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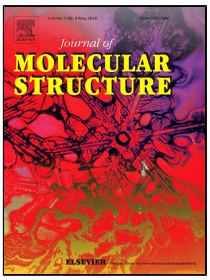

Hydrothermal Synthesis, Crystal Structure, Luminescent and Magnetic Properties of a New Mononuclear Gd^{III} Coordination Complex

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Graphical Abstract

A new lanthanide-based coordination complex, {[Gd(2-stp)$_2$(H_2O)$_6$].2(4,4'-bipy).4(H_2O)}, complex **1** [2-stp=2-sulfoterephthalate and 4,4'-bipy=4,4'-bipyridine] has been synthesized and structurally characterized. The solid-state photoluminescence measurements exhibit only a green light broad band emission belonging to the ligands and has any no-metal-centered luminescence. Meanwhile, Variable-temperature magnetic susceptibility and isothermal magnetization as function of external magnetic field for complex **1** is studied which reveal mainly the presence of antiferromagnetic interaction.