

Supplementary Materials

Figure S1. Thermograms for pure 1) DMPS, 2) DMPC, 3) β -monoglycolipid (**18**) vesicles.

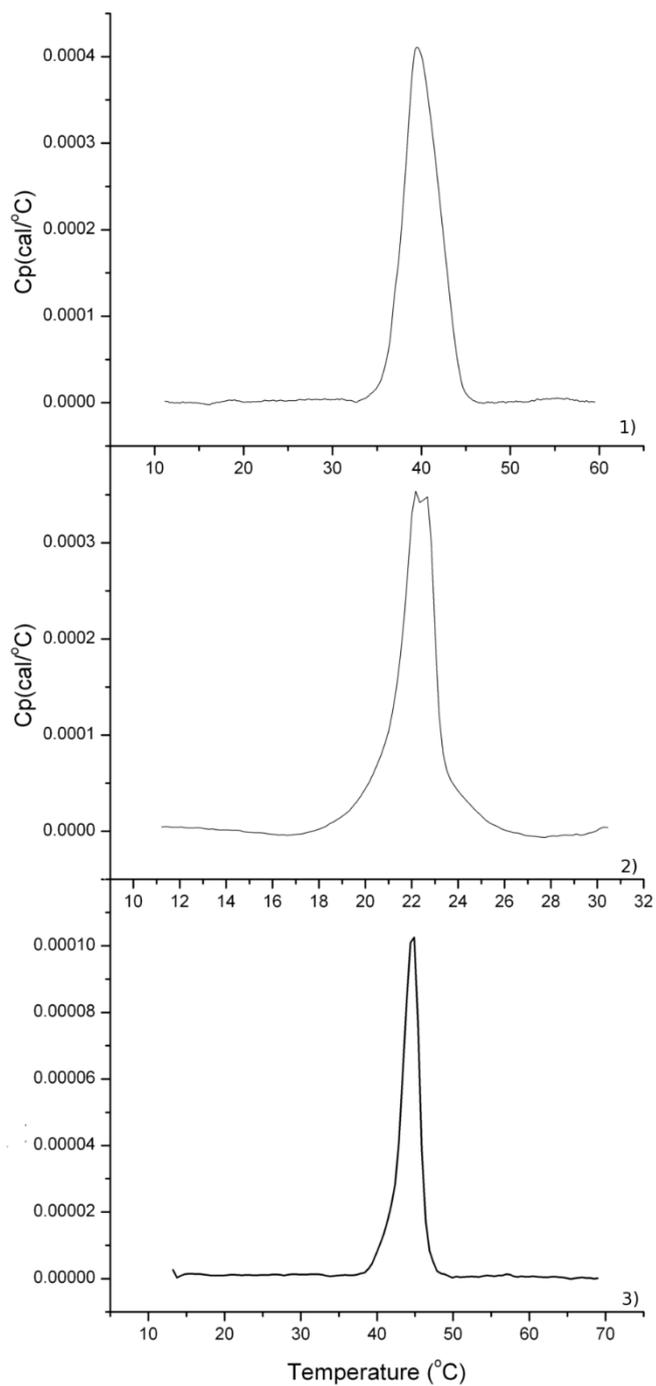


Figure S2. Differential Scanning Calorimetry (top) shows ideal mixing for DMPC and DMPS. Confocal scanning fluorescence microscopy (bottom) shows homogeneous distribution of two dyes occurs below (left) and above (right) the melting temperature. Vesicles composed of DMPC/DMPS for composition given in Table 1 labeled with 0.1% DiI C18 (green) and 0.1% DiI C18 (red) were prepared as described in the text. Color merged images were shown. Bar, 20 μm applies for both images.

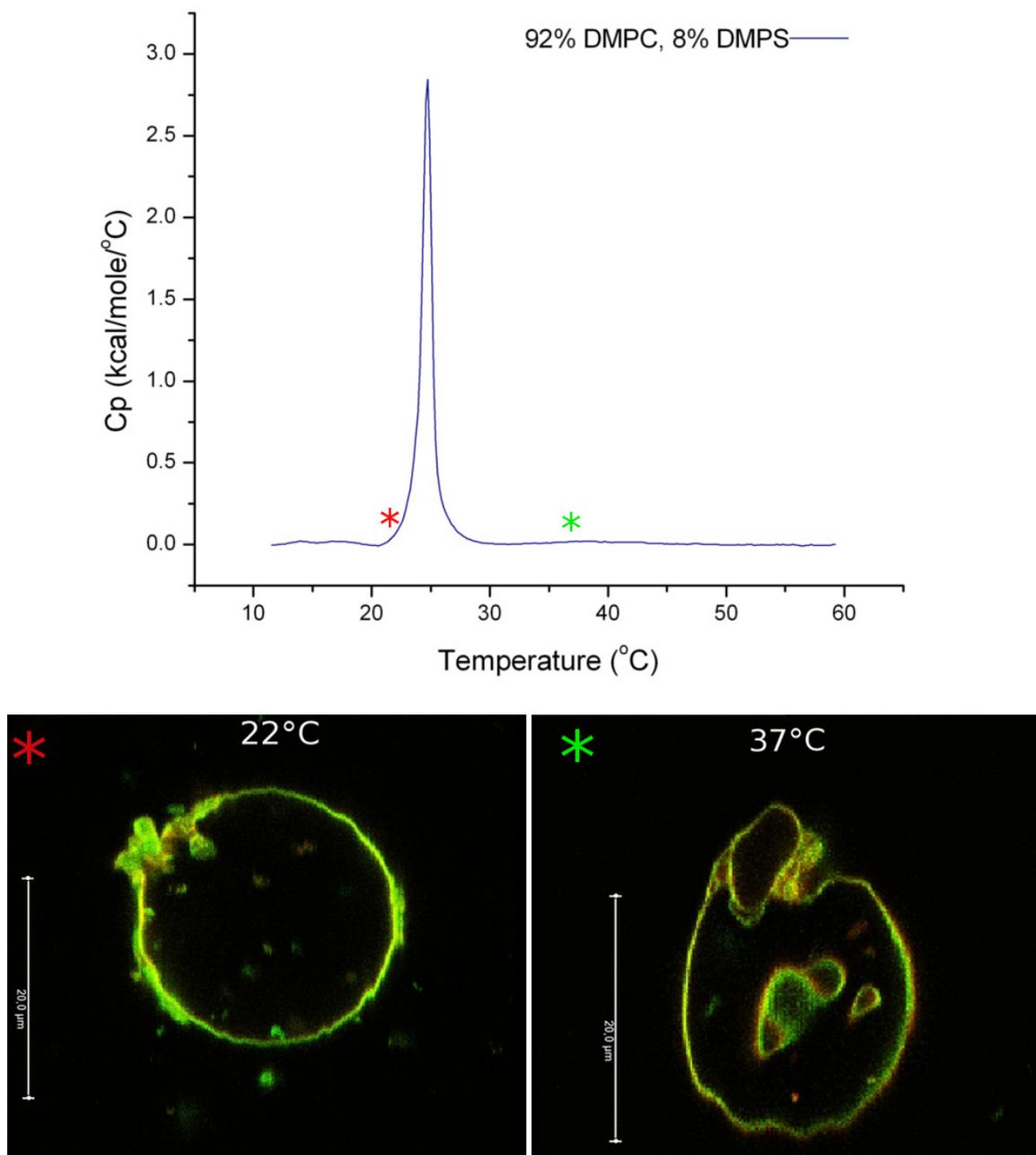
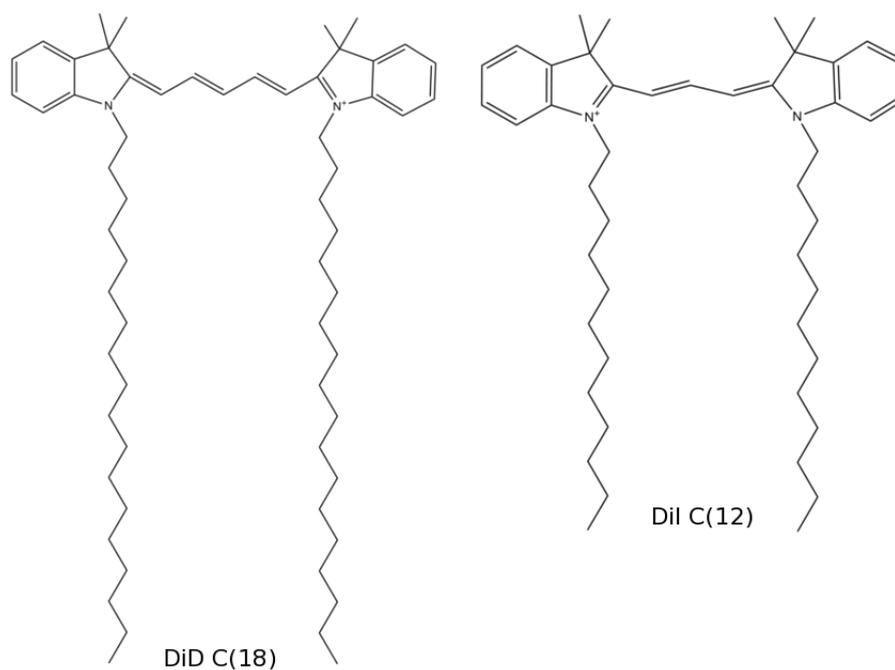
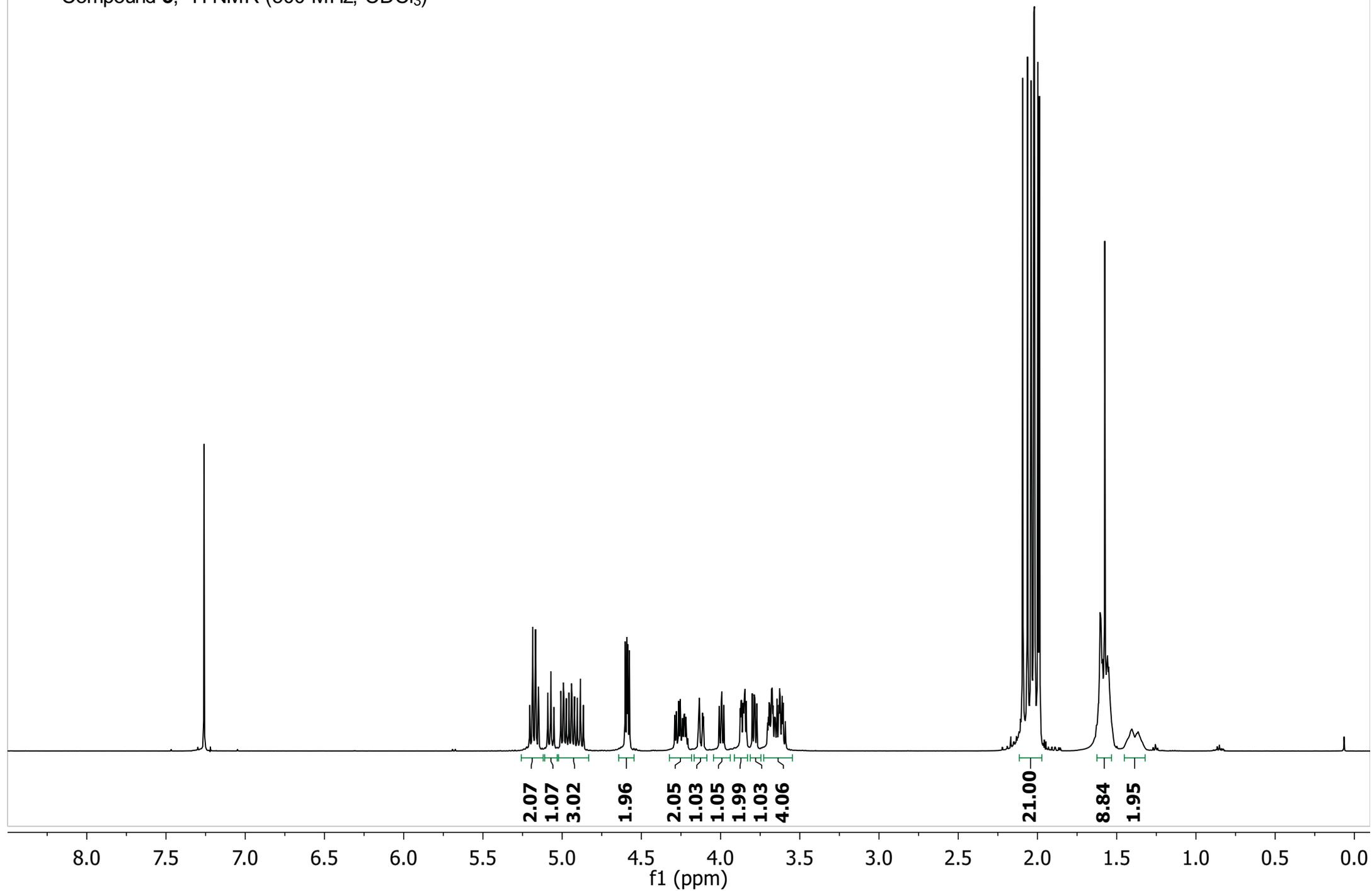


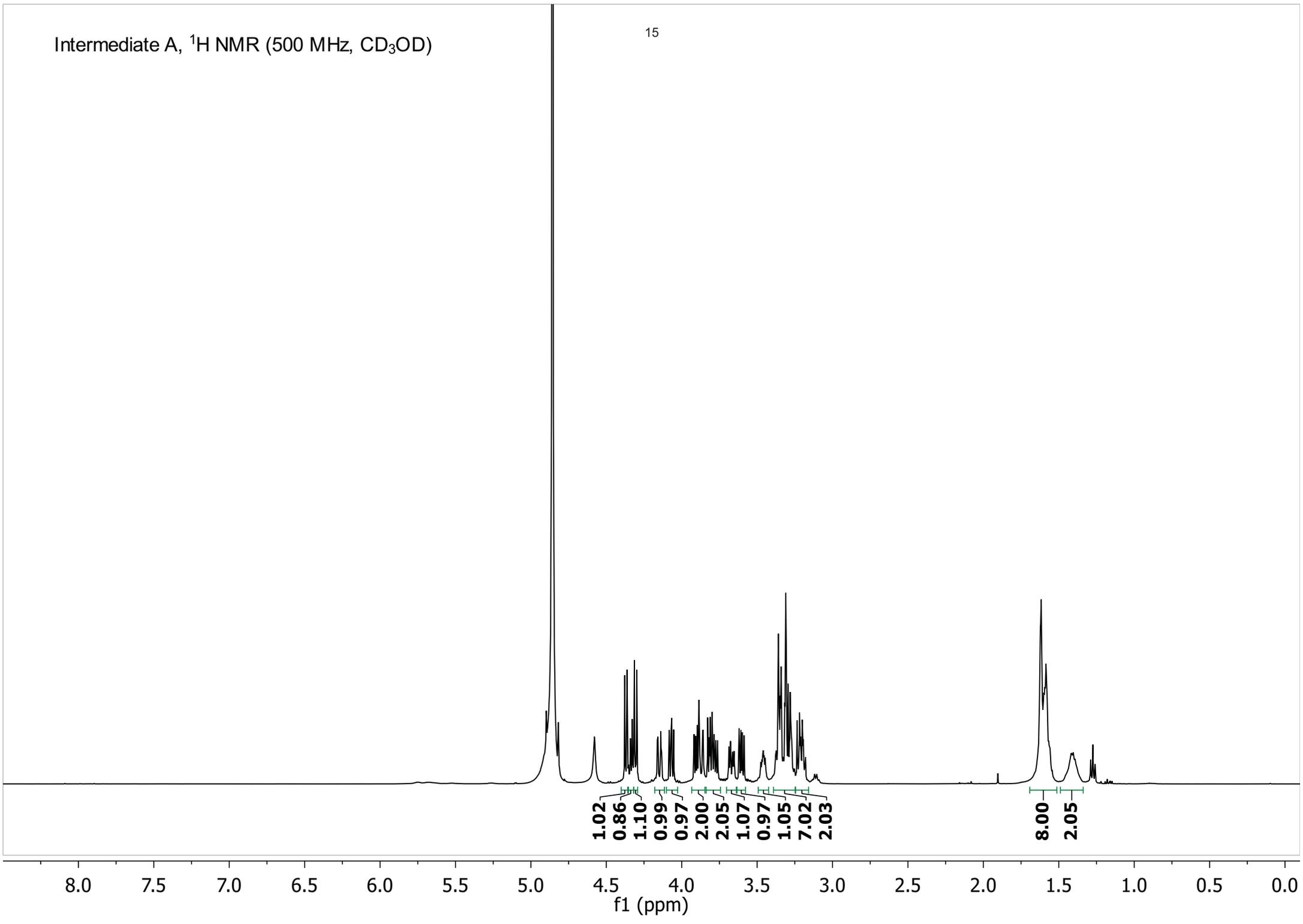
Figure S3. Chemical structures of the dyes used in the fluorescence imaging. The dye DiD C(18) was excited at 650/50 nm and the emission was collected with a filter to cut wavelength below 600 and above 800 nm. The dye DiI C(12) was excited at 480/50 nm and the emission was collected with a filter to cut wavelength below 600 nm and above 700 nm. These settings were chosen to avoid cross talk between the dyes.



