

Book Reviews

Organic Chemistry Principles and Industrial Practice.

By Mark M. Green and Harold A. Witcoff (Brooklyn Polytechnic University and Nexant-Chem Systems). Wiley-VCH, Weinheim. 2003. xx + 321 pp. 17 × 24 cm. \$39.00. ISBN 3-527-30289-1.

This book is designed for use in conjunction with any sophomore level organic chemistry text. It contains 10 chapters with a summary and study guide, as well as a cumulative subject index. Chapters covered by this text are (1) conversion of petroleum into useful materials, (2) polyethylene and the principles of stereochemistry, (3) the role of electrophilic aromatic substitution, (4) crosslinking and the synthesis of commercially important plastics, (5) the story of nylon, (6) industrial synthesis of methyl methacrylate, (7) rubber and other elastomers, (8) the chemistry of ethylene and propylene, (9) the demise of acetaldehyde, and (10) movement towards green chemistry. Among the concepts covered are carbocations, free radicals, stereochemistry, nucleophilic substitution, conformation, and elasticity. The material is presented in a clear and very readable manner.

The text would be greatly enhanced by a more extensive discussion of green chemistry and the current state of biocatalysis. The current coverage of fermentation processes seems very limited at just two pages. This book is an excellent basis for an undergraduate chemistry class in industrial chemistry for students who have completed organic chemistry. Undergraduate students who are interested in an industrial career and/or polymer chemistry will find this book of great utility. Furthermore, beginning graduate students in the polymer sciences may find this text useful as well. However, those undergraduate students with an interest in the pharmaceutical industry and/or biotechnology are not likely to find this book of interest or utility. Overall, this is a good undergraduate book for a reasonable price.

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