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Book review

"Diazoalkane", by M. Regitz, Georg Thieme Verlag, Stuttgart, 1977, vii + 339 pages, DM 148 (in German)

Diazoalkanes are very reactive reagents which find many applications in organic synthesis. However, they also are of interest to the organometallic chemist since they react with metal halides and metal hydrides to insert their methylene unit into the metal-halogen and metal-hydrogen linkages, with transition metal complexes to yield new products into which either the whole diazoalkane molecule or only its methylene portion has been incorporated, and with organofunctional organometallic compounds in standard "organic-type" reactions. Thus this well-written book, which presents a detailed and up-to-date discussion of the synthesis of diazoalkanes, will be of interest to organometallic as well as to organic chemists.

After three chapters devoted to the structure and the spectroscopic properties of diazoalkanes, their behavior on application of heat and their reactivity toward acids, the remainder of the book (eleven chapters, 242 pages out of 339 total) deals with the various synthetic methods which lead to diazoalkanes or by which one diazoalkane can be converted to another. Within the subject of diazoalkane interconversions, the synthesis and the utilization of metal-substituted diazoalkanes, $R_nMC(R')N_2$, is an important aspect. The discussion of all these subjects appears to be complete, and it is well organized, presenting the chemistry clearly with liberal use of equations and tables of examples. Mechanistic questions are discussed wherever this is appropriate, although the emphasis is on synthetic aspects.

In a sense, however, this is only half a book, since only the simplest reactions (thermolysis and protolysis) of diazoalkanes are covered. The fascinating chemistry of diazoalkanes and their important utilization in organic

synthesis are not among the subjects discussed. A chemist interested in diazoalkanes would want to have such information at hand as well, and a companion volume to the present one which is devoted to these topics would be most welcome.

The present book has a subject index but no author index. The latter deficiency is not a serious one since references are collected at the end of each chapter. Had this book been written in English, it would have reached the wider audience which it deserves.

Department of Chemistry
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139 (USA)

Dietmar Seyferth

Corrigendum

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In the article " π -Cyclohexadienyliron complexes bearing exocyclic double bonds"; by J.F. Helling and W.A. Hendrickson (pages 99–105) the statement that the NMR spectrum of η^5 -[(C₆H₄)=NPh]Mn(CO)₃ was not reported in ref. 8 is in error.