

Synthesis and Structural Characterization of the Mixed Ligand Complex $[\text{Cu}(\text{HmL})_2(\text{phen})] \cdot 2 \text{H}_2\text{O}$ ($\text{H}_2\text{mL} = 2\text{-Methylactic Acid}$)

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A new mixed-ligand complex of copper(II) with 1,10-phenanthroline and 2-methylactate was prepared. $[\text{Cu}(\text{HmL})_2(\text{phen})] \cdot 2\text{H}_2\text{O}$ (where $\text{HmL} = \text{monodeprotonated 2-methylactic acid}$) was characterized by elemental analysis, IR, electronic and EPR spectroscopy, magnetic measurements at room temperature, thermogravimetric analysis and X-ray diffractometry. The copper atom is in a tetragonally distorted octahedral environment and the 2-methylactato ligand is bidentately chelating. The presence of lattice water molecules mediates the formation of a three-dimensional network.

Key words: Copper(II), 2-Methylactic Acid, Phenanthroline