

# Glycoluril Dimers Bearing Hydrogen Atoms on Their Convex Face and Their Self- Assembly in the Solid State – Supporting Information

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## Table of content

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General Experimental.....	S2
Crystal data and refinement parameters.(Table S1).....	S2
Selected $^1\text{H}$ and $^{13}\text{C}$ NMR spectra. (Figures S1- S16).....	S3-S18

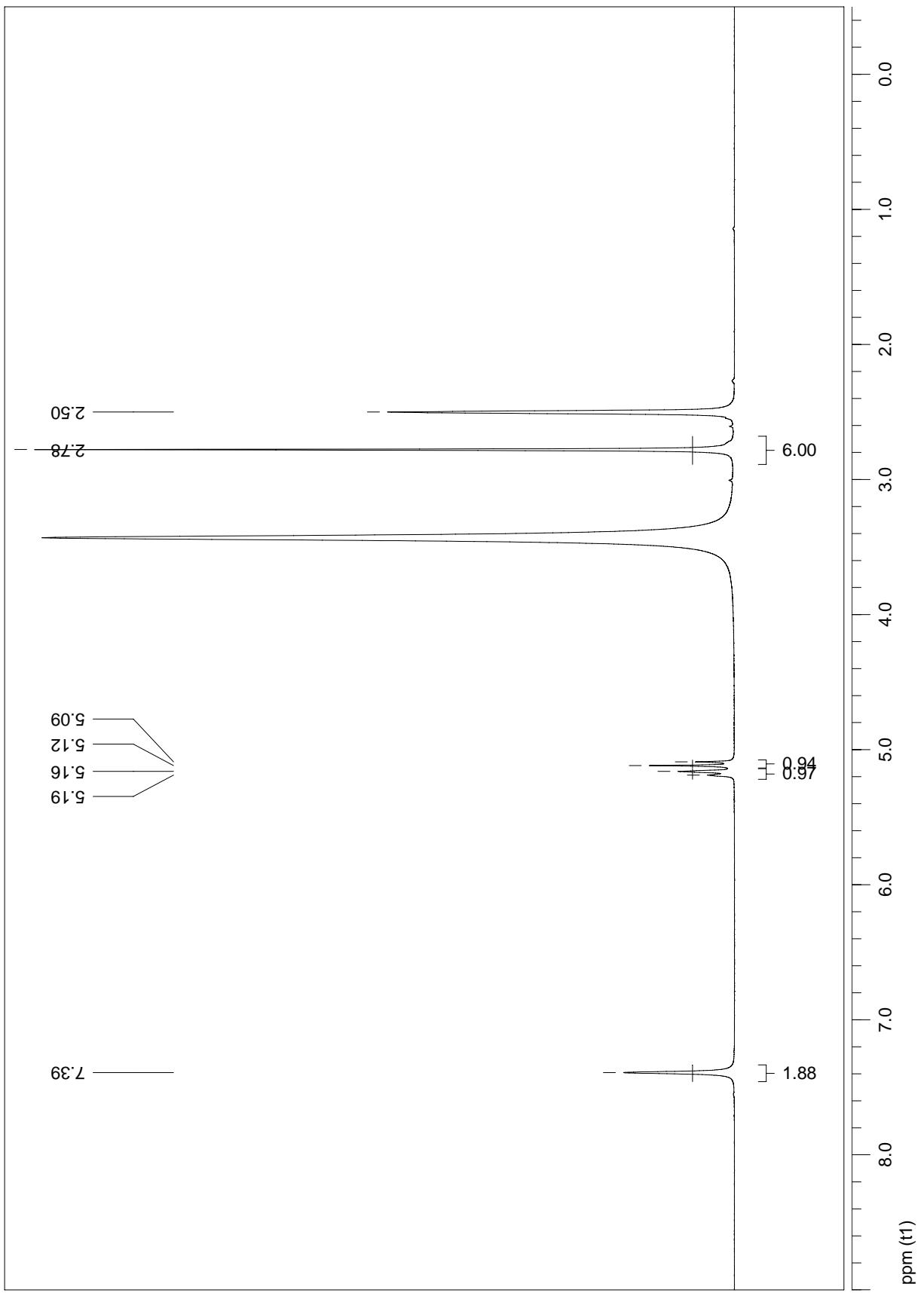
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**General Experimental.** Starting materials were purchased from commercial suppliers and were used without further purification.

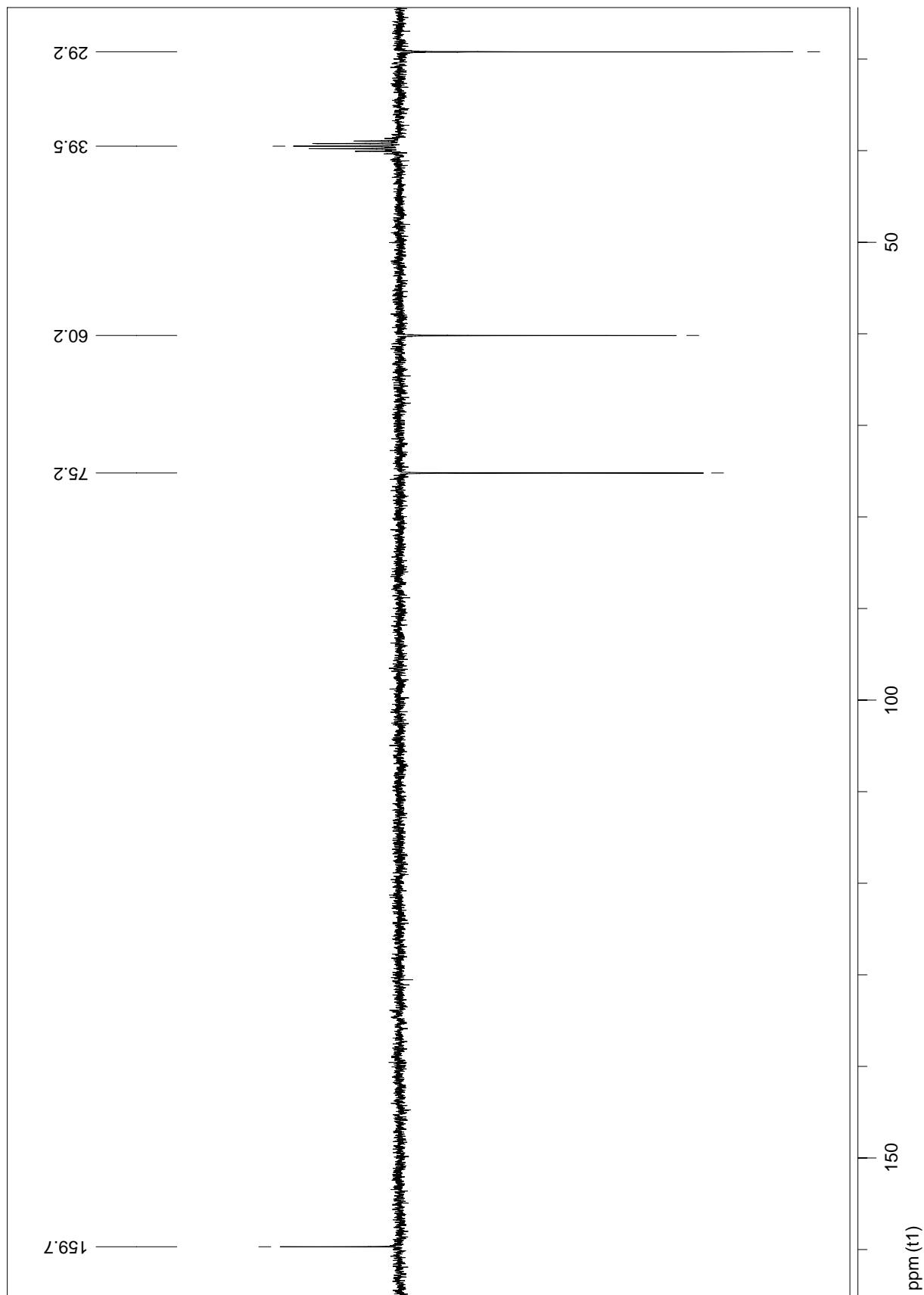
**Table S1.** Crystal data and refinement parameters.

