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BOOK REVIEW

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# Book Review of Modern Drug Synthesis

**Modern Drug Synthesis**. Edited by Jie Jack Li and Douglas S. Johnson. John Wiley & Sons, Hoboken, NJ. 2011. xiv + 355 pp. 18.5 × 26 cm. ISBN 9780470525838. $110.00.

This text is a compilation of 21 chapters, each devoted to the synthesis of a unique drug. The text is organized into five sections, each covering a particular class of pharmaceutical agent: infectious diseases, cancer, cardiovascular and metabolic diseases, central nervous system diseases, and a final miscellaneous section. I was disappointed in the coverage of some of these sections, most notably that of infectious diseases, as each of the three drugs presented target HIV. Selecting a wider range of drugs, or simply naming this section "HIV", would have been appropriate. The two most extensive sections, (part II) cancer and (part III) cardiovascular and metabolic diseases, were also the most diverse and impressive. Each contained sections on six novel drugs and combined became a valuable tool for the synthetic chemist or biochemist working in these areas.

Individually, the chapters were well written and well organized. The editors did a solid job of directing the authors' outlines such that each chapter was set up in a very similar manner with a detailed background on the drug, its pharmacology, pharmacokinetics, efficacy, and synthesis. The strength of this text, as the title suggests, is found in the synthesis sections. These are detailed and often highlight the difficulties of moving from small-scale synthesis to industrial scale. Many also give multiple routes to synthesis along with the rationale for each route and, as such, makes them lesson builders for the beginning medicinal chemist.

The major weakness of this text is that it feels incomplete. With such a broad title, I expected to find an introductory section with coverage of modern drug designing strategies. While the focus is rightly on synthesis, a chapter that discusses rationale and combinatorial techniques and the history of drug discovery could catapult this text from being a nice, but ultimately obsolete, desk reference to that of a useful text for instruction in education of medicinal chemistry graduate programs. Rather than being the sole content, the synthetic chapters could then be used to highlight different strategies, thereby offering the medicinal chemistry student insight into the benefits of multiple philosophies. While the preface indicates two other texts, Contemporary Drug Synthesis and The Art of Drug Synthesis, that may fill this roll, there is no indication that the three books by these editors necessarily should be compiled as a collection. Perhaps bound together as a single volume, they could serve as a graduate level medicinal chemistry textbook.

**Mike LaFontaine**

Department of Basic Sciences
School of Osteopathic Medicine[a]
Pikeville College[a]
Pikeville, Kentucky 41501
E-mail: mlafonta@pc.edu
[a]Effective July 1, 2011, the name of the school and college will change to College of Osteopathic Medicine, University of Pikeville.

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