

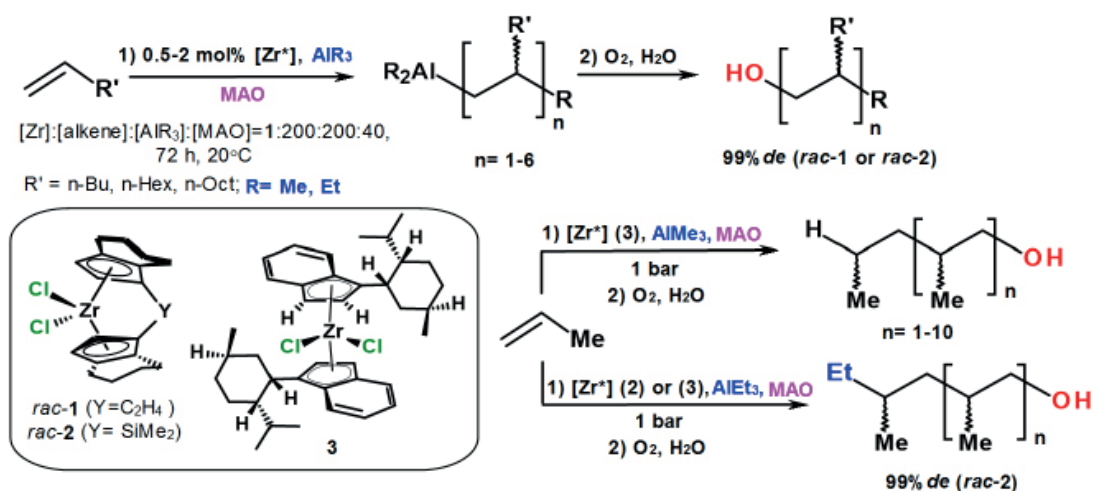
ZIRCONOCENE CATALYSIS IN DIASTEREOSELECTIVE ONE-POT SYNTHESIS OF FUNCTIONALLY SUBSTITUTED ALKENE DIMERS AND OLIGOMERS

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Among the methods of alkene oligomerization, the processes based on the use of Ziegler-Natta type catalytic systems consisting of metallocenes in combination with organoaluminum co-catalysts have great potential for the development.

The report presents the results on the study of the reaction of terminal alkenes and propene with AlR_3 ($\text{R} = \text{Me}, \text{Et}$) catalyzed by the chiral Zr η^3 -complexes in the presence of methylalumoxane (MAO) activator. Reaction conditions that provide chemo- and diastereoselective formation of functionally substituted alkene dimers and oligomers have been developed¹. This strategy could be subsequently used for the synthesis of a broad range of stereoregular molecules suitable as building blocks for the medical chemistry and chemistry of materials.



The processes of ligand exchange in the systems $\text{L}_2\text{ZrCl}_2\text{-AlMe}_3$ (MAO) are studied by dynamic NMR spectroscopy². The mechanisms of the studied reactions are discussed.

References

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2. Parfenova L.V., Kovyazin P.V., Gabdrakhmanov V.Z., Istomina G.P., Ivchenko P.V., Nifant'ev I.E., Khalilov L.M., Dzhemilev U.M. *Dalton Trans.*, 2018, 47, 16918.

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