

Electronic Supporting Information

The synthesis and structural characterization of both diastereomers of 5'-(hydroxymethyl)-6,5'-cyclo-2',5'-dideoxyuridine cyclonucleosides

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- 2) ¹H, ¹³C, and ³¹P NMR spectra

1) Crystal structures of 1S, 3R, 3S, and 5S

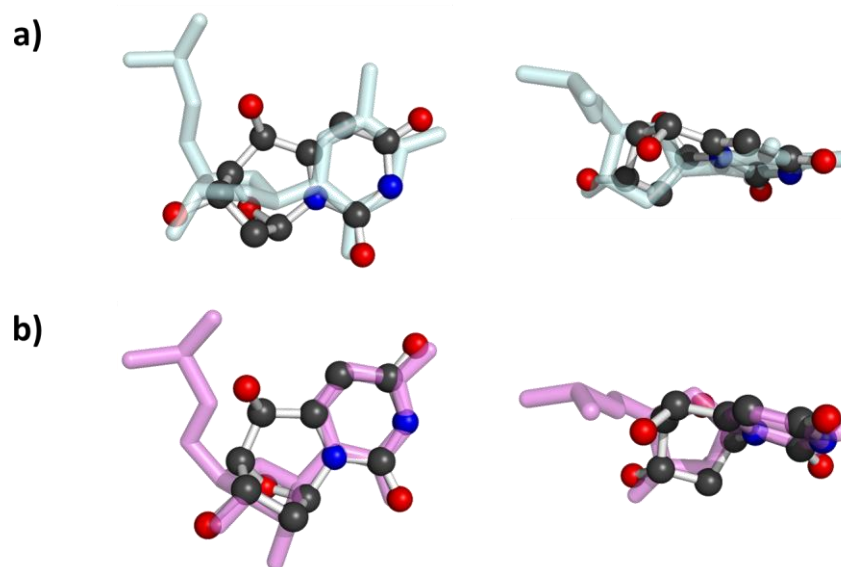


Figure S1. Side and top view of **1S** (ball and stick) overlaid with a) a dT¹ nucleotide; and b) a U² nucleotide. Figures generated using PyMol.

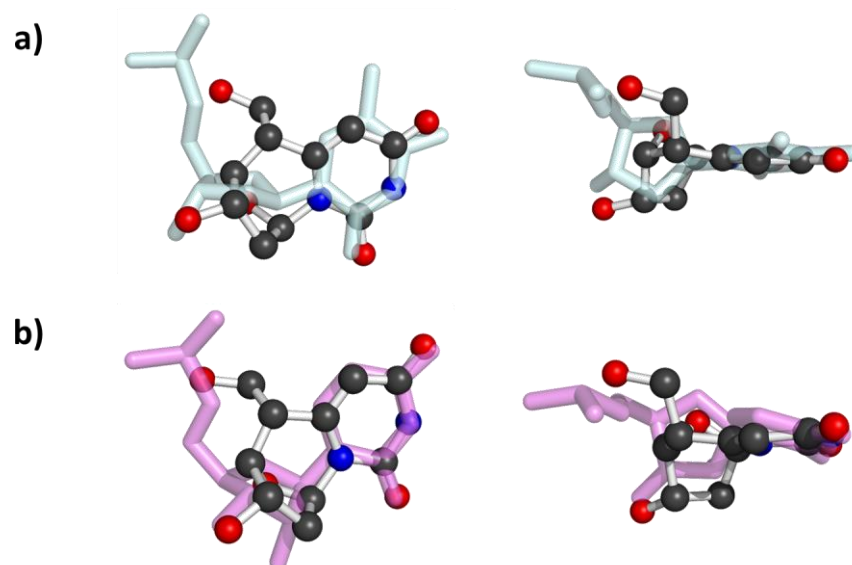
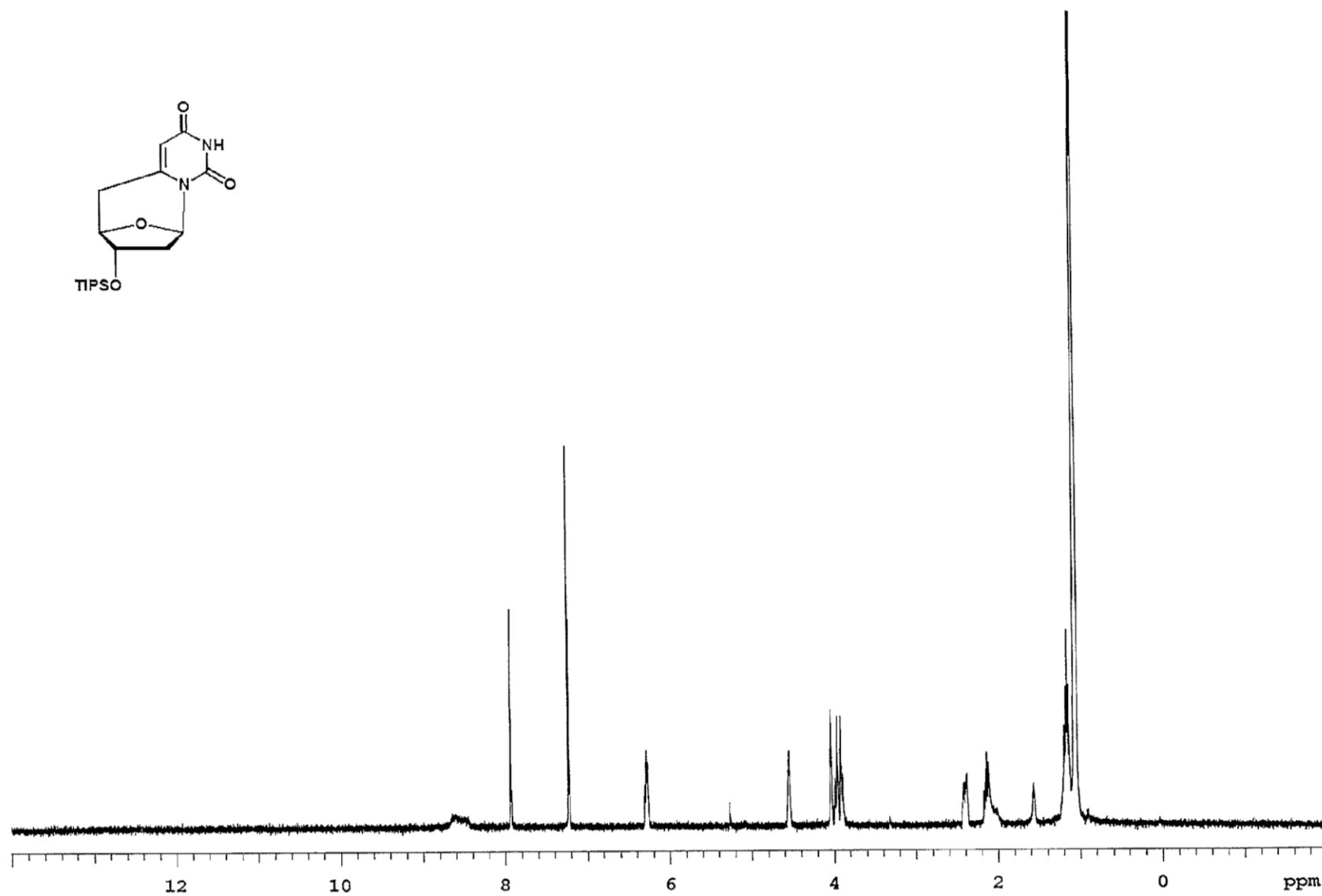
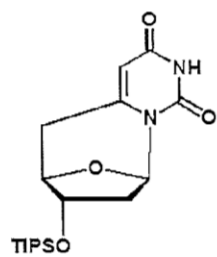
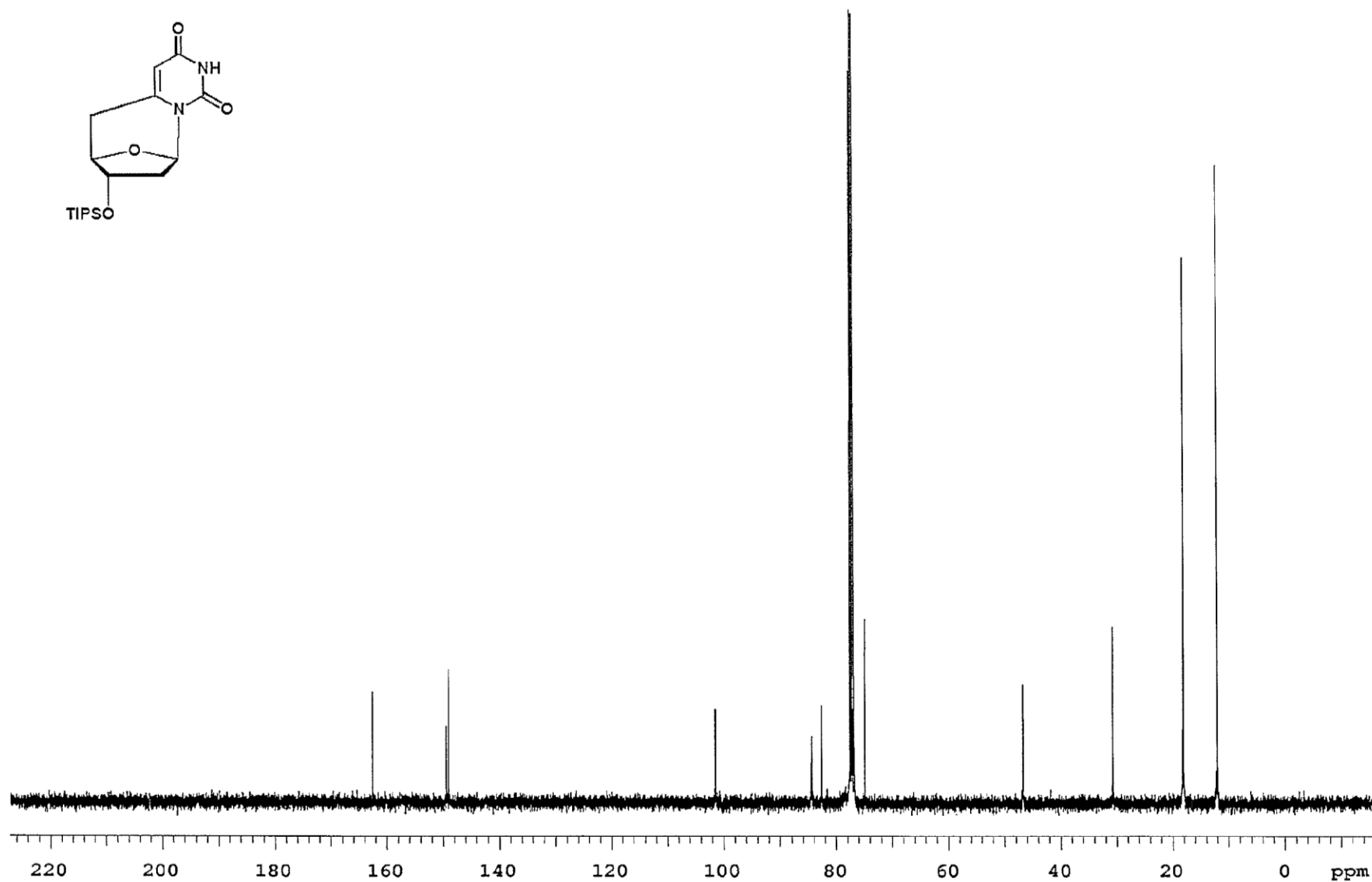
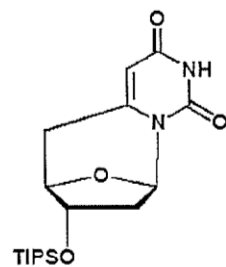


