

Book reviews

Asymmetric Synthesis, Volume 2; Stereodifferentiating Addition Reactions, Part A; edited by J.D. Morrison, Academic Press, 1983, xiv + 278 pages, \$US 49.50, ISBN 0-12-507702-5.

This is the second of a multivolume work reviewing progress in asymmetric synthesis since 1971. Volumes 3 and 4 have previously been reviewed (*J. Organomet. Chem.*, 296 (1985) C55; 299 (1985) C21). This volume deals with asymmetric addition reactions, the reviews focusing on work reported since the publication of "Asymmetric Organic Reactions" by Morrison and Mosher.

The first two chapters of the work detail reactions of organoboranes, being devoted to asymmetric hydroboration and asymmetric reduction with chiral boron compounds. Chapter 3 discusses the use of chiral modifications of lithium aluminium hydride, and Chapter 4 the use of chiral dihydropyridines and their relationship to enzymic processes. Chapter 5 considers Cram's Rule in general terms, and both this and Chapter 6 dealing with addition of chiral nucleophiles to aldehydes and ketones, contain extensive discussions of organometallic reagents. In Chapter 7 non-catalytic additions to α,β -unsaturated carbonyl compounds and related species are considered, whilst Chapter 8 reviews addition to chiral vinyl sulphoxides. Chapter 9 forms a transition to Volume 3 of this series in its discussion of the alkylation of imine and enamine salts.

This volume, like its successors, is well produced and relatively error free. Diagrams are of a consistent and high standard, a rare feature in multi-author works. All the chapters are well referenced up to 1981, with many covering literature into 1982. I found the lack of reference numbers an irritation and the index a little sketchy, both of which problems have been remedied in the later volumes.

Every serious synthetic chemist today must be concerned with the possibilities and practicalities of the generation of new chiral centres within their synthetic targets. Organometallic chemistry has provided many methods for the realisation of enantioselective reactions and the review of such strategies is extremely timely. No practitioner of modern synthesis can afford to be without access to this important series. Whilst the price of the series in toto must deter individual purchase (although this second volume is significantly less expensive than subsequent ones) it is an essential library acquisition.