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Book reviews

Innovation in Zeolite Materials Science; edited by P.J. Grobet, W.J. Mortier, E.F. Vansant and G. Schulz-Ekloff, (*Studies in Surface Science and Catalysis. Vol. 37*), Elsevier, Amsterdam, Oxford, New York, Tokyo, 1988, xiv + 541 pages, US\$ 139.00, Dfl 285.00. ISBN 0-444-42919-0.

This volume represents the conference proceedings of an international symposium held in Nieuwpoort (Belgium) on 13th–17th September, 1987. The focus of this meeting was ‘innovation and creativity’, and the contents of this volume convey the excitement of the meeting. The book is produced by camera-ready copy techniques, but is on excellent paper, and a very high overall quality has been achieved. It is, all-in-all, a very pleasing volume of prime scientific importance.

The contributions (54 are presented in this volume) are grouped under six headings: synthesis (14 papers), modification and characterization (11 papers), structure and structural chemistry (9 papers), acidity–basicity (7 papers), catalysis (12 papers), and catalyst testing (1 paper). Space precludes listing them, or their authors: instead, I will attempt to summarize the themes of most importance to organometallic chemists. This means that I am going to ignore the first 412 pages of this volume, not because the work is not fascinating (it is) or first-class (again, it is), but because it deals with the preparation and characterization of zeolites (an area of classical inorganic chemistry), and not their uses (an area which should be of great interest to readers of this Journal). I will only note that such techniques as ^{27}Al , ^{29}Si and ^{129}Xe CP-MAS NMR techniques are routinely used in this field, techniques too often neglected by organometallic chemists.

The cynosure of this volume is surely the section on catalysis. Included are reports of the selective synthesis of dimethylamine, the side chain alkylation of toluene with methanol, the cracking of heptane and vacuum gas-oil, the conversion of alkanes to aromatics, the hydration of unsaturated hydrocarbons, the oxidation of arenes, alkenes, and alcohols, the dehydration of alcohols, and the conversion of methanol to CH_3SH and $\text{C}_2\text{H}_5\text{SH}$. This makes salutary reading: for over thirty years, reactions such as these have represented the Holy Grail for the organometallic chemist. Now, there is a real challenge from another quarter, and the solid-state chemists can, in many cases, do it better, cheaper, and more conveniently. To paraphrase Harry S. Truman, if you can't stand the heat, get out of the laboratory! This book should be required reading for all organometallic chemists. He himself teaches what I should do; it is right to be taught by the enemy (Ovid, 43BC–AD17).

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