	<b>1d</b>	<b>2c</b>	<b>3c</b>
Empirical formula	C <sub>12</sub> H <sub>20</sub> N <sub>8</sub> O <sub>4</sub>	C <sub>26</sub> H <sub>28</sub> N <sub>8</sub> O <sub>6</sub>	C <sub>16</sub> H <sub>24</sub> N <sub>8</sub> O <sub>6</sub>
Formula weight	340.36	548.56	424.43
Crystal system	Orthorhombic	Triclinic	Monoclinic
Space group	Pnn2	P-1	P2 <sub>1</sub> /c
a [Å]	11.238(2)	11.635(1)	14.237(1)
b [Å]	16.985(3)	14.530(1)	11.571(1)
c [Å]	4.113(1)	16.385(1)	11.872(1)
α [°]	90	67.621(2)	90
β [°]	90	79.274(2)	112.698(9)
γ [°]	90	83.560(2)	90
Volume [Å <sup>3</sup> ]	785.1(3)	2514.1(1)	1804.3(2)
Z	2	4	4
Calc. density [Mg/m <sup>3</sup> ]	1.440	1.449	1.562
μ [mm <sup>-1</sup> ]	0.111	0.108	0.122
Crystal size [mm]	0.25 x 0.10 x 0.07	0.40 x 0.40 x 0.20	0.40 x 0.40 x 0.30
ω range [°]	3.63 to 25.00	2.61 to 25.00	3.35 to 25.00
Refl. collected / unique	5548 / 1563	30368 / 8820	15053 / 3174
Data / parameters	1563 / 120	8820 / 771	3174 / 297
Final R indices [I>2σ(I)]	0.0617, 0.1242	0.0524, 0.1507	0.0324, 0.0870
Δρ <sub>max</sub> /Δρ <sub>min</sub> [e. Å <sup>-3</sup> ]	0.231 / -0.223	1.811 / -0.650	0.193 / -0.214

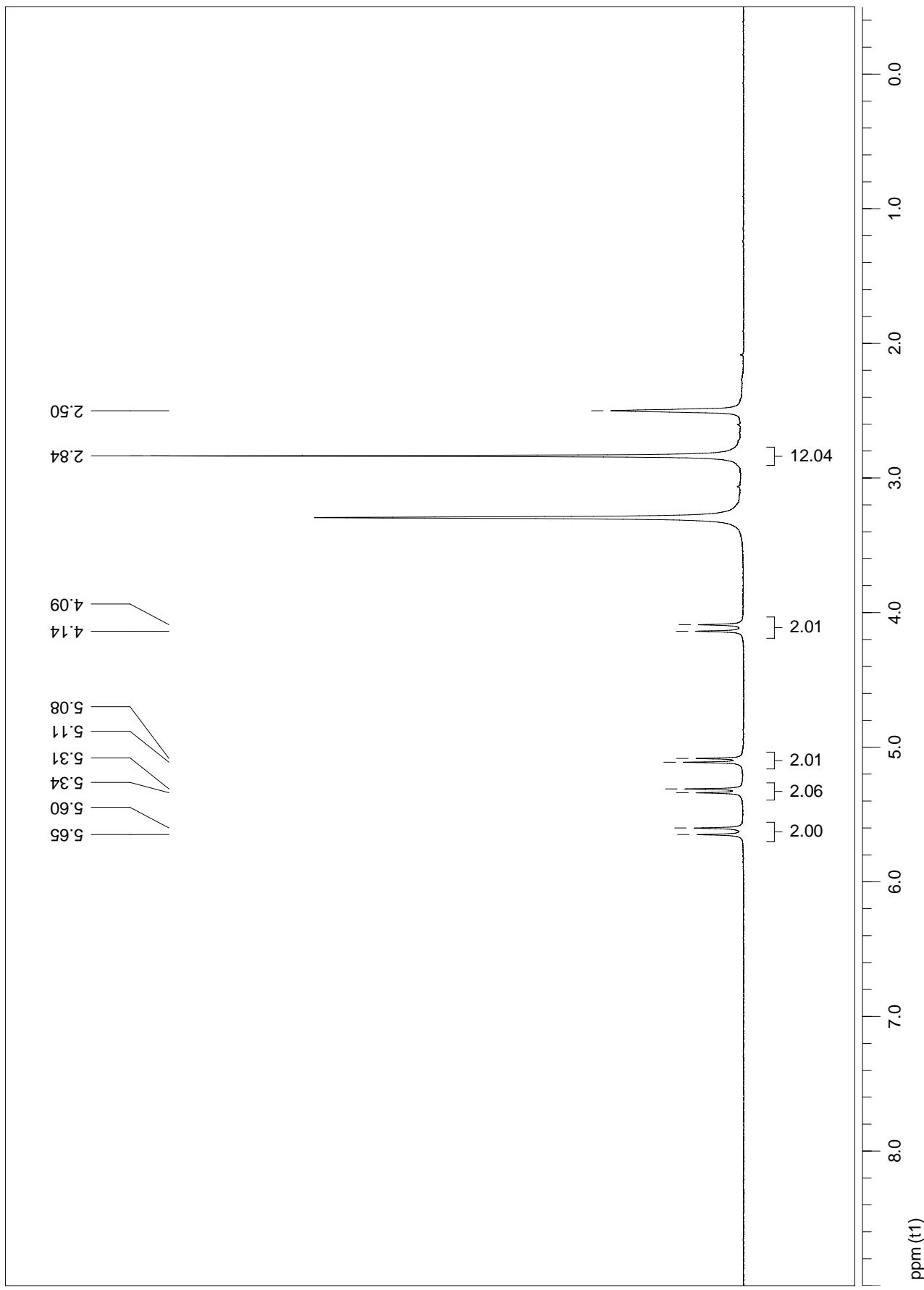
**Figure S1.**  $^1\text{H}$  NMR spectrum of **1c** (300 MHz, DMSO- $d_6$ )



