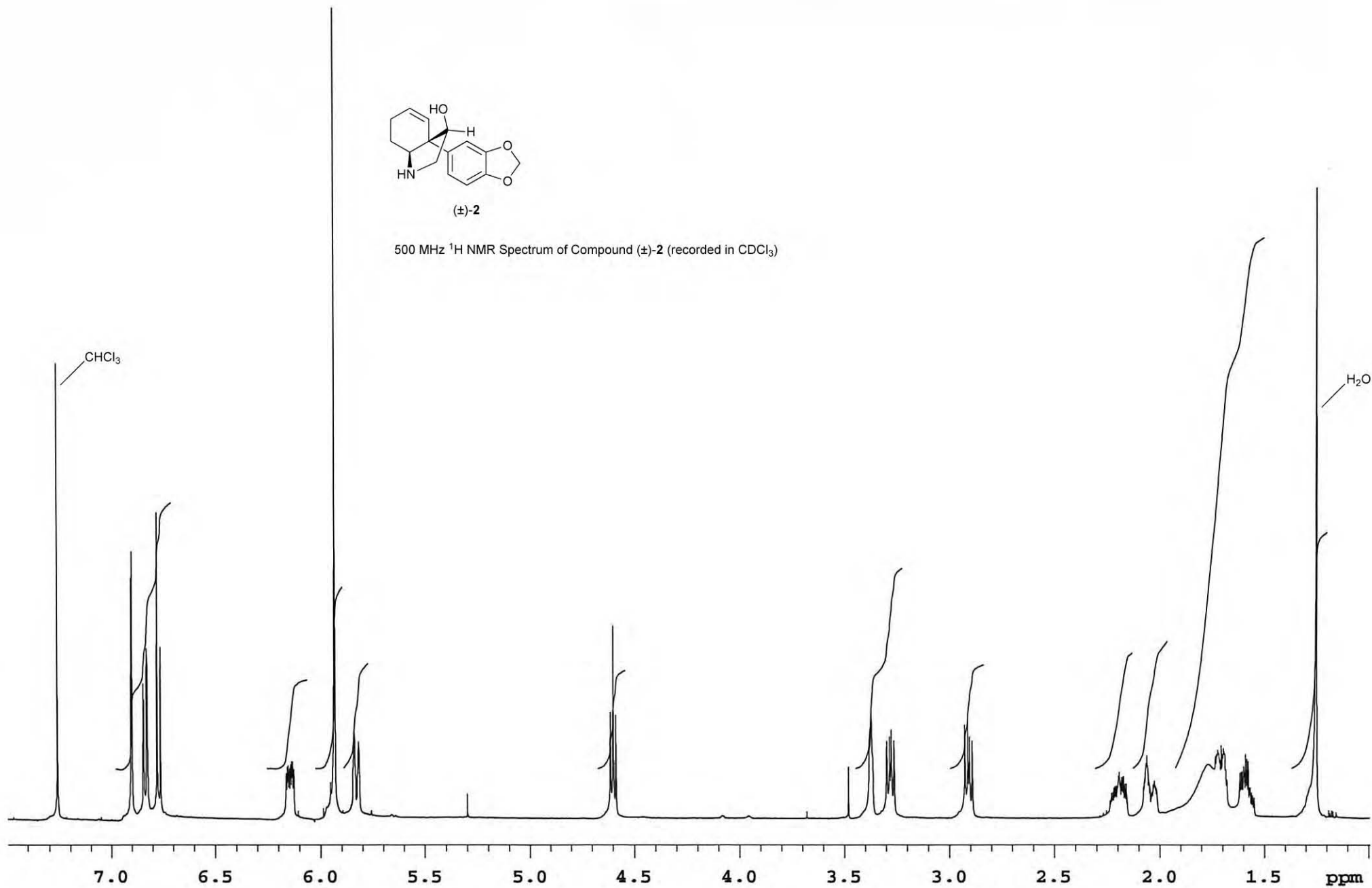
125 MHz APT ¹³C NMR Spectrum of Compound (±)-13 (recorded in CDCl₃)





(±)-2

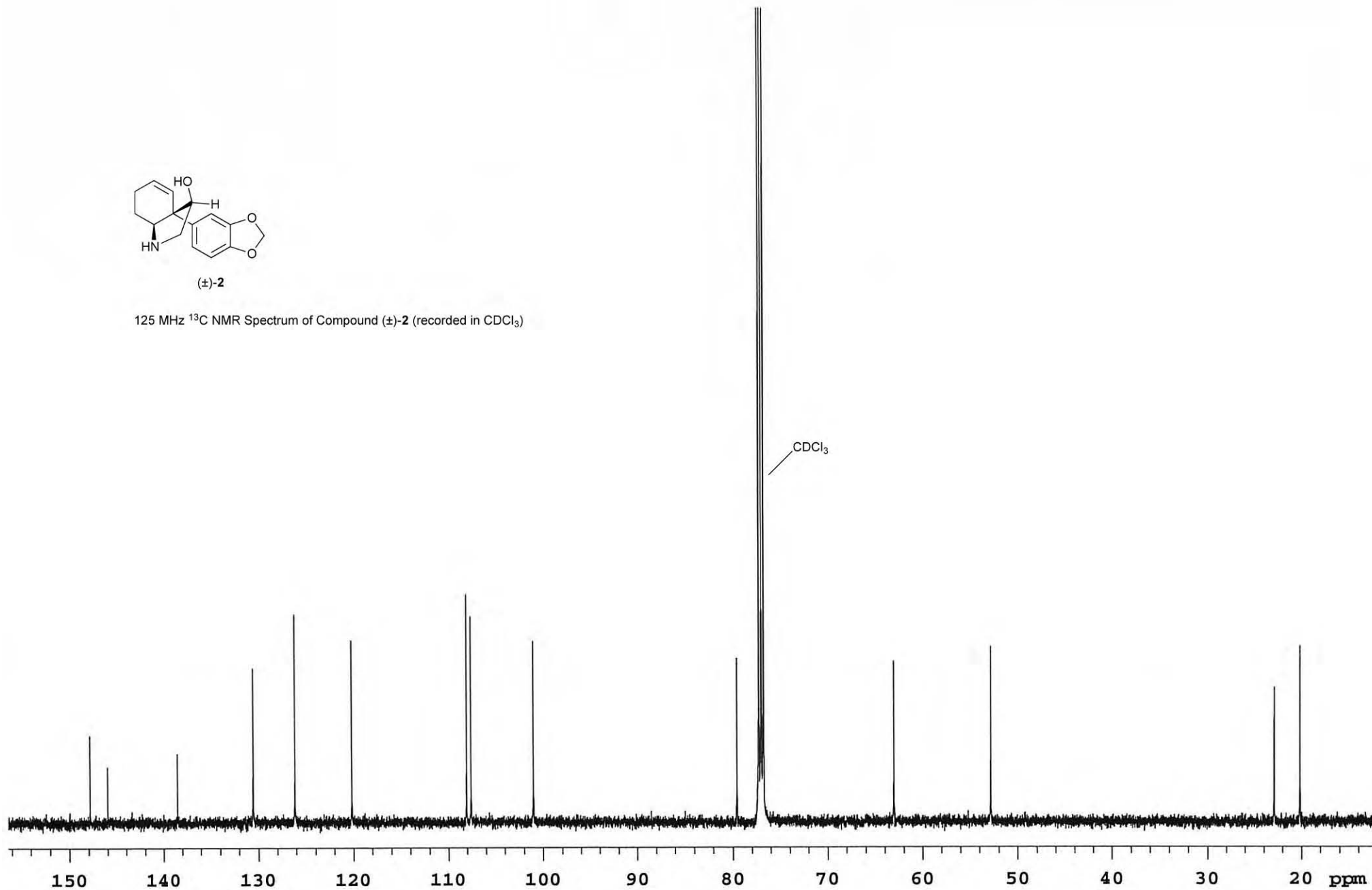
500 MHz ¹H NMR Spectrum of Compound (±)-2 (recorded in CDCl₃)

