

## Supplementary Material

### Multi-gram synthesis of precursors of *bibrachial* diaza-paracyclophanes. Complexes with Zn<sup>2+</sup>, Cu<sup>2+</sup> and Co<sup>2+</sup> ions

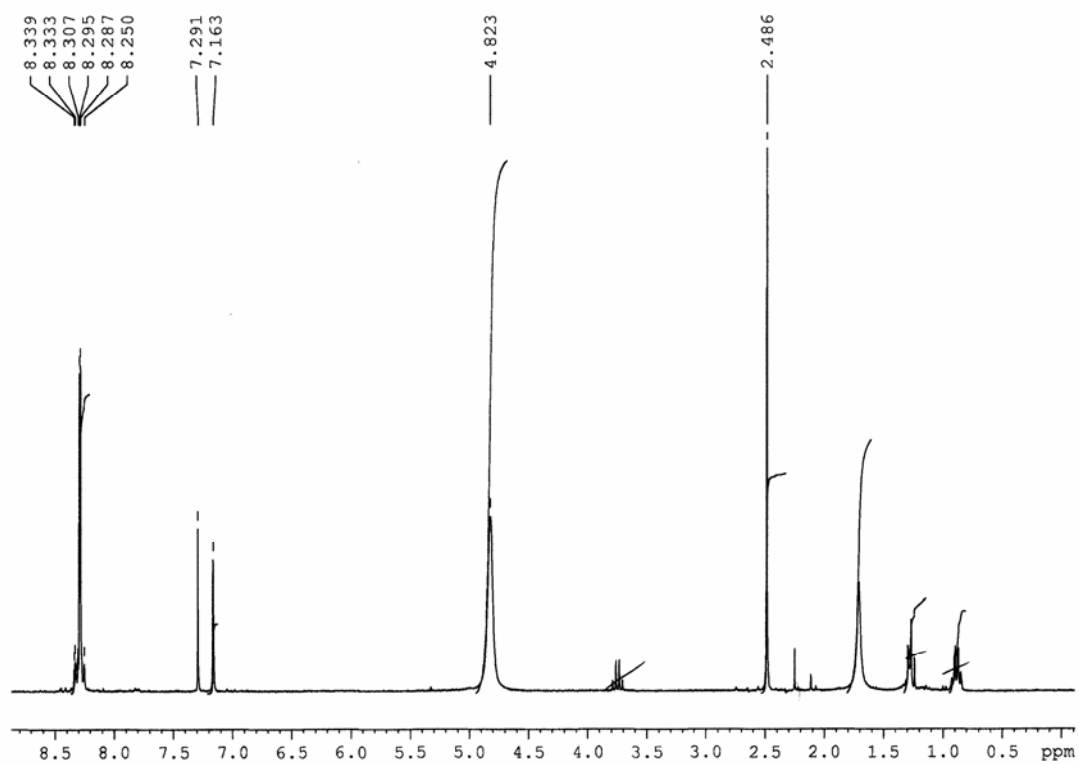
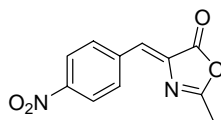
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*Departamento de Química Orgánica y Farmacéutica, Facultad de Farmacia, Universidad Complutense, 28040 Madrid (Spain)*

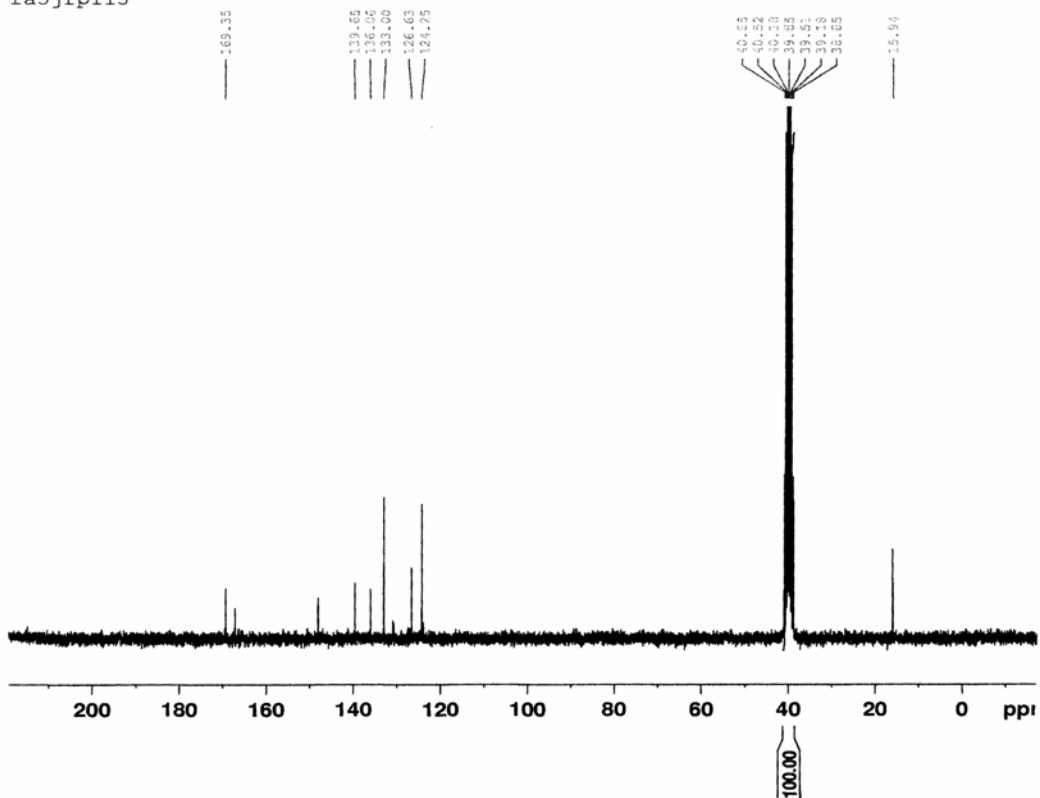
*E-mail: [avendano@farm.ucm.es](mailto:avendano@farm.ucm.es)*

