

BOOK REVIEWS

CARL S. MARVEL: **An Introduction to the Organic Chemistry of High Polymers.** John Wiley, New York; Chapman & Hall, London, 1959. 82 pp., \$4.50.

THIS book is an outgrowth of a series of notes compiled by the author for the "Humble Lectures in Science" in June, 1956. As the author states, they were intended to be used by the beginner in polymer synthesis. As such, the book is most useful.

Although the book is only 82 pages, it covers a wide range of topics but, of more importance, it covers most of the important ones. The material on diene polymerization and new ionic systems includes a good summary of recent material.

This is the type of book that could be used for a month's work in an organic course for seniors majoring in chemistry very profitably, or as a source of examples for the standard undergraduate organic chemistry course. I would urge that every student who intends to do graduate work in organic chemistry have this book available to him.

C. G. OVERBERGER

R. T. MORRISON and R. N. BOYD: **Organic Chemistry.** Allyn and Bacon, Boston, Mass., 1959, xiv + 948 pp., \$10.75.

It is clear that the pedagogy of elementary organic chemistry is in a state of flux. The year course for majors has no hope of achieving the encyclopedic envelopment of organic chemistry of a generation ago. But more difficulty has been experienced in the development of any general agreement regarding the amount of theoretical interpretation to be included and the level of erudition of that presented.

Professors Morrison and Boyd are to be commended for this most recent effort in this direction. They have made a valuable contribution to the teaching of elementary organic chemistry. The early portion of the book introduces a variety of concepts very rapidly: for example, free radicals (p. 35), chain reactions (p. 37), bond dissociation energies (p. 39), activation energy (p. 41), reaction co-ordinate (p. 42), temperature coefficient of rate of reaction (p. 47), and conformations (p. 60). These concepts are not introduced in a vacuum, but are rather related to specific situations. Of further importance is their continued use throughout the remainder of the book. Liberal use is made of reaction co-ordinate-energy diagrams, including the Hammond postulate. The exposition is clear, and a great deal of care has been taken to provide a "teaching" framework for the material included. Experimental facts and derived interpretive conclusions are carefully distinguished. At the end of each chapter a long problem set of graded difficulty is included, with structure determinations and synthetic sequences based in many instances upon actual experimental data. Answers are also given for some of the problems. The amount of material from the very recent literature is impressively large. The authors have made a valuable contribution in reducing the "lead time" from the research laboratory to the elementary course.

Apparently, any reviewer feels compelled to comment on typography. The book seems remarkably free of errors. Only one (α instead of β , p. 626) came to the reviewer's attention. There is a use of the term "hindered rotation" (p. 104) which has an unfortunate connotation.

Naturally certain aspects of the sequence of material presented seem less than optimum to any individual. It is unfortunate that the detailed discussion of the preparative utility of diazonium salts is left to p. 571 in an integrated text, and that the reactions of the Grignard reagent are delayed so long. But these are matters of personal preference, and in no way detract from this excellent presentation of organic chemistry with full cognizance of modern theory.

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