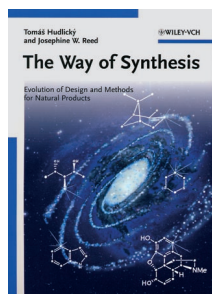


would have been preferable to use only one or two directly comparable units for the whole chapter. When using the “parts-per” notation, the appropriate unit should be chosen to avoid values such as 0.005 ppt or 10^5 ppt, and the matrix (solvent or air) and the way of measuring (volume, mass, particles) should be specified. Also, 0.3 ppm cannot be called an “extremely low detection threshold”.

Despite these criticisms, *Sensory-Directed Flavor Analysis* is a “should have” for flavor researchers and definitely worth reading! It gives the reader a good overview, combined with numerous examples. It also provides literature for refreshing one’s knowledge of general aspects of the subject. Being somewhere between textbook and research paper, its contents easily enter the reader’s mind and provide food for thought.

Katharina Breme, Xavier Fernandez,
Uwe J. Meierhenrich
Faculté des Sciences
Université de Nice Sophia Antipolis
Nice (France)

The Way of Synthesis



Evolution of Design and Methods for Natural Products. By Tomáš Hudlický and Josephine W. Reed. Wiley-VCH, Weinheim 2007. 1004 pp., softcover € 69.00.—ISBN 978-3-527-31444-7

Tomáš Hudlický and Josephine Reed take the reader of *The Way of Synthesis* on an intellectual and scholarly journey through highlights of total synthesis during the last five decades. The book discusses the beginnings of total synthesis, and describes classic examples of the synthesis of terpenes (juvenile hormones, cedrenes, vernolepin, isocomene, retigeranic acid, taxol, and many more) and alkaloids (quinine, reserpine,

Lycopodium alkaloids, *Daphniphyllum* alkaloids, *Amaryllidaceae* constituents, and several others). The overview of total synthesis is concluded by a discussion of various more recent examples of the synthesis of natural products, such as those of brevetoxin and indinavir.

As stated by the authors in the preface to *The Way of Synthesis*, the idea of writing this book was born after composing an article for *Chemical Reviews* (*Chem. Rev.* **1996**, *96*, 3), which served as an introduction for a special issue on “Frontiers in Organic Synthesis”. The *Chemical Reviews* article is of a rather philosophical nature, and critically examines general aspects of organic synthesis. As that review provided the framework for this book, *The Way of Synthesis* can also be viewed as a philosophical treatise, and a good part of the book is devoted to analyzing current trends and to explaining and elaborating ideas that are thought-provoking and stimulating. The introductory part includes a discussion of the history and purpose of synthesis, followed by references to historically important milestones in structure elucidation (glucose, morphine, aspidospermine, Patchouli alcohol). A whole chapter is dedicated to the concepts of strategy and tactics in total synthesis. Brevity of execution, efficiency, and the benefits of incorporating new technologies are explained in detail, followed by discussions of dimensional analysis, pattern recognition, symmetry, connectivity, topology, computer-assisted design, regio- and stereocontrol, modifications of ring size, and protecting group operations.

Several books have been published within the last few years reviewing classics and highlights in total synthesis. Therefore, every new addition to this ever growing collection of compendia needs a justification and a special purpose. This is especially true if the main focus of a book is on summarized descriptions of the preparation of target compounds and of syntheses that were published several decades ago and have already been reviewed on numerous occasions. In fact, most of the target compounds discussed are mature examples, and the chemistry reflects the state of the art as it existed in the mid-1980s rather than that of today.

A novelty in *The Way of Synthesis*, compared to other books on the market is the direct comparison of different and independent approaches for every single synthetic target described. Key steps of syntheses are clearly explained and highlighted in schemes in a different color. The syntheses of target compounds chosen in this book were not only the most important contributions to total synthesis at the time, they also serve as examples that validate general ideas and concepts outlined in the introductory chapters. The most important difference compared with other textbooks is the inclusion of personal reflections of the authors and others, as well as anecdotes from people who were directly involved in the research described. These descriptive and narrative passages are of great value to a reader and a scientist interested in learning about the personal experiences, opinions, doubts, and thoughts of colleagues in the field of organic chemistry and masters of total synthesis. Such anecdotes of well-known members of the synthetic community, as well as the historical aspects, can easily become lost over the years, and *The Way of Synthesis* helps to preserve individual experiences for future generations.

However, the quite unusual style of the book, together with the philosophical, anecdotal, opinionated, and often lengthy and self-centered sections might distract a reader whose main focus is on learning organic chemistry in a more conventional way. It makes difficult reading for a student who is looking for a textbook on organic reactions and reagents.

In summary, *The Way of Synthesis* provides much information for its price. It can be recommended for academic researchers in the field of organic chemistry who are interested in the historical and philosophical aspects of total synthesis, and for students who want to get an overview of classics in total synthesis of the second half of the last century.

Uwe Rinner, Johann Mulzer
Department of Organic Chemistry
University of Vienna (Austria)

DOI: 10.1002/anie.200785550