

Platinum metals complexes of 4-benzoyl pyrazolone schiff bases and their antimicrobial activities

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Abstract

The Pyrazolone was introduced into the drug regimen as a drug for the treatment of some organisms until its resistance to some microbes dominated the scene and the need for further research became necessary. Transition metal complexes of Schiff bases have played a significant role in the field of coordination, inorganic and bioinorganic chemistry as models for biological, analytical and industrial applications. The activity of the 4-benzoyl pyrazolone, its Schiff base and its complex formation with platinum group metals necessitated the investigation of their biological activity. This thesis deals with the synthesis, characterization and in vitro biological studies of platinum metals Schiff bases. 4-benzoyl pyrazolone was synthesized as the Primary ligand and further reacted with 2-hydroxyl aniline to form the first Schiff base and also with 2 nitro aniline to form a second Schiff base. The two Schiff bases, complexed with the chlorides of platinum group metals (PGMs) namely - Ru, Rh, Pd, Os, Ir and Pt and characterized by elemental analyses, melting point/decomposition temperature, and molar conductivity, FTIR, and UV-Vis spectroscopy. The results of the spectroscopic studies revealed that the Schiff base ligands coordinated to platinum metal ions through the ($>C=N$) nitrogen and phenolic oxygen atoms in the spectra of platinum metals complexes.

Biography

P U Umennadi is a lecturer at Department of Pure and Industrial Chemistry of Nnamdi Azikiwe University, Awka, Anambra State and has taught chemistry at high school level and degree level for over 13 years. He completed his Ph.D. at Chukwuemeka Odimegwu Ojukwu University, Uli, Anambra State, Nigeria, also his M.Sc at the University of Hull, United Kingdom and Undergraduate Studies at Ebonyi State University, Abakaliki Nigeria. His research interest lies in the area of total synthesis of heterocyclic natural products with medicinal and/ or structural importance. He has collaborated actively with researchers in several other areas in chemistry as well.



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