PERGAMON

Phytochemistry 60 (2002) 99

PHYTOCHEMISTRY

www.elsevier.com/locate/phytochem

Book review

The Art of Writing Reasonable Organic Reaction Mechanisms

R.B. Grossman; Springer-Verlag, Berlin, 1999, 331 pp., ISBN 0-387-98540-9, DM 98.00, £34.00, $44.95

There must be something particularly difficult about the teaching of organic chemistry at undergraduate level, for the last 12 months have seen about a dozen textbooks land on my desk. Each contains around a thousand pages and there is a remarkable similarity in chapter structure, font style, diagrams, colour etc. Several of these texts are repeat editions of previous texts and all purport to teach organic chemistry in a 'student friendly' manner. My heart sank, therefore, when '*The Art of Writing Reasonable Organic Reaction Mechanisms*' arrived for review. It was with great trepidation that I opened the book; and with no small degree of satisfaction that I eventually closed it.

Most organic chemistry texts are really dictionaries of organic compounds in which reactivity (energy) is the driver and structure is the brake and reaction mechanism is the vehicle used for getting from start to finish. For a change this book concentrates on the route rather than the destination. Thus, for example, there is a chapter on polar reactions under acidic conditions rather than a chapter on acid catalysed reactions of, for example, alcohols. Most importantly it is worded in a style which is friendly, even chatty. I particularly like the use of the flashcard concept called Common Error Alert which reinforces a key point where a common misconception can occur.

Other features which I liked include an end-of-chapter summary of key points (to aid with revision) and the inclusion of plenty of problems.

One final chapter that I, as an ex-organometallic chemist, was pleased to see, was the one on the chemistry of the transition metals together with those on metal mediated and metal catalysed reactions. Organometallic chemistry is usually taught structurally progressing along the transition series. Taught this way it gives both focus and purpose, and demonstrates just how valuable are the transition metals in facilitating complex, and sometimes energetically unfavourable, reactions.

In conclusion, therefore, this is a good book for students to use, rather than read, when studying organic chemistry because it explains **why** things happen as well as **what** happens.

Michael Cooke

Chemistry Centre, Royal Holloway, University of London, UK

PII: S0031-9422(02)00047-X