

# New Metal–organic Coordination Architectures of Imidazole Bearing Acetic

## Acid Ligand: Synthesis and Magnetic Properties

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The investigation of molecule-based magnetic materials has become a fascinating subject in the fields of inorganic chemistry [1]. Azide is a good candidate for the design of magnetic coordination polymers with interesting magnetic properties because of its versatile bridging modes and various exchange pathways [2]. Herein, we present a 2-D coordination polymer,  $[\text{Cu}(\text{L})_2]_n$  **1** (HL = 1H-imidazole-1-acetic acid), with (4,4) topology and a new 3-D complex,  $[\text{CuLN}_3]_n$  **2**, with distorted *rutile* topology, due to the presence of azide, which exhibited ferromagnetic properties.

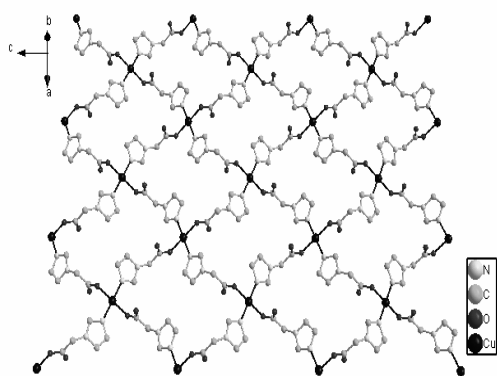


Figure 1. Schematic view of the 2D (4,4) network of **1**.

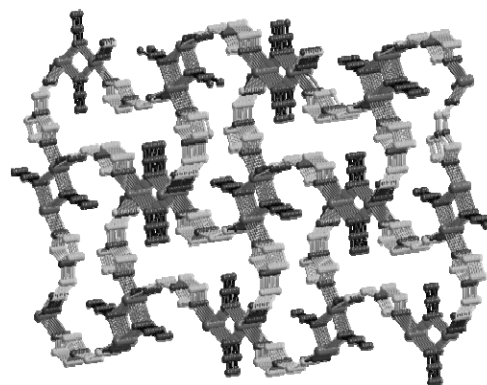


Figure 2. The 3D network of **2**.

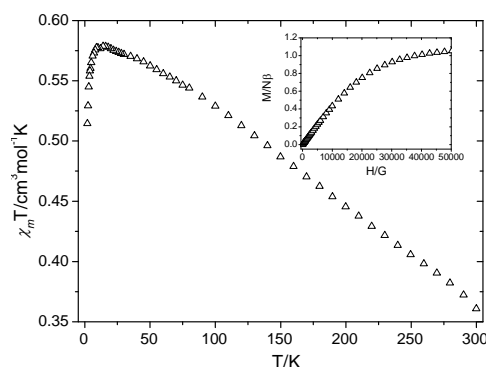


Figure 3.  $\chi_m T$  vs  $T$  plot for **2**. Inset: Field dependence of the magnetization for **2**.

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- [2]. (a) F.-C. Liu, Y.-F. Zeng, J.-P. Zhao, B.-W. Hu, J. Ribas and X.-H. Bu, *Inorg. Chem.*, **46**, 7698 (2007). (b) B.-W. Hu, J.-P. Zhao, E. C. Sañudo, F.-C. Liu, Y.-F. Zeng and X.-H. Bu, *Dalton Trans.*, 5556 (2008). (c) Y.-F. Zeng, X. Hu, F.-C. Liu, X.-H. Bu, *Chem. Soc. Rev.*, DOI:10.1039/B718581M (2008).