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Book reviews

Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Au, Compounds with Br, I, S, Se, Te, Po, B, and C, Supplement volume B2
Springer, Berlin and Heidelberg, 1994, 367 + xx pages
DM-2290 ISBN 3-540-93694-7

This present volume does not deal with organometallic compounds as normally defined. Nevertheless, it presents background material which will be of value to chemists of many persuasions, from solid state to classical inorganic. Compounds of gold and carbon occupy about 30% of the content, and form the largest section of the book. Literature coverage is at least until the end of 1992.

There is no gold carbide, but the several gold carbonyls are considered, as well as their reactions with, for example, phosphanes. Gold cyanides and thiocyanates are also presented in the usual exhaustive Gmelin manner, though the emphasis is on physical properties. The ion $[Au(CN)_2]^-$ alone merits some 36 pages.

This is a valuable source book for anyone requiring basic information. There is no index of the usual Gmelin kind, though this is hardly necessary, since everything is easily accessible from the Table of Contents, and the number of compounds dealt with is relatively small. I hope that libraries will continue to support this series, even the issues of less specialised appeal such as this. Many people still find browsing through a handsomely presented volume more satisfactory than computer scanning.

Gmelin Handbook of Inorganic and Organometallic Chemistry, 8th Edition, Mo, Organomolybdenum Compounds, Part 12
Springer, Berlin and Heidelberg, 1994, 333 + xii pages
DM-2068 ISBN 3-540-93692-0

Somewhat mysteriously, the preface to this volume, which is volume 12, states that it is the sixth in a series dealing with organomolybdenum compounds. This particular volume deals with compounds containing what are designated ^{5}L ligands using the usual Gmelin notation. This means ligands bonded to the metal by five carbon atoms. The relatively short volume deals with compounds containing ^{5}L ligands plus three or four carbonyls, and then continues with mononuclear compounds containing two such ^{5}L ligands.

In fact, only six pages of the text deal with compounds containing a single ^{5}L group. The rest of the book discusses compounds which contain two such groups. The treatment is in the classical Gmelin style, concentrating on preparation, properties, structure, and reactions. What one will not find is a critical discussion of the compounds presented, as one might expect in a good review. Although it was not the intention to provide such material, the producers have allowed themselves to make useful comments in the occasional sections labelled "General Remarks".

Much of the data is presented in tabular form, and the indispensable "Empirical Formula Index" actually contains both an empirical formula index and a more easily recognisable semi-structural line-formula index. It is tempting, but probably unwise, to regard this book as a primary source. Nevertheless, with the essentially complete literature coverage, it will prove invaluable to researchers. It is difficult to find new ways of commending these unique compendia to the chemical public.

Gmelin Handbook of Inorganic and Organometallic Chemistry. 8th Edition, Re, Organorhenium Compounds, Part 5
Springer, Berlin and Heidelberg, 1994, 542 + xii pages
DM-3200 ISBN 3-540-93695-5

Rhenium is the last element in the Gmelin system, apart from the trans-uranium elements. Consequently, all the compounds containing rhenium will be listed under this element, making for a very bulky production, even more surprising granted that rhenium is a relatively rare element. The volume discusses compounds considered dinuclear on the Gmelin system, that is they contain two rhenium atoms. Other metal atoms which may be present in, say, a cluster are ignored for the purposes of this classification. It concentrates on com-

pounds containing at least one carbon-atom ligand, be it alkyl, aryl, or carbonyl, and the literature has been covered at least to the end of 1993.

The presentation of data follows the usual pattern, though in this case, with a larger collection of data, there are now three indices. The Empirical Formula Index, which also contains line formulae, and a Ligand Formula Index, should enable the reader to track down any particular complex with relative ease. The latter lists the compounds as a function of the ligands they contain, and seems particularly useful, because it also shows those compounds that have a ligand in common. Finally, and presumably in an attempt to overcome problems that may arise from the rather idiosyncratic Gmelin definition of nuclearity, there is a short list of those compounds which contain metal atoms other than the two rhenium atoms that qualify the compound for inclusion in this volume. The only complication is that these additional metal atoms include further rhenium atoms, as in, say, a trinuclear or tetranuclear rhenium complex. Such materials will also presumably be considered elsewhere.

The test of a compendium such as this is whether it is easy to use. As usual, the answer must be an emphatic "yes". It is a pleasure to browse through, and to handle. It will invaluable to workers in the area for many years to come.

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