

Book Review

Gmelins Handbuch der anorganischen Chemie. Ergänzungswerk zur 8. Auflage. Band 5. Kobalt-organische Verbindungen, Teil 1; Band 6. Kobalt-organische Verbindungen, Teil 2, Gmelin Institut für anorganische Chemie und Grenzgebiete in der Max Planck-Gesellschaft, A. Slawisch (Ed.), Verlag Chemie GmbH, Weinheim/Bergstrasse, 1973. Vol. 5, 527 pp., DM 696; Vol. 6, 243 pp., DM 329.

In a book review last year¹, we welcomed the first volume of a new Gmelin series on organometallic compounds. Two further volumes now have appeared, and both live up to the famous Gmelin tradition of excellence. Both volumes are devoted to the organometallic compounds of cobalt, Volume 5 to compounds containing only one cobalt atom, Volume 6 to compounds containing two or more cobalt atoms, whether or not they are connected directly or through other atoms.

The organization is explained clearly (in English as well as in German) in a preface by the editor, and once this is understood, these volumes are not difficult to use. This scheme was inaugurated in the first volume of this series and already has been discussed¹. In the first cobalt volume we find listed, *inter alia*, cobalt alkyls and aryls, including all of the organocobalt derivatives of corrinoids and related compounds, including the many derivatives of Vitamin B₁₂ model compounds; mononuclear cobalt carbonyl derivatives of diverse kinds; isonitrile (but not cyanide) derivatives; carbene complexes and acetylides; the few olefin complexes; π -allyls; π -cyclobutadiene, π -cyclopentadienyl and π -arene complexes; complexes containing carborane anions. In the second volume one finds listed and discussed dicobalt octacarbonyl and its many ligand substitution products; polynuclear neutral cobalt carbonyls and carbonyl anions; metal complexes containing two or more Co(CO)₄ or Co(CO)₃L substituents; cyclopentadienyl and other π -organic derivatives containing two or more cobalt atoms; acetylene complexes; the alkylidynetricobalt nonacarbonyls and other cluster complexes. The report concerning each compound is exhaustive: methods of preparation, physical, spectroscopic and chemical properties, structural information (with many figures), chemical transformations, catalytic properties and other applications. Not only are the more usual references to primary journal articles and patents given, but also very useful references to reviews and monographs, conference reports and theses. Every compound is winkled out, not matter where it may be hidden. In view of the industrial significance of dicobalt octacarbonyl and its derivatives, the coverage of catalytic properties is especially important.

Both volumes are remarkably up-to-date, covering the literature through 1971. But many references through the middle of 1972 can be found as well. It is a source of amazement to your reviewer that such relatively complicated books can be published so rapidly; this is a feat one would like to see other scientific publishers emulate!

Although these volumes are written in German, the information is presented clearly and should be readily assimilable by all. Marginal headings in English provide helpful guidance. A compound formula index and a ligand formula register are provided in each volume.

These volumes will be of immense assistance to anyone actively working in the organocobalt area and, even more so, to anyone intending to commence research in this field. They should be found on the shelves of every library serving a laboratory, institute or department where organometallic research is being pursued. We look forward to the appearance of further volumes of this series.

Department of Chemistry
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139
(U.S.A.)

DIETMAR SEYFERTH

1 *J. Organometal. Chem.*, 34 (1972) C 59.

Erratum

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The second part of Table 4 should read:

C-C ring distances

C(1)-C(2)	1.501(6)	C(5)-C(6)	1.399(6)
C(1)-C(8)	1.531(6)	C(6)-C(7)	1.472(6)
C(1)-C(10)	1.541(6)	C(7)-C(8)	1.521(5)
C(2)-C(3)	1.385(6)	C(8)-C(9)	1.534(6)
C(3)-C(4)	1.436(6)	C(9)-C(10)	1.525(7)
C(4)-C(5)	1.403(6)		

C-H distances

C(1)-H(1)	0.86(4)	C(7)-H(7)	0.95(3)
C(2)-H(2)	0.97(3)	C(8)-H(8)	0.98(3)
C(3)-H(3)	0.88(4)	C(9)-H(9,1)	0.88(4)
C(4)-H(4)	0.89(4)	C(9)-H(9,2)	0.89(4)
C(5)-H(5)	0.91(4)	C(10)-H(10,1)	1.00(4)
C(6)-H(6)	0.93(4)	C(10)-H(10,2)	0.98(5)
		av C-H	0.93(5)