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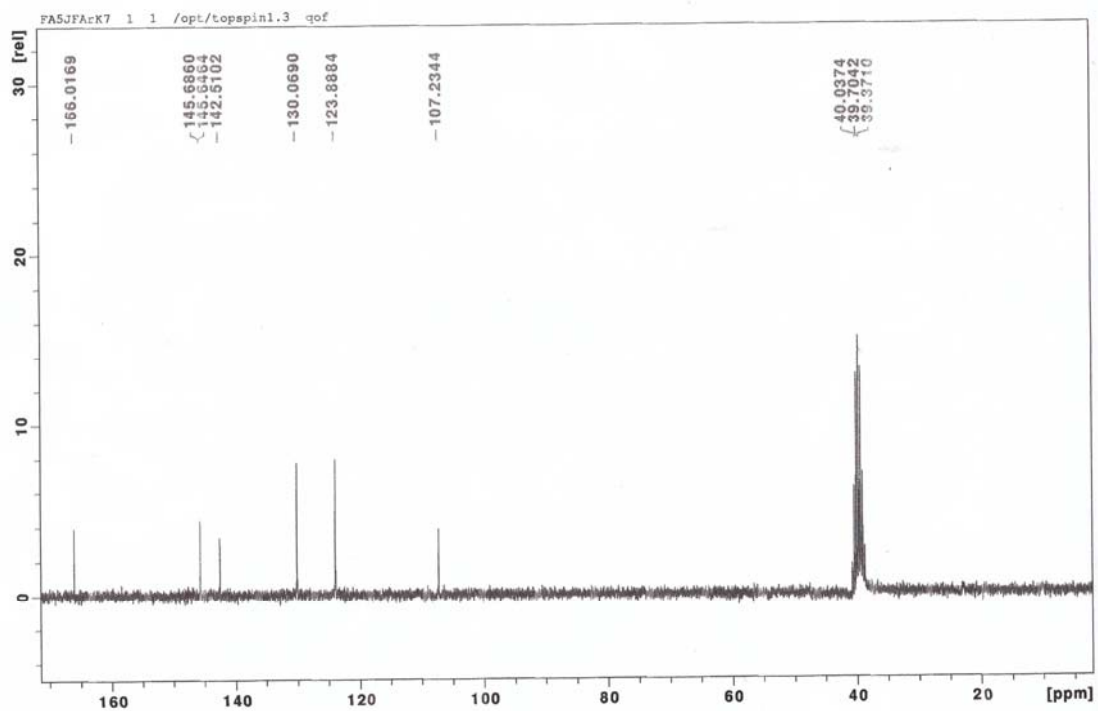
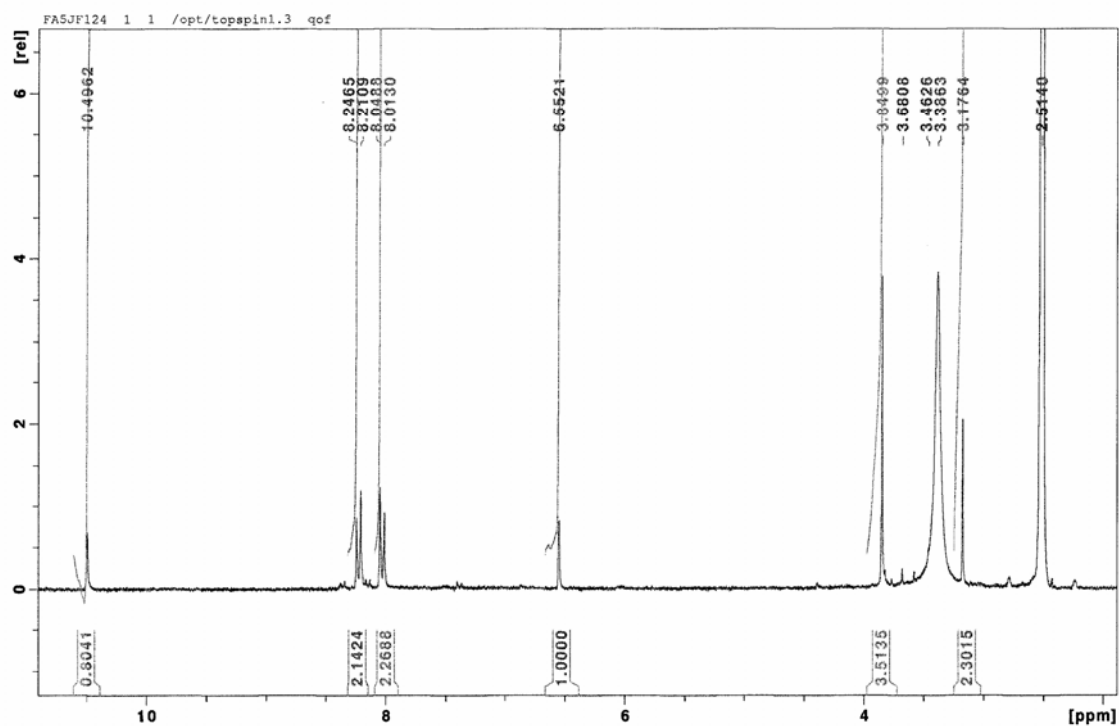
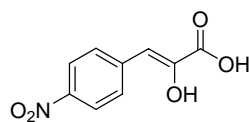
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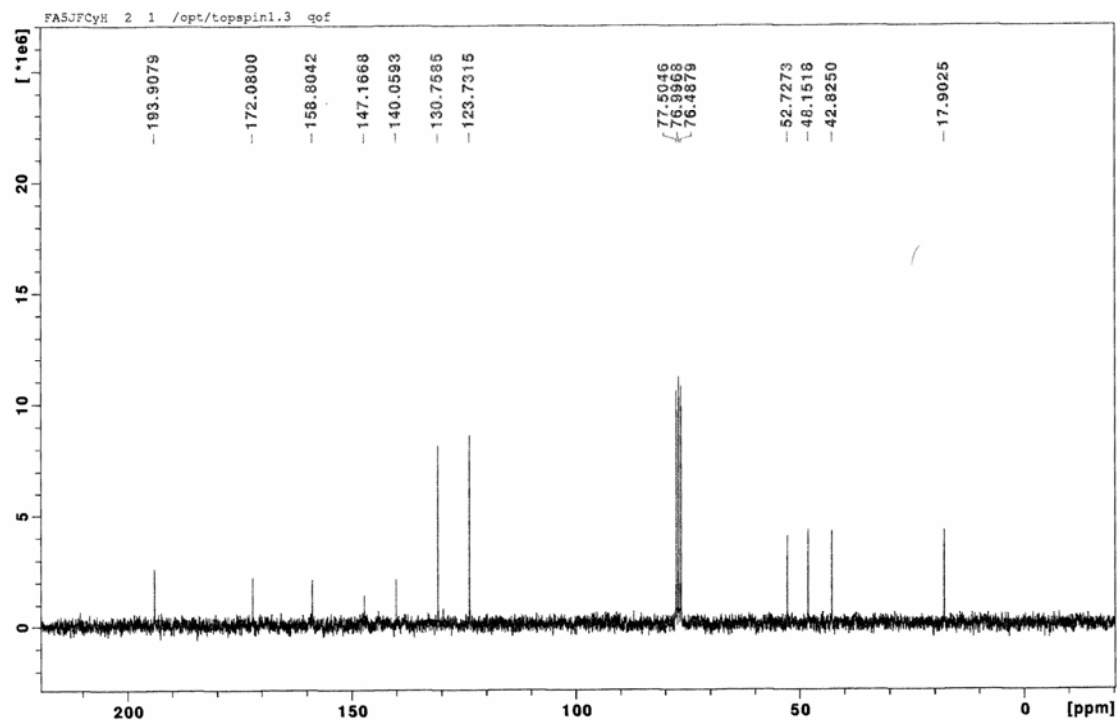
