

*Title:* **Coordination compounds with formula  $C[Ln(diketonate)_4]$  and  $[Ln(diketonate)_3(NN)]$ . Magnetic properties.**

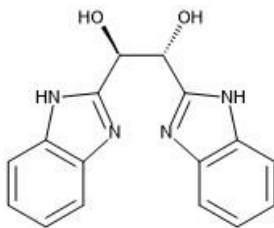
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In the course of this project four new lanthanides coordination compounds have been synthesized in order to determine their magnetic properties and crystal structures:  $Tm(Btfa)_3(Phen)$  (**1**),  $(HAc)[Tm(Btfa)_4]$  (**2**),  $(HAc)[Pr(Btfa)_4]$  (**3**) and  $Pr(Btfa)_3(Bipy)$  (**4**). The ligands used were the  $\beta$ -diketone 4,4,4-Trifluoro-1-phenyl-1,3-butanedione (HBtfa) and (NN)-ligands such as 2,2'-Bipyridine or 1,10-Phenanthroline due to the owing potential in synthetic flexibility and the facility as acting like chelating ligand giving more stability to the compounds. The characterization of the new compounds was realized through, monocrystal X-ray diffraction to compounds **1,2,3,4,5**, and elemental analysis just for compound **1**. Magnetic susceptibility and magnetization measurements were performed for compounds **1** and **4**. None of the compounds show SMM behaviour.

Also an organic chiral (NN)-ligand has been synthesized and characterized but we didn't have enough time to have results about the coordination compounds formed with this ligand.



(R,R)-1,2-Bis(2-benzimidazolyl)-1,2-ethanediol

**Keywords:** HAc=Acridonium cation