COORDINATION COMPOUNDS OF SOME 3D METALS WITH SALICYLALDEHYDE 4-METHOXYTHIOSEMICARBAZONE

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Earlier at the Faculty of Chemistry and Chemical Technology, biometal coordination compounds of 4-phenyl substituted salicylaldehyde thiosemicarbazones were synthesized. It was established that the initial ligands and complex compounds based on their biometals exhibit selective anticancer and antimicrobial activity. Further interest was to synthesize new biometal coordinative compounds with ligands of this type, containing in the phenyl fragment of the thiosemicarbazones the methoxy group coordinated in different positions, to study its composition, structure and the physico-chemical and biological properties.

The targets of this thesis consisted in finding the conditions of synthesis, the establishment of structure and physicochemical properties of coordination compounds of copper (II), nickel (II) and cobalt (III) with 4-(2-, 3-, or 4 methoxyphenyl) thiosemicarbazones salicylaldehyde and 4-(2-, 3-, or 4-methoxyphenyl) thiosemicarbazones 2-hydroxy-1-naphthaldehyde.

The results of the study show that the antimicrobial activity of the synthesized compounds possess bacteriostatic and bactericidal concentrations within the limits of 2-500 mg /ml .It was established that the highest biological activity against studied microorganisms exhibits thiosemicarbazone H_2L^2 against *Staphylococcus aureus* microorganism , the highest activity manifests thiosemicarbazone H_2L^5 and coordination compounds obtained under 4-(2-methoxyphenyl)thiosemicarbazones salicylaldehyde (H_2L^1), the highest sensitivity to the studied compounds exhibits against *Staphylococcus aureus* strains and *Candida albicans*.