Figure S2. Side and top view of **3S** (ball and stick) overlaid with a) a dT¹ nucleotide; and b) a U² nucleotide. Figures generated using PyMol.

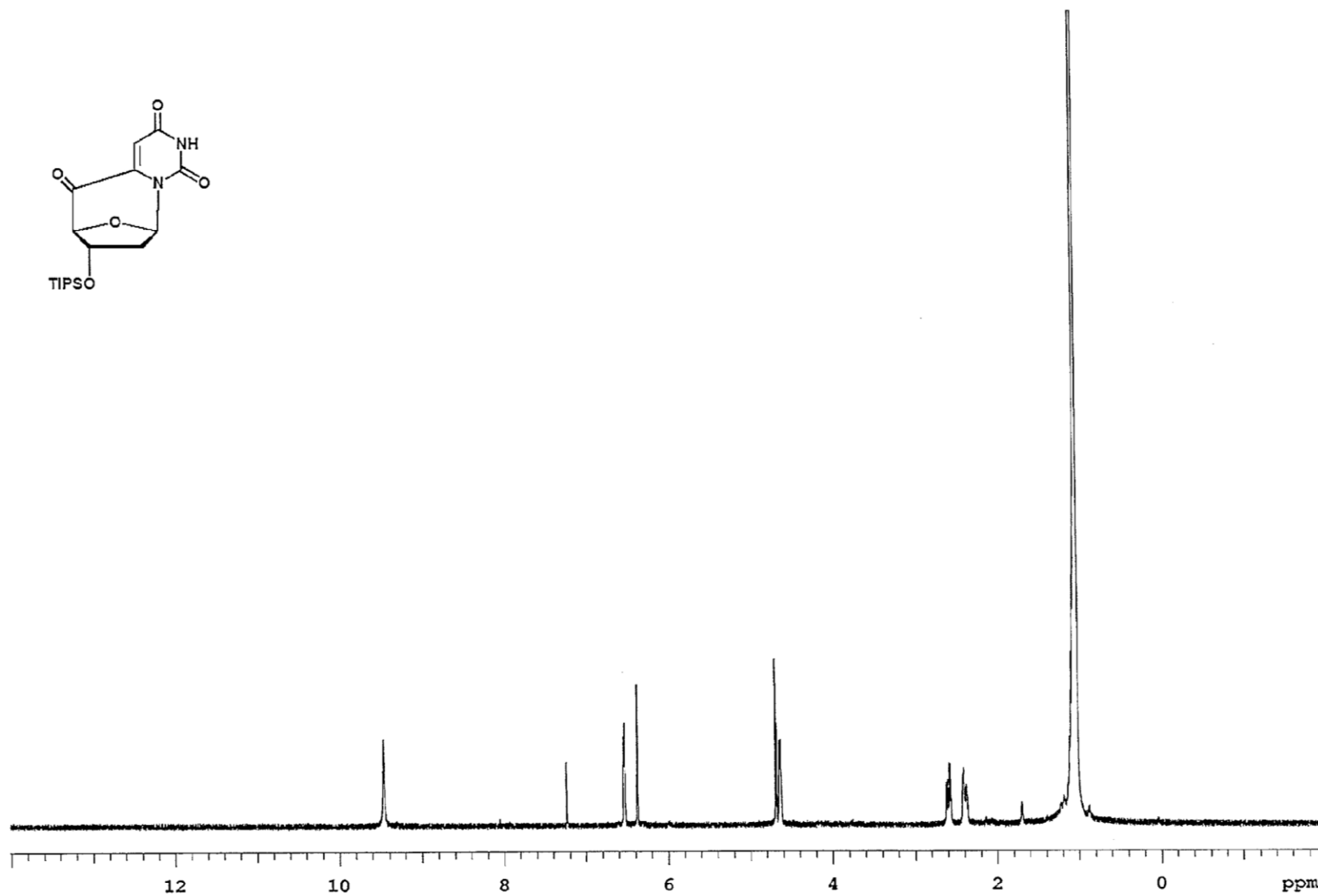
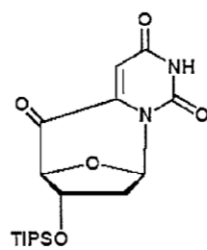
^1H NMR of compound **8** (400 MHz, CDCl_3)



