**DESCRIPTION**

Highlighting the key aspects and latest advances in the rapidly developing field of molecular catalysis, this book covers new strategies to investigate reaction mechanisms, the enhancement of the catalysts’ selectivity and efficiency, as well as the rational design of well-defined molecular catalysts. The interdisciplinary author team with an excellent reputation within the community discusses experimental and theoretical studies, along with examples of improved catalysts, and their application in organic synthesis, biocatalysis, and supported organometallic catalysis. As a result, readers will gain a deeper understanding of the catalytic transformations, allowing them to adapt the knowledge to their own investigations.

With its ideal combination of fundamental and applied research, this is an essential reference for researchers and graduate students both in academic institutions and in the chemical industry.

With a foreword by Nobel laureate Roald Hoffmann.

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**ABOUT THE AUTHOR**

Lutz H. Gade holds a chair of inorganic chemistry at the University of Heidelberg (Germany) and is a director of the Institute of Inorganic Chemistry. After completing his PhD with Jack Lewis at Cambridge University in 1991, he joined the Chemistry Department at the University of Würzburg, where he carried out his habilitation and subsequently worked as a lecturer. In 1998...
he moved to the Université Louis Pasteur (Strasbourg, France) to take up a full professorship in inorganic chemistry and to become the Head of the Laboratory of Organometallic Chemistry and Catalysis. During that time he was a member of the Institut Universitaire de France. Lutz Gade moved to his present position in Heidelberg in October 2003 where he has also been chairman of the collaborative research centre (SFB 623) on molecular catalysis (since 2009) and a member of the steering committee of CaRLa. He is a member of the Heidelberg Academy of Sciences.

Peter Hofmann holds a chair and is a director of the Institute of Organic Chemistry at the University of Heidelberg (Germany) since 1995. He is the scientific director of CaRLa, the joint Catalysis Research Laboratory of the University of Heidelberg and BASF SE. He obtained a diploma in chemistry in 1970 and a PhD from the University of Erlangen-Nuremberg (Germany) in 1973. After post-doctoral studies with Roald Hoffmann at Cornell University (USA), he completed his habilitation with Paul v. Ragué Schleyer in Erlangen, where he - after a visiting associate professorship at Berkeley in 1979 - became associate professor in 1980. From 1981 until 1983 he held E. O. Fischer's guest chair at the Technical University Munich (Germany) where he was appointed associate professor of Inorganic Chemistry in 1983. He is a recipient of the Emil Fischer medal of the German Chemical Society, a member of the Heidelberg Academy of Sciences and of the North Rhine-Westphalian Academy of Sciences, Humanities and Arts. He initiated the collaborative research centre (SFB 623) on molecular catalysts and was its chairman (2002 to 2009).