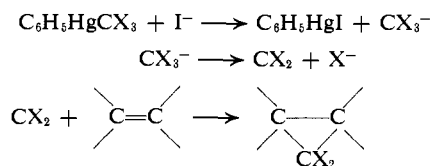


trile⁸ (2%) to be present. When this reaction was carried out using acrylonitrile as solvent, the bromodichloromethane and the $\text{CCl}_2\text{BrCH}_2\text{CH}_2\text{CN}$ yields rose to 40 and 13.4%, respectively; no 1,1-dichloro-2-cyanocyclopropane was present, and some polyacrylonitrile was formed.

Thus the mechanism of the $\text{C}_6\text{H}_5\text{HgCX}_3\text{-NaI}$ -olefin reaction appears to be



The sodium iodide procedure is a useful variation of the mercurial route⁹ to dihalocarbenes. It allows use of $\text{C}_6\text{H}_5\text{HgCCl}_2\text{Br}$ and $\text{C}_6\text{H}_5\text{HgCCl}_3$ at room tempera-

(8) M.p. 53–54.5°; identified by microanalysis and infrared and n.m.r. spectra.

(9) D. Seyferth, J. M. Burlitch, and J. K. Heeren, *J. Org. Chem.*, **27**, 1491 (1962), and subsequent papers.

ture in dihalocyclopropane synthesis, as well as use of $\text{C}_6\text{H}_5\text{HgCCl}_3$ at 80° in much shorter reaction times. The presence of iodide ion and the intermediacy of CX_3^- in these reactions, however, can introduce complications, as the reactions with acrylonitrile show. This general procedure could find useful application in the dihalomethylenation of olefins of limited thermal stability and especially in the preparation of *gem*-difluorocyclopropanes. Our investigations in this general area are continuing.

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Book Reviews

Experimental Chemotherapy. Volume II. Chemotherapy of Bacterial Infections. Part I. Edited by R. J. SCHNITZER, formerly Chemotherapy Department, Hoffmann-LaRoche, Inc., Nutley, N. J., and FRANK HAWKING, Division of Chemotherapy and Parasitology, National Institute for Medical Research, London, England. Academic Press, Inc., 111 Fifth Ave., New York 3, N. Y. 1964. xvii + 614 pp. 16 × 24 cm. Price, \$23.00.

"Experimental Chemotherapy" is an ambitious, four-volume undertaking, the purpose of which is to present a comprehensive coverage of the entire field of chemotherapy. Volume II of this treatise is Part I of two volumes subtitled "Chemotherapy of Bacterial Infections." This section is devoted to a series of discussions of the broad field of antibacterial chemotherapy, emphasizing the biochemistry of antimicrobial therapy as well as the pharmacology and toxicology of a few specific agents such as the sulfonamides and nitrofurans. Volume III will be concerned with specific antibacterial agents and their modes of action as well as the chemotherapy of fungal, rickettsial, and viral infections.

As with most treatises of this type, a compilation of chapters written by experts in the field under discussion, the results are variable although the individual contributions in this work are generally of quite high caliber. Viewed as a whole, however, this volume is not up to the uniformly high level of the first member of this series [for review, see A. Burger, *J. Med. Chem.*, **6**, 825 (1963)]. Particularly noteworthy are the chapters on nitrofurans by Henry E. and Mary F. Paul and on sulfonamides by L. Neipp. Both are models of clarity in setting forth the pharmacological aspects of these drugs. The excellent chapter by H. J. Rogers might have been entitled "The Mode of Action of Sulfonamides and Some Antibiotics Which Affect Cell Wall Synthesis," rather than the broader title it has since this discussion has been limited to these subjects. It appears from the contents of this volume and the published table of contents for Volume III that much published work on the mechanisms of action of several antibacterial agents will be omitted from this series. This chapter also contains a very clear exposition of structure and function in bacterial and mammalian cells. Finally, Robert Knox has written a stimulating introduction to "Strategy and Tactics in Antibacterial Chemotherapy."

The decision to include the introductory chapter on antibacterial dyestuffs by C. H. Browning is difficult to defend since some important aspects of antibacterial chemotherapy (*e.g.*, steroidal antibiotics or phenols and other disinfectants such as heavy metal

compounds) will apparently not be included in this series. The chapter does not do justice to the chosen topic since many antibacterial dyes are not included, and the physical basis for the interaction of dyes with bacterial cells is not fully explored. The chapter by D. J. Kushner, "Microbial Resistance to Harsh and Destructive Environmental Conditions," while informative, seems unrelated to the remainder of the book and could have been omitted without appreciably detracting from the value of the volume as a text on antibacterial chemotherapy.

The editors have intended "to present a reference work useful to investigators . . . concerned with experimental work on new chemotherapeutically active substances," and it is in this respect that the medicinal chemist reading this volume will be most disappointed. There is no attempt to present the chemistry of these substances and too little emphasis on the correlation of structure or physical properties with biological activity. Only clinically useful drugs are discussed, and the data presented on analogs is minimal. Nevertheless, because of the wealth of information collected in this text, it will still be required reading for the medicinal chemist, as well as biologists and physicians or veterinarians, engaged in research in this field.

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The Chemistry and Biochemistry of Fungi and Yeasts. Proceedings of the Symposium on the Chemistry and Biochemistry of Fungi and Yeasts held in Dublin, Ireland, 18–20 July, 1963. Edited by The International Union of Pure and Applied Chemistry. Butterworth Inc., 7235 Wisconsin Ave., Washington 14, D. C. 1963. v + 181 pp. 16.5 × 25.5 cm. Price, \$8.50.

The symposium recorded in this volume consisted of fourteen lectures contributed by various international authorities and arranged in three sections under the respective headings of fungal metabolites, the biochemistry of fungi, and the chemistry and biochemistry of yeasts.

The first section contains material that will be generally most familiar to the organic chemist. In it, V. Prelog described the elegant and detailed work carried out by him and his colleagues on