

Wakefield's *The Chemistry of Organolithium Compounds*, Kharasch and Reinmuth's *Grignard Reactions of Non-metallic Substances*, Neumann's *The Organic Chemistry of Tin*, Sawyer's *Organotin Compounds*, Lesbre, Mazerolles and Satgé's *The Organic Compounds of Germanium*, and Shapiro and Frey's *The Organic Compounds of Lead*.

The manuscript deserved better in-house editing to remove infelicities in the English and in the spelling of authors' names. A sentence such as 'Moreover, as a common sense on the organometallic compounds, generally, these compounds are largely liable' should not have got through into print, nor should names such as Busen (Bunsen), Wurts (Wurtz), Flankland (Frankland), Paluling (Pauling), Fryrs (Frye), Coats (Coates) and Kearly (Kealy).

For western chemists, the most valuable features of this book are likely to be two-fold. First, it gives a good account of the industrial application of organometallics in, for example, Ziegler and Ziegler-Natta chemistry, PVC stabilization, anti-knock behaviour, silicone polymers and anti-cancer drugs. Second, it gives a good coverage of the general Japanese literature of organometallic chemistry, including patents, which tends to be inaccessible to non-Japanese authors.

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Reductions by the Aluminio- and Borohydrides in Organic Synthesis

J. Seyden-Penne

2nd edn. Wiley, Chichester, 1997

xiv + 224 pages. £60

ISBN 0-471-19036-5

This book is an update from the first edition, which was published in 1991. In the first edition there was an attempt at comprehensive coverage of the topic, but in the second edition any such attempt has been forced to be abandoned. Nevertheless, this second edition is packed with information, cites around 1200 references, and provides a very useful source for anyone contemplating a complex hydride reduction.

The book is organized into five chapters, followed by 11 pages of synoptic tables, then the references and a subject index.

Chapter 1 introduces the most commonly used reagents, indicates their stability and solubility characteristics and briefly describes their main applications. Chapters 2–5 present the reduction of the main functional groups, with reference to features of selectivity and compatibility.

Chapter 2 deals with cleavage of carbon–heteroatom

single bonds (halides, sulphonates, epoxides, alcohols, ethers, ammonium salts etc).

Chapter 3, the largest chapter with over 100 pages, deals with reduction of double bonds (other than C=C bonds). The bulk of the chapter (85 pages) concerns reductions of carbonyl compounds, including sections on different kinds of carbonyl compounds, asymmetric reductions and regioselectivity of the reduction of α/β -unsaturated derivatives. The chapter also covers imines, enamines, nitrogen heterocycles and oximes/hydrazones.

Chapter 4 deals with reduction of triple bonds and Chapter 5 with other derivatives (nitro compounds, azides, organometallics, and sulphur, phosphorus, silicon and boron compounds).

The entry point for many will be the synoptic tables. Here it is possible to look up a class of compound and choose a precursor substrate; the table will provide a list of reagents for the transformation and section references indicating where the reactions are discussed. The appropriate sections in Chapters 2–5 will provide the detailed discussion of those reactions and Chapter 1 will give an outline of the characteristics of the chosen reagent. Thus, the book is ideal for identifying the most useful references for any given reduction.

Because it is so densely packed with information, the text is somewhat difficult to read. This is almost unavoidable if the coverage is to remain so full and the book so short (220 pages), and the difficulty is easily outweighed by the value of the work as a source of reference and information.

This book is an imperative purchase for all chemical libraries and for any individuals who make regular use of complex hydride reductions.

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The Organic Chem Lab Survival Manual

James W. Zubrick

4th edn. Wiley-Interscience, New York, 1997

382 pages. £17.99

ISBN 0-471-12948-8

This book updates the third edition, reflecting some of the more recent changes in laboratory practice. In particular, the use of microscale laboratory equipment has been expanded further in this edition. Other influences such as the Internet, and elementary directions on how to access information from networks, are suggested.

The book is presented in 36 chapters; they are broadly grouped into key areas, namely safety, information recording and retrieval, basic equipment, standard techniques, and instrumentation in the laboratory. Two final chapters cover some basic theory.