bedded within solid hosts. This is followed by a long, informative chapter on clathrates *(Tsoucaris)* and one on the structural complexities of phenols and their expression in different types of solid state reactivity *(Perrin, Lamartine, Perrin,* and *Thozet)*. A chapter by *Paul* and *Curtin* on gas–solid reactions and polar crystals concludes this section. The five chapters of the final section entitled "Intermolecular interactions: from crystallography to chemical physics" form what is perhaps the most interesting part of the book. *Rao* summarizes what is known about phase changes in molecular crystals, *Gavezzotti* and *Simonetta* discuss the nature and magnitude of molecular motions in solids, and *Ramdas* and *N. W. Thomas* take up again the problem of modeling the packing energy in terms of inter- and intramolecular interactions. *Bernstein* provides a wealth of examples of conformational polymorphism—structural relationships that a physicist would describe as phase transformations, a chemist as conformational isomerizations—and finally *Desiraju* takes up the question of why some planar chloro aromatic molecules crystallize with a 4 Å translation and others not.

In a way, this book is a tribute to the memory of *G. M. J. Schmidt* and *A. I. Kitaigorodskii*, who did so much to pioneer the systematic study of organic chemical crystallography and whose names are mentioned in nearly every chapter. For the non-specialist the book provides a useful survey of current research in a complex, rapidly developing field, and also the experienced researcher in solid-state organic chemistry will find many fascinating snippets of information even in his own speciality besides an introduction to less familiar areas.

Yet I do not think the editor has succeeded in the attempt to produce "a reference work for specialists and non-specialists alike". As in many other multi-authored books, there is a sad lack of coordination among the various chapters. There seems to have been little agreement about the level of knowledge to be taken for granted in the imaginary reader; in one chapter, for example, this shadowy person knows all about the Metropolis algorithm but needs to be reminded that inversion of the cyclohexane ring interchanges axial and equatorial substituents. A work of reference needs a better index than the one provided. The end result is not much more than a collection of disconnected essays. Even visually, the book makes a disjointed impression as it was obviously prepared from camera-ready copy with a noticeable lack of agreement even about such matters as the choice of fonts, styles, literature citations, etc.

There are advantages to a type-set book. If this one had been type-set it could have benefited from the services of a copy editor, who would have corrected most of the spelling mistakes and noticed, for example, that Figures 10 and 11 of Chapter 2 are not mentioned in the text, besides other minor blemishes, such as, in one place, 10^{16} s (for 10^{-16} s). Moreover, the authors themselves would have had a second chance to correct undetected errors and mishaps at the galley proof stage. All this costs time and money, it must be assumed. The advantages of making a book from camera-ready copy would then, one might suppose, be cheapness and speed of publication. But there is no evidence that this volume was produced with any remarkable alacrity, and the price of 360 Hfl is certainly not cheap but rather seems outrageously expensive for a book produced from camera-ready copy.

Jack D. Dunitz
Laboratorium für Organische Chemie der
Eidgenössischen Technischen Hochschule
Zürich (Switzerland)

Zeolites

Synthesis of High-Silica Aluminosilicate Zeolites. By *P. A. Jacobs* and *J. A. Martens*. Elsevier, Amsterdam 1987. xvi, 390 pp., bound, Hfl 280.00.—ISBN 0-444-42814-3

For about 15 years high-silica zeolites have been attracting much interest. Meanwhile, they have become important especially as catalysts for petrochemical processes, although their application potential is not limited to this field. The variety of possible applications can be demonstrated with the best-known example of this class of compounds, the zeolite ZSM-5.

The intense research activity, especially on the synthesis of high-silica zeolites, is documented by a large number of publications, a very important fraction of which is patent literature. The great variety of zeolites makes it difficult, even for the expert, to keep up with the literature. Who, for instance, is familiar with the classification of the zeolite ZETA-1?

Therefore, it was time for a comprehensive account, such as the one *P. A. Jacobs* and *J. A. Martens* now present as volume 33 of the series "Studies in Surface Science and Catalysis". The authors restrict their topic to zeolites which can be synthesized directly as high-silica zeolites, and which have potential uses as shape-selective catalysts. They exclude zeolites that can be obtained by isomorphic replacement of aluminum lattice atoms by other elements. There may be some controversy about this restrictive interpretation of the term "high-silica zeolites", but not about the great usefulness of this monograph, in spite of the mentioned limitations.

The first part ("experimental", 40 pages) gives detailed and tested recipes for the preparation of 14 high-silica zeolites. The resulting materials are characterized by X-ray diffraction, electron microscopy, and IR spectroscopy. These instructions will be welcomed, and not only by newcomers.

The much larger second part of the book is devoted to zeolites having the structures MFI (ZSM-5), MEL (ZSM-11), TON, MTT, MTW, and FER (ferrierite). In addition

to the discussion of experimental conditions for their synthesis, information on structure and crystal morphology can be found in the individual chapters. As expected, the authors put the main emphasis on the various preparation methods of ZSM-5. For this zeolite they also briefly discuss molding methods, a topic highly relevant to applications. The book concludes with a short third part on zeolites with unknown structures.

