

*Polymeric Reagents and Catalysts* (ACS Symposium Series, Volume 308); edited by Warren T. Ford, American Chemical Society, viii + 295 pages, US \$84.95 (US and Canada), US \$65.95 elsewhere. ISBN 0-8412-0972-3

This volume was developed from a symposium sponsored by the Divisions of Organic and Polymer Chemistry at the 189th Meeting of the American Chemical Society, in Miami in April 1985. Unlike most volumes of the ACS symposium series it contains no research papers, but is entirely composed of invited reviews. The book opens with an overview by the editor intended to provide a basic introduction for the chemist who has little knowledge of the field. The terminology and concepts are well explained and provide a useful background for reading the subsequent chapters.

The ten subsequent chapters cover a wide range of topics in the field of polymers as either reagents or catalysts. David Bergbreiter's review of soluble polymer bound reagents and catalysts contains an interesting section on transition metal catalysts bound to water soluble proteins and ion exchangers, and also to the same types of species attached to linear polystyrene and soluble inorganic polymers such as polysiloxanes. Philip Garrod addresses the problem of the stability of polymer supported transition metal catalysts. Many such analogues of homogeneous systems have been prepared in recent years but have proved less attractive in practice than in theory, due to leaching of the metal from the polymer. Even a relatively slow rate of metal loss severely limits the catalyst's useful operating lifetime. Polymer and silica gel supports have been used to try to prevent the formation of dimeric organometallic complexes. A number of successful examples of this "site isolation" technique are discussed by Warren Ford.

Some of the other chapters deal with general problems of polymer supported species and have application in both organic and organometallic areas. Thus John G. Ekerdt discusses the role of substrate transport in catalyst activity. Günter Wulff considers molecular recognition in polymers and A. Patchornik and his coworkers review polymeric transfer reagents for organic synthesis. The chapters would probably be mainly of interest to organic chemists, with discussions of perfluorinated ion-exchange polymers, polymeric photosensitizers, polymer-bound oxidizing agents, and Wittig reactions on polymer supports.

The book has been produced in camera-ready format, but the typescript is single spaced providing a higher density of information than is usual with this layout. It is relatively error free and the diagrams are mostly of good quality. Most of the chapter bibliographies contain citations into 1985 and there is a good index. This is a very good overview of the state of the art in this field, presented in a lucid manner, and in terms intelligible to the non-specialist. The price is relatively modest and this would be a good buy for individual as well as library purchasers.

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