Amine and Imine Nitrogen Atoms of a New Schiff Base Type Ligand Simultaneously Coordinated to a Dinuclear Mn_2O_2 Core

Won K. Seok[a], Konstantin Karaghiosoff[b], Thomas M. Klapötke[b], and Peter Mayer[b]

[a] Department of Chemistry, Dongguk University,
26 Pil-Dong, Chung-Ku, Seoul 100-715, South Korea
[b] Department Chemie, Ludwig-Maximilians-Universität München, Butenandtstraße 5-13,
D-81377 München, Germany

Reprint requests to Prof. Dr. W. K. Seok; E-mail: wonkseok@dongguk.edu

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The dinuclear Mn(IV) complex $[Mn(C\text{-X-salpn})(\mu\text{-O})]_2 \cdot Me_2CO$ (H_2salpn=*N*,*N*'-bis(salicylidene)-1,3-diaminopropane and X = $CH_2C(=O)CH_3$) crystallizes in the monoclinic space group $C2/c$ with $a = 27.388(6)$, $b = 10.388(2)$, $c = 19.797(4)$ Å, $\beta = 133.11(3)^\circ$, $V = 4111(1)$ Å^3 and $Z = 4$. It contains a new Schiff base type ligand, which is related to salpn by the addition of acetone to one of the two C=N moieties. Main feature of the centrosymmetric structure is a planar Mn_2O_2 four-membered ring. The coordination environment of the manganese atoms is roughly octahedral comprising two phenolic oxygen atoms as well as two amine and two imine nitrogen atoms of the ligand. The Mn···Mn distance is 2.740(8) Å and the Mn-O-Mn bridging angle amounts to 97.2(1)°.

Key words: Dinuclear Mn(IV) Complex, Salpn Type Schiff Base, Crystal Structure