

Supporting information

Reactions of enantiopure cyclic diols with sulfonyl chloride

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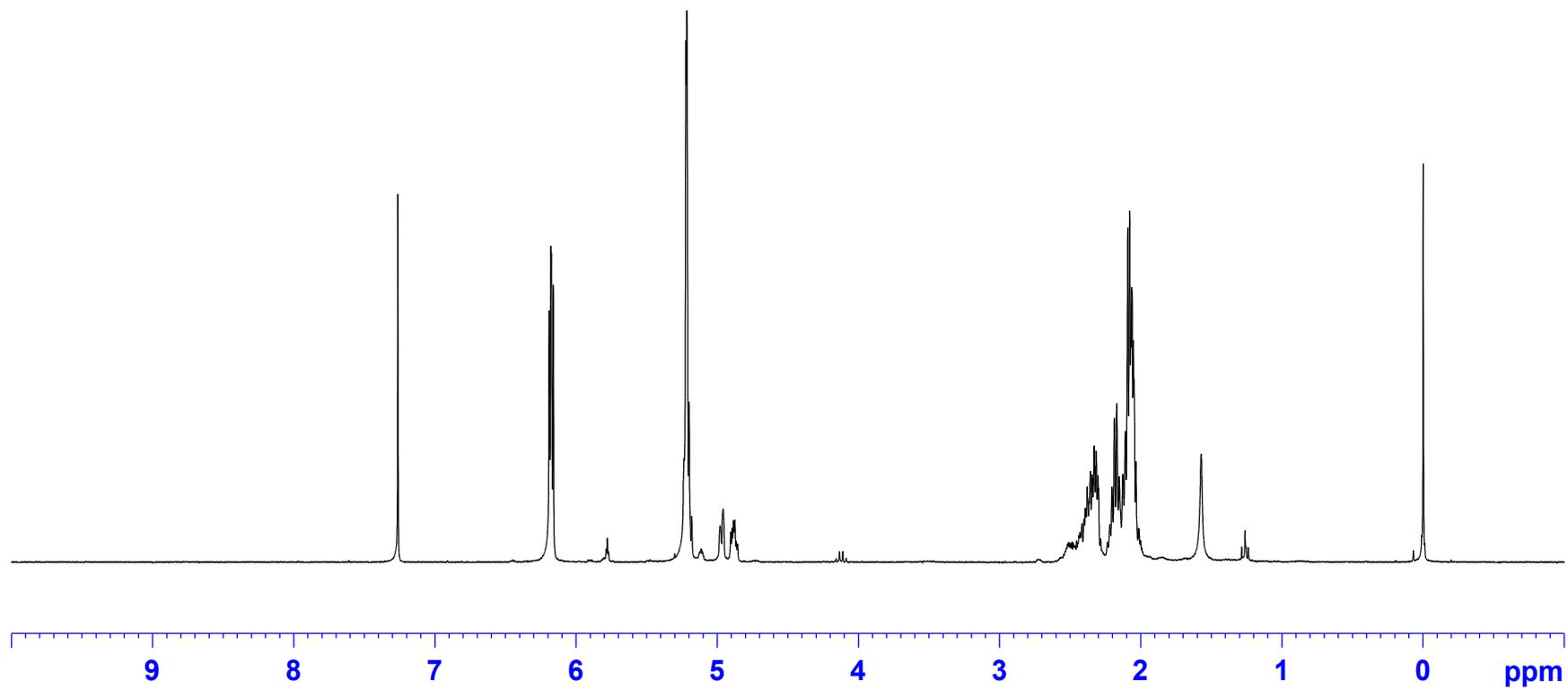
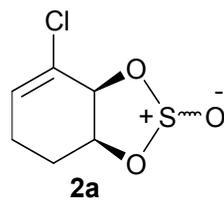
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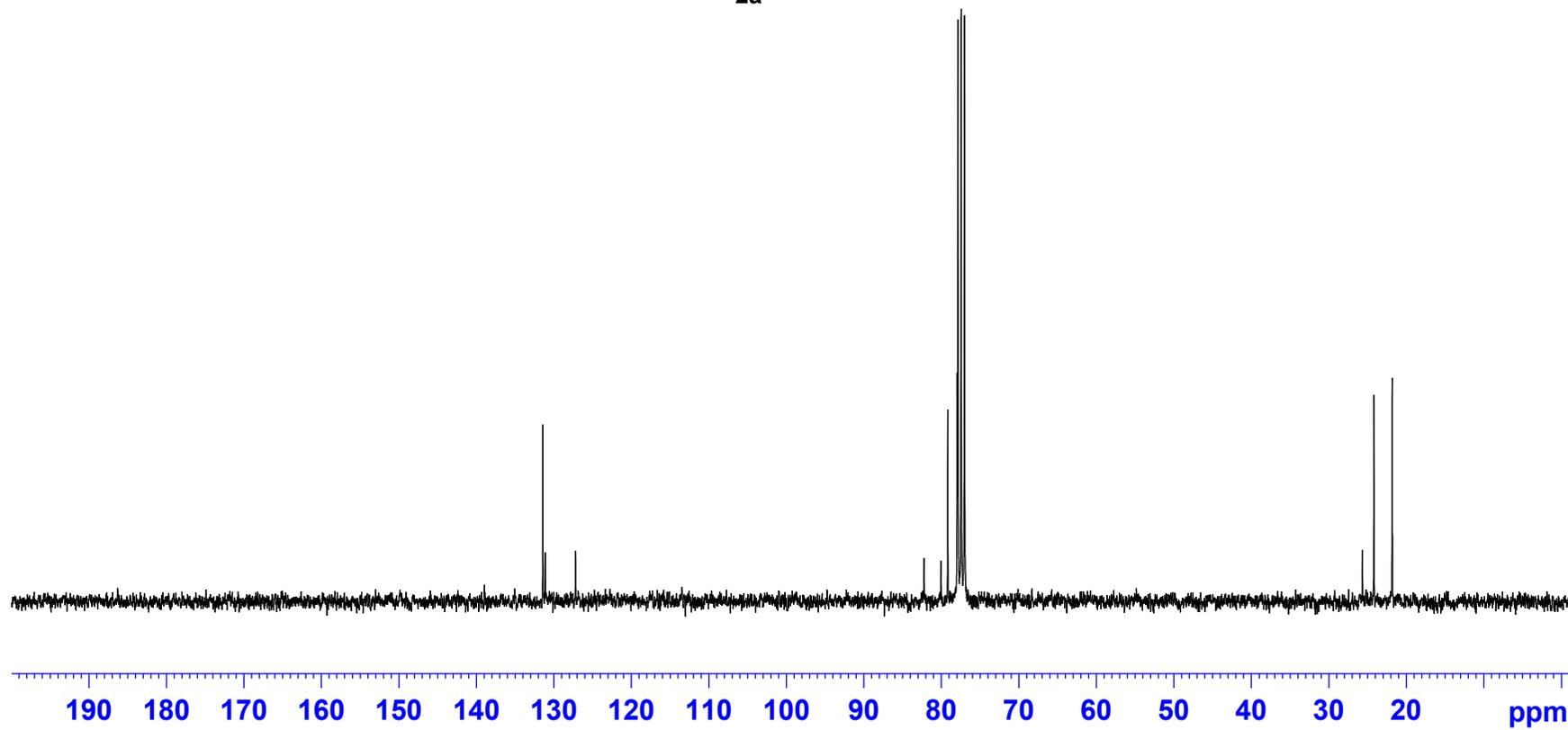
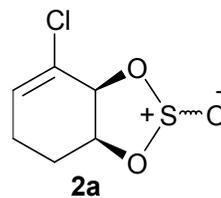
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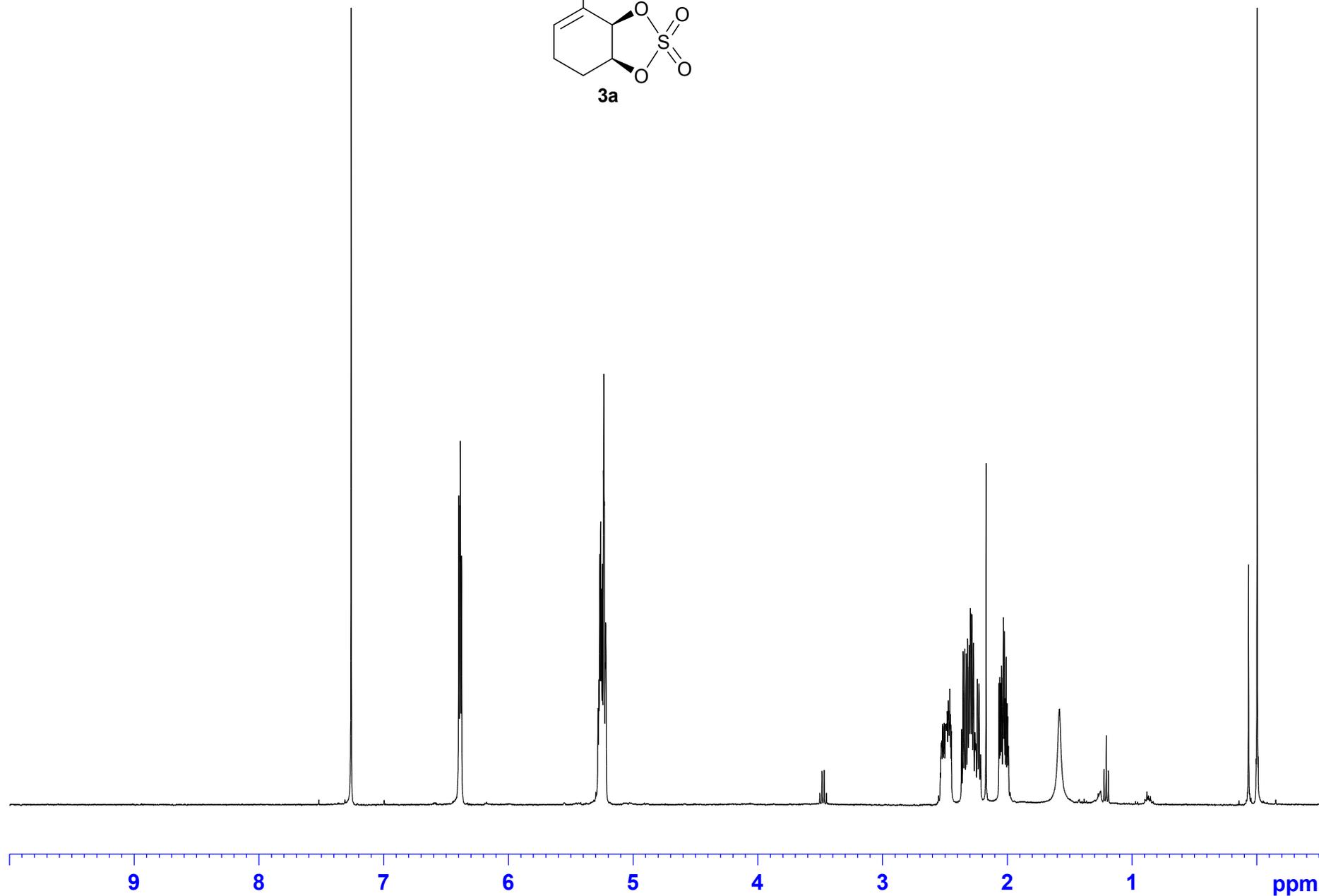
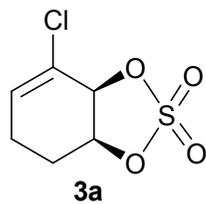
¹H-NMR spectrum of compound 2a in CDCl₃. 5:1 Mixture of diastereoisomers



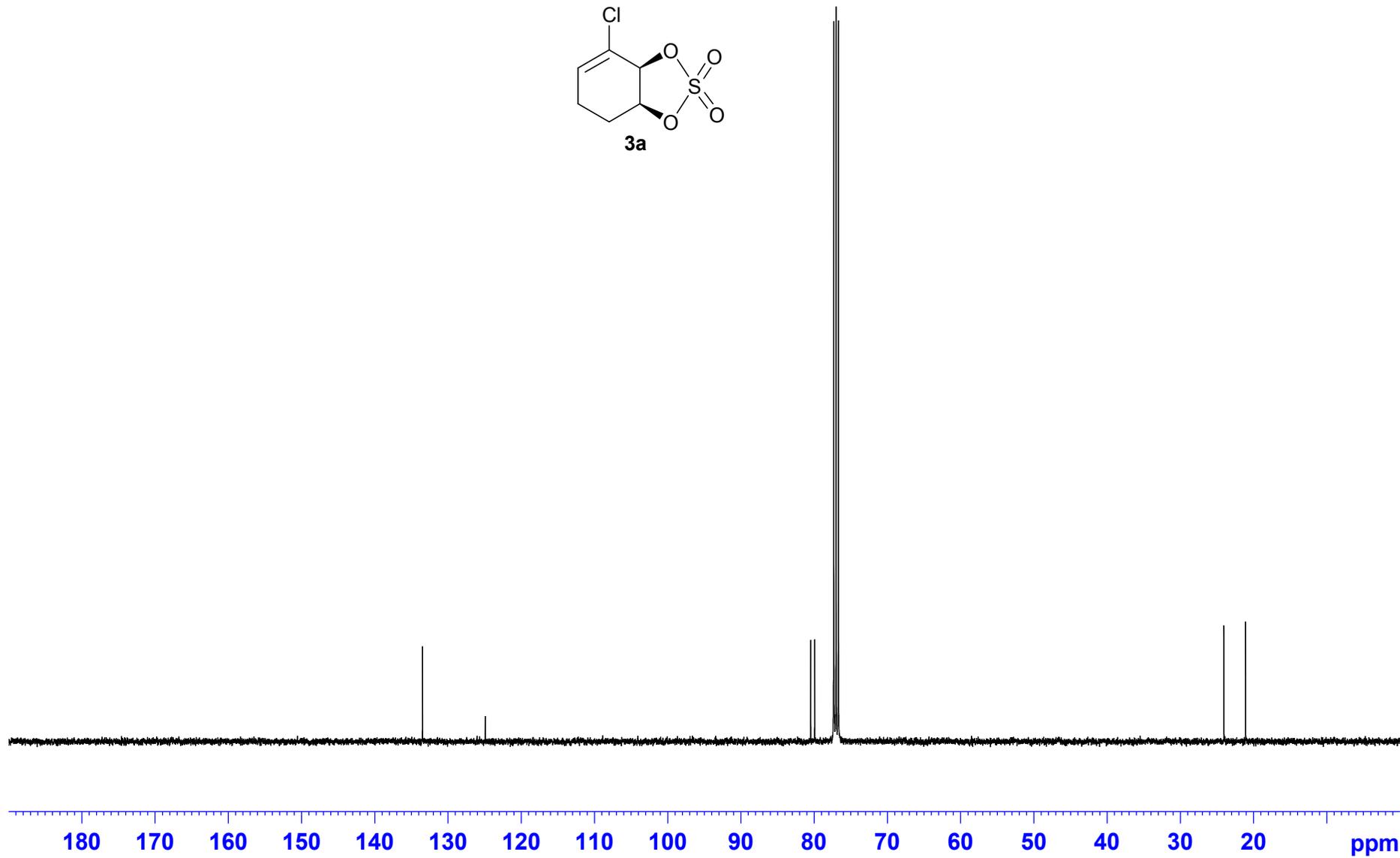
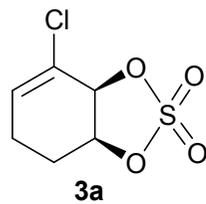
^{13}C -NMR spectrum of compound 2a in CDCl_3 . 5:1 Mixture of diastereoisomers



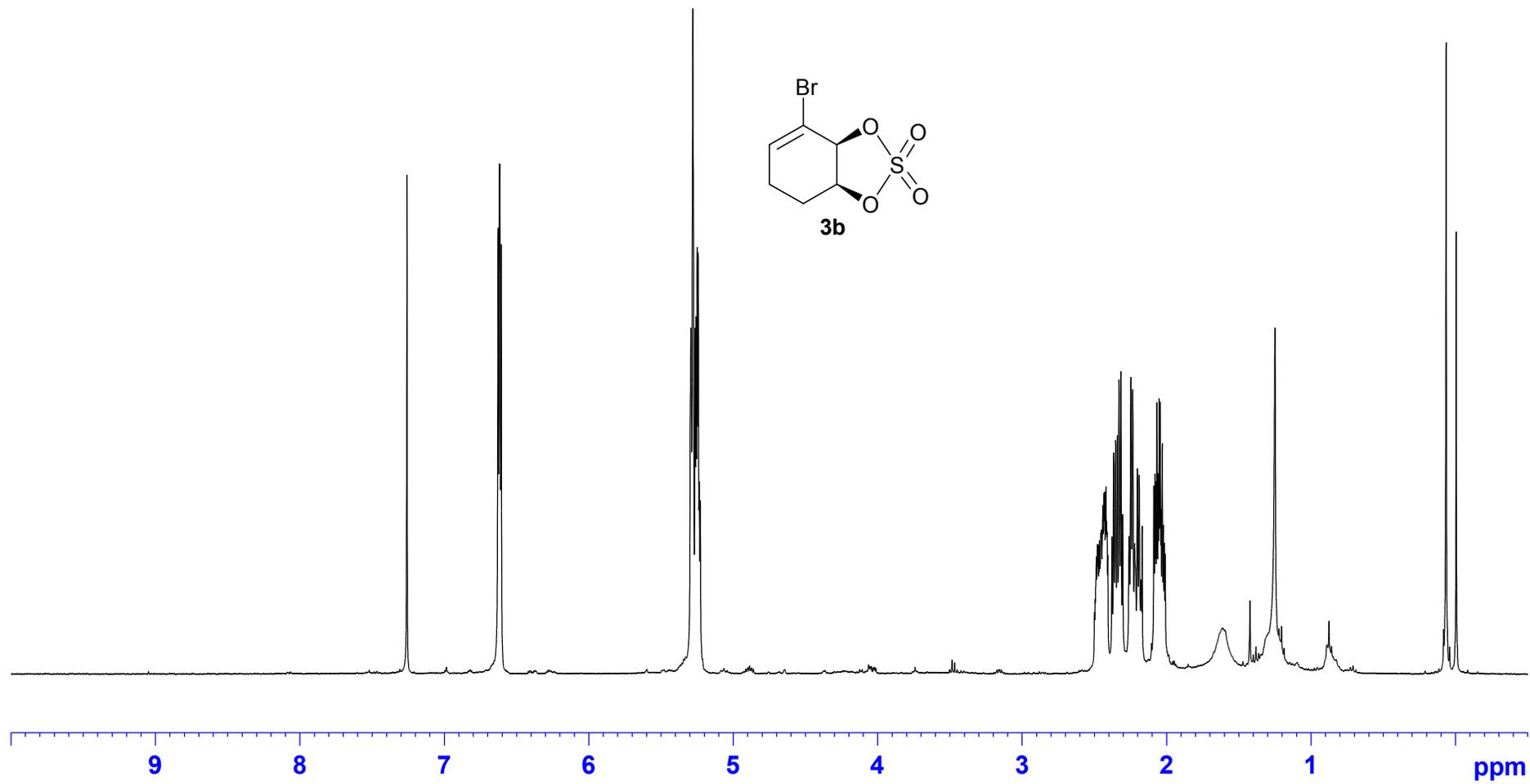
¹H-NMR spectrum of compound (+)-3a in CDCl₃



