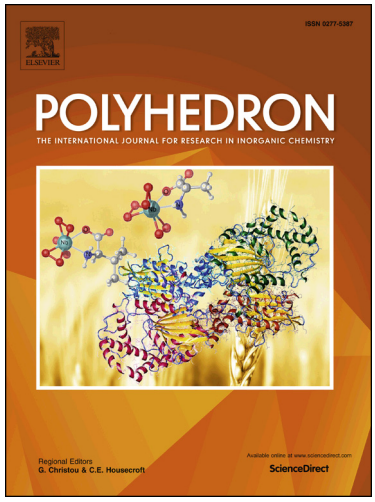

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Abstract

Two new copper(II) complexes containing the methyl(2-pyridyl)ketone oxime ligand (mpkoH) $[Cu_3(OH)(ClO_4)_2(mpko)_3]\cdot CH_3OH$ (**1**) and $[Cu(ClO_4)(mpko)(mpkoH)]_n$ (**2**) have been prepared from $Cu(ClO_4)_2$ and mpkoH in different metal-to-ligand molar ratios. In addition, the compound $[Cu\{(mpko)_2BF_2\}(H_2O)](BF_4)$ (**3**) [$(mpko)_2BF_2$ is the fluoroboration product of the oxime] has been obtained when replacing $Cu(ClO_4)_2$ by $Cu(BF_4)_2$. Compound **1** is an isolated triangle with a $\{Cu_3(\mu_3\text{-}OH)\}^{5+}$ core, whereas **2** is a chain of Cu^{II} ions linked by anionic $mpko^-$ bridges. **1** exhibits strong antiferromagnetic competing interactions, as well as antisymmetric exchange. On the other hand, very weak ferromagnetic interactions are found in **2**. The magnetic properties of these compounds have been analyzed by magnetic measurements and EPR spectra.

Keywords

Copper(II) complexes, methyl(2-pyridyl)ketone oxime, magnetic properties

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