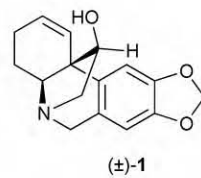




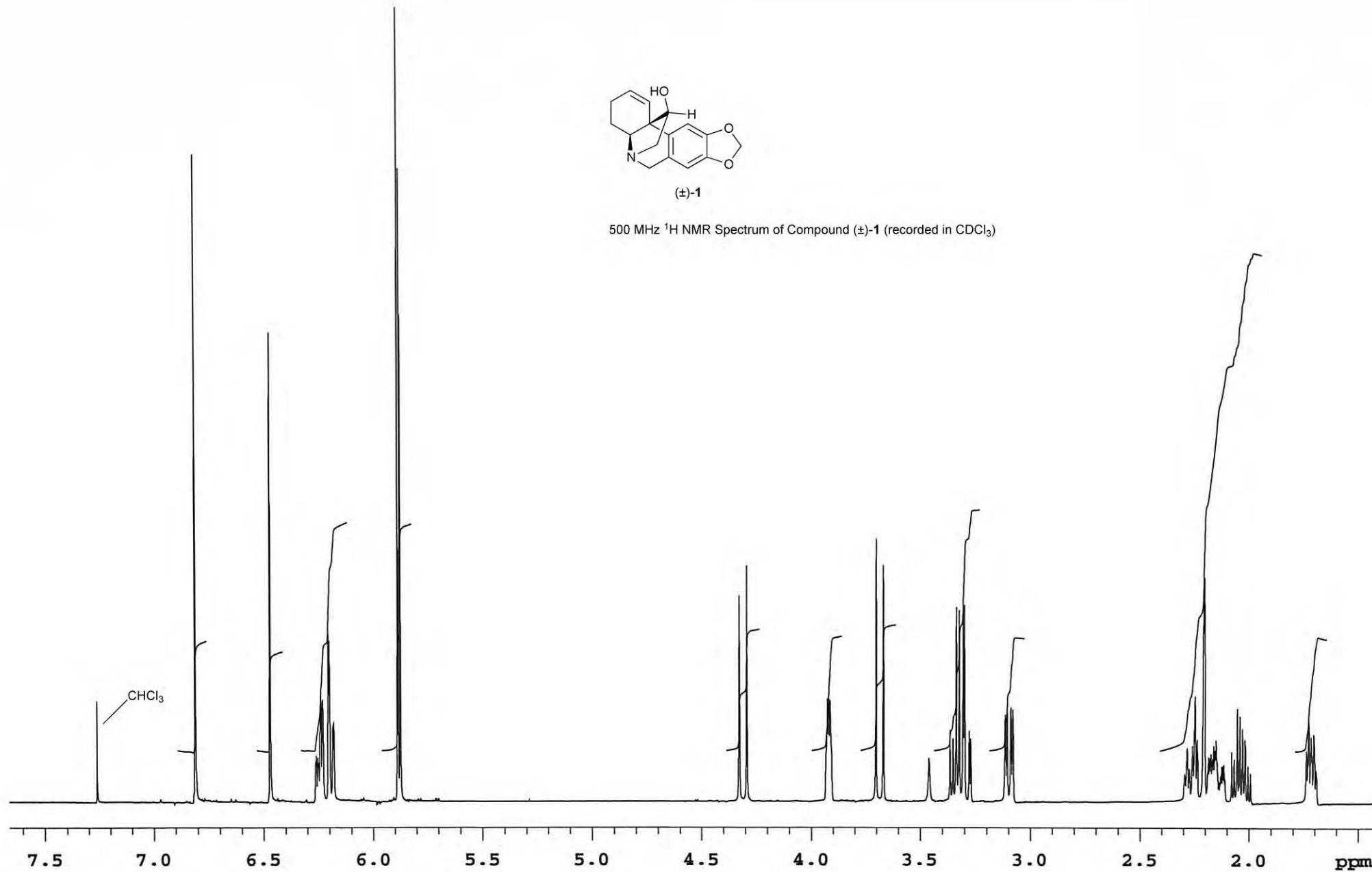
(±)-2

125 MHz ¹³C NMR Spectrum of Compound (±)-2 (recorded in CDCl₃)





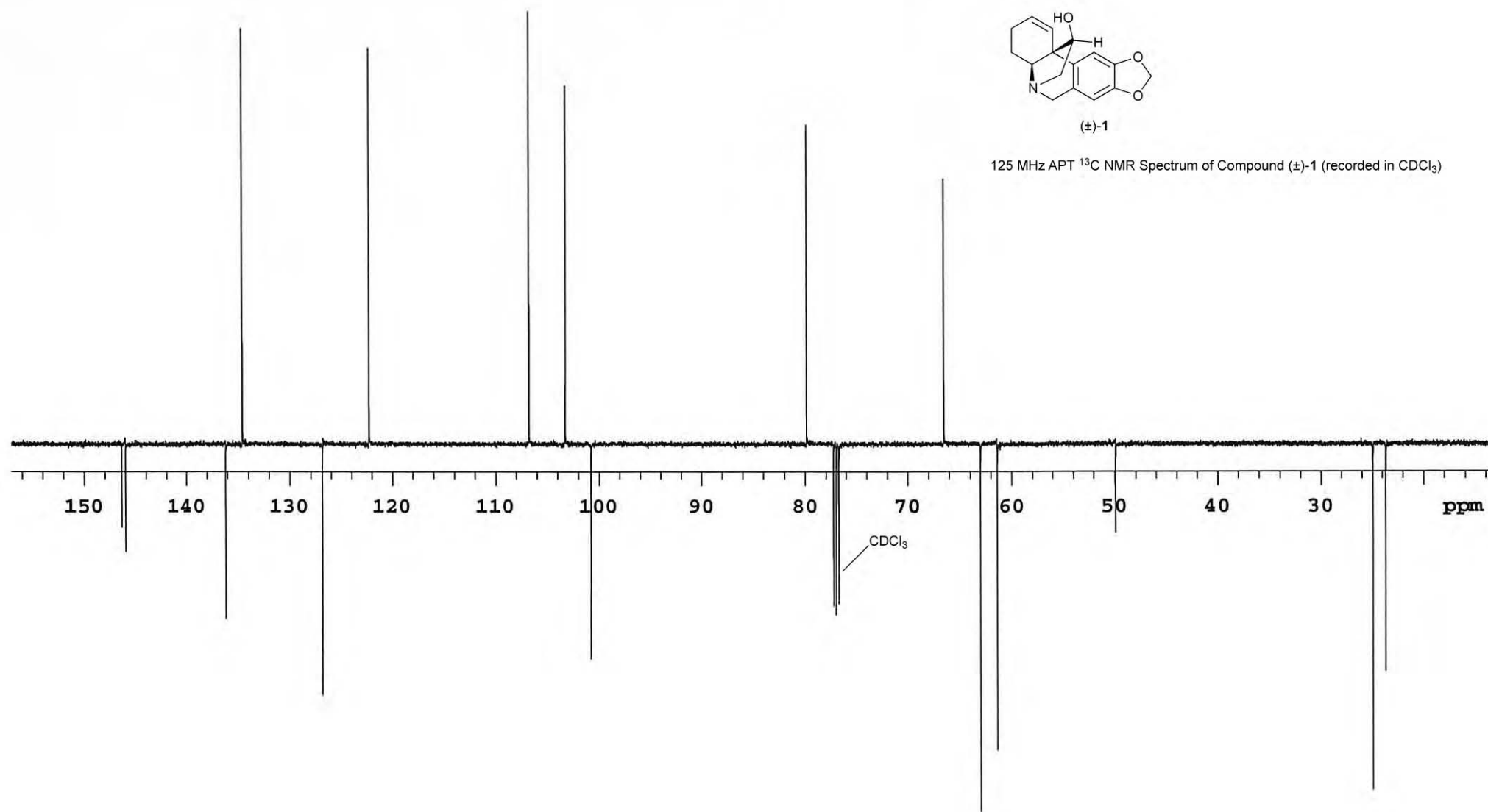
500 MHz ¹H NMR Spectrum of Compound (±)-1 (recorded in CDCl₃)



