

New $[\text{LNi}^{\text{II}}_2]^+$ Complexes Incorporating 2-Formyl or 2,6-Diformyl-4-Methyl Phenol as Inhibitors of the Hydrolysis of the Ligand L^{3-} : Ni \cdots Ni Ferromagnetic Coupling and $S = 2$ Ground States

Alok Ranjan Paital,[‡] Wing Tak Wong,[†] Guillem Aromí*,[§] and Debashis Ray,^{*,‡}

[‡]Department of Chemistry, Indian Institute of Technology, Kharagpur 721 302, India,

[†]Department of Chemistry, University of Hong Kong, Pokfulam Road, Pokfulam, Hong

Kong SAR, P.R. China, and [§]Departament de Química Inorgànica, Universitat de Barcelona, Diagonal, 647 08028-Barcelona, Spain

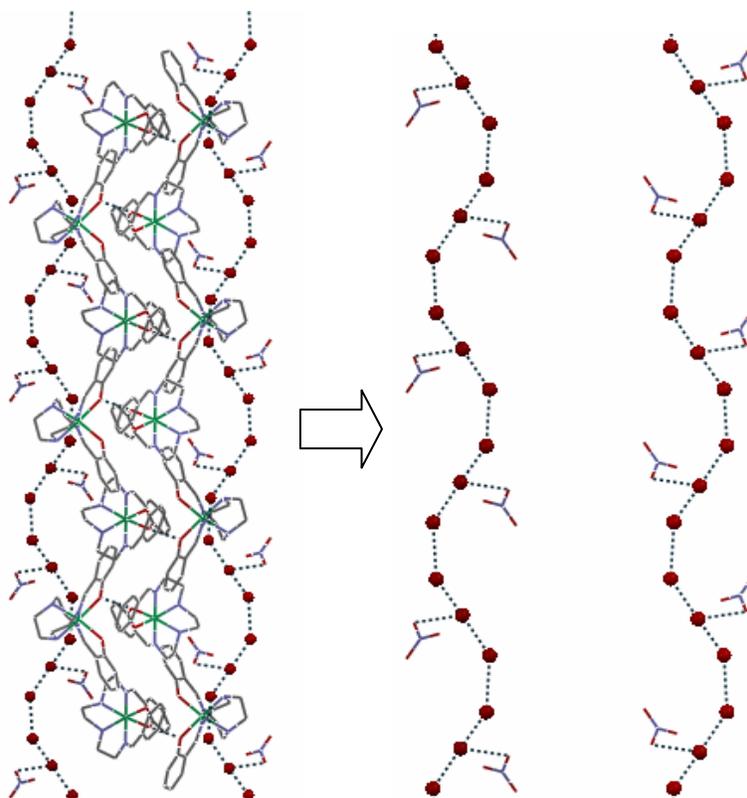


Figure S1. Intermolecular anion-water hydrogen bonding in complex **1** gives a 1-D net running along the crystallographic a-axis.

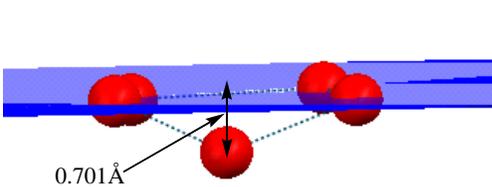


Figure S2. Like cyclopentane one water oxygen (O9W) is 0.701 Å below the water cluster plane in complex **2**.