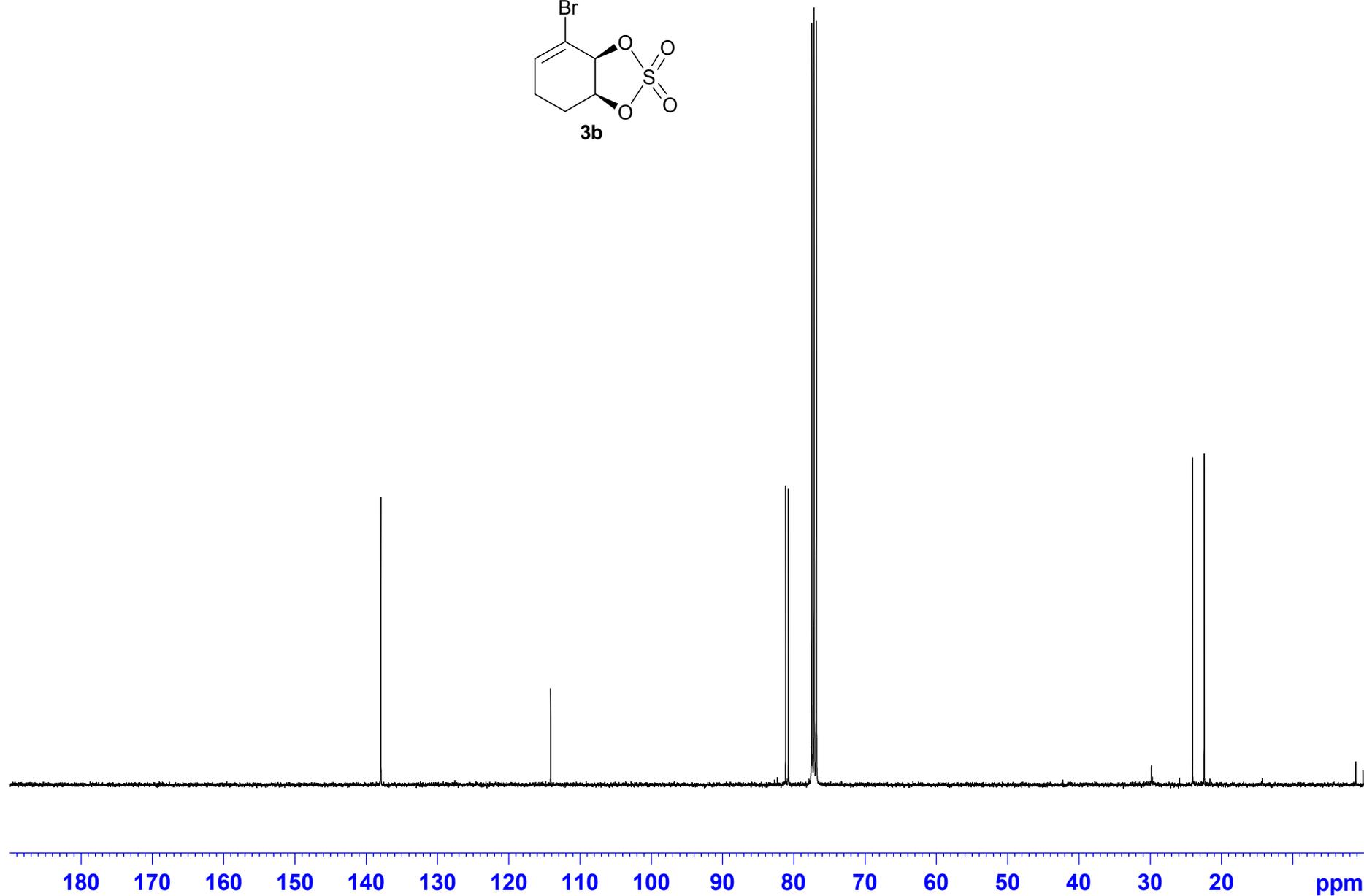
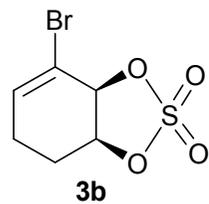
^{13}C -NMR spectrum of compound (+)-3a in CDCl_3



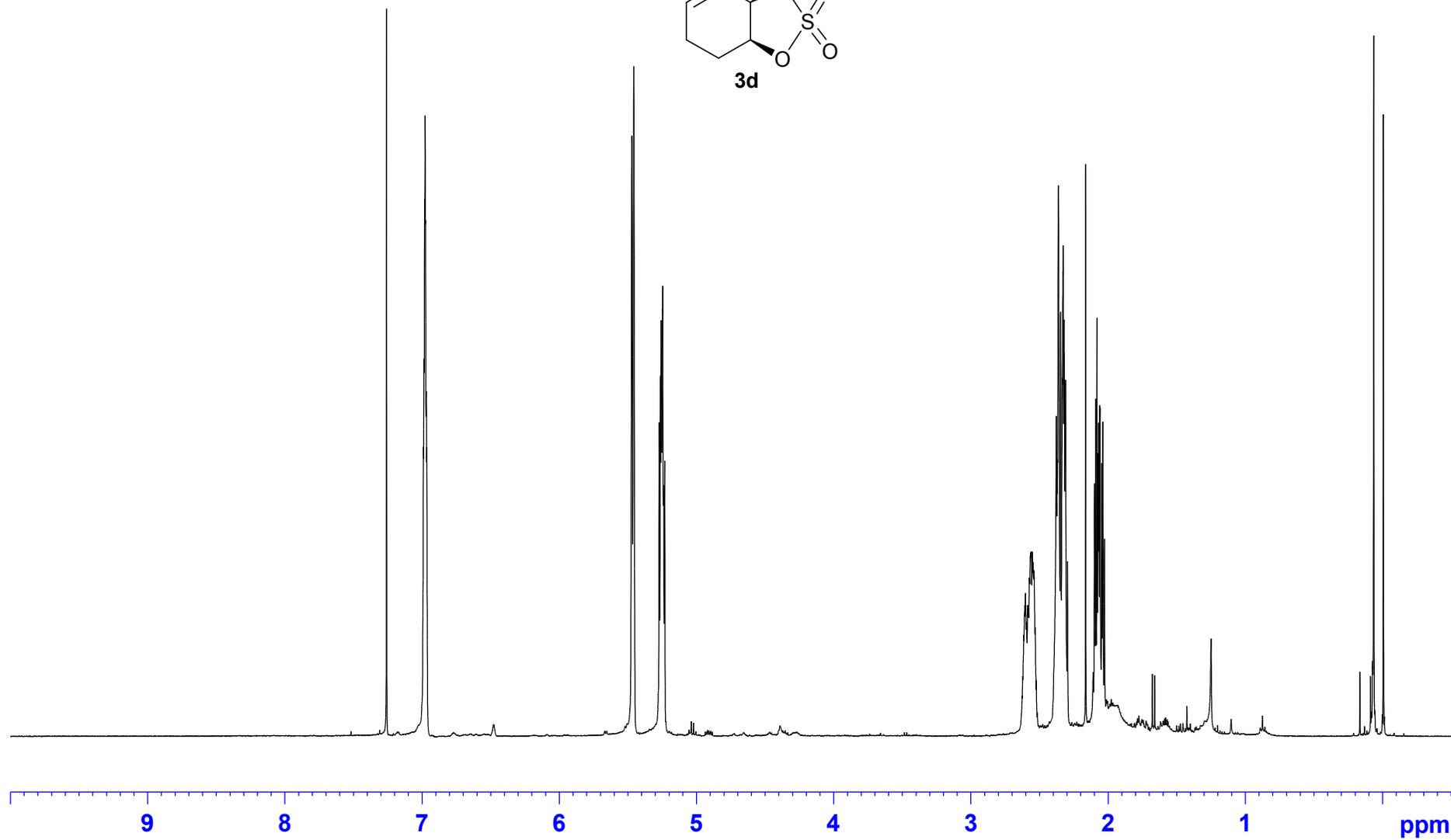
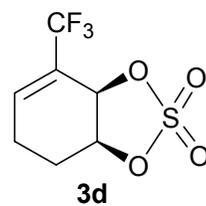
¹H-NMR spectrum of compound (+)-3b in CDCl₃



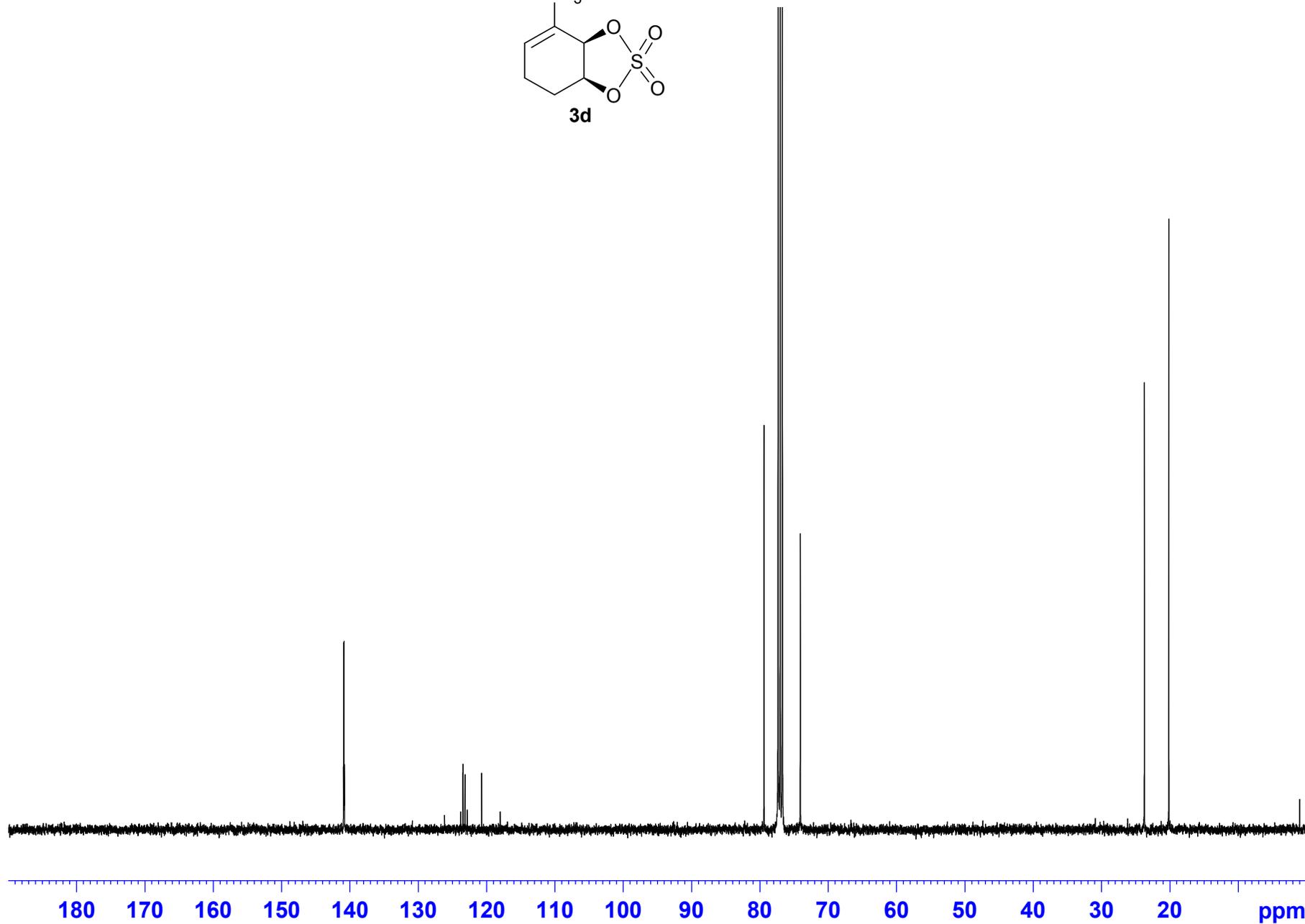
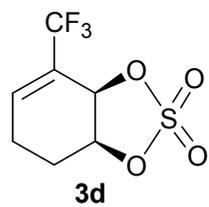
^{13}C -NMR spectrum of compound (+)-3b in CDCl_3



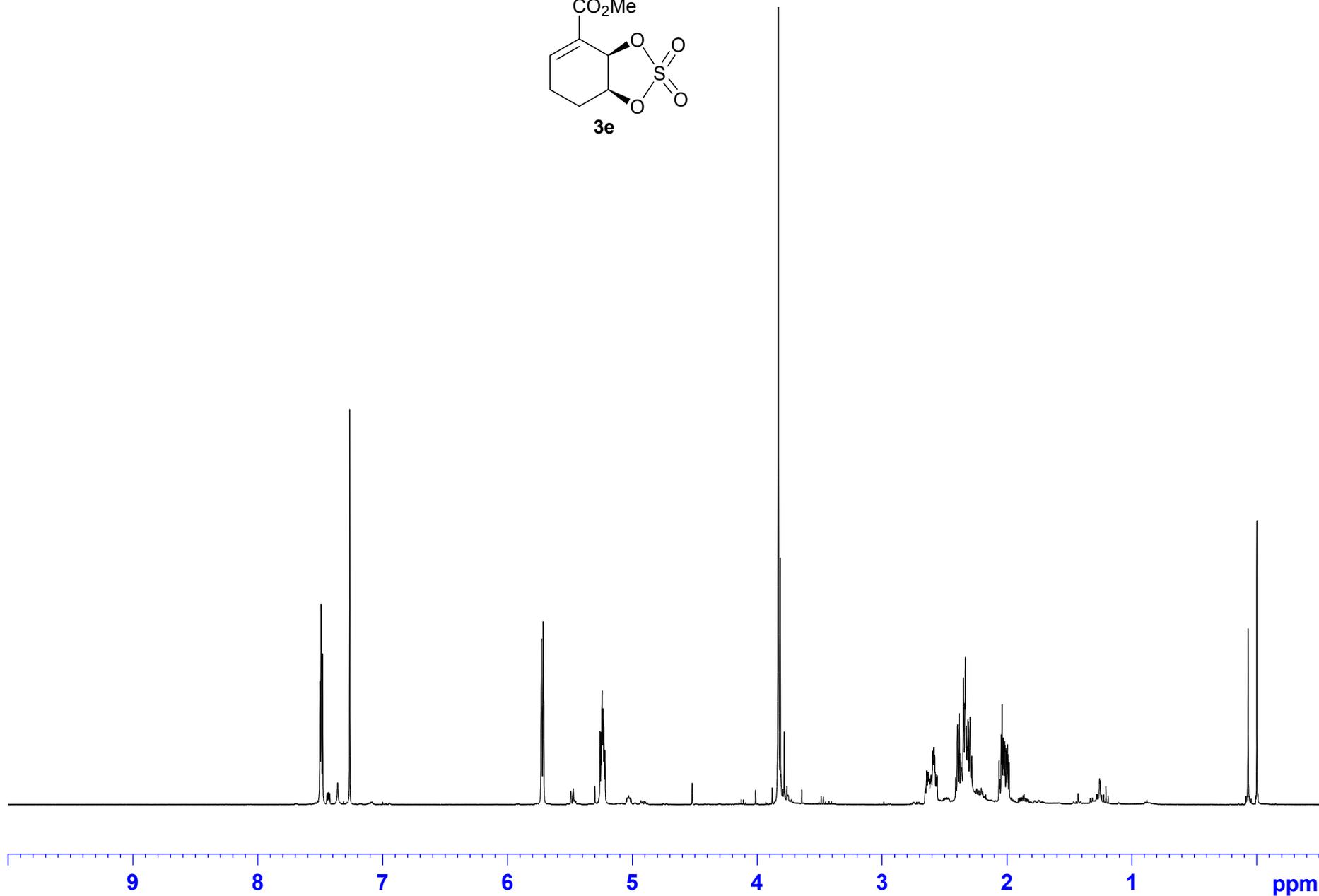
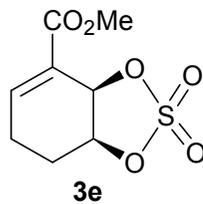
¹H-NMR spectrum of compound (+)-3d in CDCl₃



