

Synthesis, Characterisation and Crystal Structure of a Copper(II) Dichromate Complex with the N,N'-Bis(2-pyridylmethylene)butane-1,4-diamine Schiff Base Ligand

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Z. Naturforsch. **2007**, 62b, 495 – 500; received October 20, 2006

The new complex $\text{Cu}[\text{L}^1]\text{Cr}_2\text{O}_7$ has been synthesised with the N,N'-bis(2-pyridylmethylene)butane-1,4-diamine Schiff base L^1 , $[\text{NC}_5\text{H}_4\text{CH}=\text{N}(\text{CH}_2)_4\text{N}=\text{CHC}_5\text{H}_4\text{N}]$, and characterised with elemental analyses and different spectroscopic and electrochemical studies. The structure of the new complex has been established by single crystal X-ray diffraction. The complex crystallises in the monoclinic system with space group $P2_1/c$ having cell parameters $a = 14.7(5)$, $b = 9.22(2)$, $c = 16.2(5)$ Å, $\beta = 116.9(1)^\circ$, and $Z = 4$. The $\text{Cr}_2\text{O}_7^{2-}$ unit is bonded through one terminal oxygen donor end to the central Cu(II) chelated by the Schiff base ligand.

Key words: Copper(II), Dichromate, Schiff Base, Synthesis, X-Ray Structure