



Studies on the interaction and effect of Mn(II), Fe(II), Co(II), Ni(II), Cu(II), Zn(II) and Cd(II) mixed- ligand complexes of cephalixin mono hydrate and furan-2-carboxylic acid to different DNA sources

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ABSTRACT

To evaluate the Interaction of Mn(II), Fe(II), Co(II), Ni(II), Cu(II), Zn(II) And Cd(II) Mixed- Ligand Complexes of cephalixin mono hydrate (antibiotics) And Furan-2-Carboxylic Acid To The Different DNA Sources. All the metal complexes were observed to cleave the DNA. A difference in the bands of complexes. The cleavage efficiency of the complexes compared with that of the control is due to their efficient DNA-binding ability and the other factors like solubility and bond length between the metal and ligand may also increase the DNA-binding ability. The ligands (Cephalixin mono hydrate (antibiotics) and Furan-2-Carboxylic acid and there newly synthesized metal complexes shows good antimicrobial activities and Binding DNA, thus, can be used as a new drug of choice in the field of pharmacy. And for formulating novel medicinal agents.

Key words: Binding DNA, (Cephalixin mono hydrate (antibiotics), Furan-2-Carboxylic Acid) complexes.

INTRODUCTION

Transition metal complexes containing heterocyclic compounds have been of considerable interest in terms of structural chemistry, catalysis and biological functions. The field has undergone spectacular growth due to the synthesis of multidentate ligands from heterocyclic compounds and the complexes of such ligands form with metal ions (1-3). The extensive literature on beta-lactam antibiotics compounds reveals that there exists a strong connection between wide spectrums of biological activities with (4-7).

Furan-2-carboxylic acid($C_5H_4O_3$) (FCAH) is a heterocyclic aromatic compound with five- membered ring structure consisting of four CH_2 groups, one oxygen atom and a carboxylic group. (8,9).

In continuation of our work on the chemistry of Mn(II), Fe(II), Co(II), Ni(II), Cu(II), Zn(II) and Cd (II), Mixed Ligand Complexes of cephalixin mono hydrate (antibiotics) (CephH) = ($C_{16}H_{19}N_3O_5S.H_2O$) and Furan-2-carboxylic acid (FCA H) = ($C_5H_4O_3$) . (9) Scheme (1)