

Catalysis of Organic Reactions. Edited by Michael L. Prunier. CRC Press/Taylor Francis: Boca Raton, FL. 2009. 549 + xxvi pp. \$169.95. ISBN 978-1-4200-7076-7.

The latest volume of *Catalysis of Organic Reactions* (No. 123 in a series of books on the Chemical Industries) comprises 64 papers presented at the 22nd conference organised by the Organic Reactions Catalysis Society (ORCS) in 2008 at Richmond, Virginia. As usual the papers cover catalytic applications in a wide variety of industries with the majority being on fine chemicals, but also cover recent academic advances too. The emphasis is on heterogeneous catalysis, but there are a few presentations on homogeneous catalysis, or ligand preparation and screening.

For the process chemist, this series of books makes interesting reading, and this latest volume is no exception since the focus is on applied catalysis. There are a number of interesting case studies from process groups involved in hydrogenation, carbonylation, and catalytic C–X and C–C bond formations including a most interesting chapter from the editor's laboratory.

One surprising paper is on the hydrogenolysis of thiocyanates to thiols; most readers will assume that precious metal catalysts would be poisoned by the sulphur compounds. Best results were with a Pd–Sn catalyst, and an understanding of the reasons for the sulphur resistance, the high stability, and temperature/pressure sensitivity was achieved. In many of the papers, the emphasis is on understanding as much as it is on synthesis, and this understanding leads to control, particularly on scale-up.

An inevitable disadvantage of such conference proceedings is that the work is a little dated, and some contributions may have appeared as full papers by the time the proceedings have appeared. However, this is a minor point compared to the advantages of this volume.

In conclusion, this latest volume in the series is up to the standard set by previous editions and is recommended

reading for all process chemists/engineers working on catalytic processes.

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Flash Chemistry: Fast Organic Synthesis in Microsystems. Edited by Jun-ichi Yoshida. Wiley: New York. 2009. 244 + ix pp. €94.90. ISBN 978-0-470-03586-3.

Professor Yoshida has authored a very readable text with a lot of introductory material useful for the newcomer to the topic of fast continuous processing in microreactors. He tries to justify the use of the term “flash chemistry”, but unfortunately, it is only his group which is using it—at present. Maybe it will become more popular in the future, but I doubt it.

Since this is a monograph, the author can spend time discussing topics such as “What is Flash Chemistry?” and “Why is Flash Chemistry Needed?” before moving on to “Methods of Activating Molecules” and “Control of Extremely Fast Reactions”. In the latter he focuses on mixing and micromixing, temperature control, and use of residence time to control reactions, with a case study on benzyne generation.

He follows this with a chapter on equipment and then proceeds to discuss applications in synthesis. This chapter is an excellent review with references up to 2007, and emphasises which reactions are most suited to microreactors. Much of the discussion is on work done in Japan, some of which may be new to Western readers.

After a chapter on polymer synthesis, the book concludes with industrial applications and discusses work that may only have appeared in the patent literature. This last chapter is most useful, but the latest references were only to 2005, so it is a little out of date.

So in summary, this is an excellent book, given the limitations expressed above or, more succinctly, “Nice book—shame about the title”.

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