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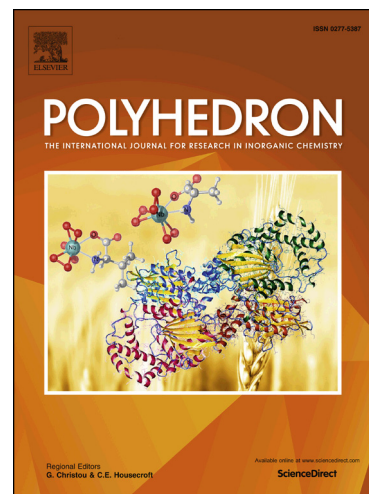
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**1D Hydrogen-bonded infinite chains from tetraaza macrocycle nickel(II)****complexes and ligands**In-Taek Lim<sup>a</sup>, Ki-Young Choi<sup>a\*</sup><sup>a</sup>*Department of Chemistry Education, Kongju National University, Kongju 314-701, Korea***Abstract**

The reaction of square planar complex  $[\text{Ni}(\text{L}2)]\text{Cl}_2 \cdot 2\text{H}_2\text{O}$  ( $\text{L}2 = 3,14\text{-diethyl-}2,6,13,17\text{-tetraazatricyclo}[14,4,0^{1,18},0^{7,12}]\text{docosane}$ ) with ligands KNCS and  $\text{H}_2\text{cpdc}$  generates 1D hydrogen-bonded infinite chains  $[\text{Ni}(\text{L}2)(\text{NCS})_2]$  (**1**) and  $[\text{Ni}(\text{L}2)(\text{H-cpdc})_2]$  (**2**) ( $\text{H}_2\text{cpdc} = \text{cyclopropanedicarboxylic acid}$ ). These compounds have been characterized by X-ray crystallography, spectroscopic, cyclic voltammetry and thermogravimetry. The crystal structures of compounds **1** and **2** show that each nickel(II) centre has an elongated distorted octahedral geometry with the axial ligands. Electronic spectra and redox potentials of the complexes **1** and **2** exhibit a high-spin octahedral environment, which is reflected by the nature of the axial ligands. The TGA behaviors of two compounds **1** and **2** are also significantly affected by the nature of the axial ligands.

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