Drug Development and Industrial Pharmacy, 33:209, 2007

ISSN: 0363-9045 print / 1520-5762 online
DOI: 10.1080/03639040600688609

informa
healthcare

Book Review

Physicochemical Principles of Pharmacy, 4th edition, A.T. Florence and D. Attwood, Pharmaceutical Press, Grayslake, Il, 2006, Paperback, 492 pages, ISBN: 085369608

Pharmaceutics is a diverse and translational discipline, combining chemistry, physics, and engineering concepts with biological principles to convert chemical entities into medicines. The book, *Physicochemical Principles of Pharmacy,* presents physicochemical principles relevant to the pharmaceutical industry. The book focuses on properties of drugs and excipients in both the solid state and in solution. At the beginning of each chapter, a summary is provided and the significance of the subject in terms of product development and drug delivery is briefly presented.

The first chapter discusses powders, focusing on crystal structure, polymorphism, dissolution, and wetting. The second chapter covers gases, volatile agents, and solubility of gases in blood while properties of drugs in solution are discussed in Chapter 3. Chapter 4 reviews chemical functional groups that are susceptible to decomposition and other issues related to drug stability. Solubility principles are presented in Chapter 5 and a discussion on the relationship between chemical structure and solubility is provided. Subsequent chapters cover surfactants, emulsions, polymers, peptides and proteins, drug absorption, routes of administration, and drug interactions and incompatibilities. In addition, a chapter discussing the in vitro assessment of drug products is presented.

The fourth edition of this text has been updated and revised. The writing is clear and pharmaceutically-relevant examples are provided throughout the text. Illustrations are ample and clearly legible. As mentioned in the preface, this text is designed specifically for undergraduate pharmacy students as well as graduate students. The book does a good job at presenting and explaining physicochemical principles relevant to pharmacy. Unfortunately, most U.S. pharmacy programs have been shifting away from these basic science principles in favor of more clinically-related concepts and thus this book may be too advanced for these Pharm.D. students. The text, however, is an excellent reference for both graduate students and scientists in the pharmaceutical industry, as it provides an overview of the physicochemical principles important in pharmaceutics and biopharmaceutics.

Linda A. Felton
University of New Mexico, College of Pharmacy,
Albuquerque, NM, USA