

## Supplementary Material

# Synthesis, Stability and Relaxivity of TEEPO-Met: An Organic Radical as a Potential Tumour Targeting Contrast Agent for Magnetic Resonance Imaging

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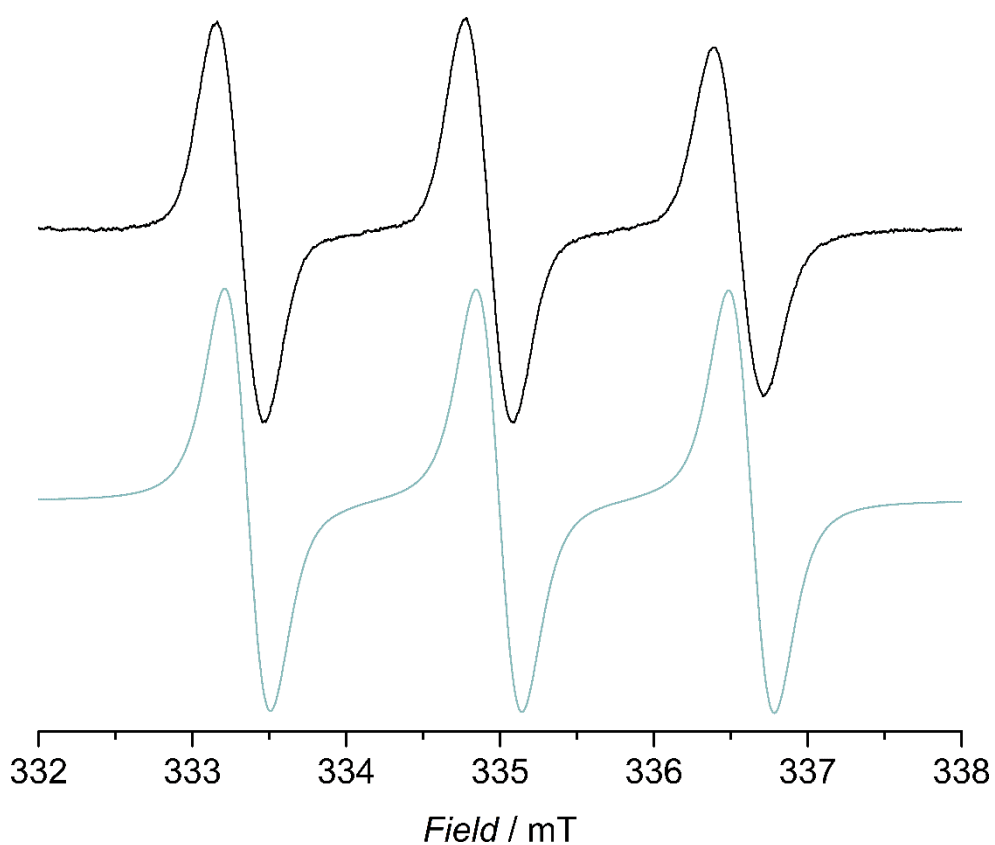
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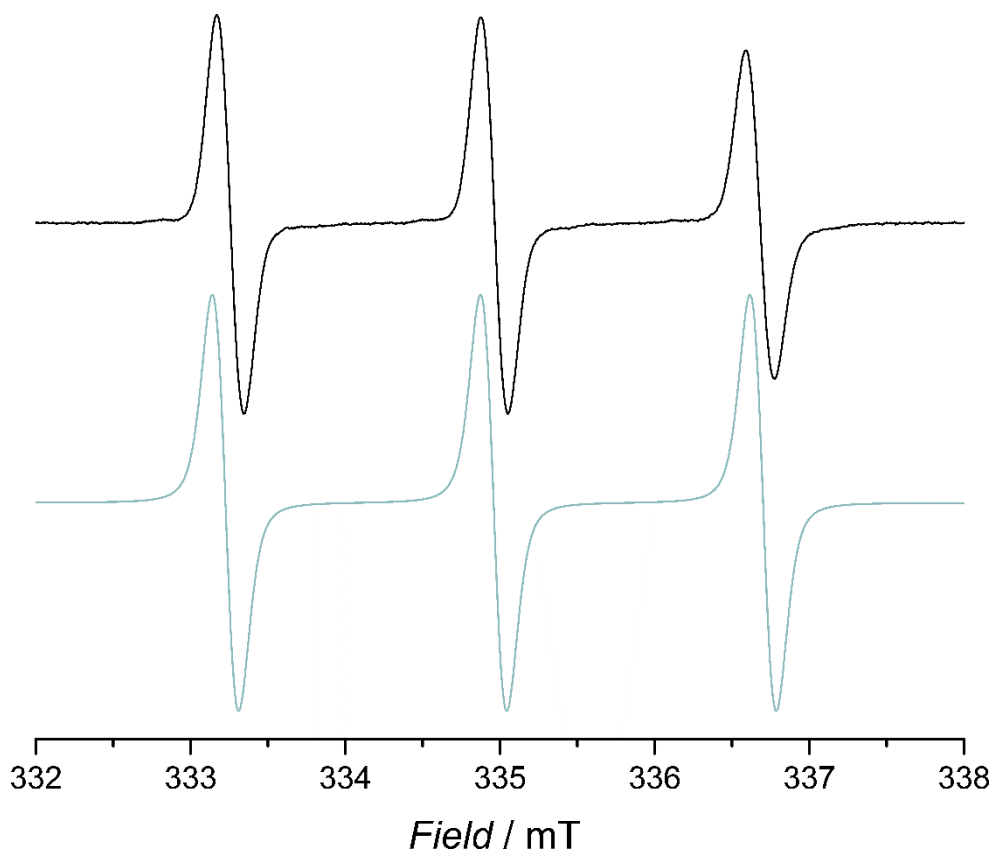
