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Book reviews

Catalytic Hydrogenation. Edited L. Červený, (Studies in Surface Science and Catalysis, Vol. 27), Elsevier Science Publishers, 1986, XXV + 677 pages, US\$ 118.00, ISBN 0-444-42682-5.

The collection of reviews in this volume provides an up-to-date coverage of recent advances in catalytic hydrogenation. The work is divided into four main sections dealing respectively with kinetics and mechanism of hydrogenation and hydrogenolytic reactions, heterogeneous hydrogenation catalysts, homogeneous hydrogenation and catalytic hydrogenation reactors and technologies. All the sections are extremely useful to the practitioner of hydrogenation, but the organometallic chemist will undoubtedly find the section dealing with homogeneous catalysis to be of the greatest interest.

The first review in this section deals with supported metal complexes as hydrogenation catalysts. The anchoring of metal species and the stability of catalysts thus produced is discussed. The effect of the support on activity is considered for a range of hydrogenations of unsaturated compounds. The strength of the chapter lies in the fact that it does not only focus on the analogues of soluble compounds but also discusses complexes without homogeneous analogues, in particular surface coordinatively unsaturated metal ions and hydrides formed by decomposition of organometallic compounds. The second review discusses supported asymmetric hydrogenation catalysts, which, as its author concedes, has made less impressive progress than homogeneous analogues. The literature coverage in both cases seems relatively complete into 1984 with a few references from 1985. A considerable amount of material from patents, theses and conference abstracts, particularly from Eastern Europe is made available, much of it for the first time in readily accessible form in the West.

Despite its camera ready form and the variations of typeface this book has been well produced with clear diagrams. As with many multi-author works it does not appear that the index was produced by the contributors and it is less useful than it might be. This book will be of great interest and value to the practitioner of hydrogenation reactions and should become a standard reference work in this area. In North America it is available from Elsevier Science Publishers Co. Inc., PO Box 1663, Grand Central Station, New York, NY 10163.

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