



ChemTech

International Journal of ChemTech Research

CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555  
Vol.9, No.08 pp 548-556, 2016

## Synthesis, Spectral Structural Studies and 5 $\alpha$ -Reductase Inhibitory Activities of Co<sup>II</sup>, Ni<sup>II</sup>, Cu<sup>II</sup>, Zn<sup>II</sup> Mixed Ligand Complexes.

M. M. Abd-Elzaher, A. A. Labib, H. A. Mousa\*, W. A. A. Mohamed,  
S. A. Moustafa

Inorganic Chemistry Department, National Research Centre, 33 El Beehouth St., Dokki,  
PO 12622, Cairo, Egypt

**Abstract :** The mixed ligand complexes of Co<sup>II</sup>, Ni<sup>II</sup>, Cu<sup>II</sup> and Zn<sup>II</sup> with catechol (L<sub>1</sub>) and 2,3-Diamino-5-bromopyridine (L<sub>2</sub>) were synthesized. The bonding nature and shape of complexes were characterized through spectral instrument (IR, NMR, UV-vis), magnetic susceptibility, molar conductivity and elemental analysis. The ligands act as bidentate ligands and all complexes have octahedral geometry with non-electrolytes nature. The ligands and complexes have been screened against 5 $\alpha$ -reductase inhibitor *in vivo*, and all tested compounds showed a good inhibition activity towards 5 $\alpha$ -reductase enzyme. Zn<sup>II</sup> complex is found to be the most potent 5 $\alpha$ -reductase inhibitor and the lowest toxicity compared to the other tested compounds and standard drug anastrozole.

**Key words :** Mixed ligand-Catechol-2,3-Diamino-5-bromopyridine-5 $\alpha$ -reductase-Anastrozole.

H. A. Mousa *et al* /International Journal of ChemTech Research, 2016,9(8),pp 548-556.

\*\*\*\*\*