Compound **3**, ^1H NMR (500 MHz, CDCl_3)

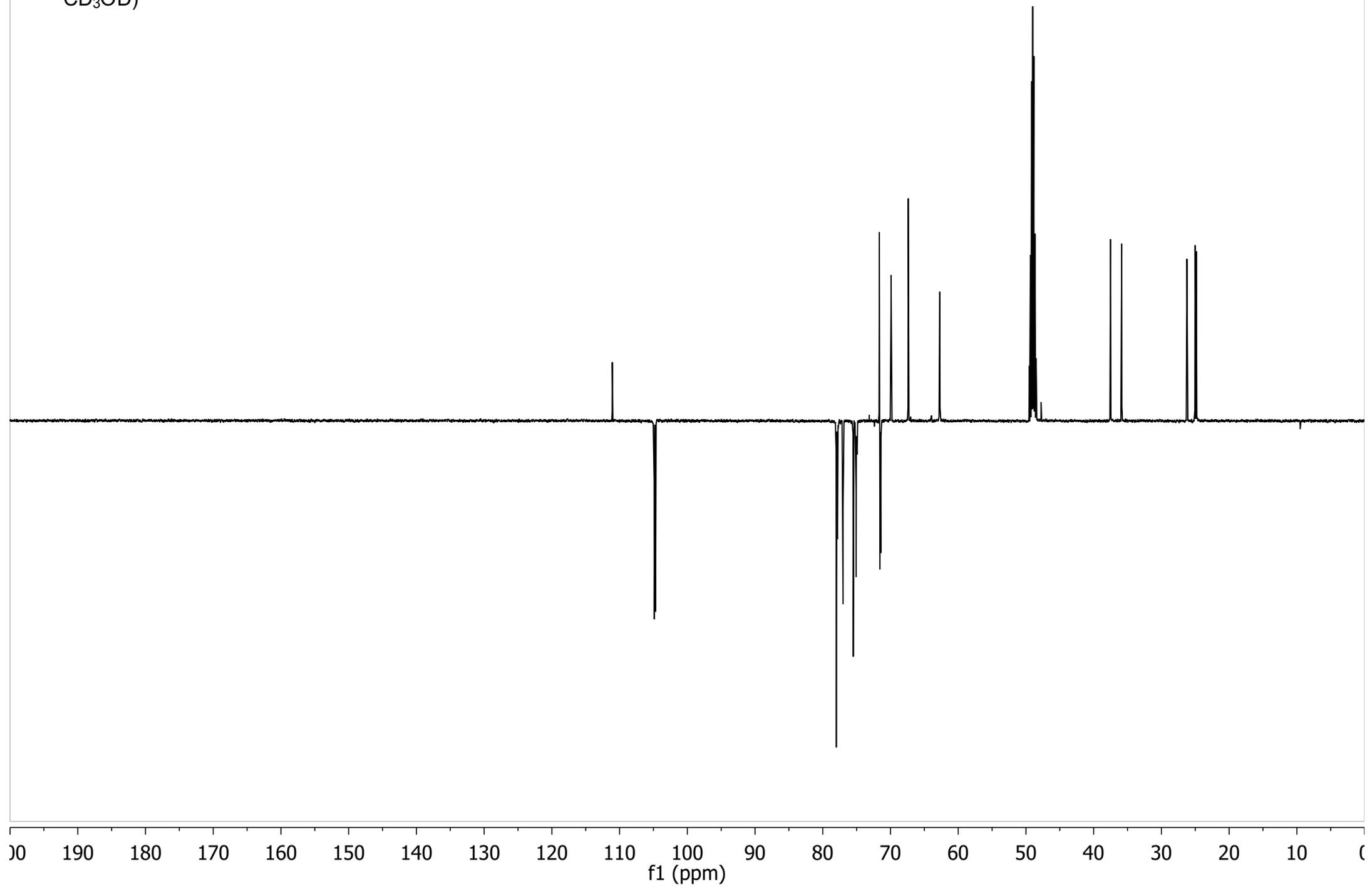
Intermediate A, ¹H NMR (500 MHz, CD₃OD)

15



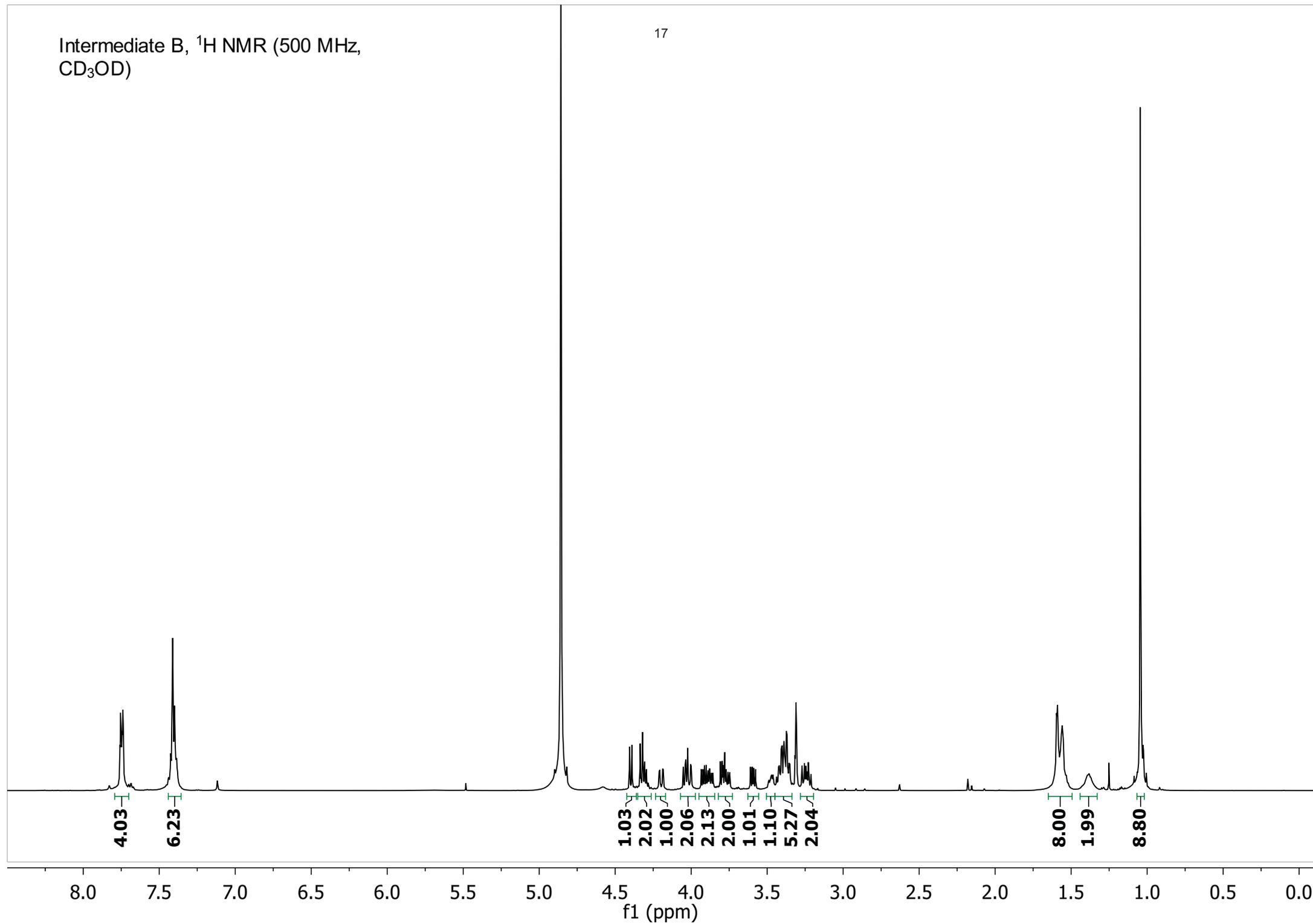
Intermediate A, ^{13}C NMR (125 MHz, CD_3OD)

16



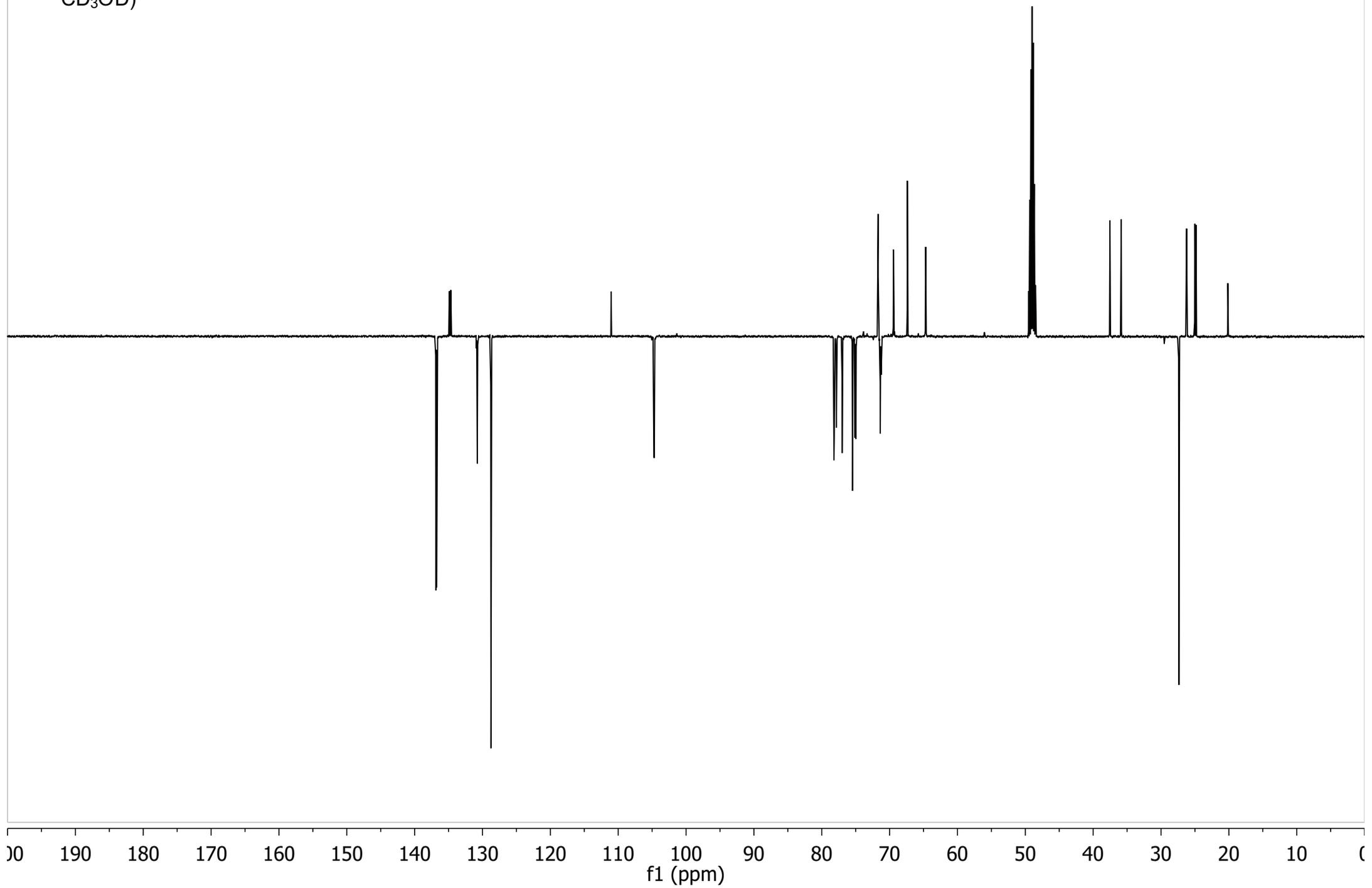
Intermediate B, ^1H NMR (500 MHz, CD_3OD)

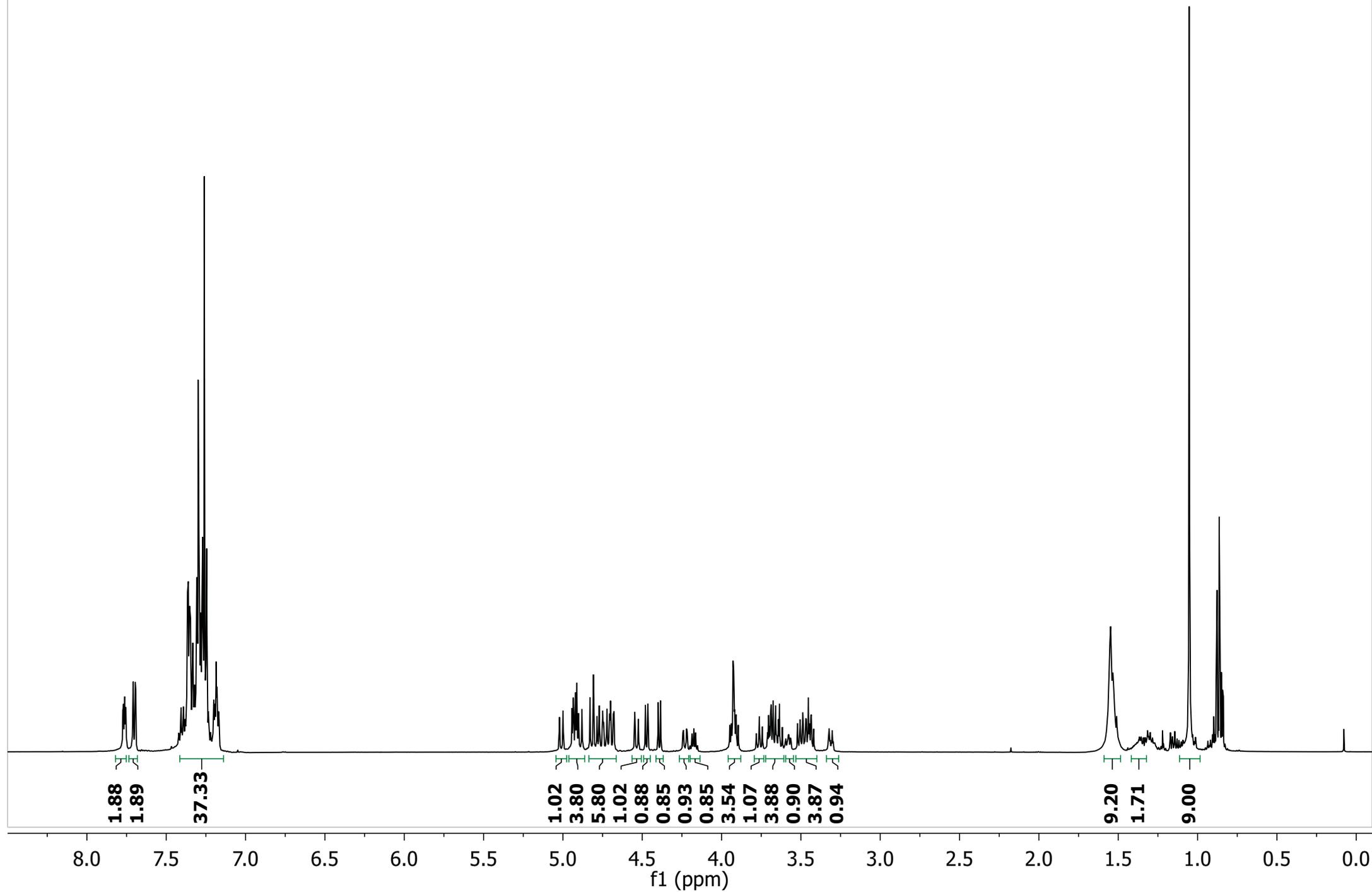
17



Intermediate B, ^{13}C NMR (125 MHz, CD_3OD)

