

## Book Reviews

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**Organic Reactions. Volume 54.** Leo A. Paquette, Editor-in-Chief. John Wiley & Sons, Inc., New York. 1999. vii + 442 pp. 16 × 24 cm. ISBN 0-471-34888-0. \$89.95.

The most recent edition of *Organic Reactions* is in the format and style that will be familiar to those chemists who have used this series before. There are two chapters, each of which has an introduction, a mechanistic overview, a discussion on the scope and limitation of the reaction, a brief comparison with other methods, representative synthetic procedures, a comprehensive tabular survey, and references.

The first chapter in Volume 54 is authored by Roberto Rossi, Adriana Pierini, and Ana Santiago and is entitled "Aromatic Substitution by the  $S_{RN}1$  Reaction". Their review covers aromatic nucleophilic substitution reactions under radical conditions and complements the well-known aromatic electrophilic substitution reaction (Volumes 2, 3, and 5 of this series). The Mechanism section discusses in general terms the conditions under which the aryl radicals may be generated, while the wide variety of tolerated aryl groups and nucleophiles is detailed within the Scope and Limitations heading. Twelve thorough experimental procedures illustrate the variety of conditions under which these reactions can be performed. Specific examples are compiled in nine tables in the Tabular Survey section (210 pages total) and give reactants, products, reaction conditions, yields, and references. Those chemists interested in applying this reaction to preparative scale synthesis should know that there may be equipment limitations, since most of the reported examples are done using photochemical or electrochemical apparatus or in liquid ammonia.

The second chapter, by Robert Moriarty and Om Prakash, is entitled "Oxidation of Carbonyl Compounds with Organohypervalent Iodine Reagents". Their review encompasses the  $\alpha$ -functionalization of ketones and derivatives, such as silyl enol ethers, with organoiodine(III) reagents. A 35-page Scope and Limitations section examines the many possible substrates for this type of transformation, along with the diverse functionalities obtained using various hypervalent iodine reagents. The Experimental Procedures section contains 40 syntheses, illustrating the wide scope and versatility of this reaction. Also included are preparations for some organoiodine(III) reagents that are not commercially available. The Tabular Survey (77 pages total) lists hundreds of examples, all with reaction conditions and references.

Volume 54 of *Organic Reactions* concludes with cumulative indices by chapter title, author, and subject for Volumes 1–54. Both chapters provide clear coverage of their topics, investigate the reaction in depth, and are rigorously documented. This text will become a useful addition to this standard reference series and should be in any chemistry library.

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