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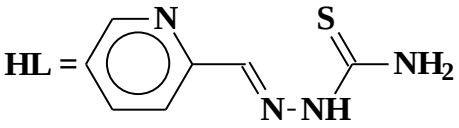
SYNTHESIS AND CRYSTAL STRUCTURE OF CHLORO-(2-FORMYLPYRIDINE-THIOSEMICARBAZONO)COPPER DIMETHYL SULFOXIDE SOLVATE.

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In the present, thiosemicarbazide' derivatives are widely used in medicine to treat infections caused by various microorganisms. It was found that some coordinative compounds of these substances, which can be obtained at their interaction with transition metal salts, display physiologic activity, this fact allowing to examine them as preparations with biochemical and pharmacologic application.

Therefore, the objective of this work consists in establishing optimal synthesis conditions, determination of the composition and structure of the Copper (II) coordinative with thiosemicarbazone 2-formylpyridine (HL) with the further determination of its biologic properties.



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The aforementioned component was obtained at the interaction of boiling ethanol solutions (55-60^{o}C) of $CuCl_2$ $2H_2O$ with thiosemicarbazone 2-formylpyridine with the molar ratio of 1:1.

The substance in the focus was re-crystallized from the solution of ethanol - dimethyl sulfoxide (4:1). The obtained monocrystals were analyzed with X-rays.

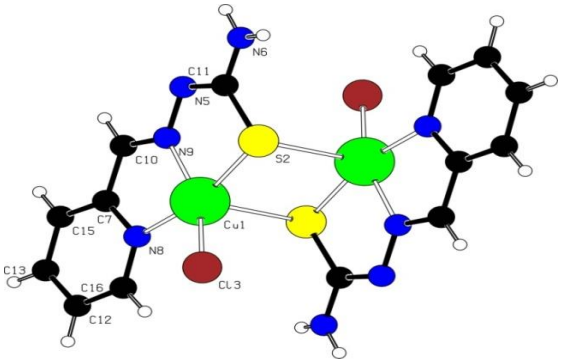


Fig.1 Structure [CuLCl]·DMSO

The crystal structure contains the complex [CuLCl] and a molecule of dimethyl sulfoxide solvent. In this complex, Copper display coordination number 6 and is bonded with pyridinic nitrogen, azomethine, thiosemi-carbazone sulfur and chlorine ion.

Each molecule represents a dimer, where the thiosemicarbazone sulfur plays the role of the bridge and is the symmetry center of the molecule.

Furthermore, indentifying the anti-proliferative activity of the synthesized complexe was of high interest.

It was found that this complex inhibit the growth of myeloid leukemia cells HL-60 in concentration levels between 10^{-4}-10^{-5} mol/L. With the concentration level 10^{-6} mol/L the researched coordinative complex does not display any activity.

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