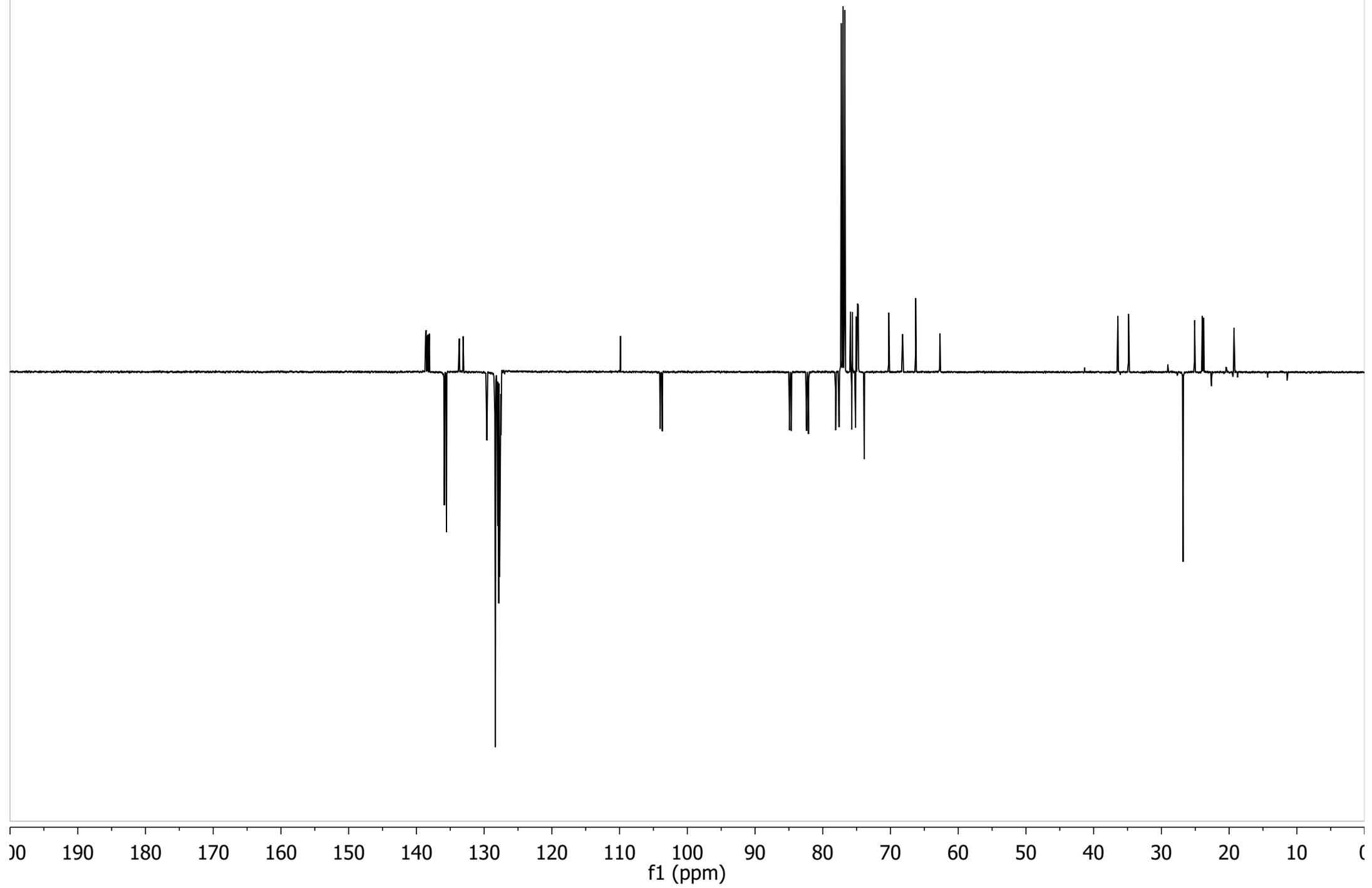
18

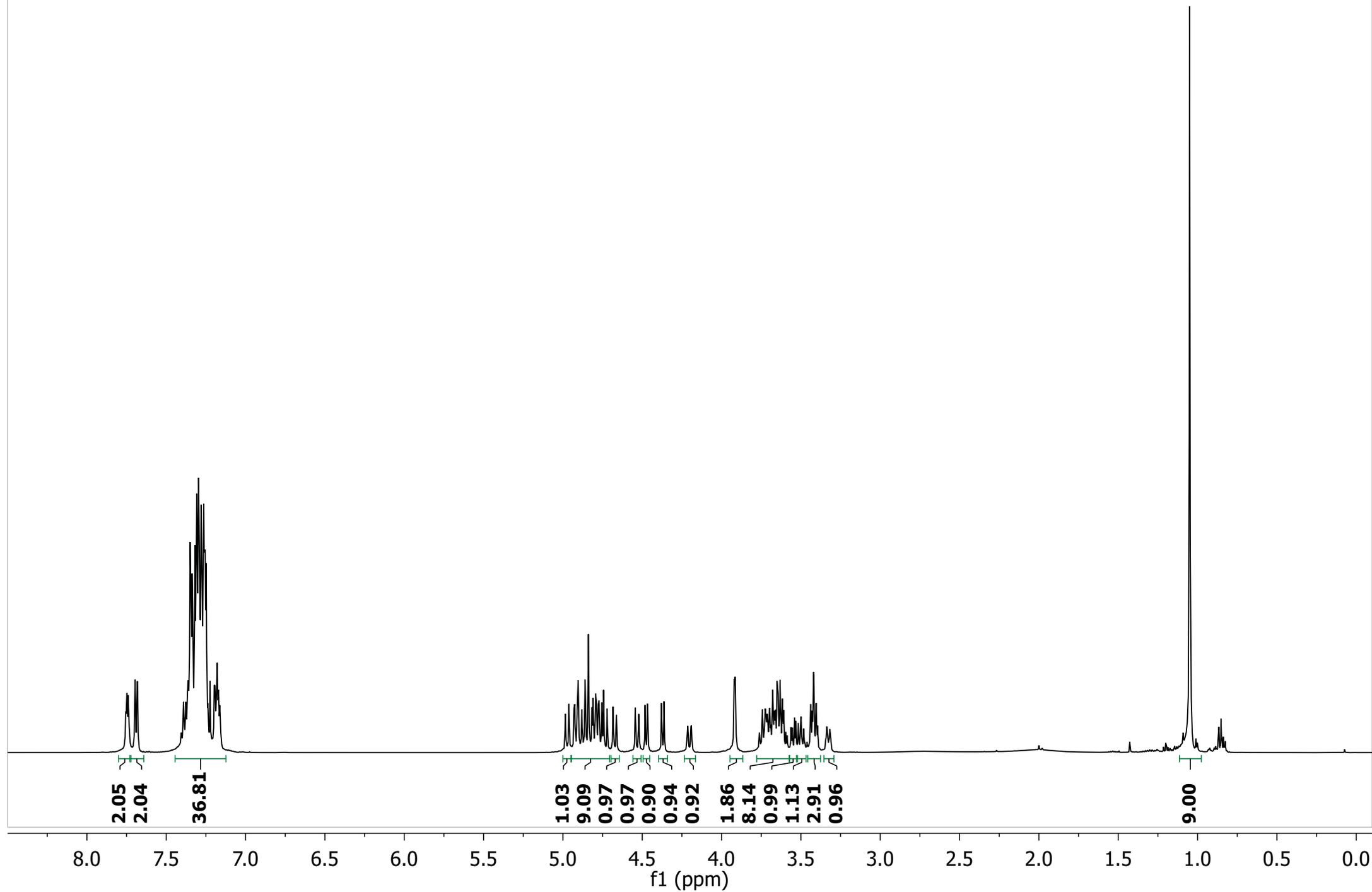




Compound **5**, ^{13}C NMR (125 MHz, CDCl_3)

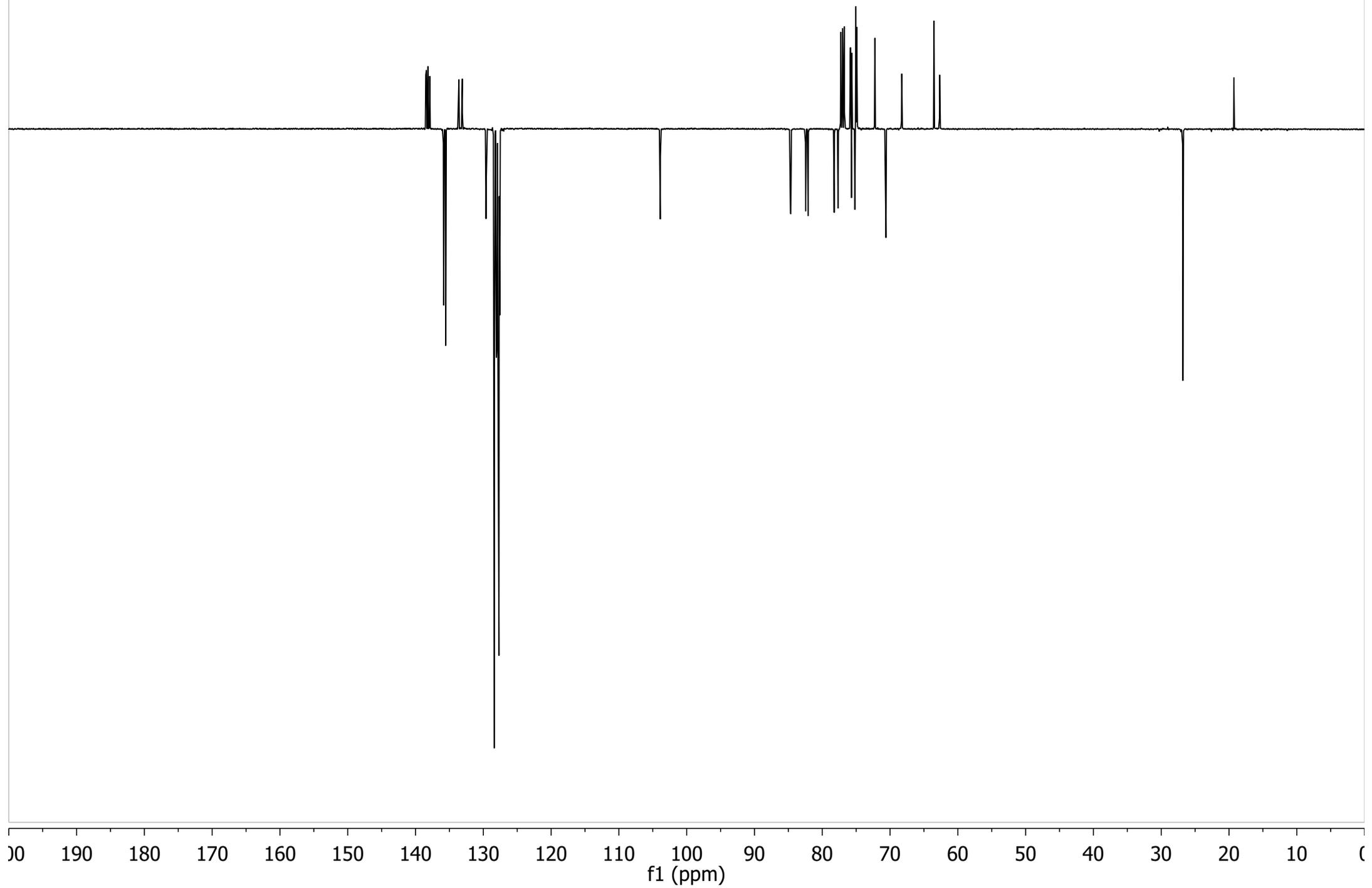
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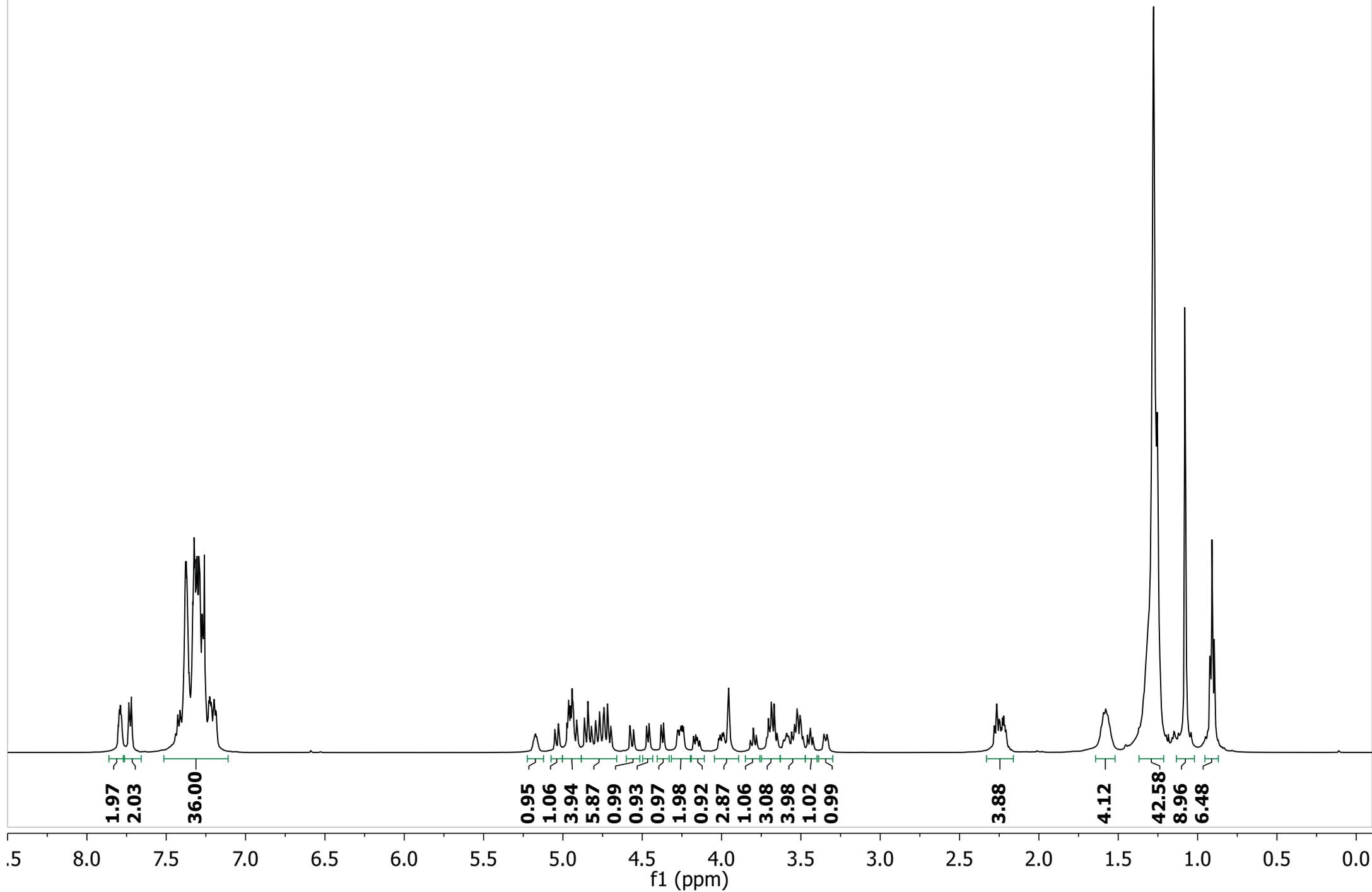


