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A Review of: "Name Reactions and Reagents in Organic Synthesis"

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Book Review

Name Reactions and Reagents in Organic Synthesis, 2nd ed., by B. P. Mundy, M. G. Ellerd, and F. G. Favaloro Jr., Wiley-Interscience, 2005; xv + 882 pp., \$89.95.

Treatments of the name reactions of organic chemistry have become somewhat commonplace in recent years. The 13th edition of *The Merck Index* has a section of organic name reactions. Other books along these lines include *Organic Syntheses Based on Name Reactions and Unnamed Reactions* by A. Hassner and C. Stumer (Elsevier Science, Peramon, 1994) and *Name Reactions in Heterocyclic Chemistry* edited by Jie Jack Li (Wiley, 2005). The setup for the name reactions sets the current book apart. Each is given a two-page treatment that includes a proposed mechanism and several examples, usually chosen from very recent examples. There are numerous references to 2003 and 2004 publications and extensive cross-references to related reactions. The number and range of reactions covered makes the book a valuable resource for readers ranging from beginning graduate students to professionals wrestling with real problems.

Yet the format used by the authors is not without its problems and shortcomings. Many of the descriptions of the reactions do not offer the original reference. The section on name reactions needs to be read along with M. B. Smith and J. March's *Advanced Organic Chemistry*, 5th edition (Wiley, 2001). The section on name reagents extensively references *Encyclopedia of Reagents for Organic Synthesis* edited by L. A. Paquette (Wiley 1995).

Although most of the information is reliably reproduced from the literature, there are mistakes. Hydroboration reagents (disiamylborane, diisopinocampheylborane), represented as monomers, (pp. 120, 768, 789) are in fact dimers and react as dimers. [H. C. Brown and G. J. Klender, *Inorg. Chem.*, **1**, 204 (1962); H. C. Brown and A. W. Moerikofer, *J. Am. Chem. Soc.*, **83**, 3417 (1961)].

There are also numerous typographical and other errors. On p. 208, a butadiene sulfone is termed a sulfoxide. On p. 327, the reaction of methyl o-toluate with the Grignard reagent is not found in the reference given, although an example of the Hofmann rearrangement is reported. On p. 338, the modification of the Hunsdiecker reaction is

Cristol-Firth, not Christol. On p. 420, the pathway A product of the Meinwald rearrangement has eight carbons, not seven. On p. 469, the structure of the Oppenauer product is missing. On p. 594, phthalazine is misspelled. On p. 705, Wolff is misspelled. On p. 709, EtO₂ should be Et₂O. On p. 767, the nitrogen atoms of potassium azodicarboxylate are missing. The "x" is missing in azodicarboxylate. On p. 772, the word "reduce" should be "reverse." On p. 810, the Si atoms are missing from the structures of Markiewicz reagent. On p. 824, methylmorpholine is spelled incorrectly. In example 2 on p. 835, the reactants include 3-cyanopyridine and 2-methylindole structures, and the product is a 1,4-dihydropyridine. On p. 843, solubilizing is not spelled correctly. On p. 845, the word "be" is missing in the captions under "Notes."

While the amount of information in this book will make it useful to a range of readers, the number of errors and types make it less valuable than it might have been.

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