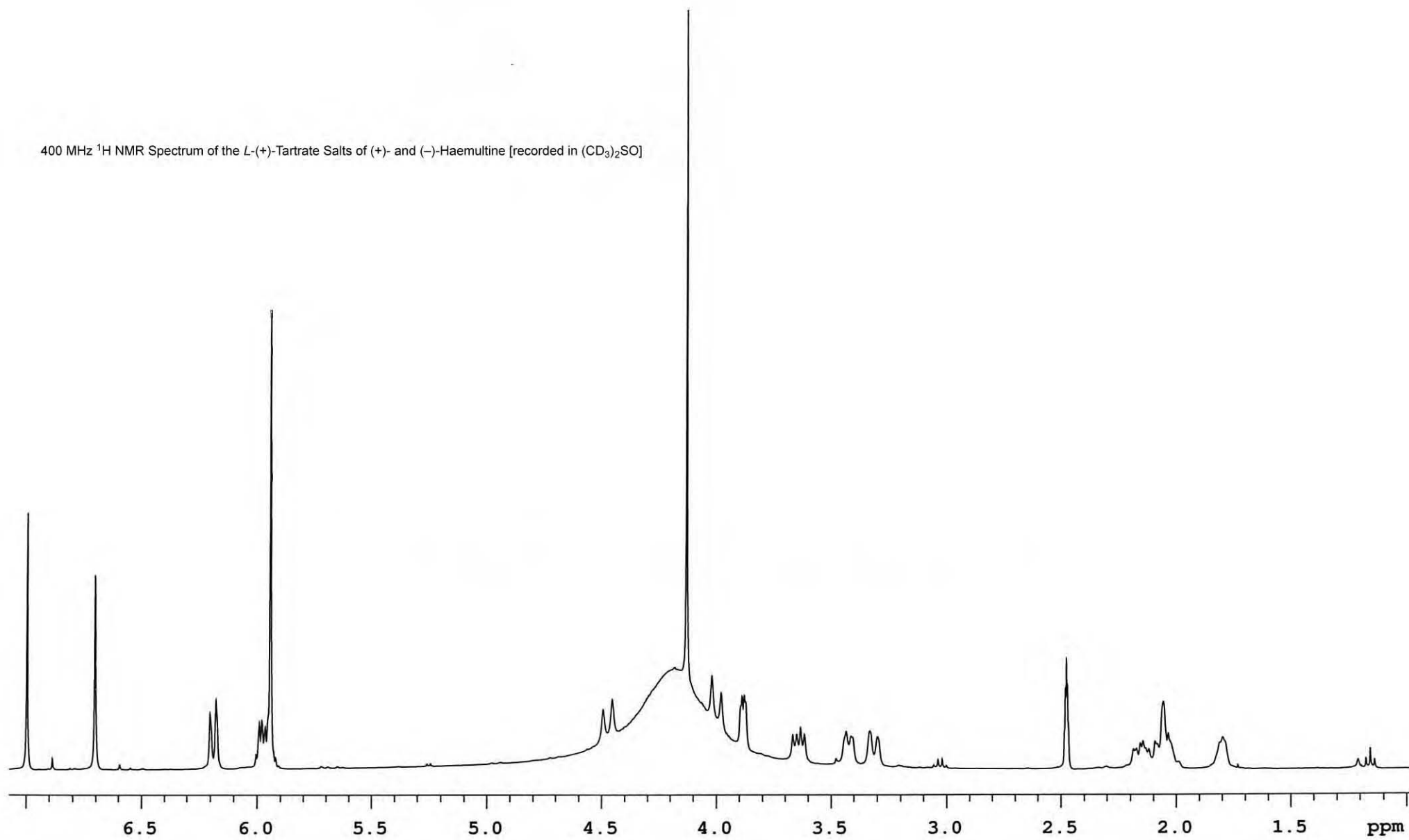


(±)-1

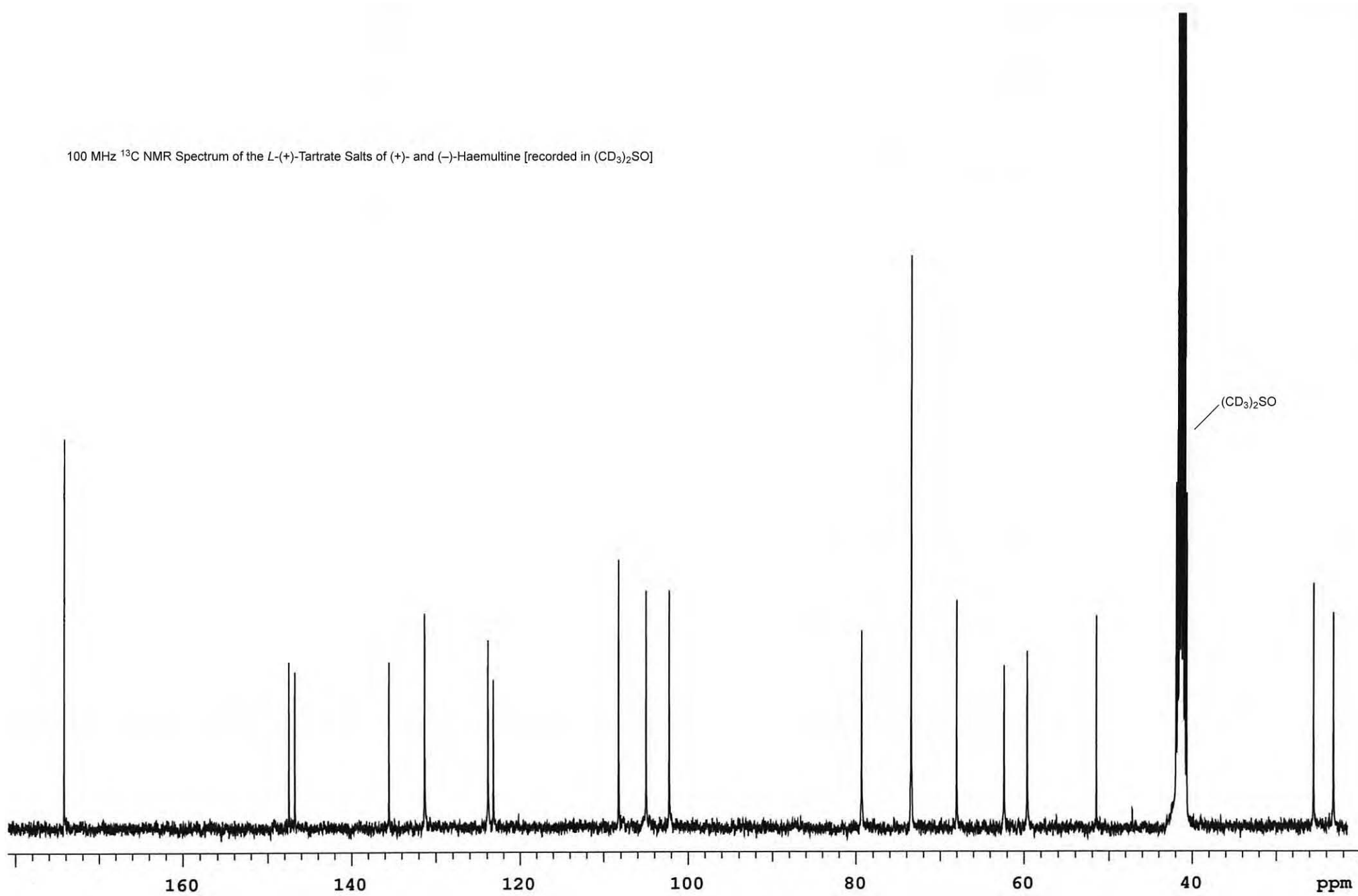
125 MHz APT ¹³C NMR Spectrum of Compound (±)-1 (recorded in CDCl₃)

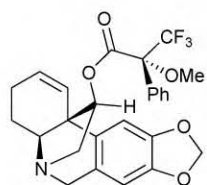


400 MHz ^1H NMR Spectrum of the *L*-(+)-Tartrate Salts of (+)- and (-)-Haemultine [recorded in $(\text{CD}_3)_2\text{SO}$]



