



1-HEXENE (CO)POLYMERIZATION IN THE PRESENCE OF NEW IONIC LIQUID TYPE CATALYTIC SYSTEMS

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At present the most extensively studied objects of “green chemistry” of last years are ionic liquids, which due to their effectiveness are the perspective catalysts for oligo- and polymerization of α -olefins.

New Ti-containing non-metallocene catalysts (NMC) with “grafted” ionic liquid ligands have been synthesized by us and tested in co- and polymerization reactions of 1-hexene in mild conditions.

NMCs were used as catalysts in the medium of various ionic liquid solvents in 1-hexene polymerization. As a result polyhexene oils with narrow molecular-weight distributions (1,03-1,55) have been obtained which are useful as antidepressant and turbulent additives for different oil fractions.

1-Hexene/ethylene copolymers with different molecular weights were prepared in the presence of NMCs in combination with various aluminumorganic compounds ($(C_2H_5)_2AlCl_2$, $(C_2H_5)_2AlCl$, methylalumoxane).

New oligo-, co- and polymers have been studied using different methods of analyses such as IQ, EPR, and DSC. It was shown that copolymers obtained are characterized by melting temperature $T_{melt} = 127-135$ °C and melting enthalpy $\Delta H_{melt} = 90-200$ J/g, correspondingly, crystallinity degree $\alpha = 30-70$ %. Melting entropy (ΔS_{melt}), conformational entropy (ΔS_{conf}) and relaxation transition temperatures such as T_α , T_β , T_{II} have been determined as well.