

# Synthesis, crystal structure, and optical properties of mononuclear Eu(III) and Tb(III) complexes containing a chalcone ligand

Valentin L. Virgil <sup>1</sup>, Anamaria Hanganu <sup>1,2</sup> and Augustin M. Mădălan <sup>1,\*</sup>

<sup>1</sup> Faculty of Chemistry, University of Bucharest, 4-12 Regina Elisabeta Blvd., 030018 Bucharest, Romania

<sup>2</sup> "Costin D. Nenițescu" Institute of Organic and Supramolecular Chemistry of the Romanian Academy, 202B Splaiul Independentei, 060023 Bucharest, Romania

\* Correspondence: augustin.madalan@chimie.unibuc.ro

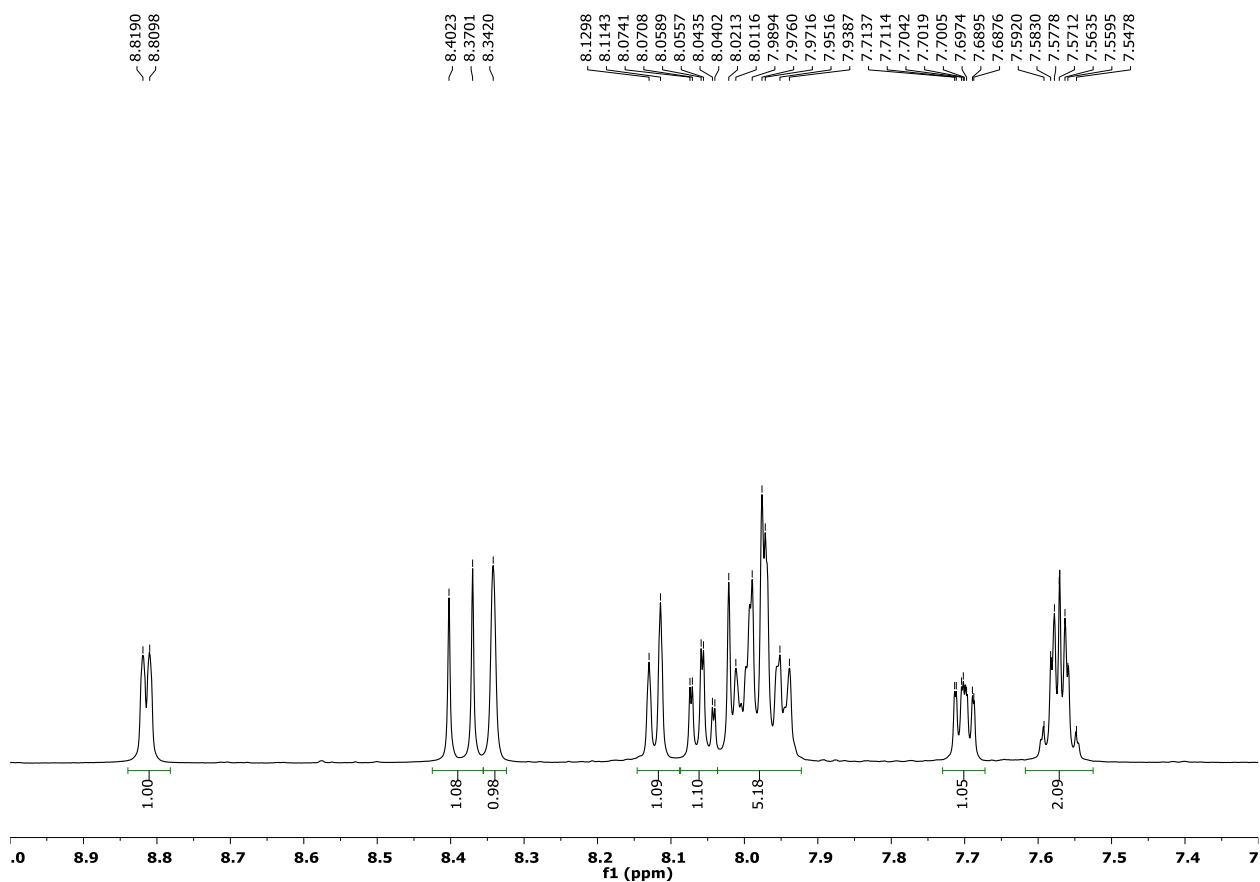
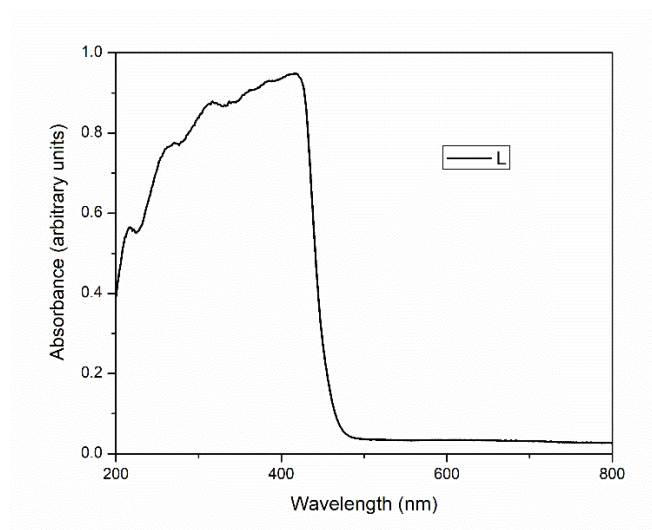
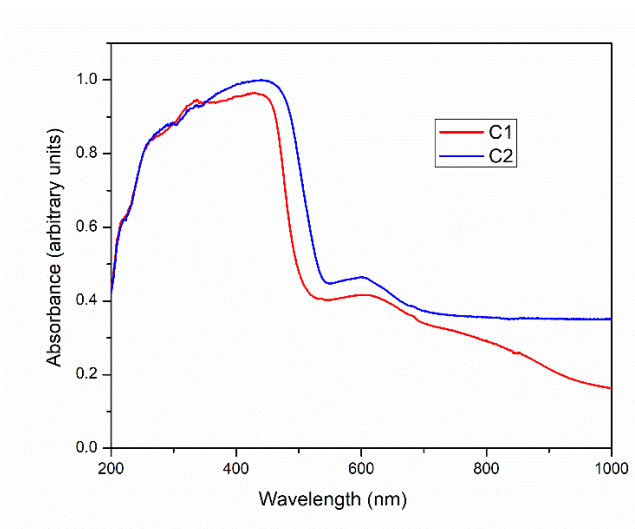