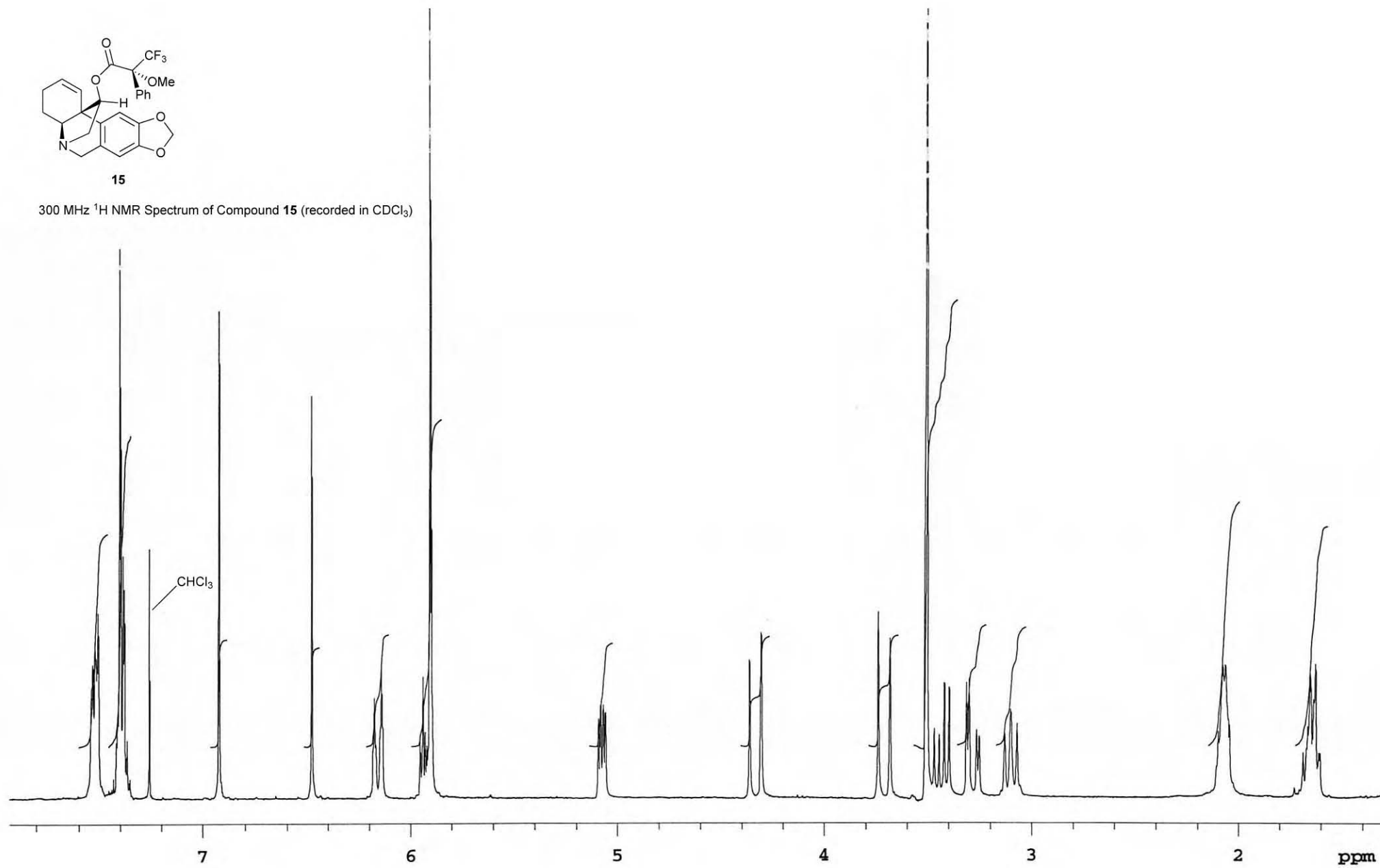
100 MHz ^{13}C NMR Spectrum of the *L*-(+)-Tartrate Salts of (+)- and (-)-Haemultine [recorded in $(\text{CD}_3)_2\text{SO}$]

