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Synthesis and study of Fe(III), Co(II), Ni(II) and Cu(II) complexes of new Schiff's base ligand derived from 4-amino antipyrine

Abbas Noor Al-Shareefi*, SalihHadiKadhim and Waleed Abbas Jawad

Department of Chemistry, college of Science, University of Babylon -**IRAQ**

Email:ali198046@yahoo.com

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ABSTRACT

A new series of transition metal complexes of Fe(III), Co(II), Cu(II) and Ni(II) were synthesized from the Schiff base ligand derived from 4-aminoantipyrine, p-aminoacetophenone and vanillin to give the following ligand: 4-(1-4-(hydroxy-3-methoxybenzylideneamino) phenyl) ethylideneamino)-1-pyrazol-3-one. The structural features were derived from their elemental analyses, flame atomic absorption spectroscopy, magnetic moment measurements, molar conductance, melting point, infrared and UV-visible spectroscopy. On the basis of the studies the coordination sites were proven to be through oxygen of the ring C= O and nitrogen of the azomethine CH = N group. From the observations, the octahedral geometric structure for the synthesizedcomplexes were suggested.

Keywords: Schiff bases, metal complexes, 4-aminoantipyrine, vanillin, p-aminoacetophenone.