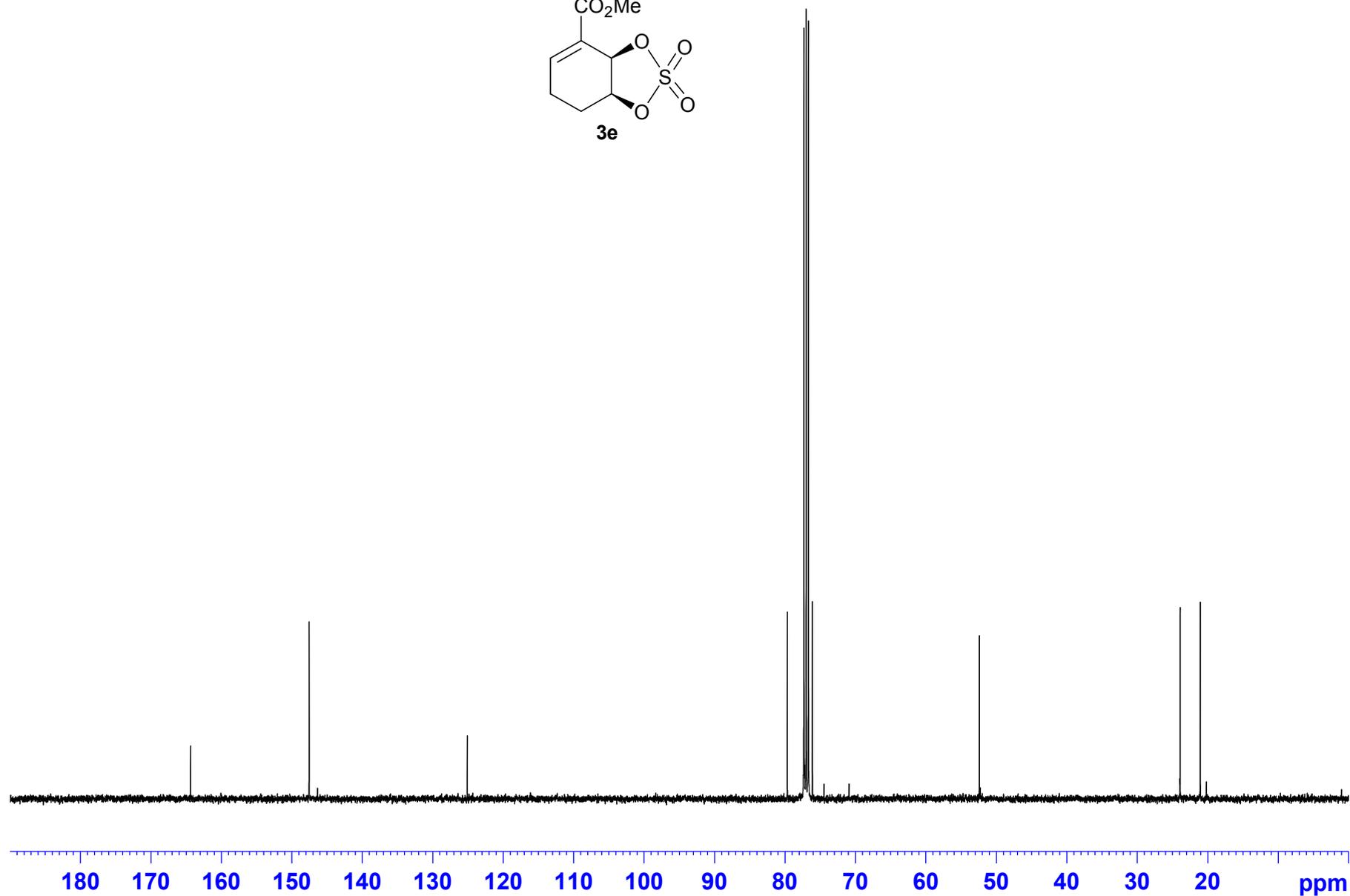
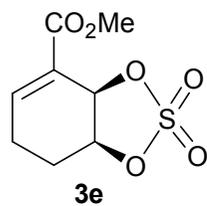
¹³C-NMR spectrum of compound (+)-3d in CDCl₃



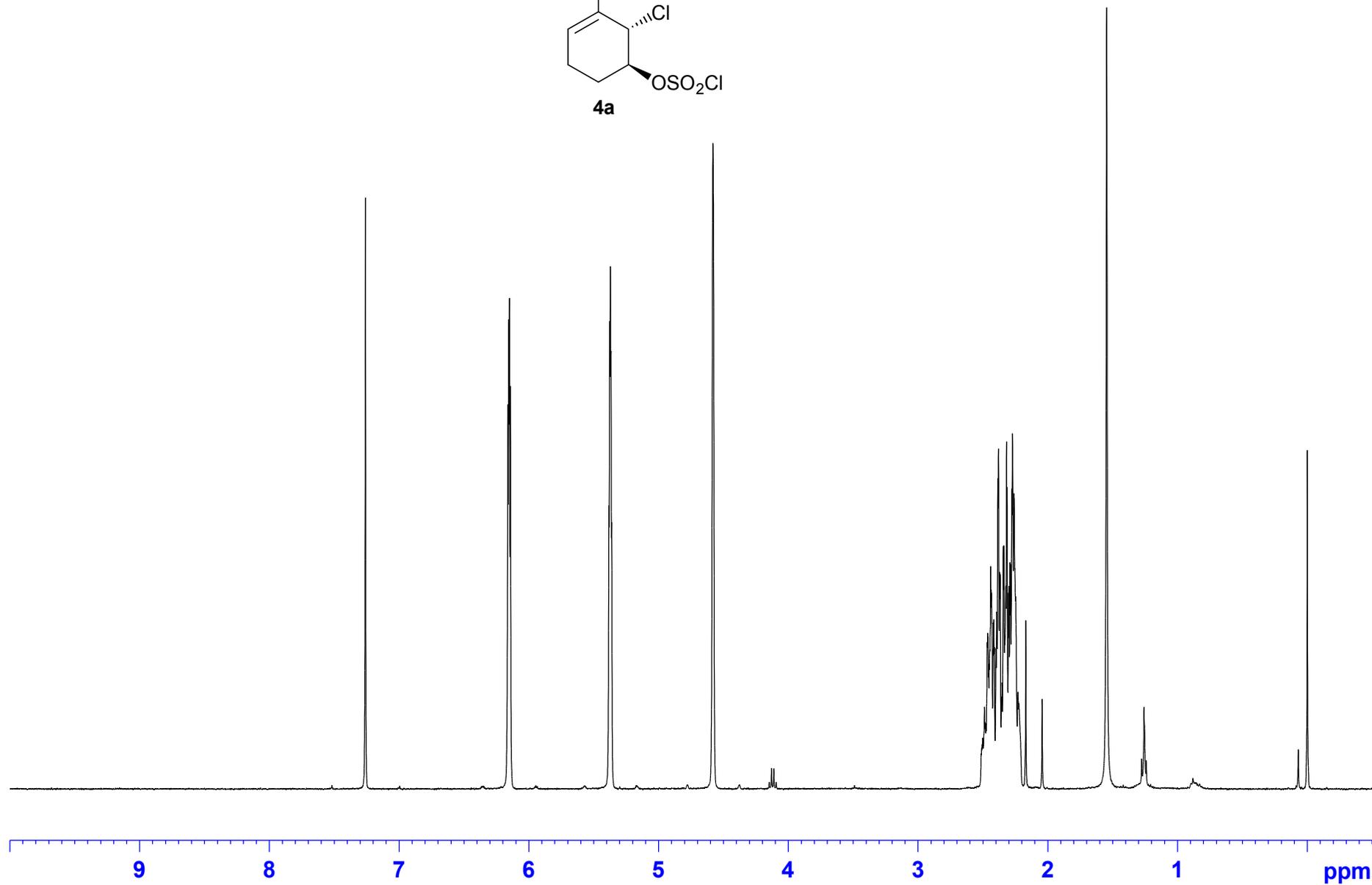
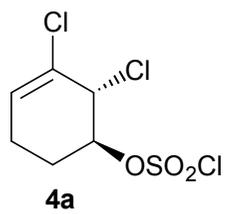
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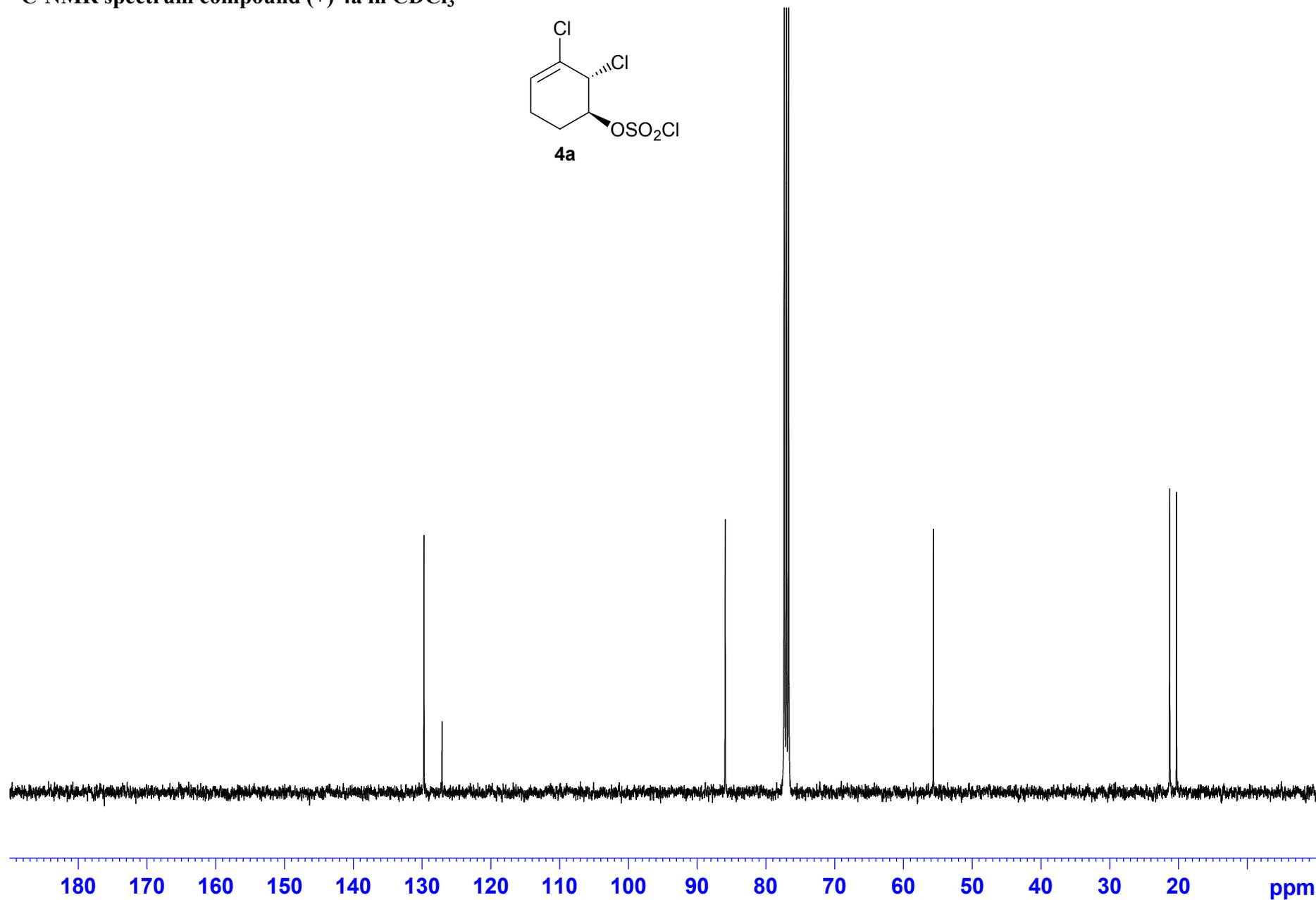
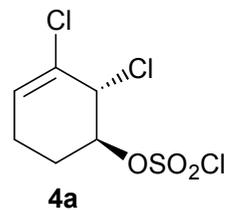
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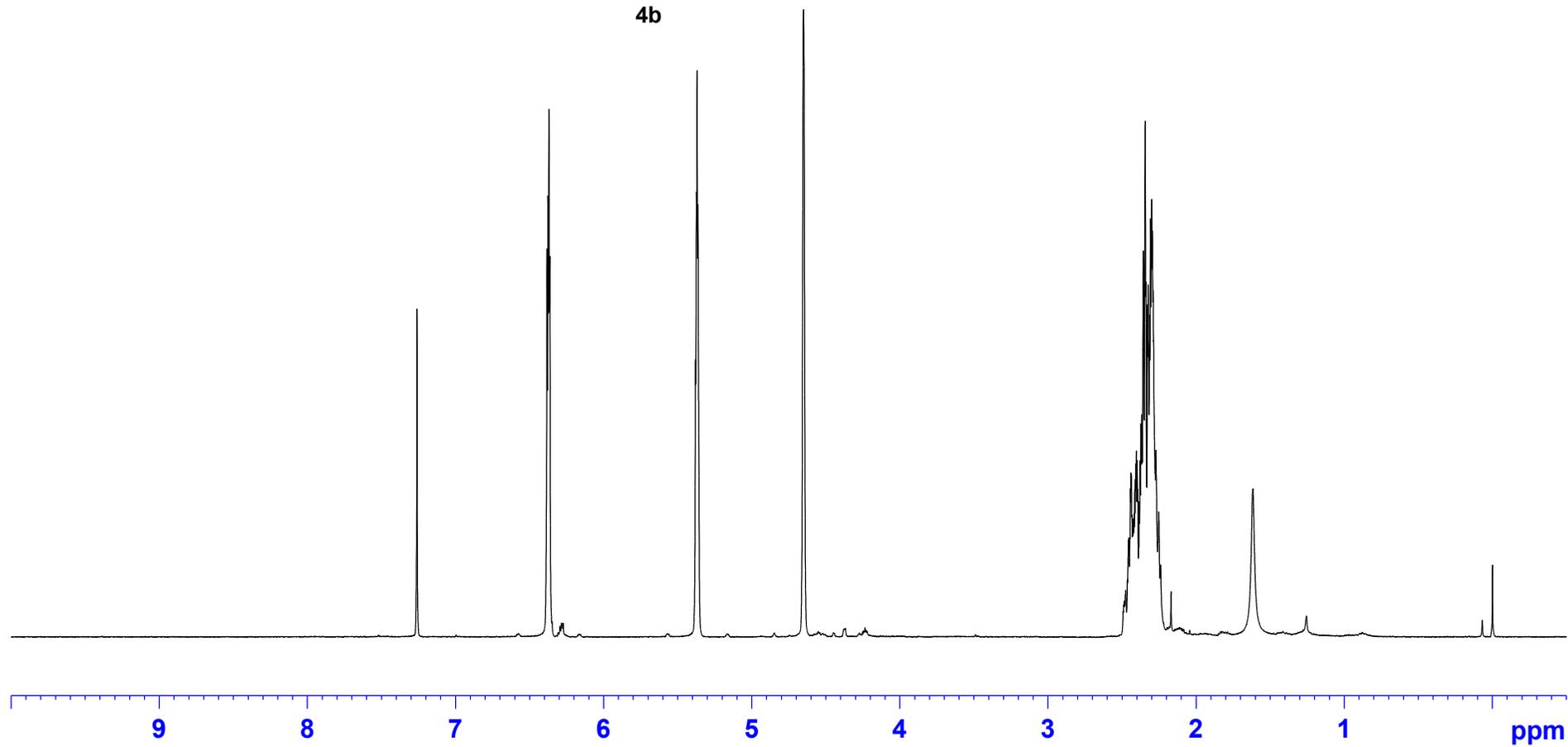
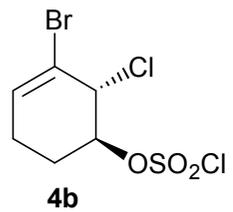
¹H-NMR spectrum of compound (+)-4a in CDCl₃



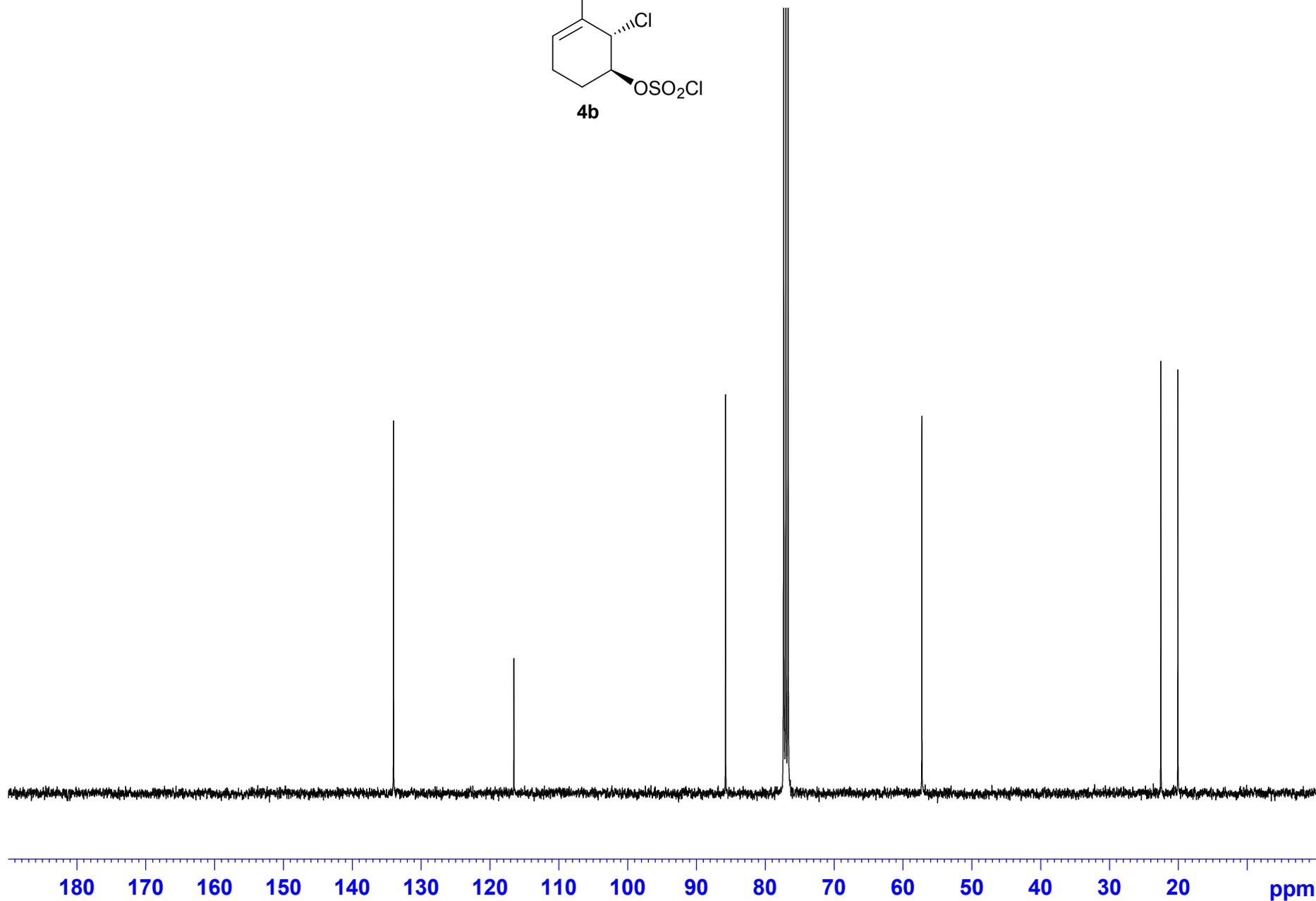
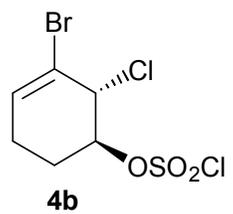
¹³C-NMR spectrum compound (+) 4a in CDCl₃



