

Magneto-structural characterization of $[\text{Cu}_4(\text{prz})_4(\text{CH}_3\text{OH})_2\text{L}_2]^{2+}(\text{ClO}_4)_2$ (L = 1,1-DI-(2-pyridyl)-1-methoximethanol, PRZH = pyrazole)

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The title compound $[\text{Cu}_2\text{C}_{19}\text{H}_{20}\text{N}_6\text{O}_7\text{Cl}]_2$ is a copper(II) complex, in which each bicationic moiety is bridged by two pyrazolate ligands. In the centrosymmetric, tetrameric dicationic pairs of copper atoms, one square planar and one square pyramidal, are bridged by an oxygen from the pyridylmethoxymethanol ligand and a pyrazolate moiety, with one example of five coordination completed by a methanol solvent molecule. These dimers are then bridged by two pyrazoles, to give the tetramer. Two perchlorate counter-anions are bound to the tetrameric unit by hydrogen bonds, which stabilize the crystal structure. The copper(II) complex presents antiferromagnetic behaviour with $T_M = 190$ K. Supposing that the alkoxo oxygen bridge is the main pathway for the superexchange interaction, the experimental magnetic susceptibilities were fitted to the Bleaney-Bowers equation for dimers, yielding a $2J$ value of -211.2 cm¹.