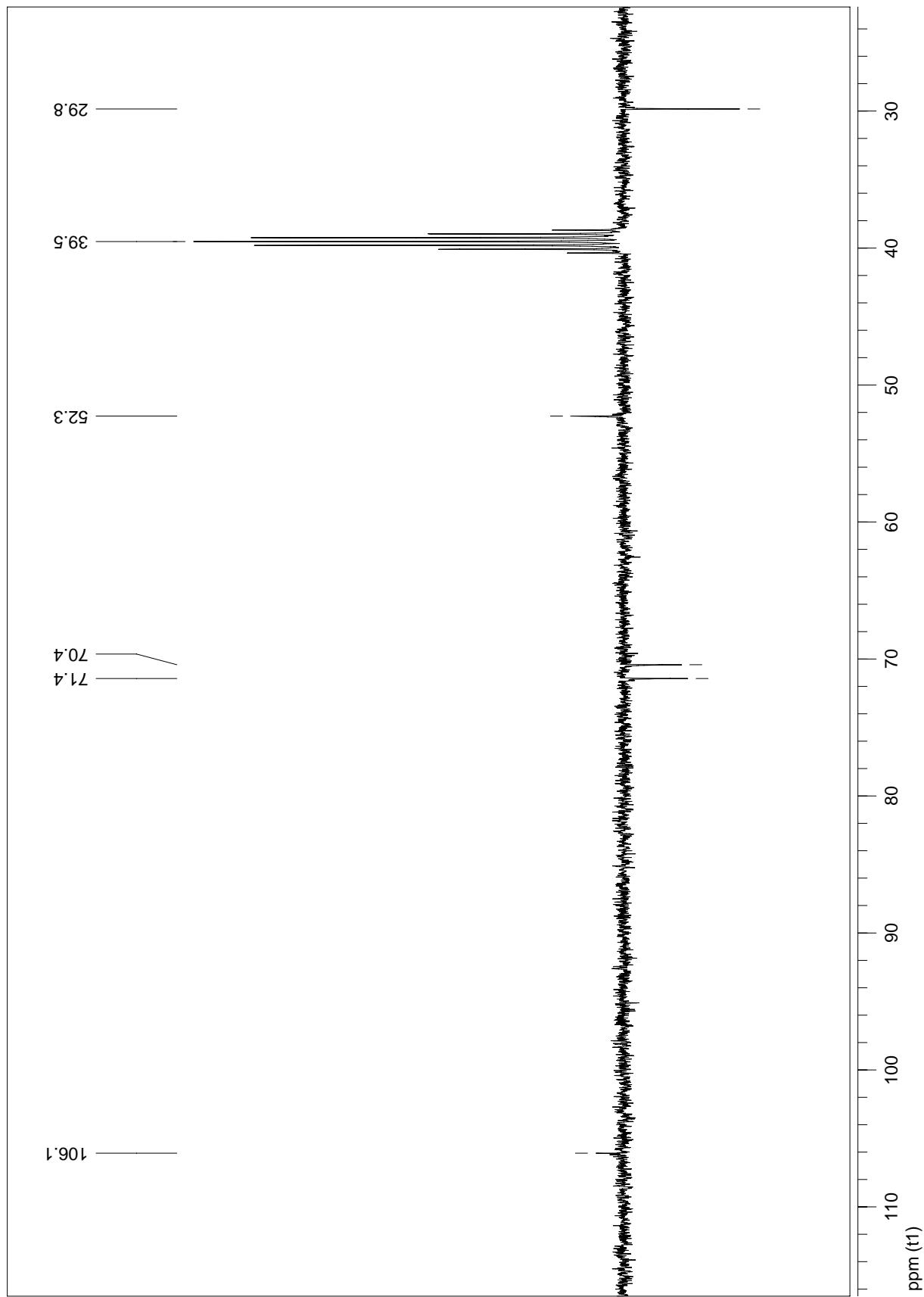
**Figure S2.**  $^{13}\text{C}$  NMR APT spectrum of **1c** (75 MHz,  $\text{DMSO}-d_6$ )



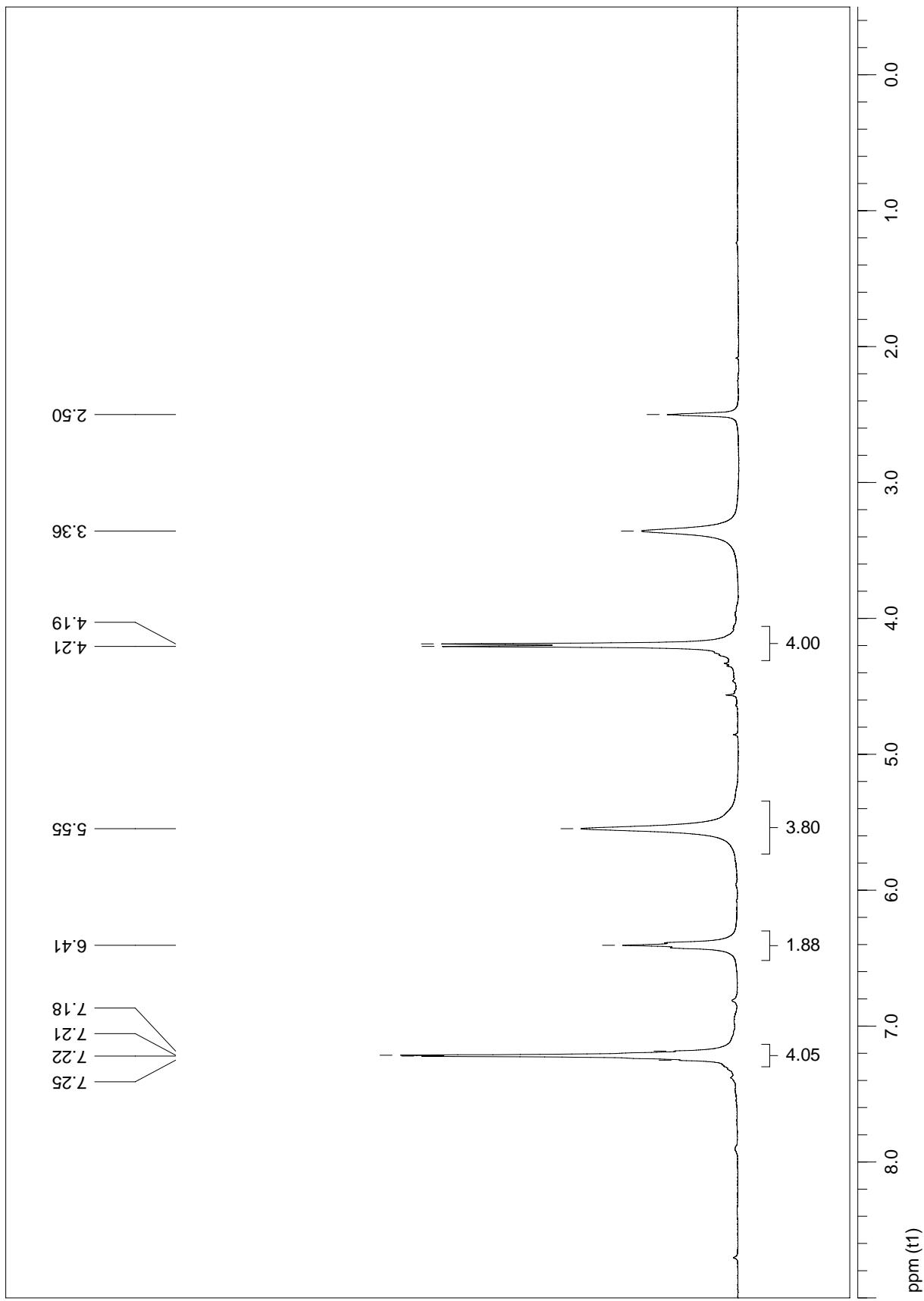
**Figure S3.**  $^1\text{H}$  NMR spectrum of **1d** (300 MHz, DMSO- $d_6$ )



