

Book Reviews

Catalytic Asymmetric Synthesis, 2nd Ed. Edited by Iwao Ojima Wiley–VCH: New York. 2000. 864 pp. DM 298. ISBN 0-471-29805-0.

The first edition of “Ojima” was considered by practitioners and students of chiral chemistry to be an indispensable handbook because of its authoritative accounts by distinguished contributors. It is therefore most welcome to see an updated and much expanded second edition. Whilst not as complete as *Comprehensive Asymmetric Catalysis*, or Beilstein’s *Asymmetric Synthesis*, the book ranks highly amongst a growing number of textbooks in this field, particularly because of the detailed examinations of contemporary subjects such as Metal Carbenes, Carbonylation, Aminohydroxylation, and Phase-Transfer Reactions.

For example, the first chapter Asymmetric Hydrogenation by Ohkuma, Kitamura, and Noyori has been greatly expanded from 33 to 110 pages, which illustrates the achievements made in this area over the last seven years. The chapters on Carbonylation by Nozaki and Ojima and Cross Coupling by Ogasawara and Hayashi have also been well rewritten to reflect the progress in these areas. These, like the other chapters, have been carefully organised around substrate-type and catalysts used, but also include mechanistic reviews. The detailed descriptions, clear figures, and tables, make for both easy reading and a quick reference source. Each chapter is brimming with examples and references; indeed, with this amount of data one might believe we are moving towards an ability to predict the outcome of some reactions!

Some chapters have been modestly updated from the first edition, whilst others include addenda with recent information

on the subject. Commendably, many chapters have been rewritten or are new. The reworked chapters on Epoxidation of Unfunctionalised Olefins, Metal Carbenes, Carbonylation, Cross Coupling, and new updates on Dihydroxylation, Aldol Reactions, and Allylic Alkylations are particularly good. It is pleasing to see new chapters such as asymmetric C–C bond formation such as Carbometalations, Cycloadditions, Ene, Michael and Heck, as well as those on Asymmetric Amplification and Polymerisation. The book is focused on chemical catalysis, and it is a shame that another enormous and complementary body of work on biocatalysts and biotransformations features little. It would also have been nice to see a chapter on catalysed metal carbanion additions such as organozincs.

The index is detailed and from my tests appears to work well. It is good that the useful appendix on ligands featured in each chapter has been updated.

The book will be particularly welcome by research and process development chemists in the fine chemicals industry, students doing chiral projects, and practising academics alike. The first edition was welcomed as an authoritative work, and this second edition maintains that distinction. It is recommended that, if you have interests in chirality, you purchase this book for your library.

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