

NEW MONONUCLEAR COBALT(III) AND MANGANESE(III) COMPLEXES
CONTAINING A HEXADENTATE SCHIFF BASE LIGAND

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Abstract

Manganese and cobalt complexes in high oxidation state play an important role in a diverse range of enzymatic and electron-transfer processes in biological systems¹ and as antibacterial or antiviral agents². Here, we report the synthesis and crystal structures of two new mononuclear complexes [MnL](ClO₄) (**1**) and [CoL](NO₃)·2CH₃OH (**2**) containing N,N'-bis[(2-hydroxybenzylideneamino)propyl]-piperazine (H₂L) (Figure 1). X-ray structure determinations of **1** and **2** revealed that both compounds consist of mononuclear complex cations containing trivalent metal centers, Mn^{III} or Co^{III}. The metal ions are coordinated in a distorted octahedral fashion by the N₄ donor set of the ligand in basal and the two phenoxo oxygen atoms in apical positions. Spectral properties are consistent with the crystallographic results and the electrochemical properties of the complexes have been investigated by cyclic voltammetry. Furthermore, thermal studies were performed to deduce the stabilities of the ligand and complex **2**.

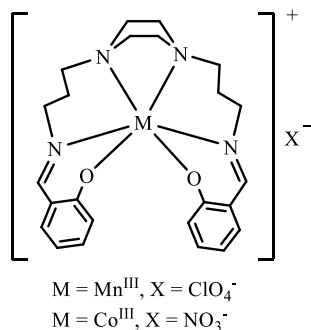


Figure 1. Chemical structure of the complexes **1** and **2**

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References

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