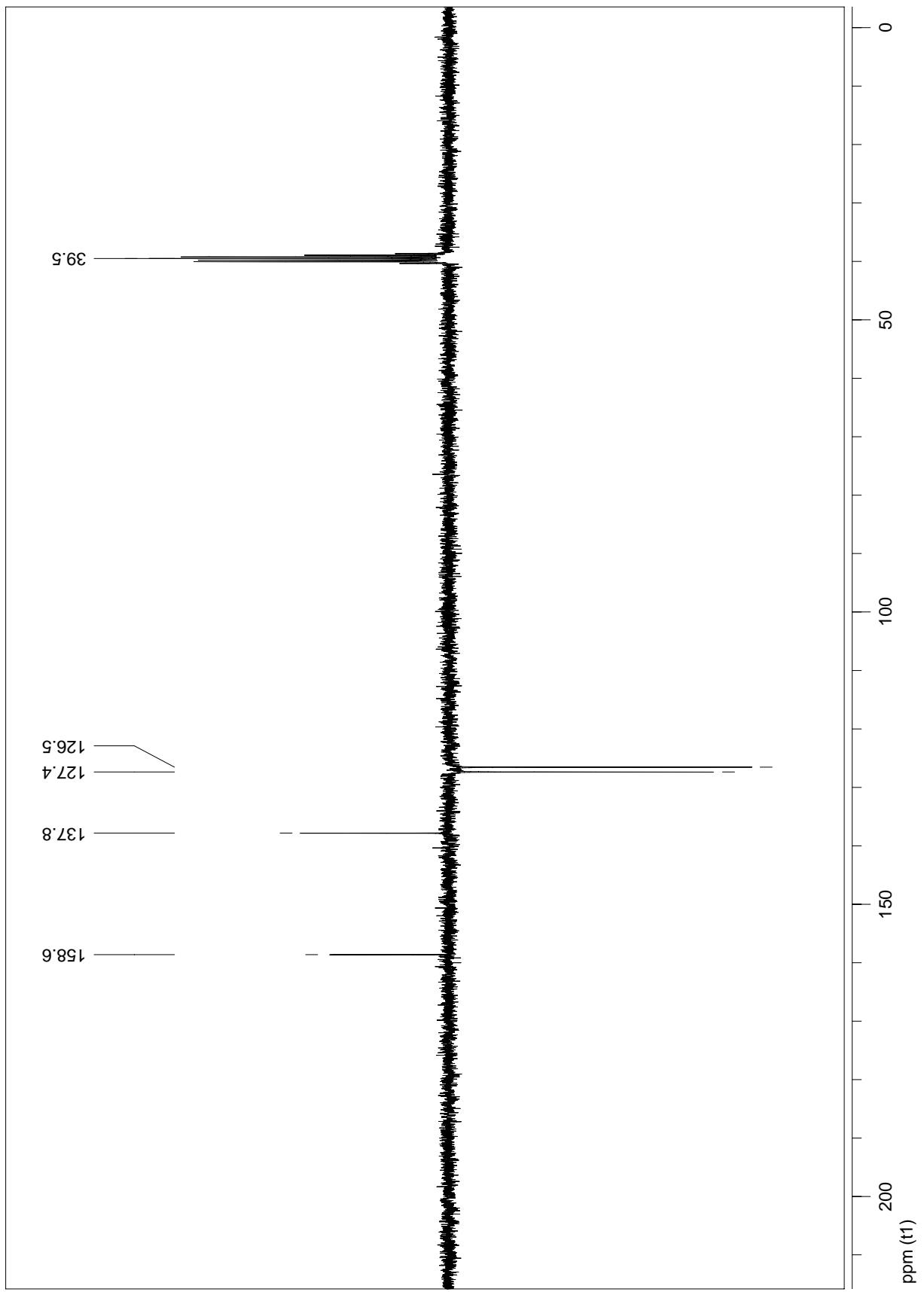
**Figure S4.**  $^{13}\text{C}$  NMR APT spectrum of **1d** (75 MHz,  $\text{DMSO-}d_6$ )



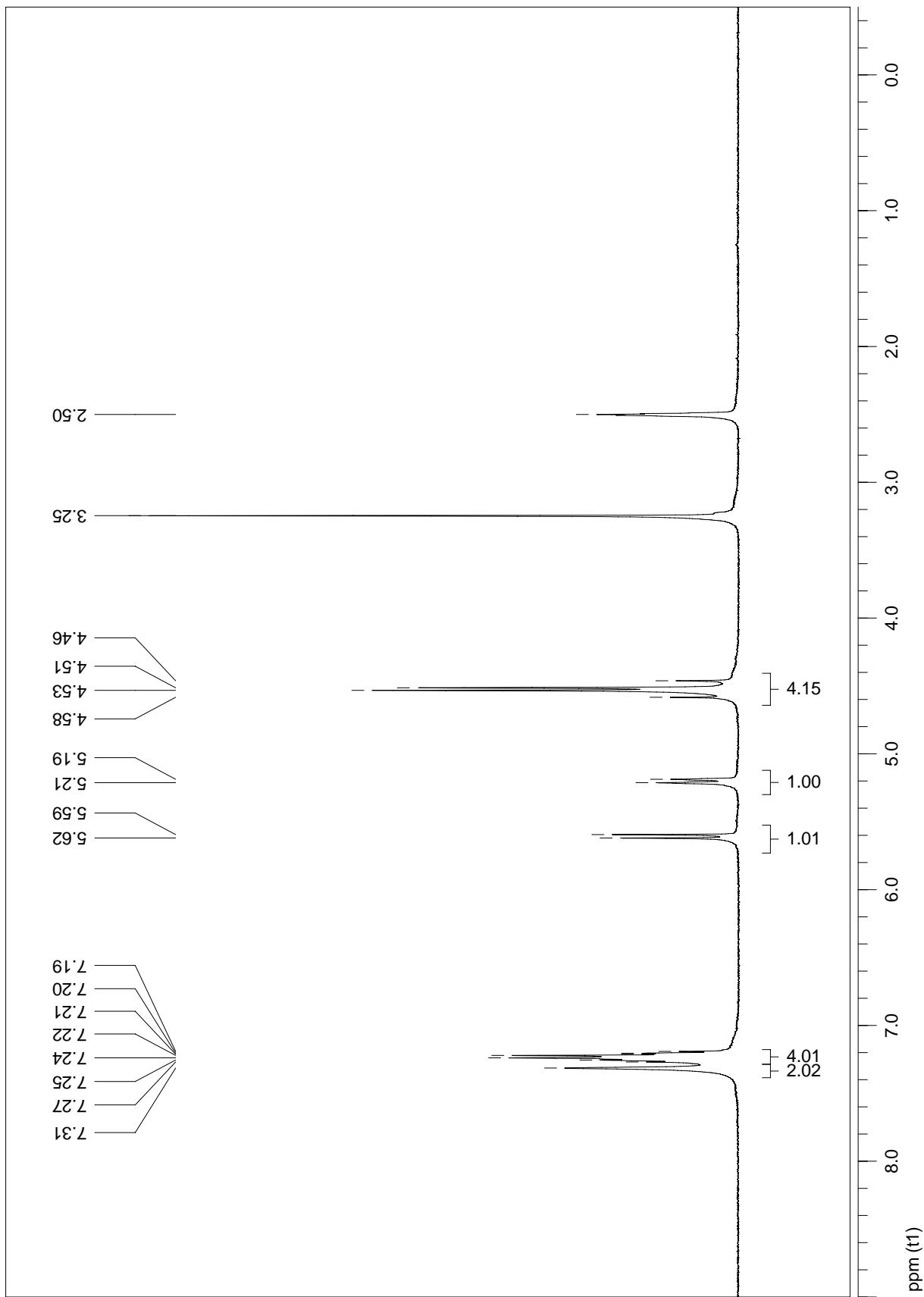
**Figure S5.**  $^1\text{H}$  NMR spectrum of **2a** (300 MHz, DMSO- $d_6$ )