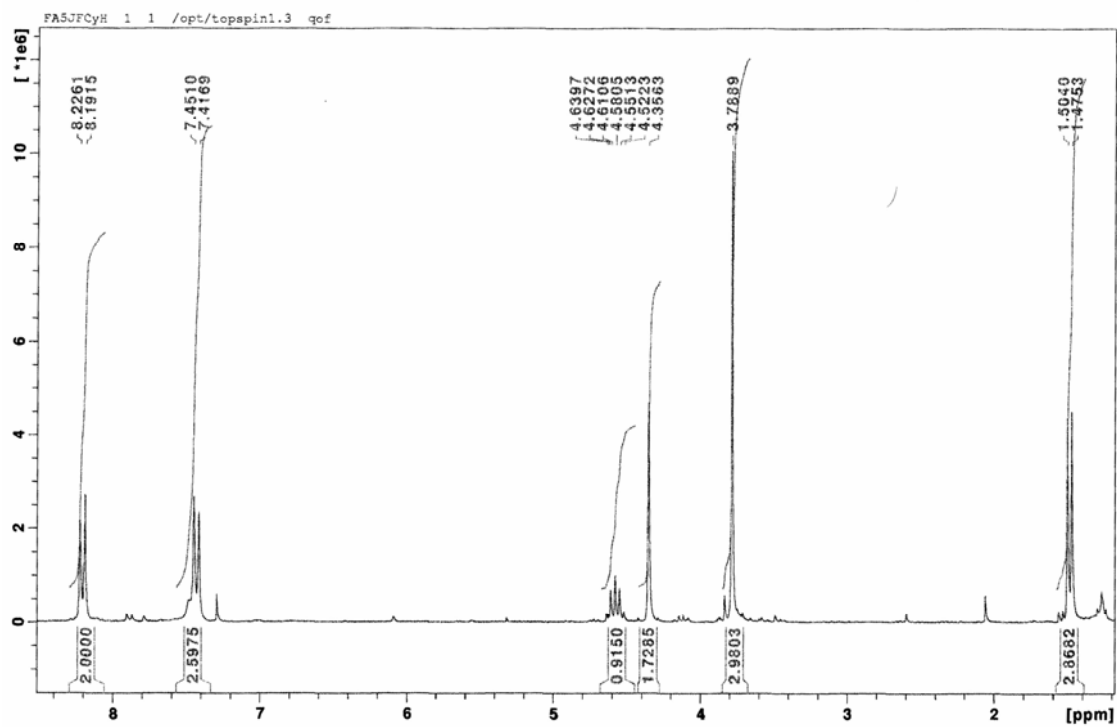
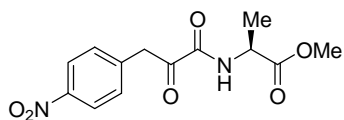
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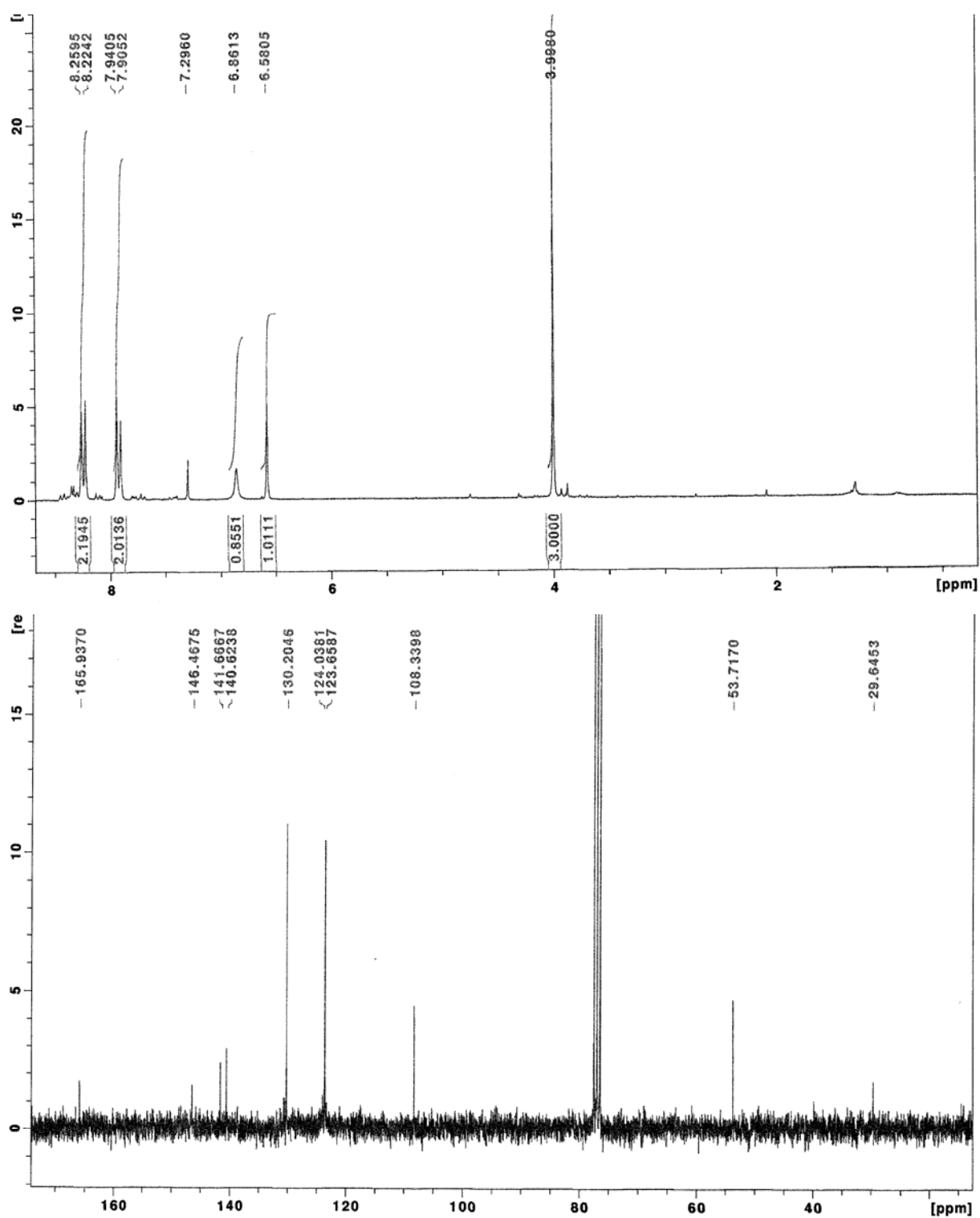
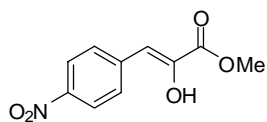
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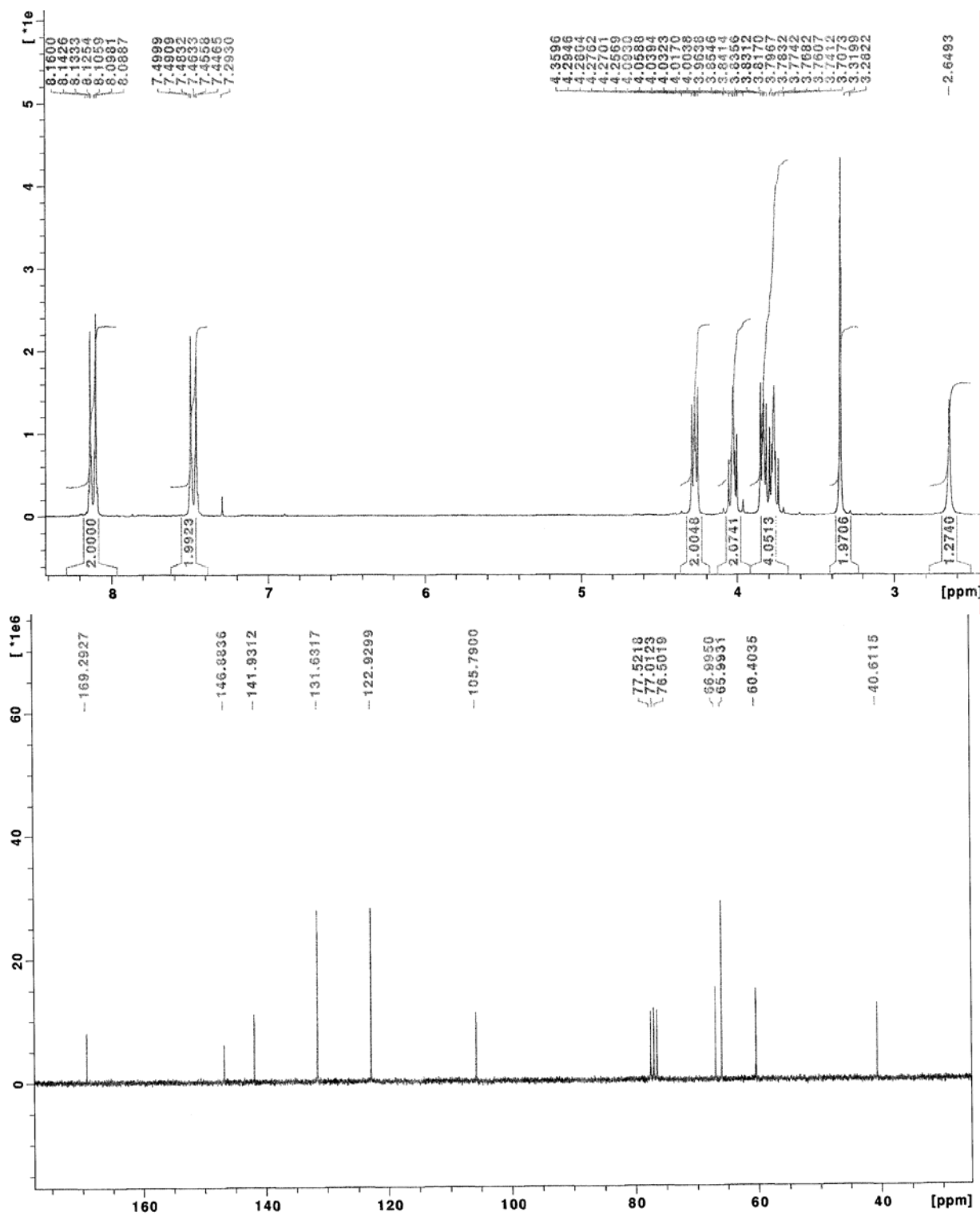
