

Preface

Ever since the discovery of the Ullmann reaction over a century ago, copper has become increasingly important in the construction of various bonds in organic synthesis. As of today, one can conclude that copper chemistry is remarkably diverse. In particular, copper(I) catalysis has found its unique place in asymmetric transformations for the synthesis of chiral molecules. Over the years, several monographs and reviews have been written that summarise the various aspects of copper chemistry. However, even today, the number of publications on copper-catalysed organic reactions keeps growing continuously, and new methodologies become available on a regular basis. This volume is not intended to provide a comprehensive review of all copper-catalysed reactions, but focuses on the most recent scientific advances in copper(I)-catalysed asymmetric synthesis. For this purpose, I have selected seven topics, most of which cover research conducted during the period 2010–2015. Several chapters deal with copper(I)-catalysed addition of organometallics to allylic substrates, β,β -disubstituted Michael acceptors and carbonyl groups. The chapters on additions of soft carbon nucleophiles and cycloaddition/cascade addition–cyclisation reactions extend the theme of carbon–carbon bond-forming reactions. Finally, copper(I)-catalysed carbon–silicon, carbon–boron and carbon–hydrogen bond-forming reactions are discussed. I am very grateful to the authors and experts in their field, who contributed to the production of this volume, and hope that it will be useful to researchers and students working in organic synthesis and catalysis.

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