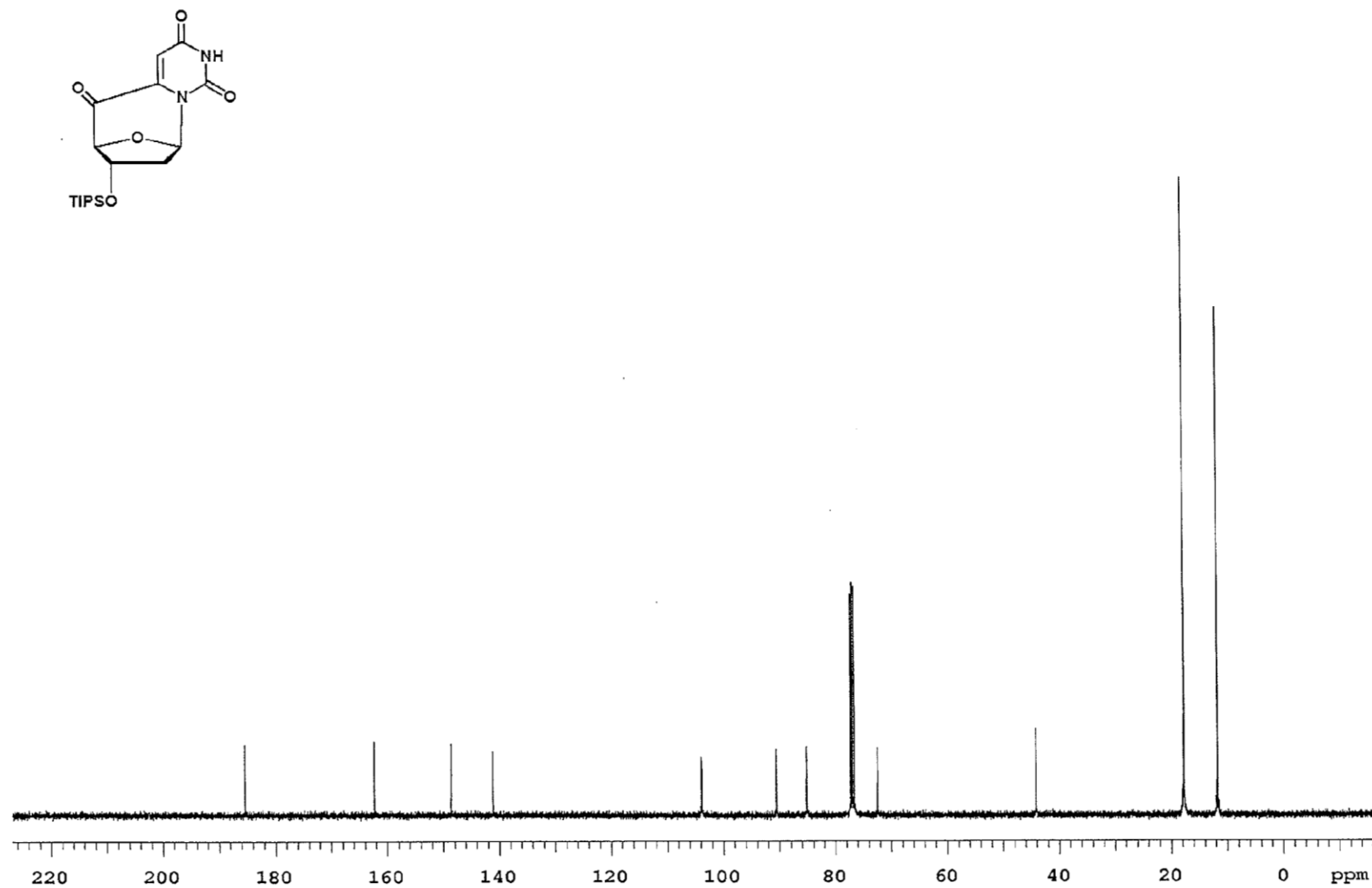
^{13}C NMR of compound **8** (100 MHz, CDCl_3)



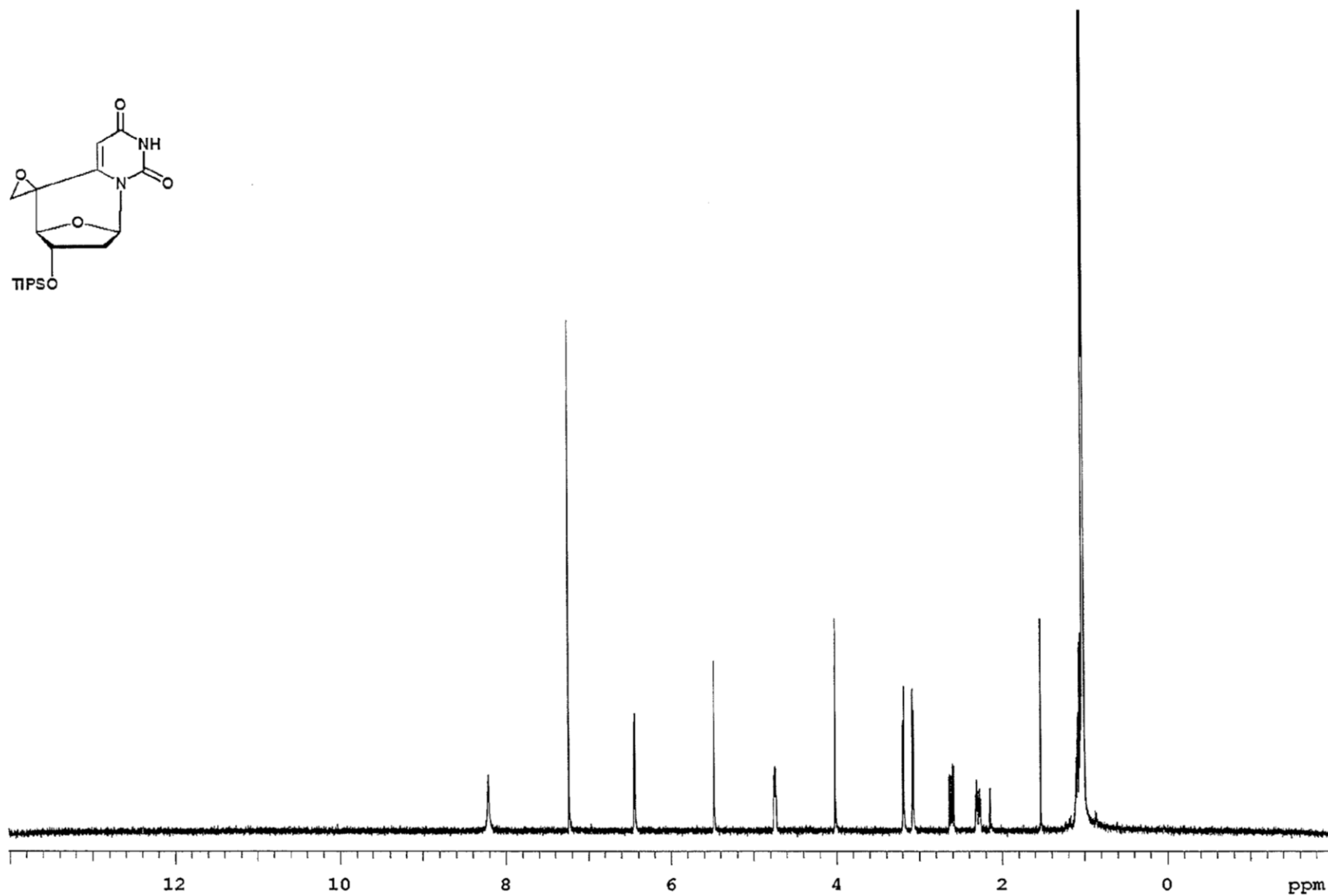
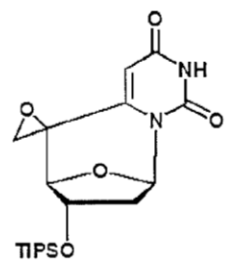
^1H NMR of compound **9** (400 MHz, CDCl_3)