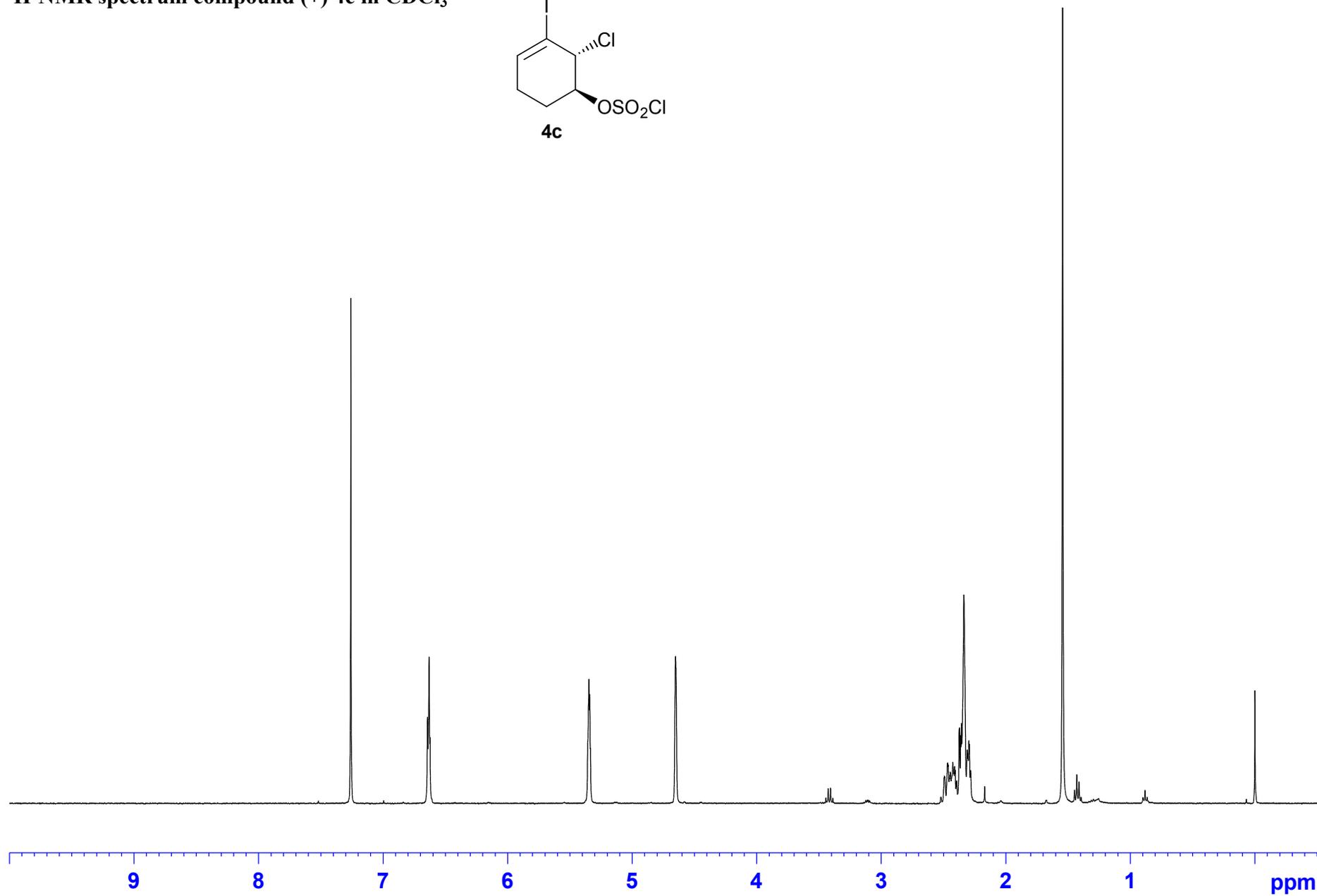
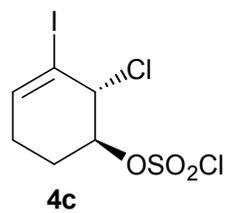
¹H-NMR spectrum compound (+) 4b in CDCl₃



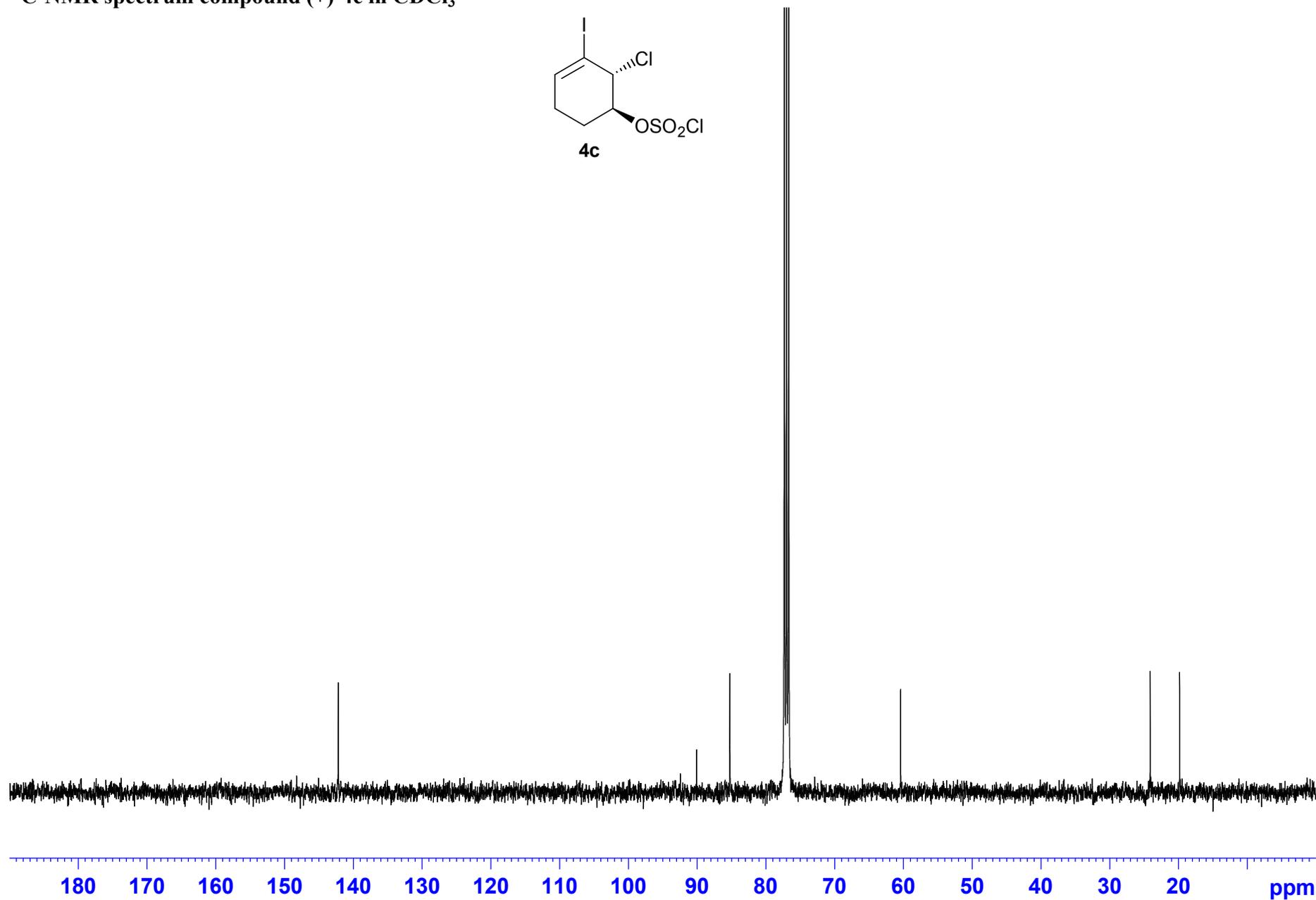
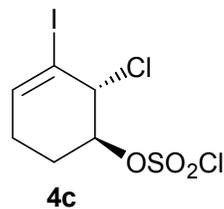
^{13}C -NMR spectrum of compound (+)-4b in CDCl_3



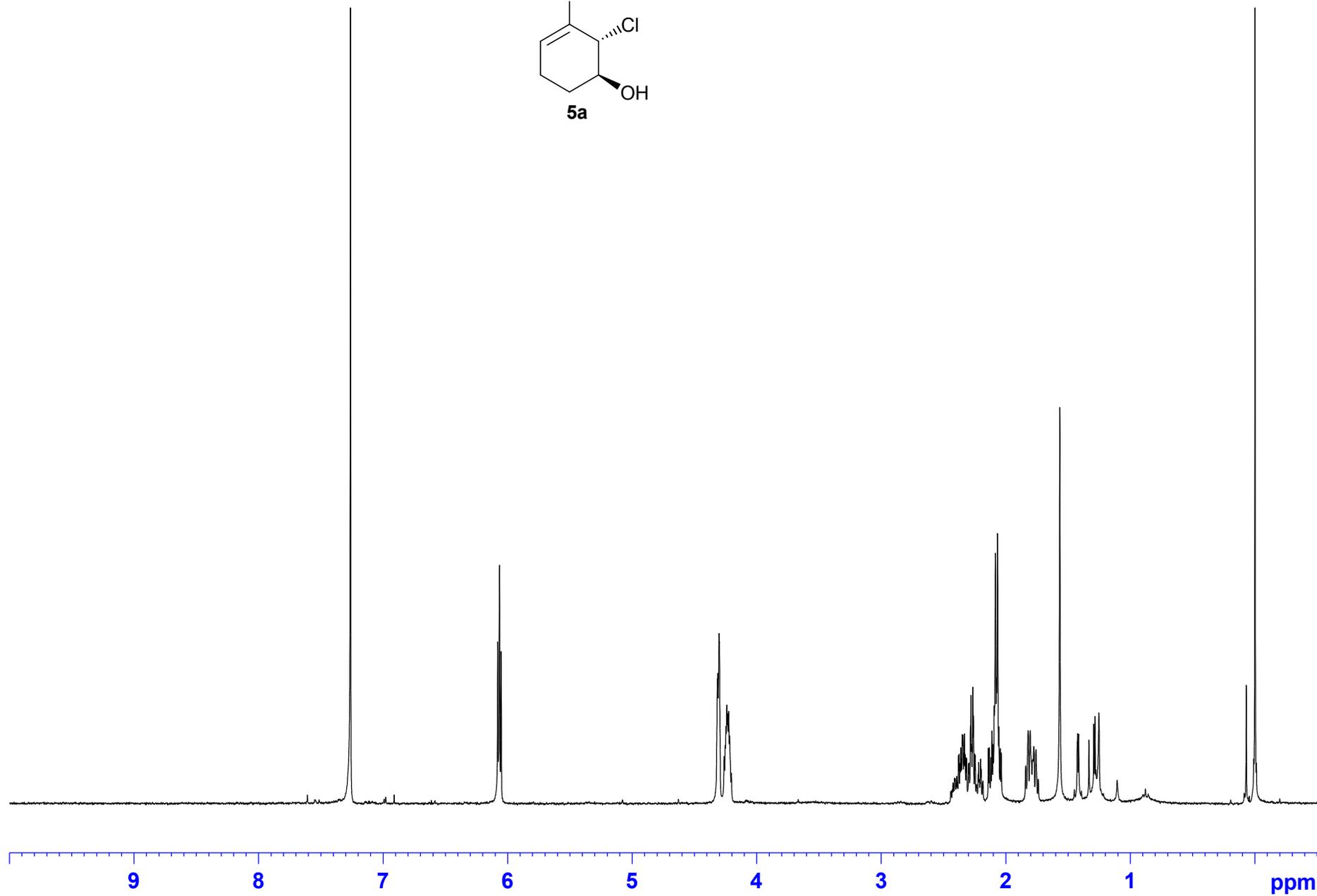
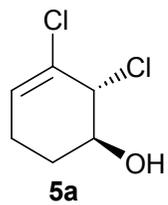
¹H-NMR spectrum compound (+) 4c in CDCl₃



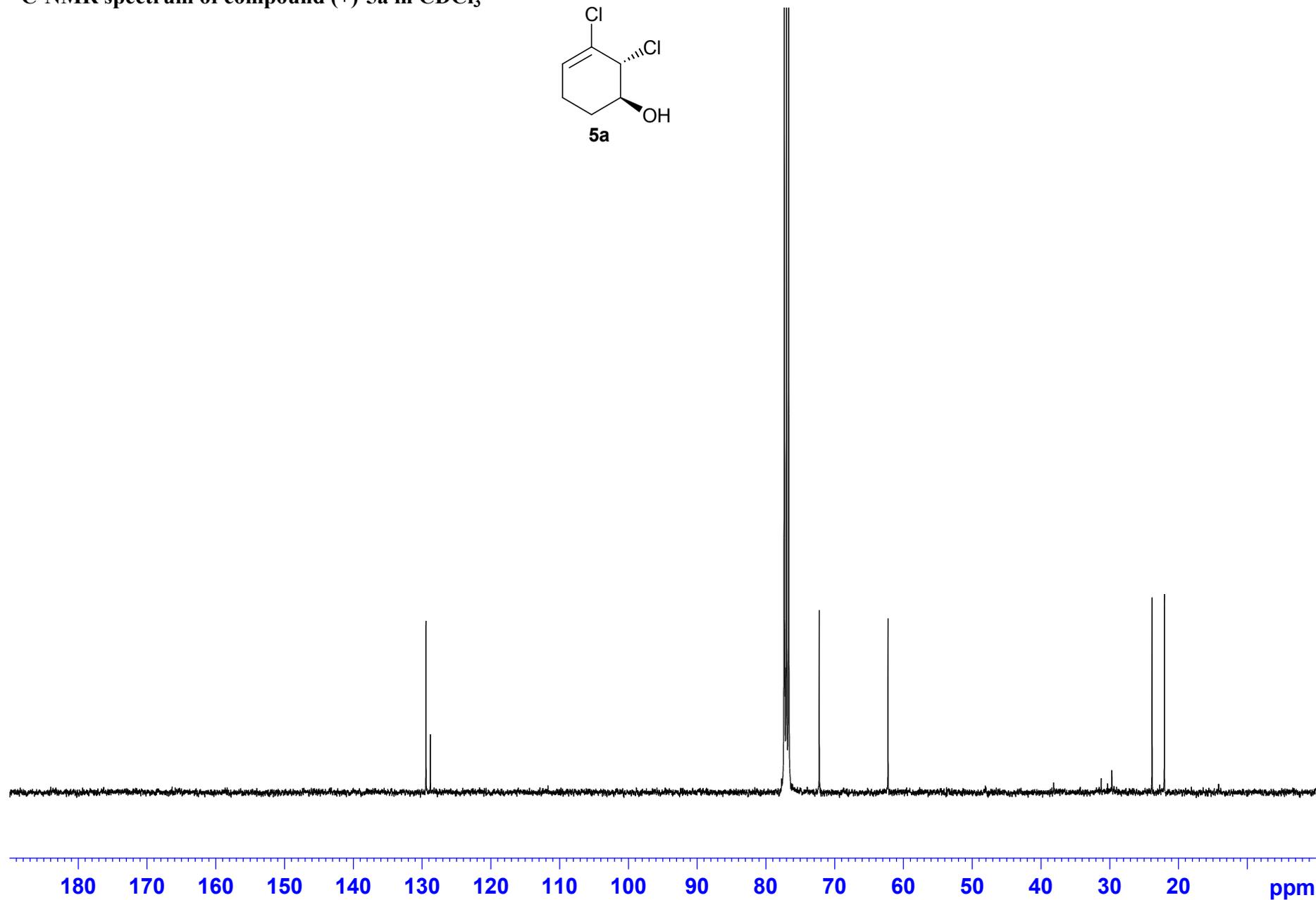
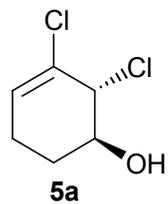
¹³C-NMR spectrum compound (+)-4c in CDCl₃



