CYTOTOXICITY AND DNA CLEAVAGE STUDIES OF SALICYLHYDROXAMIC ACID AND ITS Ni(II), Cu(II) AND Zn(II) COMPLEXES.

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ABSTRACT

CYTOTOXICITY AND DNA CLEAVAGE STUDIES OF SALICYLHYDROXAMIC ACID AND ITS Ni(II), Cu(II) AND Zn(II) COMPLEXES

Ni((II), Cu(II) and Zn(II) complexes of salicylhydroxamic acid have been synthesized and characterized by elemental analysis, FT-IR, ^{1}HNMR spectroscopy, magnetic moment, melting point determination and conductivity measurement data. The spectral data suggests that the salicylhydroxamic acid act as a bidentate ligand and is coordinated to the metal ion through the hydroxamate group. The interaction of the salicylhydroxamic acid ligand and its complexes with double stranded supercoiled DNA was studied using agarose gel electrophoresis. From the DNA cleavage studies, it was found that the supercoiled structure of the bacterial DNA was maintained indicating that all compounds had no negative effect on bacterial DNA. The ligand and complexes were also subjected to *in vitro* cytotoxicity test using Chang liver cells. Treatment of Zn(II) complex to these cells have shown that the IC_{50} value is at 62 μM. This shows that Zn(II) complex had toxic effect on Chang liver cells. A decrease in cells viability indicates that the cells were stopping actively growing and dividing. But the ligand and other complexes tested were found to be non-toxic.