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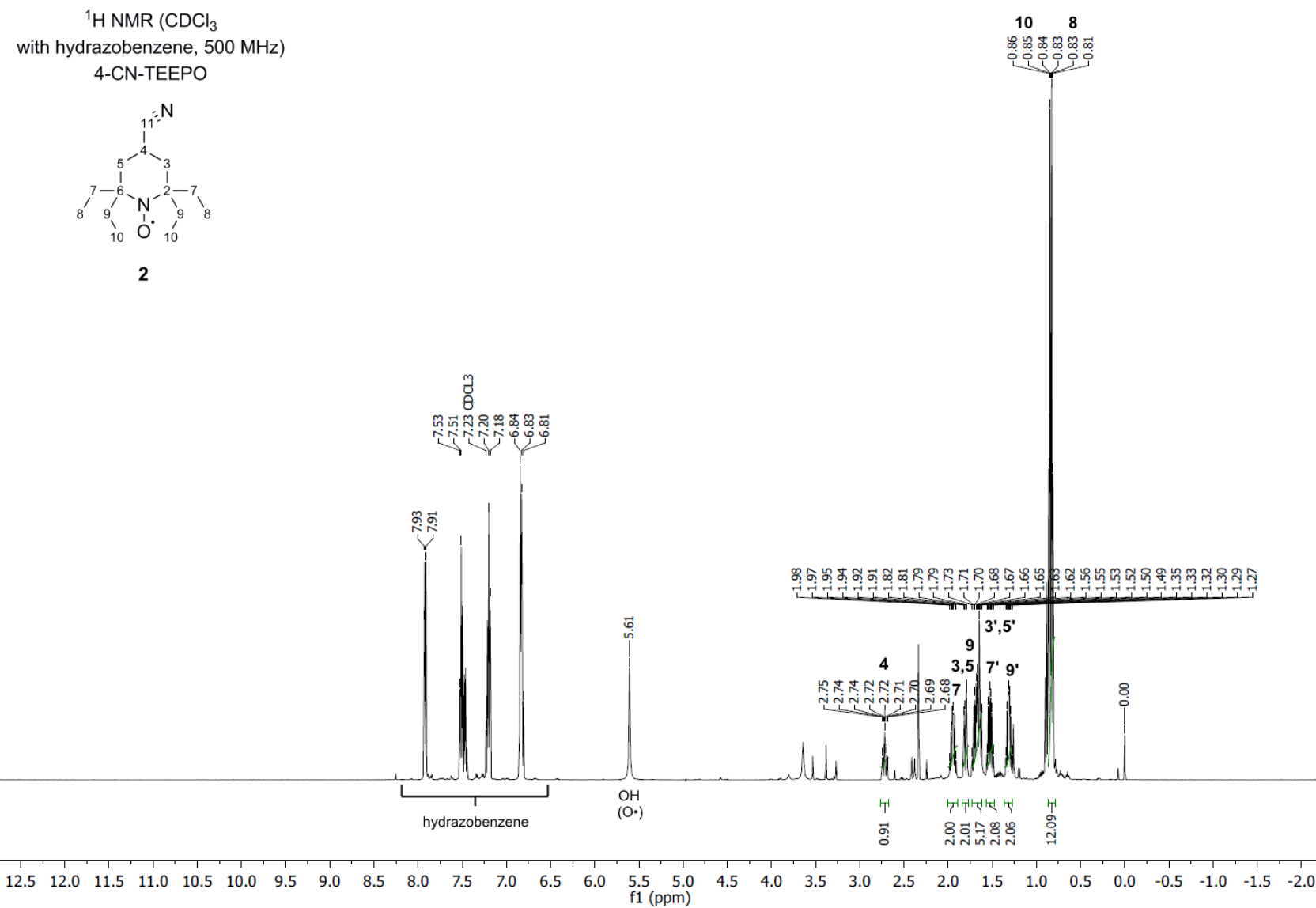
|                                                    |    |
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| EPR spectra of compounds 5 and 7 (Fig S1-S2) ..... | S2 |
| NMR spectra of compounds 2-7 (Fig S3-S14) .....    | S3 |



