Amine and Imine Nitrogen Atoms of a New Schiff Base Type Ligand Simultaneously Coordinated to a Dinuclear Mn$_2$O$_2$ Core

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The dinuclear Mn(IV) complex [Mn(C-X-salpn)(µ-O)]$_2$·Me$_2$CO (H$_2$salpn=N,N’-bis(salicylidene)-1,3-diaminopropane and X = CH$_2$C(=O)CH$_3$) crystallizes in the monoclinic space group C$_2/c$ with $a = 27.388(6)$, $b = 10.388(2)$, $c = 19.797(4)$ Å, $β = 133.11(3)^\circ$, $V = 4111(1)$ 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$_2$O$_2$ 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)$^\circ$.

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