

Transition Metal Complexes — Structures and Spectra (Structure and Bonding. Volume 55); edited by M.J. Clarke, J.B. Goodenough, J.A. Ibers, C.K. Jørgensen, J.B. Neilands, D. Reinen, R. Weiss, and R.J.P. Williams, Springer-Verlag, Berlin/Heidelberg/New York/Tokyo 1983, 200 pages, DM 98.

The present volume in this established series contains four quite varied articles (authors, page numbers, and numbers of references are shown in parentheses): The Structure and Reactivity of Dioxygen Complexes of the Transition Metals (M.H. Gubelmann and A.F. Williams, 65 pages, 529 references); The Role of Vibronic Coupling in the Interpretation of Spectroscopic and Structural Properties of Biomolecules (M. Bacci, 33 pages, 169 references); Crystal Structure Non-Rigidity of Central Atoms for Mn^{II} , Fe^{II} , Fe^{III} , Co^{II} , Co^{III} , Ni^{II} , Cu^{II} and Zn^{II} Complexes (F. Valach, B. Koreň, P. Sivý, and M. Melník, 51 pages, 72 references); and Complexing Modes of the Phosphole Moiety (F. Mathey, J. Fischer, and J.H. Nelson, 49 pages, 116 references).

The book concludes with a cumulative author index with titles of the contributions to be found in the earlier volumes 1–55 (7 pages).

Readers of this journal will be primarily interested in the first and last of the chapters. That dealing with dioxygen complexes has very little organometallic content; however, it does have a section dealing with the reactions of dioxygen-metal complexes, including Mimoun's epoxidation of olefins in which a dioxo-metallacycle may be an intermediate.

The last chapter deals with phosphole complexes. The parent molecule of the ligand would correspond either to the phosphorus equivalent of pyrrole or, alternatively, of the amido ligand $NC_4H_4^-$. In practice, as far as the neutral ligand is concerned, the phosphorus atom invariably carries a substituent, often the phenyl group. The authors show that there is a large variety of ways in which either the neutral phosphole or the phosphorus-centred phosphido derivative may act as ligand. Accordingly, there is much interesting chemistry here and, obviously, it is written by experts in the field.

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Gmelin handbook of inorganic chemistry. 8th Edition. Sc, Y, La—Lu, Rare Earth Elements, Part C7: Sulfides, Oxide Sulfides, Alkali Thiometallates; by G. Czack, H. Hein, I. Hinz, H. Bergmann, and P. Kuhn; chief editor H. Bergmann. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, xxvi + 607 pages, DM 1926.

As the title indicates, there is little in this volume of direct interest to organometallic chemists. The bulk of the text is devoted to the description of SmS and EuS; hence, there is much more emphasis than is usual in these volumes on theoretical aspects such as ferromagnetism. The literature is covered to the end of 1982.

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