**Figure S1.** Solution-state X-band EPR spectrum of 4-[(L-Methionine)carbonyl]-2,2,6,6-tetraethylpiperidin-1-oxyl (TEEPO-Met, **5**) in PBS (black) and simulated EPR spectrum (green).

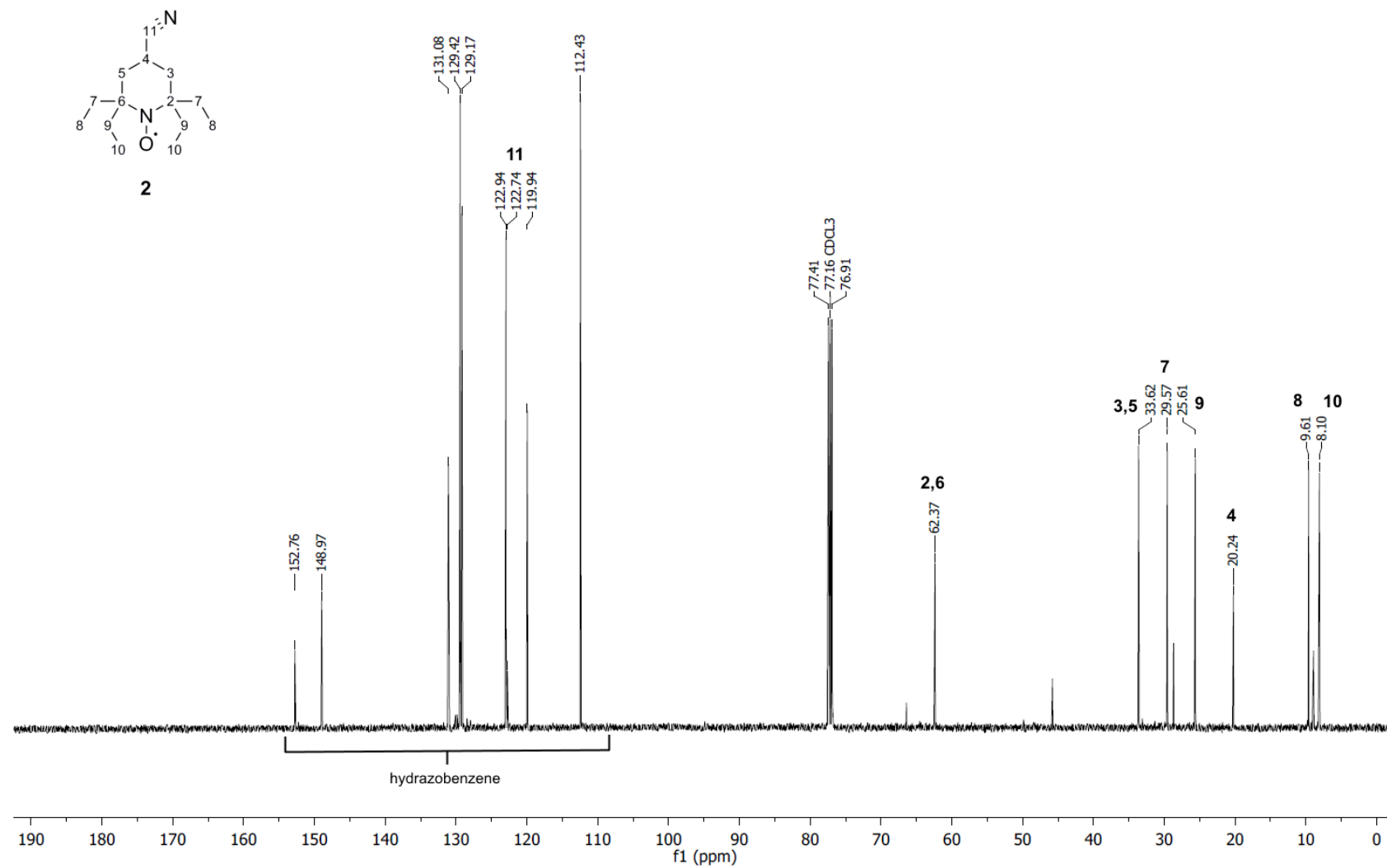


**Figure S2.** Solution-state X-band EPR spectrum of 4-[(L-Methionine)carbonyl]-2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO-Met, **7**) in PBS (black) and simulated EPR spectrum (green).

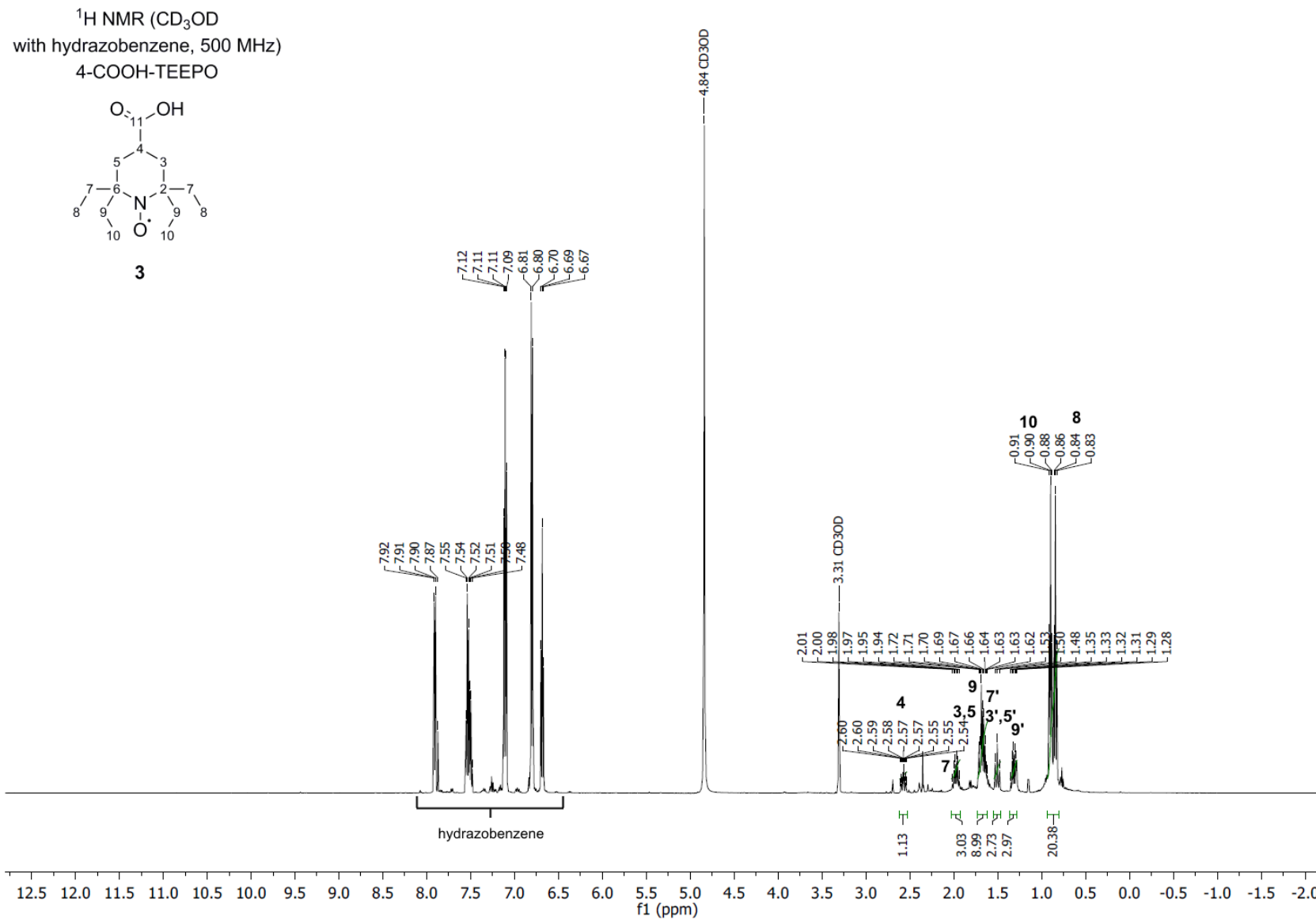


**Figure S3.** <sup>1</sup>H spectrum of 4-Carbonitrile-2,2,6,6-tetraethylpiperidin-1-oxyl (4-CN-TEEPO, **2**) in CDCl<sub>3</sub>.

