

**Lanthanide Ions and Tetrathiafulvalene Ligand:
A Magic Couple for Designing Multiple Properties Complexes**

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The combination of several properties within a single molecule is a great challenge for the physical-chemistry community and the studies of the coexistence and synergy between these properties are very attractive. The association of the lanthanide ions with the Tetrathiafulvalene(TTF)-based ligands gives an unique opportunity to combine the specific optical and intrinsic magnetic properties to the redox-activity of such TTF ligands. In this oral presentation, we described the design of emitting molecules, single-molecule magnets (SMMs), luminescent SMM and chiral SMM using lanthanide ions and one common molecular redox-active TTF-based platform.