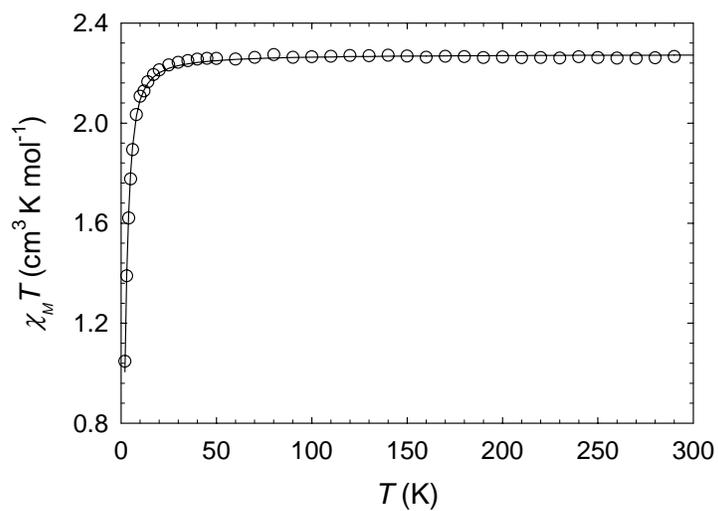


Figure S3. Plot of $\chi_M T$ vs T per mol of $[\text{Ni}(\text{HL1})]_2(\text{NO}_3)_2$ (**1**). The solid line is a fit to the experimental data using a model that includes $\text{Ni}^{\text{II}} \cdots \text{Ni}^{\text{II}}$ superexchange and single ion zero field splitting (see text for details).

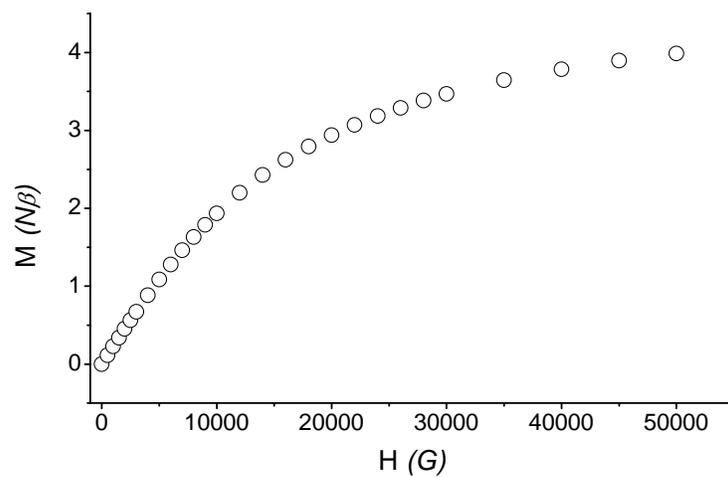


Figure S4. Plot of isothermal (2K) reduced magnetization vs magnetic field for complex $[\text{Ni}_2(\text{L})(\text{fp})(\text{H}_2\text{O})]$ (**2**).

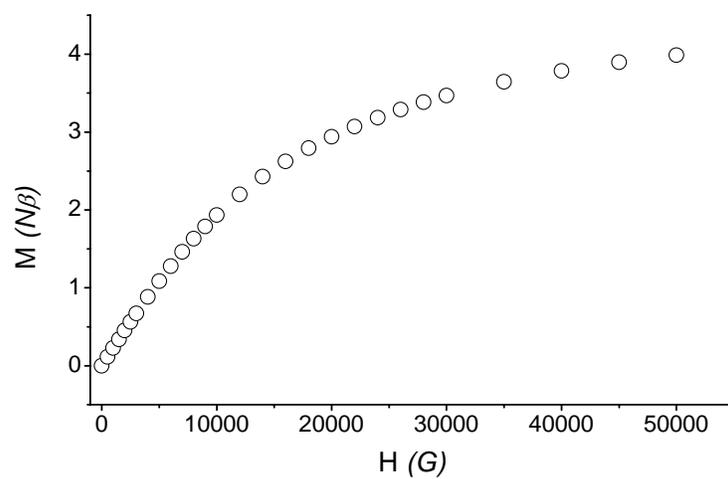


Figure S5. Plot of isothermal (2K) reduced magnetization vs magnetic field for complex $[\text{Ni}_2(\text{L})(\text{dfp})]$ (**3**).