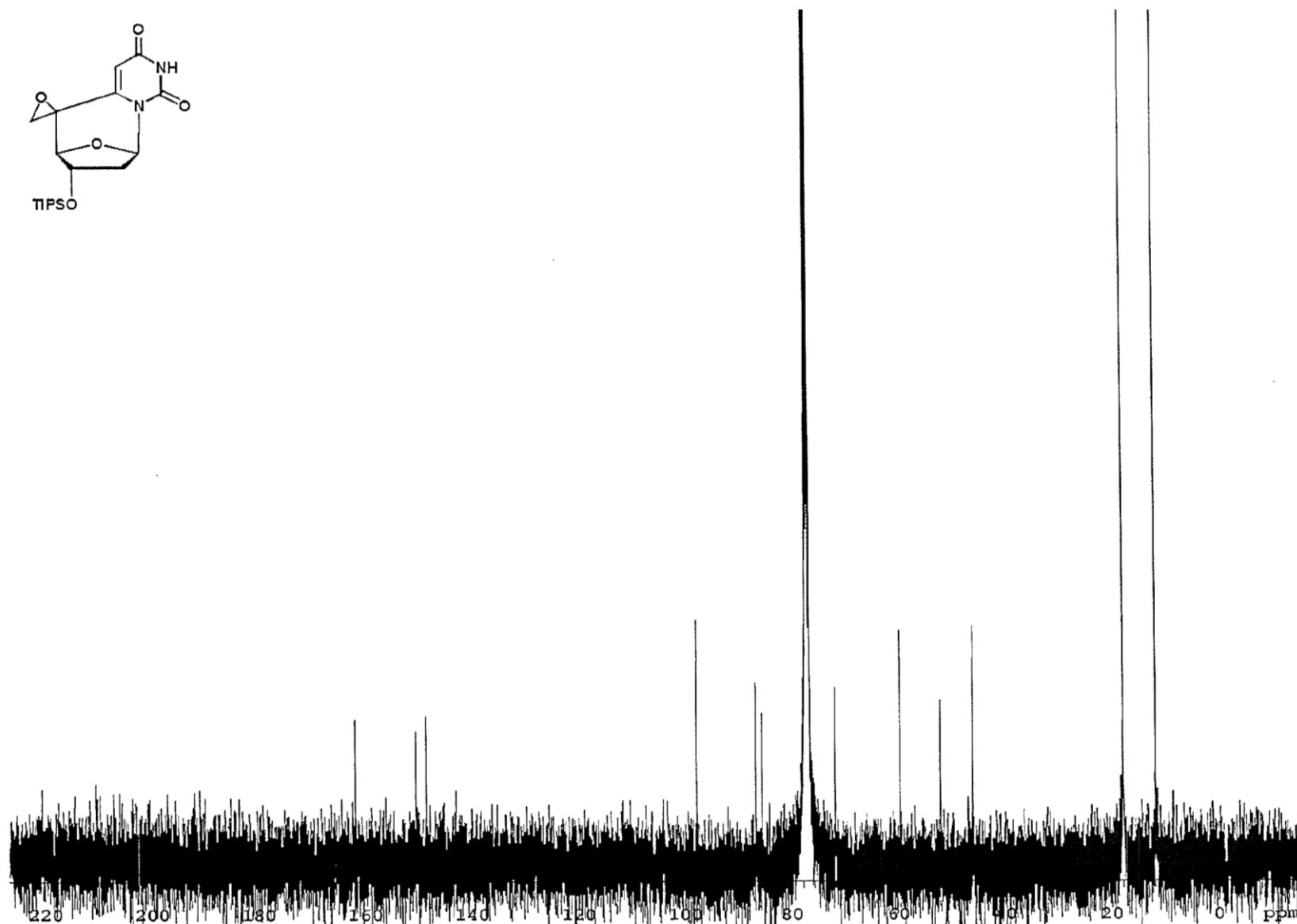
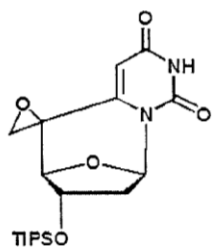
^{13}C NMR of compound **9** (100 MHz, CDCl_3)



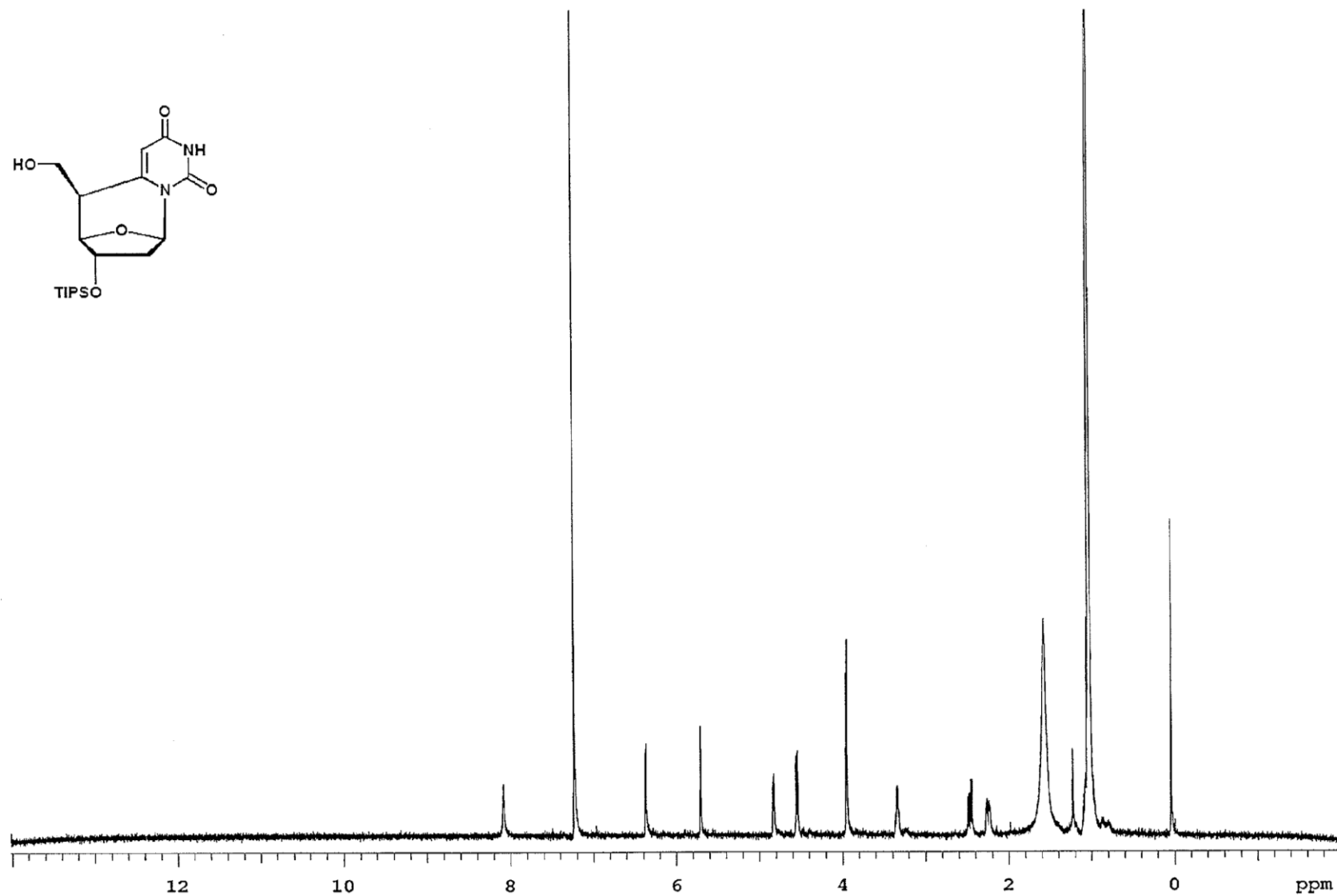
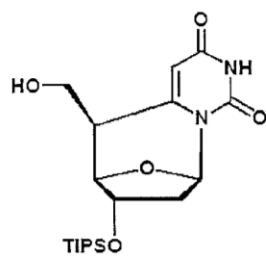
^1H NMR of compound **10** (400 MHz, CDCl_3)



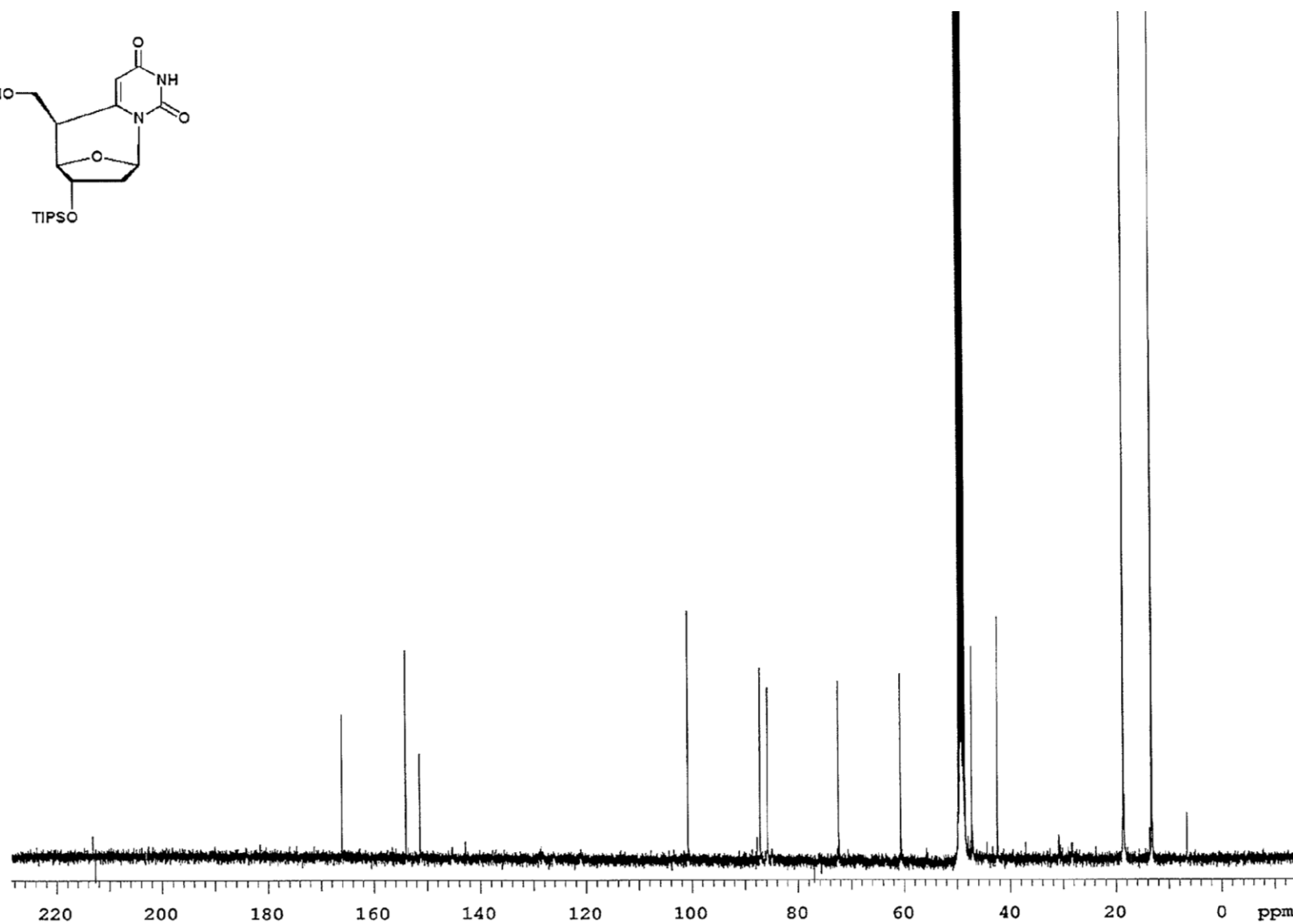
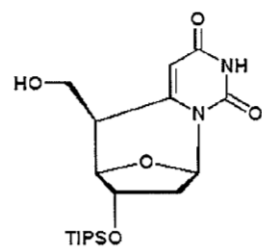
^{13}C NMR of compound **10** (100 MHz, CDCl_3)



