

Silicon Reagents in Organic Synthesis; by E.W. Colvin, Academic Press, London etc., 1988, xxi + 147 pages. £27.00 (hardcover), ISBN 0-12-182560-4.

This book appears in the series "Best Synthetic Methods" which tackles various topics (palladium reagents, oxidation, and hydrogenation in earlier volumes) with much more attention to practical details than the usual texts on organic chemistry.

The book contains 20 chapters which seem to be loosely based on those in Colvin's earlier book "Silicon in Organic Synthesis". The first two chapters comprise a short introduction and a list of reviews and suppliers of organosilicon compounds. The next fourteen chapters each deal with a particular type of compounds such as vinylsilanes, alkylsilanes, acylsilanes, and silyl enol ethers and ketene acetals. Each of these chapters is divided into "Preparation" and "Reactions" sections which give fairly detailed experimental details about the compounds concerned. Each experiment is referenced with many of the references being to literature published in the 1980's including 1987. The original literature will usually need to be referred to as the details presented are often not as full as someone new to these types of reagent would like. Perhaps the most useful of these synthesis chapters is that on "Silyl Based Reagents" which gives brief details on the preparation of reagents such as silyl triflates and cyanides that are now common in synthetic organic laboratories. Of the remaining four chapters one covers "Silanes as Reducing Agents" while the other three list the preparations of organosilicon compounds found in the standard texts "Organic Syntheses", "Organic Reactions", and "Organometallic Syntheses".

Although the book is in the "Best Synthetic Methods" series the author gives few indications of which are the "best" methods available to prepare any particular type of compound. There is sometimes also a lack of comment about any problems associated with any particular preparation. Both of these areas are well addressed in the other recent volume in this series, B.J. Wakefield's "Organolithium Methods". It is a pity that this volume does not contain such useful information.

The book is well produced with few other than trivial errors, although anyone looking for the reagent "tris(triphenylphosphine)rhodium(II) chloride" (page 127) to use as a hydrosilylation catalyst will be disappointed. The majority of organometallic chemists will not find a great deal of interest in this book, but, despite the criticisms mentioned above, it should find use in many organic laboratories where silicon reagents are finding increasingly great use.

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