APPENDIX

LIST OF PUBLICATIONS

1. Studies on Some Mixed Schiff Base Complexes.V.- Bull.Chem. Soc.jpn., 49 (10), 2872 (1976).

As regards the preparation and characterization of some new mixed complexes of the type MLL' where M = Cu(II), Ni(II); L = salicylaldimine and L' = (o-hydroxybenzyl)(ethylidene-amine) or o-hydroxydiphenylenethyleneamine or their derivatives, we have carried out the preparation of a few similar types of complexes where L' = 2-hydroxy-1-naphthylmethyleneamine. The mixed imine Schiff base complexes have been prepared by treating the metal ammine complex with an equivalent amount of salicylaldehyde and 2-hydroxy-1-naphthaldehyde. Amine exchange reactions have also been carried out by treatment of mixed imine Schiff base complex with ethylenediamine (en) or propylenediamine(pn). The complexes of new Schiff base were formed where diamine have salicylaldehyde condensed at one end and 2-hydroxy-1-naphthaldehyde at the other end. The complexes have been characterized by elemental analysis, TLC analysis, conductance measurements, magnetic measurements and spectral analysis.

2. Mixed Ligand Complexes of Cu(II) and Ni(II) with Tertiary Amines and Aromatic Aldehyde or Ketone. J.Indian Chem.Soc., 54, 340 (1977).

Mixed ligand complexes of type $[M.A.(N\text{-}N)]ClO_4$, where M = Cu(II) or Ni(II); N-N = bipyridyl or o-phenonthroline and A = salicyl-aldehyde, 2-hydroxy-1-naphthaldehyde or 2-hydroxy-acetophenone have been prepared. Reactions of these compounds have been carried out with ammonia, which lead to the formation of

Schiff base complexes of salicylaldehyde, 2-hydroxy-1-naphthaldehyde or 2-hydroxy-acetophenone.

The compounds have been characterized by elemental analyses, spectral, magnetic and conductance studies.

3. Ternary Cu(II) and Ni(II) Complexes Containing Aromatic Aldimines. Indian J.Chem. 15A, 566 (1977).

Reactions of aromatic amines with the mixed Schiff base complexes of the type MLL', where M = Cu(II) or Ni(II); L = salicylaldimine and L' = 2-hydroxy-1-naphthaldimine, have been carried out. The new mixed Schiff base complexes (I-III) have also been synthesized by treating the equivalent amounts of preformed Schiff bases of salicylaldehyde and 2-hydroxy-1-naphthaldehyde with aromatic amines with an equivalent amount of the metal salt solution. The complexes of the type $[M.A.(N\text{-}N)]\ ClO_4$, where M = Cu(II), A = Schiff base of salicyldehyde with amine and N-N=dipyridyl or o-phenanthroline, have also been prepared. The complexes have been characterized on the basis of element and TLC analyses, conductance, magnetic moment and spectral data.

4. Reactions of Aminoalkanols with Some Copper(II) Complexes of the Mixed and Non-mixed Bis (Schiff base) Ligands. Bull.Chem.Soc., jpn., 50, 1482 (1977).

Reactions of aminoalkanols have been carried out with mixed and non-mixed bis(Schiff base) complexes of Copper(II). In these reactions one of the ligands combines with the aminoalcohol

forming a tridentate ligand, where another ligand is removed. From the resulting complexes the tendency to form the Schiff base is found to be in the order 2-hydroxybenzophenone ≪ 2-hydroxy-1-naphthaldehyde ⟩ salicylaldehyde ⟩ 2-hydroxyacetophenone. The complexes formed have been characterized by analytical, spectral and magnetic studies.

5. Nitration and Bromination of Some Binary and Mixed Ligand Schiff Base Complexes of Cu(II). Indian J.Chem., 15A, 1025 (1977).

Nitration and bromination reactions have been carried out on Cu(II) complexes of Schiff bases derived from 2-hydroxybenzophenone and 2-hydroxy-1-naphthaldehyde. In the case of 2-hydroxybenzophenone, the electrophilic substitution takes place in the phenolic ring rather than in the substituent group attached to the azomethine carbon. Dinitration and dibromination take place on each of the ligands resulting in tetranitro and tetrabromo compounds. It is observed that in 2-hydroxy-1-naphthaldehyde moiety, only mono nitration takes place at C-6 and this results in dinitro products in the case of bis (2-hydroxy-1-naphthaldiminato) Cu(II) and N,N'-ethylenebis (2-hydroxy-1-naphthaldiminato) Cu(II) but trinitro products in the case of [(2-hydroxy-1-naphthaldiminato)(salicylaldiminato)]Cu(II) and N,N'-ethylene[(2-hydroxy-1-naphthaldiminato)(salicylaldiminato)]Cu(II) complexes. The complexes have been characterized on the basis of elemental analyses, spectral and magnetic studies.