

Topics in Current Chemistry, Volume 130; Synthetic Organic Chemistry; edited by F.L. Boschke, Berlin, Heidelberg, Springer-Verlag, 1986, 209 pages, DM 138, ISBN 3-540-15810-3.

The Topics in Current Chemistry Series reviews recent developments in various specific areas. The volumes with rather general titles, such as this one, are frequently comprised of rather dissimilar chapters, with no very obvious general theme. The first section (24 pages) deals with steric and electronic substituent effects on the thermochemistry of the carbon-carbon bond. The topic is approached from the direction of radical chemistry and many interesting reactions of fundamental importance are considered.

For the organometallic chemist Chapter 2 (65 pages), which details selective hydroboration and synthetic uses of organoboranes, will be of the greatest interest. The review takes as its aim to systematise the available literature on selectivity, dealing with chemo-, regio- and stereo-selectivity. A brief summary of selective reagents is given and most of the section is devoted to practical illustrations of uses in synthesis. Of particular interest are the couplings of organoboranes with vinyl, allyl and alkynyl halides, catalysed by copper and palladium complexes. Haloboration, transmetalation and asymmetric synthesis are also considered. The increasingly easy availability of organoboranes as shelf reagents ensures that this will continue to be a developing area of synthetic chemistry.

The next chapter (40 pages) provides a comprehensive review of synthetic routes to ynamines, most of which involve lithiation reactions. The final two sections discuss electrochemically reduced photoreversible products of pyrimidine and purine analogues (46 pages) and high pressure synthesis of cryptands and complexing behaviour of chiral cryptands (20 pages), which must be considered relatively esoteric topics for the average organometallic chemist.

This volume is well produced, and although I found a number of typographical errors, these were not serious. The diagrams are of a uniformly high standard. There is no index, but this is not a major problem since the chapter contents listings are fairly comprehensive. All the sections give extensive references, running well into 1985. The major disadvantage of this work is the disparity of its contents. Most chemists, however wide their interests, are unlikely to find more than one or two chapters of great relevance. This series should be available in every good library, but this volume at least is unlikely to attract many individual purchasers.

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