

Book reviews

Gmelin Handbook of Inorganic Chemistry. 8th Edition, *Fe Organoiron Compounds, Part B12. Mononuclear Compounds 12*; by W. Petz and C. Siebert, volume authors, U. Krüerke and W. Petz, editors. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1984, ix + 341 pages, DM 1188. ISBN 3-540-93500-2.

The present volume is a continuation of Series B on mononuclear organoiron compounds covering the literature completely to the end of 1981, but including some references even for 1983. The compounds under consideration can formally be described as derivable from the well known anion $[\text{Fe}(\eta\text{-C}_5\text{H}_5)(\text{CO})_2]^-$ or $[\text{Fp}]^-$, some of which had already been discussed in the previous volume (B11).

The main headings in the present work are as follows, and in parentheses after each heading are indicated the number of pages relevant to that section. “ $\text{C}_5\text{H}_5\text{Fe}(\text{CO})_2\text{X}$ Compounds with Fe–E Bonds where E = Si, Ge, Sn, and Pb” (78 pages); “Compounds with Fe–E Bonds, where E = B, Al, Ga, and In” (11 pages); “ $\text{C}_5\text{H}_5\text{Fe}(\text{CO})_2\text{X}$ Compounds with Fe–E Bonds, where E = Mg” (1 page); “ $\text{C}_5\text{H}_5\text{Fe}(\text{CO})_2\text{X}$ Compounds with Fe–E Bonds, where E = Transition Metal” (14 pages); “ $^5\text{LFe}(\text{CO})_2\text{X}$ Compounds with ^5L Ligands Other than C_5H_5 ” (35 pages); “Compounds of the $[\text{LFe}(\text{CO})_2]^{2+}$ Cations” (60 pages); and “Compounds of the $\text{C}_5\text{H}_5\text{Fe}(\text{CO})_2^1\text{L}$ Type” (92 pages) (^2D represents a neutral and ^1L an anionic 2-electron donor.)

Other useful aspects of the work under review are the indices: one based on empirical formulae, and the second on ligand formulae. As for the latter, this is exemplified by indicating that for a compound of formula $[\text{FpX}]$ there are entries under both C_5H_5 and X.

The high quality that one has come to expect from this series is substantially in evidence. The work is very much more than a catalogue, and comments are appropriately critical, e.g., (from p. 80):

“No.	compound	properties and remarks	Ref.
*3	$\text{FpB}(\text{C}_6\text{H}_5)_2$	beige, m.p. 115° , characterized by an unreported IR spectrum prepared from $\text{Na}(\text{Fp})$ and $(\text{C}_6\text{H}_5)_2\text{BCl}$, no details”	[1,3] [22]

The implication of the asterisk, incidentally, is that further information on the compound is found later in the text.

In conclusion, this is a very valuable compilation in an important area of organometallic chemistry.