The keyword "synthesis of zeolites" provokes a comparison with *R. M. Barrer*'s classic "Hydrothermal Chemistry of Zeolites" (Academic Press, London 1982). Such a comparison is, however, difficult because the two monographs follow completely different approaches: While *Barrer* focuses on the general principles of zeolite synthesis, *Jacob* and *Martens* present a collection of facts, especially on high-silica zeolites. The authors have critically reviewed the literature up to and including 1985. They have succeeded in giving a clear and understandable presentation of their topic, which is partly due to a large number of well presented diagrams and figures. In particular, the numerous X-ray diffraction data may often save the reader a lot of tedious literature searching. In summary, this book will be a valuable tool for the expert as well as for novices in the field of high-silica zeolites.

Eckehart Roland
Degussa AG, ZN Wolfgang,
Hanau (FRG)

Conference Calendar

August 1988

15-19 **Controlled Release of Bioactive Materials,**
15th Int. Symp.
Basel (Switzerland)
Contact: Administrative Office, Controlled Release Soc., 16 Nottingham Dr., Lincolnshire, ILL. 60015, USA

15-19 **Solid State Studies in Ceramics,**
Gordon Conf.
Meridan (USA)
Contact: A. M. Cruickshank, Gordon Res. Ctr., Univ. Rhode Island, Kingston, RI 02881-0801, USA

15-19 **Physics of Semiconductors,**
19th Int. Conf.
Warsaw (Poland)
Contact: J. Kossut, Inst. of Physics, Polish Academy of Sci., Al. Lotnikow 32/46, 02-668 Warsaw, Poland

15-19 **Liquid Crystals,**
12th Int. Conf.
Freiburg (Fed. Rep. Germany)
Contact: Dr. G. Baur, Fraunhofer-Institut IAF, Eckerstr. 4, D-7800 Freiburg, FRG

16-19 **Critical Currents in High-Temp. Superconductors**
Snowmass Village (USA)
Contact: J. R. Clem, A 517 Physics, Iowa State Univ. Ames, IA 50011, USA

18-22 **Synchrotron Radiation,**
(SR-88)
Novosibirsk (USSR)
Contact: A. N. Skrinsky, USSR Academy of Sci., Siberian Div., Inst. of Nuclear Physics, 11 Lavrentyer, USSR-630090 Novosibirsk, USSR

21-25 **Applied Superconductivity**
San Francisco (USA)
Contact: C. Henning, L-644, LLNL, Livermore, CA 94550, USA

22-25 **Nonlinear Optical Properties of Materials**
Troy (USA)
Contact: OSA, 1816 Jefferson Pl. NW, Washington, DC 20036, USA

22-26 **Ceramic Developments - Past, Present and Future,**
Int. Ceramic Conf. and Fair
Sydney (Australia)
Contact: G. Henness, New South Wales Inst. of Technology, Dept. of Materials Sci., P.O. Box 123, Broadway NSW 2007, Australia

22-27 **Phase Interaction in Composite Materials**
Patras (Greece)
Contact: Prof. S. A. Paipetis, Univ. of Patras, Patras 26001, Greece

23-27 **Interface Phenomena - Adhesion and Friction: Microscopic Concepts**
Halifax (Canada)
Contact: H. J. Kreuzer, Phys. Dept., Dalhousie Univ., Halifax, Nova Scotia, B3H 3Y5 Canada

24-26 **Solid State Devices and Materials**
Tokyo (Japan)
Contact: Business Center for Academic Societies Japan, Yamazaki Bldg. 4F, 40-14 Hongo 2-chome, Bunkyo, Tokyo 113, Japan

28-1 **Molecular Beam Epitaxy (MBE-5)**
Sapporo (Japan)
Contact: Prof. M. Konagai, Tokyo Inst. Tech., Dept. of Electrical and Electronic Eng., 1-12-1 Okayama, Meguro-ku, Tokyo 152, Japan

28-10 **Structure-Property Relationships in Surface Modified Ceramics**
NATO Adv. Study Inst.
Pisa (Italy)
Contact: C. J. McHargue, Metals & Ceramics Division, Oak Ridge Natl. Lab. P.O. Box 10, Oak Ridge, TN 37831-6118, USA

29-1 **Applications of Polar Dielectrics and Ferroelectrics,**
Int. Symp.
Zürich (Switzerland)
Contact: H. Arend, Swiss Federal Inst. of Tech., Lab. of Solid State Physics, CH-8093 Zürich, Switzerland

29-1 **Semiconductor Lasers,**
11th IEEE Conf.
Boston (USA)
Contact: R. T. Wangeman, IEEE Leos, 345 East 47th St., New York, NY 10017, USA