

Like its predecessors in this series, this book is attractively printed and relatively error free. References are extensive into 1984 with a few from 1985. This is an extremely timely volume in an important and developing field. It is also an area which has been the subject of special initiatives by several major grant-awarding bodies and industrial concerns. This book may be warmly recommended to anyone working in the field or to anyone wishing to enter it.

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Organotransition Metal Chemistry; Fundamental Concepts and Applications, by A. Yamamoto, Wiley-Interscience, New York, 1986, xvi + 455 pages, UK £38.45, ISBN 0-471-89171-1.

The publication of a new text book is likely to be an important event for the teaching of any subject, and this is particularly the case in organometallic chemistry in which texts appropriate to beginners have been sparse. The utility and importance of organometallic chemistry has for some time not been reflected in its place in most student curricula, and this imbalance is long overdue for redress. Yamamoto's text is very readable, and although he is careful to say that it is not comprehensive, most important areas are covered. It should make a useful contribution to the teaching of the subject.

After a brief introduction, Chapters 2 and 3 deal respectively with fundamental coordination chemistry and bonding in transition metal organometallics. Chapter 4 gives a systematic survey of syntheses of transition metal complexes. Chapter 5 describes a range of experimental techniques useful to the organometallic chemist, illustrating particularly well Schlenck apparatus for handling air-sensitive materials. NMR spectra are also discussed, both as a means of characterisation and for the study of fluxional processes.

Fundamental processes in reactions of complexes described in Chapter 6 include ligand coordination and dissociation, oxidative addition and reductive elimination, insertion, β -hydride elimination and reactions of coordinated ligands. Chapter 7 discusses applications of transition metal complexes in homogeneous catalysis. The division between this and the following section on uses in organic synthesis seems to be a somewhat arbitrary one. Most areas of current significance are discussed with the curious exception of alkene metathesis. The final chapter deals with special topics, including organometallics in bioinorganic chemistry, supported catalysts and cluster catalysis.

This present volume makes no attempt to deal with organometallic compounds of the main group elements, and this may make it less attractive to lecturers aiming to give a comprehensive course. This would be a pity, since this is an excellent book, written in a readable style, at a suitable level to be used for teaching. An appropriate rather than an overwhelming number of up-to-date references are given, and the index makes the material very accessible. The book is well produced and errors are infrequent, which is particularly commendable in a work which has been translated. The diagrams, which I presume to be the author's own work, have sometimes been

reduced in size to an excessive degree, and some pages can boast three or four type faces or letter sizes, but this is a minor point. This work should certainly be purchased by all departmental libraries, but in the cloth-bound form is perhaps a little expensive for student finances. A paper-bound version at a lower cost, should, however, both merit and be assured of a wide readership.

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