Cooperative Catalysis: Designing Efficient Catalysts for Synthesis
René Peters

DESCRIPTION

Written by experts in the field, this is a much-needed overview of the rapidly emerging field of cooperative catalysis.

The authors focus on the design and development of novel high-performance catalysts for applications in organic synthesis (particularly asymmetric synthesis), covering a broad range of topics, from the latest progress in Lewis acid / Brønsted base catalysis to e.g. metal-assisted organo catalysis, cooperative metal/enzyme catalysis, and cooperative catalysis in polymerization reactions and on solid surfaces. The chapters are classified according to the type of cooperating activating groups, and describe in detail the different strategies of cooperative activation, highlighting their respective advantages and pitfalls. As a result, readers will learn about the different concepts of cooperative catalysis, their corresponding modes of operation and their applications, thus helping to find a solution to a specific synthetic catalysis problem.

ABOUT THE AUTHOR

René Peters is professor for Organic Chemistry at the University of Stuttgart, Germany. He studied chemistry at the RWTH Aachen (Germany) and received his doctoral degree in 2000 under supervision of Prof. Dieter Enders. For his postdoctoral studies he joined the group of Prof. Yoshito Kishi at Harvard University, USA. Afterwards, he worked for three years as a process research chemist at F. Hoffmann-La Roche in Basel, Switzerland. In 2004, he joined the faculty of ETH Zürich as assistant professor and
since 2008 he holds his current position. His research efforts are mainly directed towards the development of efficient catalytic asymmetric methodologies, in particular using cooperative catalysis.

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