

It is perhaps well to end on a note of caution. While NMR is by now of the very greatest importance in structural studies of paramagnetic metalloproteins, the authors of several chapters stress that in this field NMR cannot stand by itself, and must always be used in conjunction with information from other spectroscopic studies, or from X-ray crystallography, or both.

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Organometallic Chemistry, Volume 14. E.W. Abel and F.G.A. Stone (Senior Reporters). The Royal Society of Chemistry, London, £96.00. ISBN 0-851186-621-2, ISSN 0305-0074.

This is the latest volume in the well-known series of annual reviews of the literature of organometallic chemistry. It covers the year 1984, and follows largely the pattern established by that of its preceding volume, both in its organisation and in the manner of its presentation. Thus, the manuscripts are reproduced by a direct photographic process. As pointed out in my review of Volume 13, this inevitably leads to certain inconsistencies between chapters, and also occasionally to errors, which might have been corrected had authors had proofs available to them.

A new author is Dr. M.J. Winter, who writes on complexes containing metal-carbon σ -bonds for the transition elements of groups 3-7, including carbene and carbyne complexes. This contribution replaces a similar one in Volume 13 by Karel and Watson. The chapter on compounds of biological interest, by B. Ridge, which appeared in Volume 13, has no counterpart in the present text.

The presentation of formulae and reaction diagrams is clear but, in several instances, space for this purpose is used uneconomically. For example, p.34 contains just five relatively simple formulae of complexes having either a 5- or a 6-membered ring.

Readers will be familiar with some of the limitations of this undertaking which follow from the need to present the whole of a year's organometallic chemistry in approximately 500 pages. As an illustration of the concentration of material, one might refer to Chapter 6 by D.A. Armitage where, for the silicon group, there are 1010 references and the material is covered in 35 pages (excluding the bibliography).

Chapter 16, once again, has a very useful compilation of structures of organometallic compounds, as determined by diffraction methods, by D.R. Russell. This includes results on 1565 compounds, stemming from 1207 references. The most frequently occurring element is silicon (181 compounds), with Fe (173), Rh (133), W (125), and Ru (111) as the next most studied.

Undoubtedly, the present volume will be much used. It is unfortunate that not even an Author Index is provided.

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