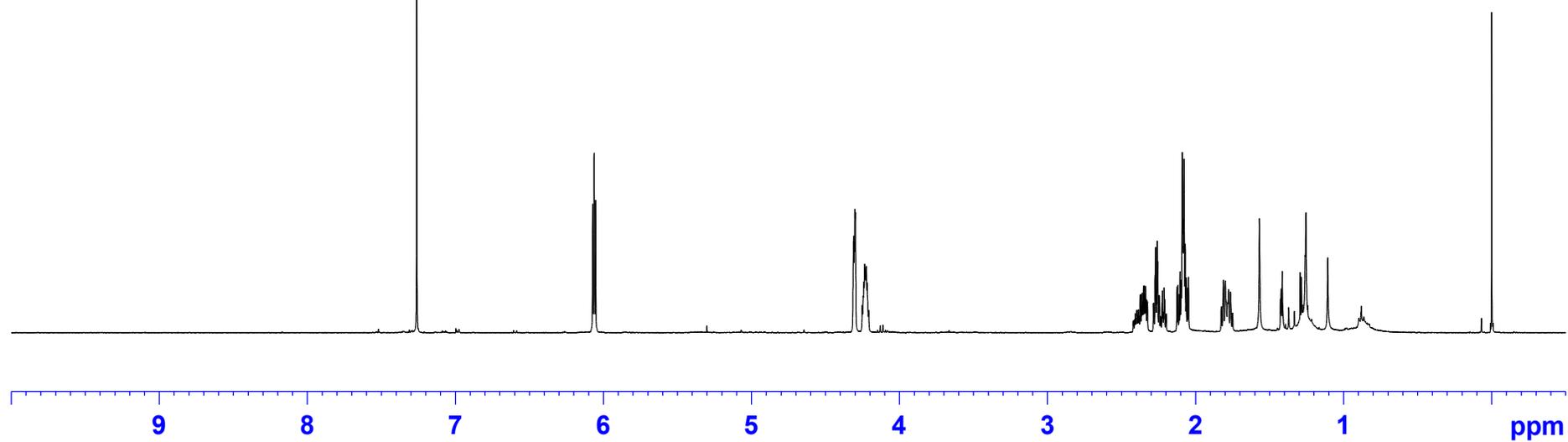
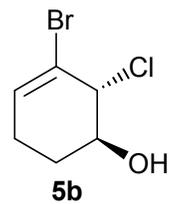
¹H-NMR spectrum of compound (+)-5a in CDCl₃



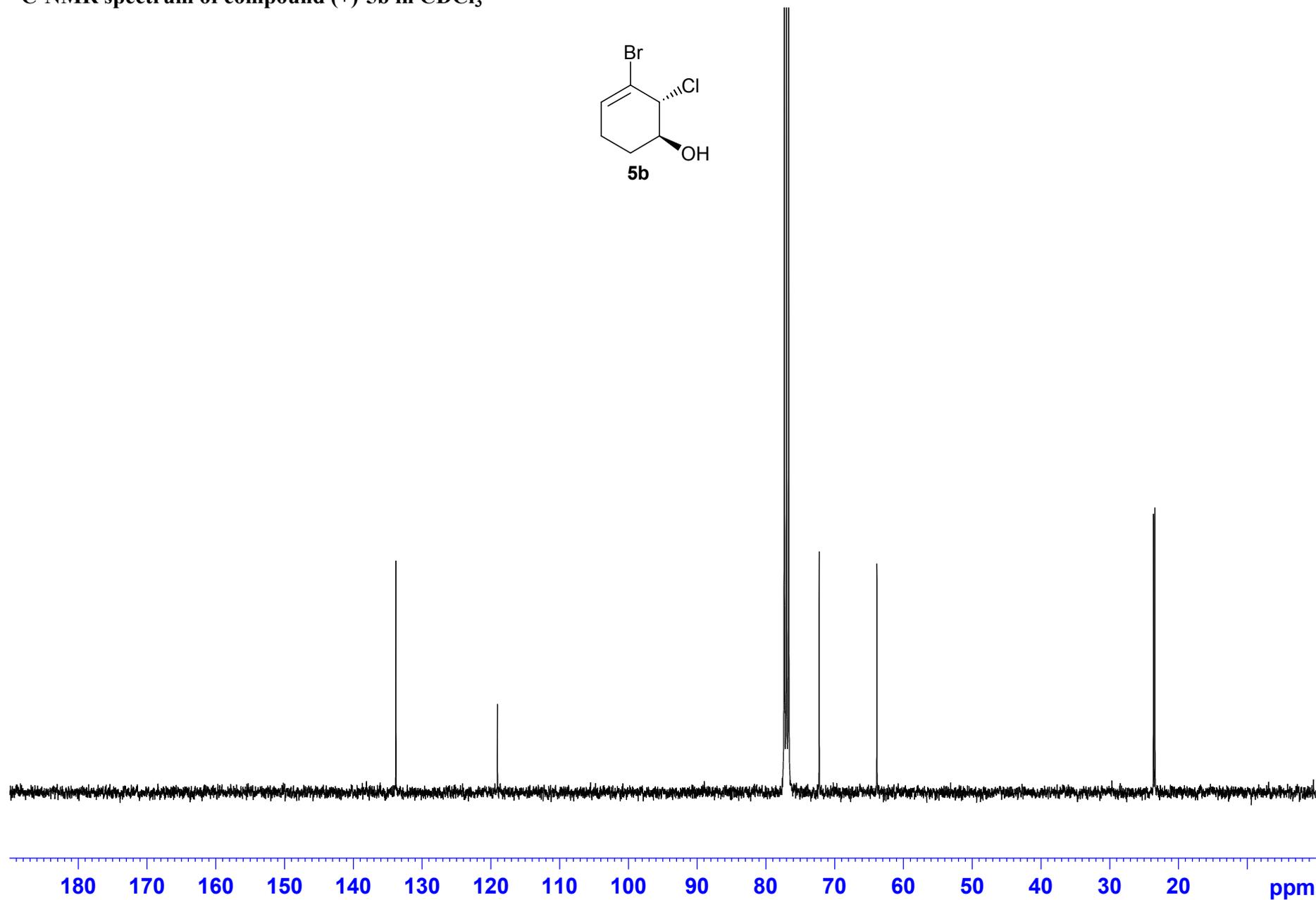
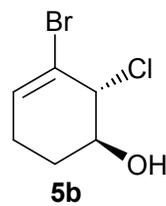
¹³C-NMR spectrum of compound (+)-5a in CDCl₃



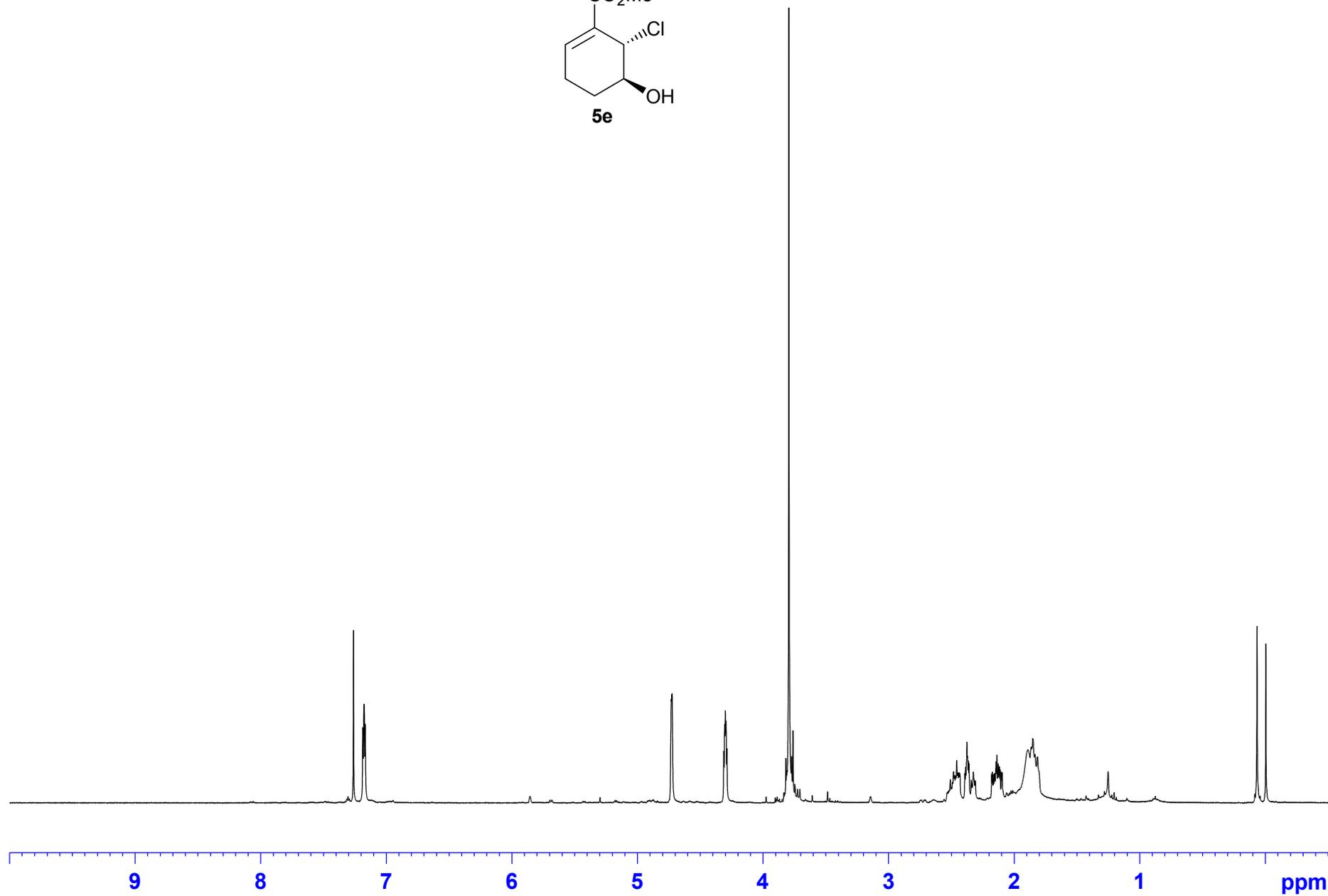
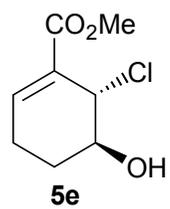
¹H-NMR spectrum of compound (+)-5b in CDCl₃



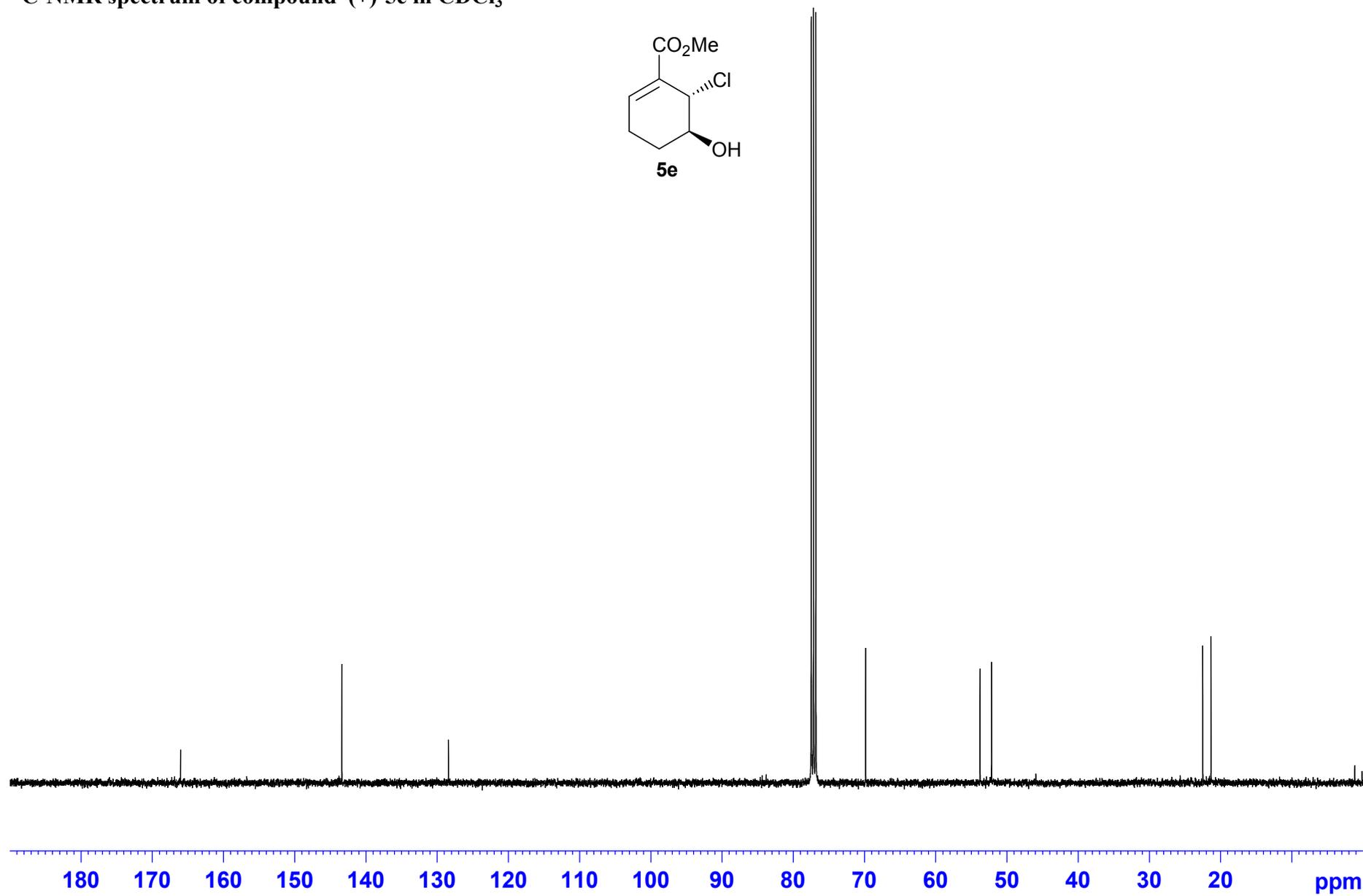
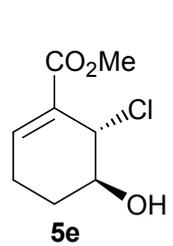
^{13}C -NMR spectrum of compound (+)-5b in CDCl_3



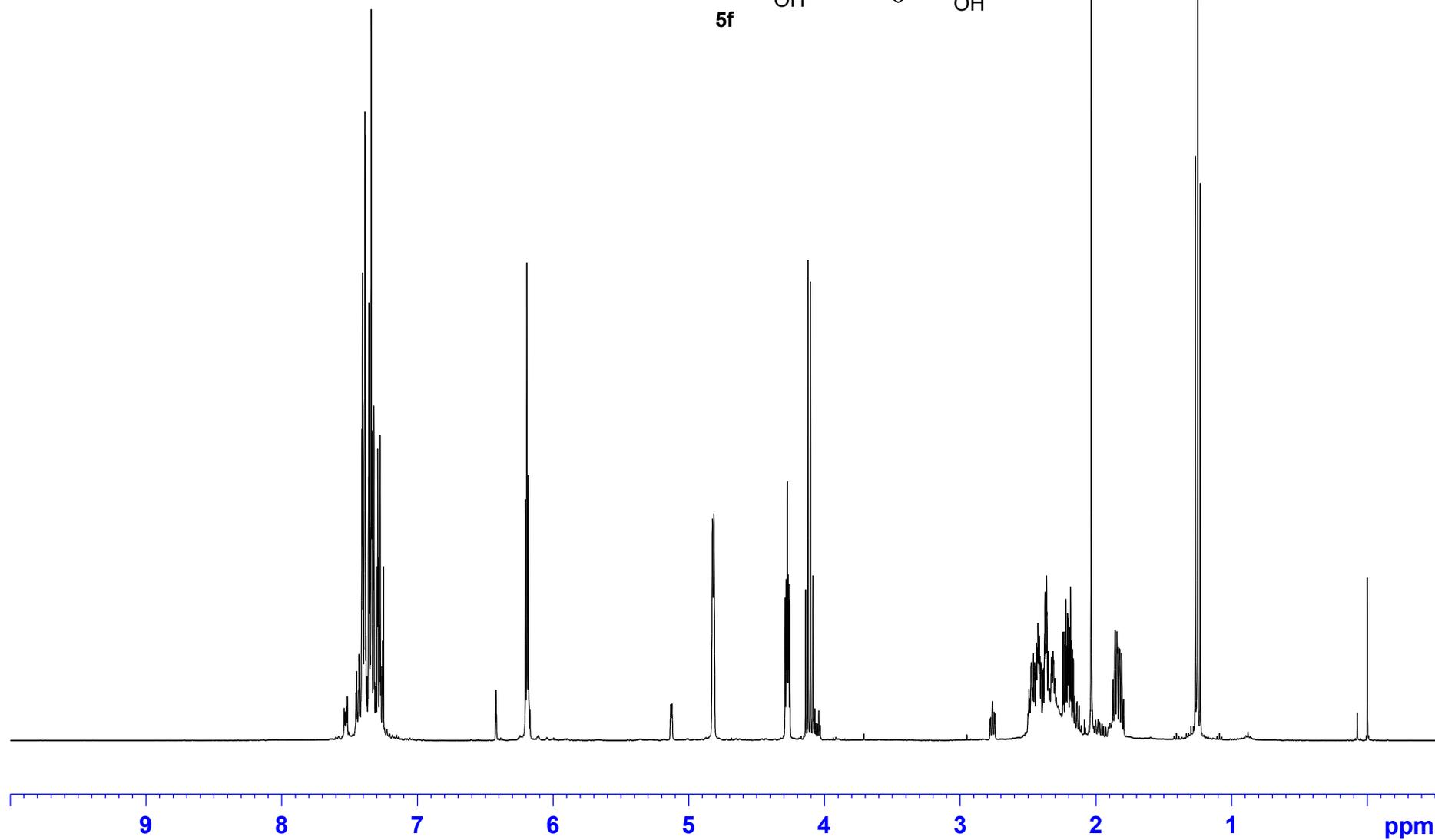
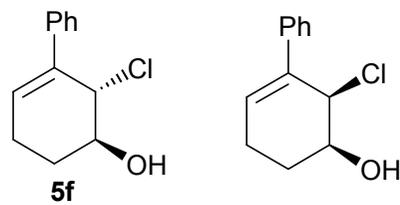
¹H-NMR spectrum of compound (+)-5e in CDCl₃



