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一维链状的2-氧-1(4H)-吡啶氮乙酸钴配位聚合物$\{[Co(2\text{-}OPA)_2(4,4'\text{-}bipy)(H_2O)_2]\cdot 6H_2O\}_n$的合成、结构及性能研究

Synthesis, Structure and Properties of 1D Chain Coordination Polymer $\{[Co(2\text{-}OPA)_2(4,4'\text{-}bipy)(H_2O)_2]\cdot 6H_2O\}_n$ with 2-oxo-1(4H)-pyridineacetate Ligand

中文关键词：钴配位聚合物；晶体结构；热稳定性；荧光性能

英文关键词：cobalt coordination polymer; crystal structure; thermal behavior; fluorescent property

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中文摘要：

英文摘要：

A coordination polymer of $\{[Co(2\text{-}OPA)_2(4,4'\text{-}bipy)(H_2O)_2]\cdot 6H_2O\}_n$ ($2\text{-}OPA^-$=2-oxo-1(4H)-pyridineacetate anion) was synthesized and characterized by elemental analysis, IR, TG, fluorescence and X-ray single crystal diffraction. The title complex crystallizes in triclinic space group *P*1, with *a*=0.856 66(17) nm, *b*=0.859 58(17) nm, *c*=1.142 2(2) nm, α=69.64(3)°, β=68.35(3)°, γ=74.88(3)°, and *V*=0.724 4(3) nm^3, Z=1, *R*=0.064 4, *wR*=0.159 8. Each Co atom occupies a special position of inversion center and has an octahedral coordination environment, defined by two carboxyl O atoms from two $2\text{-}OPA^-$ ligands, two N atoms from two 4,4′-bipy ligands and two water molecules. Adjacent Co(Ⅱ) atoms are bridged by 4,4′-bipy ligands, forming a one-dimensional linetype chain structure. The closest Co…Co distance is 1.142 2(2) nm. The results of TG and fluorescent analysis show that the title coordination polymer is stable under 90.2 ℃ and has three emission peaks at 368, 422 and 484 nm. CCDC: 643626.