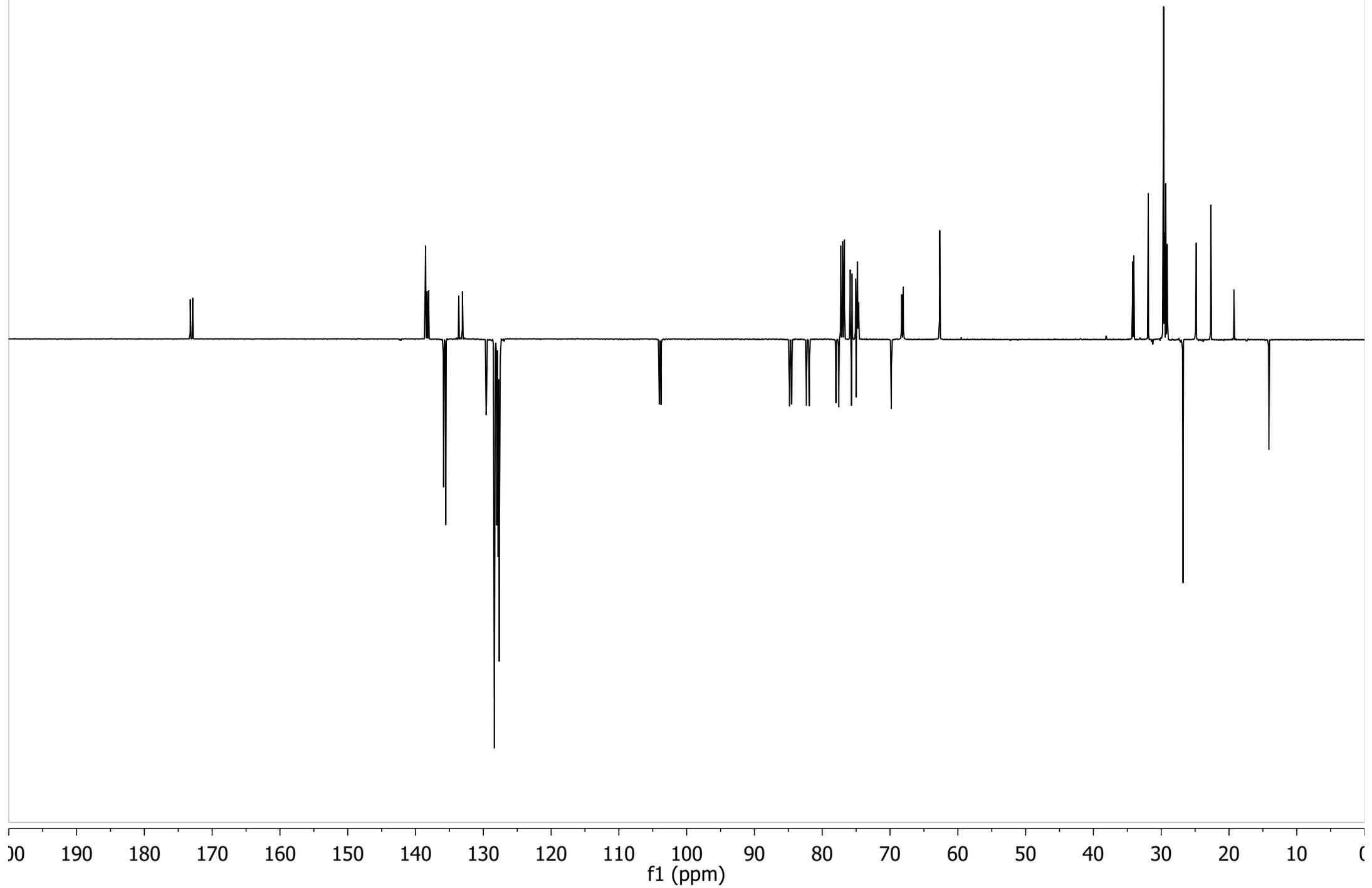


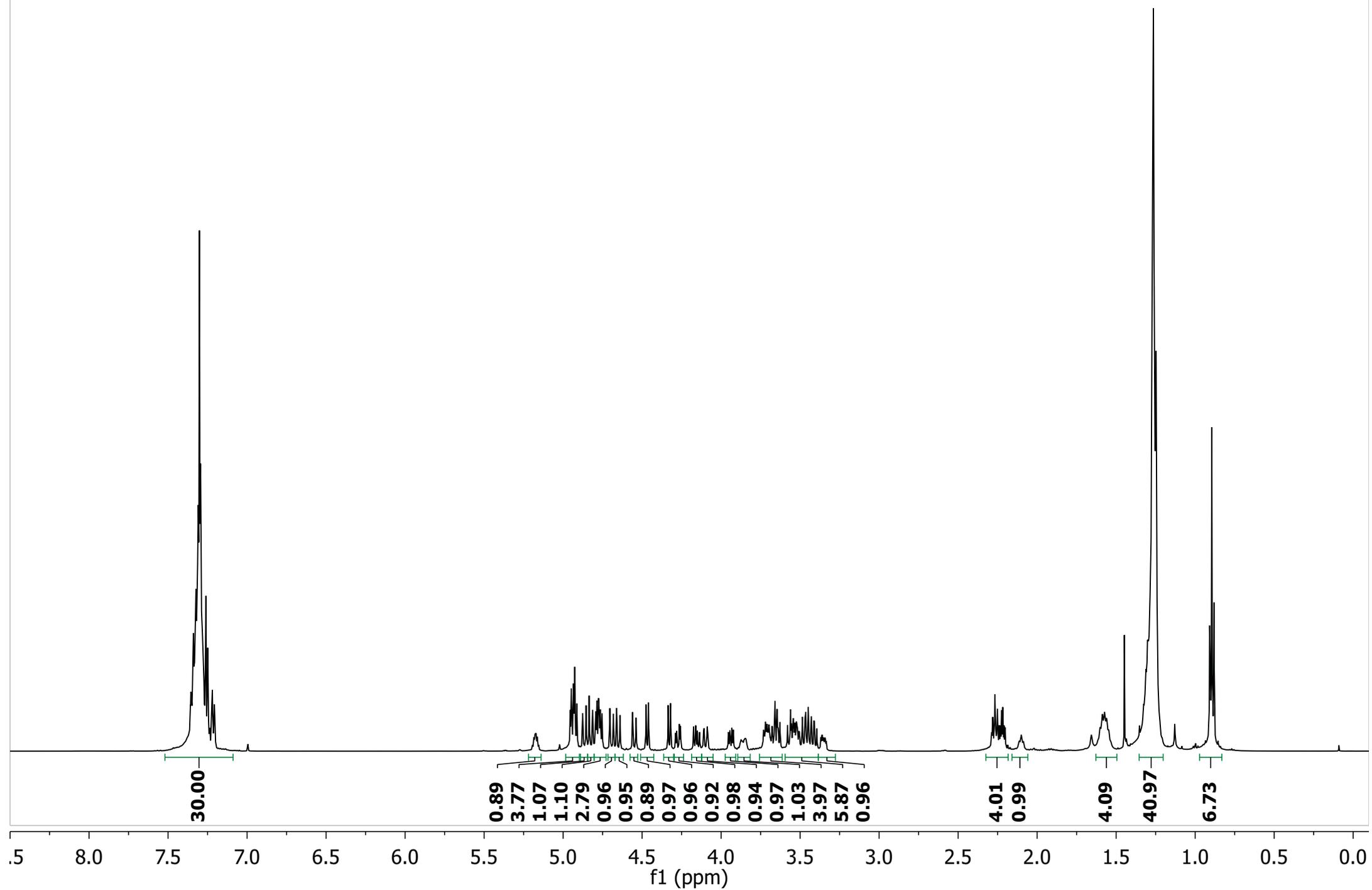
Compound **6**, ^{13}C NMR (125 MHz, CDCl_3)

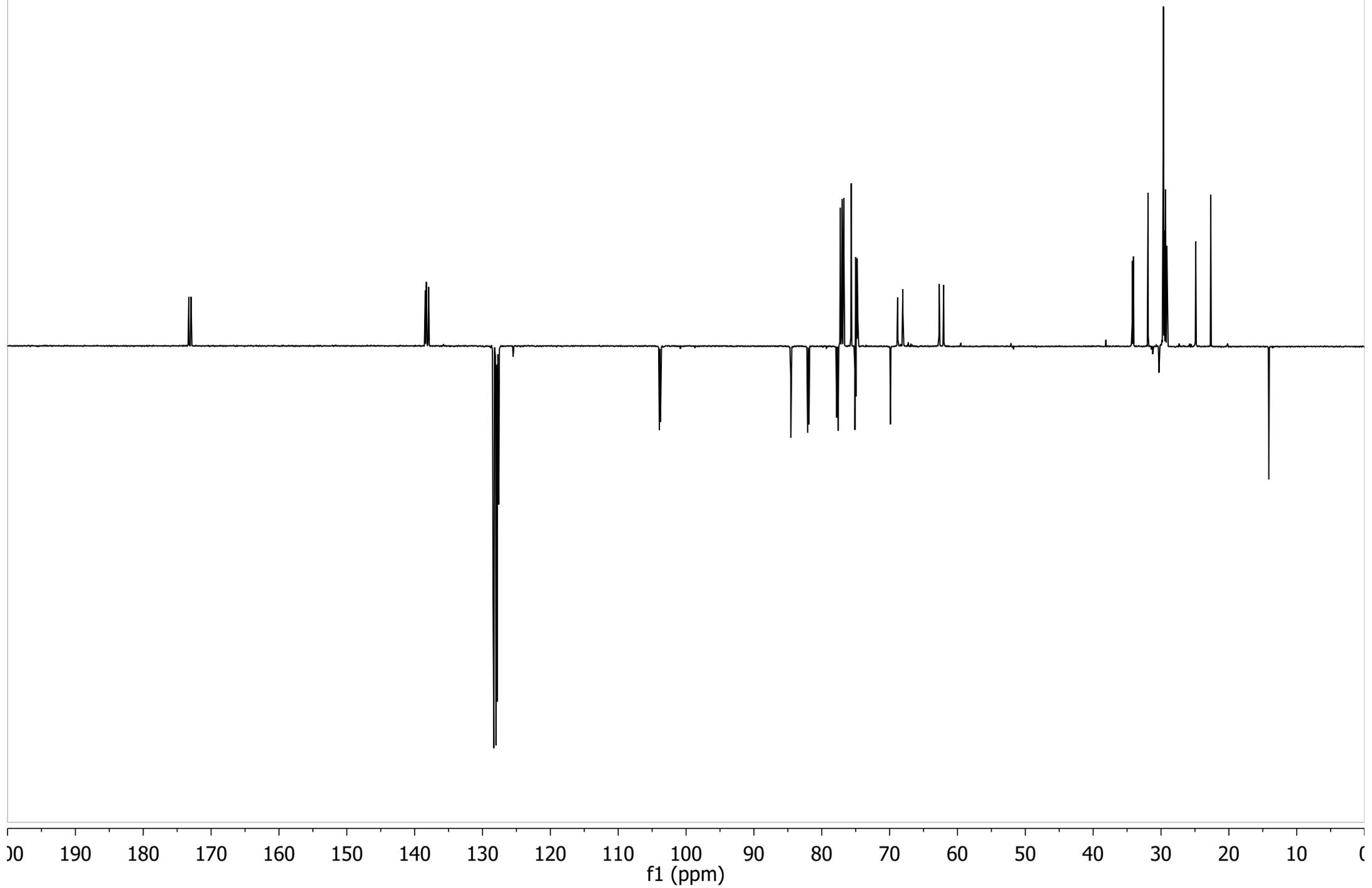
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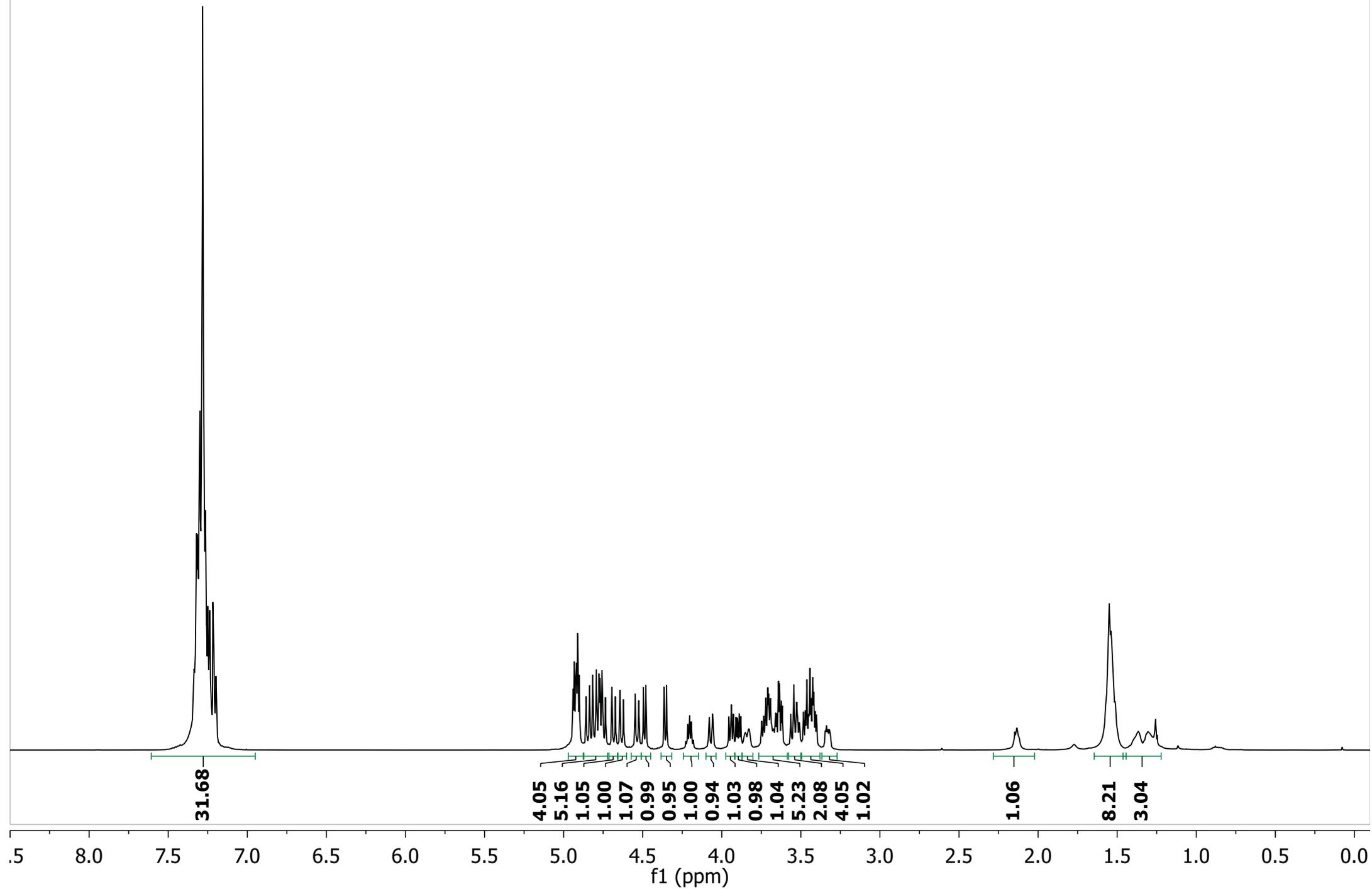






