



Synthesis and Characterization of Water Soluble Analytical Reagent like 2-[(5-Hydroxy-3-Methyl-1-(4-Sulfophenyl)-1H-Pyrazolyl)Diazenyl] Benzene-1,4-Disulfonic acid Spectrophotometric reagent for Ni (II)

Anil V. Patil, Ravindra L. Aavhare and Ketan C. Desai*

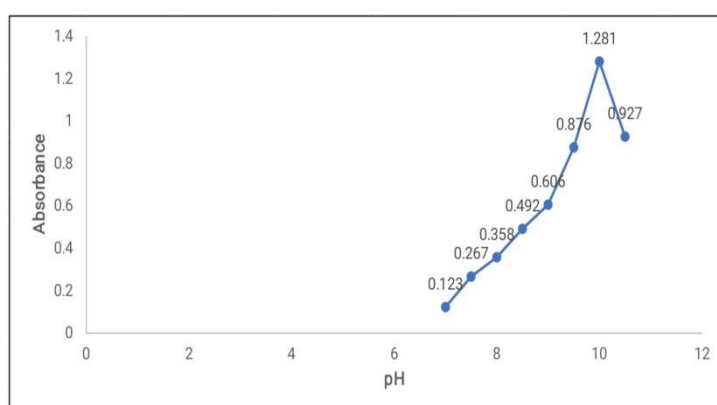
Department of Chemistry, Sir PT Sarvajani College of Science, Surat, Gujarat, **INDIA**
Email: raviaware27@gmail.com

Accepted on 21st June, 2022

ABSTRACT

The pyrazolone azo dye containing bidentate donor ligand 2-[(5-hydroxy-3-methyl-1-(4-sulfophenyl)-1H-pyrazol-4-yl)diazenyl]benzene-1,4-disulfonic derived from aniline-2,5-disulphonic acid and 4-(5-hydroxy-3-methyl-1H-pyrazol-1-yl)benzene-1-sulfonic acid (pyrazolone) as a coupler by the diazotization reaction. The diazonium salt solution of aniline-2,5-disulphonic acid reacting with pyrazolone as a coupling compound in solution. The metal complexes series of the same were prepared with Ni(II), Co(II), Cu(II), Mn(II) and Fe(III). The synthesized ligand structures was identified and confirmed via various spectroscopic techniques which is UV-Visible, ¹H NMR, Fourier-transform Infrared (FTIR). The physical properties of the ligand have been studied via check its melting point. The formation of metal complexes in proper condition have been studied the prepared metal ion complexes where identified via UV- visible and FT-IR spectra and also check by biological activities of all metal ion complexes and ligand.

Graphical Abstract:



Effect of pH on absorbance values of Ni chelate complex.

Keywords: Heterocyclic acid dyes, Metal complexes, Spectral studies, Physico-chemical studies, Antibacterial activity.