

Ligand migration in the reaction of titanium complexes with AlMe_3 .Autorzy

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Streszczenie

Five different titanium compounds $cis\text{-}[\text{Ti}(\eta^2\text{-hbo})_2(\text{OEt})_2]\cdot 0.5\text{toluene}$ (**1**), $cis\text{-}[\text{TiCl}_2(\eta^2\text{-thp})_2]$ (**2**), $[\text{TiCl}_2(\text{edbp})_2]$ (**3**), $[\text{Ti}_2(\mu\text{-OMe})_2(\text{edbp})_2(\text{Me})_2]$ (**6**), $[\text{Ti}_2(\mu\text{-OMe})_2(\text{edbp})_2(\text{OMe})_2]$ (**7**) (Hhbo = 2-(2-hydroxyfenyl)benzoxazole, Hthp = tetrahydropyran-2-methanol, H_2edbp = 2,2'-ethylidenebis(4,6-di-*tert*-butylphenol)), have been prepared and tested in combination with MAO as catalysts for propene polymerization and ethene and oct-1-ene copolymerization with the aim of gaining insight into the structure of the active species. Investigation of the **1**/ AlMe_3 or **2**/ AlMe_3 systems resulted in isolation of $[\text{Al}(\eta^2\text{-hbo})_2(\text{Me})]$ (**4**) and $[\text{Al}_2(\mu_2\text{-}\eta^2\text{-thp})_2(\text{Me})_4]$ (**5**) in high yields. This indicates that the trimethylaluminum contained in MAO abstracts ligands from **1** or **2**, affecting thus the catalytic performance of the **1,2**/MAO catalysts. In contrast, compound **3** reacted with MAO affording methylated product **6**. Accordingly, the **3**/MAO catalyst differed from the above ones, furnishing at 70 °C e.g., narrow molecular weight polypropylene ($M_n = 454\ 000$; $M_w/M_n = 2.49$; $T_m = 158.2$ °C).

Słowa kluczowe

Polymerizations, Polymerization catalysts, Titanium complexes, Aluminum complexes, Lewis acids, Ligand migration, Chelates, X-Ray diffraction

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