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STUDIES OF PROTON AND METAL-LIGAND STABILITY CONSTANTS OF CU(II),NI(II) AND CO(II) COMPLEXES OF SUBSTITUTED SCHIFF'S BASES AND DIBROMO CHALCONES

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Abstract

The Interaction of metal ions with Cu(II),Ni(II) and Co(II) metal ions with:

i) 2-Hydroxy,3-Bromo,5-Chloro,4-Methoxy,N-(Orthonitro Phenyl) Chalcone Imine(L_1).

ii) 2-Hydroxy,5-Chloro,5-Methoxy,N-(Orthonitro Phenyl) Chalcone Imine (L_2).

iii) 2-Hydroxy,5-Chloro Chalcone Dibromide (L_3).

iv) 2-Hydroxy,5-Chloro,4-Methoxy Chalcone Dibromide (L_4).

iv) 2-Hydroxy,3-Bromo,5-Chloro,4-Methoxy Chalcone Dibromide (L_5).

have been studied at 0.1M Ionic strength.It is observed that, Cu(II),Ni(II) and Co(II) metal ions form 1:1 and 1:2 complexes with L_1 to L_5 ligands .

The substituted Schiff's Bases & Dibromo Chalcones show formation of simultaneous complexes. The order of proton-ligand stability constant is as $pKL_3>pKL_2>pKL_5>pKL_1>pKL_4>pKL_6$. The data obtained for pK and logK are used i)To see the effect of substituents,ii) To check the validity of logk = a.pK + b.Here proton-ligand & metal-ligand stability constants have been studied pH-metrically by Calvin-Bjerrum titration technique.

Keywords: Metal Ions (Cu(II),Ni(II),Co(II)),Ligand (substituted pyrazoles), Solvent(1,4-Dioxane) etc.