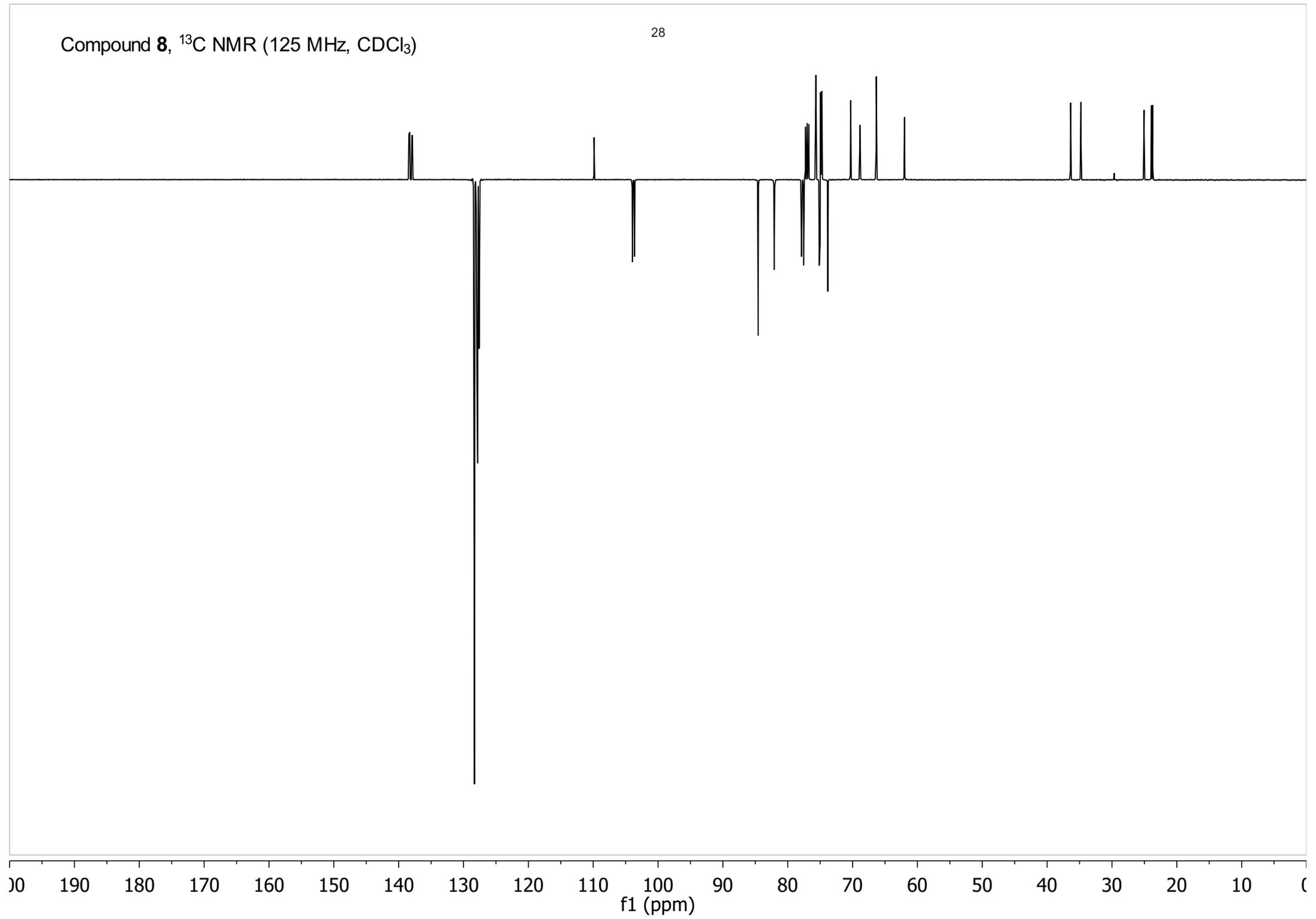


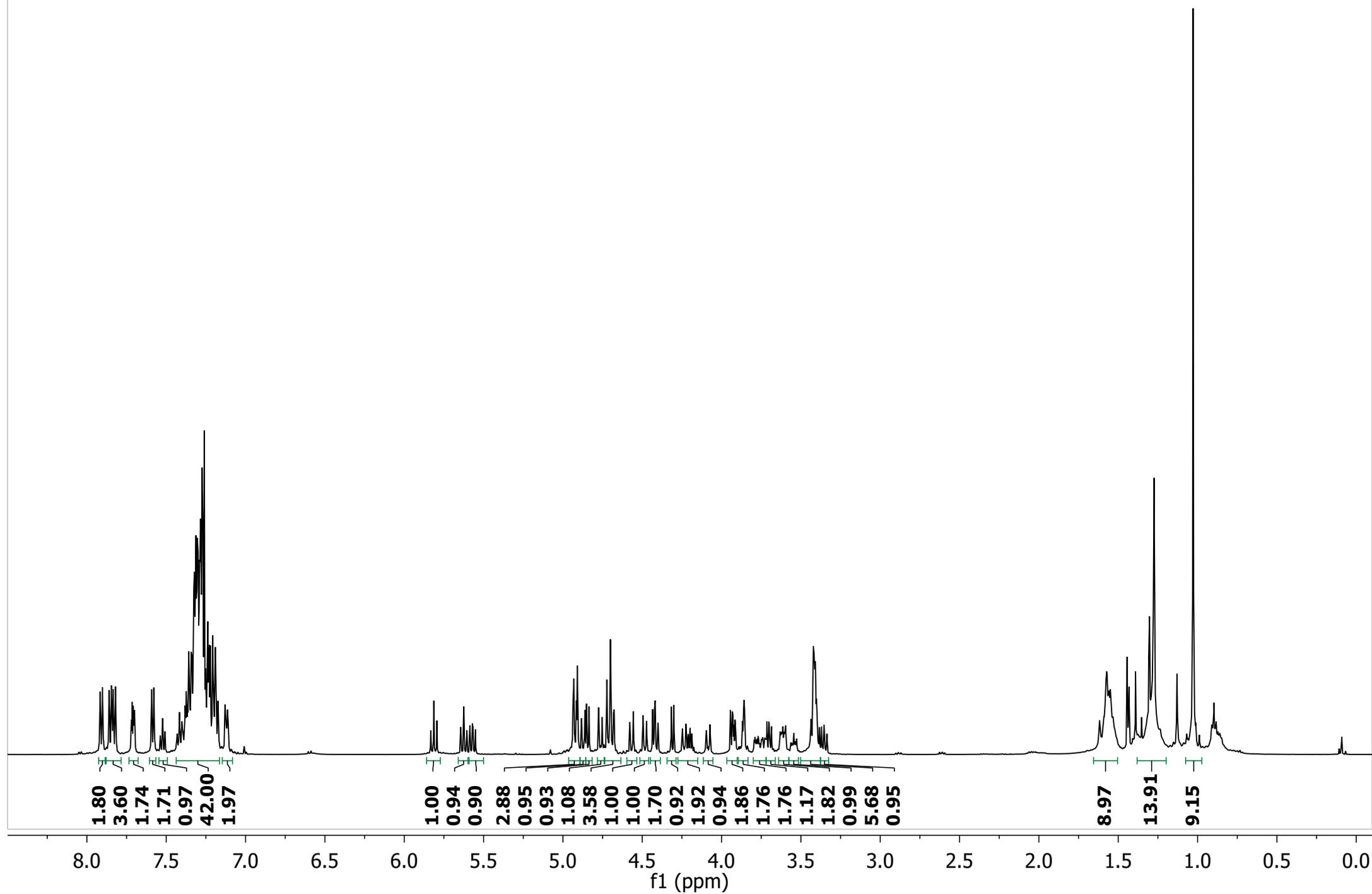




Compound **8**, ^{13}C NMR (125 MHz, CDCl_3)

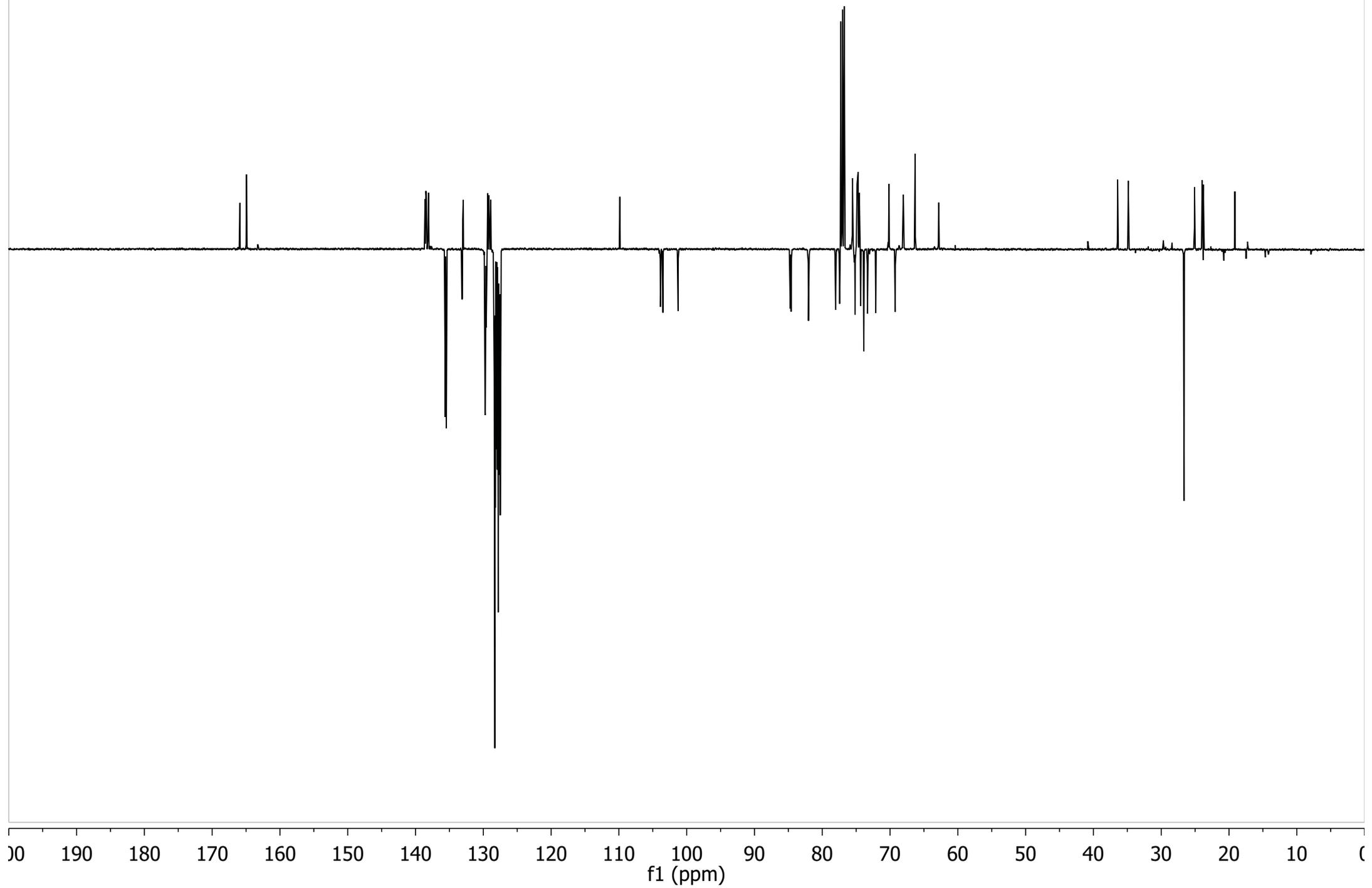
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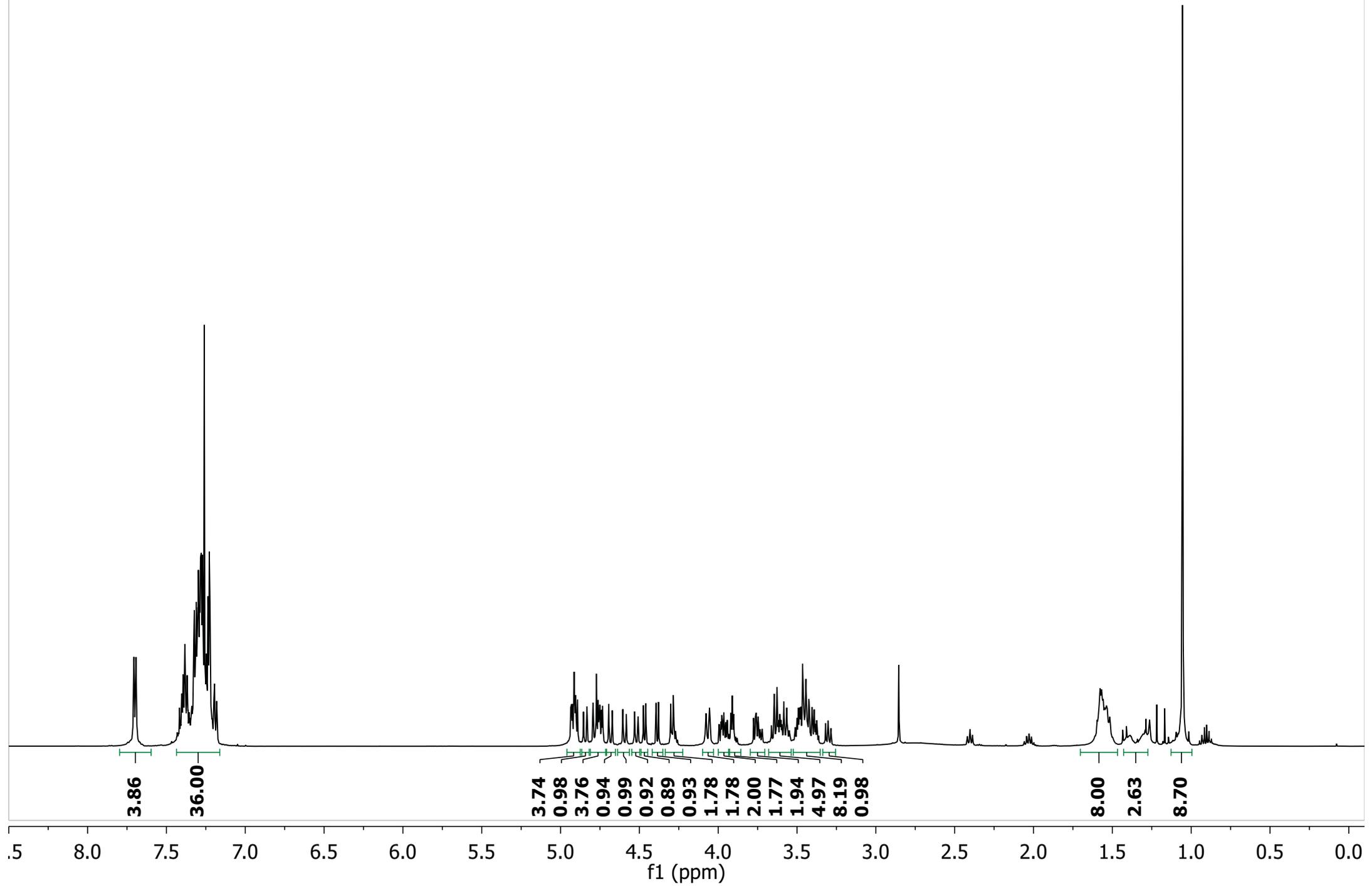




