



Structural characterization of manganese (II) compounds with methylalumoxane (MAO) and AlMe_2 units.

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Streszczenie

Manganese complexes with AlMe_3 have been synthesized with the aim of investigating Mn(II) active centers in catalytic ethylene polymerization. Reactions of $[\text{Mn}_4(\mu\text{-Cl})\text{Cl}_3(\mu\text{-OCH}_2\text{CH}_2\text{OCH}_3)_4(\text{HOCH}_2\text{CH}_2\text{OCH}_3)_3]_2$ (**1**) with an excess of AlMe_3 at room temperature in toluene give the heterometallic cage $[\text{Mn}_3\text{Al}(\mu_3\text{-OCH}_2\text{CH}_2\text{OCH}_3)(\mu\text{-Cl})_3(\mu\text{-OCH}_2\text{CH}_2\text{OCH}_3)_2(\text{thf})_2(\text{Me})_2\text{Cl}]$ (**2**; 30%). A similar reaction carried out under reflux led to the formation of the methylalumoxane species $[\text{MnAl}_3(\mu_3\text{-O})(\mu\text{-OCH}_2\text{CH}_2\text{OCH}_3)_3(\text{Me})_6]$ (**3**; 51%). X-ray diffraction studies have shown complexes **2** and **3** to contain AlMe_2^+ and $[\text{Al}_3(\mu_3\text{-O})(\text{Me})_6]^+$ moieties capped by $[\text{Mn}_3(\mu_3\text{-OCH}_2\text{CH}_2\text{OCH}_3)(\mu\text{-Cl})_3(\mu\text{-OCH}_2\text{CH}_2\text{OCH}_3)_2(\text{thf})_2\text{Cl}]^-$ and $[\text{Mn}(\mu\text{-OCH}_2\text{CH}_2\text{OCH}_3)_3]^-$ macrounits, respectively. The tendency of a manganese center to exchange aluminum methyl groups in **2** and **3** is strongly reduced by alkoxide ligands.

Słowa kluczowe

Oxygen, Hydrocarbons, Transition metals, Alkyls, ligands

Adres publiczny

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<https://www.acs.org/content/acs/en.html>