Journal of Organometallic Chemistry, 142 (1977) C42—C43

Book review

"Gmelin Handbook of Inorganic Chemistry", 8th Edition, New Supplement Series, Vol. 40, "Organotitanium Compounds, Part 1, Mononuclear Compounds 1", U. Thewalt, volume author, A. Slawisch, volume editor, 1977, vi + 212 pages, DM 481, $211.70; Vol. 41, "Organoiron Compounds, Part A, Ferrocene 6, Binuclear and Polynuclear Ferrocenes", H. Köttelwesch and U. Krüerke, volume authors, U. Krüerke and A. Slawisch, volume editors, 1977, vi + 316 pages, DM 642, $282.50, Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften, Springer Verlag, Berlin/Heidelberg/New York.

The already extensive Gmelin coverage of organometallic compounds is increased with the publication of the present two volumes which deal with aspects of organotitanium and organoiron chemistry.

Volume 40 is the first of a three-volume series devoted to organotitanium compounds. Included in this book are organotitanium compounds of type $RTiY_2$ and $RTiY_3$, R_2TiY and R_2TiY_2, R_3Ti and R_3TiY, and R_4Ti and their adducts with Lewis bases, as well as mono-π-allyl- and mono-π-cyclopentadienyltitanium compounds. Some organotitanium compounds whose existence is not secure, e.g., postulated intermediates in organotitanium-mediated nitrogen fixation, are included, but putative Ti-C bonded intermediates in Ziegler-Natta catalyst systems for olefin polymerization are not. Even with this exclusion, this volume contains many "compounds" which represent the vivid imagination of either an author trying to explain a mechanism or catalytic behavior or of a patent attorney trying not to miss a trick. However, these flights of fancy are identified as such, so the reader will not be misled.

Volume 41 concerns itself with di- and polynuclear ferrocenes, including biferrocene and its derivatives, alkyl-bridged ferrocenes, diferrocenes with heteroatom bridges and more complex polyferrocenes, including diferrocenylcarbonium ion salts.

As usual, the discussion of the topics included in

these books is exhaustive and up-to-date, with literature references complete through the end of 1975 and including some from 1976. For the compounds discussed we are given fully referenced details of preparative aspects, physical and spectroscopic properties, chemical reactivity, catalytic and other applications. An abundance of figures, especially in the ferrocene volume, greatly aids the reader.

The ferrocene volume has a useful formula index, but no index is provided in the titanium volume. Both books are written in German, but following the usual Gmelin practise, English translations of the preface, table of contents and chapter and section headings are given.

In view of the current interest in organotitanium compounds and intermediates in catalytic applications and in polyferrocene-based mixed valence complexes, these two new additions to the Gmelin organometallic series are timely and most welcome.

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