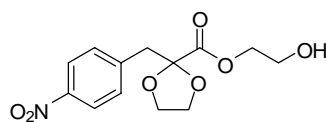
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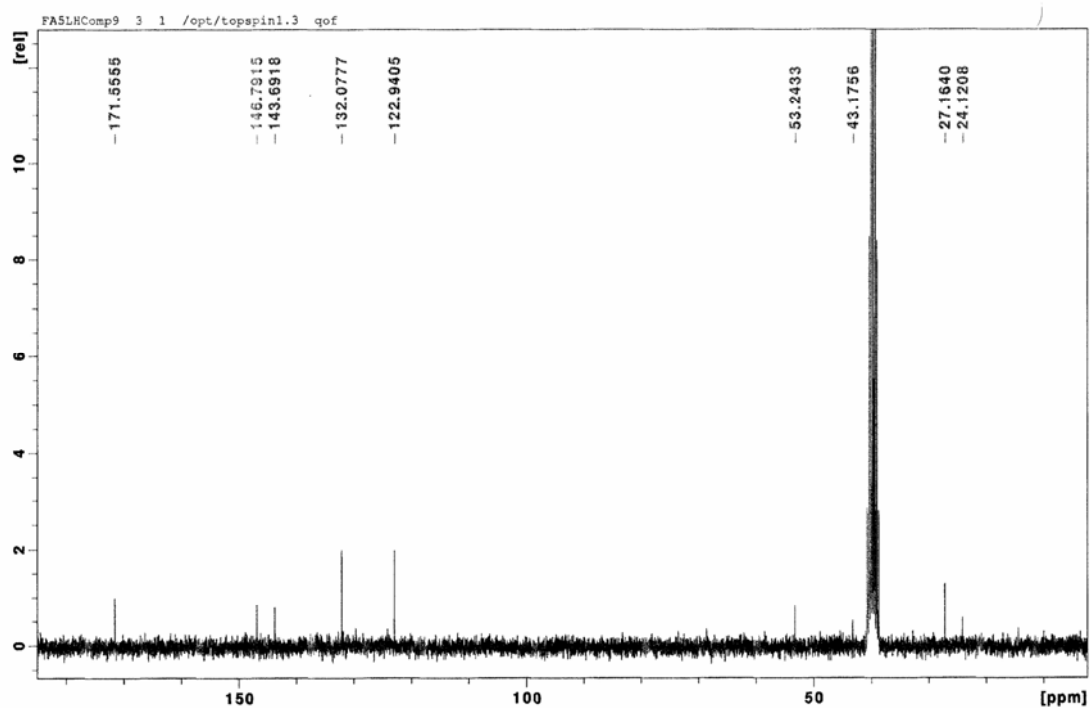
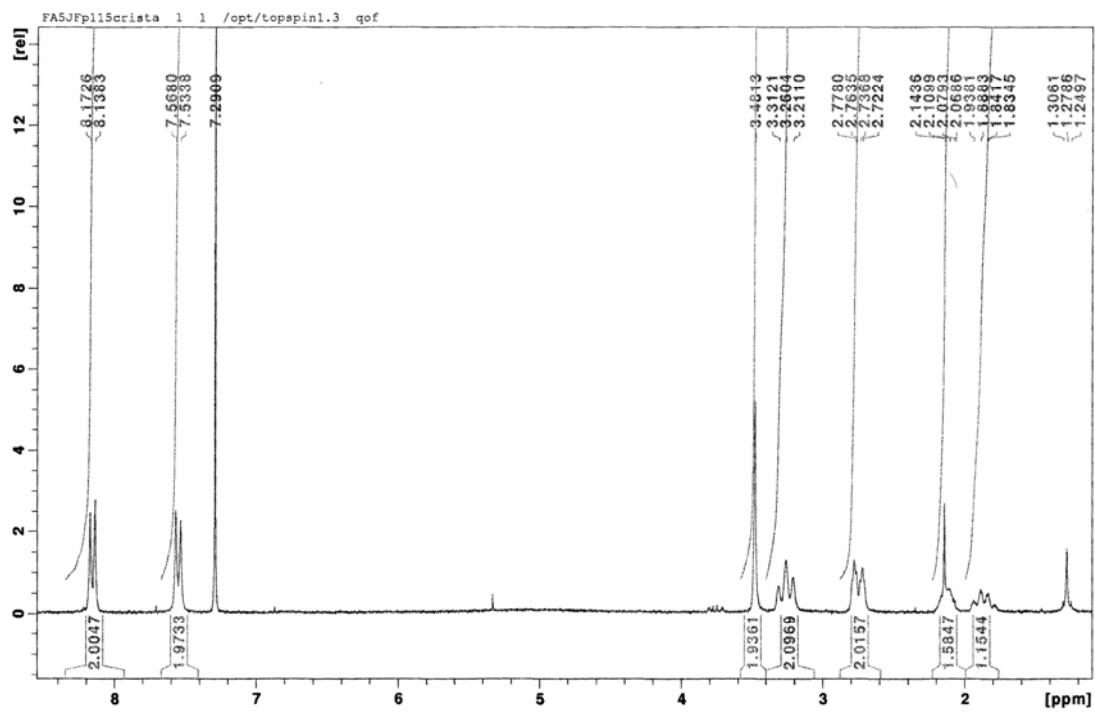
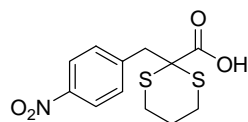
Compound 6