Figure S1. The <sup>1</sup>H-NMR spectrum of chalcone L (DMSO-*d*<sub>6</sub>)

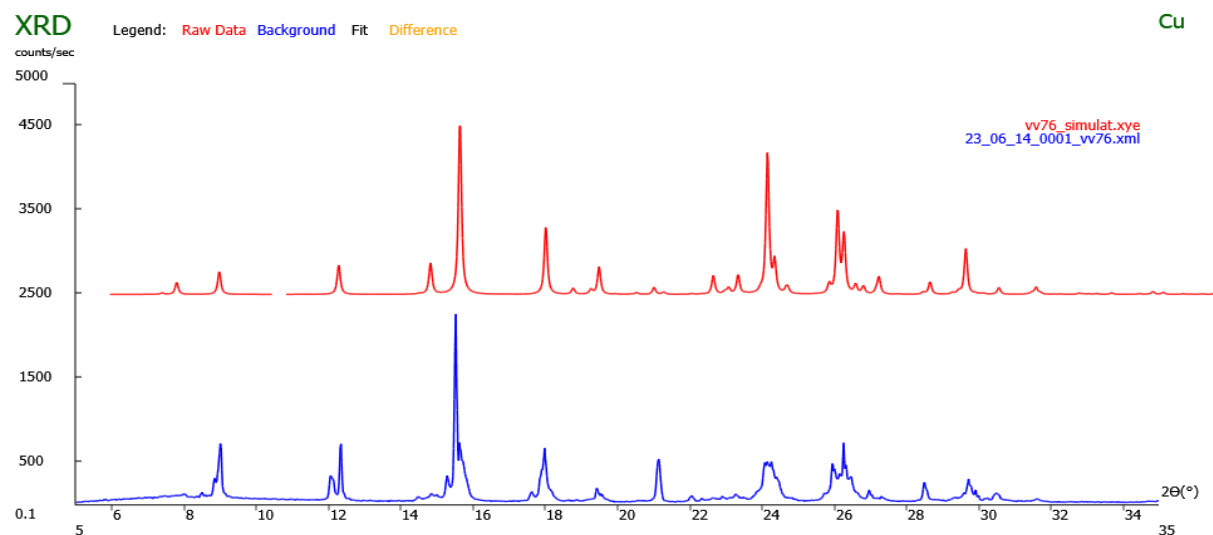


**Figure S2.** The solid-state absorption spectrum of the ligand L

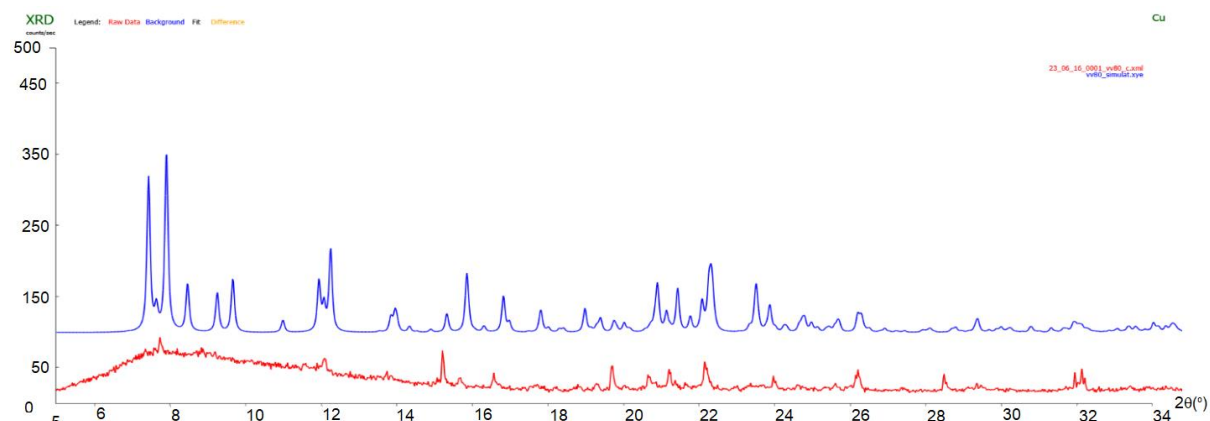


**Figure S3.** The solid-state absorption spectra of the complexes  $[\text{Eu}(\text{L})(\text{hfac})_3(\text{H}_2\text{O})] \cdot 0.5\text{CHCl}_3$  (C1) and  $[\text{Tb}(\text{L})(\text{hfac})_3]$  (C2)

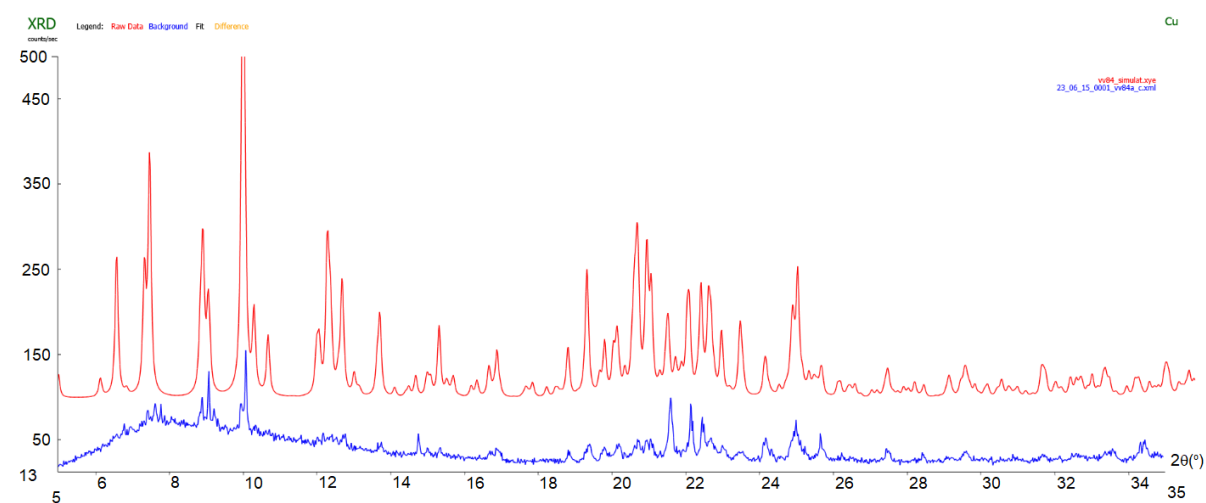
## Supplementary Information



**Figure S4.** Comparison between the experimental (in blue) and single-crystal simulated (in red) XRPD patterns of the chalcone L



**Figure S5.** Comparison between the experimental (in red) and single-crystal simulated (in blue) XRPD patterns of the complex  $[\text{Eu}(\text{L})(\text{hfac})_3(\text{H}_2\text{O})] \cdot 0.5\text{CHCl}_3$



**Figure S6.** Comparison between the experimental (in blue) and single-crystal simulated (in red) XRPD patterns of the complex  $[\text{Tb}(\text{L})(\text{hfac})_3]$