

*Gmelin Handbook of Inorganic Chemistry*. 8th Edition. *Cu — Organocopper Compounds. Part 2*. Springer-Verlag, Berlin etc., x + 247 pages, DM 870, ISBN 3-540-93490-1.

This volume (written by J. Faust and R. Froböse) is of direct interest to organometallic chemists, since it is devoted entirely to organocopper compounds, but it will also be of considerable value to organic chemists, since much of it deals with the use of the organocopper reagents in organic reactions. The compounds included are those which formally contain only one copper atom in the molecule, though it is pointed out that many of them may, in fact, be polynuclear species.

As would be expected, most of the space (206 out of the 247 pages) is taken up by  $R_2CuLi$  and  $RR'CuLi$  species, and most of the space within that section is concerned with reactions with organic substrates; reactions with other organometallic compounds occupy only a few pages. The other types dealt with are those formulated as  $R_2Cu$ ,  $RR'Cu$ ,  $[(R_3PCHR')_2Cu]Cl$ ,  $R_2CuMgX$ ,  $RR'CuMgX$ ,  $[Cu(dppe)_2][CuR_2]$ ,  $R_2CuAg$ ,  $R_2CuAu$ ,  $R_2CuZnI$ ,  $R_3CuLi_2$ ,  $R_2R'CuLi_2$ ,  $R_3CuMg$ ,  $R_2R'Cu(MgX)_2$ ,  $R_4CuLi_3$ ,  $R_5CuLi_4$ ,  $R_6CuLi_5$ ,  $R_nR'CuLi_n$  ( $n = 3-5$ ), but in some cases there are only a few examples of the type.

The account is admirably up-to-date. Thus the literature is completely covered to the end of 1981, and important references from 1982 and 1983 are included. One of the entries for 1983 deals with the compound  $[Cu(dppe)_2][Cu(C_6H_2Me_3-2,4,6)_2]$ , the first mononuclear organocuprate to be structurally characterized; unfortunately one of the very rare errors to be found in Gmelin volumes occurs in this entry, the  $[Cu(dppe)_2]$  being described as the anion and the  $[CuR_2]$  as the cation, whereas, of course, the opposite is the case. To my regret, the first structural characterization of an  $R_2CuLi$  species, within my own group, appeared too late to find a place in this admirable compilation.

All the Gmelin volumes are important, but this one will be especially welcomed in view of the considerable current interest in organocopper compounds. It is strongly recommended.

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*Gmelin Handbook of Inorganic Chemistry*. 8th Edition, *Sc, Y, La-Lu, Rare Earth Elements. Part D 6. Ion Exchange and Solvent Extraction Reactions. Organometallic Compounds*; by J.H. Forsberg, Y. Marcus, and T. Moeller, volume authors; T. Moeller, U. Krüerke, and E. Schleitzer-Rust, editors. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York/Tokyo, 1983, xii + 304 pages, DM 1012.

This is a most valuable and timely volume for those organometallic chemists with interests in the chemistry of the lanthanide elements and their precursors, scandium and yttrium, because the literature up to the end of 1981 is covered here in detail, with occasional references to 1982.

The volume is essentially in two parts. The first deals with ion exchange and solvent extraction reactions of these elements (136 pages). It is the second part which deals with organometallic compounds (150 pages). There is also an empirical formula index (13 pages) and a table (2 pages) of conversion factors for units of force; pressure; work, energy, and heat; and power, which have no obvious connection with the rest of the book (but have become a feature in recent Gmelin monographs).

In Part 2, much useful information is collected in tables. It would be difficult to find fault with the organometallic section, except possibly in an organisational sense. For example, one might have thought that the cyclopentadienyls of  $\text{Yb}^{\text{II}}$  could usefully have been considered together, but instead we find compounds having the  $\text{C}_5\text{H}_5^-$  ligand dealt with separately from others such as those containing  $\text{C}_5\text{Me}_5^-$  or  $\text{C}_5\text{H}_4\text{Me}^-$ , etc., irrespective of whether it is the oxidation state +3 or +2 which is under consideration.

The work, as is now the custom, is written in English and is attractively produced.

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*Gmelin Handbook of Inorganic Chemistry. 8th Edition, Mn—Manganese Part C10: Electronic Spectra of Manganese Halides. Cumulative Substance Index of C1 to C10; by G. Kirschstein and P. Kuhn; H. Katscher, chief editor. Gmelin Institut für Anorganische Chemie der Max-Planck-Gesellschaft zur Förderung der Wissenschaften and Springer-Verlag, Berlin/Heidelberg/New York, 1983, x + 396 pages, DM 1257.*

There is almost nothing in this volume of direct interest to organometallic chemists. The spectroscopic part (closing date for literature 1980) occupies the first 57 pages and the remainder is taken up by the Cumulative Substance Index for Volumes C1 to C10. It is perhaps, therefore, appropriate to indicate the titles for these: C1, Compounds (Hydrides. Oxides. Oxide Hydrates. Hydroxides); C2, Compounds (Oxomanganese Ions. Permanganic Acid. Compounds and Phases with Metals of the Main Groups and Subgroups I and II); C3, Compounds of Manganese with Oxygen and Metals of the Main and Sub-Groups III to VI. Compounds of Manganese with Nitrogen; C4, Compounds of Manganese with Fluorine; C5, Compounds of Manganese with Chlorine, Bromine, and Iodine; C6, Compounds of Manganese with Sulfur, Selenium, Tellurium, Polonium; C7, Compounds of Manganese with Boron and Carbon; C8, Compounds of Manganese with Silicon; and C9, Compounds with Phosphorus, Arsenic, Antimony.

This reviewer feels that even the inorganic chemist having a direct interest in some aspects of the chemistry covered in the Manganese C Series will not find the index particularly valuable.

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