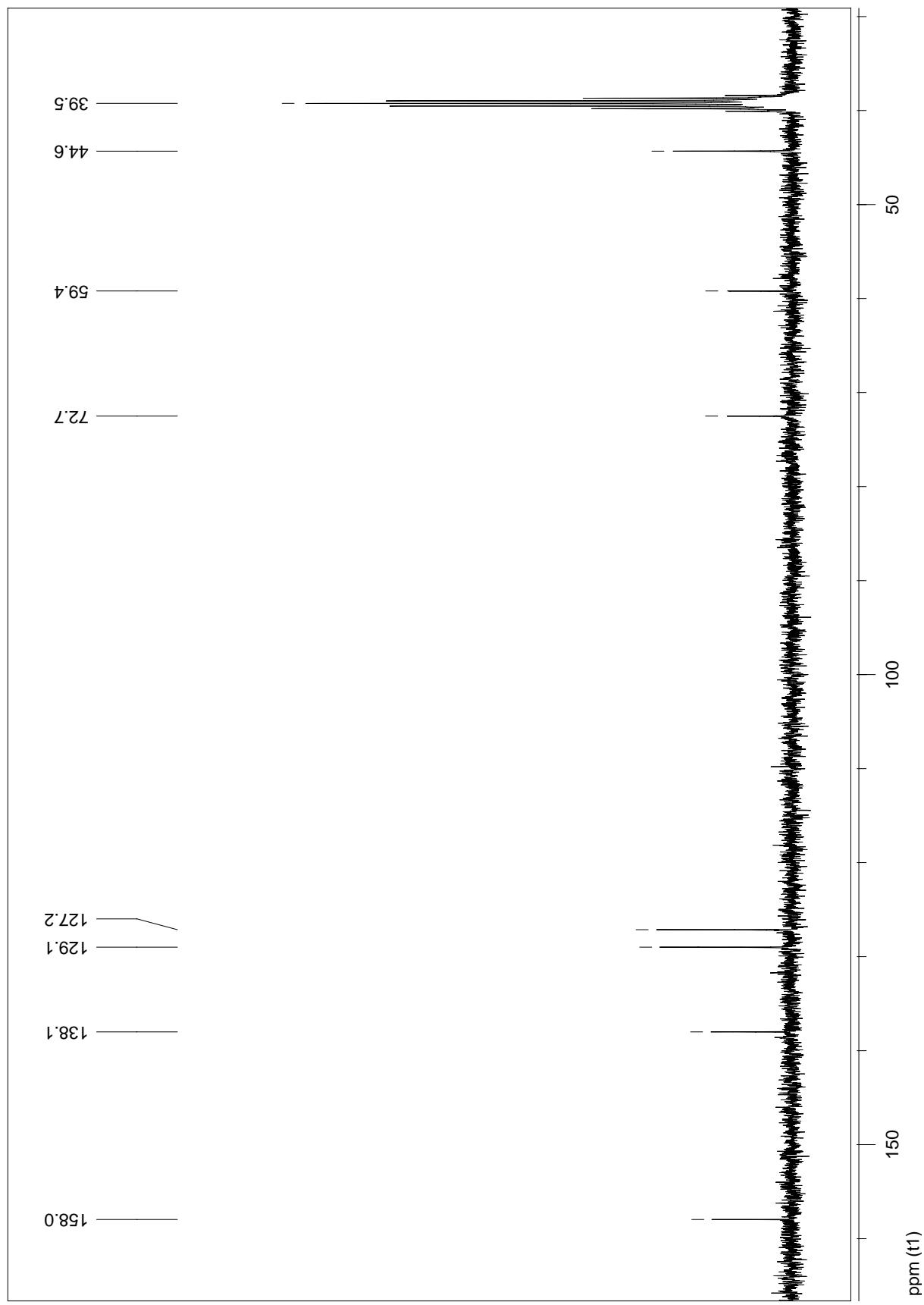
**Figure S6.**  $^{13}\text{C}$  NMR APT spectrum of **2a** (75 MHz,  $\text{DMSO}-d_6$ )



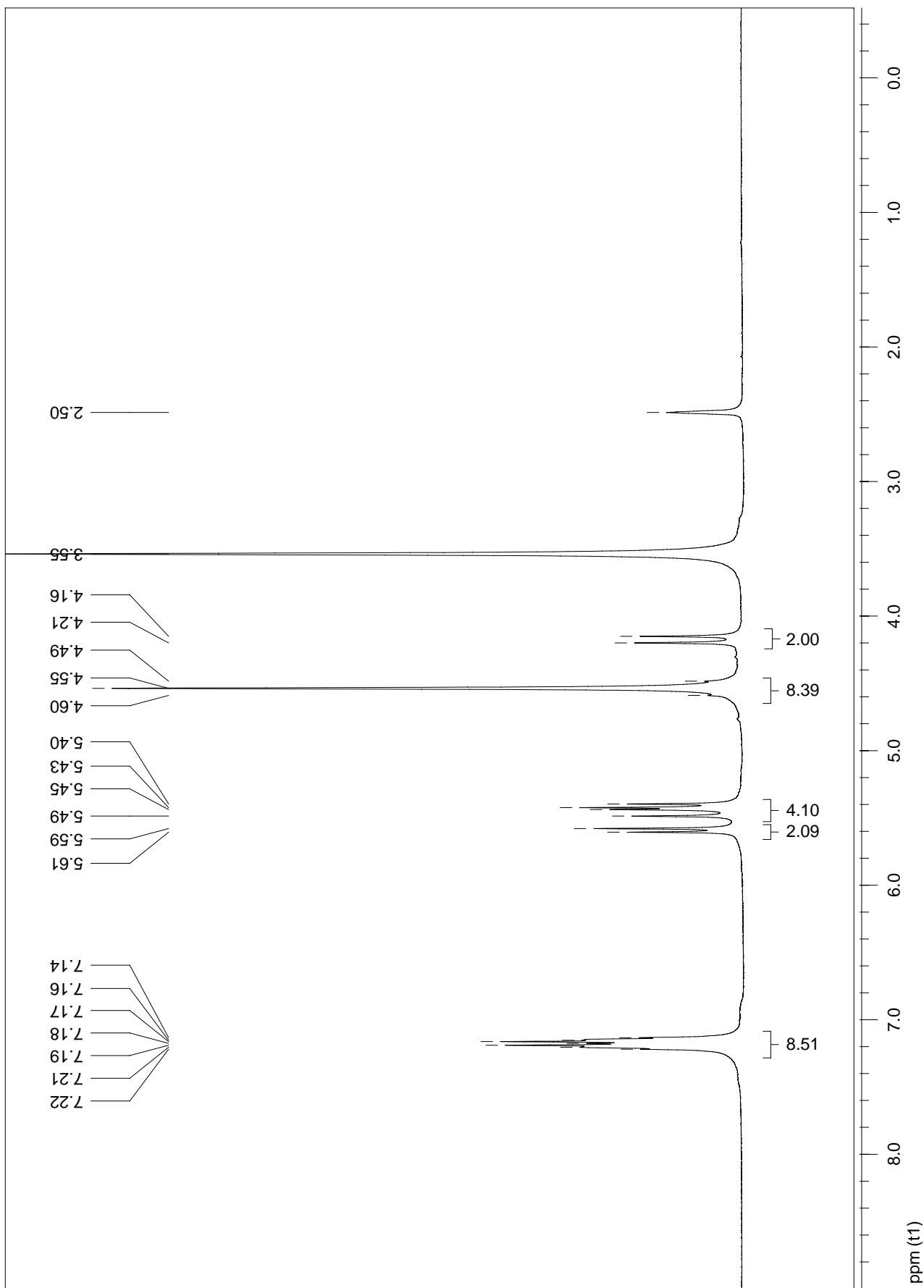
**Figure S7.**  $^1\text{H}$  NMR spectrum of **2b** (300 MHz, DMSO- $d_6$ )



