

عنوان مقاله:

Hexene homopolymerization in presence of Dinuclear and Mononuclear Catalysts-1

محل انتشار:

سومین همایش ملی تکنولوژی های نوین در شیمی، پتروشیمی و نانو ایران (سال: 1395)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

A new dinuclear α -diimine nickel (II) catalyst (DNC) {2,4,6-trimethyl-C₆H₂-N=C-(C₁₀H₆)-C=N-C₆(CH₃)₄-N=C-(C₁₀H₆)-C=N-2,4,6-trimethyl-C₆H₂} {NiBr₂} and mononuclear catalyst (MNC) {2,4,6-trimethyl-C₆H₂-N=C-(C₁₀H₆)-C=N-2,4,6-trimethyl-C₆H₂} {NiBr₂} were prepared and used in 1-hexene homopolymerization. Diethylaluminum chloride (DEAC) and ethylaluminum sesquichloride (EASC) were used as cocatalysts and compared in activity. EASC could activate the centers better than the DEAC along with the high activity of catalyst and 1-hexene molecular weight. The dinuclear complex was compared in catalytic performance which showed higher activity and molecular weight of poly (1-hexene) versus its analogous mononuclear. The highest activities for DNC and MNC were obtained at [Al]/[Ni]= 1400 (386.7 gr PH/mmol Ni) and [Al]/[Ni]= 700 (276.7 gr PH/mmol Ni), respectively. At [Al]/[Ni] molar ratio equal to 1400, Mv of the resulted polymers were the highest 5.65×10^5 (g/mol) in presence of DNC and 4.38×10^5 (g/mol) for MNC. These behaviors may refer to the dinuclearity and cooperative effect between the proximate centers to be more stable and active for propagation reactions versus the deactivation and chain transfer reactions

کلمات کلیدی:

Catalytic polymerization, Binuclear α -diimine complex, Poly(1-hexene), Cocatalyst, cooperative effect

لینک ثابت مقاله در پایگاه سیویلیکا:

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