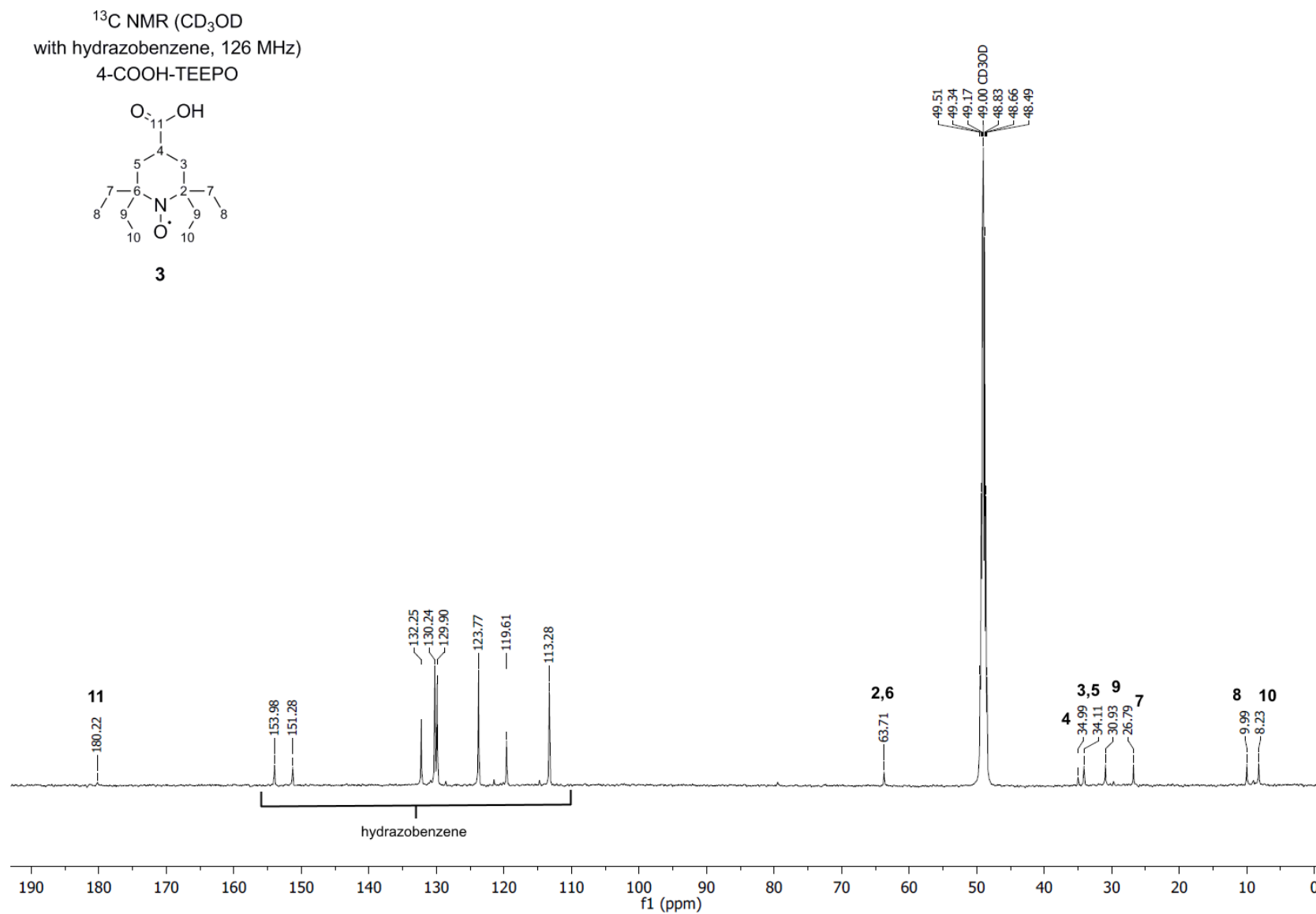
$^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )  
with hydrazobenzene, 126 MHz  
4-CN-TEEPO



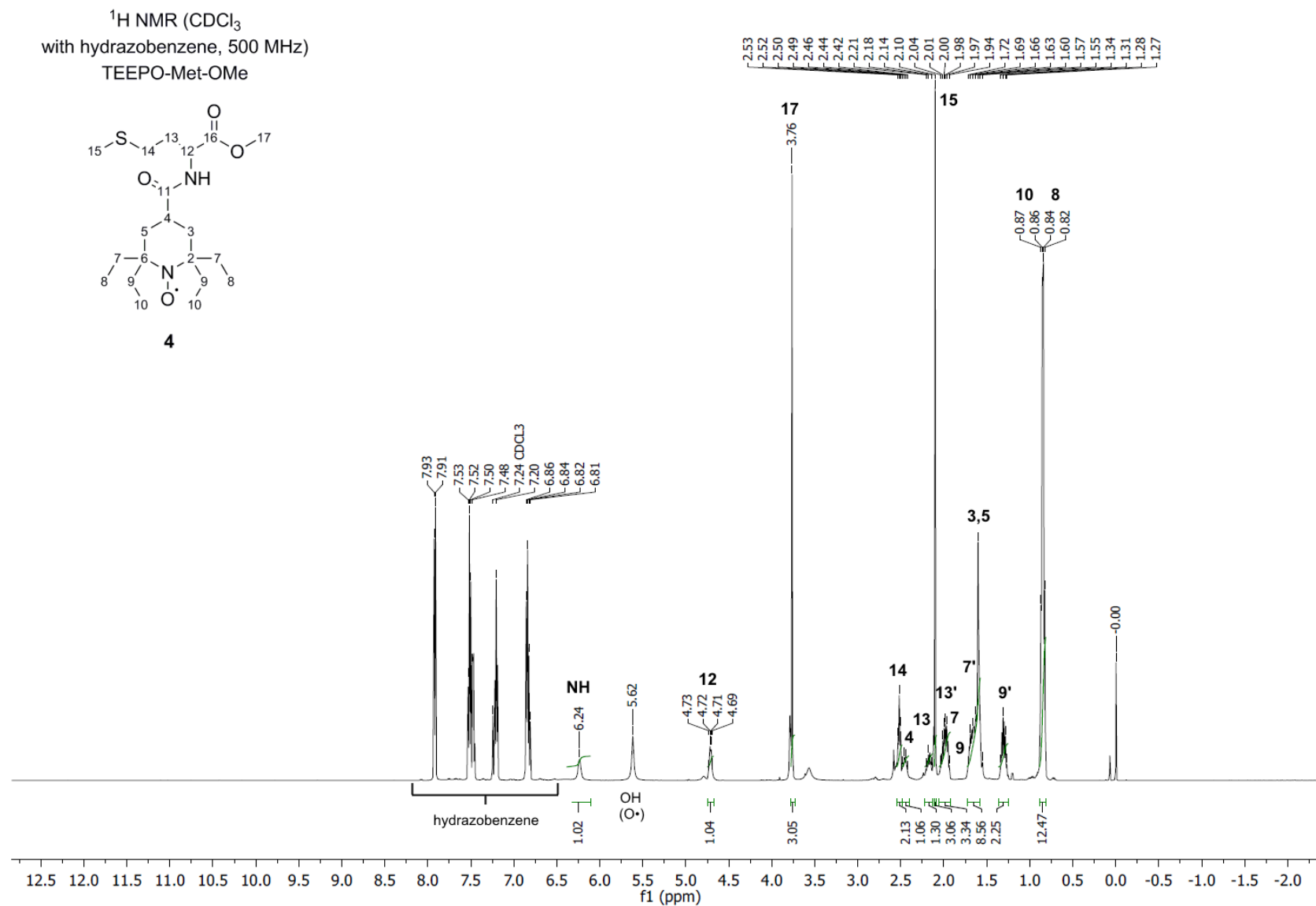
**Figure S4.**  $^{13}\text{C}$  spectrum of 4-Carbonitrile-2,2,6,6-tetraethylpiperidin-1-oxyl ((4-CN-TEEPO, 2) in  $\text{CDCl}_3$ .



