

Ring-opening metathesis polymerization of 5,6-bis(chloromethyl)-norbornene by tungsten(II) and molybdenum(II) complexes.

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Streszczenie

The reaction of endo,endo-5,6-bis(chloromethyl)bicyclo[2.2.1]hept-2-ene in the presence of seven-coordinate tungsten(II) and molybdenum(II) complexes of the type $[MCIM_0Cl_3CO)_3N(CMe)_2]M_0W$, Mo; M Sn, Ge) leads to ring-opening metathesis polymerization and to the formation of high-molecular-weight soluble polymers with dispersity index in the range 1.4 ± 2.0 and number average molecular weights in the range $300\ 000 \pm 790\ 000\ g\ mol^{-1}$. The geometric structure of these polymers was determined by means of 1H - and ^{13}C -NMR spectroscopy. Molybdenum catalysts gave polymers with lower cisvinylene content ($20 \pm 50\%$), whereas tungsten catalysts gave polymers with higher cisvinylene content ($84 \pm 95\%$).

Słowa kluczowe

metathesis polymerization of norbornene, tungsten(II) catalyst, molybdenum(II) catalyst, polymer structure

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