

Book reviews

Inorganic Reactions and Methods, Volume 1, The Formation of Bonds to Hydrogen (Part 1), ed. by J.J. Zuckerman, xxv + 326 pages, VCH Publishers Inc., ISBN 0-89753-251-3, Deerfield Beach, Florida, 1986, DM 275.

This book is the first volume of 17 devoted to a description of “all of inorganic reaction chemistry”. It uses the periodic system as a basis for organization, and consequently the series begins with the formation of bonds to hydrogen. There is an introductory section describing how to use the book, and this is clearly valuable. It is difficult to assess the whole series on the basis of one volume, which covers the formation of H–H, H–halogen, and H–chalcogen (including Te and Po) bonds. One immediately has reservations. The plan must surely place a considerable emphasis on covalent binding? How is multi-centred bonding to be dealt with?

Undoubtedly the complete work will provide a reference source of value. There are sets of references which will enable one to obtain recipes for particular compounds, so that for preparative purposes it could provide a valuable resource. However, the fact that the four final volumes will depart from the pattern of the other 13 in order to cover material (such as catalysis and ceramics) which does not fit easily into the general scheme suggests that the editors also have some reservations about the organization. The final verdict must await the publication of further volumes. In the meantime, the first volume holds some promise for the rest.

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Advances in Polymer Science, 81, Catalytic and Radical Polymerization, Springer-Verlag, Heidelberg and Berlin, 1986, ISBN-0-387-16754-4, DM 148.

This volume contains four reviews, processed by different editors, covering selected aspects of the title subject. The principal organometallic content is in the first two reviews, edited by G. Henrici-Olivé and S. Olivé, although neither is organometallic in its fundamental approach. The first review, by P.C. Barbé, G. Cecchin, and L. Noristi, treats the catalytic system Ti-complex/MgCl₂. It deals with the characteristics of MgCl₂, the effect of TiCl₄ upon the properties of MgCl₂, the influence of Lewis bases, and the co-catalyst, usually an aluminium alkyl. The result of changing conditions and components on polymerization activity is discussed in some detail, leaning heavily upon patent literature and other sources not always consulted by organometallic chemists. The review finishes with a survey of industrial applications. This is a useful review, valuable for background, without being of mainstream interest to organometallic chemists.