Compound 7



Compound 8

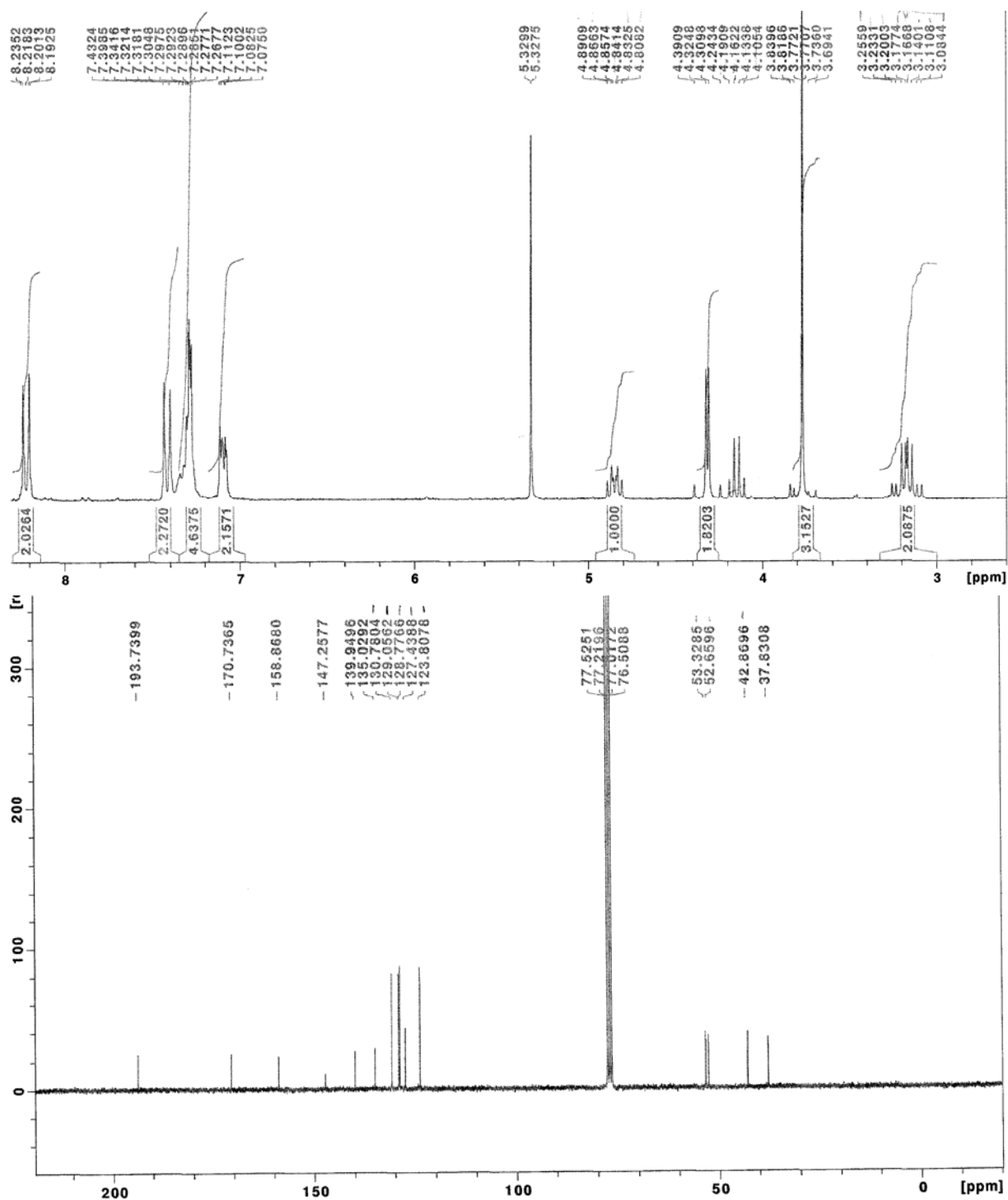
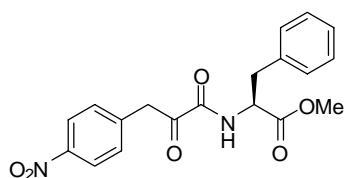