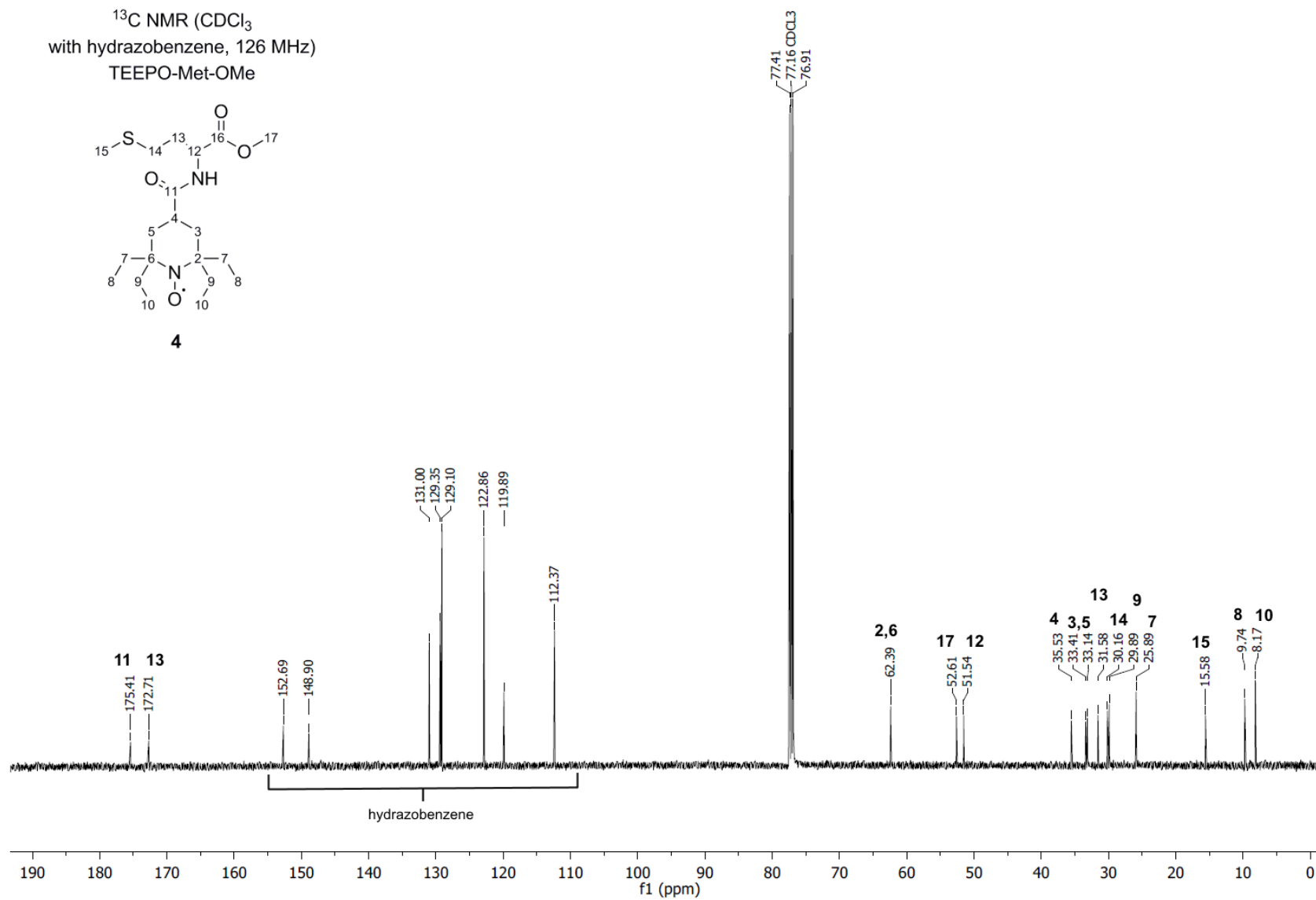
**Figure S5.**  $^1\text{H}$  spectrum of 4-Carboxy-2,2,6,6-tetraethylpiperidin-1-oxyl (4-COOH-TEEPO, **3**) in  $\text{CD}_3\text{OD}$ .



**Figure S6.**  $^{13}\text{C}$  spectrum of 4-Carboxy-2,2,6,6-tetraethylpiperidin-1-oxyl (4-COOH-TEEPO, **3**) in  $\text{CD}_3\text{OD}$ .