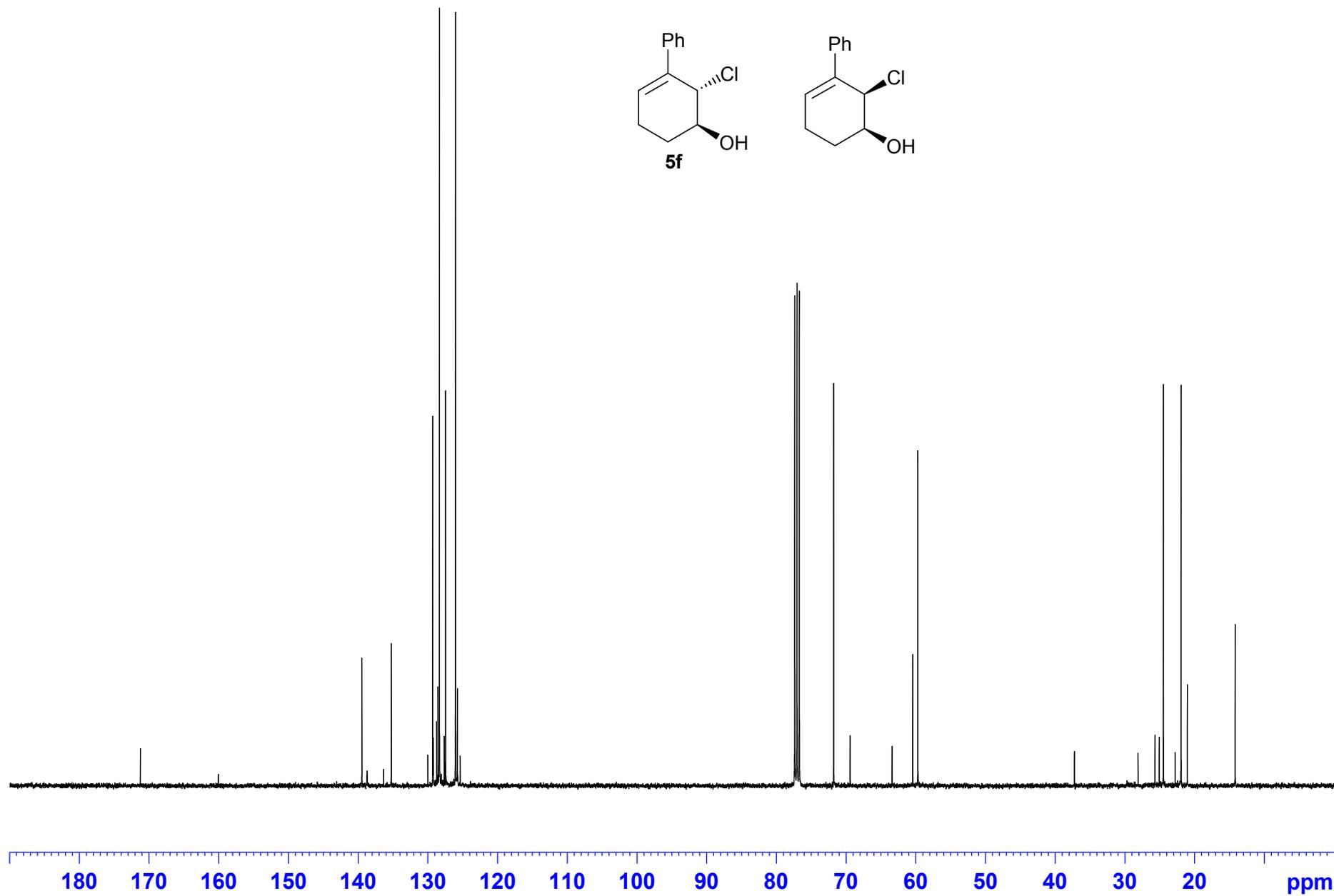
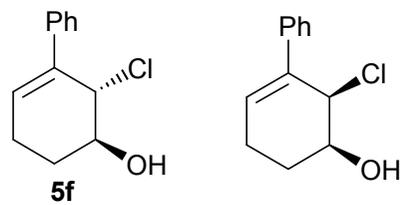
^{13}C -NMR spectrum of compound (+)-5e in CDCl_3



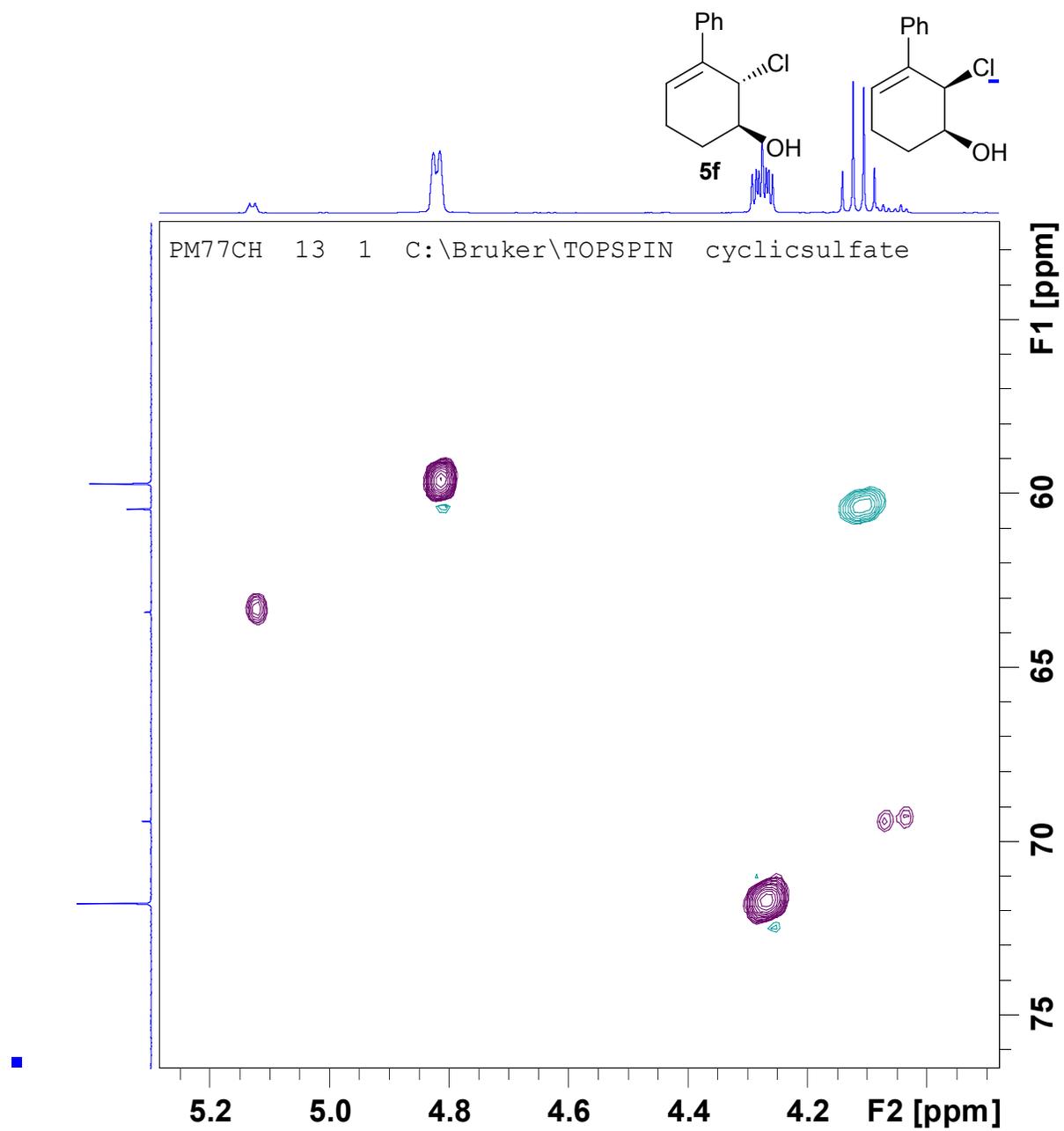
¹H-NMR spectrum of compound of *trans-cis* mixture **5f** in CDCl₃. Contaminated with ethylacetate.



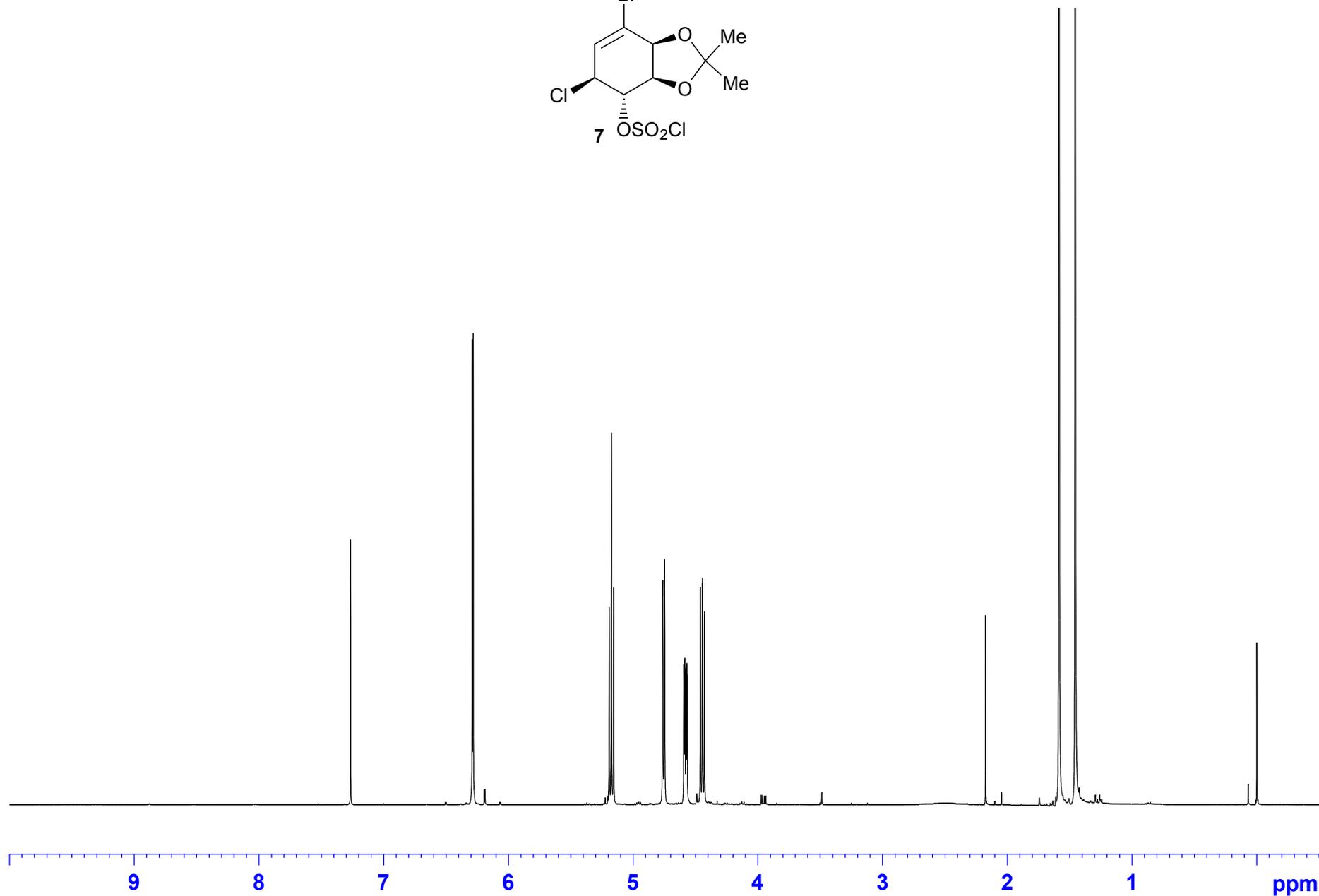
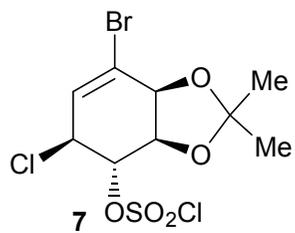
^{13}C -NMR spectrum of compound of *trans-cis* mixture 5f in CDCl_3 . Contaminated with ethylacetate.



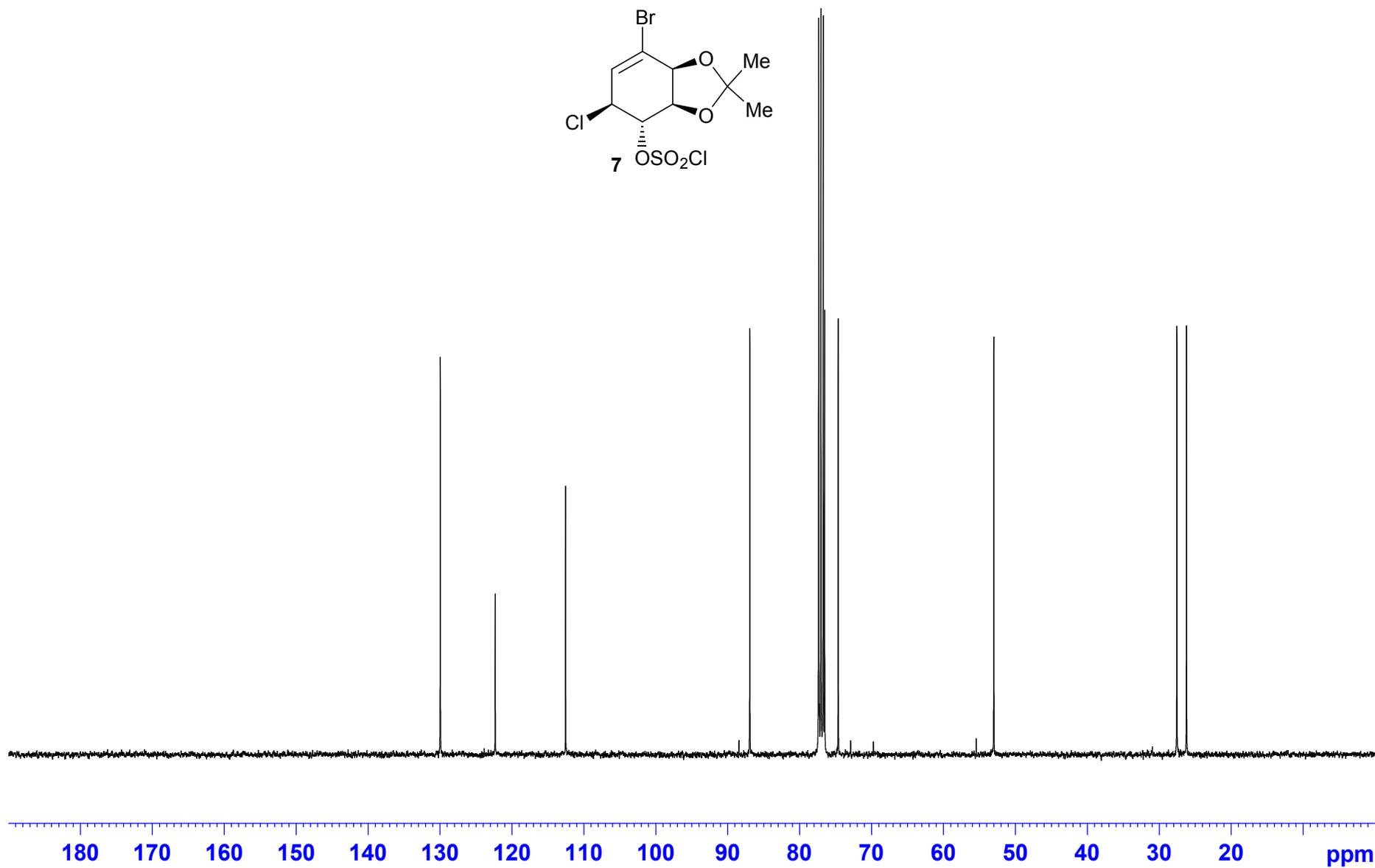
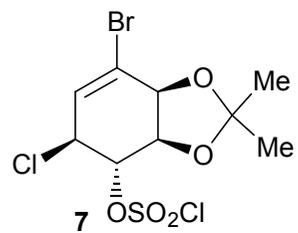
HSQC spectrum of compound of *trans-cis* mixture 5f in CDCl₃. Contaminated with ethylacetate.