Compound **13**, ^{13}C NMR (125 MHz, CDCl_3)

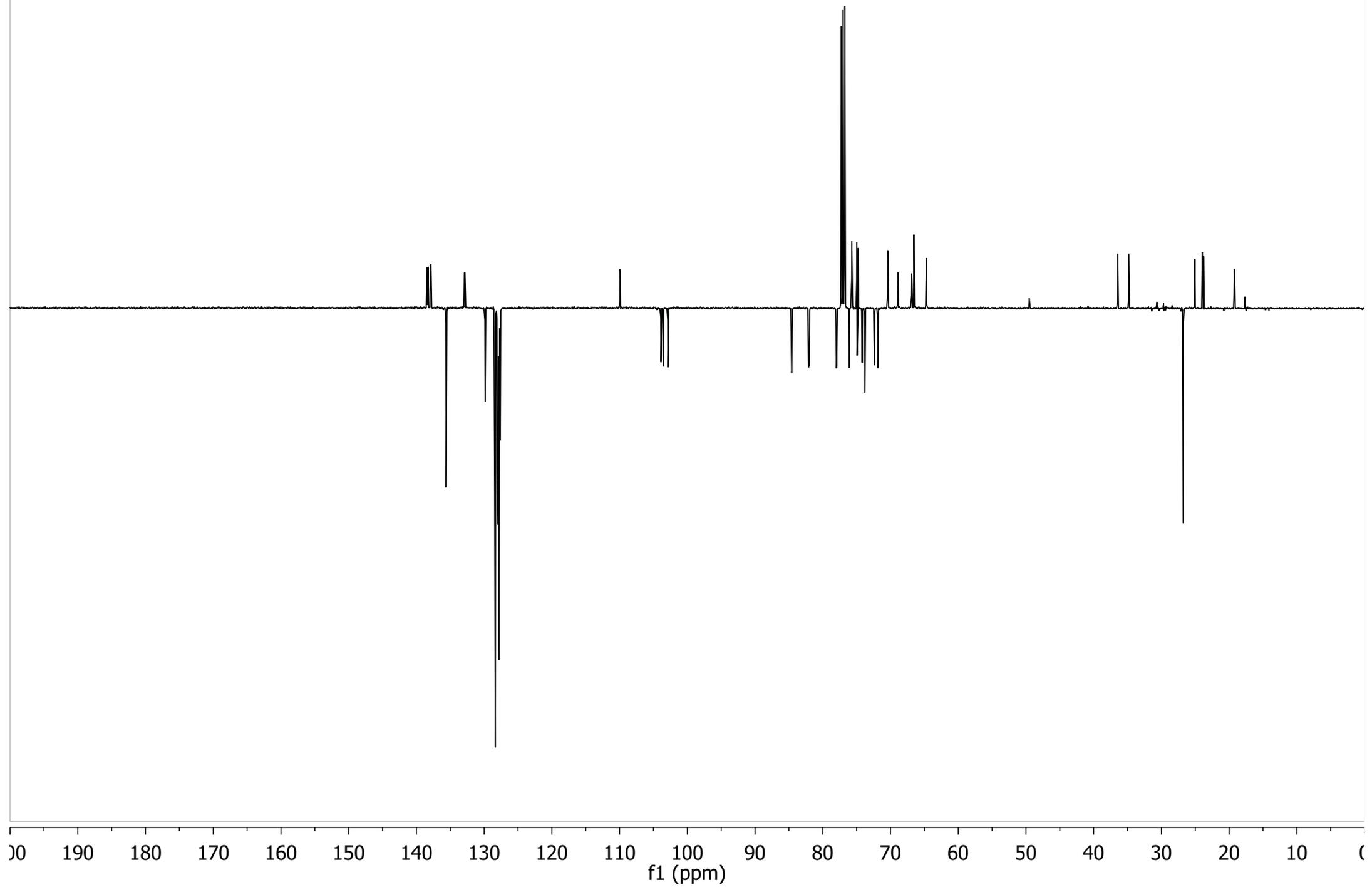
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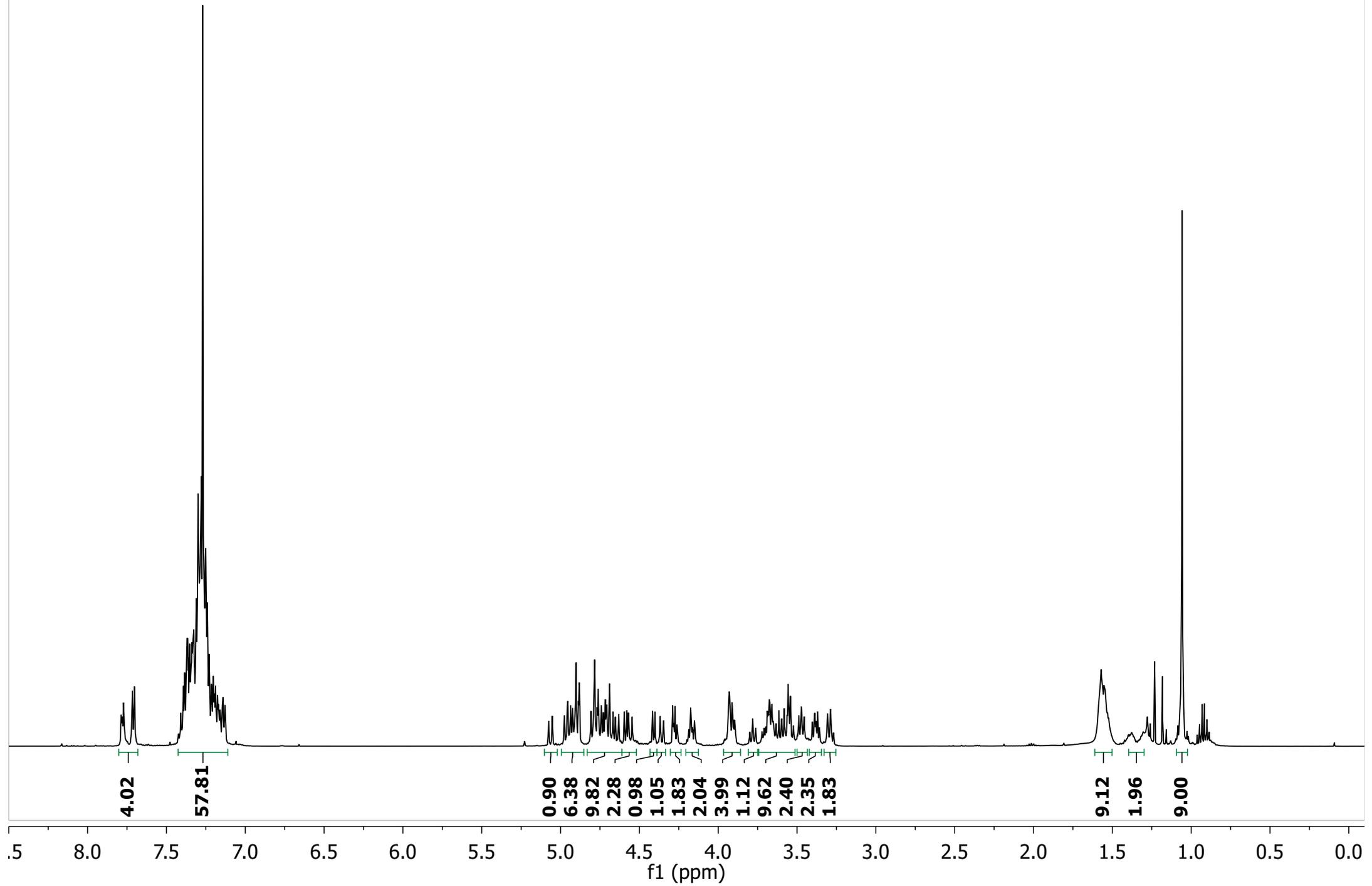




Intermediate D, ^{13}C NMR (125 MHz, CDCl_3)

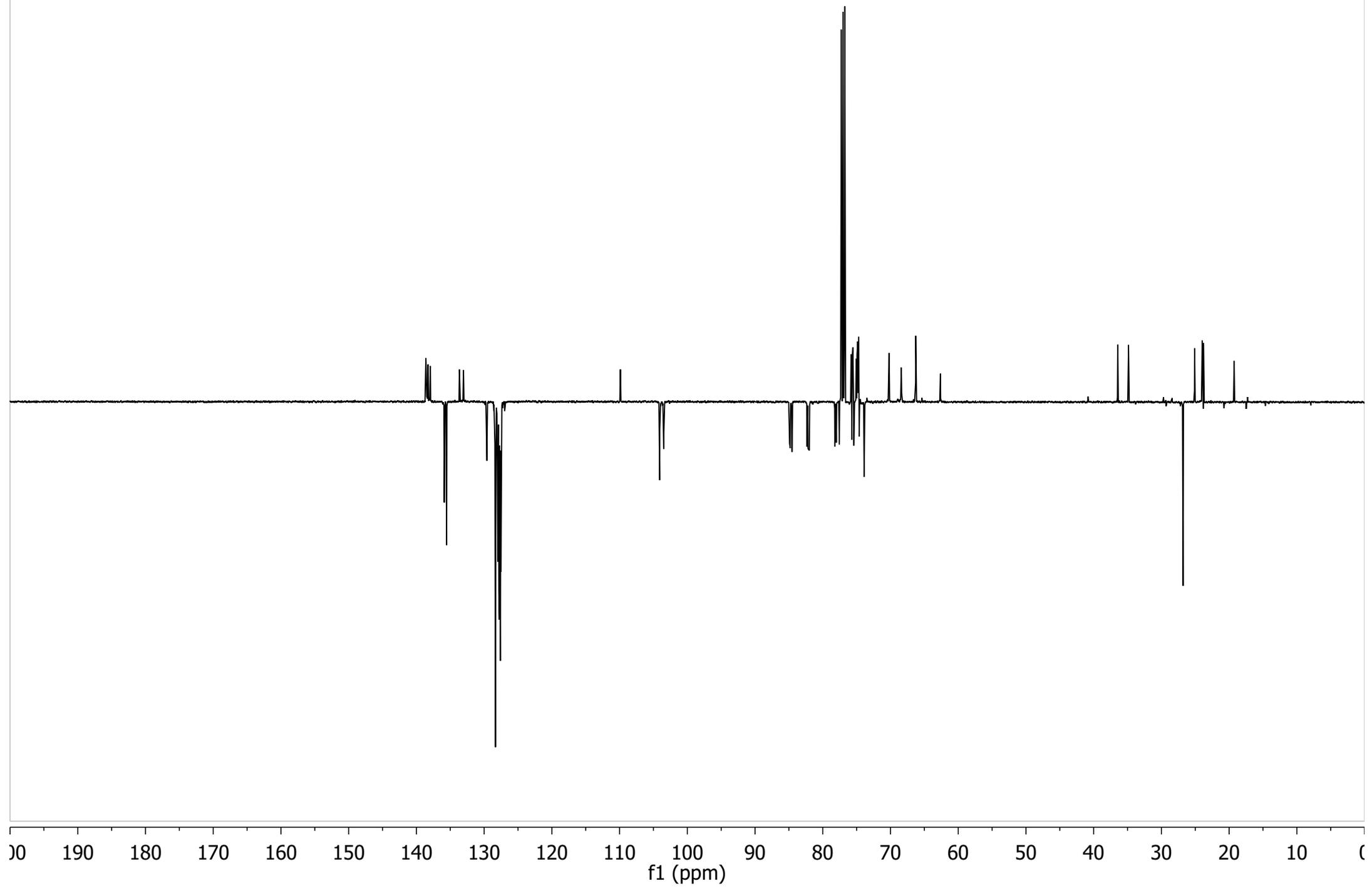
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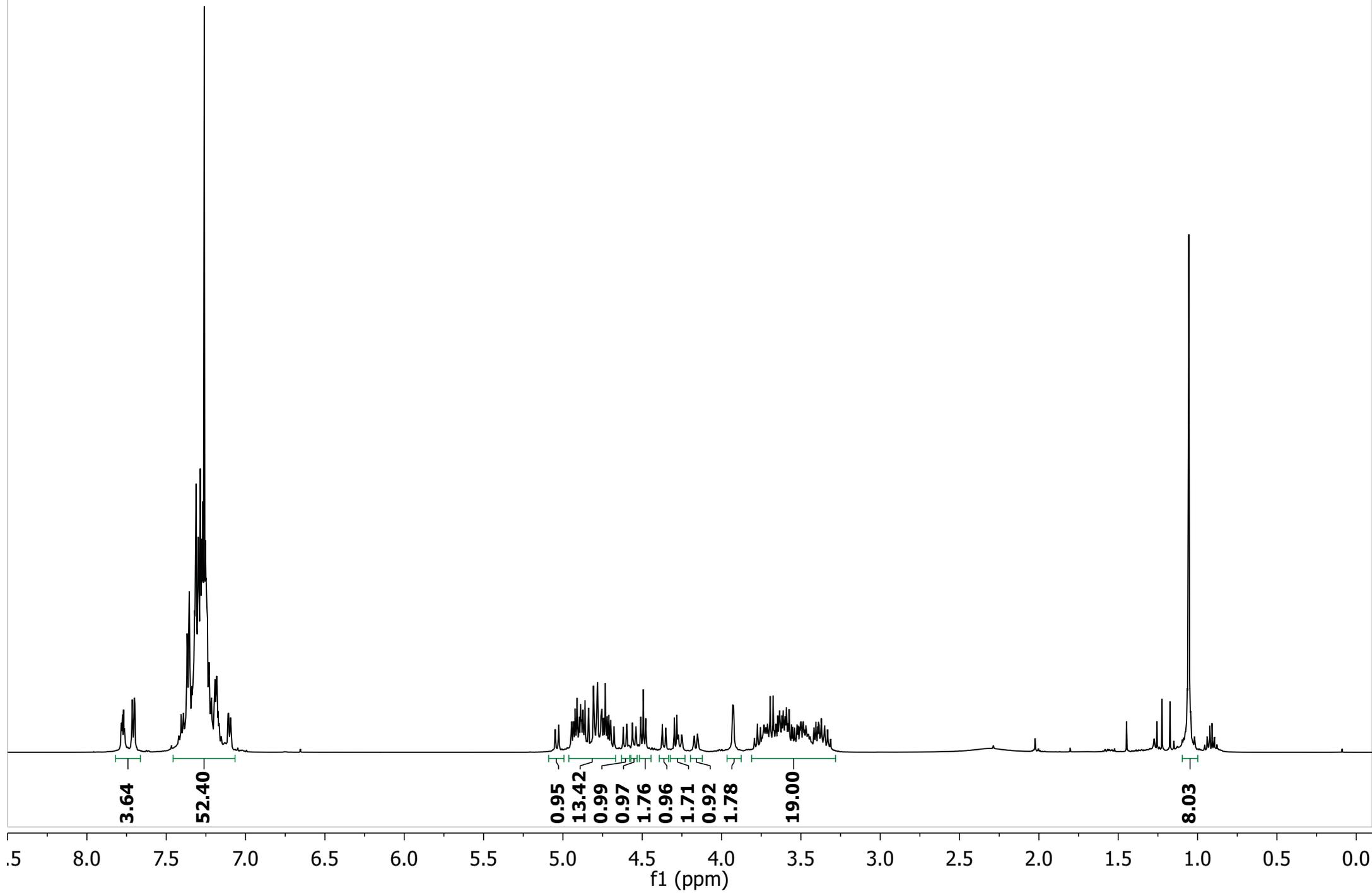




