

# Book Reviews

**The Nitro Group in Organic Synthesis.** By Noboru Ono (Ehime University, Maysuyama). John Wiley & Sons, New York, NY. 2001. xvi + 372 pp. 15.5 × 23.5 cm. \$130.00. ISBN 0-471-31611-3.

Given the resurgence in nitro group chemistry in recent years, this outstanding new addition to the Wiley Series in Organic Nitro Chemistry is well timed.

Following an introductory chapter on the preparation of nitro compounds, Professor Ono, who is a leader in this renaissance, reviews the nitro-aldol reaction (Henry reaction), Michael additions to nitroalkenes and of nitroalkanes, electrophilic reactions of nitro compounds (alkylation, acylation, halogenation), the conversion of nitro to other functional groups, substitution and elimination of the nitro group, cycloaddition chemistry of nitro compounds, nucleophilic displacement reactions involving aromatic nitro compounds, and synthesis of heterocycles (pyrroles, indoles, other nitrogen heterocycles) utilizing nitro compounds. Extensive reaction schemes and tables are presented, and each chapter is heavily referenced, including many references from 2000. Experimental procedures are not included. In addition to ample coverage of nitroalkenes as dienophiles, the chapter on cycloaddition chemistry embraces 1,3-dipolar cycloadditions of nitronates, nitrones, and nitrile oxides. Each chapter routinely incorporates examples of natural product total syntheses involving nitro group chemistry.

Although the book is attractively printed, with clear and uniform chemical structures, and is well written, the proofreading could have been better ["1,2-dichloromethane" (p 17), incorrect yield in 2.14 (p 7), missing "Me" in 4.42 (p 85), "Nitroalkens" (p 92), improper reaction arrows in 5.1 (p 126), incorrect volume for ref 8 (p 178), incorrect structure in 7.16 (p 186), and "2-amino amino" (p 318)] to cite a few. There is a Table of Contents and a subject index, but no author index.

I can recommend this book as an important addition to chemistry libraries and a valuable acquisition by the synthetic organic chemist, particularly if a less-expensive softcover version is available. Even if one is not actually working with nitro compounds, there is enough fascinating chemistry in this volume to foment the imagination of any synthetic chemist.

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**Bioactive Compounds from Natural Sources: Isolation, Characterisation and Biological Properties.** Edited by Corrado Tringali (Universita di Catania, Italy). Taylor & Francis Publishing, London and New York. 2001. x + 693 pp. 17 × 24.5 cm. \$110.00. ISBN 0-7484-0890-8.

This book contains a collection of chapters dealing with the broad theme of bioactive natural products. The first three chapters of the book describe methodologies for the biological and chemical screening, dereplication, and structure elucidation of natural products. These first chapters provide a nice introduction to the methodologies utilized for the identification and characterization of natural products and would serve as a valuable text or perhaps a supplementary text for a graduate course on natural product analysis. The first chapter discusses the role of bioassays covering molecular assays through whole animal assays. The second chapter discusses hyphenated methods for the identification and dereplication of plant metabolites, and the third covers the application of 1D and 2D NMR methods for structure elucidation.

The following chapters describe a variety of natural products along with their chemistry and biological activities. These include chapters discussing bioactive metabolites from Mexican medicinal plants, flavonoids with cancer chemopreventive activity, antitumor drugs from higher plants, and taxoid production from natural sources. There is a chapter devoted to aromatic plant metabolites with activity against HIV in addition to a chapter focused on plant metabolites with antioxidant properties. A chapter devoted to malaria provides a review of natural products with activity against *Plasmodium*. A single chapter is dedicated to microbial metabolites and focuses on phytotoxins from fungi. There is also a chapter covering natural products that affect COX-2 activity and a chapter reviewing limonoids (including their biosynthesis) from Meliaceae.

The last three chapters of the book cover natural products of marine origin and include immunomodulating glycolipids from sponges, bioactive metabolites from Opisthobranchs, and diterpenoids from Japanese soft corals.

The book is well indexed with a detailed subject index and a separate natural source index listing the genus and species of each sample described in the text. References are through 1998, and in general the book is well organized with the format being consistent throughout the volume, making it easy to read. This book is certain to be of interest to those individuals new to the field of natural products as well as to senior scientists interested in a review of the subject areas covered by chapter.

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