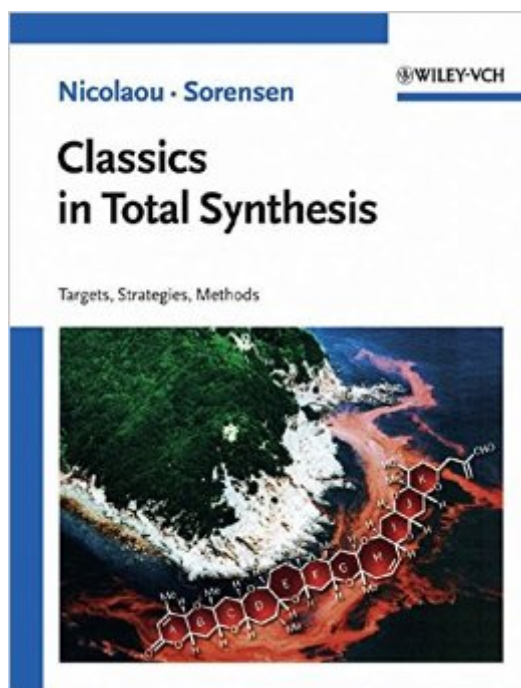


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Classics In Total Synthesis: Targets, Strategies, Methods



Synopsis

K.C. Nicolaou - Winner of the Nemitsas Prize 2014 in Chemistry This book is a must for every synthetic chemist. With didactic skill and clarity, K. C. Nicolaou and E. Sorensen present the most remarkable and ingenious total syntheses from outstanding synthetic organic chemists. To make the complex strategies more accessible, especially to the novice, each total synthesis is analyzed retrosynthetically. The authors then carefully explain each synthetic step and give hints on alternative methods and potential pitfalls. Numerous references to useful reviews and the original literature make this book an indispensable source of further information. Special emphasis is placed on the skillful use of graphics and schemes: Retrosynthetic analyses, reaction sequences, and stereochemically crucial steps are presented in boxed sections within the text. For easy reference, key intermediates are also shown in the margins. Graduate students and researchers alike will find this book a gold mine of useful information essential for their daily work. Every synthetic organic chemist will want to have a copy on his or her desk.

Book Information

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Customer Reviews

The more I read and study out from the book, the more I appreciate the beauty of it. Nicolaou and Sorensen's Classics in Total Synthesis is the most widely consulted title on organic synthesis. As many have commented, this book is a must for every synthetic organic chemist, organic student and researcher. Released in 1995, despite the advances in synthetic methodology, Nicolaou has presented some of the most remarkable and ingenious total syntheses from laboratories of the world's most prominent organic chemists. Molecules adopted include strychnine, prostaglandin,

progesterone, vitamin B12, erythronolide B, monensin, endiandric acids, biotin, hirsutene, capnellene, methyl homosecodaphniphyllate, calicheamicin and more. Nicolaou has done an incredible favor to make the strategies more understandable and accessible. For each molecule, the total synthesis begins with a thorough retrosynthetic analysis. Sometimes more than one retrosynthetic routes are introduced in order to show the possibilities of finding the most efficient synthesis. Nicolaou then meticulously describe each step in synthesis with referral to important named reactions such as the Noyori asymmetric reduction, Luche reaction, Johnson Claisen rearrangement, Julia olefination, etc. With such didactic skill and clarity, Nicolaou has taught the gist of synthesizing complex molecules from commercially available building blocks. A great way to use the book and learn organic synthesis would be to write down every single step on a separate piece of paper and understand what each step does in the overall total synthesis. The synthesis steps and important reactions are presented in schemes with blue background sections, with emphasis on asymmetric synthesis, catalysts, stereochemistry and mechanism.

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