

STRUCTURAL DIVERSITY OF *syn*-2-PYRIDINEALDOXIME IN Cu(II) COORDINATION POLYMER WITH BIPYRIDINE AS AUXILIARY LIGANDS

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Abstract. The interaction of copper(II) nitrate, *syn*-2-pyridinealdoxime (PaoH), and 4,4'-bipyridine (bpy) in a 1:2:1 ratio (in mixture of water, methanol and *N,N*-dimethylformamide (dmf)) resulted in the formation of the compound $\{[\text{Cu}_4(\text{Pao})_2(\text{L})_2(\text{bpy})_2](\text{NO}_3)_2 \cdot 2\text{dmf} \cdot 4\text{H}_2\text{O}\}_n$. The coordinated ligand (L)²⁻ is formed as a result of *in situ* chemical transformation of the PaoH ligand. The structure of this compound was determined by single-crystal X-ray diffraction. The compound has been found to be formed from a symmetric cationic coordination polymer, in which bridging bpy ligands link the structural units $[\text{Cu}_4(\text{Pao})_2(\text{L})_2]^{2+}$, nitrate anions, dmf and water as crystallization molecules. The outer-sphere components of the crystal are linked to the cation polymers by a system of hydrogen bonds. The intra- and intermolecular interactions present in the crystal were identified and quantified, and their 2D footprint diagrams were illustrated using Hirshfeld surface analysis.

Keywords: synthesis, coordination compound, copper(II), *syn*-2-pyridinealdoxime, X-ray study, Hirshfeld surface.

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