

Biomimetic Polyene Cyclizations. A Comparison of the Phenylacetylenic and Styryl Terminators in Influencing the Stereoselectivity of Processes Leading to Steroidal Products [*J. Am. Chem. Soc.*, **101**, 1281 (1979)]. By WILLIAM S. JOHNSON,* LESLIE R. HUGHES, and JANET L. CARLSON, Department of Chemistry, Stanford University, Stanford, California 94305.

Page 1282: Reference 13 should read: The allylic alcohol $\text{CH}_2=\text{C}(\text{CH}_3)\text{CH}(\text{OH})(\text{CH}_2)_2\text{C}\equiv\text{CC}_6\text{H}_5$ (substance **6** of ref 1a) was oxidized with Jones reagent and the resulting α,β -unsaturated ketone was then reduced with lithium aluminum deuteride. The product was converted (via the orthoacetate Claisen reaction) into deuterio-**9** of ref 1a (label at *pro* C-14) which was then employed in a sequence analogous to that shown in Scheme II of ref 1a.

Cyclization of Olefinic Tosylhydrazones under Acidic Conditions. A Facile Synthesis of Bicyclic Azo Compounds [*J. Am. Chem. Soc.*, **101**, 4005 (1979)]. By R. MARSHALL WILSON* and JOHN W. REKERS, Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 45221.

Page 4007: The following paragraph should be added before "Reference and Notes".

Supplementary Material Available: Detailed experimental procedures are available for the preparations of 1,5-dimethyl-6,7-diazabicyclo[3.2.1]oct-6-ene and 1,4-dimethyl-2,3-diazobicyclo[2.2.1]hept-2-ene (2 pages). Ordering information is given on any current masthead page.

Book Reviews

General and Synthetic Methods. Volume 1. Senior Reporter: G. PATTENDEN (University of Nottingham). The Chemical Society, London. 1978. xiii + 445 pp. \$60.00.

This survey of the literature of organic synthesis, covering primarily 1976, inaugurates a new series within the Specialist Periodical Reports. The material is divided into ten chapters: saturated and unsaturated acyclic hydrocarbons; aldehydes and ketones; carboxylic acids and derivatives; alcohols, halogeno compounds and ethers; amines, nitriles, and other nitrogen-containing functional groups; saturated heterocyclic ring synthesis; saturated carbocyclic ring synthesis; organometallics in synthesis; strategy and design in synthesis; phase transfer and related methods. A bibliography of reviews of general synthetic methods is also included.

Chemists acquainted with other Specialist Periodical Reports will find the format of this volume familiar. About half of the space is taken up by structural formulas, which illustrate much of the text and can be scanned easily. Careful editing has avoided errors and unnecessary duplication, and many cross references are provided. An author citation index (but no subject index) is included. The contributors have of necessity confined themselves to discussing potentially general synthetic methods, and have done an admirable job of producing a handy reference work for the busy practicing chemist.

Keith T. Buck, *Fries & Fries, Inc.*

Advances in Infrared and Raman Spectroscopy. Volume 4. Edited by R. J. H. CLARK (University College, London) and R. E. HESTER (University of York). Heyden & Son Inc., Philadelphia, Pa. 1978. xv + 353 pp. \$44.00.

As readers of previous volumes in this series will realize, it has already provided a number of very interesting reviews of the techniques in infrared and Raman spectroscopy. The editors state that they intend for the series to be firmly technique-oriented, and to review areas where there has been or is expected to be recent progress. The subjects covered have been evenly divided between infrared and Raman spectroscopy, and they are written on a level that begins at the beginning and progresses to the frontiers. As such, they are often ideal sources for graduate students and teachers, and for any chemical spectroscopist who wishes to become acquainted with a new branch of his field. Although the subjects are current and exciting, the reviews are on classical chemical spectroscopy (as opposed to "physical" spectroscopy) and have not covered exotic new subjects such as laser spectroscopy. The reviews emphasize experimental aspects, but enough theory is covered to provide understanding, and the theory has in general been easy for chemists to follow. This volume is a worthy continuation of this excellent series.

The chemical nature of the series is emphasized in the first chapter of this volume, "Vibrational Spectroscopy of Free Radicals" by R. E. Hester, which discusses large, stable, organic species in solution

[such as phenylenediamine radical cation, tetracyanoethylene ($\text{TCNE}^{\cdot-}$), and tetracyanoquinone ($\text{TCNQ}^{\cdot-}$) radical anions], and is not a review of laser spectroscopy of short-lived gas-phase radicals. Nevertheless, this chapter is an interesting review of spectra (characteristic frequencies and experimental techniques) from these important but less common species.

A particular highlight of this volume is the long-awaited review on the measurement of optical constants in the infrared by attenuated total reflectance by B. Crawford, Jr., T. G. Goplen, and D. Swanson. This very well-written review summarizes the theory and experimental methods, accompanied by some beautiful illustrative figures of data. Unfortunately, like most of these reviews, space does not allow for any illustrative interpretation. A short review follows on infrared emission by P. V. Huong. This review is of "classical" emission studies (no lasers) from heated materials (mostly solids and liquids) in furnaces.

A long review of J. H. R. Clarke provides an excellent introduction to the theoretical and experimental studies (infrared and Raman) of band shapes and molecular dynamics in liquids. This chapter is one of the best introductions to this subject that this reviewer has seen and is recommended before embarking on any study of the literature in this field.

Another long chapter by G. Vergoten, G. Fleury, and Y. Moschetto reviews low-frequency spectral data (mostly Raman but some infrared) from very large molecules of biological interest, emphasizing the "accordian-like" motions and the remarkable amount of structural information they provide. The volume closes with another excellent short review (strongly emphasizing theory) of Raman optical activity by L. D. Barron.

In summary, this volume is an excellent introduction to several interesting topics and continues in the tradition of this excellent series. It is clearly one of several such recently published books that belong in the library of every practicing chemical spectroscopist who can afford it.

Willis B. Person, *University of Florida*

Potentiometric Water Analysis. By DEREK MIDGLEY and KENNETH TORRANCE (Central Electric Research Laboratories, England). John Wiley & Sons, New York. 1978. xi + 409 pp. \$42.00.

I am an analytical chemist and geochemist with a strong, practical interest in the analysis of water. I wanted to review this book to see if I could learn a bit more about the practical aspects of the electrochemical analysis of water. The design and contents of this book provided this in an excellent manner. Most instrumental analysis texts explain the theory behind the methods but do not have the space to analyze the practical aspects of applying the analysis to a real system. Consequently, there is a need for monographs which develop the