This book reflects the increasing interest among the chemical synthetic community in the area of asymmetric copper-catalyzed reactions, and introduces readers to the latest, most significant developments in the field.

The contents are organized according to reaction type and cover mechanistic and spectroscopic aspects as well as applications in the synthesis of natural products. A whole chapter is devoted to understanding how primary organometallics interact with copper to provide selective catalysts for allylic substitution and conjugate addition, both of which are treated in separate chapters. Another is devoted to the variety of substrates and experimental protocols, while an entire chapter covers the use on non-carbon nucleophiles. Other chapters deal with less-known reactions, such as carbometallation or the additions to imines and related systems, while the more established reactions cyclopropanation and aziridination as well as the use of copper (II) Lewis acids are warranted their own special chapters. Two further chapters concern the processes involved, as determined by mechanistic studies. Finally, a whole chapter is devoted to the synthetic applications.

This is essential reading for researchers at academic institutions and professionals at pharmaceutical or agrochemical companies.

ABOUT THE AUTHOR

Alexandre Alexakis is Professor of Organic Chemistry at the University of Geneva, Switzerland. He received his PhD from Paris VI University in 1975, and following a two-year postdoctoral at Johns Hopkins University, Baltimore, USA, joined the CNRS at
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Simon Woodward is a Professor in Synthetic Organic Chemistry at Nottingham University, UK, and has authored over 120 publications in the areas of organic methodology, organometallic chemistry, and selective/ asymmetric catalysis. He has been Director of both the European Ligand Bank and an International Marie Curie PhD School in Catalysis of Organic Reactions incorporating the universities of Nottingham, Geneva, Sassari, and Dortmund. Professor Woodward also chaired the European Cooperation in Science and Technology Action D40 in Innovative Catalysis and is a member of related Action CM0903 in Biomass Utilisation. His research group is greatly enhanced by extensive collaboration with over 20 other groups, involved in the selective catalysis of organic reactions, throughout Europe and beyond.

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