

CHUMAKOV, Y., GRAUR, V., ULCHINA (GRAUR), Y., SMAGLII, V., GULEA, A., GARBUZ, O., TSAPKOV, V. Crystal structures of [*N'*-(2-oxidobenzylidene)-*N*-(prop-2-en-1-yl)-carbamohydrazonothioato(2-)](1, 10-phenanthroline) copper and [*N'*-(2-oxidobenzylidene)-*N*-(prop-2-en-1-yl)-carbamohydrazonothioato(2-)](2, 2'-bipyridine) copper hemihydrates. In: *Journal of Structural Chemistry*. 2022, vol. 63, nr. 6, pp. 905-913. ISSN 0022-4766. **IF 1.004** DOI: <https://doi.org/10.1134/S0022476622060075>

The crystal structures and biological properties of [*N'*-(2-oxidobenzylidene)-*N*-(prop-2-en-1-yl)-carbamohydrazonothioato(2-)](1,10-phenanthroline)copper hemihydrate [Cu(1,10-Phen)(L)]·0.5H₂O (**I**) and [*N'*-(2-oxidobenzylidene)-*N*-(prop-2-en-1-yl)-carbamohydrazonothioato(2-)](2,2'-bipyridine)copper hemihydrate [Cu(2,2'-BPy)(L)]·0.5H₂O (**II**), where H₂L is 2-(2-hydroxybenzylidene)-*N*-(prop-2-en-1-yl)hydrazinecarbothioamide, are determined. The asymmetric unit of the unit cell in the crystal structures of **I** and **II** contains a copper complex with bidentate amine and a ligand coordinated by the azomethine nitrogen atom, the deprotonated phenolic oxygen atom, and the sulfur atom in the thiol form. The coordination polyhedron of the copper atom in compounds **I** and **II** is a distorted tetragonal pyramid. Obtained coordination compounds **I** and **II** exhibit antimicrobial and antifungal activities and have minimum inhibitory concentration and bactericidal concentration values in a range of 1.5-500 µg/mL. The study of the antioxidant activity shows that compounds **I** and **II** are less active than uncoordinated thiosemicarbazone H₂L, but more active than trolox used in medical practice.