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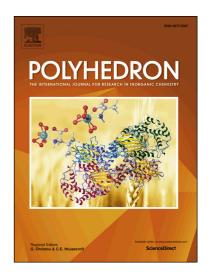
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### ACCEPTED MANUSCRIPT

# Structural and Magnetic Properties of Polynuclear Oximate Copper Complexes With Different Topologies

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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  $\{Cu_3(\mu_3-OH)\}^{5+}$  core, whereas 2 is a chain of  $Cu^{II}$  ions linked by anionic mpko<sup>-</sup> 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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