

The Heat Capacity of Activation and Mechanism of the Hydrolysis of Methylallyl Chlorides [*J. Am. Chem. Soc.*, **90**, 4611 (1968)]. By L. J. BRUBACHER, L. TREINDL, and R. E. ROBERTSON, the Division of Pure Chemistry, National Research Council, Ottawa, Canada.

In Table I, the *A*, *B*, and *C* values for β -methylallyl chloride should be $A = -8006.100$, $B = -23.3571$, and $C = -79.1310$.

Ethynylsilanes. IV. The Effect of Temperature on the Diels-Alder Addition of Acetylenic Dienophiles to 1-Trimethylsilylcyclopentadiene [*J. Am. Chem. Soc.*, **90**, 4701 (1968)]. By CHARLES S. KRAIHANZEL and M. L. LOSEE, Department of Chemistry, Lehigh University, Bethlehem, Pennsylvania 18015.

The names 1-trimethylsilylcyclopentadiene and 3-trimethylsilylcyclopentadiene as used in the paper for **5** and **8** are incorrect. The correct names are 5-tri-

methylsilylcyclopentadiene and 2-trimethylsilylcyclopentadiene for structures **5** and **8**, respectively.

An Estimate of the Relative Rates of Conrotatory vs. Disrotatory Electrocyclic Ring Opening [*J. Am. Chem. Soc.*, **90**, 5310 (1968)]. By G. A. DOORAKIAN and H. H. FREEDMAN, The Dow Chemical Company, Eastern Research Laboratory, Wayland, Massachusetts 01778.

It has been called to our attention by Professor S. F. Nelson, (University of Wisconsin) that our calculation of $\Delta\Delta G^\ddagger$ for the conrotatory vs. disrotatory ring opening of *cis*-I is in error. Utilization of the correct rate constant (k_1 in eq 2) yields the result that the conrotatory mode is favored by a minimum of 7.3 kcal, rather than the original value of 15.3 kcal. Using an alternative approach, a similar result has been communicated to us by Professor H. M. Bell (Virginia Polytechnical Institute). It is of interest that these revised results now tend to support the recent estimate of Lupton (E. C. Lupton, *Tetrahedron Letters*, 4209 (1968)).

Book Reviews

Electron Spin Resonance. A Comprehensive Treatise on Experimental Techniques. By CHARLES P. POOLE, JR., Department of Physics, University of South Carolina, Columbia, S. C. Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York, N. Y. 1967. xxvii + 922 pp. 16.5 × 23.5 cm. \$29.75.

Electron spin resonance (esr) spectroscopy has become a widely used research and analytical tool. Professor Poole's book is intended to provide a description of the experimental techniques and instrumentation used in this branch of spectroscopy. The book is written from the point of view of a classical physicist who has obviously had considerable personal experience in the subject. The style is clear, and the printing is good. The book contains a large number of references to the original literature, as well as a number of selected bibliographies that should prove valuable; few references subsequent to 1965 are to be seen, although the book carries the date 1967.

The contents of the book fall into three categories. The first five chapters are concerned with electromagnetic and microwave network theory. Unless the reader has a good electrical engineering background, this portion of the book makes for heavy going. The next eight chapters deal with microwave generators, waveguide components, resonant cavities, magnetic field scanning and modulation, detectors, and esr spectrometer systems. These subjects are discussed in considerable detail and will be of interest to anyone who operates a commercial spectrometer. The remainder of the book is concerned with the collection of esr data.

We doubt that enough could be learned from this book to design and construct an esr spectrometer, although this appears to be one of the book's goals. We believe that most chemists interested in esr spectroscopy, especially those who are new to the subject, will find the details of data acquisition interesting and informative. The discussion of spectral line shapes, sample preparation, and spectra recording are especially interesting. This part of the book is admirably suited to browsing. Chemists engaged in collecting esr spectra with commercial instruments will find useful background material difficult to obtain elsewhere. The professional esr spec-

troscopist will probably find this book of only limited interest; The book is recommended, however, to those chemists for whom esr spectroscopy is primarily a means and not an end.

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The Structure of Inorganic Radicals. An Application of Electron Spin Resonance to the Study of Molecular Structure. By P. W. ATKINS and M. C. R. SYMONS. American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York, N. Y. 1967. x + 280 pp. 15.5 × 23 cm. \$21.75.

Following an excellent introduction to electron spin resonance are chapters entitled "Formation and Trapping of Radicals," "Trapped and Solvated Electrons," and "Atoms and Monatomic Ions." Then four chapters are devoted to the electronic structure and electron spin resonance spectra of inorganic radicals classified according to the formulas AB, AB₂, AB₃, and AB₄ in which B is either an atom or a group. The experimental results that were reported prior to 1965 are discussed critically. Group theory, the spin-Hamiltonian, calculation of *g* values, determination of spin-density distribution and bond angles, and analysis of electron spin resonance spectra are covered in appendices.

This book is clearly written, suitably referenced, and well printed. Some errors and omissions occur but are not typical of the text: (p 61) the hyperfine splitting arises from interactions in Li⁺(NH₂R)₄e⁻, not Li⁺(NH₂)₄e⁻; (p 256) SCF orbitals are not distinguished from hydrogenic orbitals; (Figure 2.2) the bond angle should decrease with increasing divergence of energies; (Table 7.7) column headings are incomplete.

The book will be useful to many esr spectroscopists and inorganic chemists. The price is high.

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