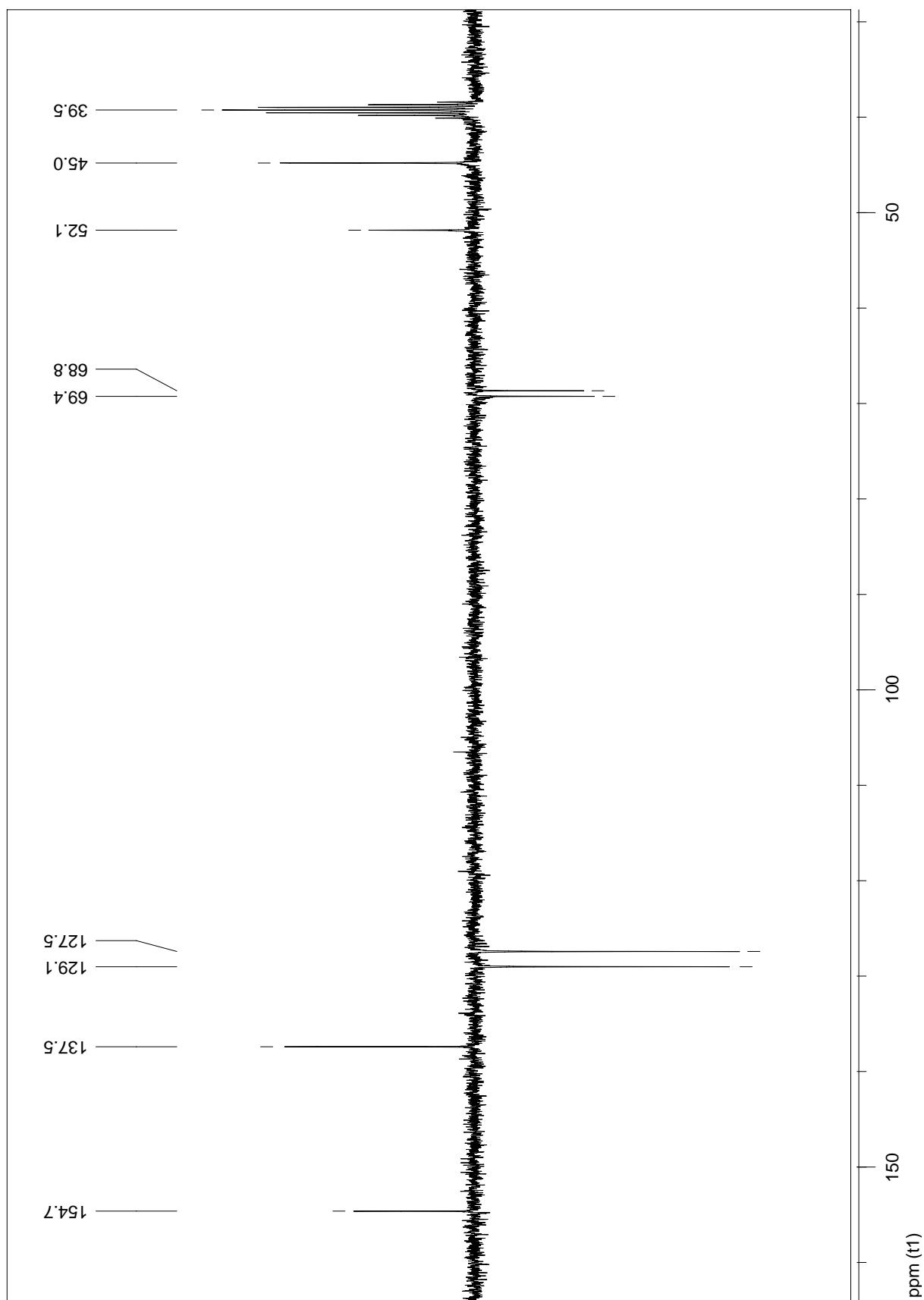
**Figure S8.**  $^{13}\text{C}$  NMR spectrum of **2b** (75 MHz, DMSO- $d_6$ )



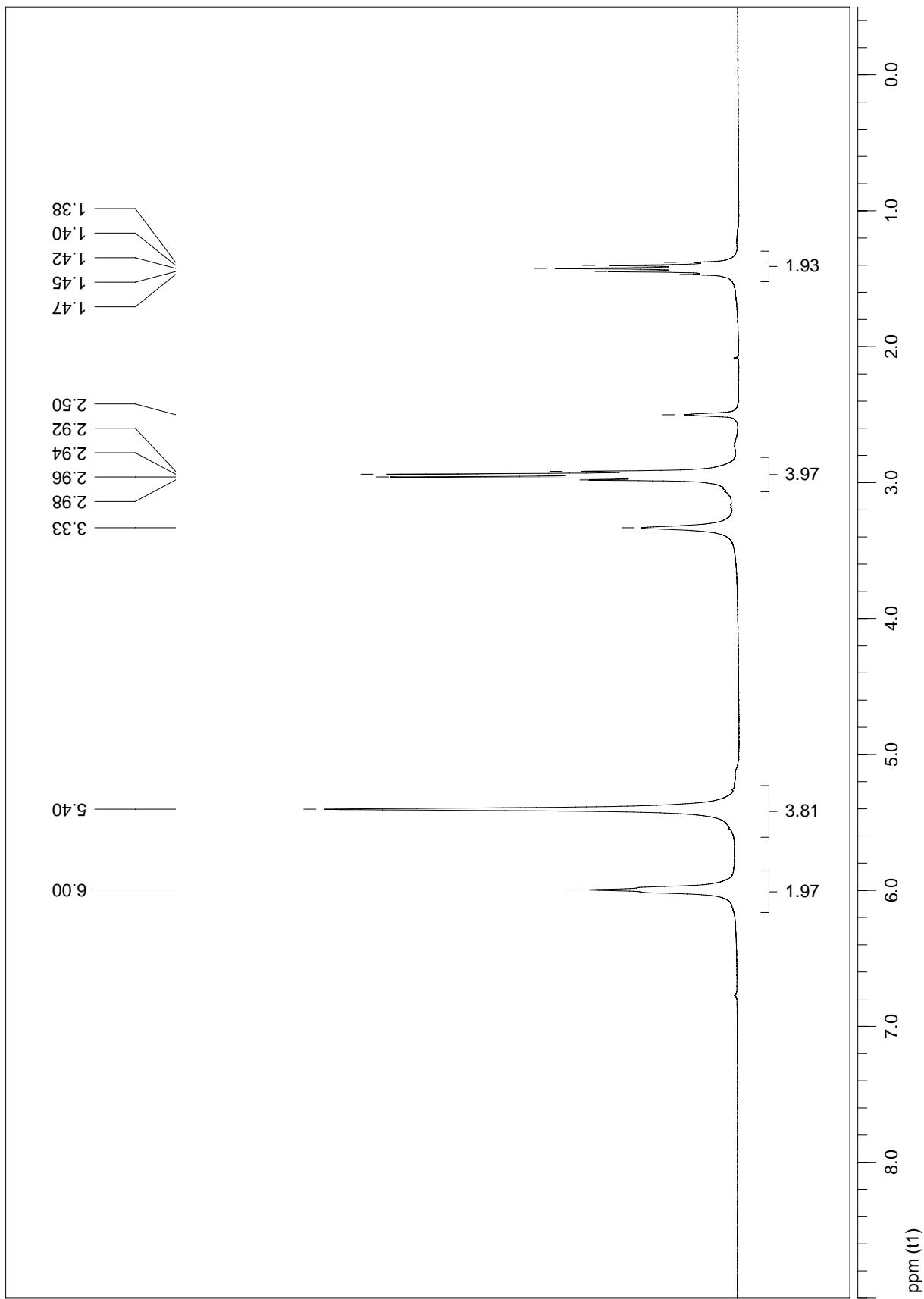
**Figure S9.**  $^1\text{H}$  NMR spectrum of **2c** (300 MHz, DMSO- $d_6$ )



