ABSTRACT
Abstract

7-hydroxy – 8 aceto coumarin hydrazone was synthesized and used as chelating agent to chelate Cu$^{+2}$, Ni$^{+2}$, Co$^{+2}$, Fe$^{+2}$ and Fe$^{+3}$. Moreover 7-hydroxy – 8 aceto – N-(4',6', dichloro 1',3',5'-s-triazino) coumarin hydrazone was also synthesized and was used as a chelating agent to chelate Cu$^{+2}$, Ni$^{+2}$, Co$^{+2}$, Fe$^{+2}$ and Fe$^{+3}$. Also twenty amine derivatives of 7-hydroxy-8-aceto–N-(4',6',dichloro 1',3',5'-s-triazino) coumarins hydrazone were synthesized.

The magnetic susceptibility of these chelates was determined using Guoy's balance. While Nickel chelate which was found to be diamagnetic, which as chelates of Cu$^{+2}$, Co$^{+2}$, Fe$^{+2}$ and Fe$^{+3}$ were found to be paramagnets. Job’s method indicated that the metal to ligand ratio was 1:2 for chelates of Cu$^{+2}$, Ni$^{+2}$, Co$^{+2}$ while it was 1:1 for Fe$^{+2}$ and Fe$^{+3}$ chelates. Using the data obtained in job’s method it was possible to determine the stability constants as well as free energy of formation of the synthesized chelates. The stability constant was of the order of 10^4 to 10^9 which indicates the stability of these complexes.

The magnetic susceptibilities and magnetic moments of synthesized chelates was determined using Guoy's method. I.R., U.V., NMR spectra of these also recorded.
Anti bacterial and anti fungal activity of some of these compounds were determined by agar plate techniques and the results were appreciable compared to standard drugs like Peniciline, Ampicillin, Geramycin and Chloromphenicol, tested under identical condition.