

Book review

The Organic Chemistry of Iron; Vol. 2; edited by E.A. Koerner von Gustorf, F.-W. Grevels and I. Fischler. Academic Press, New York etc., 1981, ix + 340 pages, \$ 39.00.

The present volume was conceived with Vol. 1 (1978; for review see this Journal, 174 (1979) C47) by the late Koerner von Gustorf and largely written before his death (in 1975). It contains four chapters reviewing topics in organoiron chemistry and the authors of three of these chapters have made significant efforts to bring the material up to date.

The two long chapters: by R.C. Kerber on Iron Complexes of Trienes, Tetraenes and Polyenes and by the late P. Chini on Compounds with Iron—Metal bonds and Clusters, are both excellent. Both authors have brought together a wealth of information and have organised their material in novel ways so as to bring out interesting correlations and emphasise areas requiring further study. Readers working in these fields will find much to stimulate them in these chapters. Kerber did not integrate recent material into his original account, but in a supplement provides at least comprehensive references through 1979 and thus the most up-to-date part of the book. One mildly annoying feature of his account is the frequent reference to compounds by number only making it necessary to search for structure diagrams on sometimes remote pages.

Chini covered the literature through 1977 with some references to 1978 papers. He divided his chapter into a relatively brief section on iron—main-group metal compounds and the main section devoted to iron—transition metal (incl. iron—iron) bonds. It is probably in the area of iron bonds to other transition metal compounds that most progress has been made in the last four years, but the chapter still provides a very sound and useful overview of the field.

R.B. King's brief chapter on arene complexes is not only out of date but incomplete even in the period covered. Thus while Alper's diaryl-thioketone complexes are given a paragraph as representative η^2 -arene complexes the longer-known and equally fully characterised nitrogen analogues (duly mentioned by Chini) are omitted. It also contains a self-contradictory paragraph about acidities (p. 165) and at least two incorrect structures (Nos. 4 and 26).

The final Chapter by L. Markó and B. Markó-Monostory is on Complexes with S-containing ligands and covers the literature through 1978. This is a timely review of a field not well treated elsewhere and covering, according to the authors, 1000 compounds. The main classes are well dealt with but in summarising the wide variety of perhaps more esoteric types the account becomes too terse; here, without structural diagrams and often with inaccurate nomenclature the reader would have to go to the original literature to discover what the compounds referred to, are.

Despite direct reproduction from typescript (which has kept the price relatively modest) the volume is attractively produced, largely as a result of the care with which formulae have been drawn throughout. It should prove valuable to many workers in the field, not least by providing 1600 references.

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JOURNAL OF ORGANOMETALLIC CHEMISTRY, VOL. 232, No. 2

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