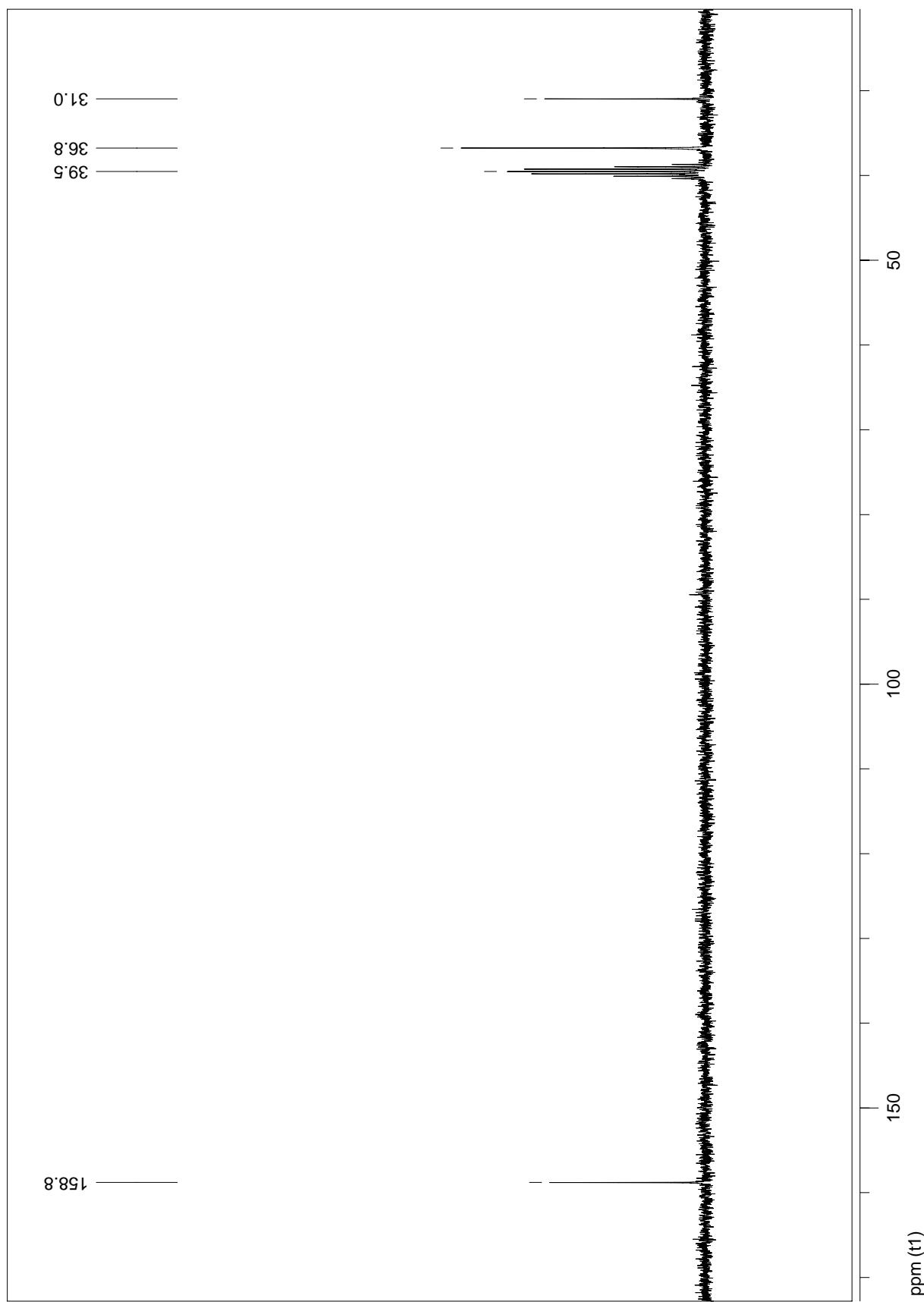
**Figure S10.**  $^{13}\text{C}$  NMR APT spectrum of **2c** (75 MHz, DMSO- $d_6$ )



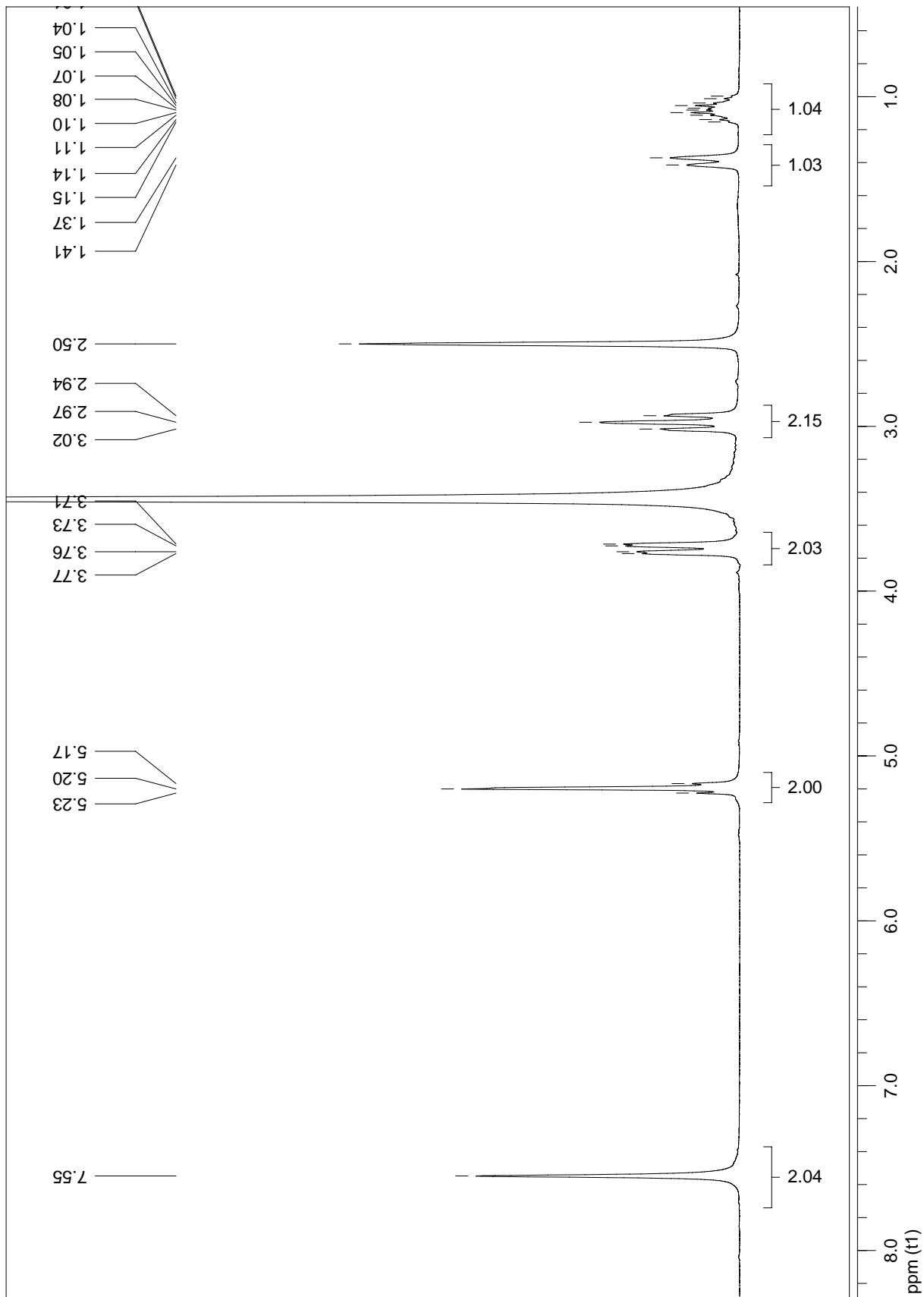
**Figure S11.**  $^1\text{H}$  NMR spectrum of **3a** (300 MHz, DMSO- $d_6$ )



