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Synthesis, characterization, and antibacterial activity of some transition metals with the Schiff base N-(2-furanylmethylene)-3-aminodibenzofuran

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Abstract: This paper presents the structure and antibacterial properties of some complexes of Co(II), Ni(II), Cu(II), Zn(II), Cd(II), and Hg(II) with a new Schiff base N-(2-furanylmethylene)-3-aminodibenzofuran. The structure of each complex was characterized by spectroscopic methods (IR, UV-Vis, ¹H-NMR, and ESR), conductometric and magnetic data, and thermogravimetric and elementary analysis. According to these data, we propose an octahedral geometry for Co(II), Ni(II), and Cu(II) complexes, and a tetrahedral geometry for Zn(II), Cd(II), and Hg(II) complexes. Antibacterial activity of the ligand and its complexes was tested against selected bacteria. The ligand and all the complexes possess antimicrobial activity, and antimicrobial activity of the complexes is higher than that of the free ligand.

Key Words: Schiff base, metal complexes, antibacterial activity.

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