SYNTHESIS, CHARACTERIZATION AND ANTIMICROBIAL ACTIVITY OF NEW METAL COMPLEXES WITH OROTIC ACID

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ABSTRACT

The aim of the present work is to synthesize and characterize new metal complexes. Novel pseudohalide ligands with orotic acid and its metal salt Ni(II) have been synthesized and evaluated for their antimicrobial activities by disc diffusion method. The complexes have been characterized by IR and UV-Visible spectroscopic techniques. The Diaquabis (imidazole) orotatoNickel(II), $[Ni(HOr)(H_2O)_2(Imd)_2]$(1), Diazidobis (orotato) nickel(II)], $[Ni(HOr)_2(N_3)_2]$(2), Diisocyanatobis(orotato) nickel(II)], $[Ni(HOr)_2(NCO)_2]$ and Dithiocyanatobis (orotato) nickel(II)] ,$[Ni(HOr)_2(NCS)_2]$ have been synthesized and characterized by means of elemental analysis, IR, UV–Vis studies. The Ni(II) ions in $[M(C_5H_2N_2O_4)(H_2O)_2(C_3H_4N_2)_2]$ the complex has a distorted octahedral coordination geometry comprised of one deprotonated pyrimidine N atom and the adjacent carboxylate O atom of the orotate ligand, two tertiary imidazole N atoms and two aqua ligands.

KEYWORDS: Antimicrobial Activity, Complex, Ligand, Orotic Acid