

MIXED TRANSITION METAL COMPLEXES OF 3,4-DIAMINOBENZOPHENONE AND 2,6-PYRIDINEDICARBOXYLIC ACID, $[M(dbp)_2(pda)_2Cl_2]$ WHERE M = Mn(II), Fe(II), Co(II), Ni(II) and Cu(II)

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ABSTRACT

The present papers reports the mixed transition metal complexes of 3,4-diaminobenzophenone and 2,6-pyridinedicarboxylic acid, $[M(dbp)_2(pda)_2Cl_2]$ where M = Mn(II), Fe(II), Co(II), Ni(II) and Cu(II). Initially 3,4-diaminobenzophenone was complexed with transition metal halide to obtain $M(dbp)_2Cl_2$ type of complexes where dbp = 3,4-diaminobenzophenone and M = Divalent transition metal halide. These mononuclear complexes were then reacted with 2,6-pyridinedicarboxylic acid to generate the title complexes. The complexes were spectroscopically characterized using IR, ¹H and ¹³C NMR, UV-visible, thermogravimetric analysis (TGA and DTA) as well as conductometrically. On the basis of these studies the transition metal ions is found to acquire the octahedral geometry in all the complexes. Moreover, the complexes have also been screened for their plausible antioxidant activity using DDPH assay and $[Cu(dbp)_2(pda)_2Cl_2]$ was found to be most potent.

Keywords: Transition metal complexes; 3,4-diaminobenzophenone; 2,6-pyridinedicarboxylic acid; Spectroscopic characterization