

Title (en)

LACTONE POLYMERIZATION WITH LATENT INITIATORS

Title (de)

LACTON-POLYMERISATION MIT LATENTEN INITIATOREN

Title (fr)

POLYMÉRISATION DE LACTONE AU MOYEN D'INITIATEURS LATENTS

Publication

EP 2978792 A1 20160203 (DE)

Application

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Abstract (en)

[origin: WO2014154427A1] The present invention relates to a novel, fast initiation mechanism for the anionic, ring-opening polymerization of lactones by using latent initiators based on thermally activatable N-heterocyclic carbene compounds, for example more particularly N-heterocyclic carbene-CO₂, carbene-CS₂ and carbene-metal compounds (NHC). In the polymerization of ε-caprolactone it is thus possible with the novel initiation mechanism to achieve molar masses of from 2000 to more than 20 000 g/mol and low polydispersities. The polymerization reactions can be carried out either in bulk or in solution. Compounds of this type are thermally latent and on heating initiate a polymerization reaction to give polylactones in some cases in high yields extending as far as quantitative conversion, while no reaction occurs at room temperature. The polydispersity and molecular weight of the polylactone can be adjusted via selection of the initiator and of the reaction conditions.

IPC 8 full level

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