

Book Review

**Book Review of Modern Alkaloids:
Structure, Isolation, Synthesis and Biology**

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J. Am. Chem. Soc., **2008**, 130 (34), 11562-11562 • DOI: 10.1021/ja8031345 • Publication Date (Web): 05 August 2008

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Modern Alkaloids: Structure, Isolation, Synthesis and Biology. Edited by Ernesto Fattorusso and Orazio Tagliatela-Scafati (Università di Napoli Federico II, Italy). Wiley-VCH Verlag GmbH & Co. KGaA: Weinheim. 2008. xxiv + 666 pp. \$275.00. ISBN: 978-3-527-31521-5.

This book comprises 20 individually authored chapters covering a range of topics in alkaloid chemistry and biology. Most of the chapters, the titles of which are available at <http://www.wiley.com/WileyCDA/WileyTitle/productCd-3527315217,descCd-tableOfContents.html>, have fairly up-to-date references through about 2006. The book is further organized into three main sections: (I) Bioactive Alkaloids: Structure and Biology; (II) New Trends in Alkaloid Isolation and Structure Elucidation; and (III) New Trends in Alkaloid Synthesis and Biosynthesis.

As might be expected in a book with this many chapters and sets of authors, the quality and style of the presentations vary significantly. Nonetheless, the book reflects the many areas in which modern alkaloid chemistry has expanded and constitutes a valuable reference for both the student and specialist. In particular, the number of new alkaloids from the marine environment is astonishing, and several well-written chapters (Chapters 6, 8–11, and 19) cover different aspects of this burgeoning field.

This book also provides the synthetic community with a nice, rapid visual source for retrieving new natural product “target” structures. There were, however, structural errors in numerous

places—those of ergotamine and palau’amine, to mention just two—and the reader must double-check structures and stereochemistry for specific compounds in which they might be interested as possible targets for synthesis. The book, which is advertised to cover “structure, isolation, synthesis and biology”, is heavily focused on structure and isolation and only lightly on synthesis, the exceptions being Chapters 8, 15, and 16. The biological activities of a vast array of compounds are discussed in most chapters, and many useful references can be found throughout. Because the genetic understanding and manipulation of alkaloid biosynthesis are still at a very immature stage, in contrast to polyketide biosynthesis, for example, this book clearly reveals the vast chasm of knowledge that exists in the biogenesis of alkaloids and may serve to stimulate additional research in this area. The last chapter on indolocarbazole biosynthesis reveals that the tools exist to make advances in this area but will depend heavily on whole genome sequencing of many producing organisms.

Although all aspects of alkaloid chemistry could not possibly be covered, the choice of topics and the large cache of complex structures illustrated here were very appealing. Overall, the book fulfills its titled objectives and is a useful collection of reviews.

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JA8031345

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