Journal of Organometallic Chemistry, 192 (1980) C19—C20

Book review

"Spectroscopic Properties of Inorganic and Organometallic Compounds", Vol. 11, D.M. Adams and E.A.V. Ebsworth, Senior Reporters, The Chemical Society, London, 1979, xii + 455 pages, $80.00, £32.00.

and

"Electron Spin Resonance", Vol. 5, P.B. Ayscough, Senior Reporter, The Chemical Society, London, 1979, xiii + 378 pages, $77.00, £30.00.

Two new volumes of the Specialist Periodical Reports of The Chemical Society which are of interest to the inorganic chemist have recently appeared. These series contain critical "reviews by leading specialists in their fields which give systematic and comprehensive coverage of the progress in major areas of research." The most useful function of a reviewer of reviews is to familiarize the reader of the J. Organometallic Chemistry with their contents (* indicates articles with significant organometallic content): Spectroscopic Properties... (literature to late 1977) 1)*Nuclear Magnetic Resonance Spectroscopy (B.E. Mann) 2) *Nuclear Quadrupole Resonance Spectroscopy (R.J. Lynch), 3) Microwave Spectroscopy (A.P. Cox), 4) Vibrational Spectra of Small Symmetric Species and of Single Crystals (D.M. Adams and P.N. Gates), 5) *Characteristic Vibrational Frequencies of Compounds Containing Main-group Elements (S. Cradock), 6) *Vibrational Spectra of Transition-element Compounds (J.S. Ogden), 7) *Vibrational Spectra of Some Co-ordinated Ligands (G. Davidson), 8) *Mössbauer Spectroscopy (J.D. Donaldson and M.J. Tricker); Electron Spin Resonance (literature to May, 1978) 1) Chemically Induced Dynamic Electron Polarization (P.J. Hore, C.G. Joslin, K.A. McLauchlan), a needed review of CIDEP, 2) Theoretical Aspects of ESR (A. Hudson),

3) ENDOR and ELDOR (K. Möbius), 4) Triplets and Biradicals (A. Hudson), 5) *Transition-Metal Ions (A.L. Porte), 6) *Inorganic and Organometallic Radicals (M.C.R. Symons), 7) Organic Radicals: Structure (B.C. Gilbert), 8) Organic Radicals: Kinetics and Mechanisms of their Reactions (R.C. Sealy), 9) Organic Radicals in Solids (T.J. Kemp), 10) Spin Label Studies (B.M. Peake), 11) Biological and Medical Studies (P.F. Knowles and B.M. Peake).

What purpose do these reviews most effectively serve? They certainly should not be viewed as eliminating the need for a literature search as articles of importance to a specific topic are not necessarily included in these general reviews. Further, these critical reviews represent the thoughts of one or at most several reviewers who cannot be expected to be completely familiar with all aspects of their topic. As a physical-inorganic chemist, I find these volumes most useful in keeping up with the areas of spectroscopy in which I am not directly involved. These provide a knowledgeable overview of the vast quantity of literature appearing in each area and enable a reasonable selection of significant articles for more detailed study. For the organometallic chemist, these two volumes and the recent Specialist Report "Electronic Structure and Magnetism of Inorganic Compounds, Vol. 5", Senior Reporter P. Day (for review see J. Organometal. Chem. 116, C53 (1976)) readily enable one, based on the structuring of each review by main-group and transition metal element and electronic configuration, to evaluate the information content of each of the conventional and some unconventional spectroscopic methods with respect to their specific inorganic compounds of interest.

Department of Chemistry
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

Edward I. Solomon