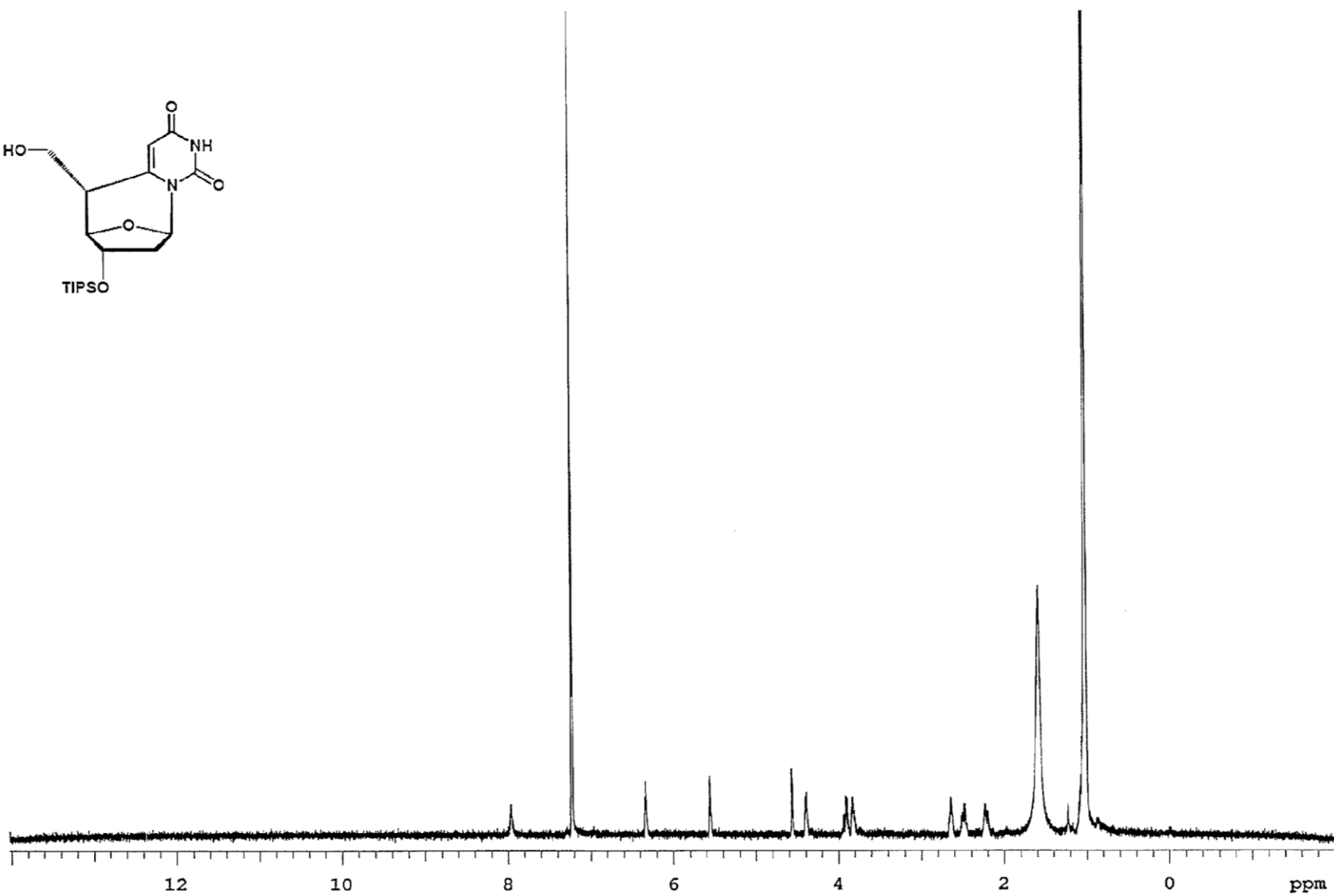
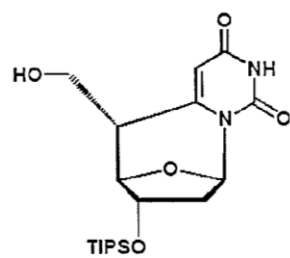
^1H NMR of compound **11R** (400 MHz, CDCl_3)



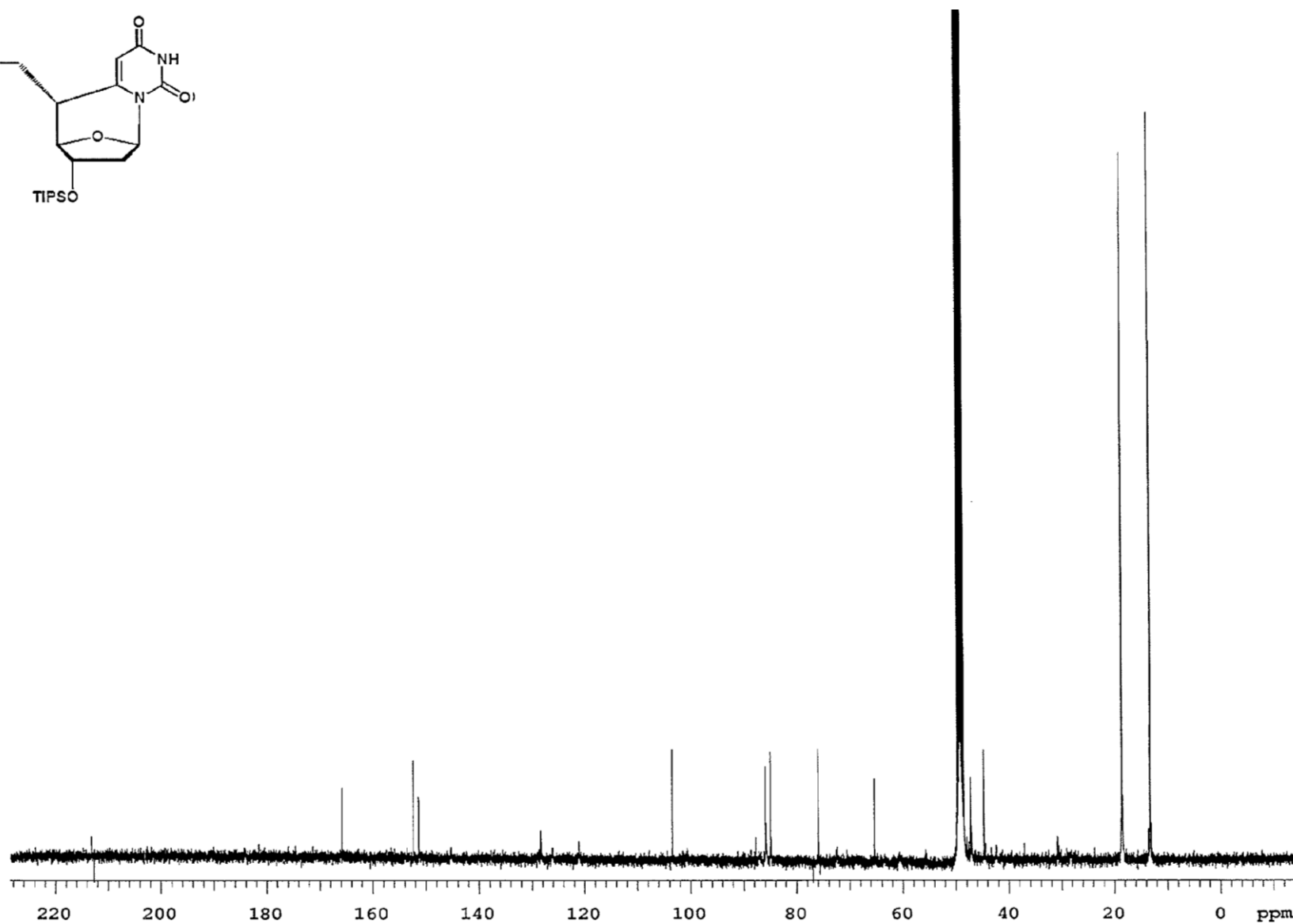
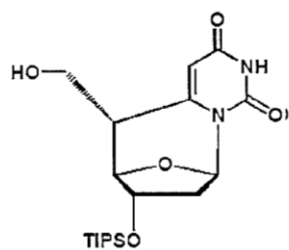
^{13}C NMR of compound **11R** (100 MHz, CDCl_3)



