

Book reviews

Landolt-Börnstein. Numerical Data and Functional Relationships in Science and Technology. New series. Group II. Atomic and Molecular Physics. Supplement 4 (1973, 1974) to Volume 12, Magnetic Properties of Coordination and Organometallic Transition Metal Compounds. Sub-Volume b. Electron Paramagnetic Resonance; by E. König and G. König. Springer Verlag, Berlin etc., 1984, xxxix + 352 pages. DM 710. ISBN 3-540-13018-7.

This latest volume in a most valuable series presents electron paramagnetic resonance data published in 1973 or 1974 for compounds of Ti (6 pages), V (30 pages), Nb (3 pages): Ta (< 1 page), Cr (23 pages), Mo (9 pages), W (3 pages), Mn (14 pages), Re (< 1 page), Fe (26 pages), Ru (3 pages), Os (< 1 page), Co (42 pages), Rh (< 1 page), Ir (< 1 page), Ni (11 pages), Pd (4 pages), Pt (1 page), Cu (136 pages), Ag (3 pages), and Au (3 pages). For each compound are given the state of the sample, the temperature of measurement, the values of g , A , and ν , the relevant reference(s), and, where appropriate, notes on, for example, the colour of the solution or the suggested coordination type.

The information is presented with admirable clarity, and the sub-volume is an important addition to the series dealing with electron paramagnetic resonance; that series is of special interest to chemists, and some of its components, such as this one, of particular value to inorganic and organometallic chemists. The compilations would be even more useful, of course, if they could be kept more up to date, but it will be a huge task to present all the relevant data on EPR appearing from 1974 to the present.

All good chemistry reference libraries should have this series on their shelves. The price reflects the limited scope for sales and the high cost of production of a work of this type.

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Fundamental and Technological Aspects of Organo-f-Element Chemistry; edited by T.J. Marks and I.L. Fragalà, *NATO ASI Series C: Mathematical and Physical Sciences Vol. 155*, D. Reidel Publishing Company, Dordrecht, Boston, Lancaster, 1985, xiv + 414 pages, £44.50 (U.S. \$56.00), ISBN 90-277-2053-3.

This volume, with a title clearly devised by a committee, contains the principal lectures delivered at a conference (rejoicing in the same glorious name) held in Acquafredda di Maratea, Italy, in September 1984. These were: "Organolanthanoides: review and new developments" (H. Schumann; 48 pages; 228 refs.), "4f-Elements in organic synthesis" (H.B. Kagan; 28 pages, 85 refs.),

"[8] Annulene derivatives of actinides and lanthanides" (A. Streitwieser, Jr. and S.A. Kinsley; 38 pages, 90 refs.), "Actinide hydrocarbyl and hydride chemistry" (T.J. Marks and V.W. Day; 43 pages, 90 refs.), "Organoactinide complexes containing classical ligands" (J. Takats; 35 pages, 95 refs.), "Frontier elements: connections with *f*-elements" (J.H. Teuben; 33 pages; 61 refs.), "Electronic structure and optical spectroscopy of *fⁿ* ions and compounds" (N. Edelstein; 48 pages; 48 refs.), "NMR spectroscopy of organo-*f*-element and pre-lanthanoid complexes: some current trends" (R.D. Fischer; 50 pages; 141 refs.), "Photoelectron spectroscopy of *f*-element organometallic complexes" (I.L. Fragalà and A. Gulino; 34 pages; 39 refs.), "*f*-Element Photochemistry" (P. Bergamini, S. Sostero and O. Traverso; 25 pages; 40 refs.), and "New perspectives of lanthanides in catalysis" (M. Bruzzone and A. Carbonaro; 14 pages; 42 refs.). It is to the detriment of this volume that the much vaunted industrial component comprises one fourteen page article (the shortest in the book), less than 4% of the total.

The quality of the articles contained in this volume is high, the content is as expected from the titles and the authors (although Teuben's article is perversely concerned largely with the organometallic chemistry of titanium) and the book gives a clear overall picture of the current state-of-the-art of *f*-block element organometallic chemistry. It is to the credit of the editors and the contributors that this volume has appeared within a year of the conference, which gives the work the added value of being up-to-date, and also conveys the excitement of a new and rapidly advancing field. Much less to the editors credit is the still-born index, which is little more than a contents list, being arranged by chapter and page number rather than by subject matter. With modern word processors, it would have been little trouble to have compiled a useful lexically arranged index which would have considerably enhanced the value of the book. However, despite this drawback and the rather mixed quality of the camera-ready copy (when will publishers realize that single-spaced typescript is unsuitable for chemical manuscripts involving subscripts and superscripts?), the book represents good value for money, and should be a part of personal as well as institutional libraries. It is an invaluable compendium for all workers in the field.

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Inorganic Syntheses, Volume 23; edited by S. Kirschner, Wiley-Interscience, New York, Chichester, Brisbane, Toronto, Singapore, 1985, xiii + 257 pages, £40.90. ISBN 0-471-81873-9.

Some speakers, it is said, need no introduction and some books appear to need no review. The volume under consideration here is the twenty-third in a long, successful, well-established and well-respected series. The mix is as before: the chapter headings (organometallic compounds, compounds of biological interest, stereoisomers, bridge and cluster compounds, and the ubiquitous and evergreen "unusual ligands and compounds") continue their now beloved woolly tradition, camouflaging their hidden gems. For who