

## Book Reviews

**Essentials of Organic Chemistry: For Students of Pharmacy, Medicinal Chemistry and Biological Chemistry.** By Paul M. Dewick (University of Nottingham). John Wiley & Sons, Ltd., Chichester. 2006. xiv +696 pp. 7.5 × 9.5 in. \$65.00 (paper). ISBN 0-470-01666-3.

Designed for students pursuing degrees in pharmacy, medicinal chemistry, and biological chemistry, this textbook covers the fundamentals of organic chemistry appropriate for and interesting to the intended audience. The book is well written and uniquely tailored to this group of students. Considering that it is intended to cover a two-year curriculum, the text is concise at roughly 700 pages.

Chapters 1 and 2 introduce molecular representations and nomenclature, along with atomic structure and bonding. Chapter 3 covers stereochemistry. Chapter 4 considers acids and bases. Chapter 5 provides an overview of different types of reaction mechanisms, and Chapters 6–10 focus more specifically on nucleophilic, electrophilic, and radical reaction classes. This first section of the book resembles other introductory organic chemistry texts in content, yet purposefully omits material that the author expects will be less useful to pharmacy students. Conspicuously absent is any discussion of spectroscopy (IR, NMR, UV, or MS). Similarly, there is little mention of synthesis. Conversely, other topics are covered in greater depth than one would normally encounter at this level. The chapter on stereochemistry, for example, is very thorough and includes subtopics such as torsional asymmetry, prochirality, resolution, Fisher projections, and D/L configurations. Interspersed throughout all of the chapters are highlight “boxes” that show the relevance of the material to real-life applications, particularly with respect to drug design and function. These examples are well chosen and very interesting, and accomplish their intended purpose without distracting the reader from the essential concepts.

The second half of the book builds on these fundamental topics to provide an organic chemistry-driven introduction to biochemistry. Chapter 11 gives an overview of the important heterocycle classes,

while Chapters 12–14 elaborate on carbohydrates, amino acids/peptides/proteins, and nucleosides/nucleotides/nucleic acids, respectively. Chapter 15 is entitled “The organic chemistry of intermediary metabolism” and covers such topics as the glycolytic pathway, the Krebs cycle, synthesis and metabolism of fatty acids, transaminations, and biotin-dependent carboxylations. All of these chapters do an excellent job of emphasizing the underlying *organic* chemistry and tie all of this “new” chemistry back to the fundamental concepts developed earlier in the text. This approach to teaching introductory biochemistry is one that could serve *all* chemistry students well.

Overall, the textbook accomplishes its distinctive purpose with clear writing and appropriately selected content. However, any instructor contemplating the adoption of this text for a course should be mindful of a few quirks and limitations. Most notably, this textbook does not include any end-of-chapter problems. The final chapter of the book, “How to approach examination questions: selected problems and answers”, contains some useful material, but it is designed for a comprehensive final exam. Instructors who will employ more frequent midterm exams or quizzes would almost certainly want to augment this text with a supplemental question/answer workbook. Additionally, although readable, the formatting of the text—typeset in Times font, two-column format, simple chemical structures with few other illustrations—is a minimalist design that is quite understated relative to the multicolor, photograph-augmented layouts now pervasive among introductory organic chemistry textbooks. In summary, for an organic chemistry course designed with pharmacy students in mind, this book is worthy of consideration as the main text.

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