

**SYNTHESIS, STRUCTURE, AND ANTITUBERCULOUS PROPERTIES OF COPPER  
COORDINATION COMPOUNDS WITH 2-HYDROXY-3-  
METHOXYBENZALDEHYDE ISONICOTINOYLHYDRAZONE**

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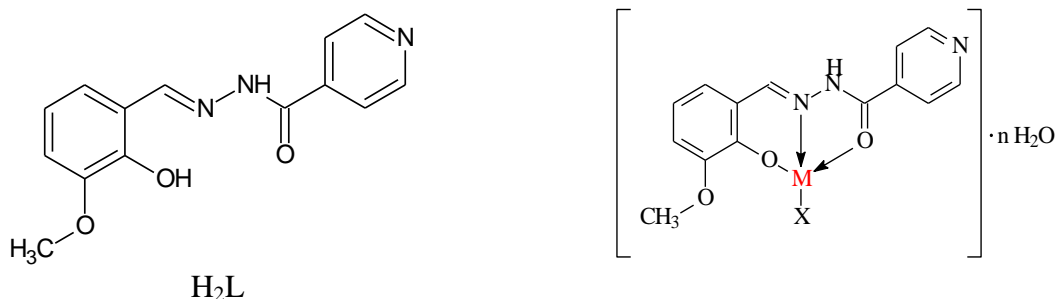
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Isonicotinic acid hydrazide (isoniazid), known in medical practice as tubazide, is an organic compound that is used in medicine for prophylaxis and treatment of tuberculosis. This substance manifests one of the best bacteriostatic activities against *Mycobacterium tuberculosis* H37Rv, but it also has high toxicity and, therefore, its use as a medicine is limited.

Using isoniazide as initial substance by the reaction of condensation with 2-hydroxy-3-methoxybenzaldehyde it was obtained 2-hydroxy-3-methoxybenzaldehyde isonicotinoylhydrazone (H<sub>2</sub>L). Monocrystals of H<sub>2</sub>L were obtained as a result of recrystallization from ethanol and their crystal structure was determined by X-ray analysis. Ligand H<sub>2</sub>L represents almost planar molecule except methoxy group.

Also it was synthesized one coordination compound of Cu(II) with H<sub>2</sub>L. Its composition and probable structure was determined on the basis of data from elemental analysis and magnetochemistry:



The data obtained from the study of antituberculous properties is shown in the table. This research indicates that the free ligand H<sub>2</sub>L and coordination compound Cu(HL)Cl manifest bacteriostatic activity at the concentrations 10 and 20 µg/mL. These substances inhibit the growth of tuberculosis bacteria H37R<sub>v</sub> for the first two weeks.

#	Compound	Dilution	WK.1	WK.2	WK.3	WK.4	WK.5
1	H <sub>2</sub> L	10	negative	negative	positive	positive	positive
		20	negative	negative	positive	positive	positive
2	Cu(HL)Cl	10	negative	negative	positive	positive	positive
		20	negative	negative	positive	positive	positive

Antituberculous activity of the synthesized substances is comparable with the activity of medicaments used in medical practice.

*This work was fulfilled with the financial support of the Project 14.518.04.07A of the State Program.*