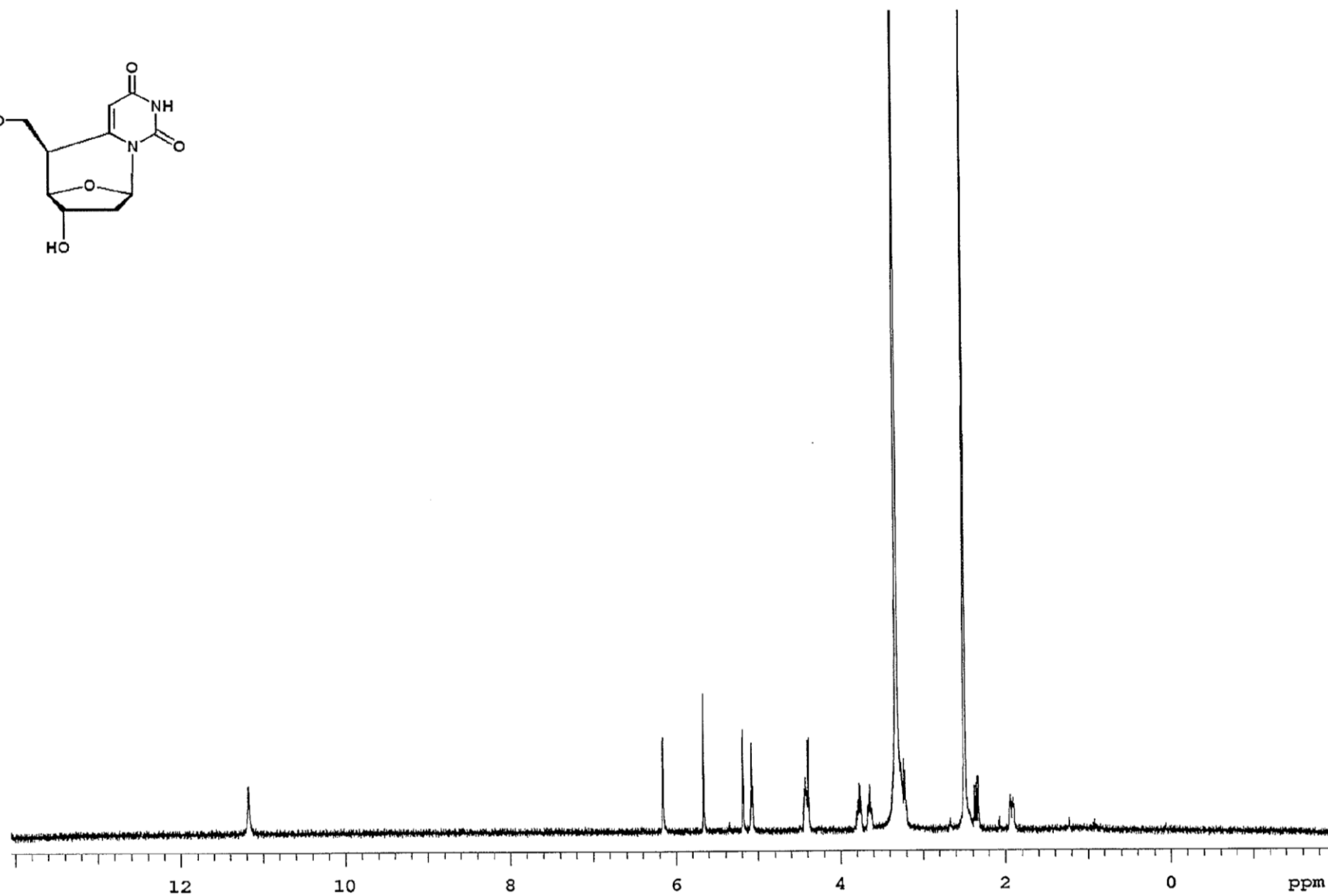
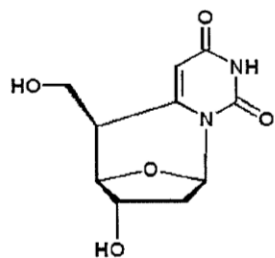
^1H NMR of compound **11S** (400 MHz, CDCl_3)



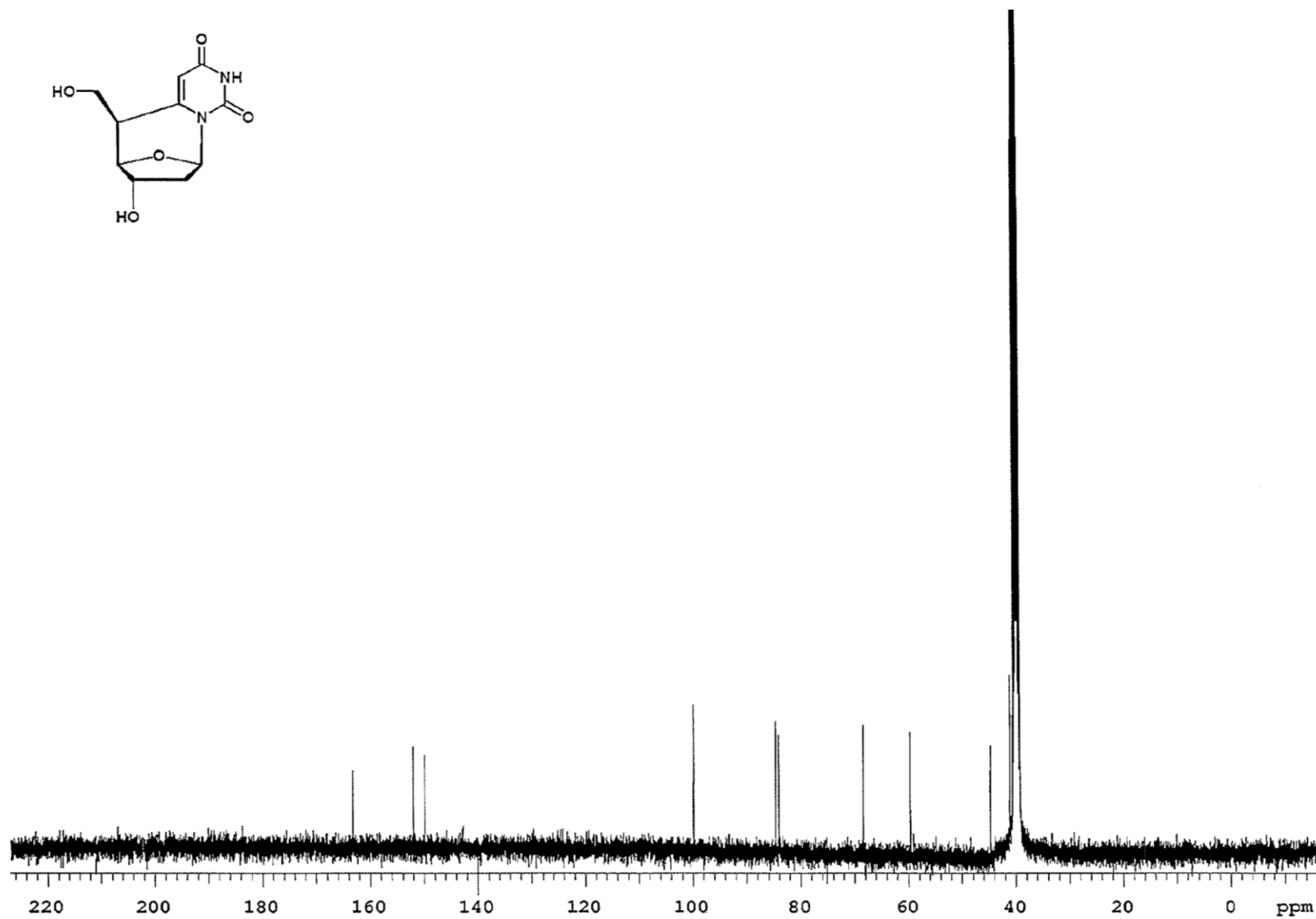
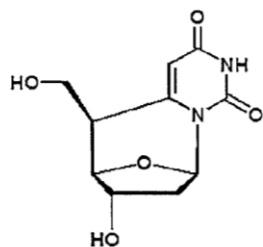
^{13}C NMR of compound **11S** (100 MHz, CDCl_3)