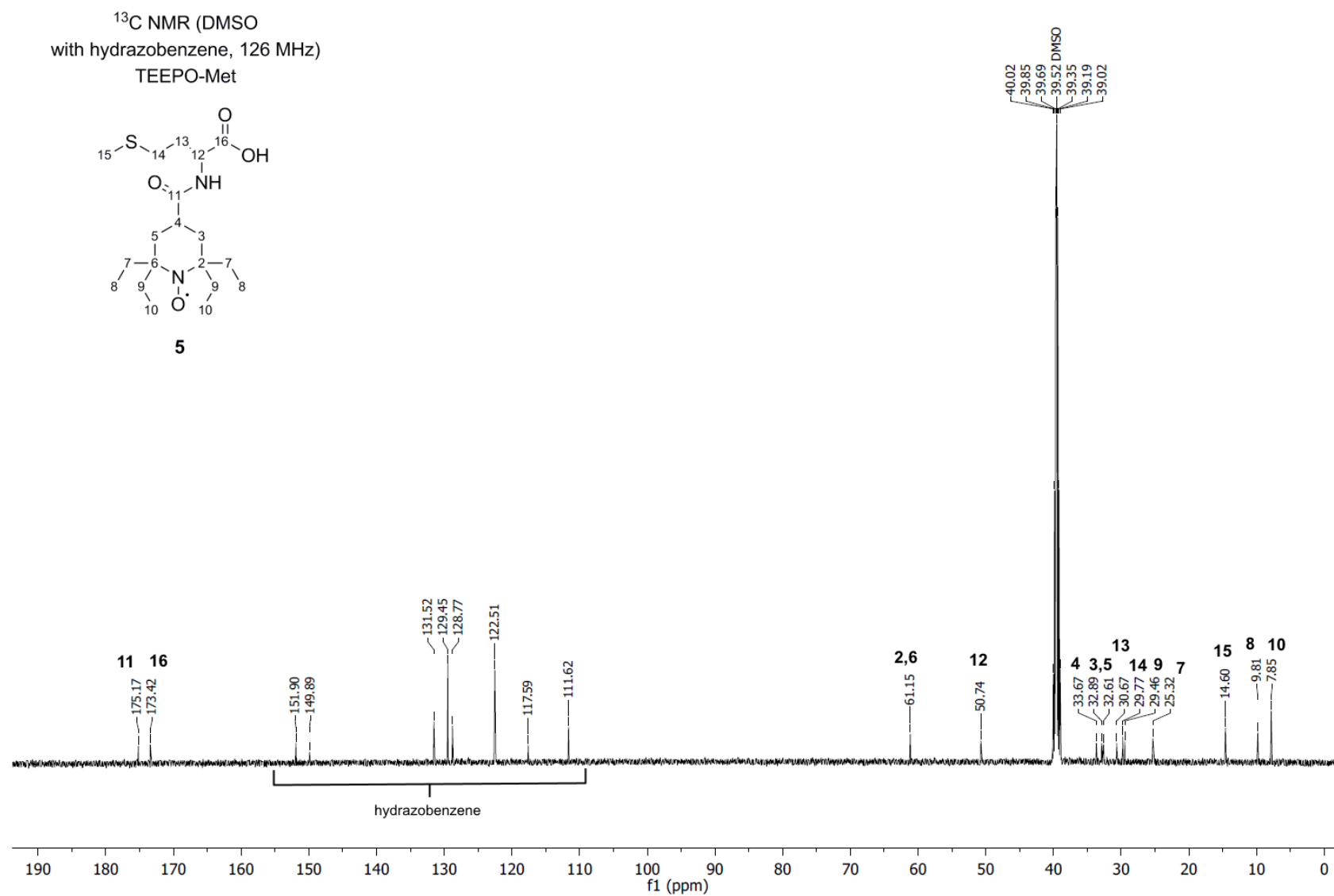


**Figure S7.** <sup>1</sup>H spectrum of 4-[(L-Methionine methyl ester)carbonyl]-2,2,6,6-tetraethylpiperidin-1-oxyl (TEEPO-Met-OMe, **4**) in CDCl<sub>3</sub>.

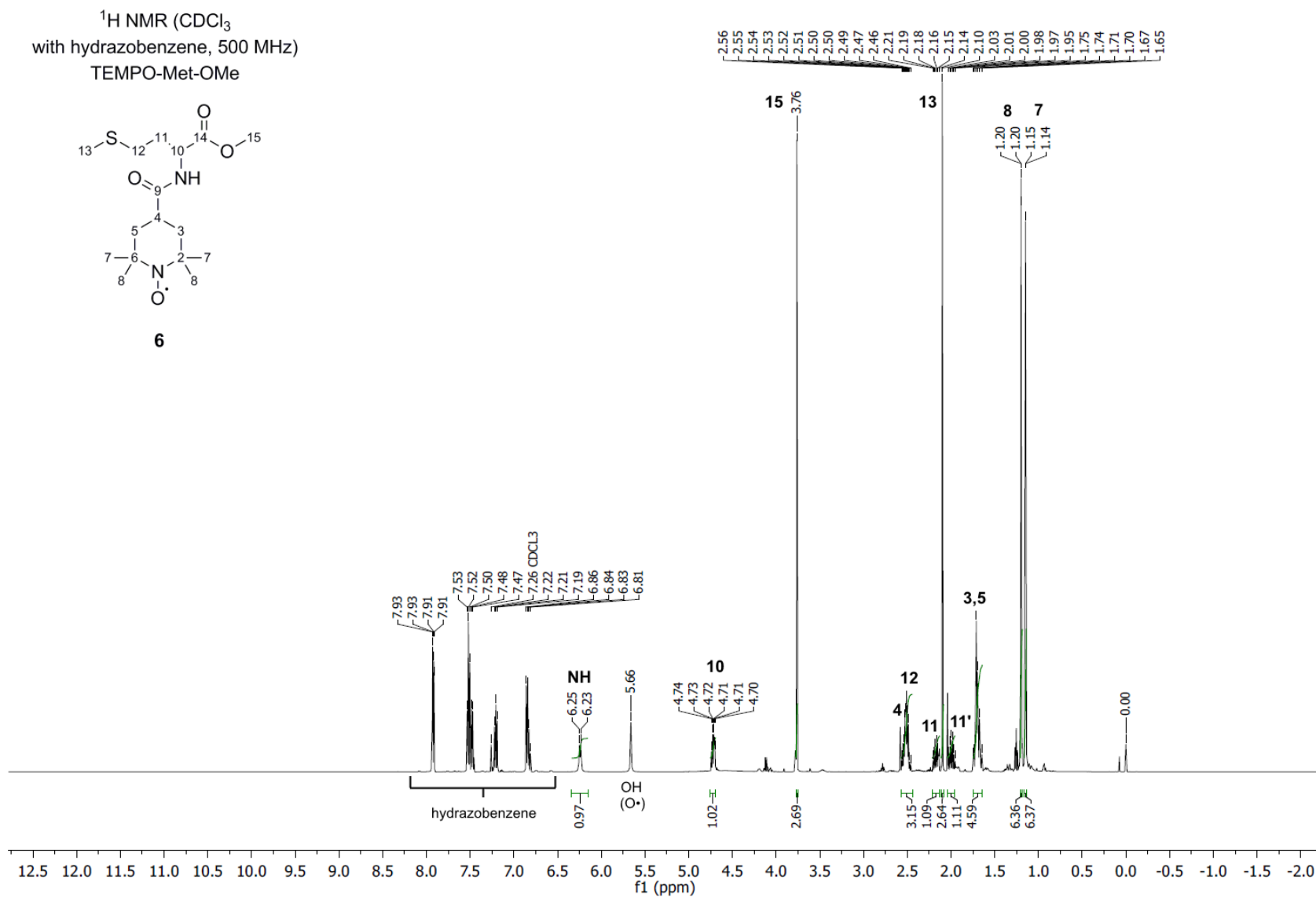


**Figure S8.** <sup>13</sup>C spectrum of 4-[(L-Methionine methyl ester)carbonyl]-2,2,6,6-tetraethylpiperidin-1-oxyl (TEEPO-Met-OMe, **4**) in CDCl<sub>3</sub>.

