CHAPTER 5

CONCLUSION

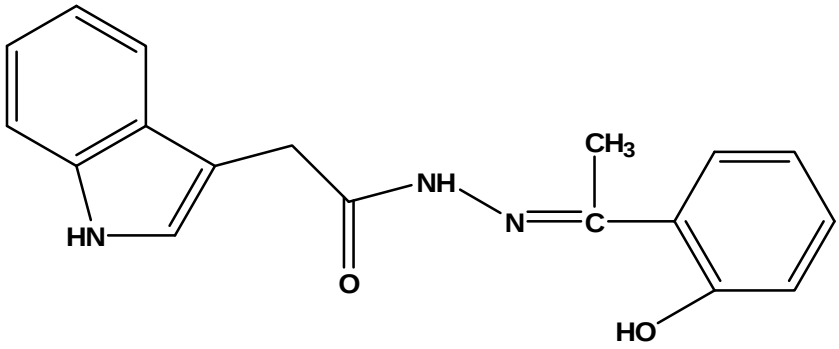
All the ligands and complexes were coloured, non-hygroscopic solids and stable in air. Most of the ligands melt or decomposed over 200˚C and for complexes they were melt over 300˚C. They are soluble in most organic solvents and have high solubilities in strongly polar non-protic solvent like DMSO. The elemental analysis of all ligands and complexes satisfactorily characterized to the proposed structure.

Indole hydrazones coordinated to zinc(II), nickel(II) and copper(II) metals as dimer ligands. The IR spectrum of the free ligand indicates that in solid state the ligand remains in the keto form. Recrystallization of ligand and complex 5-methyl-2-hydroxyacetophenone in DMSO obtained suitable crystals for x-ray analysis, indicating two ligands coordinated to the central metal atom. TGA Analysis were also performed showing degradation of the all metal complex to ZnO, NiO and CuO.

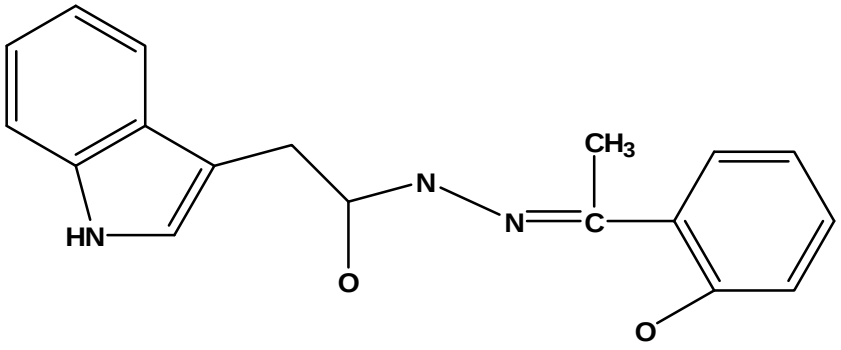
The results of this study show that for the 2-HapIH and complex Zn2-HapIH, the number of electron transfer is 1. The calculation of number of electron transfer and diffusion coefficient was determined by using equation 1, 2 and 3. The complex oxidized irreversibly and the process was diffusion controlled type.

For the biological testing, the ligands and their metal complexes except for 2-HapIH and $Ni_{5\text{-}CH3\text{-}2\text{-}HapIH}$ show better anti-ulcerogenic activity compared to cimetidine, the standard drug. The results show that substituted ligands inhibit gastric lesion more than the unsubstituted ligand and electron withdrawing substituent shows better inhibition

compared to electron donating substituent. Metal complexes show better inhibition of gastric ulcer compared to their free ligands.



ketonic form



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