Book Reviews

Compendium of Organic Synthetic Methods, Vol. 10. By Michael B. Smith (University of Connecticut). John Wiley & Sons, New York, NY. 2002. xix + 390 pp. 15.5 × 23 cm. $100.00. ISBN 0-471-20201-0.

This is the tenth volume in the series begun by Ian and Shuyen Harrison in 1971. Professor Smith has continued these updates since Volume 6. I consider this series to be essential for discovering new and useful organic functional group transformations. I invariably look to it first for accessing such information, and I find it more readable and better organized than, for example, "Annual Reports in Organic Synthesis", although the latter series is more up to date.

Volume 10 covers the 1996−1998 literature with more than 1700 citations from 26 journals, about half coming from *Tetrahedron Letters* and the *Journal of Organic Chemistry*. Each transformation includes reaction conditions, yields, and a full reference. The easy-to-use format is maintained from previous volumes. Thus, section numbers are the same as in previous volumes, and this consistency—similar to Beilstein system numbers—facilitates browsing through all 10 volumes for a particular transformation. About one-third of the volume is devoted to difunctional compounds, which are arranged according to the functional groups in the reaction products. An author index is also included.

The proofreading could have been better. A check of my own two entries found three errors. On p 74, Section 74B, an oxygen is missing from the first starting material, and this entry is not indexed. On p 112, the last reaction takes place with lithium piperidide not piperidine. Random scanning found other errors. "Söderberg" is misspelled on p 137 and in the Index; "diastereomeric" on p ix; "HC+CH" and "RC+CR" for acetylenes on p xvi; "x" on p xvi should be "xii"; Section 1, "Alkynes from Alkynes", includes an alkene to alkene reaction; Section 48, "Aldehydes from Alcohols", incorporates an alkene to alkane example; the top product on p 133 is missing a nitrogen; and the first entry in Section 119 on p 155 has too many carbons in the chain. Moreover, some entry locations are confusing. The reduction of azides to amines occurs both in Section 105, "Amines from Miscellaneous Compounds", and in Section 105A, "Protection of Amines" (one instance). In Section 349, "Amide-Alkene", there appears a "Ketone-Amide" (aziridination of cyclohexenone). Examples of amide deprotection occur both in Section 81, "Amides from Amides", and in Section 90A, "Protection of Amides". Since these examples are not duplicated, the reader would need to examine both sections for completeness.

In summary, despite these relatively minor errors and proofreading oversights, this series continues to be an important acquisition for practicing organic chemists and chemistry libraries.

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Fortschritte der Chemie Organischer Naturstoffe: Progress in the Chemistry of Organic Natural Products. Volume 84. Edited by W. Herz (Florida State University), H. Falk (Johannes-Kepler-Universität), and G. W. Kirby (University of Glasgow). Springer Verlag, Wien and New York. 2002. viii + 256 pp. 15 × 23 cm. EUR 142 ($159.00). ISBN 3-211-83707-8.

G. A. Cordell claimed in his review (*J. Nat. Prod.* **2002**, *65*, 952) that Volume 82 exceeded the established high standards of this legendary series, "raising the proverbial bar for others to emulate". The same could be said of Volume 84, which encompasses two reviews, in ca. 1:3 page ratio. In the first one, entitled "Naturally Occurring Cyclic Tetrapyrroles", Monforts and Glasenapp-Breiling review the chemistry and biochemistry of one of the most complex and biogenetically intriguing classes of metabolites. The second one, entitled "The Chemistry of Taxol and Related Taxoids" and authored by Kingston, Jagtap, Yuan, and Samala, summarizes the chemistry of the most important anticancer agent discovered in the last two decades.

The introduction of Taxol into the clinic was the result of a timely convergence of political, financial, and intellectual interests. While politics and finance have been dealt with in Goodman and Walsh's recent book *The Story of Taxol* (reviewed in *J. Nat. Prod.* **2002**, *65*, 246), Kingston and co-workers have now filled the remaining gap. Organic Chemistry played a key role in the synergy of contributions that established the taxanes as clinically useful anticancer agents, and the review therefore covers an enormous amount of research, part of which is scattered in nonchemical journals. The authors were among the major players in the field, and the coverage of the topic is outstanding.

While Taxol is an archetypal secondary metabolite, the key biochemical role of heme and chlorophylls might give the false impression that tetrapyrroles are essentially primary rather than secondary metabolites. The review by Monforts and Glasenapp-Breiling makes it clear that there is a remarkable variety of compounds of this type, covering their occurrence in living organisms as well as in fossils and discussing their structure, biological activity, and synthesis. Since comprehensive reviews on the synthesis of tetrapyrroles are available, only the basic strategies and the most recent developments are discussed. If the synthesis of vitamin B_{12} by Eschenmoser and Woodward opened a new era of organic synthesis, the elucidation of its biosynthesis was not a minor feat, very lucidly described in highly readable pages.