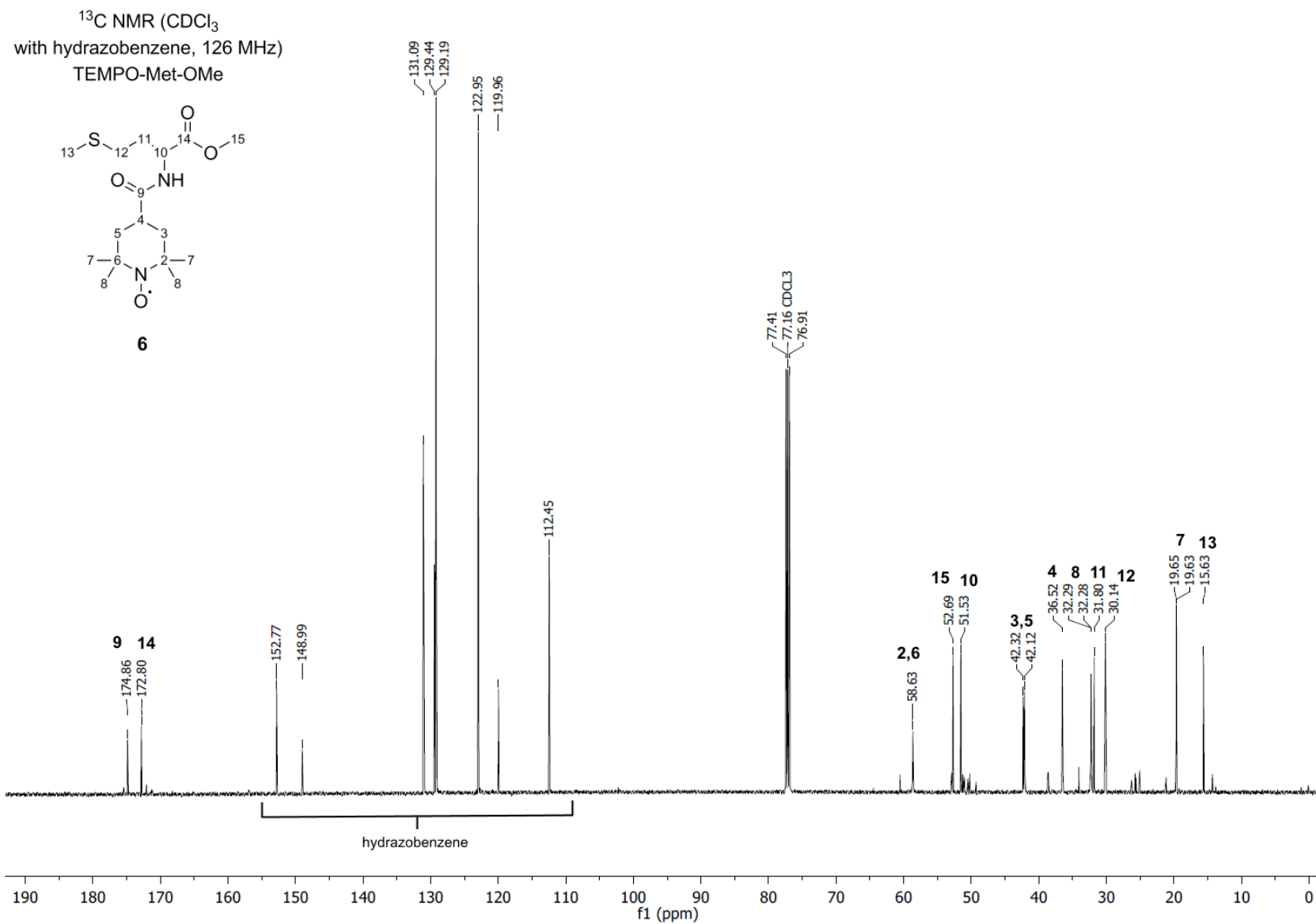




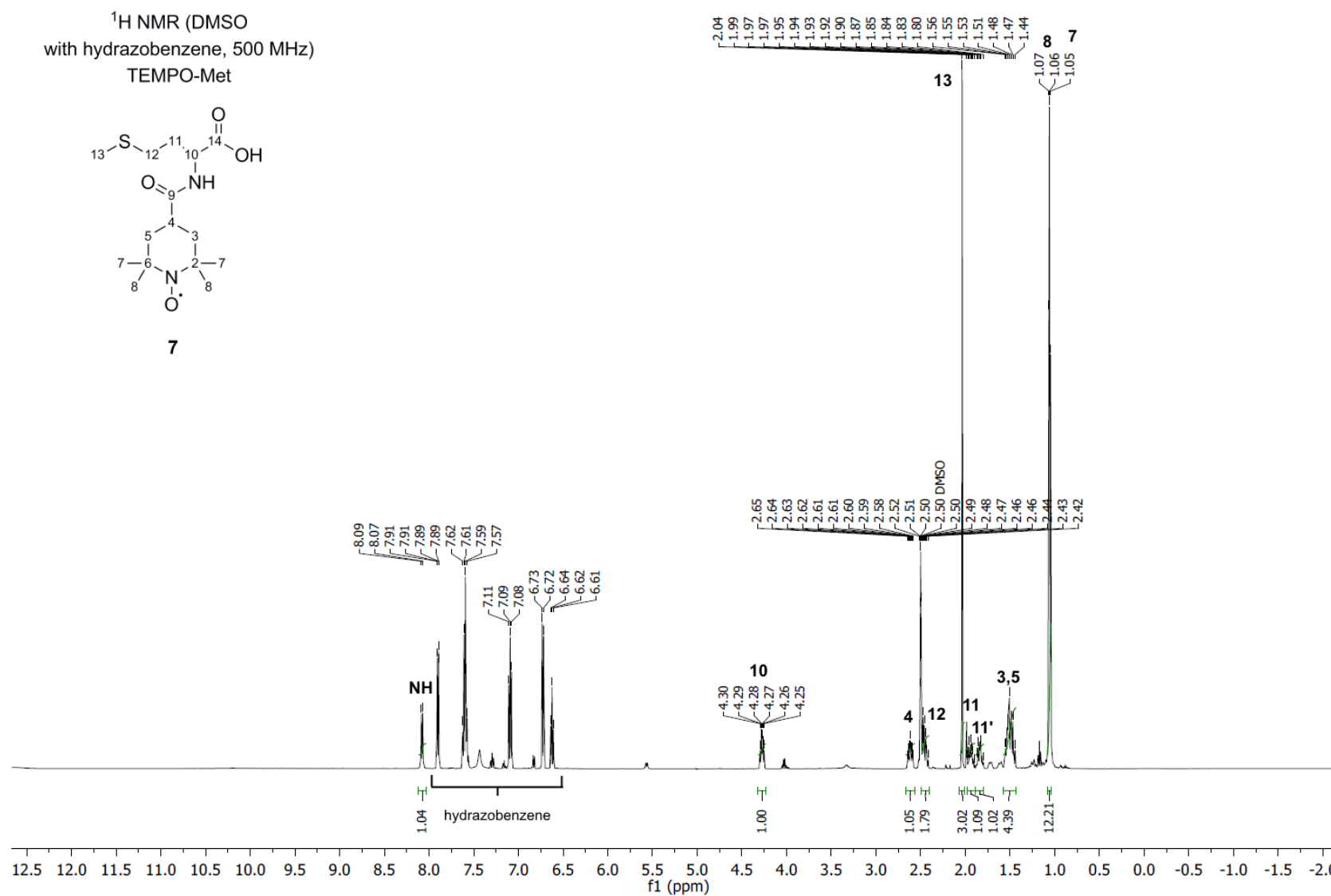
**Figure S10.** <sup>13</sup>C spectrum of 4-[(L-Methionine)carbonyl]-2,2,6,6-tetraethylpiperidin-1-oxyl (TEEPO-Met, **5**) in DMSO.



