

研究简报

由氢键构筑的 $[\text{Cu}_2(\text{ETU})_6]\text{SO}_4$ 三维超分子网络的合成与晶体结构

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摘要 选用具有丰富配位模式(单齿、二齿或三齿)的亚乙基硫脲(ETU, 代森类杀菌剂的有毒降解物, 通过和金属离子配位有可能使其性状发生改变)作配体, 在溶剂热条件下合成出一种由氢键构筑的、新的三维超分子配位聚合物 $[\text{Cu}_2(\text{ETU})_6]\text{SO}_4(1)$, 并对其结构进行了详细表征.

关键词 [溶剂热合成](#) [超分子网络](#) [氢键](#) [亚乙基硫脲](#)

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Synthesis and Crystal Structure of a Three-dimensional Supramolecular Network $[\text{Cu}_2(\text{ETU})_6]\text{SO}_4$ Based on Hydrogen Bonds

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Abstract A novel coordination polymers $[\text{Cu}_2(\text{ETU})_6]\text{SO}_4(1)$ (ETU=ethylidene thiourea) was synthesized under solvothermal conditions. The crystal structure of the polymer was determined by X-ray diffraction: trigonal, space group $R3c$ (No. 161), $a=1.27509(8)$ nm, $b=1.27509(8)$ nm, $c=3.5747(7)$ nm, $\gamma=120^\circ$, $Z=6$, CCDC Number: 605501. In the structure of the polymer, each metal ion Cu(I) coordinates to three S atoms attached to the ring of ETU forming two triangular pinwheel-shape monovalent cations $[\text{Cu}(\text{ETU})_3]^+$, in one of which the counter-ion SO_4^{2-} is located. The ions with contrary charge, $[\text{Cu}(\text{ETU})_3]^+$ and SO_4^{2-} , are held together via the N—H...O hydrogen-bonded interactions resulting in a three-dimensional supramolecular network.

Key words [Solvothermal synthesis](#) [Supramolecular network](#) [Hydrogen-bond](#) [Ethylidene thiourea](#)

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