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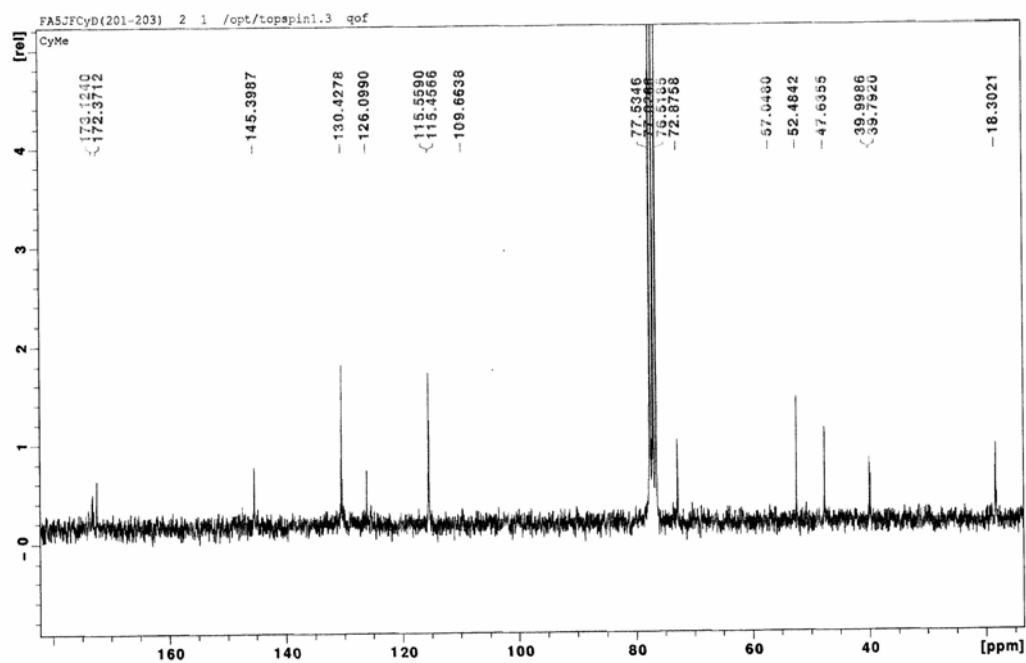
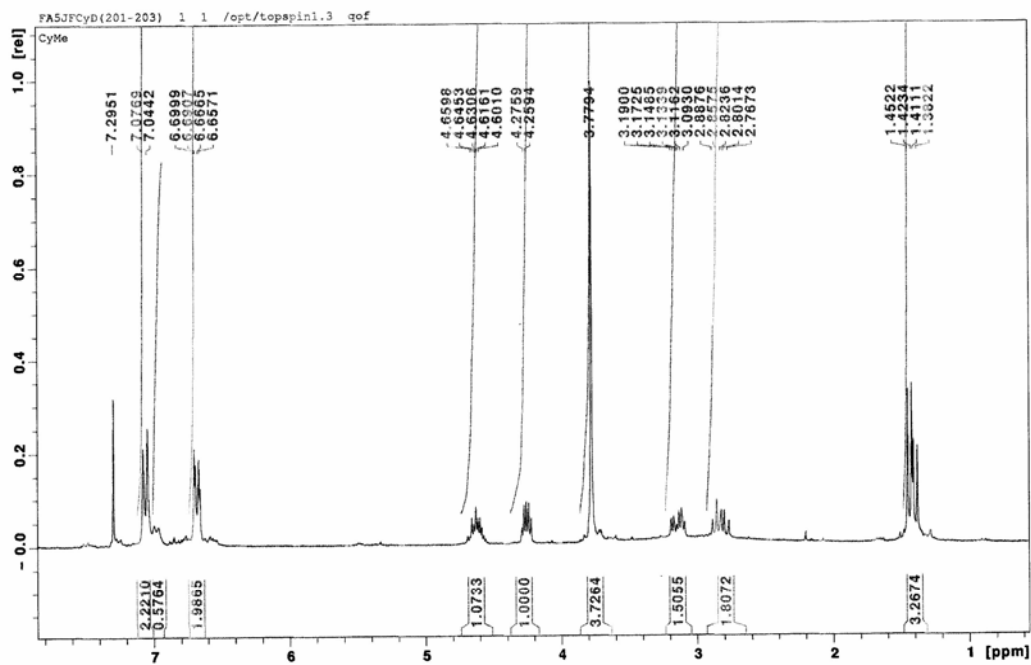
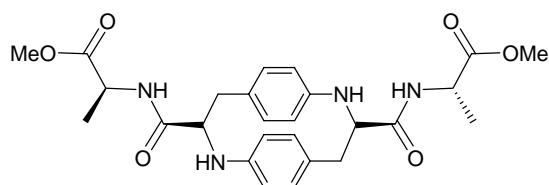




