

BOOK REVIEWS

RADIOIMMUNOASSAY AND RELATED PROCEDURES IN MEDICINE, 1982. International Atomic Energy Agency, Vienna, Austria, International Atomic Energy Agency, 825 pp, \$104.00

This book contains the proceedings of the International Symposium on Radioimmunoassay and Related Procedures in Medicine held by the IAEA in Vienna from June 21-25, 1982. Included are the texts of 76 presentations (nine of which are review papers, 23 of which are posters) together with edited summaries of the discussions. These presentations are divided into sections based on the topics of the sessions. References are provided at the end of most of the chapters, but there is no index.

The section on reagents and separation procedures includes a wide variety of papers covering recent advances in the immunoassay field, descriptions of specific assay systems (human growth hormone, aldosterone, T₃ and T₄), and discussions of various separation systems. There are also several papers on procedures for the iodination of tracers in RIA. These give suggestions for methods to use for various classes of compounds and describe techniques for purification of the iodination mixture. Since this book has been published so soon after the meeting, these methods are very up-to-date and include HPLC processes for tracer purification.

Free hormones and receptor assays are discussed in reference to their physiological significance, theoretical basis, and clinical evaluation. There are sections on free T₄, salivary estriol, progesterone and estradiol, and receptor assays for testosterone-estradiol binding globulin growth hormone, and TSH. The reports on assays for biological substances and drugs are timely and cover both assay methods and clinical findings.

The remainder of the book deals with data processing, quality control, automation (including some systems not available in the U.S. market), and specific problems involved in providing assay services for developing countries.

The section on nonisotopic assays ("Alternatives to Radioassays") contains an excellent introduction with brief discussions of several of the various nonisotopic labels. Luminescent assays using an isoluminol derivative are described as are assays for various specific substances.

Although this book is an excellent compendium of the papers presented at the IAEA meeting, it is hard to define for whom it is intended. The lack of an index precludes its use as a general reference text, and the variety of subjects and lack of in-depth discussion on any one topic make it unsuitable for the specialist. For those who wish an overview of the topics discussed or who want an update of state-of-the-art immunoassay, this book may be of interest.

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APPLICATIONS OF NUCLEAR AND RADIOCHEMISTRY. R. M. Lambrecht, N. Morcos, Eds. Elmsford, NY, Pergamon Press, 1982, 582 pp, \$85.00

As discussed in the introduction, the editors' intention was to focus on contemporary applied research with radioactive isotopes. The book is divided such that 70% covers the area generally de-

scribed as "Radiopharmaceutical Chemistry," 20% covers an area called "The Impact of Radiochemistry in China," and the remainder deals with a topic entitled "Nuclear Probes." The section on radiopharmaceutical chemistry is based on a symposium held in 1980 at the Second Chemical Congress of the North American Continent, but some of the work described appears to be of more recent origin. Although much of the information has appeared elsewhere, the publication of these 29 chapters in one text provides a comprehensive review of the field of radiopharmaceutical chemistry. Because much of the material presented here has been described in review format elsewhere, it would be difficult to recommend this current publication over other reviews. Nevertheless, this publication will be of particular interest to those researchers involved with generators, halogens, or short-lived, positron-emitting radiopharmaceuticals.

For a publication prepared using camera-ready copy, the chapters are of uniformly high caliber. The editors should be congratulated for convincing all of their contributors to conform to the required format. The first part of the book will be useful to advanced students studying radiopharmaceutical chemistry as well as to nuclear medicine residents and fellows with a particular interest in the field of radiopharmaceutical development. This reviewer has some concern as to whether the last third of the book will be of interest to the audience to which the first is addressed. The chapters by the authors from China are interesting since they shed some light on the science being carried out there. It is difficult to assess whether this work is typical, however, since all the references to the first two chapters are to western publications. Again, the sections on the assaying of polonium and airborne radionuclides to determine the fallout from Chinese nuclear weapons tests are interesting, but whether an investigator concerned with the topics in the first part of the book would find use for this information is questionable. The final section of the book dealing with the general area of nuclear probes discusses in particular the application of hot-atom chemistry as an indicator of solute, solute interactions in waters, the improvement of underexposed radiographic images, and studies on the solar system. These topics would be of little interest to those engaged in radiopharmaceutical work.

If published separately, the first part of the book would be a very useful textbook for advanced students interested in radiopharmaceutical chemistry. It is somewhat unfortunate that no doubt the cost reflects the inclusion of the final third of the book, which will have less appeal.

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MEDICAL RADIATION BIOLOGY, 2nd EDITION. D. J. Pizzarello, R. L. Witcofski. Philadelphia, Lea & Febiger, 1982, 164 pp, \$18.50 (Canada \$22.25)

This book is an excellent introduction to radiation biology and as such will be of particular interest to medical students, technologists, residents in nuclear medicine and radiology, and their teachers. There are fifteen chapters covering the basic physical events associated with ionizing radiation, its effects on the genome, cells, and tissues, and the risks of exposure of the whole body. The