

Appendix :

Papers published or accepted for publications:

Abstracts :

1. Study in some heterochelates Part II, Ni(II) or Zn(II) + dipyridyl + hydroxy or mercapto acid systems; J.Inorg.Nucl. Chem., 35(5), 1685 (1973).

Irving-Rossotti titration technique has been applied to study the mixed ligand formation constants of the heterochelates formed by the reaction $MA + L \rightleftharpoons MAL$ where M = Ni(II), Zn(II), A = dipyridyl and L = hydroxy acid or mercapto acid. The value of mixed ligand formation constant, K_{MAL}^{MA} is almost equal to the value of K_{ML}^M . The results have been interpreted.

2. Study in some heterochelates Part IV, Ni(II) + o-phenanthroline + mercapto acid or aromatic polyhydroxy ligand, Ind.J.Chem., 11, 946 (1973).

Formation constants of mixed ligand complexes $\log K_{MAL}^{MA}$, where M = Ni(II), A = o-phenanthroline and L = mercapto acid, polyhydroxy phenol or phenolic acid, have been determined by using a modified form of Irving-Rossotti titration technique. The value of mixed ligand formation constant K_{MAL}^{MA} is almost equal to the value of K_{ML}^M . The results have been interpreted in terms of the nature of bonds.

3. Study in some heterochelates Part VI, Cu(II), Ni(II) + NTA or Histidine + oxy acids and mercapto acids., J.Ind.Chem. Soc., 50, 344 (1973).

Formation constants, $K_{Ni.Hist.L}^{Ni.Hist.}$ where L = hydroxy or mercapto acid, $K_{Ni.NTA.L}^{Ni.NTA}$ where L = mercapto acid and $K_{Cu.NTA.L}^{Cu.NTA}$

where L = hydroxy acid, have been determined by using the modified method of Irving-Rossotti titration technique. Both hydroxy and thio acids behave alike as secondary ligand. It has been inferred that the contribution of π -interaction in stabilizing M-S bond in complexes is not very significant.

4. **A study of the formation constants of amino acid and corresponding hydroxy acid complexes.** (accepted)

Formation constants of amino acid complexes of some transition and non-transition metal ions have been determined by using Irving-Rossotti titration method. The values have been correlated with the formation constant of the corresponding hydroxy complexes and thus the relative stabilities of the M-O and M-N bonds have been determined and explained.

5. Study in some heterochelates, Ni(II) + dipyrityl or o-phenanthroline + mercapto acid, Ind.J.Chem., (communicated).

The heterochelates MAL where M = Ni(II), A = dipyrityl, or o-phenanthroline and L = thioglycollic acid, thiolactic acid or thiomalic acid have been isolated. The complexes are paramagnetic and IR data reveal that all the characteristic bands of both the ligands are present.