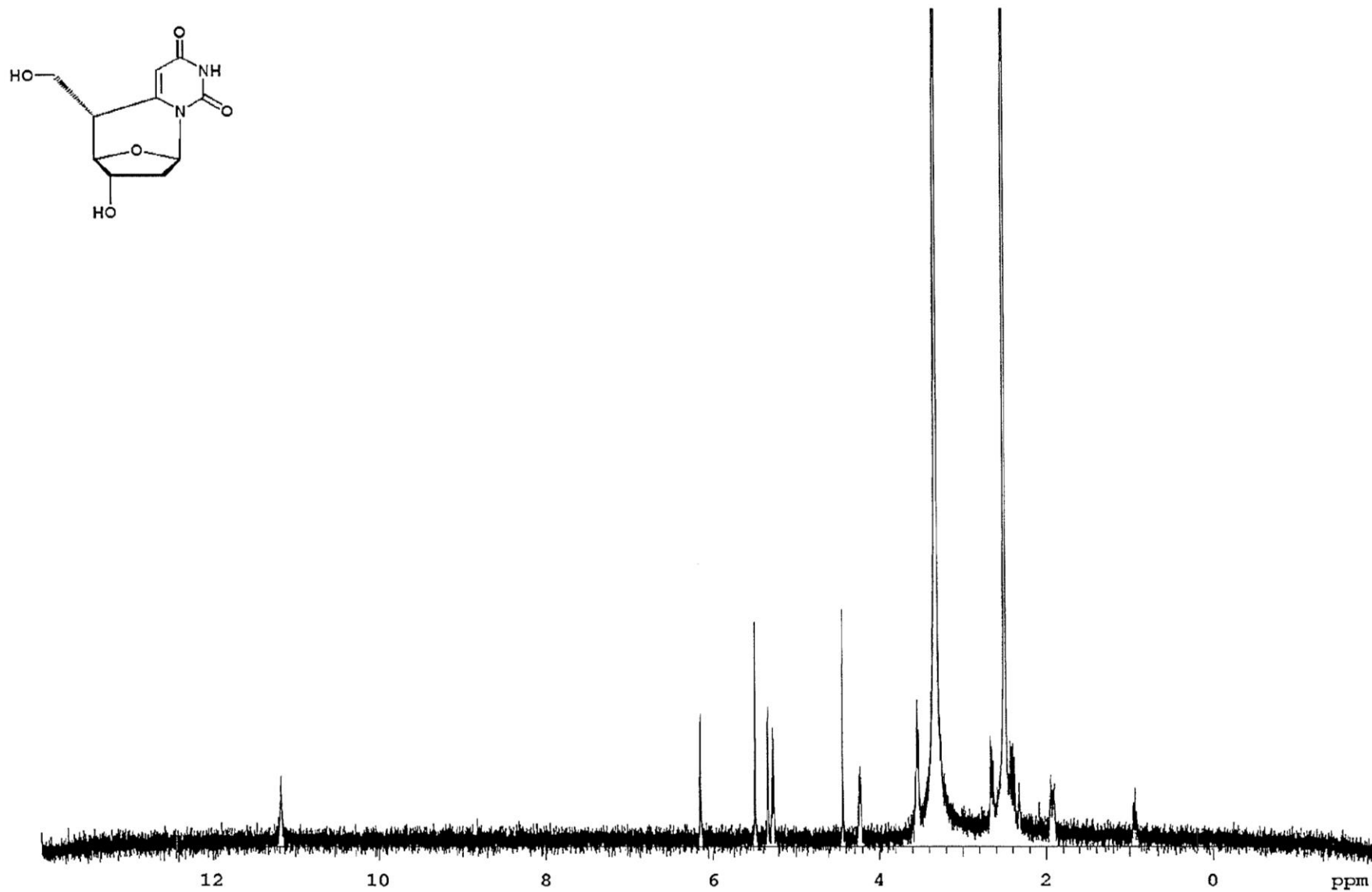
^1H NMR of compound **3R** (400 MHz, d_6 -DMSO)



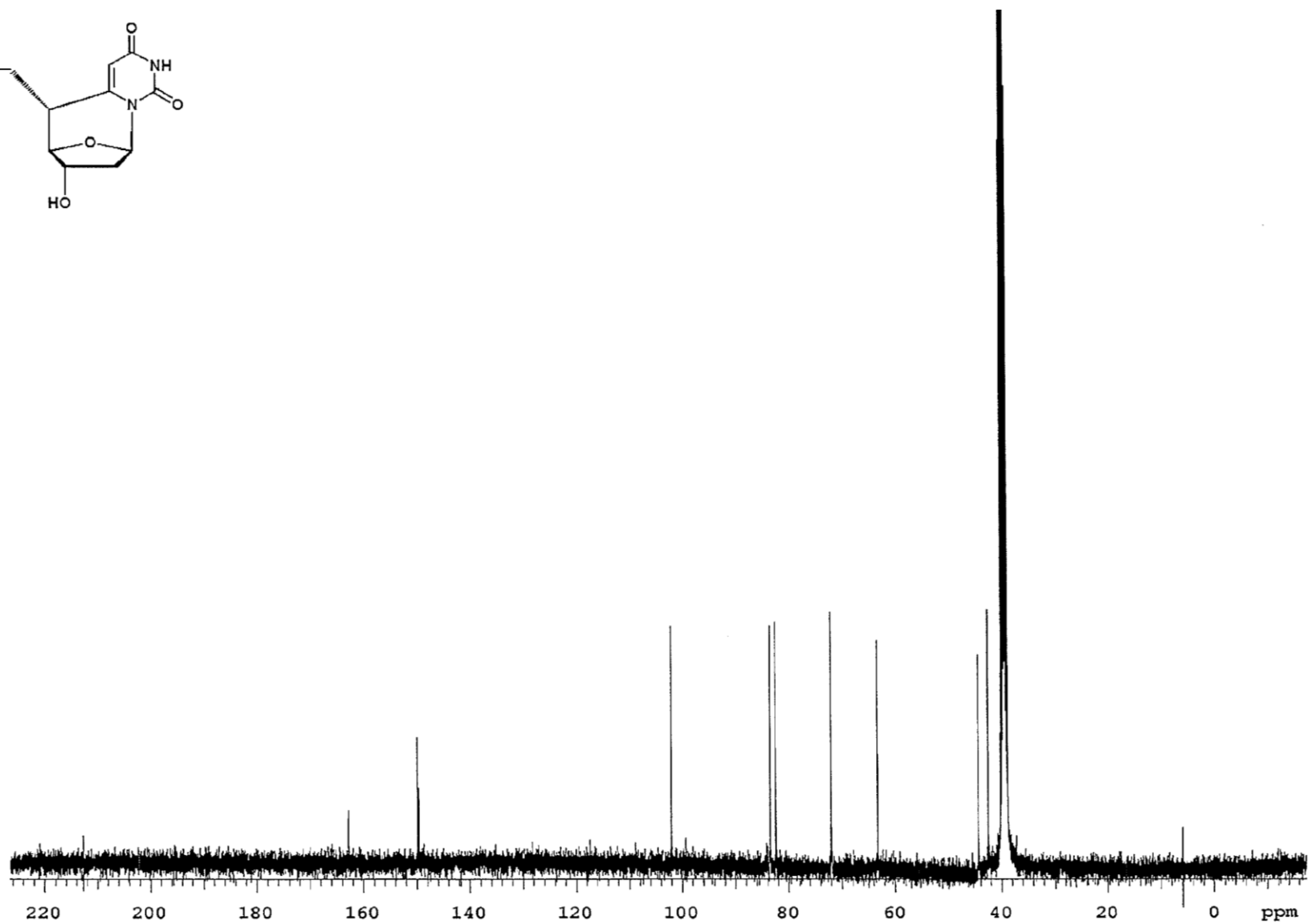
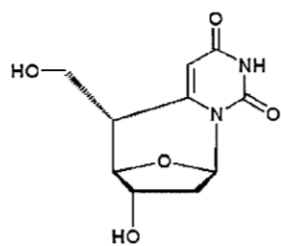
^{13}C NMR of compound **3R** (100 MHz, d_6 -DMSO)