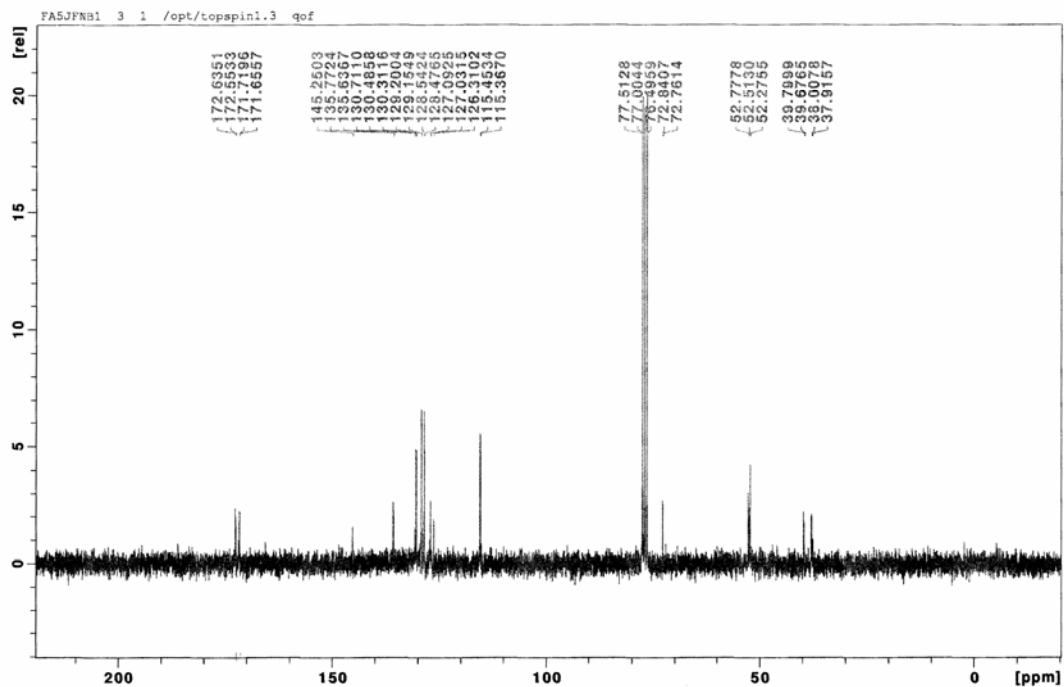
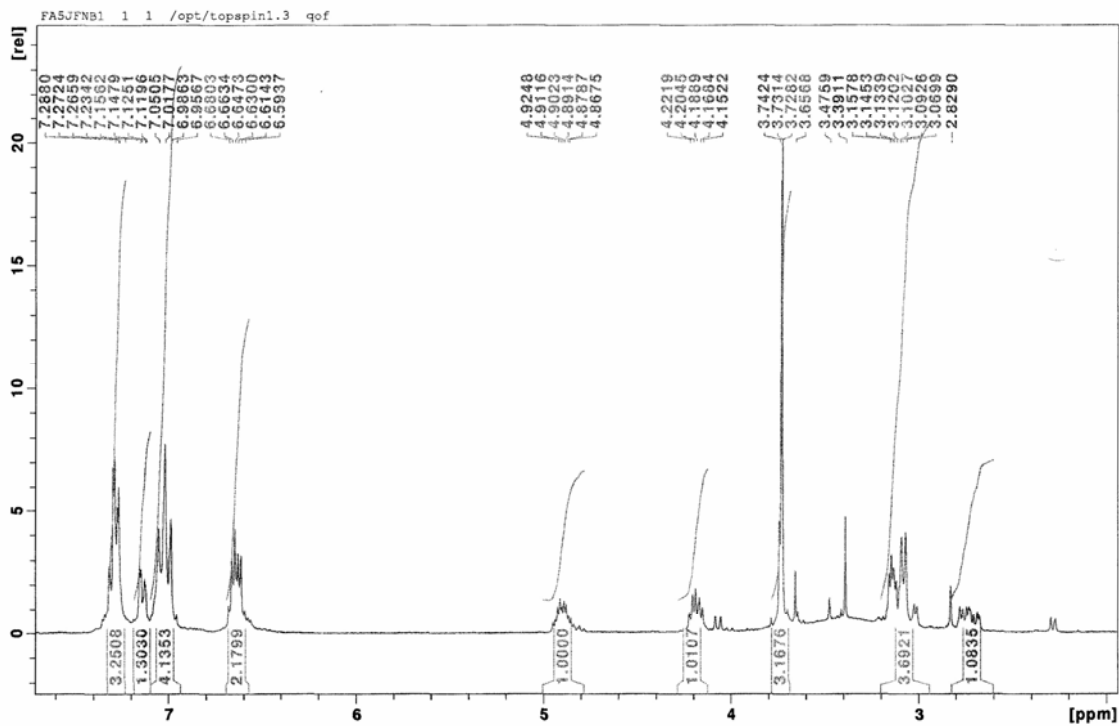
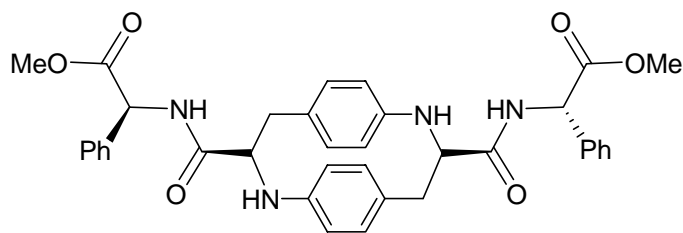




