

Book Reviews

Essentials of Organic Chemistry for Students of Pharmacy, Medicinal Chemistry and Biological Chemistry. By Paul M. Dewick. John Wiley & Sons, Ltd., West Sussex, England. 2006. xiv + 696 pp. 19 × 24.5 cm. ISBN 0470016663. \$65.00.

Principles of chemical reaction mechanisms provide the central thrust for this biochemically oriented introduction to medicinal and natural product chemistry. Great care has been taken to keep the student engaged as the author, a career pharmacy student educator, conveys the bases for predicting the course of a reaction. The readability benefits from personal touches ordinarily reserved for a well-prepared lecture.

The 16 chapters are organized by fundamentals of nomenclature, bonding, stereochemistry, acids and bases, classes of reactions, heterocycles, realms of biochemistry, and an extensive section of questions with answers explained by deductive reasoning. Some precollege-level chemistry should prepare the reader for this "course". In keeping with the largely introductory nature of the book, every effort is made to illustrate in detail the established models of chemical bonding and reactivity; i.e., no short cuts are taken in visualizing intermediates, transition states, and the electronic flux leading to products. Resonance structures and stereochemistry are ongoing themes. Synthetic organic chemistry was appropriately deemphasized in this pharmacy-oriented text. In the navigation of the book, the occasional reappearance of earlier topics serves as an intended means of reinforcement where extensive cross referencing completes overriding concepts. Similarly, the thorough index serves the student well.

Biochemistry heavily influences the choices of subject matter. As a complement to the narrative, extensive boxed text examples are used to apply chemical principles to such areas as vitamins, sugars, intermediate metabolism, and drug properties. The preponderance of the drug examples focuses on natural products, even to the extent that pharmacognosy could have reasonably been found in the title. Regarding these boxed drug examples, a more balanced use of blockbuster new drugs rather than so many alkaloids could have contributed to a better appreciation of medicinal chemistry in the context of contemporary pharmacy practice. Likewise, the absence of metabolic chemistry pertaining to the burgeoning field of pharmacogenomics was a missed opportunity.

This stout text far exceeds a primer for medicinal chemistry in a pharmacy professional curriculum. Taken in its entirety, this book would serve well to prepare an undergraduate student for any future studies in the biomedical sciences. The ease with which the author conveys predictability in fundamental chemical reaction pathways distinguishes this book. The audience is always in kept in mind as a few science book rules are bent by design.

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