

The Comprehensive e-Book of Named Organic Reactions and Their Mechanisms. By Bert Kruiswijk. Emedia Science Ltd.: Redhill, U.K. 2005. <http://www.chemistry-software.com>. 1980 pp. \$50.00 (\$30.00 for students).

Originally anticipated by the author as a year-long project in 1996, this opus is the result of nine years of labor on the subject. The scope of the book is impressive; the author set out to include every named reaction no matter how obscure. While some might quibble about the inclusion of the Bartlett–Condon–Schneider reaction (hydrohalogenation of alkene), the Alder–Rickert reaction (a retro-Diels–Alder) or a number of other similar transformations, it is the author’s contention that “everyone can name a reaction and, of course, I did so.” The result is some 1300 named reactions, each with an example, a proposed mechanism—or more accurately, a reaction pathway—a brief discussion of the transformation, and note of its related reactions, followed by literature references.

Those seeking to know more about a given named reaction and its link to other transformations will derive the greatest benefit from this book. The author explicitly correlates related transformations. Looking for an alternate to the Fischer indole synthesis? Everything from the Baeyer–Emmerling to the Yurovskaya is included for perusal. Content, on the whole, is impeccable in its thoroughness and recent in its coverage. Not only does the author include references up to and including January of 2005, but several named reactions are from the current millennium: both Arndtsen muchnone and Yamamoto ketone syntheses date to 2001. In several instances, the author not only provides an example of a typical reaction, but also includes mechanistic nuances that lead to other useful transformations. The Bäckvall acetoxylation is described, with an addendum detailing the intriguing chloride effect in this transformation. Disturbingly, olefin metathesis is not included in any of its iterations, other than an oblique reference under

the Tebbe olefination. To be fair, the author states that reactions such as the aldol (and presumably olefin metathesis) are not included per se since they are not known by a developer’s name. It seems an oversight, however, not to include the Schrock or Grubbs catalysts, at the very least, given the importance of this reaction.

There are several shortcomings in this work. As is the case with a number of tomes in this area, the mechanisms provided are often oversimplified, excusable from the point of view of requiring brevity, and occasionally wrong, inexcusable given the author’s stated belief that an undergraduate level of knowledge in organic chemistry is sufficient to understand them. I doubt most undergraduates would pick up on the errors. That, coupled with the widespread delusion that anything written in a book must be true, is dangerous. The author tends to use examples that are different from the mechanism of a given transformation, leading to potential confusion on the part of inexperienced organic chemists. A slight aggravation is the lack of hypertext links in the pdf document. It is true that Acrobat’s find/search options allow rapid identification of a given author or reaction, but it would have been easy, presumably, to link the reaction type with its every mention in the text, not only in the index but also when it is cross-referenced. It is hoped that the next version of this e-book will take advantage of this option.

One might ask the question of whether the organic community needs a book with a listing of 1300 named reactions. This e-book is not for the diabolical writer of cumulative examinations or for the stressed first-year graduate student. Rather, this work is best suited for the practicing researcher, as it provides a valuable resource for deeper searching on a given reaction.

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