

Organosilicon Chemistry III. From Molecules to Materials, N. Auner, J. Weiss (Eds.), pp. xxv + 716, ISBN 3-527-29450-3, Wiley-VCH, Weinheim, 1998, £70.00

This is the third volume in a series of compilations of reports presented as papers or posters at biennial symposia in München, and is based on the meeting (III. Münchner Silicontage) held there in April, 1996. The volumes derived from the 1992 and 1994 meetings were very favourably received, and contained some very interesting material, but this new one is, to my mind, even better. It is certainly much superior to the great majority of complete collections of symposium contributions in that it does not contain a sizeable proportion of low-grade reports presented solely to enable the author(s) to secure financial support for their attendance, almost all of those printed here being of high quality. Moreover, all the articles are reasonably complete in themselves and are not just summaries or outlines.

The contributions are divided into two sections, the first, entitled *Fascinating Organosilicon Compounds* dealing essentially with the new chemistry of molecular species, and the second, entitled *Silicon Based Materials*, concerned mainly with polymeric species or their precursors, including specific applications. Each of the sections has a substantial introduction by N. Auner, G. Fearon, and J. Weiss, placing the separate reports into context and briefly summarising some recent advances in the relevant areas, and the first of these introductions seems to me to be especially good.

It is not realistic to select individual contributions for comment, and it should suffice to say that there is much to interest those new to organosilicon chemistry, as well as those who are specialists in the field. Of course, many of the reports have by now appeared elsewhere in a range of journals, but there are advantages in having so much related material in one volume, and I am very glad to have it on my shelves.

A remarkable feature of this publication and of the symposium upon which it is based is that so many of the contributions describe work from German laboratories—ca. 86 of the total of 105. Only two originate from each of Japan and the USA, and in view of the vast amount of good organosilicon research going on in both of those countries it is evident just how great the activity in the field now is, even without taking into account the huge growth of organosilicon compounds in organic synthesis. Indeed, I even began to wonder whether perhaps too many very able chemists in Germany may be concentrating on silicon, but I quickly decided that that was an unwise line of thought to pursue!

The book is well produced and reasonably priced.

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Handbook of Heterogeneous Catalysis, G. Ertl, H. Knözinger (Eds), J. Weitkamp, 5 Volumes, ISBN 3527-29212-8, Wiley-VCH, Weinheim, 1997, £965.

Organizing academics has been described as very much like trying to herd cats and anyone who has ever tried to edit a multi-author book will know the feeling. No matter how clearly the aims and objectives are specified, there will always be authors who insist on going their own way about things, and there are always a few authors who regard the deadline for manuscript delivery as a good time to start thinking about writing, and whose lateness delays the publication of everyone else's work.

Given those difficulties, to try to put together a five volume-book on a subject as diverse as heterogeneous catalysis, using over 200 authors is a valiant task. Equally, there is probably no reviewer who could do justice to the full range of the book.

The editors claim that this is 'the first comprehensive treatise on heterogeneous catalysis which attempts to describe all facets of the field, from the scientific fundamentals to the chemical engineering of industrial processes'. The remarkable fact is that, judged against that criterion, it is largely successful. Of course, it suffers from the standard problems of multi-author volumes. The depth of coverage can be uneven and some chapters are more up-to-date than others (the most recent references range from 1990 in some chapters to 1996 in others). Nevertheless, these are minor criticisms of a substantial achievement.

The five volumes divide into two parts. Part A, covering 3 volumes and 1500 pages, describes the fundamentals of heterogeneous catalysis, beginning with a fairly broad review of catalysis and moving through catalyst preparation and design to the more fundamental aspects. Part B, covering the remaining 1000 or so pages, deals with specific systems, including catalytic convertors for automotive exhausts, as well as more obvious processes, alkylation, hydrogenation, etc. As a polymer chemist, I have to let my prejudices show in saying that I felt that 20 pages on polymerization catalysis at the end of volume 5 do not reflect the industrial importance of the technology.

Overall, this book largely succeeds in its aims. No one reader is likely to read everything in it and, like most encyclopedias, individual chapters on things one knows about can seem less profound than chapters