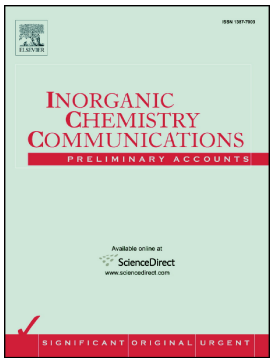

Copper(II) complex derived from axial chiral heterocyclic spiro ligand: Crystal structure, characterization and SOD activity

Yi-Fan Kang, Xiqiang Liang, Xiao Wang, Tiantian Si, Yitong Chen, Jianhua Zhang, Jing Zhao

PII: S1387-7003(17)30657-3
DOI: doi:10.1016/j.inoche.2017.10.028
Reference: INOCHE 6816

To appear in: *Inorganic Chemistry Communications*

Received date: 15 August 2017
Revised date: 24 October 2017
Accepted date: 26 October 2017

Please cite this article as: Yi-Fan Kang, Xiqiang Liang, Xiao Wang, Tiantian Si, Yitong Chen, Jianhua Zhang, Jing Zhao , Copper(II) complex derived from axial chiral heterocyclic spiro ligand: Crystal structure, characterization and SOD activity. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Inoche(2017), doi:10.1016/j.inoche.2017.10.028

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

Yi-Fan Kang[a,*], Xiqiang Liang[b], Xiao Wang[a], Tiantian Si[a], Yitong Chen[a], Jianhua Zhang[a], Jing Zhao[a]

a Key Laboratory of Auxiliary Chemistry & Technology for Chemical Industry of Ministry of Education, College of Chemistry & Chemical Engineering, Shaanxi University of Science & Technology, Xi'an, 710069, P. R. China

b Department of Laboratory Medicine, Xi'an Children Hospital, Shaanxi 710003, P. R. China

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_2L) 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 $(H_2O)_8$ are observed between the 2D sheets. Furthermore, the experimental data and computational studies of superoxide dismutase (SOD) activity of H_2L and **1** were investigated.

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

* Corresponding author. Tel.: +86 29 86168315.

E-mail address: kangyifan@sust.edu.cn (Y.F. Kang).