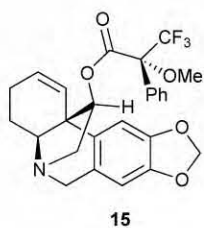




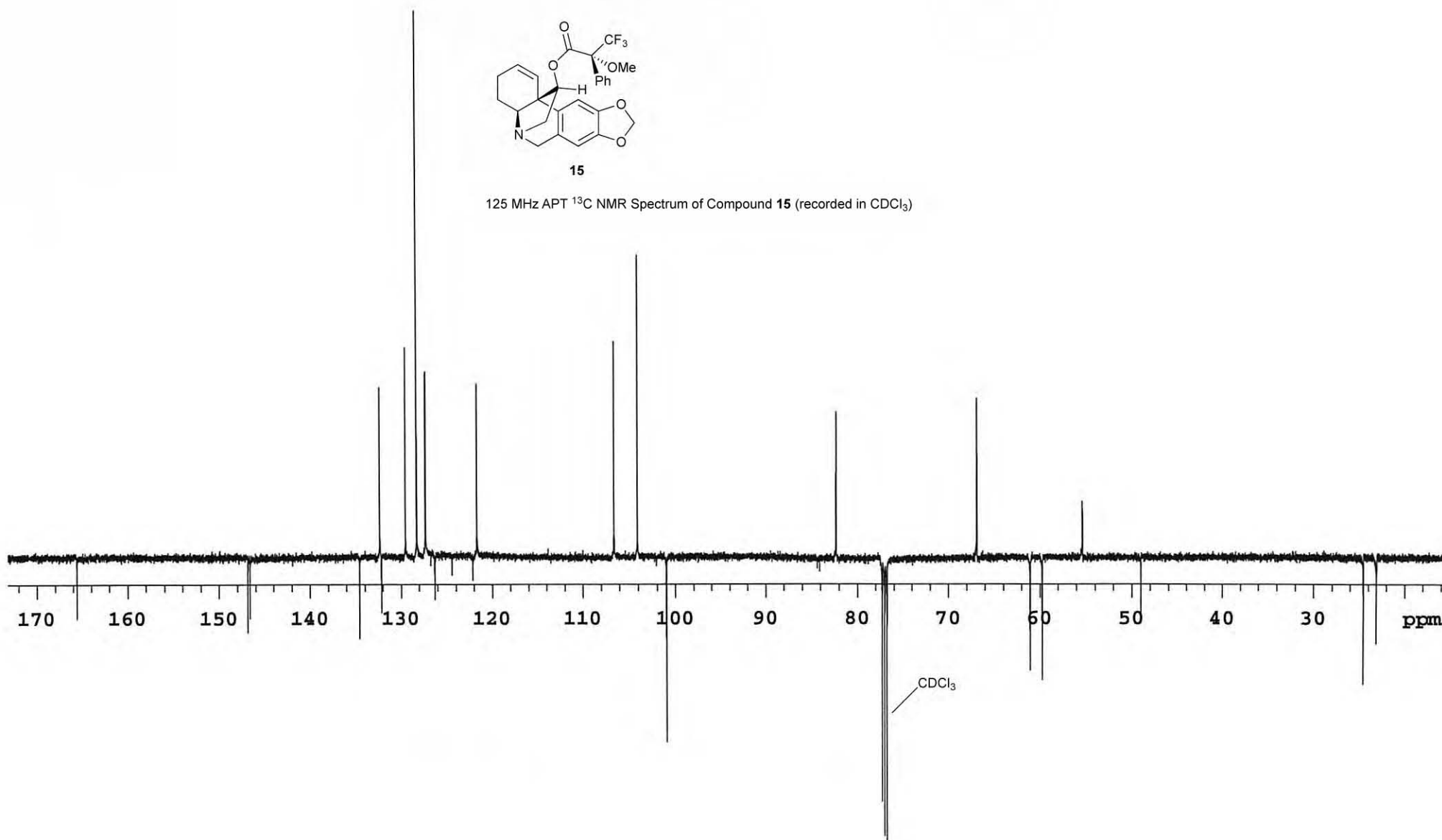
15

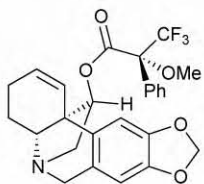
300 MHz ^1H NMR Spectrum of Compound 15 (recorded in CDCl_3)





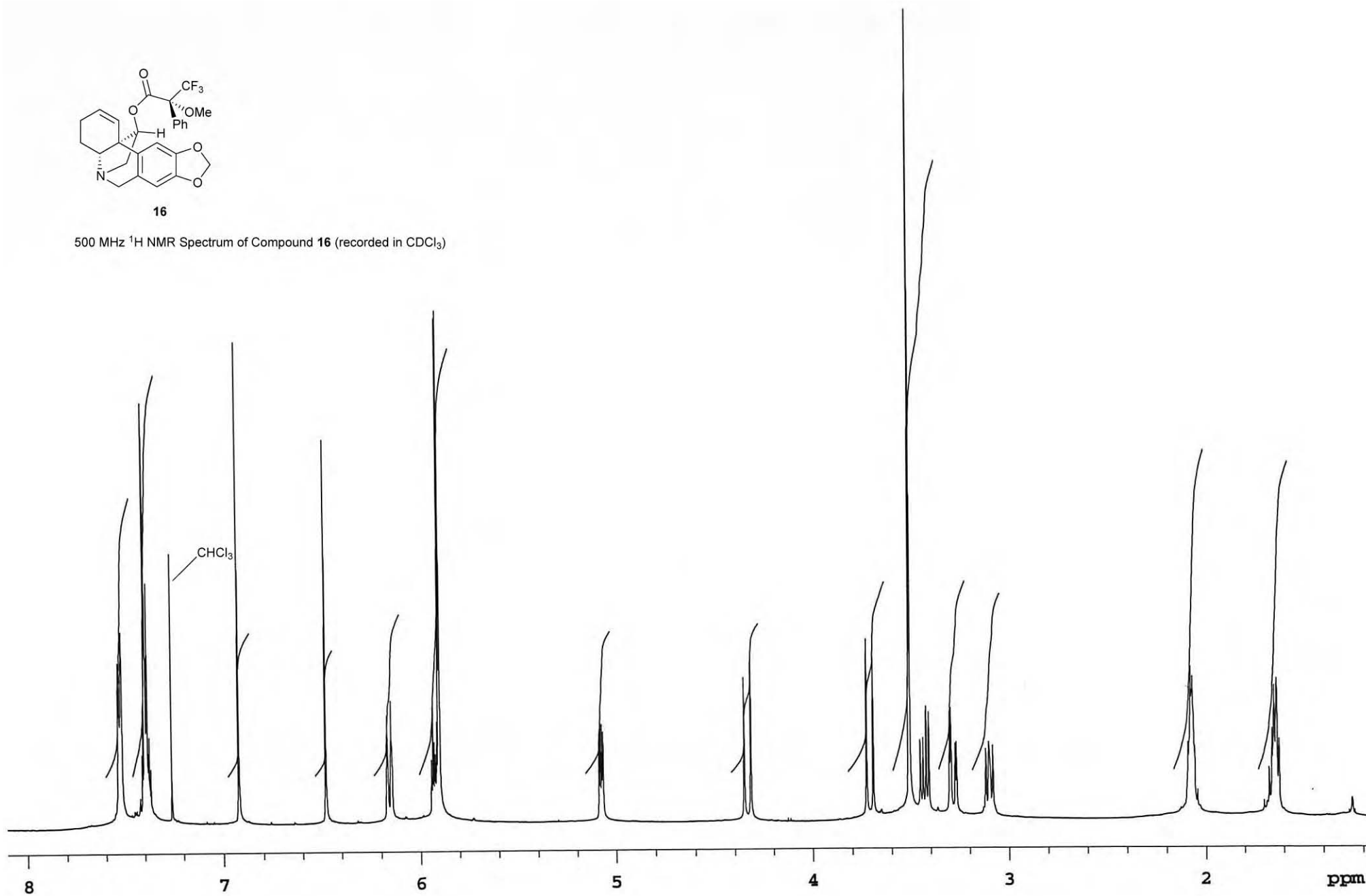
125 MHz APT ^{13}C NMR Spectrum of Compound **15** (recorded in CDCl_3)

