



Synthesis and Characterization of Mixed-ligand Copper(II) and Zinc(II) Complexes Involving pyridine-2,5-dicarboxylic acid and 1,3,5-Benzenetricarboxylic acid

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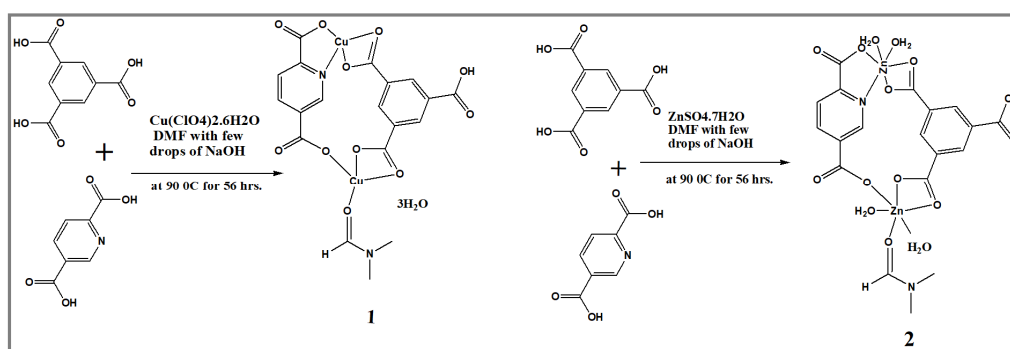
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ABSTRACT

Two mixed-ligand copper(II) and zinc(II) complexes with pyridine-2,5-dicarboxylic acid and 1,3,5-benzenetricarboxylic acid have been synthesized, namely $[\text{Cu}_2(2,5\text{-pdc})(1,3,5\text{-Hbtc})(\text{DMF})].3\text{H}_2\text{O}$ **1** and $[\text{Zn}_2(2,5\text{-pdc})(1,3,5\text{-Hbtc})(\text{DMF})(\text{H}_2\text{O})_4]$ **2** by hydrothermal method in 2:2:1 metal : 2,5-pdc : 1,3,5-btc molar ratio (2,5-pdc = pyridine-2,5-dicarboxylic acid and 1,3,5-btc = 1,3,5-benzene tricarboxylic acid). The synthesized complexes are characterized by elemental (C,H,N), fourier transform infrared (FT-IR), thermogravimetric and powder X-ray diffraction (PXRD) analyses.

Graphical Abstract



Hydrothermal process for the synthesis of Cu(II) and Zn(II) complexes, **1** and **2** and their proposed molecular structures.

Keywords: Cu(II), Zn(II), FT-IR, Thermal analyses, Powder X-ray diffraction (PXRD).