

summarized. However, I counted only 7 references to publications appearing in 1991 or later, 4 of those by Professor Nefedov and more up-to-date surveys of some of the topics covered are available.

The other chapters deal with: Acid-base behaviour in Macrocycles and other Concave Structures (U. Lüning); Photodimerization and Photopolymerization of Dimerization of diolefin crystals (M. Hasegawa); and ionic dissociation of Carbon-Carbon sigma Bonds in Hydrocarbons and the Formation of Authentic Hydrocarbon Salts (K. Okamoto, K. Takeuchi and T. Kitigawa). The last of these will be of indirect interest to some organometallic chemists in that some of it is concerned with carbonium stability. I was surprised to see how many salts in which both cation and anion are wholly hydrocarbon species, or hydrocarbons that readily undergo dissociation to such ion, are known.

The volumes in this series are well produced, and reasonably priced by today's standards.

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Applied homogeneous catalysis with organometallic compounds. Vols. 1 and 2. Edited by B. Cornils/W.A. Herrmann, VCH Weinheim, 1996, 1246 pages, DM 748.00, ISBN: 3-527-29286-1.

This two volume compendium seeks to provide a comprehensive handbook dealing with an important topic.

Volume 1 is entitled 'Applications' and that name really refers to 'applied homogeneous catalysis'. The use of the word 'applied' is intended to provide the flavour that the examples chosen are of industrial importance. Thus, successive chapters deal with: Carbon Monoxide and Synthesis Gas Chemistry (172pp) Hydrogenation (19pp) Reactions of Unsaturated Compounds (154pp) Oxidations (91pp) Reactions with Hydrogen Cyanide (Hydrocyanation) (22pp) Hydrosilylation and Related Reactions of Silicon Compounds (20pp) Reaction with Nitrogen Compounds: Hydroamination (14pp) Reactions of Hydrocarbons and Other Saturated Compounds (31pp) Asymmetric Syntheses (16pp)

Some of the above shorter sections are written by a single author or a collaborative pair. Thus H. Brunner deals with Hydrogenation; K. Huthmacher and S. Krill with Hydrocyanation; B. Marciniak with Hydrosilylation; R. Taube with Hydroamination; and R. Noyori and S. Hashiguchi with Asymmetric Syntheses. The other sections have a multiplicity of authors who are no less expert and come from both industrial and academic sectors.

There are 570 pages in Volume 1 and each chapter has an abundance of references.

Volume 2 is entitled 'Developments' with emphasis on recent progress in homogeneous catalysis. Successive chapters deal with:

Development of Methods (about 200 pp.)

Special Catalysts and Processes (about 230 pp.)

Special Products (about 170 pp.)

Finally there is a so-called epilogue in which the editors look forward to some future possible developments and requirements (25 pp.). There is a 47 page Index which covers both the Volumes.

The contributors to Volume 2 are equally distinguished as those in Volume 1 but are too numerous to be mentioned by name. However without exception they are among the most significant practitioners in this important area.

In conclusion these are immensely important books which fulfil a function which has hitherto lacked such powerful focus. They are strongly recommended.

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Advances in transition metal coordination chemistry. Vol. 1. Series Editor: Chi-Ming Che, Volume Co-Editor: Vivian W.W. Yam, Jai Press Inc., Hampton Hill, UK 1996, 293 pages, £69.50, ISBN: 1-55938-335-6.

This book is the first in a new series. The present volume deals with transition metal compounds having a metal-ligand multiple bond; each chapter focuses on an area of particular interest to the author. It is the Editors wish that in this as in some of the later volumes there should be a contribution from Chinese scientists.

For readers of this journal the most relevant chapter is the first, by A. Mayr and S. Ahn, which is concerned with the chemistry of carbyne-metal complexes and does so in 100 pages with 187 references taking the literature up to 1994. Some of the other chapters are equally up-to-date and in some cases even provide references to