

عنوان مقاله:

Influence of diethyl zinc on ethylene-norbornene copolymerization

محل انتشار:

دوفصلنامه پلی اولفین ها، دوره 5، شماره 1 (سال: 1396)

تعداد صفحات اصل مقاله: 14

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خلاصه مقاله:

Ethylene-norbornene copolymers were synthesized with a homogeneous catalyst system based on bis(imino) pyridine iron with the addition of diethyl zinc (DEZ) as alkyl transfer agent to promote immortal copolymerization. The addition of DEZ did not influence the catalytic activity in copolymerization with 7.5 mmol of norbornene (NB), but in the reactions with 70 mmol, the comonomer promoted an increase of activity. We observed by thermal analysis that the norbornene inserted in the chains promoted an increase in thermal stability of the synthesized material with higher amounts of comonomer, since the temperature of initial degradation was much higher for these copolymers compared to polyethylene. In addition, for the copolymers with 7.5 mmol of norbornene, the DEZ served as alkyl transfer agent, as shown by the gel permeation chromatography analysis, leading to a decrease in both molar mass and polydispersity. The UV-Vis spectra showed that the diethyl zinc did not change the catalytically active center, but only acted as an alkyl transfer agent. Polyolefins J (2018) 5: 71-84

کلمات کلیدی:

Homogeneous catalyst; bis(imino)pyridine iron complex; ethylene-norbornene copolymerization; alkyl transfer agent

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