Organic Reaction Mechanisms, 2003, edited by C. Knipe, Wiley & Sons: New York, **2007**, hardcover, 644 pp, € 442.50, £ 295.00, US$ 590.00, ISBN 978-0-470-01490-5

Volume 39 of the *Organic Reaction Mechanisms* series, edited by A. C. Knipe, surveys the literature in this area for 2003. The layout of the book is logical and very well organized with chapters covering: reactions of aldehydes and ketones and their derivatives; reactions of carboxylic, phosphoric and sulfonic acids and their derivatives; oxidation and reduction; carbenes and nitrenes; nucleophilic aromatic substitution; electrophilic aromatic substitution; carbocations; nucleophilic aliphatic substitution; carbanions and electrophilic aliphatic substitution; elimination reactions; polar addition reactions; cycloaddition reactions; and two chapters on molecular rearrangements. Each chapter is then divided into hierarchal sections (e.g., aldehydes and ketones is divided into sections on acetals, glucosides, ketenes, nitrogen derivatives, aldol reactions, etc.) and the sections (e.g. nitrogen derivatives) are further subdivided into clear categories (e.g., imines; oximes and related compounds). The overall breakdown is clearly presented at the start of each chapter which, combined with a good index, provides easy navigation of the book.

As is almost inevitable with literature surveys, the delivery can be a little dry at times, given the vast amount of information presented in a short space. However, the organizational structure helps out, as review articles are referenced at the start of each subdivision should the reader wish for quick referral to a review in the primary literature. A new and useful feature in this volume is that reactions which occur with significant diastereomeric or enantiomeric excess are highlighted in the margin using 'de' or 'ee', respectively. This means that a reader interested in such selective reactions in a specific mechanistic area can quickly locate the relevant references. There are many well-explained and interesting mechanisms detailed in the book. In some cases, the scheme of the mechanism is described in detail in the text to clearly explain what is actually going on.

On the negative side, it is a shame that it takes so long for a publication of this type to make it to print. At the time of press, the literature reviewed is already four years out of date. There are also a couple of minor errors in the schemes (e.g., incorrect structure for indolizines; missing nitrogens from porphyrin). The price of the book is also too high for the average reader, and it will mainly be seen as a library reference. One area which could be improved in the future is the references section. There is some variability between authors as to how the references are presented. Major journals are referenced in the usual way, but less widely read journals (including *Chem. Pharm. Bull.*, *J. Chin. Chem. Soc.*, *Bull. Korean Chem. Soc.*, *Green Chemistry* and *Adv. Synth. Catal.*) are referenced only as their *Chemical Abstracts* references, and the journals are not named. Conversely, in other sections, some lesser-known journals are referenced directly without a *Chemical Abstracts* reference. In other cases the journals are named and the abstract reference is also provided. It would be better in the future if the references were standardized and full references were given in all cases. Different readers across the globe will have access to different journals, and it is tedious to have to refer to *SciFinder* or *Chemical Abstracts* first to obtain the primary reference.

In summary, this volume of *Organic Reaction Mechanisms* contains a wealth of information in a well-structured and accessible format. Given the rapid pace at which organic synthesis develops, it is unfortunate that the literature reviewed is four years old. There is a wealth of good information here, but the book is more likely to be found in the library rather than on a private bookshelf.

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