

BOOK REVIEWS

Radiochemistry, Vol. 3. *Specialist Periodical Report of the Chemical Society, London, 1976.* Edited by G. W. A. Newton; viii + 141 pages.

The series "Specialist Periodical Reports" provide systematic and comprehensive review coverage of the progress in the major areas of chemical research. Volume 3 of the Radiochemistry series covers the literature from 1973 to late 1975 or early 1976.

The general design of this volume is different from the previous two in that it is concerned entirely with some of the applications of radioisotopes. The book is divided in four chapters and the subjects have been reviewed by four experts; Senior Reporter is G. W. A. Newton, Department of Chemistry, University of Manchester.

Chapter 1 considers the industrial applications of radioisotopes. It provides definitions of chemical and physical tracers and descriptions of their uses to solve industrial problems. For the same reason, the techniques of sealed-sources and the analytical applications of radiometric instruments are also described.

Chapter 2 considers the activation analysis in archaeology. The author hopes to attract the attention of more physical scientists to the broader field of archaeometry. To this end, he discusses nuclear activation, making specific reference to problems encountered in archaeological studies, then the crucial question of data-handling and finally some actual results taken from studies of archaeological materials of different types.

Chapter 3 considers the preparation of radiopharmaceuticals and labelled compounds using short-lived radionuclides. This subject has never been reviewed in the purely chemical literature before. The author deals with the various advantages of short-lived radionuclides over longer lived ones in the investigation of human diseases and reviews the general principles of the preparation of radiopharmaceuticals.

Chapter 4 describes the sample preparation procedures for liquid scintillation counting. Liquid scintillation counting has been used in many fields and the author, besides the biomedical and inorganic applications, considers also new and unusual applications in pharmacology, marine biology, petroleum industry, etc. Similarly to the preceding volumes, tables and formulae are clearly illustrated and properly inserted in the text. The bibliography is wide and well selected, and an author index is of great help to the reader.

Considering the continuous increase in the number of publications concerning radiochemistry, also this

volume is certainly a precious tool to the researcher, as the editor intended.

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Inorganic Chemistry of the Main Group Elements, Volume 4. *Specialist Periodical Report of The Chemical Society, London, 1977, XI + 454 pages.*

The review covers adequately the literature on the subject that has appeared between October 1974 and September 1975. All the reporters belong to the University of Nottingham, Senior Reporter is Professor Addison. Each of the eight chapters is concerned with one of the main groups of the Periodic Table, from the alkali metal to the noble gases, the chapter on halogens including those aspects of hydrogen chemistry not covered in the remaining part of the volume.

The problem of overlap with other Reports, e.g. with that on Organometallic Chemistry, is solved by making sufficient mention of the most relevant results which belong to more than one field. The table of contents is detailed enough to allow the reader to have immediate access to the subject of his interest.

Obviously, much of the available space is taken by the compounds of boron and of the Group IV and V elements (62, 113 and 84 pages, respectively); nevertheless, the most important results concerning the other elements are adequately described.

In short, a useful and valuable addition to a well established series.

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Critical Survey of Stability Constants of EDTA Complexes, Edited by G. Anderegg, published by Pergamon Press, Oxford, 1977. Price \$ 7.00; flexicover; ISBN 0-08-022009-6.

This slim volume of 42 pp is the first to appear in a series planned by the IUPAC commission on equilibrium data. Other volumes in preparation include ones on amines, amino acids and polypeptides and carboxylic acids. Therefore, this volume is to be viewed as part of a more extensive exercise, the object of which is to provide a simple and clear statement of the most reliable values of metal–ligand stability constants. To this end a 'recommended' (R) or 'tentative' (T) value is given for the complexes of each metal. Ultimately it is likely that IUPAC will sponsor the publication of a booklet containing only the R