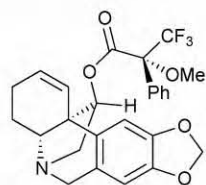




16

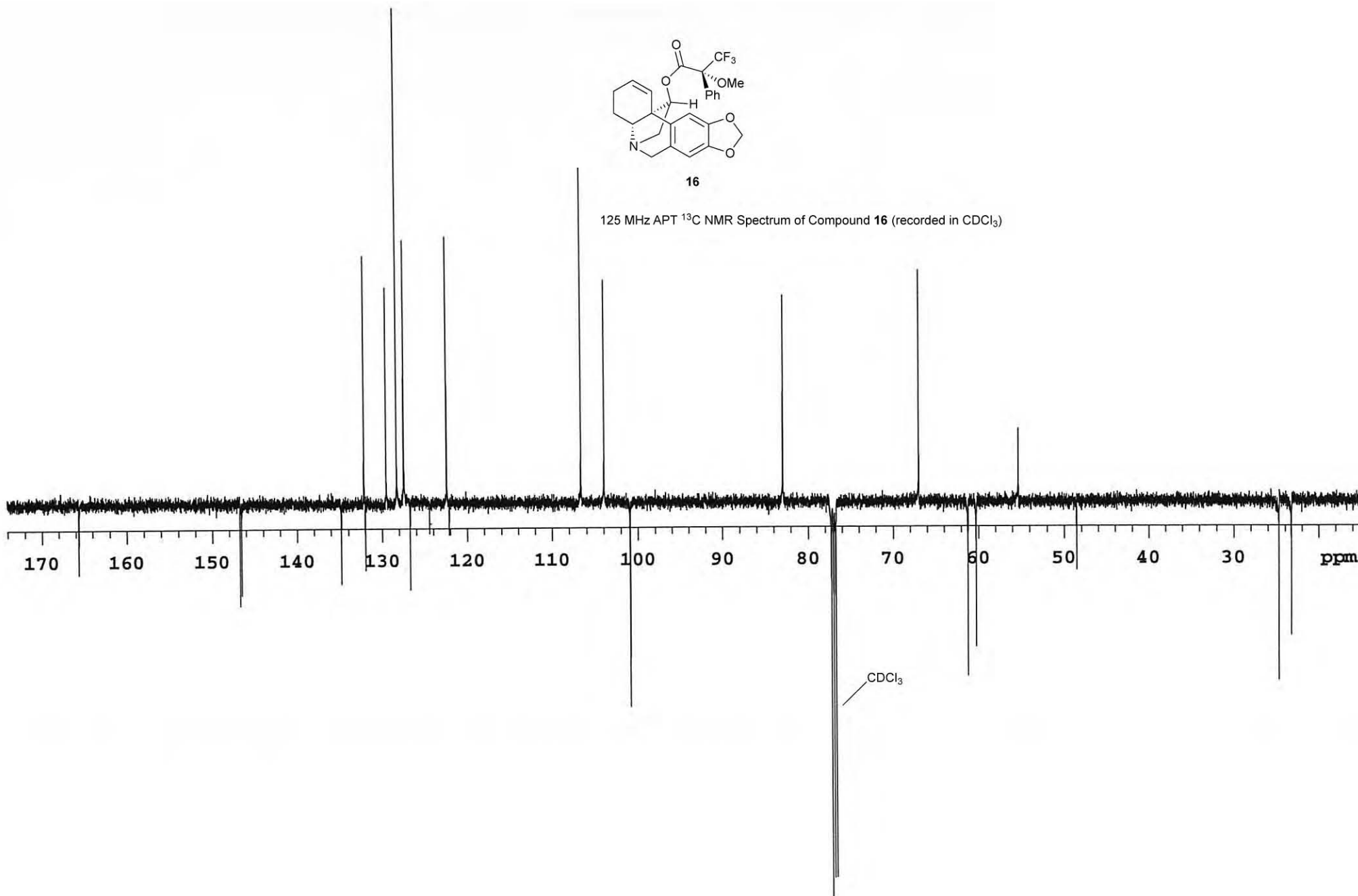
500 MHz ^1H NMR Spectrum of Compound **16** (recorded in CDCl_3)