Intermediate E, ^{13}C NMR (125 MHz, CDCl_3)

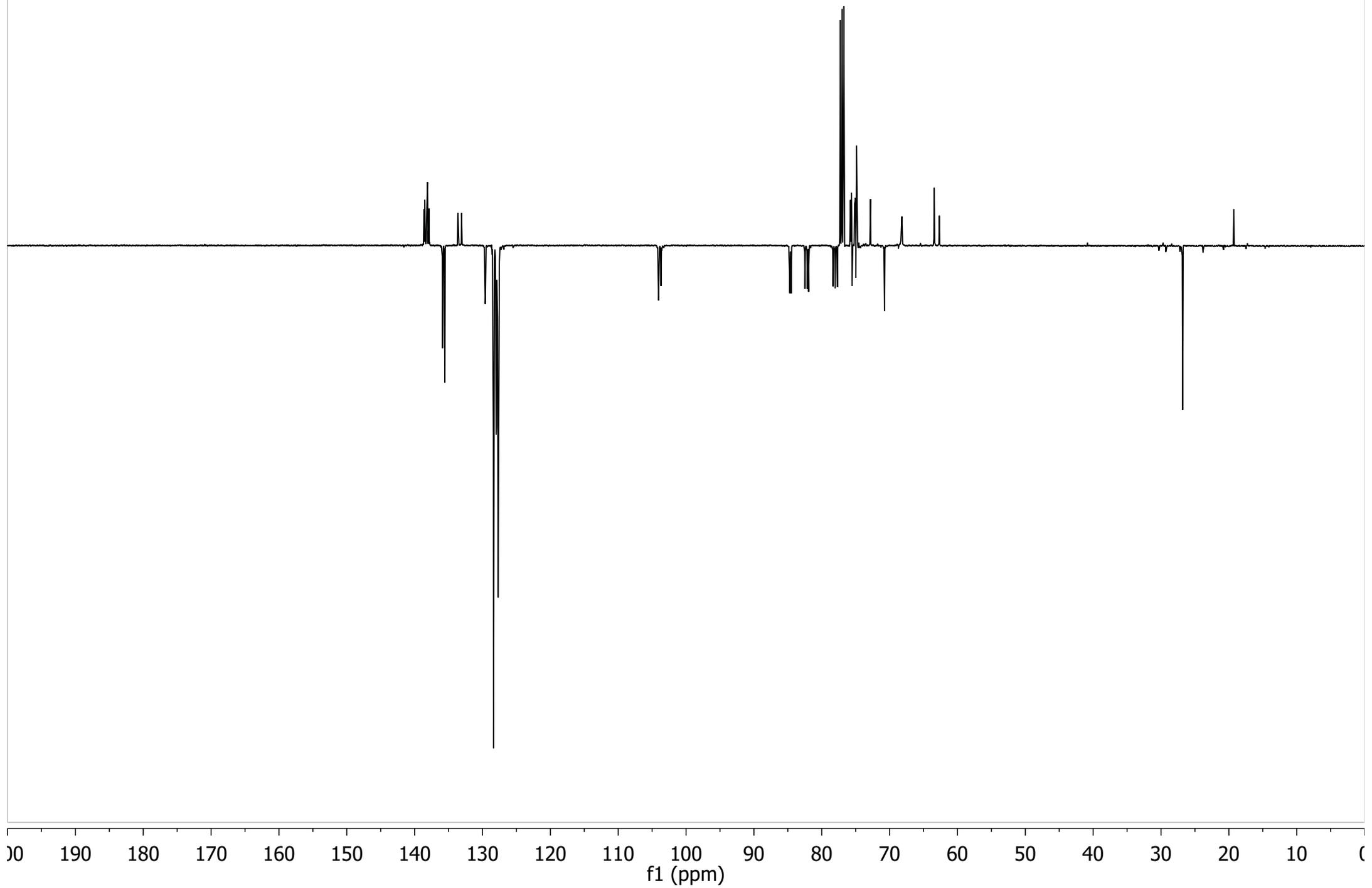
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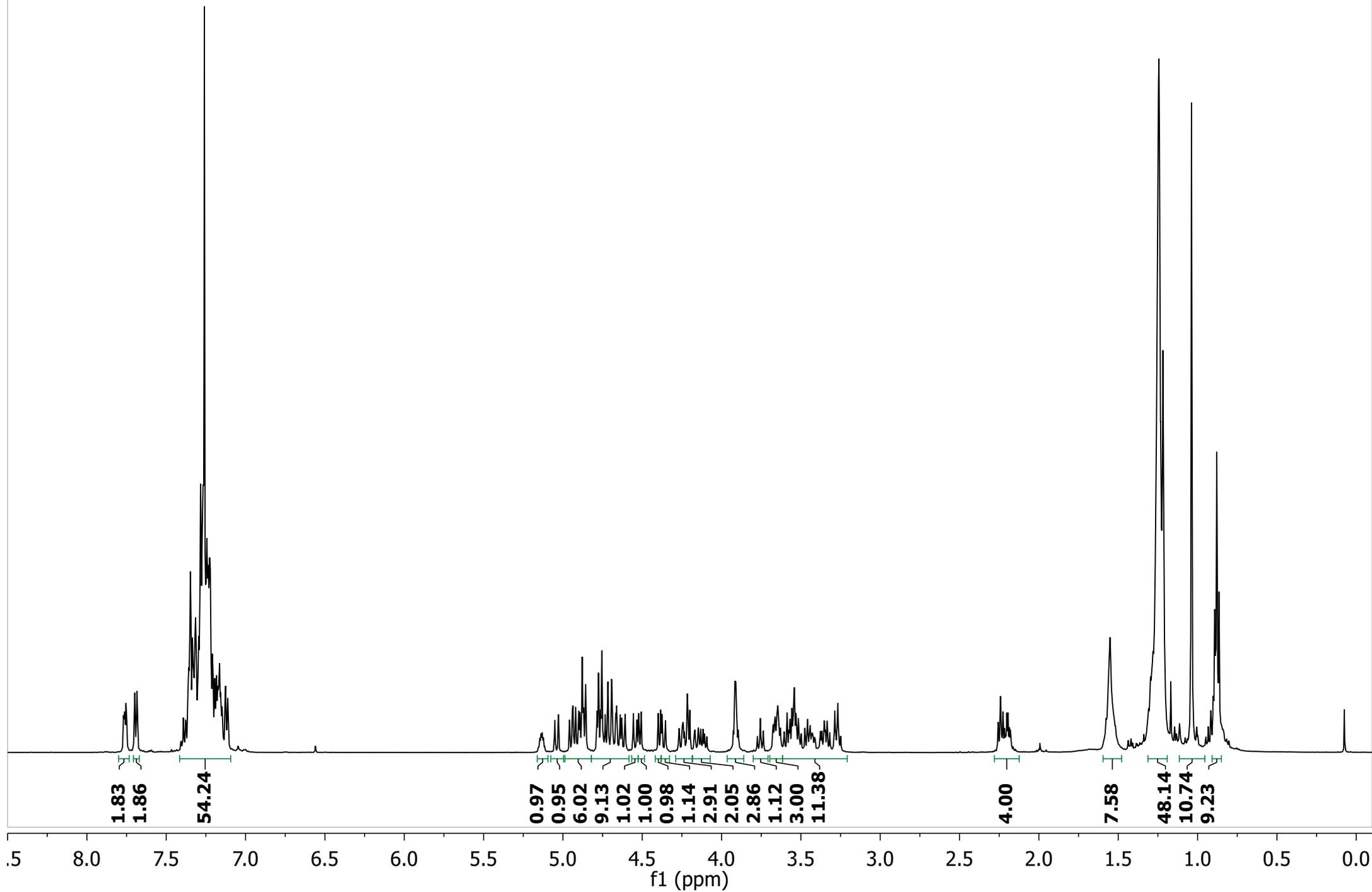




Intermediate F, ^{13}C NMR (125 MHz, CDCl_3)

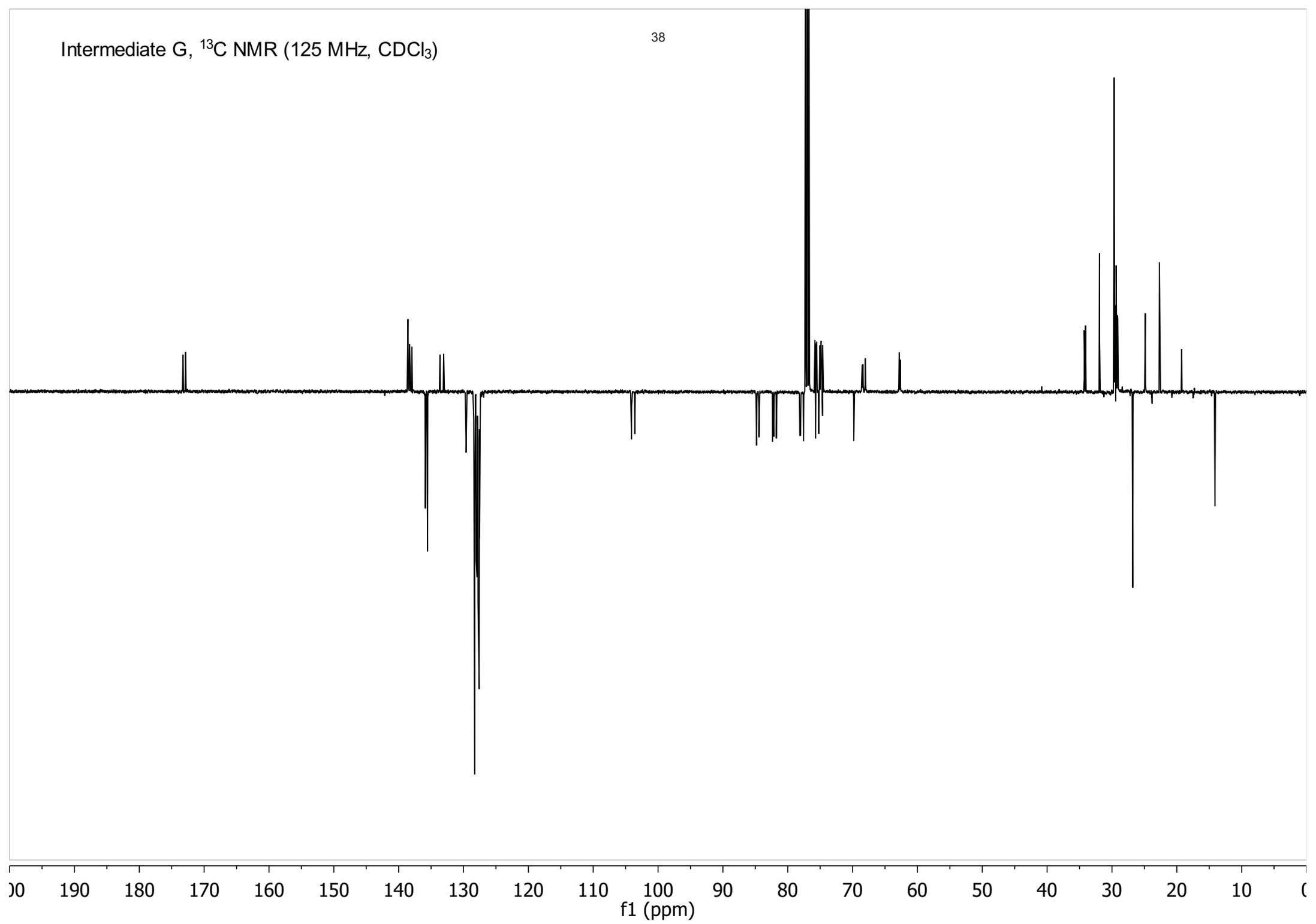
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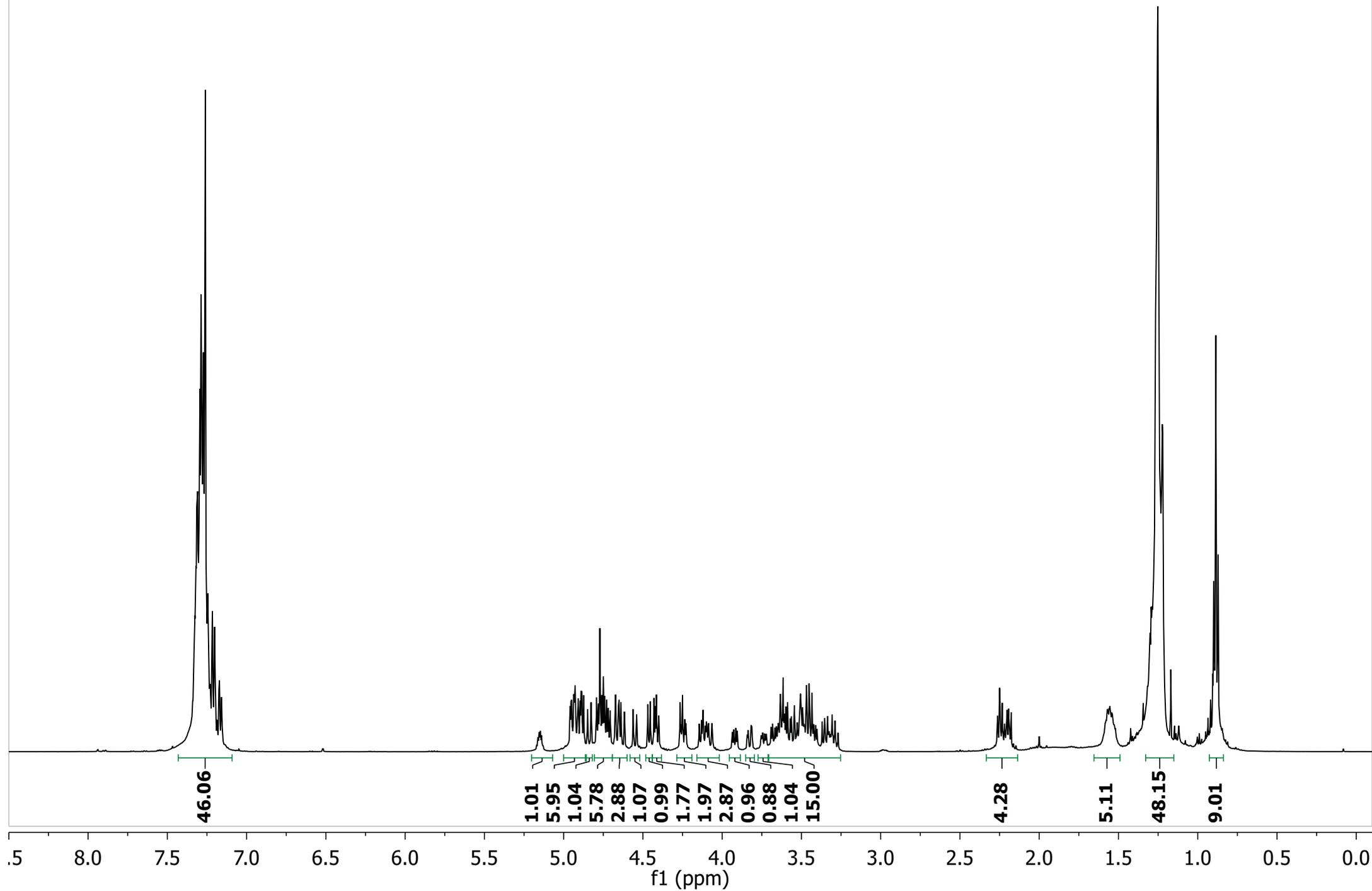




