

Book review

Comprehensive Organometallic Chemistry II

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Elsevier Science, Oxford, 1995

14 vols, 9163 pages. £2795.00

ISBN 0-08-0406084

The appearance of *Comprehensive Organometallic Chemistry* in 1982 (Pergamon) was a landmark in the history of organometallic chemistry. Its nine volumes of text provided a unique coverage of the state of organometallic chemistry during its heroic age of the middle years of this century. Indeed, as the Editors (Edward Abel, Gordon Stone and Geoffrey Wilkinson) wrote in 1982, 'Organometallic Chemistry has become a mature area, which will obviously continue to grow', and on that basis they 'assembled a compendium of knowledge covering contemporary organometallic and carbon monoxide chemistry' and concentrating especially on the years from 1955 to 1980. The 1982 edition included six volumes on, essentially, an element-by-element basis, two volumes dedicated to organic synthesis and catalysis and one volume dedicated to the indexes (subject, formula, author, structure and textual). So how has the subject fared in the years since 1982? Has it matured into the stagnation of old age or, as the editors suggested in 1982, did it continue to grow, and if so, in what way? We start from the point that the first edition in 1982 cited over 30 000 authors and 40 000 references in its eight volumes, of 9369 pages and 114 author-contributions. Clearly though, the 1982 edition could not cover topics like fullerenes, η -hydrogen complexes or organomercury hydrides, to name but a few. There have, needless to say, been many important developments in the last decade or so. The main expansion and focus in *COMC II* has in fact come mainly in the area of the use of organometallics in metal-mediated organic synthesis. In addition the huge editorial task has been developed, with editors for each volume overseeing the context of that volume.

Comprehensive Organometallic Chemistry II weighs in at 14 volumes, 9163 pages and 171 author-contributions, so the subject has certainly developed. It is however important to realize that the strategy is *not* for *II* to replace *I*. The new edition is intended as an update of *I*, building upon and using material in *I*. So readers will *not* be able to sell *I* to defray the cost of *II*! The development of the editorial role does not seem to have led to any fragmentation of the work, the plan and style of *II* being based on *I*. It is clear that the strategic decision to concentrate on recent research in *II* affects the use of this work. Take, for convenience, the chapter on beryllium: *all* of the references except one are post-1980. This trend is general, although authors are diversified in how, or if, they refer to

the Jurassic Park (pre-1980) age of organometallic chemistry.

In Chapter 1 on the alkali metals, for example, the authors do selectively cite some earlier references. For instance, they give references to the structure of tetrameric $(\text{LiMe})_4$, although they do not illustrate it; if you are starting from scratch, you need the first edition for the details. In the interests of manageability and logistics, the indexes referring to each volume are given in that volume, but there are cumulative indexes in Volume 14.

Clearly *COMC II* serves a different purpose from *COMC I*. It constituted (and still does at many levels) a full repository of information about the basic features of organometallic chemistry. If you are using the series as a teaching resource, then frequent reference to equivalent sections of *I* and *II* will probably be necessary. As a research resource, and bearing in mind that such use here will be by specialists, then the updating information in *II* alone will normally be sufficient.

There is always room for special pleading; *COMC II*, unlike *I*, has no dedicated environmental chapter. As the author of that chapter in *I*, this Reviewer obviously has a particular viewpoint, but I think some chemists will regret that the important analytical, synthetic and biogeochemical aspects of organometallic chemistry in the last few years have not been separately summarized. Be that as it may, this omission will not deflect the work from its main application by the great majority of the organometallic community: it stands as a magnificent compilation and a tribute to the authors and to the fraternity of organometallic researchers.

Yes, all laboratories with organometallic research groups must possess this essential resource. The price works out at just under £200 per volume. Clearly the series as a whole will be out of the reach of many smaller, but still active, organometallic groups, although an early purchase discount was available. The larger groups will, of course, acquire it. One wonders about the commercial viability of releasing *COMC II* on to the market to individual purchasers on a single-volume basis? Perhaps this is a possibility still to emerge.

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