



Book Review

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Computational Organic Chemistry, 2nd Edition, by Steven M. Bachrach, John Wiley & Sons, Hoboken, NJ, 2014; ISBN (print): 978-1-118291924; Online, e-book. Digital edition 978-1-118671191; 632 pp.; \$125.00 (hardcopy).

This book is the second edition of the likewise singly authored volume that was published in 2007 by the same author, on the same general topic. It is important to emphasize that this book by Bachrach is “actually” several books conjoined in the same physical binding or electronic file. Not only are there the print and electronic versions of the text, there is also an accompanying evolving website and blog that provide the reader with scientific and educational updates between editions. The book (both hardcopy and electronic alike) contains one book on the quantum mechanical background for computational chemistry, one on contemporary spectroscopy and structural determinations, and one book discusses key concepts in organic chemistry, such as aromaticity and strain energy.

As reviewer, I believe that few readers will be able to understand and utilize all three of these chapters but the value of each individual component of the book is strong enough to warrant its purchase, even if only one or two components are comprehended.

Any or all three of these chapters provides a powerful beginning for the rest, the majority, of the book in which contemporary methods and results from computational theory are applied to the understanding, interpretations, and predictions of the practice of contemporary experimental chemistry that fills the rest of the 600 or so pages of the book. (Admittedly insights and relevancies for biochemistry vastly exceed those from material science; then again, whatever is the approach or intellectual outcome, the former science is much more “organic” than the latter.)

There are two other aspects of the book that make it even more useful and interesting. The first is that there is considerable referencing to the primary research literature. These citations, numbering ca. 1000 in total, are successfully interwoven within the text. The new references, many published after the 1st edition appeared in print, are not merely appended to the old, nor do they simply replace earlier studies. While an author index would have been desirable, the admittedly brief subject index also includes by name some of the key persona whose seminal studies are discussed in the book.

The second additional aspect of the book worthy of specialized mention is the compilation of “interviews” with some of these individuals. While these individuals were in fact interviewed by the author, what is presented are 2–3 pages apiece of singly-authored but quote-laden text that provides an improved understanding of science through an improved sense of the scientist. Direct quotes are offered in lieu of literature citations. All that is missing is an audio accompaniment by Bachrach and his interviewees.

Should Bachrach be looking for the content of another book to write—I suspect the 3rd edition of the current volume is in preparation—may I suggest that he interview many more scientists with the same philosophy as the current volume. Such a book, similar to

the current one, would be a valuable addition to the personal and institutional libraries of students and senior practitioners of the chemical sciences alike.

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