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Book reviews

Rodd's Chemistry of Carbon Compounds. Vol. IV, Heterocyclic Compounds Part G. Edited by S. Coffey, Elsevier Scientific Publishing Company, Amsterdam/Oxford/New York, Second Edition, 1978, xviii + 505 pages, U.S. \$79.75; Dfl. 195.00.

This volume of this well known series deals with (i) six-membered heterocyclic compounds with a single nitrogen atom in the ring to which are fused two or more carbocyclic ring systems (N. Campbell, 82 pages); (ii) six-membered heterocycles containing phosphorus, arsenic, antimony, and bismuth as a single heteroatom (R. Atkinson, 32 pages); (iii) pyridine and piperidine alkaloids (J.D. Hunt and A. McKillop, 55 pages); (iv) the quinoline alkaloids (M. Sainsbury, 85 pages); (v) the acridine alkaloids (B.P. Swann and A. McKillop, 9 pages); (vi) the alkaloids of the morphine group (K.W. Bentley, 55 pages); (vii) diterpenoid alkaloids (A.R. Pinder, 57 pages); (viii) steroidal alkaloids (A.R. Pinder, 85 pages). It is reviewed in this journal because of the chapter by R.E. Atkinson dealing with some six-membered cyclic compounds of phosphorus, arsenic, antimony, and bismuth. In the space allotted to this topic the treatment can only be illustrative, and the account will serve better as a brief general introduction to the newcomer to the field than as a source of information for the specialist.

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Landolt-Börnstein. Numerical Data and Functional Relationships in Science and Technology; New Series; Group II, Atomic and Molecular Physics. Vol. 9 (Supplement and Extension to Vol. 1), Magnetic Properties of Free Radicals. Part a; Atoms, Inorganic Radicals, and Radicals in Metal Complexes; by C. Daul, H. Fischer, J.R. Morton, K.F. Preston, and A.v. Zelewsky. (Editors H. Fischer and K.-H. Hellwege). Springer-Verlag, Berlin, Heidelberg, New York, 1977, x + 341 pages, DM 350, US \$154.00.

This volume is the first part of a supplement to Vol. II/I, "Magnetic Properties of Free Radicals", which was published in 1965 and dealt with original papers appearing up to March 1964. The supplement will consist of four parts, Volumes II/9 a,b,c, and d. The free radicals considered are paramagnetic atoms, molecules, and ions which derive their paramagnetism from a single unpaired *s*- or *p*-electron. Transition metal ions and complexes deriving their paramagnetic properties from *d*- or *f*-electrons are not included.

This volume deals with publications appearing in 1964–1975, with some references from 1976. "Inorganic" is arbitrarily taken to mean "containing not more than one carbon atom"; this inevitably leads to anomalies, e.g. the Cl_3Si and MeCl_2Si radicals are included, but not the Me_2ClSi , and Me_3Si radicals, which will be dealt with in later parts. 'Simple' inorganic-centred radicals are treated separately from radicals in metal complexes. Listed for each radical are (i) the formula, the name (where appropriate), and structural formula; (ii) the conditions under which it was generated; (iii) the method used to determine g and a values; (iv) the g factors; (v) the a factors; and (vi) the relevant reference(s).

In view of the rapidly growing study of inorganic free radicals this book is exceptionally timely and valuable, and when all four parts of the Volume have appeared (all are due in 1977 or 1978) a great deal of time will be saved in literature surveys. The book is finely produced, and the high standard of lay-out and printing leads to unusual clarity. Inevitably the price is high, but no laboratory concerned with study of free radicals can afford to be without this volume and its later companion parts.

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The Chemistry of Mercury, C.A. McAuliffe (Ed.), MacMillan, London, 1977, viii + 238 pages, £ 25.00.

This book consists of four sections, written by different authors or groups of authors. The first part is a 43 page history of mercury by W.V. Farrar and A.R. Williams in which various aspects of the fascinating history of mercury are traced from the earliest times to the present day.

The second and third parts will be of the greatest interest to readers of this journal: the co-ordination chemistry of mercury by W. Leavason and C.A. McAuliffe (87 pages, 815 references), and the organic chemistry of mercury by A.J. Bloodworth (120 pages, 500 references). Both parts provide a good coverage of the material, with many references to secondary sources where more details of specialized topics can be found. The coverage is up-to-date; a sample showed 40% of references in part II and 66% in part III were to work published in the 1970's.

A final 23 page section on the biochemistry and toxicology of mercury by K.H. Falchuk, L.J. Goldwater, and B.L. Vallee rounds off this book, which should be of interest to all chemists working on any aspect of mercury chemistry.

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