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Synthesis Characterization and biological applications of some Heterocyclic molecules of Transition metal complexes.

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Abstract: Heterocyclic molecules of Di alkyl and methoxy benzaldehyde substituted benzimidazole derivatised 8-hydroxyquinoline and transition metal complexes of Cu(II), Co(II),Ni(II) and Zn(II) Have been prepared by conventional melt condensation method and all these synthesized ligands and complexes characterized by spectral and physicochemical methods of NMR, IR, MASS, Uv - VISIBLE and elemental analysis.

Keywords: benzaldehyde substituent's, melt condensation, benzimidazole, 8-hydroxyquinoline. Introduction

Heterocyclic compounds are acquiring more importance in recent years as these can be found in a large number of compounds which display biological activity. Heterocyclic compounds particularly five and six member heterocycles have attracted the attention of pharmaceutical community over the years due to their therapeutic value. The history of heterocyclic compounds was aged in the field of pharmaceutical as well as biological activity. Mannich

bases having N and O donor atoms have been shown to possess a wide spectrum of biological activities and physicochemical properties. Benzimidazole derivatives occupied a major part in the field of pharmaceutical chemistry and very important field of heterocyclic compounds[1-2]. The benzimidazole nucleus maiety is existing in many Benzimidazole compounds are consider a promising field of bioactive heterocyclic compounds, Specifically this nucleus is constitution of vitamin-B12[3]. Mannich reaction is a carpon-carbon bond forming nucleophilic addition reaction and is a key step in synthesis of a wide variety of natural products, pharmaceuticals, and so forth. Mannich reaction is important for the construction of nitrogen containing compounds. There is a number of amino alkyl chain bearing Mannich bases like fluoxetine, atropine, et acrynic acid, trihexyphenidyl, and so forth with high curative value. The literature studies enlighten the fact that Mannich bases are very reactive and recognized to possess potent diverse activities like anti-inflammatory, anticancer, antiflarial, antibacterial, antifungal, anticonvulsant, anthelmintic, antitubercular, analgesic, ami-HIV, ant malarial, antipsychotic, antiviral activities and so forth[4]. Schiff base hold a major part in the field of pharmaceutical research due to their high biological activity. Thus, numerous attempts to develop and design of new Schiff base still arouse interest of pharmaceutical and medicinal researchers [5].] Schiff bases of benzimidazole have been reported with remarkable antibacterial [6], antimicrobial [7] and ant proliferative [8] activities. In addition to their biological importance, benzimidazole form stable complexes with various transition metals. The history of heterocyclic compounds was aged in the field of pharmaceutical as well as biological coordination chemistry transition activity

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