Both reviews are written in a reader-friendly "legato" style. The "staccato" (or even "pizzicato") style that too often plagues reviews and somewhat degrades them to sheer compilations of data is avoided throughout. If Volume 82 had to be on the bed table of all those interested in atropoisomerism, Volume 84 should find a place in the library of both natural products and synthetic chemists. While the relevance of the topic to natural products chemists is obvious, the chemistry of Taxol reads like a "who's who" in organic chemistry, and synthetic chemists will find it a constant source of ideas for the manipulation of functional groups. The chemistry of Taxol is rather idiosyncratic, but protocols developed to "discipline" it might well be of more general applicability. The Scheeren-

Holton acetylation is an illuminating example of a reaction "discovered" in taxanes which has found broad application and stimulated mechanistic investigations within the synthetic community (for recent developments, see *Tetrahedron Lett.* **2002**, *43*, 4761−4763, and *J. Org. Chem.* **2002**, *67*, 5226−5231). Most of the chemistry of Taxol was discovered under conditions of high pressure due to strong competition between the various groups involved. *Curae acuunt mortalia corda* (troubles make human hearts (minds) sharper, Virgil), and these efforts are well worthy of finding a broad audience.

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Herbal Medicines, a Guide for Healthcare Professionals (CD-ROM). By Joanne Barnes (University of London), Linda A. Anderson (Medicines Control Agency, London), and J. David Phillipson (University of London). Pharmaceutical Press, London, UK. 2002. $115.00. ISBN 0-85369-500-8.

At publication, the CD ROM version of *Herbal Medicines, a Guide for Healthcare Professionals* contains information identical to the printed volume, 2nd edition. The application is easy to install and load. The accompanying review of the book suffices for the CD as well in terms of content; however, there are several advantages to the electronic version that are worthy of discussion. The CD is organized like a book, so is entirely readable if desired, but the electronic format allows the user to search individual terms. The search engine is quite intuitive, with a quick search function appropriate for broad or general queries and also a more advanced mode that facilitates more focused searches. The CD can be easily searched for plant name synonyms, medical symptoms, biological activities, etc. The *Help* utility illustrates how a compound search can be performed. For instance, if the term *adverse event* is searched concurrently with *pregnancy* and *lactation*, herbs that are specifically associated with those conditions are listed with active links back to their monographs. This can be a highly useful function, especially for the herbs with lengthy monographs that reflect more numerous scientific reports. The concise nature of the monographs that makes the book a useful reference tool at the same time implies that searches should not be expected to be completely definitive for every herb. An automatic Internet connection allows references to be accessed directly through PubMed when available, a convenient feature. The user will also be able to access new and updated information as soon as it is available via the Internet. The publisher claims that *Herbal Medicines* will be "regularly updated in the future with additional monographs added and revisions made to existing monographs", offering access to more current information than a printed volume allows.

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Herbal Medicines, a Guide for Healthcare Professionals, Second Edition. By Joanne Barnes (University of London), Linda A. Anderson (Medicines Control Agency, London), and J. David Phillipson (University of London). Pharmaceutical Press, London, UK. 2002. xiv + 530 pp. 18.5 × 24.5 cm. $59.95. ISBN 0-85369-474-5.

The second edition of *Herbal Medicines, a Guide for Healthcare Professionals,* continues in the strong tradition of the original publication. In the intervening 6 years, scientific and clinical study has added substantially to the knowledge surrounding many of the major herbs covered in the first edition. To that end, of the 148 herbal monographs in the present book, 33 have been updated to reflect new information, and 10 are major revisions of intensely researched plants such as St. John's wort, ginkgo, black cohosh, and saw palmetto. Seven monographs are new to this edition, including important herbs of commerce such as milk thistle, lemon balm, and ephedra.

The chapter entitled "Introduction to the Monographs" provides an informative foundation for understanding issues of quality, safety, and efficacy of medicinal herbs. Much of this information remains from the first edition, but has been updated with recent examples. There is also a helpful review of some of the changes being deliberated in the European Union regarding the legal/regulatory status of medicinal herbs.

Numerous tables and appendices such as "Potential Drug-Herb Interactions", "Cardioactive Herbal Ingredients", and "Sedative Herbal Ingredients" provide the health professional with a convenient point of entry to herbal information in a clinical setting. Individual monographs then offer much more depth on specific herbs of interest.

The consistent format of each monograph provides information on the Latin name, synonyms, and plant part used for the herb. Known chemical constituents are specified and classified into flavonoids, phenols, volatile oils, terpenoids, etc. Common and traditional uses of the herb for food and medicinal purposes are described, and usual dosages are stated. The section on pharmacological actions is particularly useful. In a concise framework, the authors provide enough context for the laboratory and clinical results to allow meaningful interpretation by the nonexpert reader. Known toxicity and contraindications are also described. Each monograph is extensively referenced.

Herbal Medicines is intended to serve as a reference book for pharmacists and other healthcare professionals who want or need to know more about medicinal herbs, and this it does. It would also be a valuable addition to the library of other scientists interested in natural product medicine.

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