



New manganese(II) complexes with tetraorganodichalcogenoimidodiphosphinato ligands. Crystal and molecular structure of monomeric $\text{Mn}[(\text{SPMe}_2)(\text{SPPh}_2)\text{N}]_2$ and dimeric $[\text{Mn}\{(\text{OPPh}_2)\{\text{OP}(\text{OEt})_2\}\text{N}\}_2(\text{H}_2\text{O})]_2$.

Autorzy

A. M. Preda

A. Silvestru

S. Farcas

Alina Bieńko

Jerzy Mroziński

M. Andruh

Rok wydania

2008

Czasopismo

Polyhedron

Numer woluminu

27

Strony

2905-2910

DOI

10.1016/j.poly.2008.06.023

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

New manganese(II) complexes of type $[\text{X}, \text{Y} = \text{S}, \text{R} = \text{Me}, \text{R}' = \text{Ph}$ (**1**), $\text{X} = \text{S}, \text{Y} = \text{O}, \text{R} = \text{Ph}, \text{R}' = \text{OEt}$ (**2**)] and $\text{Mn}[(\text{OPPh}_2)\{\text{OP}(\text{OEt})_2\}\text{N}]_2(\text{H}_2\text{O})$ (**3**), were obtained by salt metathesis reactions between $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$ and the potassium salts of the appropriate tetraorganodichalcogenoimidodiphosphinic acids. The complexes were characterized by EPR and IR spectroscopy, as well as by mass spectrometry. The crystal and molecular structures for **1** and **3** were determined by single-crystal X-ray diffraction. Compound **1** crystallizes as monomeric species, with the manganese(II) atom in a tetrahedral environment, while for compound **3** a dimeric structure was found. Both tetraorganodichalcogenoimidodiphosphinato ligand units behave monometallic biconnective in **1**, chelating the metal centre. In the dimeric species **3** the tetraphenylimidodiphosphinato ligand units behave different, two of them chelating the manganese atoms, as monometallic biconnective moieties, while the other two act bimetallic triconnective, bridging the two metal centres. The octahedral coordination geometry in **3** is completed by water molecules. The magnetic behaviour of **3** was investigated.

Słowa kluczowe

Manganese(II) complexes, Molecular structure, Magnetic properties

Adres publiczny

<https://doi.org/10.1016/j.poly.2008.06.023>

Strona internetowa wydawcy

<http://www.elsevier.com>

