

Organozinc reagents - A Practical Approach. Edited by Paul Knochel and Philip Jones. Oxford Medical Publications, Oxford, 352 pp, hardback. £ 75. ISBN 0 19 850121 8.

This book is an excellent reference and a perfect handbook of laboratory work for any graduate course student and research scientist who wants to use organozinc reagents. Although some detailed reviews of the organozinc compounds are provided, the book's orientation is clearly toward the practical user. Those readers desiring a practical procedure on a particular transformation can easily find the experimental procedure and reference at the end of each chapter. The experimental procedure is very clear and easy to follow. The introductory chapter by Knochel, Jones, and Langer provides a brief and historical overview of organozinc chemistry, and also contains the representative preparation procedure of the simple organozinc compounds. These procedures were already well known, so play an important role for the readers to understand the style of the experimental procedure of the book. The following fourteen chapters cover all types of the organozinc reagents: Active zinc prepared from reduction of zinc chloride with Li or K (chap 2, Rieke and Hanson), organozinc halides carrying various functional groups (chap 3, Jackson), fluorinated organozinc reagents (chap 4, Davis and Burton), the recent highly selective synthesis using diorganozinc reagents (chap 5, Knochel, Jones and Langer), triorganozincates (chap 6, Harada and Oku), 1, n-bis-metallic reagents (chap 7, Marek and Normant), electrochemical generation of organozinc species (chap 8, Bichon, Gosmini, and Rollin), reactions of organozinc compounds with stoichiometric amount of metal salt (chap 9, Knochel, Jones, and Langer), transition metal catalyzed reaction (chap 10, Knochel, Jones, and Langer), palladium and nickel catalyzed reaction (chap 11, Negishi), asymmetric addition (chap 12, Soai and Shibata), cyclopropanation (chap 13, Charette), the Reformatsky reaction (chap 14, Fürstner), and the Barbier reaction in aqueous media using ultrasonic apparatus (chap 15, Luche and Sarandeseds). Each chapter con-

cludes with a series of detailed practical experimental sections. It is noteworthy that authors throughout the whole chapters present their own original work based on their own real experience. Therefore, all the experimental procedures are exhaustive and painstaking and all the equipments and materials are also indicated. The cautions about each procedure and data for toxicity are perfect. As a handbook for practical laboratory work using organozinc chemistry, the book is most convenient and beneficial. The authors concentrate on their own work according to the policy of the editor, so the examples cannot cover all the organozinc chemistry performed by others. The following claim might be proposed: Some important organozinc chemistry is missing in this book. But it is impossible to cover all practical work with one book, and editors really chose the key chemists for the individual topics as the authors. The editors try to diminish these problem by adding an appendix that is a compilation of organozinc reagents. The appendix is a list of the organozinc reagent with the original reference. There is also another appendix: the list of suppliers. The commercially available zinc is not pure in some cases; the impurity sometimes benefits the reactions. The only thing I feel that is unsatisfactory is the lack of a chapter of structural study. The editors have a strong interest in the synthetic use of organozinc reagents, so may feel the structural data are not necessary but some structural study has been very important recently to design new transformations. But the importance of this book for the researcher cannot be spoiled by the last claim. I am really convinced that this is one of the most important books for the chemists concerning OMCOS (Organometallic Chemistry directed to Organic Synthesis).

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Article Identifier:

1437-210X,E;2000,0,03,0477,0477,ftx,en;B10300SS.pdf