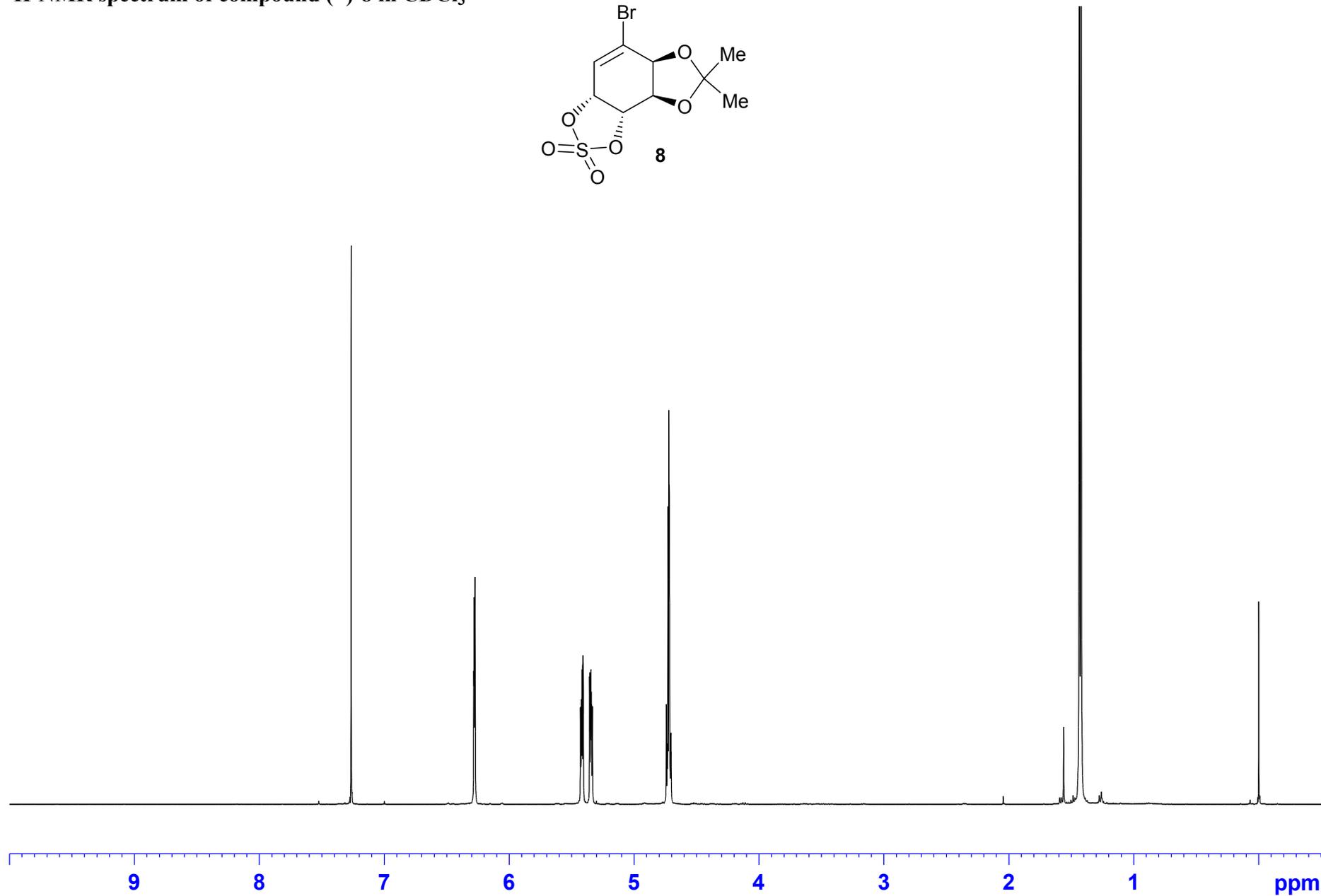
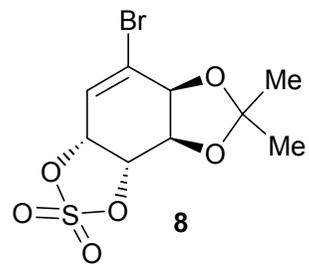
¹H-NMR spectrum of compound (+)-7 in CDCl₃



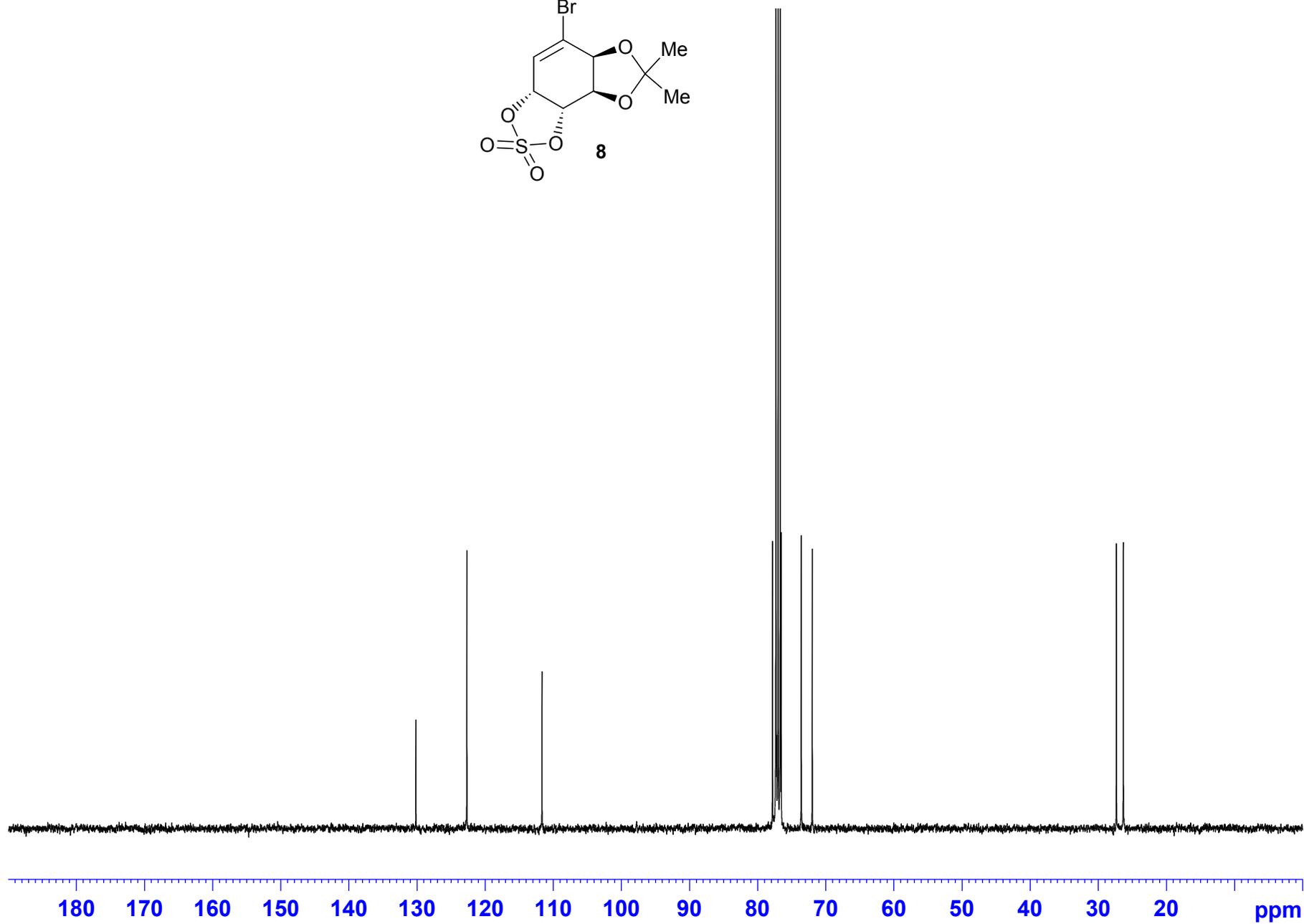
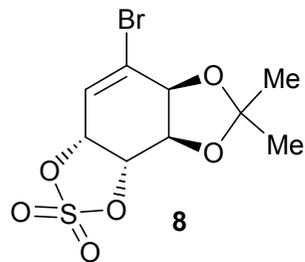
¹³C-NMR spectrum of compound (+)-7 in CDCl₃



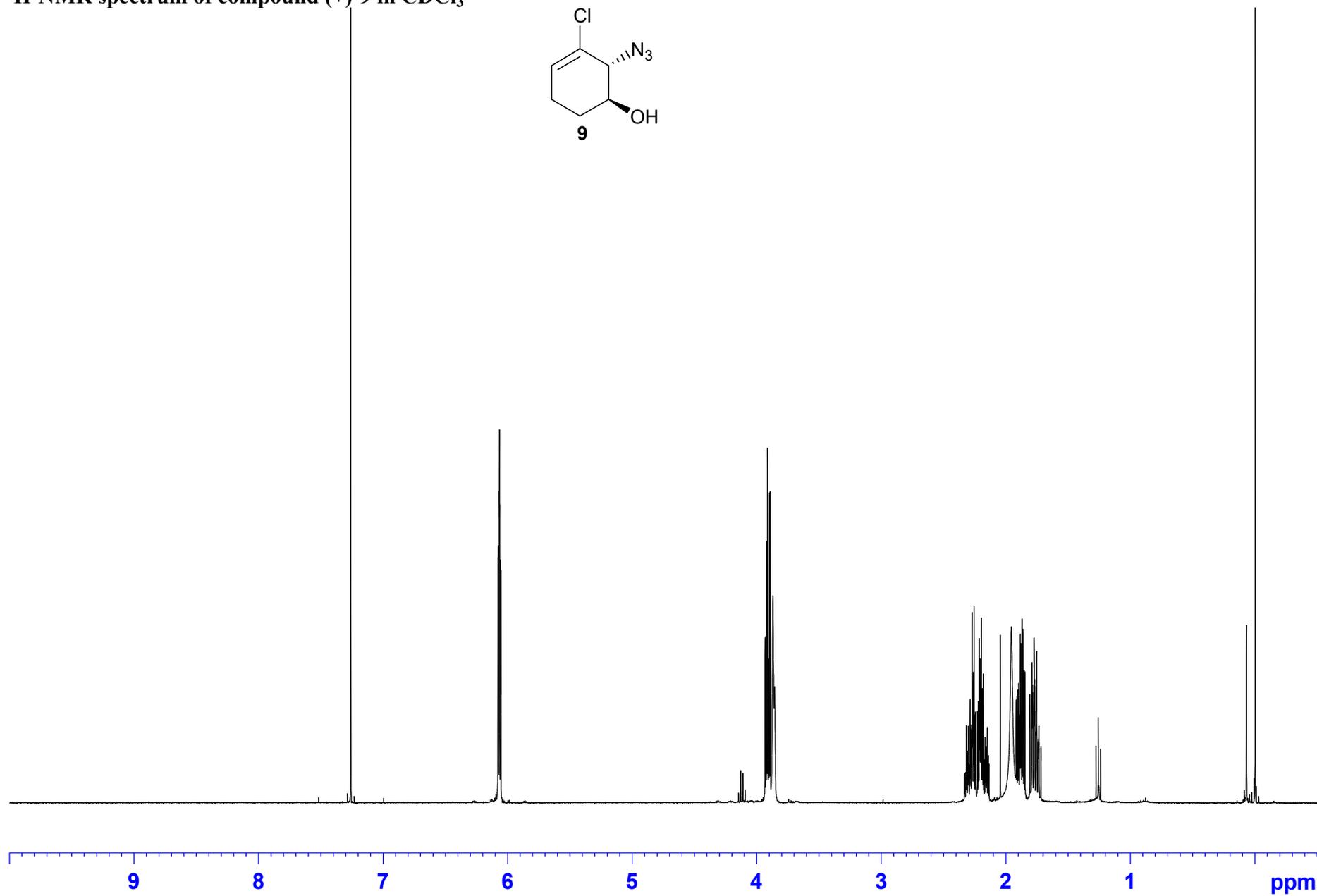
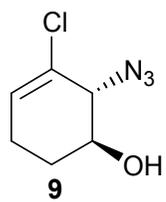
¹H-NMR spectrum of compound (+)-8 in CDCl₃



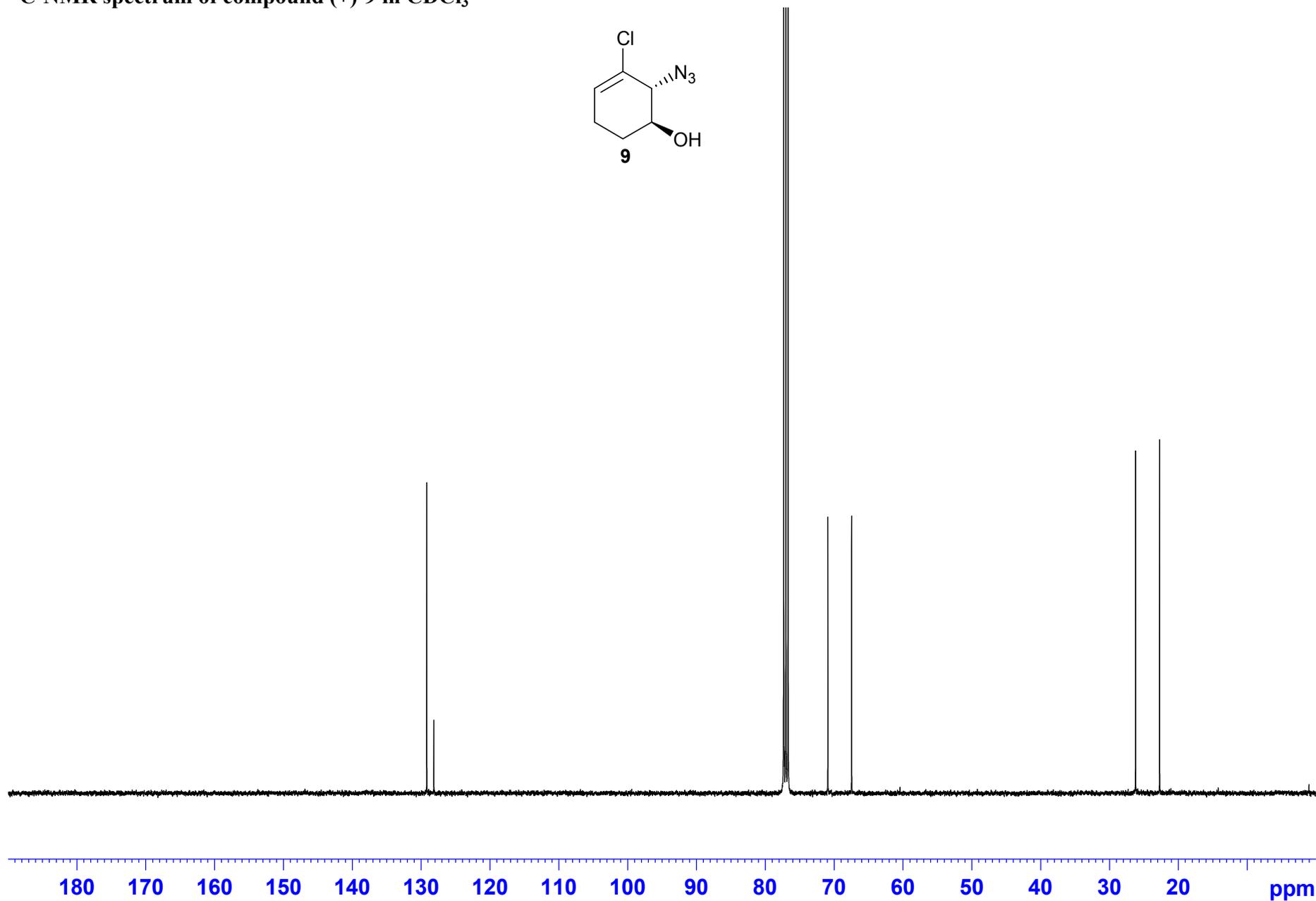
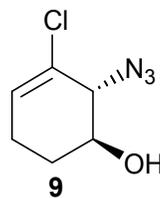
^{13}C -NMR spectrum of compound (+)-8 in CDCl_3



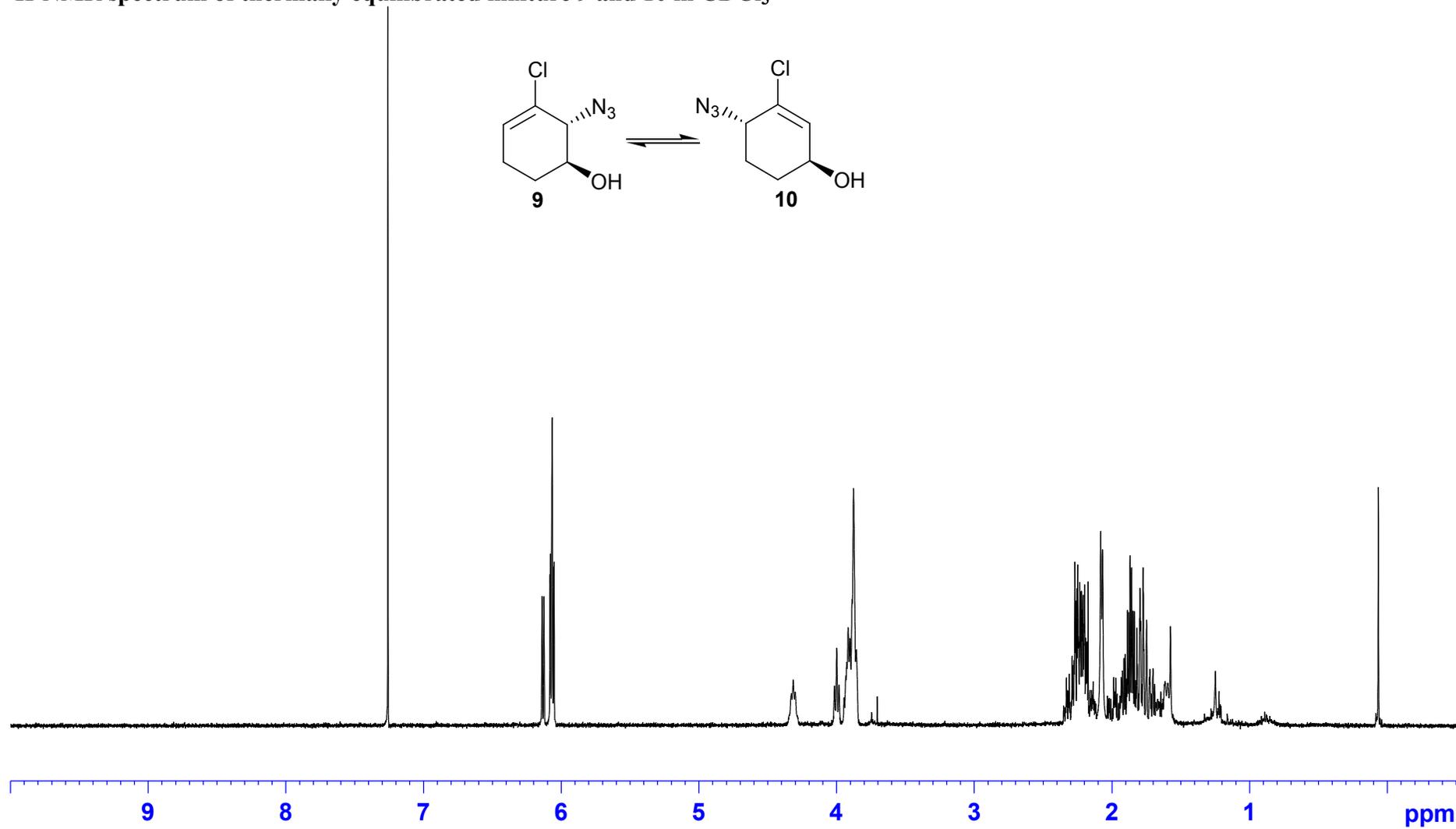
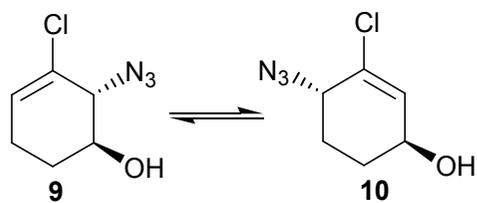
¹H-NMR spectrum of compound (+)-9 in CDCl₃



