Classics in Total Synthesis II: More Targets, Strategies, Methods; by K. C. Nicolau and S. A. Snyder; Wiley-VCH: Weinheim, **2003**; paperback, 658 pp, $64.95 ISBN 3-527-30684-6.

This book is essential reading for practicing synthetic organic chemists. The authors have selected 21 syntheses of natural products of interest in recent years. The target molecules are arranged in chronological order (as in *Classics in Total Synthesis*) and the story begins with a total synthesis of *Isochrysohermidin* (D. L. Boger) and ends with the total synthesis of *Okaramine N* (E. J. Corey). Like the first volume, each chapter begins with the history of the target molecule and discussion of the fundamental chemistry used in the synthesis (eg inverse-electron-demand Diels–Alder technology used for the synthesis of *Isochrysohermidin*). Every target is analyzed retrosynthetically and then each step is explained carefully and clearly with discussion of potential pitfalls, pitfalls actually encountered, how these were overcome and alternative strategies. Each chapter concludes with highlights of the unique aspects of the synthesis and important chemical concepts, sometimes followed by a synthesis or syntheses of the same molecule subsequently achieved by other research groups.

Chapter 15 on the synthesis of *Quinine* (G. Stork) provides extensive historical background to this important molecule. It is particularly instructive to see that such a relatively simple structure provided a considerable synthetic challenge into the 21st century. Over 150 years of prodigious effort was required before a stereoselective synthesis was finally accomplished.

Chapter 21 on the sysnthesis of *Plicamine* (S. V. Ley) highlights the importance of product isolation and purification. The authors make the important point that 'the ability to purify and isolate individual compounds effectively from unwanted material is just as intimately tied to the overall effectiveness and success of a synthesis as the power of the reagents to effect specific conversions'. This chapter describes a total synthesis that was accomplished without a single chromatographic, crystallization or distillation step by the use of solid supported reagents! This is clearly a look to the future as current purification protocols often produce enormous amounts of waste that neither the environment nor industry can afford. The authors point out that future generations of synthetic chemists will not only have to develop new synthetic methods but novel purification techniques as well.

In addition to learning about many protecting group strategies, the reader is also presented with solid phase reactions, cascade sequences, biomimetic strategies and asymmetric catalysis. Each of these methods is carefully developed and explained in terms of mechanism and scope. The presentation of newer methods such as olefin metathesis in mini review form is a particularly strong feature of the book that is difficult to find in such a concise form elsewhere.

Finally, and most importantly, the numerous references to the original literature and subsequent reviews, makes this volume an invaluable resource. Pleasingly, it is also well presented with clear structures, schemes and figures and illustrated with quotes and photographs from eminent synthetic organic chemists.

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