



Molecular Crystals and Liquid Crystals

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A Review of "March's Advanced Organic Chemistry"

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BOOK REVIEW

March's Advanced Organic Chemistry. 7th edition, by Michael B. Smith; John Wiley & Sons, Inc., Hoboken, NJ, 2013; ISBN 978-0-470-46259-1; xxv+ 2047 pp.; \$125.00

This is the first edition of *March's Advanced Organic Chemistry* where Michael B. Smith is the sole author. My review of the 6th edition is found at *Mol. Cryst. Liq. Cryst.*, **493**, 113 (2008). As in previous editions, the first nine chapters deal with general concepts and theory of organic chemistry and the back 10 chapters concern various reactions and their mechanisms. The smaller number of pages in the 7th edition compared to the 6th (2047 vs. 2357) would appear to be due to the larger page size in the 7th edition. The price is a 25% increase over that of the 6th edition.

There are a number of areas throughout the text where the subject should have been presented in more detail. On p. 143, a figure showing what ORD and CD look like would have been useful. In the discussion of radical ions on pp. 248–249, there is no mention of the classical Wurster's salts, tetrathiafulvalene, or cyanocarbons. In the discussion of photochemical mechanisms on p. 306, no fluorescence spectra are presented and FRET is not discussed. In the discussion of hydroboration in Chapter 15, the reagents called disiamylborane and diisopinocampheylborane, presented as monomers, are actually dimers and react as such. This error was also in the 6th edition and was not corrected. The reaction of azides with alkynes is discussed on p. 1018 and is commonly now termed “click chemistry,” but this term is not used.

As in previous editions, there are significant numbers of typos and mistakes in the text. On p. 8, the first hybridization should be $1s^2(2sp^2)^3$. On p. 31, the subscripts in the second term in the equation should be twos. On p. 92, structure **150** is incorrect. On p. 94, the aci form lacks a proton. On p. 168, the structure of *exo*-2-norbornenol is incorrect. On p. 181, the journal in ref. 338 should be JACS. On p. 222, R_2' in the products needs to be specified. On p. 266 in figure 6.1, the activation energy on the right should be labeled as the reverse process. On p. 433, the formula for tresylates should be $CF_3CH_2SO_2-OR$. On p. 687, reagent 2 should be Me_3SiCl . On p. 1140, the structure of the product of reaction of benzonitrile with $(CH_3)_2Mg$ is incorrect. On p. 1339, the structure on the right side of the 3,2 shift is incorrect. On p. 1386, in structures **110** and **111**, Me_3 should be Me.

Overall, the 7th edition is a worthy successor to its precursors and thus can be expected to be widely used. Students with a year of undergraduate organic and physical chemistry will be able to use this book. Where the discussion is relatively brief, the reader is readily able to follow-up due to the large number of references. The author reports the addition of 5500 references to the new edition.

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