

Mass Spectrometry in Drug Metabolism. Edited by ALBERTO FRIGERIO and EMILIO L. GHISALBERTI. Plenum, 227 W. 17th St., New York, NY 10011. 1977. 532 pp. 16 × 25 cm. Price \$42.50.

This book is a compilation of 32 individual papers and invited reviews covering selected areas of techniques and applications of mass spectrometry in the field of drug metabolism. The papers assembled were presented at the International Symposium on Mass Spectrometry in Drug Metabolism, Mario Negri Institute for Pharmacologic Research, Milan, Italy.

Many different authors of varying backgrounds and expertise from all parts of the world contributed to this collection. As a result of this diversity of background and interest, the volume is truly representative of the state of the art of the study of drug metabolism, using mass spectrometry as the analytical tool.

The material was grouped into three major areas: Drug Metabolism, Development in Methodology, and Drug Abuse. Included under the heading Drug Metabolism are the categories: Identification of Drugs and Drug Metabolites, Quantification of Drugs and Drug Metabolites, and Intermediates in the Metabolism of Drugs. The Developments in Methodology section was divided into Developments in Methodology and Stable Isotope Labeling. This systematic arrangement of the papers in the Table of Contents allows simple location of topic. There is also a chemical compound and technique index, which is excellent for quick location of desired information.

Titles range from Blood Concentrations of Monoacylcadaverines in Schizophrenia to Field Desorption Mass Spectrometry of Pharmacologically Active Salts. There is a topical entry on the role of mass spectrometry on trends in drug abuse.

The highlight of the book is the presence of excellent review articles on such topics as selective ion monitoring in drug research and chemical-ionization mass spectrometry in the identification of drug metabolites. Of particular interest was a presentation on the role of computers in GLC-mass spectrometry, which dealt with the computer's role in the control of operation, detection, confirmation of identity, and quantification of metabolites. Each review is complete with a thorough bibliography which would facilitate further readings on these topics. The typical chapter is complete with illustrations such as normalized mass spectra, gas chromatographs, and metabolic schemes.

The papers contained in this book represent a wide variety of interests. The quality, quite naturally, varies with each author. For this reason, a single all encompassing review of the book cannot be done. It can be stated that the form of the manuscript with the ideal table of contents and complete index, clear illustrations, and bibliography makes it an enjoyable learning tool.

This compilation has true scientific merit, and I feel that it would be a definite asset to any scientific library. Metabolic chemists and other pharmaceutical scientists will find the book extremely useful. Mass spectrometrists certainly will be interested in this volume from many aspects, and they will find it useful in keeping abreast with the many faceted advances in mass spectral technology.

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Venoms: Chemistry and Molecular Biology. By ANTHONY T. TU. Wiley, 605 Third Ave., New York, NY 10016. 1977. 560 pp. 17 × 25 cm. Price \$34.50.

This book consists of four parts: General Background and Compositions of Snake Venoms, Enzymes in Snake Venoms, Properties and Actions of Snake Venoms, and Other Venoms.

For the first time, information concerning the molecular weight, structure (amino acid sequence), and biochemical, toxicological, and pharmacological properties of snake venoms throughout the world has been put together in one book. This book will be useful not only to students but also to researchers in this field. The book deals mostly with the chemical and biochemical aspects of snake venoms, with major emphasis

on enzymatic properties of venoms, amino acid sequence, and structural configurations of venoms, which are the recent advances in analytical biochemistry.

Enzymes found in snake venoms include phospholipase A₂, phosphomonoesterase, phosphodiesterase, 1-amino acid oxidase, acetylcholinesterase, proteases, and esterases. Enzyme inhibitors also are discussed, and properties and actions of venoms of sea snakes, elapidae, viperidae, crotalidae, and colubridae are described. Tissue distribution of venoms in animals, binding site of neurotoxins to acetylcholine receptors, chemistry and structures of neurotoxins, and pharmacology of snake venoms, including hemolysis, blood coagulation, hemorrhage, and myonecrosis, are discussed with illustrations. Autonomic pharmacological substances (histamine, bradykinin and its potentiator, and angiotensinase inhibitor) and teratogenic and immunologic aspects of cobra venom in conjunction with its toxic properties are discussed.

Descriptions of various chemical agents effective in neutralizing the toxic factors of snake venoms are particularly useful. The chemical agents include steroids, carbohydrates (mucopolysaccharides and heparin), sulfur-containing compounds (thioglycolate, cysteine, glutathione, and thiourea), chelating agents, antihistamines, and procaine. Physical agents such as UV, cobalt-60, and X-rays are also included.

In addition to snake venoms, the nature of venoms from other land animals (scorpion, spider, bee, wasp, ant, and gila monster) is described and their chemical structures, biochemical properties, immunology, and pharmacology are discussed.

Many electron micrographs of actions of snake venoms on synaptic vesicles, muscles, glomerulus, collagen fibers, etc., supplied by the author's laboratory are particularly interesting and informative. The book contains 101 figures, 67 tables, 31 schemes, and numerous illustrations.

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Pharmaceutical Microbiology. Edited by W. B. HUGO and A. D. RUSSELL. Blackwell Scientific Publications, 8 John St., London, WC 1N 2ES, England. 1977. 352 pp. 15 × 24 cm.

This handsomely printed and illustrated soft cover, multi-authored textbook meets the needs of its intended audience of undergraduate pharmacy students. The first part is a 65-page concise statement of the biology of microbes. Also, a 15-page chapter devoted to an outline of immunology serves as an introduction to a following chapter on the manufacture and quality control of immunological products. A one-page concluding chapter is the prognostication of the editors of future developments in microbiology.

The remainder of the book is divided into two parts. The first deals with the nature and manufacture of antimicrobial agents. The second is a presentation of microbiological aspects of pharmaceutical processing. These parts are the great strength of the book as a textbook for pharmacy students. These chapters deal specifically with those aspects of microbiology of direct significance for the pharmacist and the pharmaceutical industry. Included are subjects such as the manufacture and assay of antibiotics, the nature of disinfection, the sterilization process, and requirements for good manufacturing practice.

The authors deserve praise for their success in outlining in a concise manner the microbiological aspects of the pharmaceutical industry. The pharmacist who stands at the interface between the pharmaceutical industry and the consumer will find this textbook suitable to his or her needs. The book is well written and stylistically acceptable in spite of its multi-authored origin. In sum, the book can be recommended as an authoritative, though elementary, introduction to pharmaceutical microbiology.

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