

## Book Reviews

---

**Comprehensive Organic Transformations. A Guide to Functional Group Preparations.** By Richard A. Larock. Wiley-VCH Publishers, New York. 1999. xliii + 2583 pp. 18.5 × 26 cm. ISBN 0-471-19031-4. \$150.00.

This book is an updated edition of the initial volume published in 1989. It consists of 9 sections describing the preparation of specific types of functionalities, such as alkanes, alkenes, alkynes, amines, ethers, alcohols and phenols, aldehydes and ketones, and carboxylic acids and derivatives. Each of these general sections is then subdivided into headings depicting the types of reaction utilized. In turn, each of these headings has up to 30 subheadings illustrating the type of starting material used in the transformation. The book deals almost exclusively with examples drawn from a carbon-centric world with little inclusion of systems involving heterocycles, where functional groups may sometimes behave quite differently. This is a monumental piece of work and organization, and the author is to be congratulated for a heroic effort. The volume is encyclopedic in nature and scope, and the references to 1996 literature are cited. The volume is truly comprehensive, but it is less than optimally helpful or easy to use. The book provides a staggering amount of information but falls short in providing guidance to the practicing chemist as to which may be the preferable route to try initially. The book would have been more useful had it provided some indication as to which method(s) have the broadest applicability and usage. I realize that the author is providing chemists with a wide choice of reagents and reactions, but unless the reader actually consults the original literature, it may not be obvious which method is most relevant to the reader's specific problem. It would have been useful to include brief synthetic protocols for the most frequently used methods. I found the citations of the reviews that begin each chapter to be particularly helpful.

In terms of the actual usage of the volume, I found the lengthy (586 pages) Transformation Index to be very cumbersome. It appears to be a mixture of the general and the specific, and for some compounds the chemist may need to take a refresher course in organic nomenclature in order to make maximal, optimal use of the index.

There appear to be omissions, even in so comprehensive a work as this volume. I could find no section on nitro compounds; a search for a method for preparation of nitroanisoles was unsuccessful. Some of the headings tend to be somewhat misleading, as, for example, the one describing preparation of nitriles, carboxylic acids, and derivatives. While formally correct, the conversion of amines into carboxylic acids (p 1640) seemed to this reviewer to describe the conversion of an amine into an alcohol which is later esterified.

This book will certainly be valuable to those chemists who do not have access to electronic means of literature searching. However, the number of such chemists becomes fewer every year. Nearly all companies and many university chemistry departments now have access to electronically searchable data bases that are user friendly, are up-to-date, and allow very precise rather than general searching. Such electronic data bases are rapidly becoming the first choice for chemists. Consequently, I fear that as encyclopedic and monumental as *Comprehensive Organic Transformations* is, it will sit on the chemist's shelf and will be used with less and less frequency.

**Jan W. F. Wasley**

*Neurogen Corp.  
35 NE Industrial Road  
Branford, Connecticut 06405*

JM000174R

10.1021/jm000174r