plant metabolism and biosynthesis. The role of folklore as a guide to choosing plants as drug sources has always been debatable, and the present book has restricted these traditional tales to defendable facts and experiences.

Those of us who want to be entertained as well as taught in natural products selection and research will find this book among the best and one of the most acceptable in this area.

UNIVERSITY OF VIRGINIA ALFRED BURGER
CHARLOTTESVILLE, VIRGINIA

Infrared Absorption Spectroscopy. By K. NAKANISHI, Tokyo Kyoiku University. Holden Day, Inc., San Francisco, Calif. 1962. iv + 233 pp. 26×18 cm. $8.00.

This is an English version of the author's book first published in Japanese in 1960. The first section, entitled Qualitative Data, gives a brief description of the subject; this is followed by tables of characteristic frequencies of functional groups and by a discussion of the positions and intensities of the absorption bands. Other chapters present various factors, such as the influence of the state of measurement and molecular structure on band position and intensity.

Careful study of the problems in conjunction with the answer section will enable a student to acquire rapidly a proficiency in the interpretation of infrared spectra.

The appendix includes tables of n.m.r. data on chemical shifts, spin–spin coupling constants, dependence of J on the dihedral angle, and a wave number–wave length conversion table.

The only drawback of this book is the absence of a section on the preparation of samples for obtaining infrared spectra.

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Application of NMR Spectroscopy in Organic Chemistry. By N. S. BHACCA and D. H. WILLIAMS. Holden-Day, Inc., San Francisco, Calif. 1964. x + 198 pp. 19 × 26 cm. $7.95.

Since 1959, a number of books dealing with the basic principles and applications of n.m.r. spectroscopy have been available to the organic chemist wishing to use this physical method. Each of these books has dealt with the theory, fundamentals of instrumentation, and a limited number of applications in organic chemistry in an informative manner. However, the enormous increase in the amount of data available on the n.m.r. spectra of organic compounds has made clear the need for an up-to-date text that would furnish the basic knowledge needed to obtain useful, structural information from an n.m.r. spectrum. It is that need that the authors of the volume have set out to satisfy.

Employing examples predominantly from the steroid field, for reasons very similar to those explained by Professor Djerassi in his book, "Steroid Reactions," the authors have clearly and concisely achieved their stated objective. Starting with a brief introduction of the subject, they have dealt with the proton resonances occurring in the more common chemical environments. These include methyl, methylene, methine, and olefinic protons and the influence of functional groups upon them. In addition, separate chapters have been devoted to long-range spin–spin coupling and the use of n.m.r. in the determination of configuration and conformation. Drawing on their own wide experience in the field and that of many other chemists, the authors have, for the most part, skillfully illustrated these subjects with numerous spectra and selected references to the more recent papers in the field. The use of some relatively new techniques such as 100-Mc. spectra, spin decoupling, deuterium labeling, and solvent effects, which have greatly simplified the analysis of spectra containing many similar protons, has also been discussed. The chapter on solvent effects is particularly worthy of mention since, to the knowledge of the reviewer, it is the first such wide-ranging treatment of the subject in a book of this kind.

This monograph should prove extremely valuable to graduate students just learning the physical method and to many practicing organic chemists who wish to broaden their backgrounds and use the technique with a minimum of theoretical knowledge.

UNIVERSITY OF VIRGINIA ROBERT A. PAGES
CHARLOTTESVILLE, VIRGINIA

Medical Pharmacology. By ANDREW GOTH, The University of Texas Southwestern Medical School. C. V. Mosby Co., Publisher, St. Louis, Mo. 1964. 585 pp. 17 × 25 cm. $11.75.

This textbook of pharmacology is unique in that it covers the subject in 585 pages rather than the 2000 pages which has been customary for the last several decades in the more encyclopediac textbooks of pharmacology. The author has reduced the length of the text without seriously impairing the coverage of the subject.

Modern concepts of pharmacology are emphasized including mechanism of drug action and the metabolism and excretion of drugs. It is interesting and refreshing to find an author who introduces these concepts of pharmacology and has not relied on earlier textbooks for material. The sections on psychopharmacology, the autonomic nervous system, and antihypertensives are good examples presenting the newer concepts of pharmacology in a general text on the subject.

The illustrations are simple but effective. The text is lucid and easy to read. From the standpoint of the medicinal chemist, structure-activity relationships are not emphasized but this is compensated for by the excellent discussions on mechanism of drug action.

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