Intermediate G, ^{13}C NMR (125 MHz, CDCl_3)

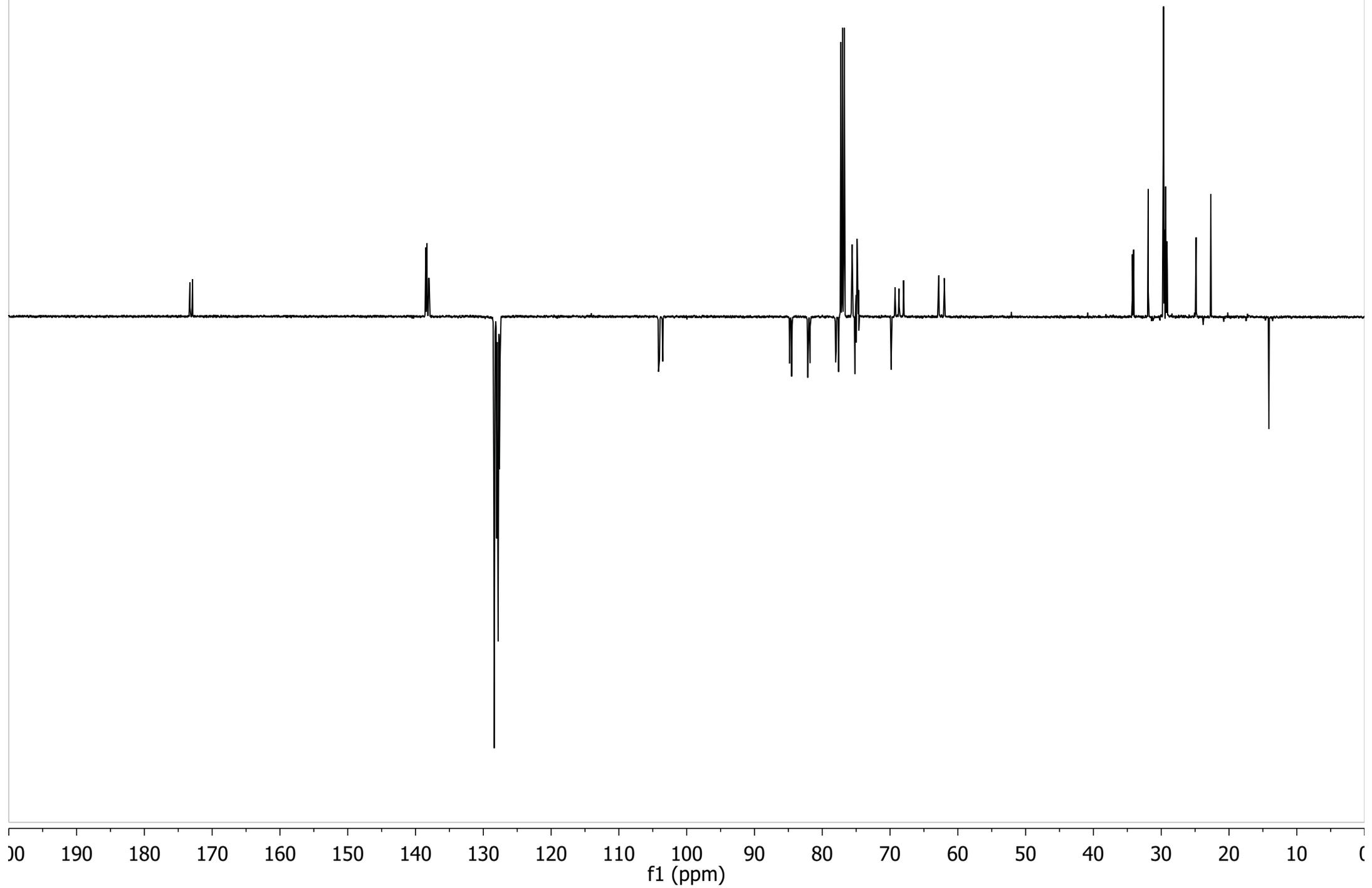
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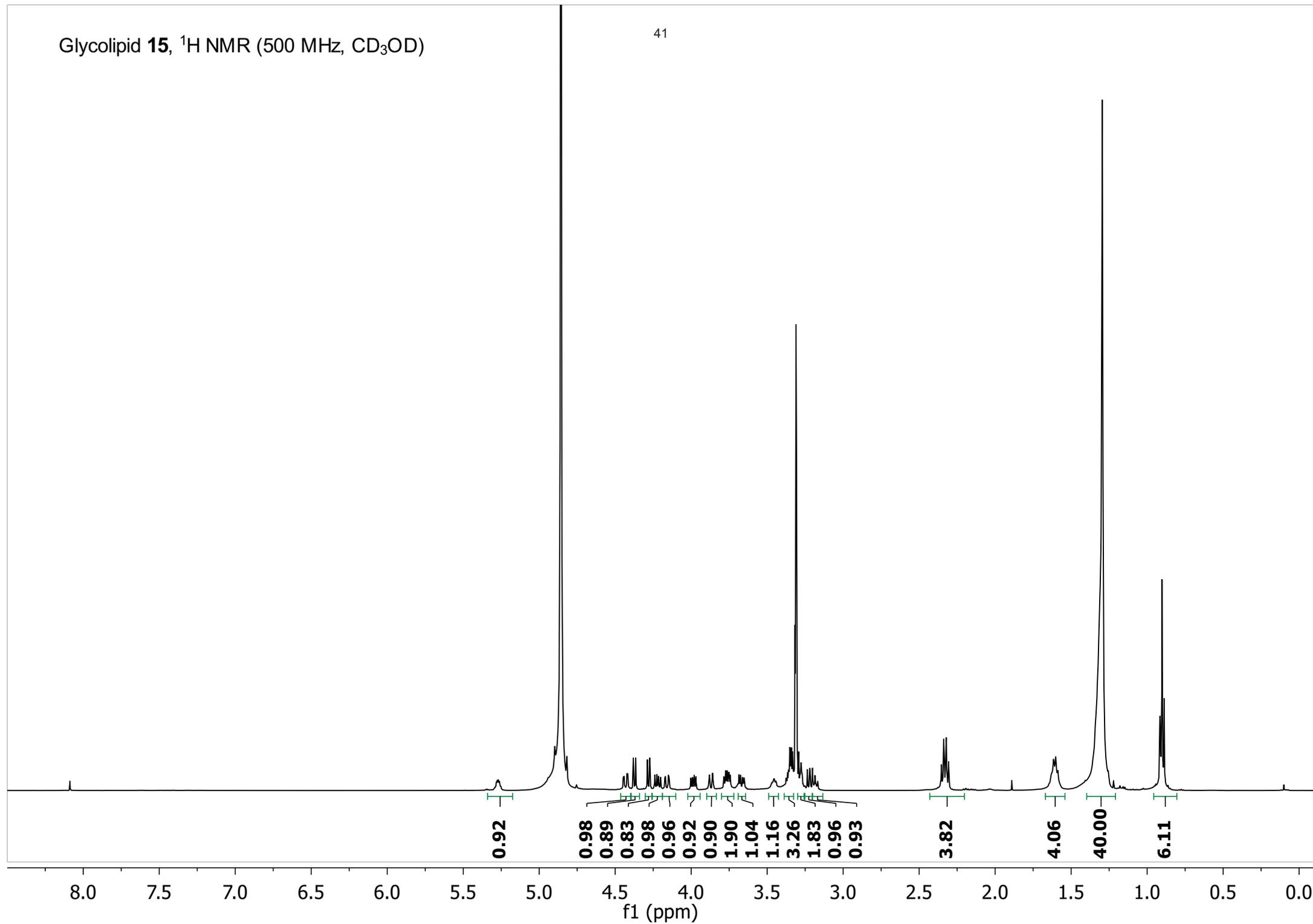
Compound **14**, ^{13}C NMR (125 MHz, CDCl_3)

40



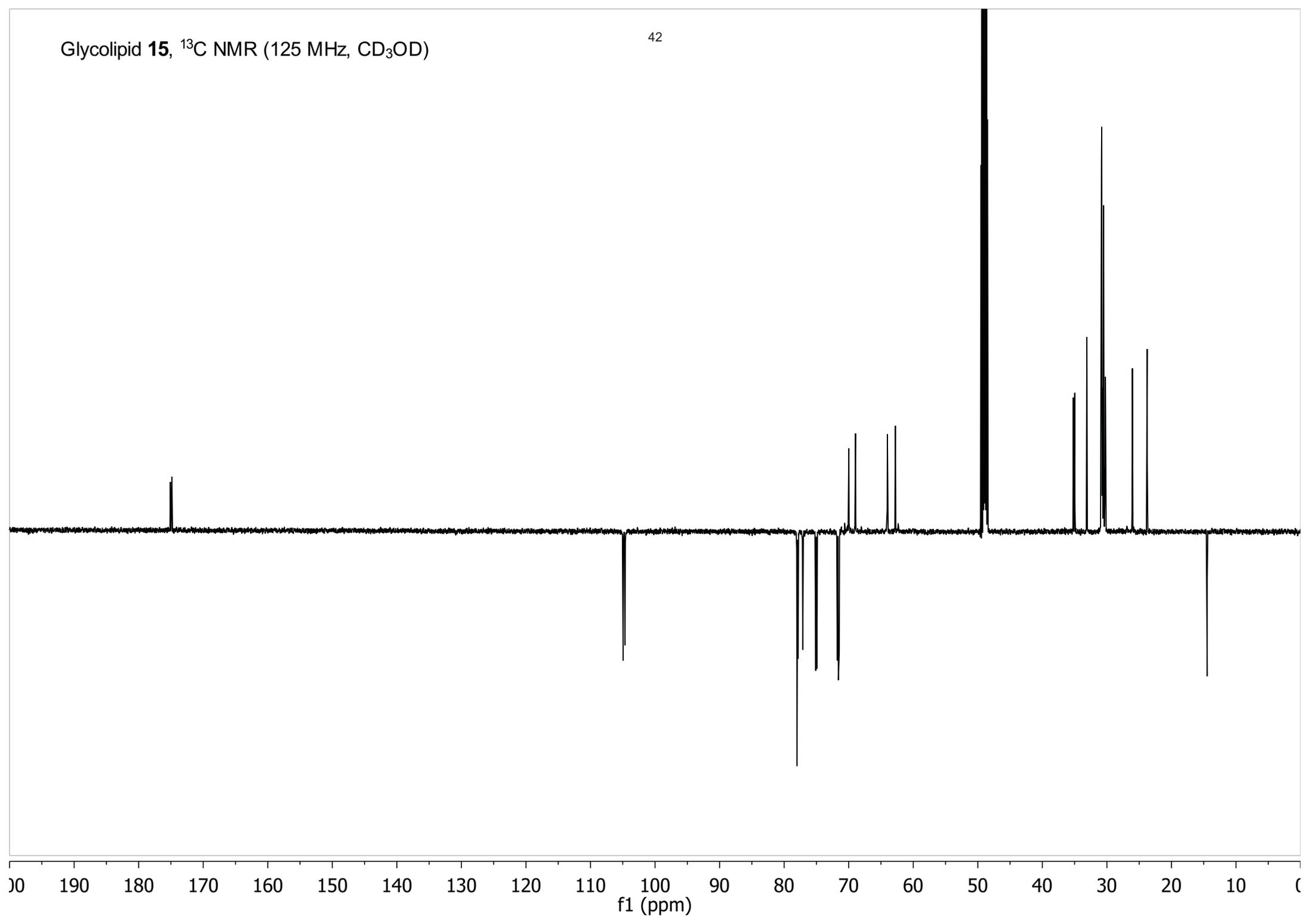
Glycolipid **15**, ^1H NMR (500 MHz, CD_3OD)

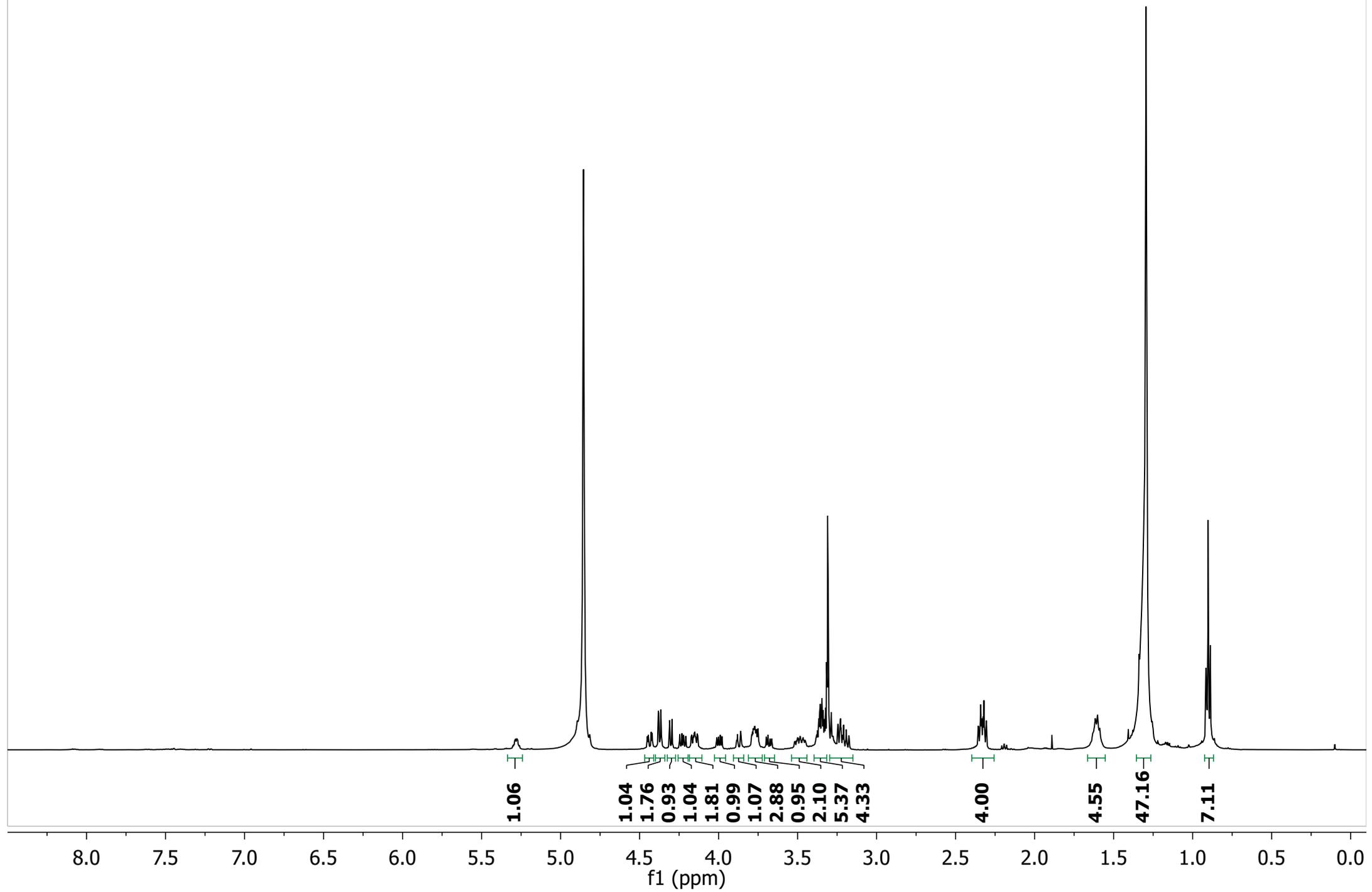
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Glycolipid **15**, ^{13}C NMR (125 MHz, CD_3OD)

42





Glycolipid **16**, ^{13}C NMR (125 MHz, CD_3OD)

44