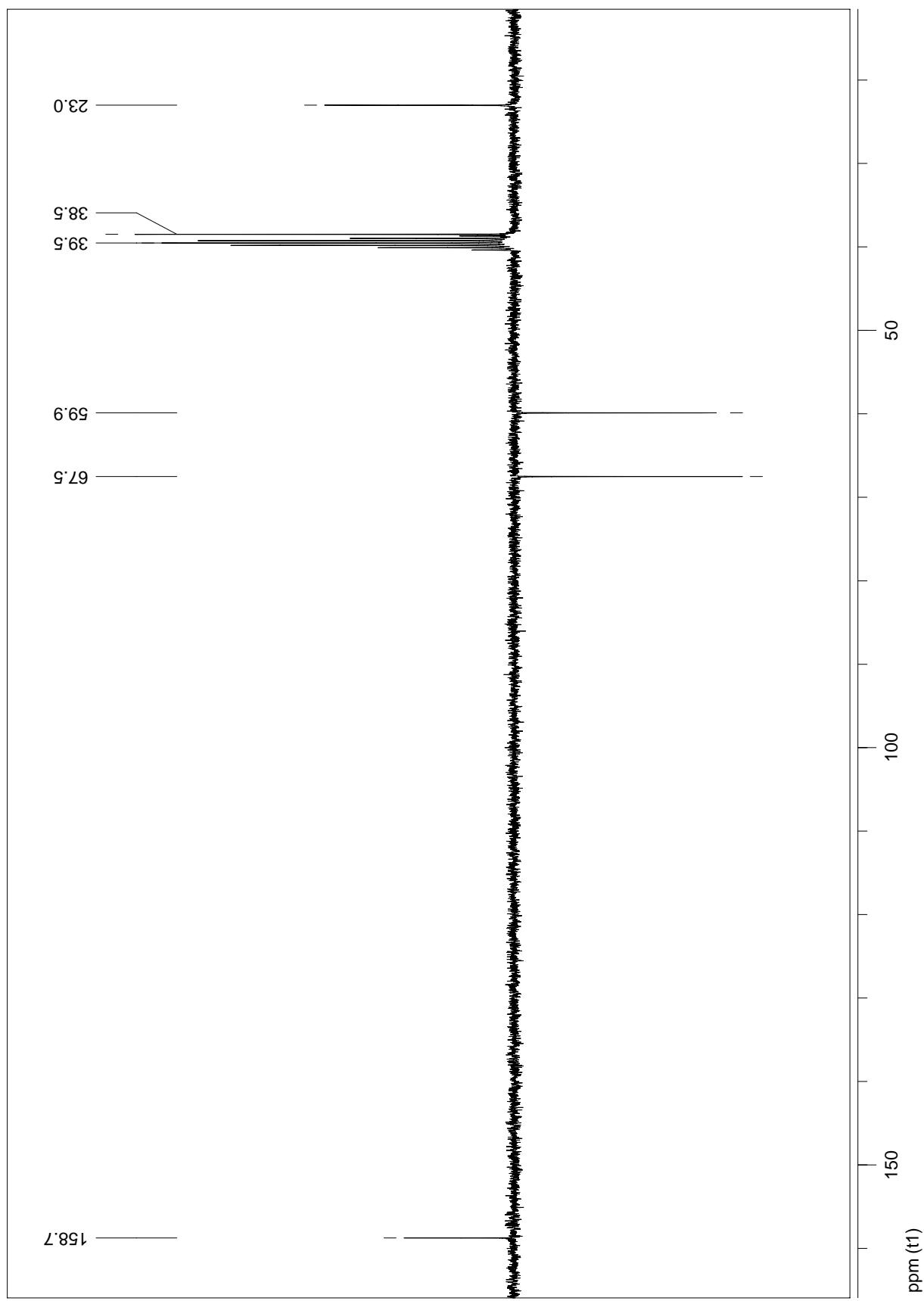
**Figure S12.**  $^{13}\text{C}$  NMR APT spectrum of **3a** (75 MHz,  $\text{DMSO-}d_6$ )



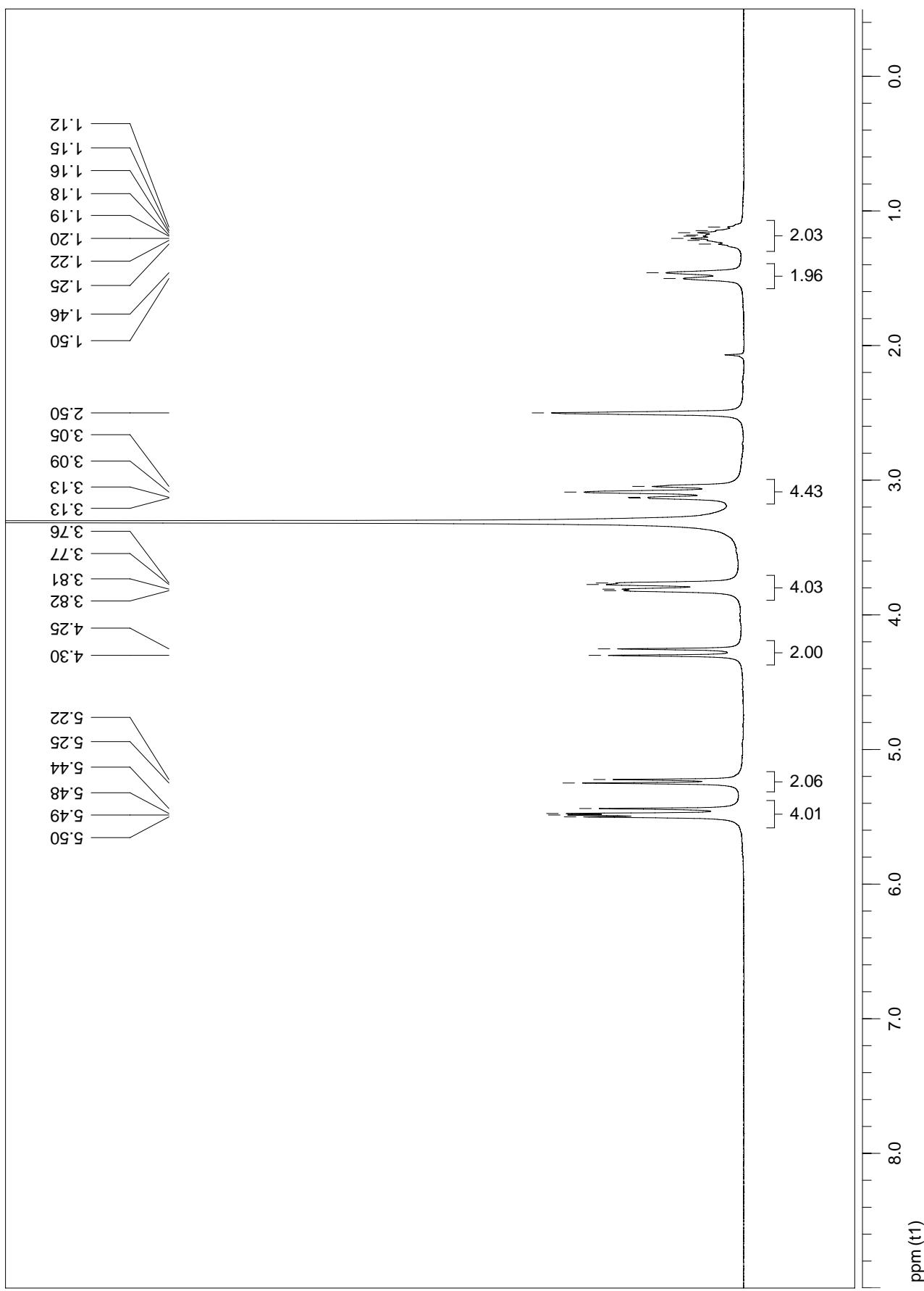
**Figure S13.**  $^1\text{H}$  NMR spectrum of **3b** (300 MHz, DMSO- $d_6$ )



**Figure S14.**  $^{13}\text{C}$  NMR APT spectrum of **3b** (75 MHz, DMSO- $d_6$ )



**Figure S15.**  $^1\text{H}$  NMR spectrum of **3c** (300 MHz, DMSO- $d_6$ )



**Figure S16.**  $^{13}\text{C}$  NMR APT spectrum of **3e** (75 MHz, DMSO- $d_6$ )

