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SYNTHESIS, STRUCTURE AND BIOLOGICAL PROPERTIES OF COPPER(II) COORDINATION COMPOUNDS WITH QUINOLINE 4-SUBSTITUTED THIOSEMICARBAZONE

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Thiosemicarbazones are currently well established as an important class of sulphur donor ligands particularly for transition metal ions. Thiosemicarbazones and their metal complexes have received considerable attention because of their antifungal, antibacterial, anti-inflammatory, antiviral and antitumor activities [1, 2]. Interest cooper(II) complexes with 8-formylquinoline thiosemicarbazone derivatives has been stimulated because that their biological activities are often enhanced on complexation [3].

Two compounds with the general formula $Cu(HL)(NO_3)_2 \cdot nH_2O$ obtained in reaction of $Cu(NO_3)_2 \cdot 3H_2O$ with corresponding organic ligands (HL^1- 4-[2,3-dimethylphenyl]thiosemicarbazone 8-formylquinoline (**1**) and HL^2-4-[2,4-dimethylphenyl]thiosemicarbazone 8-formylquinoline (**2**)) were separated and structurally characterized. Single crystals suitable for X-ray diffraction studies were obtained by slow evaporation of the solvent from an aqueous solution of the product at room temperature. X-ray analisys shows a mononuclear structure of the products. The copper(II) metal ions are coordinated hexadentate - NNS from organic ligands, two water molecues and one oxygen from nitro anion.

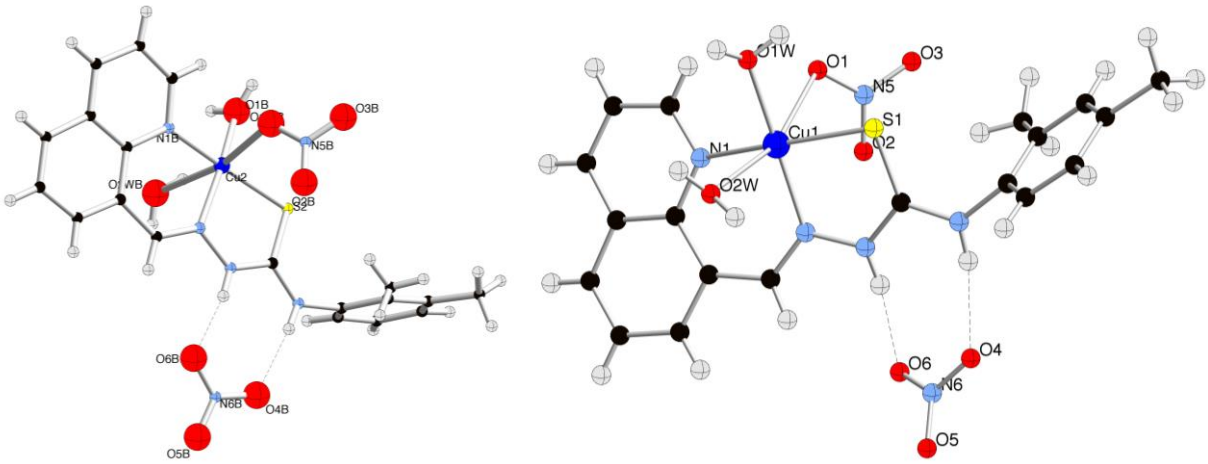


Fig. 1. Crystal structure of the compound **1** (left) and **2** (right).

The antimicrobial activities of the complexes were evaluated. The antimicrobial activity are superior with reference furaciline - compound.

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