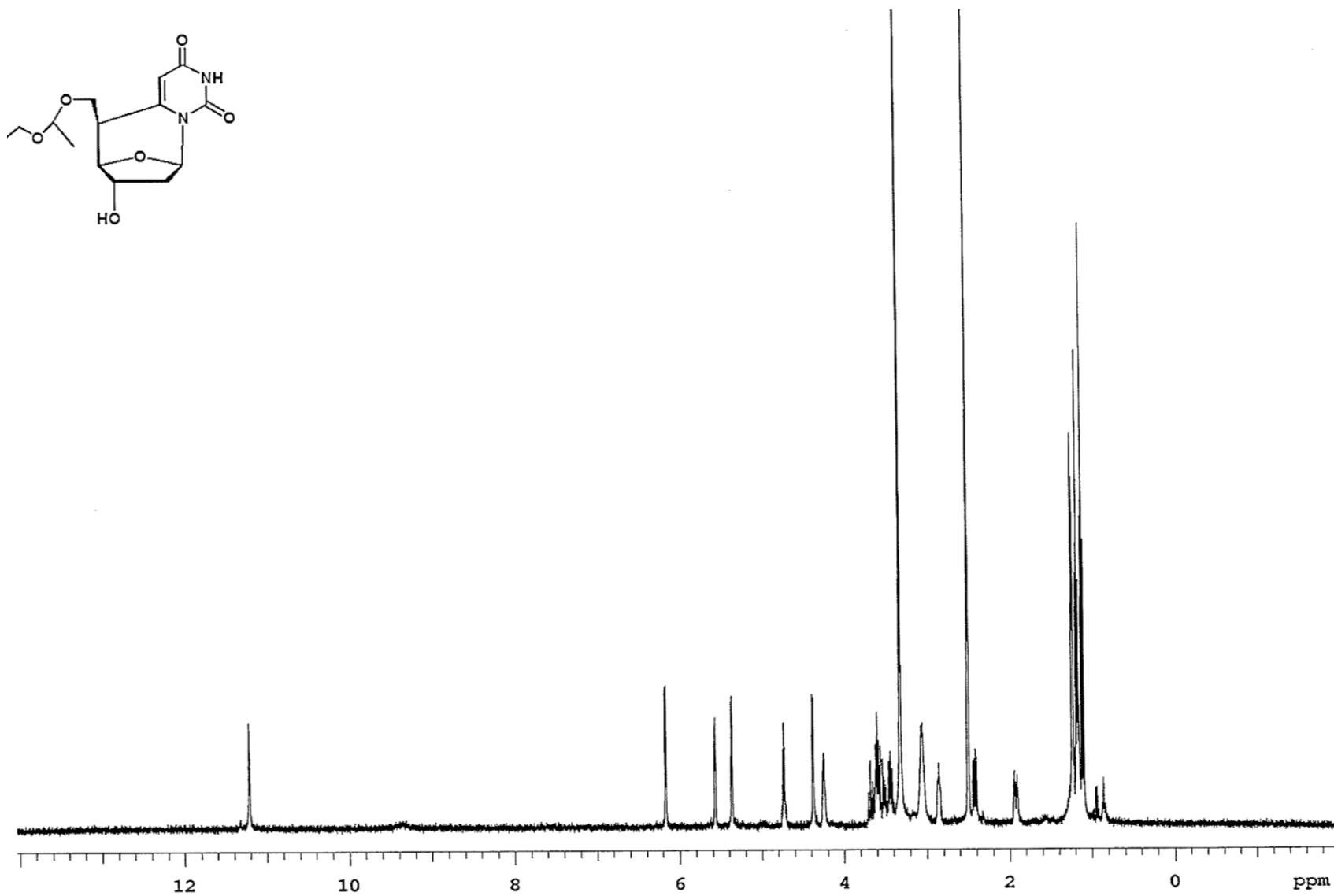
^1H NMR of compound **3S** (500 MHz, d_6 -DMSO)



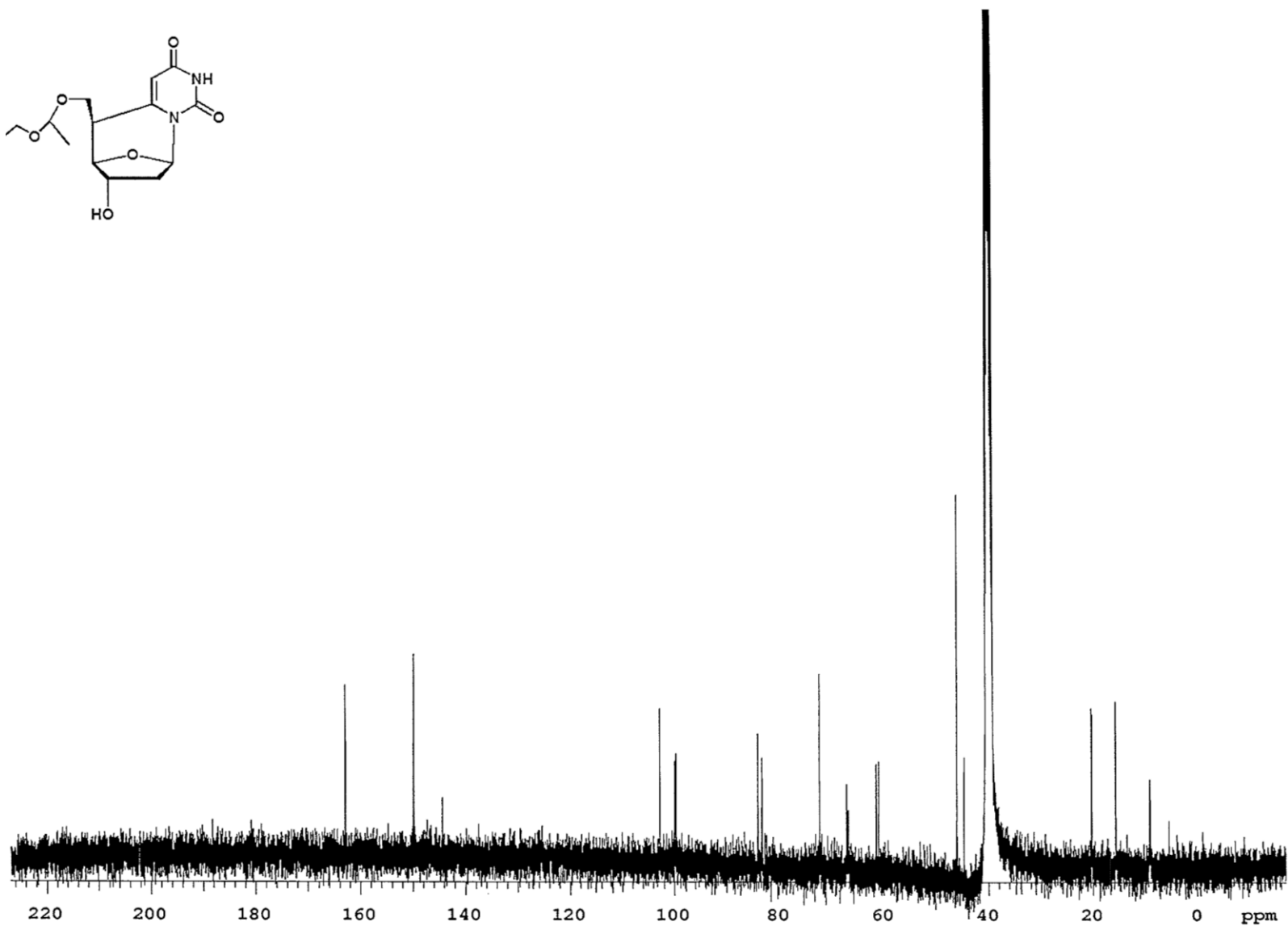
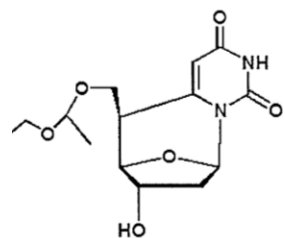
^{13}C NMR of compound **3S** (100 MHz, d_6 -DMSO)



^1H NMR of compound **12R** (400 MHz, d_6 -DMSO)



^{13}C NMR of compound **12R** (100 MHz, d_6 -DMSO)



^{31}P NMR of compound **13R** (200 MHz, CDCl_3)