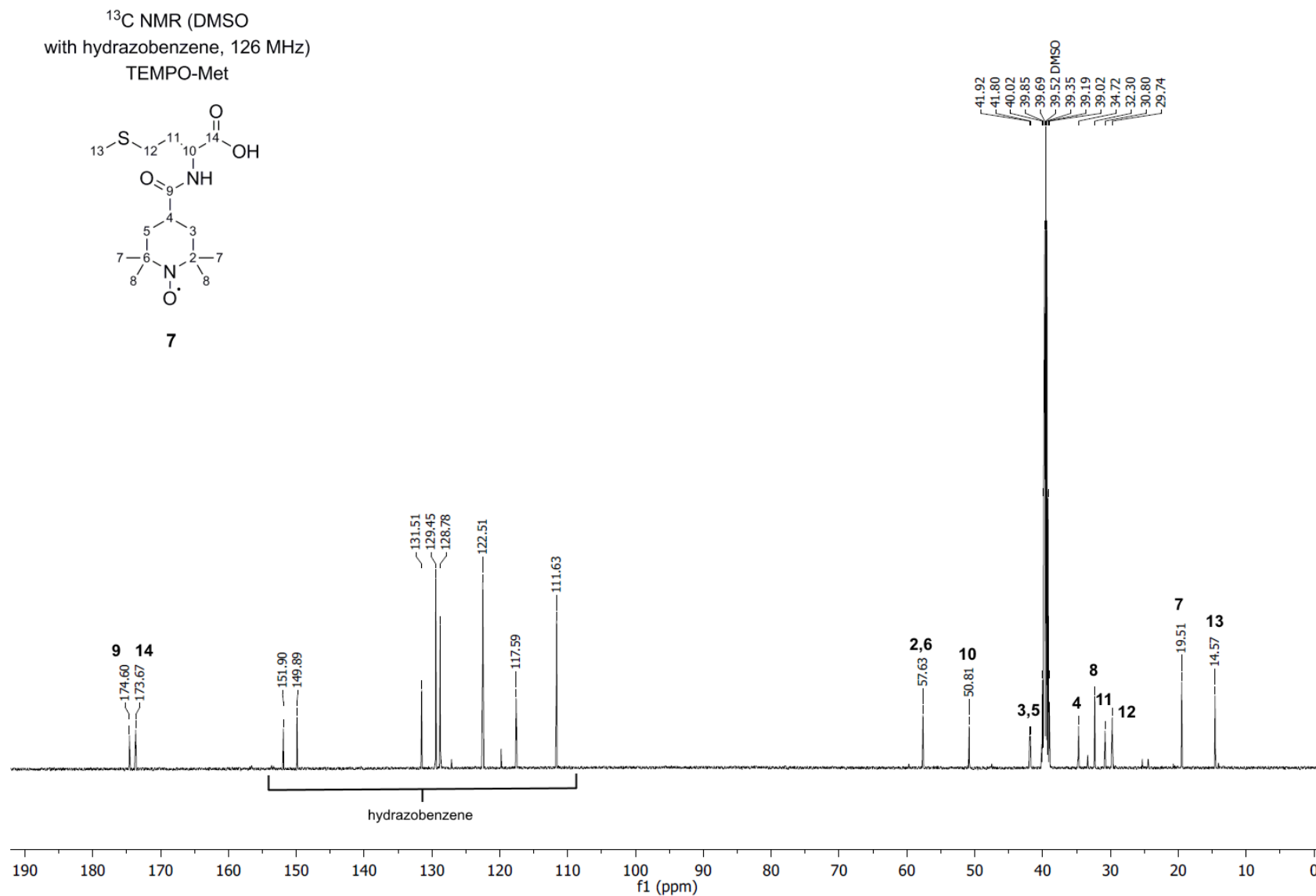
**Figure S11.** <sup>1</sup>H spectrum of 4-[(L-Methionine methyl ester)carbonyl]-2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO-Met-OMe, **6**) in CDCl<sub>3</sub>.



**Figure S12.** <sup>13</sup>C spectrum of 4-[(L-Methionine methyl ester)carbonyl]-2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO-Met-OMe, 6) in CDCl<sub>3</sub>.



**Figure S13.** <sup>1</sup>H spectrum of 4-[(L-Methionine)carbonyl]-2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO-Met, 7) in DMSO.



**Figure S14.** <sup>13</sup>C spectrum of 4-[(L-Methionine)carbonyl]-2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO-Met, 7) in DMSO.