

# Accepted Manuscript

Research paper

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Nandita Sarkar, Mithun Das, Shouvik Chattopadhyay

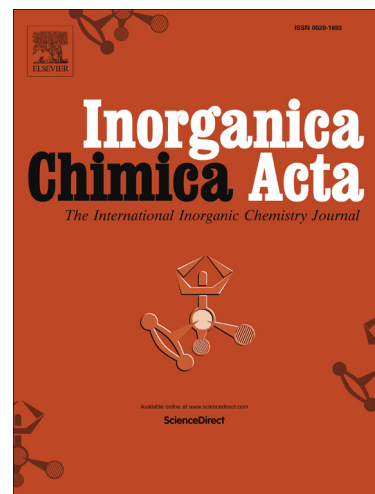
PII: S0020-1693(16)30875-1  
DOI: <http://dx.doi.org/10.1016/j.ica.2016.11.009>  
Reference: ICA 17349

To appear in: *Inorganica Chimica Acta*

Received Date: 13 May 2016  
Revised Date: 25 October 2016  
Accepted Date: 11 November 2016

Please cite this article as: N. Sarkar, M. Das, S. Chattopadhyay, Two new manganese(III) complexes with salicylaldimine Schiff bases: Synthesis, structure, self-assembly and phenoxazinone synthase mimicking activity, *Inorganica Chimica Acta* (2016), doi: <http://dx.doi.org/10.1016/j.ica.2016.11.009>

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

Nandita Sarkar, Mithun Das, Shouvik Chattopadhyay\*

*Department of Chemistry, Inorganic Section, Jadavpur University, Kolkata - 700032, India.*

*Tel: +91-33-24572941; e-mail: [shouvik.chem@gmail.com](mailto:shouvik.chem@gmail.com)*

## Abstract

Two new mononuclear manganese(III) complexes,  $[\text{Mn}(\text{L}^1)_2]\text{ClO}_4$  (**1**) and  $[\text{Mn}(\text{L}^2)(\text{NCS})(\text{H}_2\text{O})]\cdot\text{DMSO}$  (**2**), where  $\text{HL}^1 = 3\text{-(N,N-dimethylamino)propyliminomethyl-6-ethoxyphenol}$ ,  $\text{H}_2\text{L}^2 = \text{N,N'-bis(3-ethoxysalicylidene)ethane-1,2-diamine}$  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.

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