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"Book Review. A Review of: March's Advanced Organic Chemistry, by Michael B. Smith and Jerry March, 6th Edition"

Daniel J. Sandman [a]

[a] Center for Advanced Materials, Department of Chemistry, University of Massachusetts Lowell, Lowell, MA 01854-5047

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Book Review

March's Advanced Organic Chemistry, by Michael B. Smith and Jerry March, 6th Edition,Wiley-Interscience, Hoboken, N.J., 2007; ISBN 978-0-471-72091-1; xx + 2357 pp, $99.95.

The first edition of this textbook appeared in 1969. Hence, at least two generations of organic chemistry graduate students have learned from earlier versions of this book. This latest edition retains the considerable established strengths of the earlier editions, enhances most of them, and introduces some new features. It is the second edition in which Michael Smith is coauthor responsible for the revision. Many sections have been updated and some have been rearranged. These books have always been well referenced, and this book has over 25000 references, 6800 of which are new to this edition. The book deals with structures, reactions, and mechanisms in the mainstream of organic chemistry and omits meaningful treatment of steroids, alkaloids, terpenes, carbohydrates, *etc.*, as too specialized. It is intended as a textbook for a course after a student has taken introductory courses in organic chemistry and physical chemistry. Indeed, a student who masters the material in this text is well situated to get into more specialized subjects and also has a valuable reference source.

As in previous editions, the book is organized into two parts. Part 1 (Chapters 1–9) deals with issues of structure, bonding, stereochemistry, and general issues about reaction mechanisms in organic chemistry. Part 2 (Chapters 10–19) deals with reactions organized according to mechanistic type. This organization has been consistent through all six editions. These are followed by Appendix A, the literature of organic chemistry (41 pp.), and Appendix B, classification of reactions by type of compound synthesized (26 pp.). The book finishes with an author index (253 pp.) and a subject index (167 pp.). While the book is intended as a textbook, there are no problems at the end of each chapter, as was the case in previous editions.

Some comments on assorted topics follow. The section on molecular mechanics is significantly expanded. The discussion on charge-transfer bonding (pp. 118–119) is weak; it does not do justice to the scope of this subject. Hexfluorobenzene-benzene complexes are not discussed. On page 224, structure 127b is not correct. Chapter 7 deals

with irradiation processes. It does not cover Stern–Vollmer processes. Throughout the book, references to other parts of the book are listed as "p. $$$". On page 349, it should be page 936. In the discussion of hydroboration (p. 1076 ff.), disiamylborane (116) and diisopinocampheylborane (119) are shown as monomer structures. They are actually dimers and react as such. On page 1640, structures 100 and 101 are the same. In Chapter 16, the discussion of orbital symmetry does not use orbital correlation diagrams. On page 1655, the stereochemical relationships in structures 121 and 122 are not correct.

To summarize, this latest edition is a worthy successor to the previous ones. It will continue to be useful to students as well as professional practitioners of organic chemistry and related disciplines.

Daniel J. Sandman
Center for Advanced Materials
Department of Chemistry
University of Massachusetts Lowell
Lowell, MA 01854-5047