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Book Review

Recent developments in mass spectrometry in biochemistry and medicine, Vol. 2, edited by A. Frigerio, Plenum, New York, London, 1979, x + 492 pp., price US\$ 45.00, ISBN 0-306-40294-7.

Volume 2 of "Recent Developments in Mass Spectrometry in Biochemistry and Medicine", edited by Alberto Frigerio (Milan), contains, in about half of its space, a comprehensive series of articles devoted to pharmaceutical drug analysis, most being concerned with drug metabolism. A Foreword by A. Benakis (Geneva) stresses the growing importance of mass spectrometry alone or coupled with gas-liquid chromatography (GC-MS) and emphasizes the quantitative analysis that mass fragmentography provides. Better knowledge of the pharmacokinetics and the pharmaco-availability of drugs is linked to the development of GC-MS methods and the synthesis of radioactive and stable isotope-labelled drugs with a high isotopic abundance. Nevertheless, GC-MS cannot ensure good results without adequate acquaintance with the methods and analyst competence. Twelve drugs are therefore used as examples for the description of excellent methods which demonstrate clearly that structure identification and the determination of metabolic pathways are closely linked. Owing to the large variety of drugs these papers constitute almost a handbook of drug analysis. In addition, two carcinogenic substances and their metabolites have been analysed by GC-MS: 2-acetylaminofluorene and benzo[a]pyrene.

The second part of the book contains twelve articles dealing with the biochemistry and the clinical chemistry of hormones, peptides and substrates such as polyamines, bile acids, organic acids, biogenic amines, prostaglandins, steroids, amino acids and tripeptides. Again the reader will find the most advanced methodologies. They demonstrate clearly that efficient biological surveys and evaluations rely on the excellence of the separation and the quantitative assay of each compound.

Then follows an important aspect of the use of mass spectrometry in physiology, the continuous analysis of expired gases from the pulmonary tract or of blood gas, oxygen and carbon dioxide in the vascular circulation through a catheter interfaced directly to the mass spectrometer.

The two halves of this book are separated by an important article on the use of negative ion mass spectrometry with the combination of electron impact and chemical ionization in forensic science. Going beyond its initial purpose, this article opens up a large field of application in pharmacology and clinical chemistry.

This contribution to the well known annual series edited by Alberto Frigerio is an excellent reference book with comprehensive information for chemists, biochemists, pharmacologists and toxicologists who need the latest methodological developments, and it widens the scope of the mass spectrometer, the last resort for unsolved bioanalytical problems. For this reason, it is regrettable that the use of this book as a reference source is partially lost as no articles have been cited by their titles. On this occasion, we strongly deplore that biochemists and chemists are the last writers in the biosciences who continue to quote references by authors and journals only, omitting the most interesting part, the title.

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