



## **Synthesis and Spectroscopic Characterization of Mn(II) and Fe(II) Complexes With A Schiff Base Derived from 4-(N, N-Dimethylamino) Benzaldehyde and 2-Aminophenol**

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**Abstract:**The Schiff base ligand (DBAP) was synthesized by condensation reaction of 2-aminophenol and 4-(N,N-dimethylamino)benzaldehyde in 1:1 molar ratio in an ethanolic medium. The metal(II) complexes were formed by refluxing the chloride salts of the metals with the Schiff base ligand. The Schiff base and its complexes were characterized by melting point/decomposition temperature, solubility test, elemental analysis, molar conductance measurement, infrared spectral analysis and magnetic susceptibility measurement. The ligand and the complexes were coloured, non-hygroscopic and air stable. The elemental analysis data of the complexes showed the formation of 1:2 metal - ligand ratio. The conductivity measurement data revealed that the complexes are non-electrolytes. The infrared data indicated the bidentate nature of the Schiff base ligand coordinated with the metal ions via the nitrogen atom of the azomethine (C=N) and oxygen atom of the hydroxyl group after deprotonation. The magnetic moment values of the complexes suggested a paramagnetic phenomenon around a four-coordinate tetrahedral geometry.

**Keywords:** Schiff base ligand, infrared, magnetic moment.

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