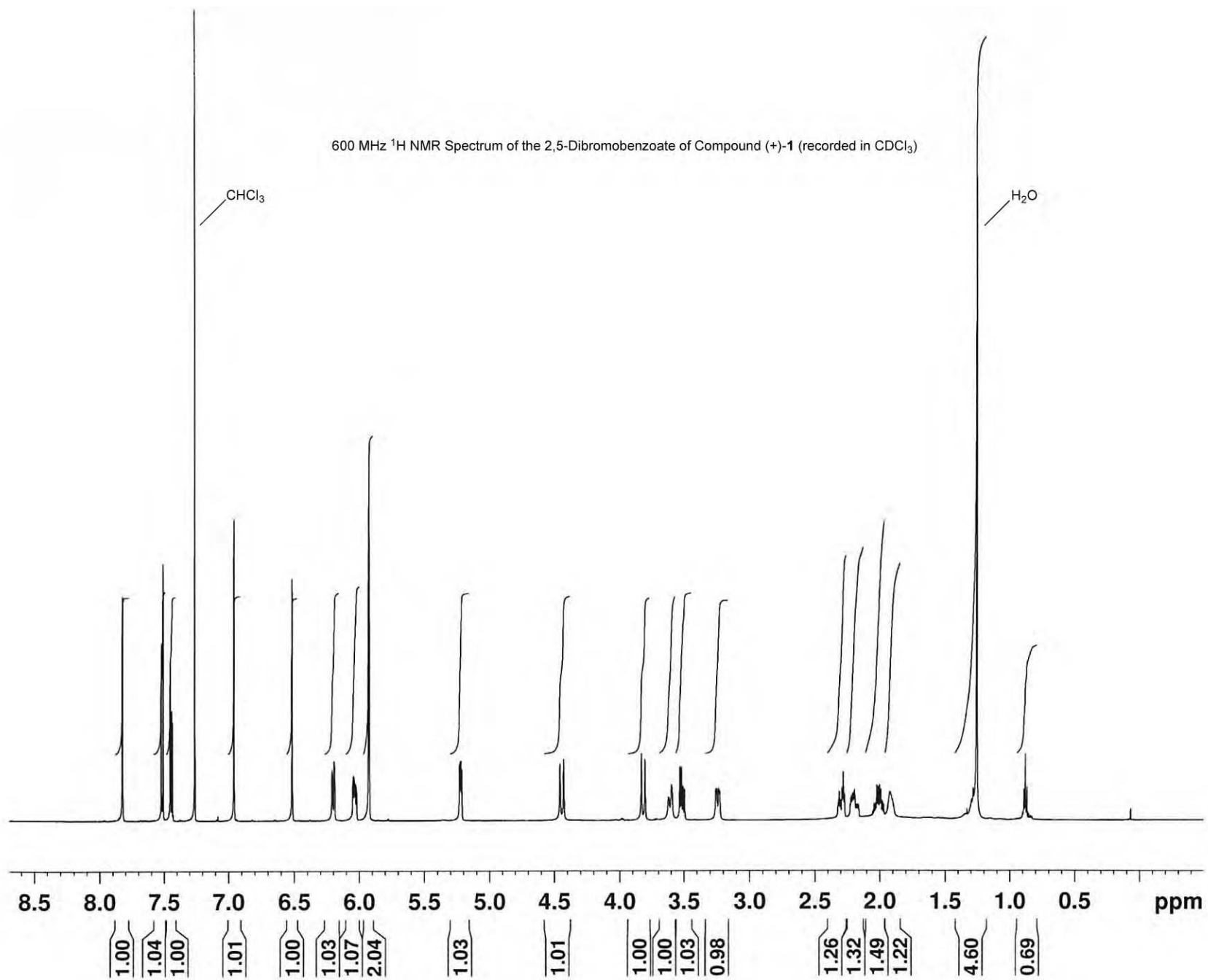




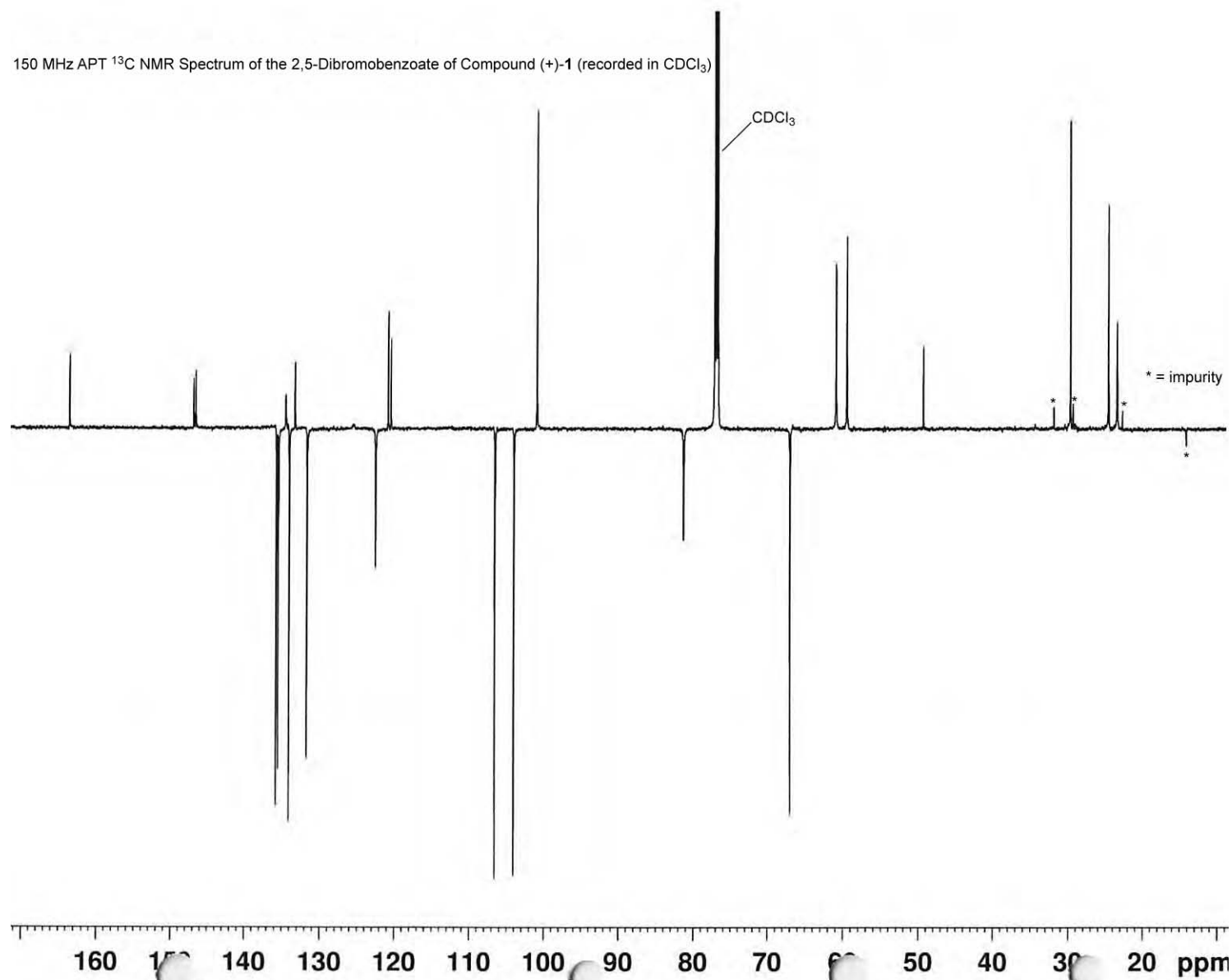
16

125 MHz APT ^{13}C NMR Spectrum of Compound 16 (recorded in CDCl_3)



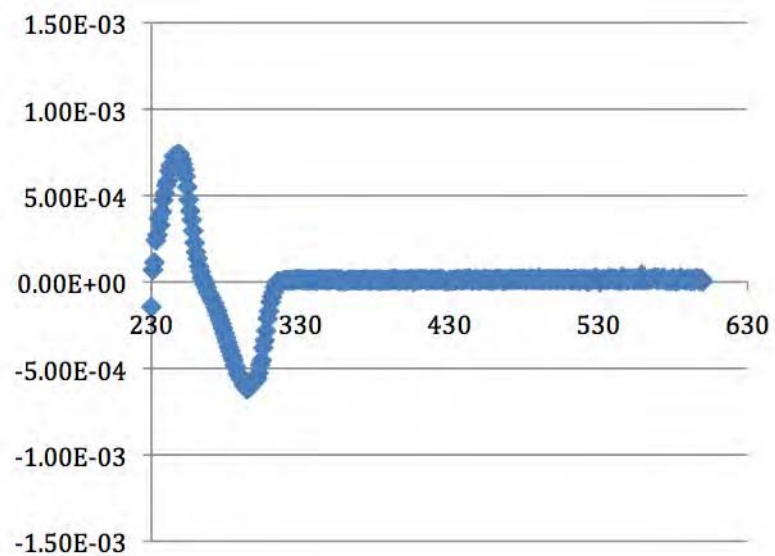


150 MHz APT ^{13}C NMR Spectrum of the 2,5-Dibromobenzoate of Compound (+)-1 (recorded in CDCl_3)



CD Spectra Derived from Compounds (+)-1 and (-)-1

CD Spectrum of Compound (+)-1 (recorded in CHCl_3)



CD Spectrum of Compound (-)-1 (recorded in CHCl_3)

