

Book review

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"Gmelin Handbook of Inorganic Chemistry", 8th Edition, New Supplement Series, Vol. 36, "Organoiron Compounds", Part B, Section 1, "Mononuclear Compounds 1", U. Krüerke and A. Slawisch, volume editors, Gmelin Institut für Anorganische Chemie und Grenzgebiete der Max-Planck-Gesellschaft zur Förderung der Wissenschaften, Springer-Verlag, Berlin/Heidelberg/New York, 1976, vii + 209 pages, DM 431, \$ 176.80

The coverage of organoiron compounds by the Gmelin Institute is an ambitious undertaking in view of the great activity in this field since the first reports of ferrocene twenty-five years ago. The first volume of Part A, which deals with ferrocene and its derivatives, appeared in 1974 (for a review, see *J. Organometal. Chem.*, 80 (1974) C19). We now have the first volume of Part B, which will cover all other organoiron compounds.

The general organization of Part B of the Gmelin organoiron coverage follows that used in previous organometallic volumes. (The organization is described in the review of the organochromium volume, *J. Organometal. Chem.*, 34 (1972) C59). The present book deals with mononuclear iron compounds in which the organic ligand is bound to iron through one carbon atom only. Included are iron alkyl, aryl, and alkynyl derivatives, iron complexes with monocarbaborate ligands and iron carbonyl complexes which do not contain di- or higher haptic carbon ligands and which have up to three CO ligands. Within the chapter on iron monocarbonyl complexes there is a special section on (OC)Fe(II)-porphyrin complexes and related model compounds. By the rules established for the Gmelin organometallic series, cyanide, isocyanate and isothiocyanate derivatives are not included, although the first of these classes involves Fe-C bonds. Within each chapter there is further subdivision according to the nature of the other ligands present in the molecule. The remaining mononuclear organoiron compounds with one-carbon ligands (through iron pentacarbonyl) will be covered in the second volume of Part B which will provide a combined index for both volumes.

This book is up-to-date and thorough; the literature cut-off date is December 31, 1975, but some 1976 references are included. Everything known about a given compound is brought to the reader's attention: preparation, physical properties, stability, spectroscopic properties, electrochemistry, structure, chemical reactions and applications, all backed up with many references to the original and the review literature.

The present volume is bilingual - both German and English-language chapters are included. As usual, the "English-only" reader is assisted by English translations of the preface, the table of contents and of the chapter and section headings of those chapters written in German.

This volume is but the tip of the proverbial iceberg, as far as complete coverage of all known organoiron compounds is concerned. It will, nonetheless, be welcomed by organotransition metal chemists as the beginning of a thorough and well-organized treatment of the organic derivatives of iron.

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