

Modern Methods of Organic Synthesis, Fourth Edition, by W. Carruthers and I. Coldham, Cambridge University Press: Cambridge UK, 2004, hardcover, 506 pp, £ 75.00, ISBN 0-521-77097-1; softcover, 506 pp, £ 35.00, ISBN 0-521-77830-1

Synthetic chemistry is as much an art as it is a science. The grand masters of synthetic organic chemistry are held by their fellow chemists in a similar esteem as are four-star chefs by their fellow cooks. Given the complexity of advanced syntheses and the challenge provided, for example, by many a natural compound, any apprentice of organic synthesis inevitably goes through a phase of frustration and despair. Even if he or she eventually will not rise to all-time highs of synthetic wizardry, a lot may be learned by rounds of hard, intense training. *Modern Methods of Organic Synthesis* has established itself over the 34 years of the previous three editions as a faithful guide through the synthetic jungle with its many dangers of getting stuck or losing one's way amongst the seemingly impenetrable.

The contents of the books have been neatly arranged into seven chapters, each of which concerns itself with a major type of chemical transformation that synthetic chemists repeatedly encounter. They are: 1) formation of carbon–carbon single bonds; 2) formation of carbon–carbon double bonds; 3) pericyclic reactions; 4) radical and carbene chemistry; 5) functionalization of alkenes; 6) oxidation; 7) reduction.

The book is written in a clear, accessible, yet concise style and is suitable for advanced undergraduate and graduate students taking courses in advanced synthetic organic chemistry, and for professionals wishing to refresh or update their repertoire of methods. Previous training in basic organic chemistry at the university level is a prerequisite to make full use of it. The volume is excellently produced with formulae that are crisp and sharp as tacks. Primary literature is cited as footnotes directly on the page on which reference is made to it, rather than in cumbersome end-of-chapter lists – this adds to the usefulness of *Modern Methods of Organic Synthesis*. Each chapter ends with a handful of problems, providing opportunities for applying the newly gathered knowledge. Solutions are given at the end of the book for all problems, making it useful for self-study as well.

The fourth edition has been thoroughly revised but still retains the tradition and the standard of its predecessors. It takes off where the introductory textbooks stop. Therefore, it can be recommended as a very useful addition to the stocklist of every student who wants to, or has to, master synthetic organic chemistry. An affordable paperback (student) edition is available.

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