

enced, most to 1987. There is no index, but most chapters have detailed lists of contents to enable the reader to find the desired item.

The main failing of the book seems to be in the lack of editorial direction. This results in a wide disparity between the authors' views on the nature of the task in hand. Thus the chapters range between reports which deal almost exclusively with the author's own work (Wulff, Ojima) and more general reviews in which the author's work features as a more or less important part (Bäckvall, Pearson). Both approaches are legitimate, but perhaps the editor should decide which he wants. Also there is considerable disparity in the density of the descriptions of experimental procedures which are inserted into the text, ranging from generous (Pearson) to non-existent (Wulff). I found these useful, but again a more consistent approach would have been helpful.

The individual contributions to this volume are, without exception, very good. The price is modest by modern standards, and it will be a valuable addition to both libraries and individual bookshelves.

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Organic Functional Group Preparations, Volume 12-III, second edition; by Stanley R. Sandler and Wolf Karo, Academic Press, New York, 1989, xiv + 552 pages, \$99. ISBN 0-12-618601-4.

The purpose of this series is to provide the organic chemist with an up-to-date compendium of published synthetic methods, directed specifically towards the preparations of particular classes of organic compound. For this second edition the literature has been reviewed from 1971 up to 1987, and the new material incorporated.

In this particular volume routes to thirteen classes of organic compound are detailed, viz, acetals and ketals, anhydrides, monoalkyl sulfates, sulfenic acids and sulfenic acid derivatives, isonitriles, amidines, imides, imidates, nitrones, hydroxylamines and substituted hydroxylamines, oximes, hydroxamic acids, and thiohydroxamic acids. Of all the sections, that on isonitriles is probably of the most direct interest to organometallic chemists. As one might expect, discussions of routes involving condensation and elimination reactions occupy most of the space. The layout is attractive and systematic, and there are lengthy tables of results and compounds made, both here and elsewhere in the book. There are also clear descriptions of selected experimental procedures, with careful attention being paid to the hazards involved in the experiment under consideration. The most disappointing feature of the account is that out of more than 150 references there are only 8 from the 1980s and 22 from the 1970s. Whilst these proportions may be somewhat better in other chapters, they are by no means atypical.

There are numerous examples of the uses of organometallic reagents in the preparations of these classes of compounds, and it is perhaps pertinent to note that metallated derivatives of imides and isonitriles have themselves proved to be useful synthetic intermediates. Reactions of organometallic nucleophiles with oximes and

their derivatives, and with nitrones have also been widely used, especially in diastereo and enantioselective syntheses of amines.

The volume has been carefully and accurately produced, and the diagrams are clear and well presented. Each chapter is supplemented by many references, although I am uncertain as to the value of some of the oldest of these. The extensive use of the patent literature is especially welcome, as it is frequently difficult to track down this information. There is an adequate index.

This book is a useful addition to the reference literature of synthetic organic chemistry. Its particular value lies in its systematic approach to some rather unusual classes of compounds, which tend to be treated rather briefly elsewhere. In this respect some chapters are more useful than others; nitrones have been well and frequently reviewed elsewhere, but information on hydroxamic acids or imidates might prove more elusive. Overall this is a good, but not exceptional book, worthy of library purchase.

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Organometallics in Organic Synthesis 2; edited by Helmut Werner and Gerhard Erker, Springer Verlag, Berlin, 1989, viii + 322 pages, soft cover, DM 94. ISBN 30540-50531-8.

This volume comprises most of the major papers presented at the second symposium on Organic Synthesis via Organometallics held at Würzburg in October 1988, and sponsored by the "Volkswagen Stiftung". It is a worthy successor to the first volume, and contains many valuable reviews, from experts in their respective fields.

The first section is an overview from Wilke, which deals with the use of nickel complexes in both stoichiometric and catalytic reactions. This is an excellent account marred only by some slightly confusing diagrams, and the fact that all the figure captions are in German, despite the English text. This is, I fear one of the consequences of rapid production from camera-ready manuscripts. This is followed by an article from Tom Dieck on diazadiene controlled carbon-carbon coupling reactions at palladium and iron, considering oligomerisations and co-oligomerisations of alkenes, alkynes, dienes and allenes. Zenneck follows this theme in discussing iron arene complexes in alkyne oligomerisation. Schlögl discusses the use of arenetricarbonyl chromium complexes as intermediates for stereoselective synthesis.

Iron carbonyl complexes of exocyclic polyenes are discussed by Vogel; the $\{\text{Fe}(\text{CO})_3\}$ moiety acts not only as a protecting group but also has the effect of rendering the reactions of remote functions chemo- and regio-selective. Different aspects of the reactivity of diene iron tricarbonyl complexes are presented by Salzer, with the emphasis on their use in carbon-carbon bond forming reactions, and the uses of allyl and dienyl complexes.

The cyclisation reactions of cyclic dialkynes are considered from both a theoretical and practical point of view by Gleiter, and a number of interesting new superphanes were synthesised in cobalt-promoted reactions. Other notable contributions are that from Brunner on enantioselective catalysis, and the paper of Jones on