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Book reviews

Industrial Applications of Homogeneous Catalysis, edited by A. Mortreux and F. Petit, D. Riedel Publishing Company, Dordrecht, 1988, ISBN 9027725209, pp. 360 + xvii, Dfl.180.

This book represents the updated and amplified presentations of a course “for high-level students and researchers” organized jointly by the Universities of Aachen, Liege, Milan, and Lille in 1985. If the title is somewhat misleading, since the book really attempts to summarise the application of homogeneous catalysis to chemical synthesis, whether industrial or not, and it arose because of the arguably mistaken premise that there is a continuing “petroleum crisis”, this should not deter potential readers from examining it. This book will be of considerable value for workers in the area of organometallic homogeneous catalysis.

There are eleven contributions. The first two deal with the production of “chemicals” and fine chemicals from carbon monoxide. Then metal catalysed reductions of organic molecules are discussed. This contribution is not really industrial and seems to have been written to contravene every IUPAC rule concerning the presentation of complex formulae, which needlessly detracts from its appeal. Then follow chapters on natural product and heterocycle synthesis and on telomerization reactions in the synthesis of fine chemicals. Oligomerization of olefins does introduce some industrial aspects, as does a contribution on coordination polymerization. The penultimate contributions are on olefin metathesis, alkane activation, coordination photochemistry and catalysis by clusters, though these final two sections are, of necessity, introductions to much larger subjects. The last chapter, an exercise in futurology, attempts to summarize the directions of research.

This is a useful addition to the literature, and is of considerably better value than many books arising from conferences and courses. There are still gaps in its coverage (biotechnology is not discussed, nor the techniques of elucidating mechanisms, nor the principles of catalysis) but these omissions are acceptable. The editors have produced an attractive book, in acceptable English, and I have only minor complaints. Why did they not insist on consistent and uniform presentation, preferably in accord with IUPAC recommendations, and why do some authors have full addresses, some partial addresses, and one none at all? The fact that my name is omitted from the citation of a review written with a collaborator and that the review itself is assigned to the wrong journal are causes only for minor irritation.

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