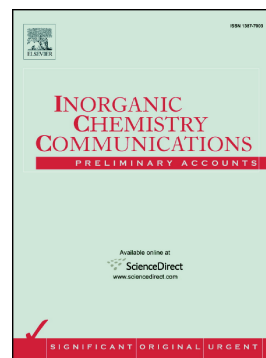


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Copper(II) complex derived from axial chiral heterocyclic spiro ligand: Crystal structure, characterization and SOD activity

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**Copper(II) complex derived from Axial Chiral Heterocyclic Spiro  
Ligand: Crystal Structure, characterization and SOD activity**

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**Abstract**

A new Cu(II) coordination polymer (**1**) constructed from an axially chiral heterocyclic spiro ligand, 2,4,8,10-tetraoxaspiro[5,5]undecane-3,9-dicarboxylic acid (H<sub>2</sub>L) and 1,3-bis(4-pyridyl)propane (bpp), has been prepared and characterized by single-crystal X-ray diffraction analysis, infrared spectra (IR), elemental analysis, powder X-ray diffraction (PXRD), and thermogravimetric analysis (TGA). Structural analysis shows that **1** features a 2D undulated layer of rhombic meshes with (4, 4) topology. Interestingly, a 1D wave-like water tape formed by the cyclic centrosymmetric chairlike octamer water clusters (H<sub>2</sub>O)<sub>8</sub> are observed between the 2D sheets. Furthermore, the experimental data and computational studies of superoxide dismutase (SOD) activity of H<sub>2</sub>L and **1** were investigated.

*Keywords:* Spirocyclic; Coordination polymer; SOD activity; Water clusters

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