

pirical; no information resulting from normal coordinate treatments or wave mechanical work on the related molecules is used.

The first chapter discusses "Basic Concepts, Instrumentation, and Techniques" on about 110 pages. It is rather complete and highly useful in the sense that perhaps every problem of interest is at least briefly mentioned with good starting references for the more interested reader. In one or two instances, more extensive treatment would be welcome like in the case of "Factors Affecting Vibrational Modes in Complex Molecules" although, naturally, many other remarks are found in later sections.

The following five chapters are devoted to hydrocarbons, oxygenated organic compounds, organic nitrogen compounds, organo derivatives of other elements, and heterocyclic compounds (the latter in collaboration with R. Venkataraghavan). We should like to commend the author's intention to make all the chapters as "self-consistent" as possible. Scientific books are seldom read from the first to the last page, and a few pages of repetition can make a book twice as useful. Unlike in some of the previous treatises, Raman spectra are not systematically included. On the other hand, both far-infrared and near-infrared data are covered and this will certainly be appreciated by the readers. There is a good description of some easy-to-forget topics such as the vibrations of CH₂ groups linked to O, N, and other heteroatoms, the CH vibration of the aldehyde group, the combination tones in the 2000-1600 cm.⁻¹ area in the spectra of aromatic molecules, the spectra of nonbenzenoid aromatic compounds, and others. The general part of the book is completed by a brief chapter on inorganic compounds including transition metal complexes.

Among the specific applications we find a chapter on more complex organic compounds from steroids to antibiotics by T. R. Kasturi, one on biochemical applications from amino acids to viruses by L. K. Ramachandran, and one on high polymers. This is followed by a chapter on quantitative analysis and on "miscellaneous topics" including charge-transfer complexes, matrix isolation studies, adsorbed molecules, and other problems. There is even an appendix on the teaching of infrared spectroscopy.

It is believed that because of the careful inclusion of most of the available information, its coverage of widely different topics in one book, and its easy readability, Rao's book is likely to become very popular with the users of infrared spectroscopy.

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An Introduction to Electron Spin Resonance. By TERENCE L. SQUIRES, A. M. British I.R.E., Assistant Editor R. and D. (Research and Development), Fellow of the Physical Society, late Research Assistant at the Research Unit in Radiobiology, Mount Vernon Hospital, Northwood. Academic Press, Inc., 111 Fifth Ave., New York 3, N. Y. 1964. 140 pp. 13 × 19.5 cm. Price, \$5.50.

The few things in this book which are correct are better treated in other places. Important ideas are presented incorrectly. The magnetic moment of free radicals is described as coming from "the electron rotating around the rest of the molecule" (page 15). Relaxation and saturation, essential features of the magnetic resonance phenomenon, are not discussed. I do not recommend the book to anyone.

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