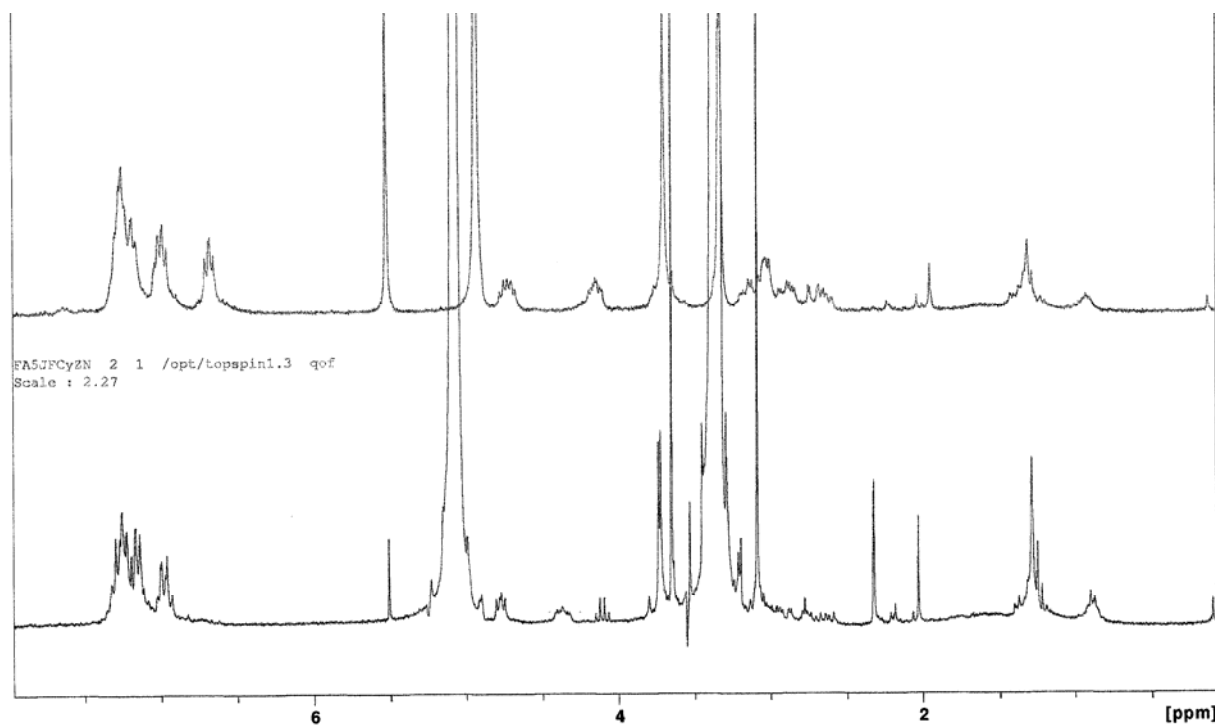
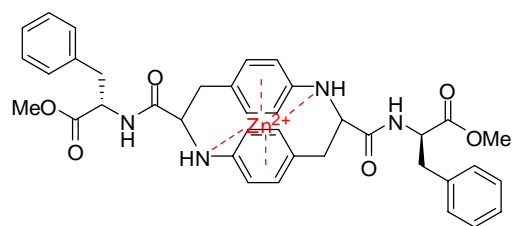
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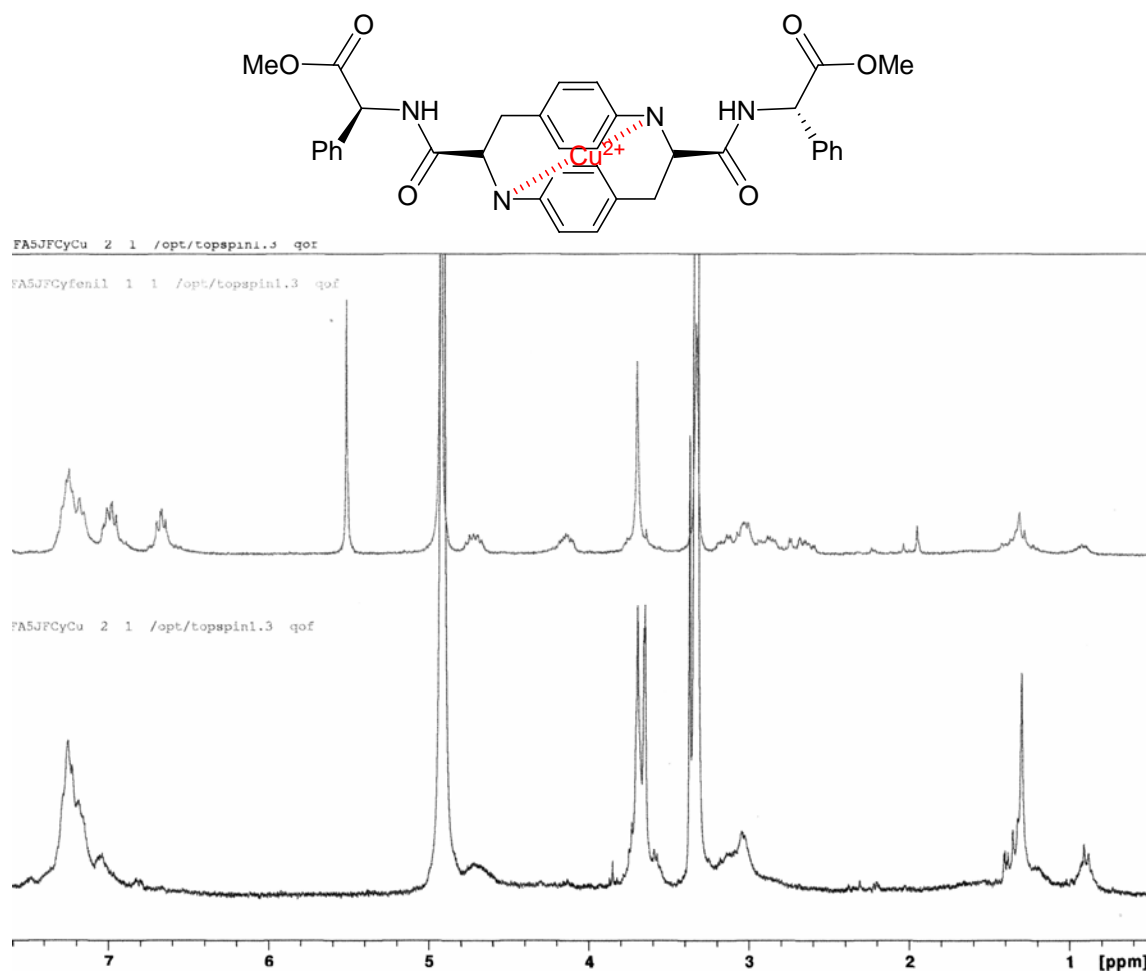
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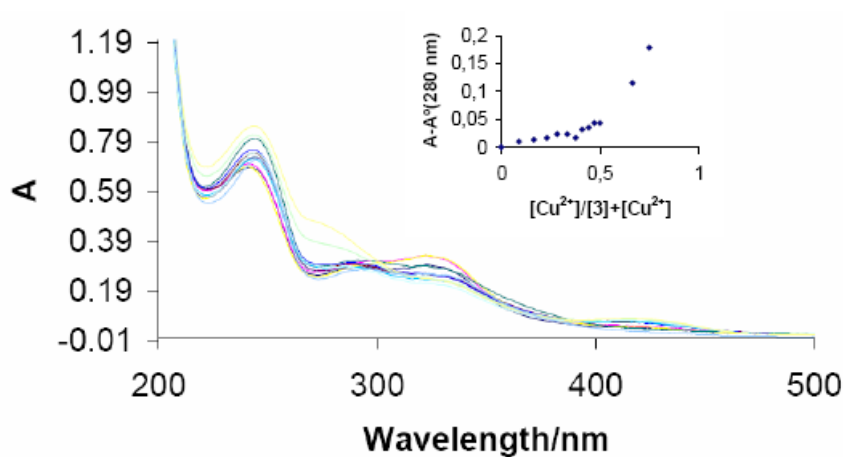
Compound 14

**Compound [Zn<sup>2+</sup> 14]**

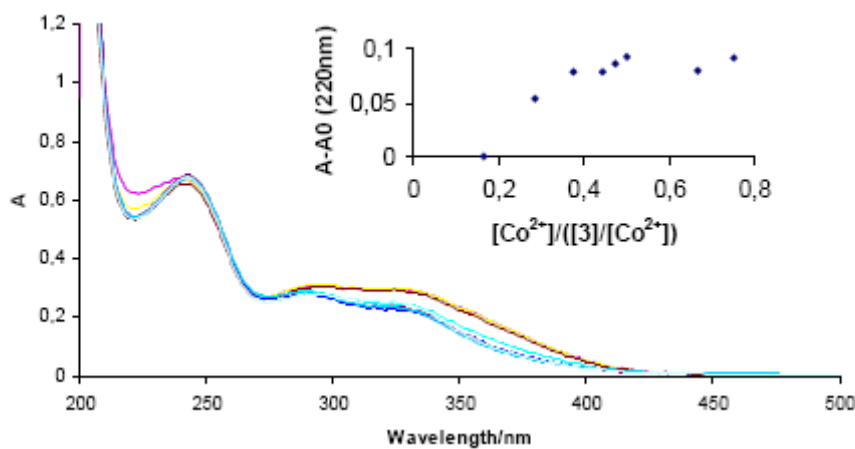
<sup>1</sup>H NMR spectra of 14 in CD<sub>3</sub>OD in the absence and presence of Zn<sup>2+</sup>

**Compound [Cu<sup>2+</sup> 14]**

<sup>1</sup>H NMR spectra of 14 in CD<sub>3</sub>OD in the absence and presence of Cu<sup>2+</sup>

UV/Vis spectrum titration with  $\text{Cu}^{2+}$  and  $\text{Co}^{2+}$ 

**Figure S.** UV-vis spectral changes of ligand **3** ( $3.33 \times 10^{-5}$  M in methanol) in response to addition of  $\text{Cu}^{2+}$  ion at 298 K. The concentrations of  $\text{Cu}^{2+}$  for curves were: 0, 0.33, 0.66, 1.00, 1.33, 1.66, 2.00, 2.33, 2.66, 3.00, 3.33, 6.66, and  $9.99 \times 10^{-5}$  M in methanol



**Figure S.** UV-vis spectral changes of ligand **3** ( $3.33 \times 10^{-5}$  M in methanol) in response to addition of  $\text{Co}^{2+}$  ion at 298 K. The concentrations of  $\text{Co}^{2+}$  for curves were: 0.0, 0.66, 1.33, 2.00, 2.66, 3.00, 3.33, 6.66, and  $9.99 \times 10^{-5}$  M in methanol