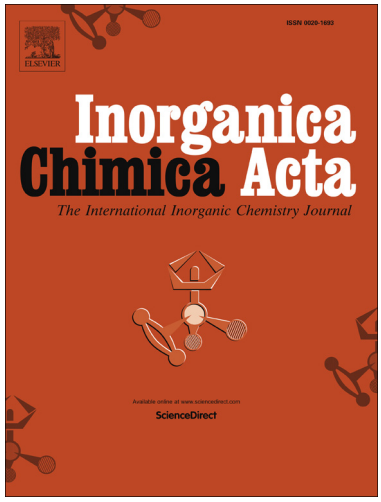

Research paper

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Two new manganese(III) complexes with salicylaldimine Schiff bases: Synthesis, structure, self-assembly and phenoxazinone synthase mimicking activity

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Abstract

Two new mononuclear manganese(III) complexes, $[Mn(L^1)_2]ClO_4$ (**1**) and $[Mn(L^2)(NCS)(H_2O)]\cdot DMSO$ (**2**), where HL^1 = 3-(N,N-dimethylamino)propyliminomethyl-6-ethoxyphenol, H_2L^2 = N,N'-bis(3-ethoxysalicylidene)ethane-1,2-diamine have been prepared and characterized by elemental analysis, IR, UV–Vis spectroscopy and single crystal X-ray diffraction studies. Manganese(III) in each complex assumes distorted octahedral geometry. Supramolecular interactions in these complexes were explored. Both complexes show phenoxazinone synthase activity but presence of a solvent molecule in the coordination site of complex **2** makes it more efficient catalyst than complex **1**. Therefore these complexes may be used as functional models for copper(II) containing enzyme, phenoxazinone synthase.

Keywords: Manganese(III), Schiff base, X-Ray structure; Supramolecular interactions, Phenoxazinone synthase mimicking activity.