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Nickel (II) complexes with symmetrical tridentate ligand: Synthesis, Spectral Characterization and Biological Evaluation

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ABSTRACT

Six heterocyclic base adducts of Nickel (II) complexes have been synthesized by the reaction of Nickel (II) chloride with 5-chloro-2-hydroxy acetophenone thiosemicarbazone in presence of heterocyclic base like pyridine (py), 2,2'-bipyridine (bipy), 1,10-phenanthroline (Phen), α/β-picoline. Thiosemcarbazone has been characterized by ^{13}C, ^{1}H NMR as well as IR, electronic spectra. The synthesized adducts have been fully characterized by elemental analysis, IR, UV-visible spectra, magnetic measurement, electrical conductivity, TGA, The magnetic and spectroscopic data indicate a square planner geometry for the four coordinate and a distorted square pyramidal for five coordinate complexes. The thiosemicarbazone and its Nickel (II) complexes show growth inhibitory activity against Pseudomonas Putida, Escherichia Coli, Aspergillus Niger and Candida Albicans. Thiosemicarbazone and its Nickel (II) complexes have been found antioxidant.

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Keywords: Thiosemicarbazone, Bioactive Ni (II) complexes, antimicrobial, antioxidant activity.
