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Synthesis and Charactrisation of Dehydroacetic acid based New Mn(II),Fe(III),Co(II), metal Complexes of Asymmetrical Ligand

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Abstract: Solid asymmetrical complexes of Mn(II),Fe(III), and Co(II)of Schiff bases are synthesized from o-phenylenediamine,3-Acetyl-6-methyl-pyran-2,4-dione (DHA)and4-N,N, Diethyl amino Salicylaldehyde. The structures of ligands and complexes are characterized by thermal analysis, X-ray diffraction,^{1}H-NMR, mass, IR,UV-visible spectra, elemental analysis, magnetic susceptibility, and conductometry. Thermal study carried out to calculate kinetic parameter through TGA/DSC.The ligand field parameters have been characterized for Mn(II), Fe(III), Co(II)complexes, which recommend high spineoctahedral geometry. The x-ray diffraction data proposes monoclinic crystal system for all three complexes. The ligand and their metal complexes were subjected for fungicidal activity against Trichoderma and Aspergillus Niger and antibacterial activity against Escherichia coli and Staphylococcus aureus.

Keywords : Dehydroactic acid, Powder X-ray diffraction, Thermal analysis Antimicrobial activity.

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