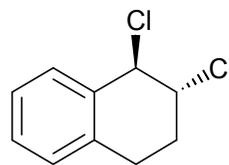
^{13}C -NMR spectrum of compound (+)-9 in CDCl_3



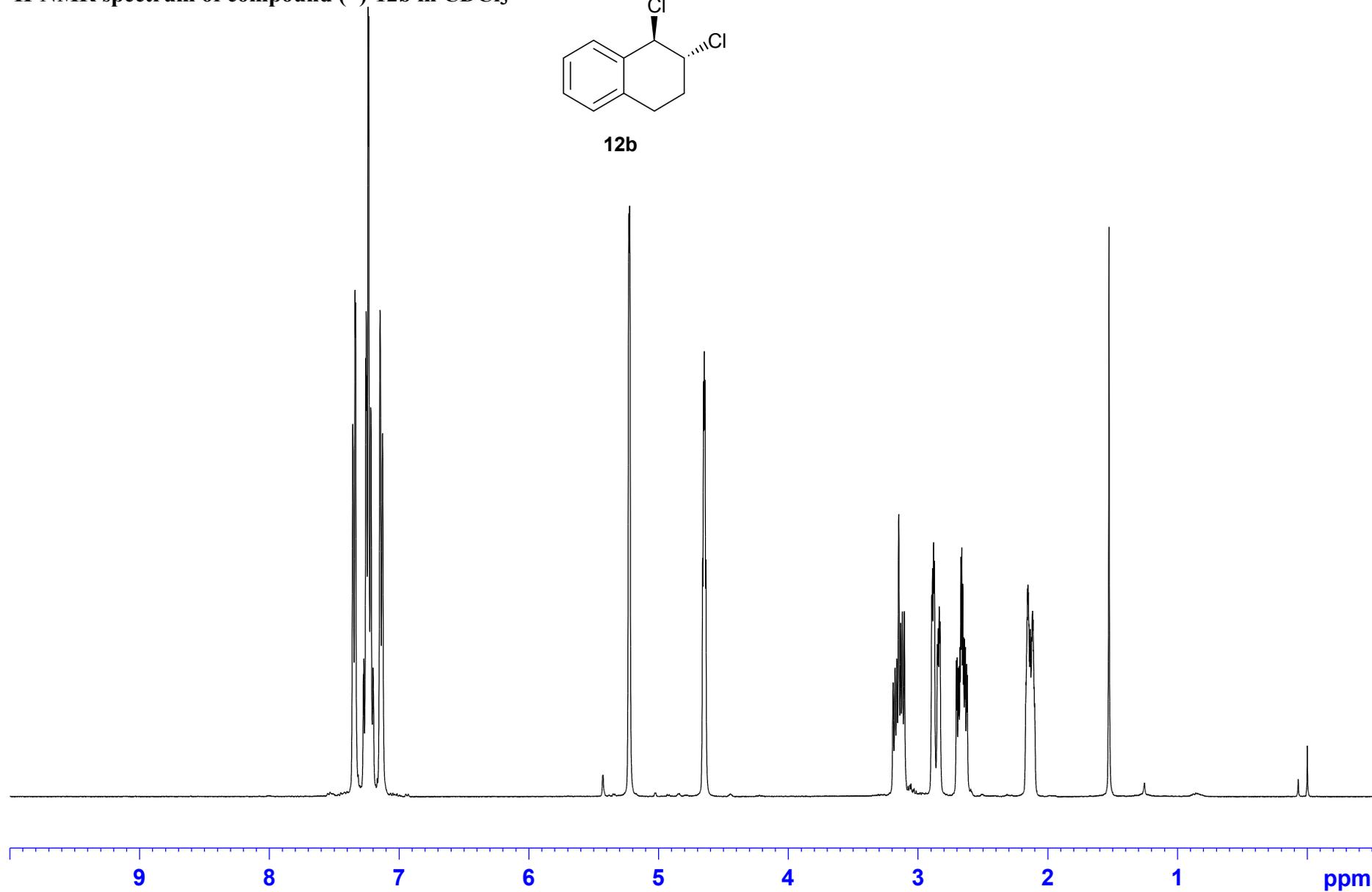
¹H-NMR spectrum of thermally equilibrated mixture 9 and 10 in CDCl₃



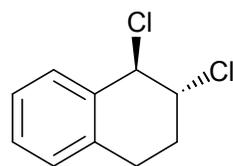
¹H-NMR spectrum of compound (+)-12b in CDCl₃



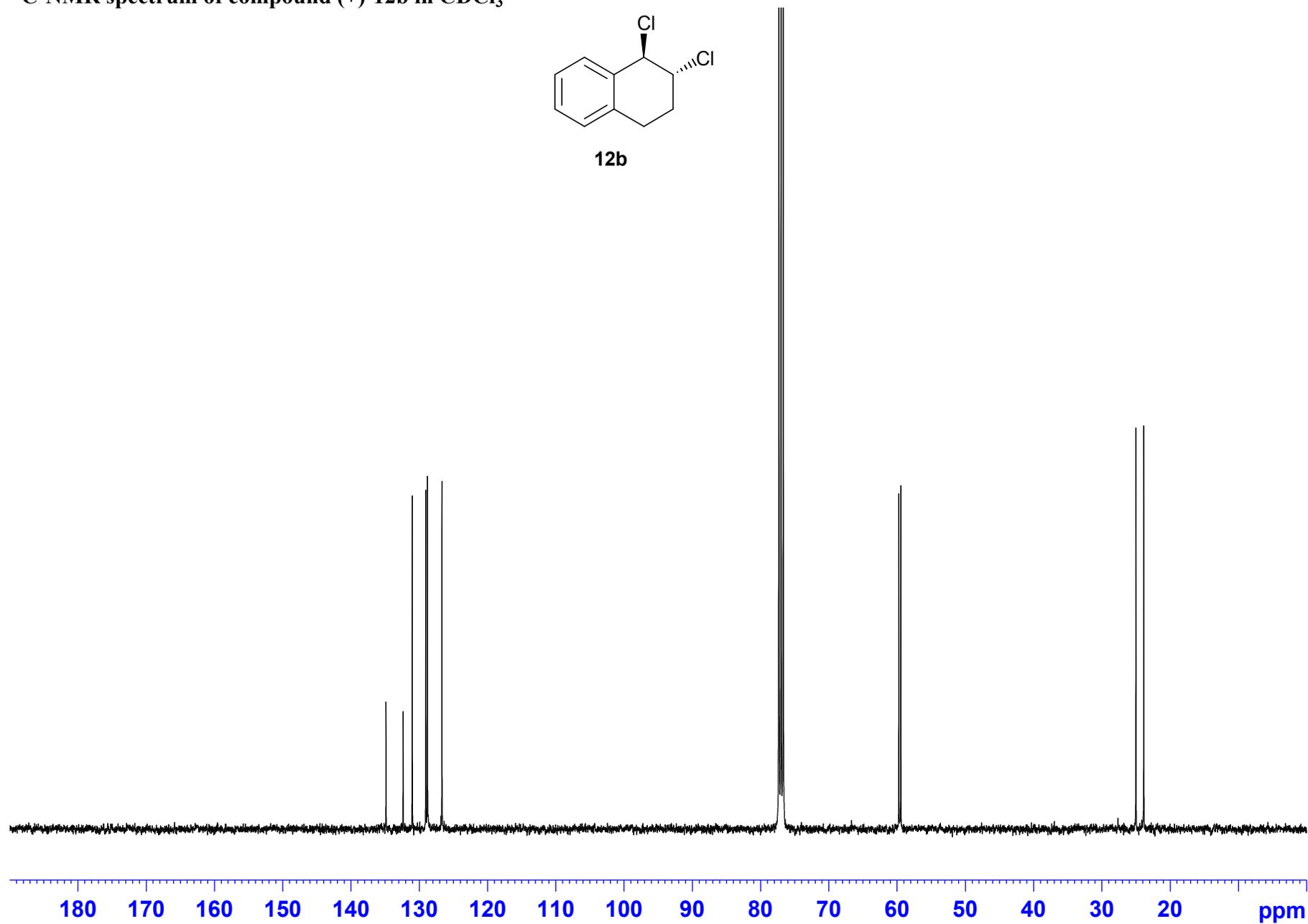
12b



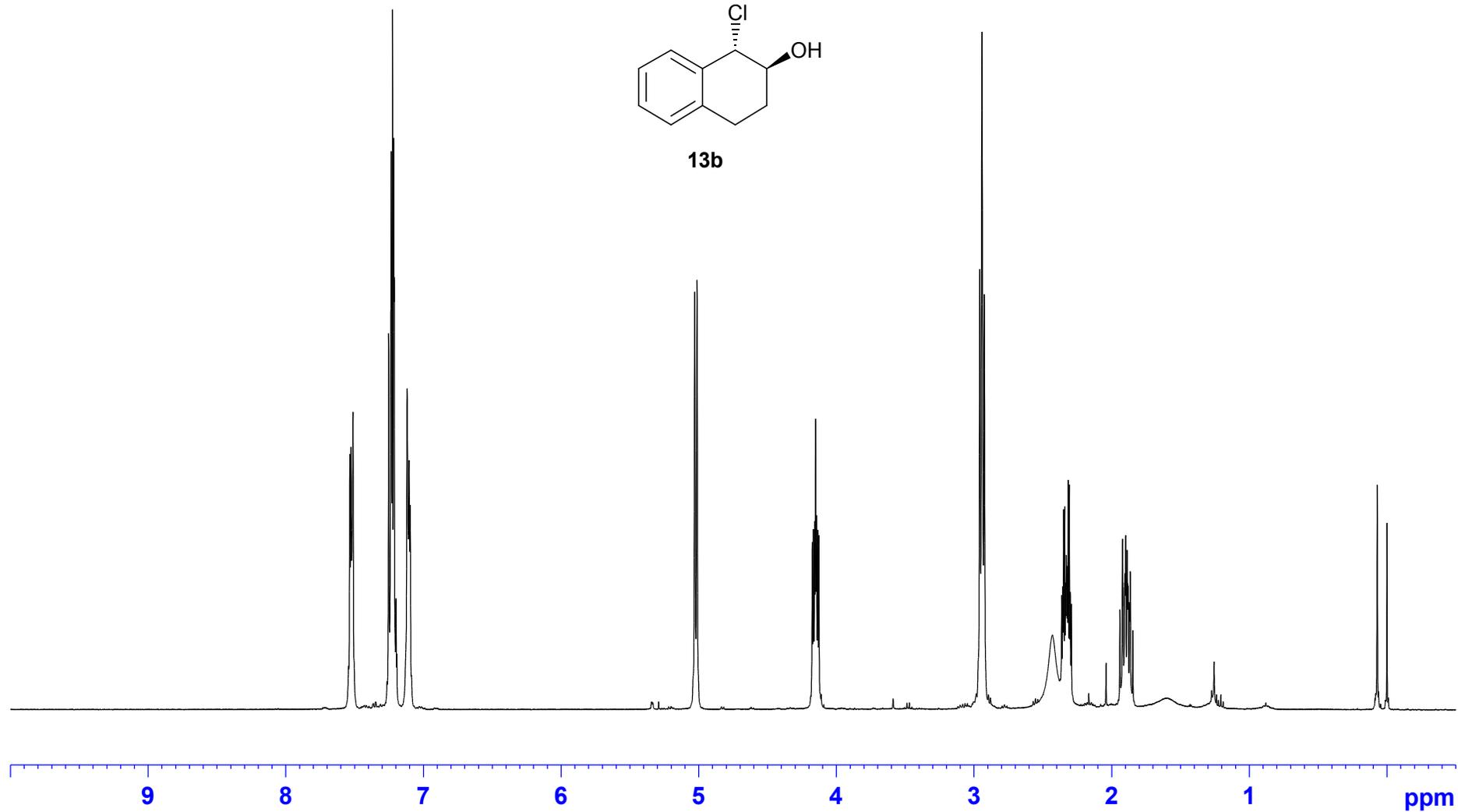
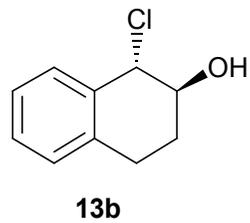
^{13}C -NMR spectrum of compound (+)-12b in CDCl_3



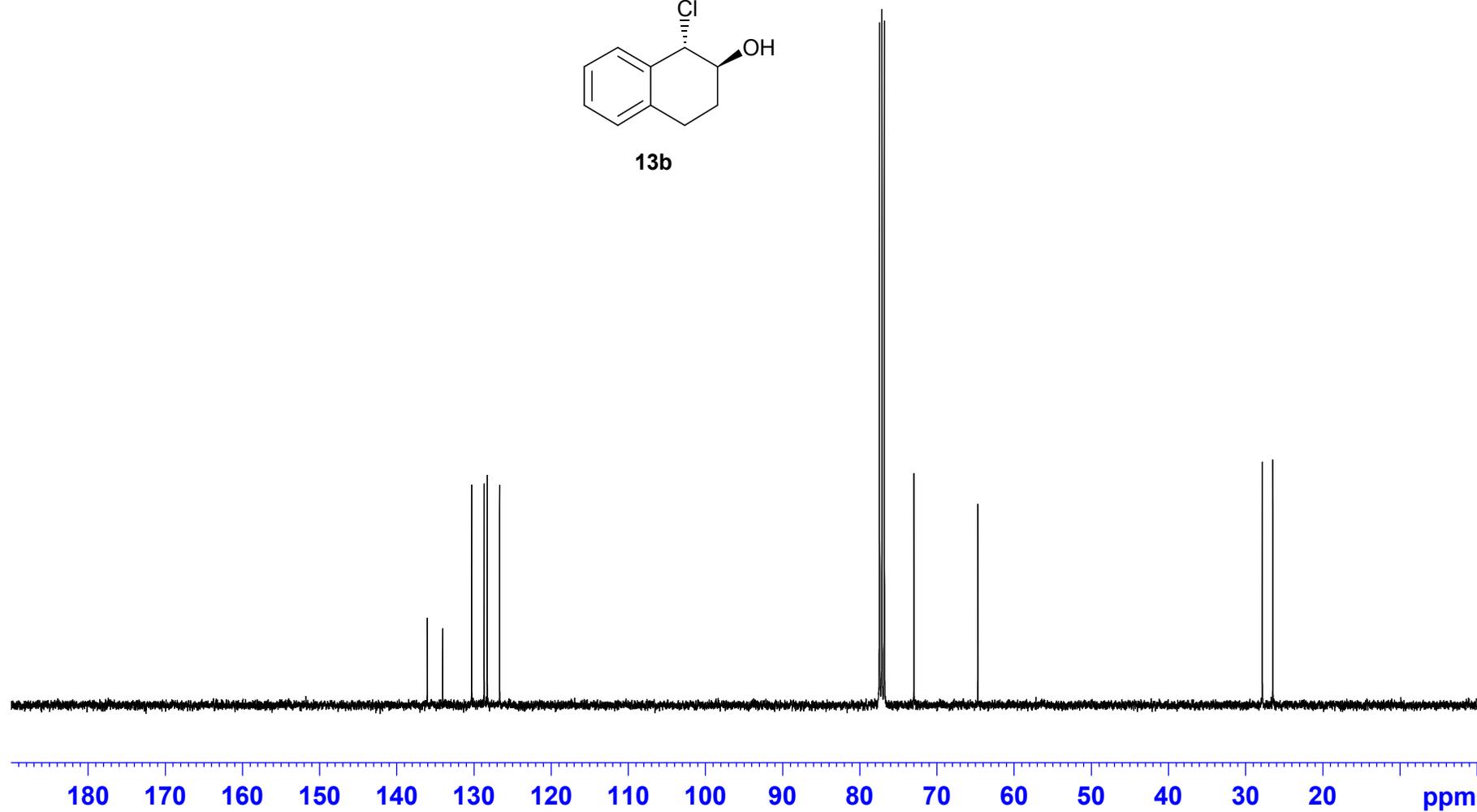
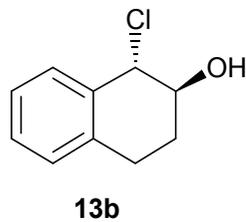
12b



¹H-NMR spectrum of compound (-)-13b in CDCl₃



¹³C-NMR spectrum of compound (-)-13b in CDCl₃



HPLC traces of optically active dichloride and racemic dichloride **12b**

