

Book reviews

Macromolecule–Metal Complexes, E. Ciardelli, E. Tsuchida and D. Wöhrle (eds.), Springer, Berlin, Heidelberg and New York, 1996, pp. 318 + xviii, DM 198, ISBN 3-540-59383-7

This book attempts, for the first time, to provide an integrated coverage of the chemistry and applications of macromolecular metal complexes (MMC). To this end the editors have assembled a series of articles by distinguished practitioners of the art, with the remit of describing their chosen fields in relatively general terms, but deeply enough to stimulate those who might wish to take the subject further. In this one can only wish them well.

With a series of conferences devoted to the subject, and now a defining volume, one might not ponder whether there really is a discipline such as MMC. However, what is specific about MMC that requires such special treatment? This book goes some way to answering this question. There are properties of MMC that appear specific to the combined metal ion plus macromolecule that are not apparent if either partner is absent. The book begins with a chapter on classification which makes just this point, using well known examples such as haemoglobin and the allosteric effect in dioxygen binding. It then considers the synthesis and structure of MMC in a review of considerable length with 654 references. MMC are classified into three groups, depending upon how the metal ion is combined with the macromolecule, in the side chain of a polymer, as part of the polymer chain, or by 'physical' interaction as a result of impregnation, vapour deposition, etc. Although there is little new, it is certainly of value to have all this material collated in one place.

The short third section deals with polymer-metal ion complexes in living systems and is necessarily rather superficial, though it provides a good basis for an introduction to the subject. In contrast, the fourth section is again a considerable review of electronic processes in MMC with special emphasis on porphyrins and dioxygen coordination, and concluding with a dis-

cussion of catalysis and of multi-electron transfer. This section contains 348 references.

The last section concerns photo-induced electron transport, and this is an extension of the previous section. It appealed to me as an ingénue in the area, though I cannot judge the depth. It seems to be a good introduction to the area.

The editors claim that the study of MMC has reached "the scientific standard of an interdisciplinary and mature science". It is clearly interdisciplinary, and the sciences from which it stems are generally mature. Whether that makes MMC a mature science I very much doubt. There seems little that is specifically due to the nature of MMC. However, MMC is an area of large and growing interest, and this book does indeed provide a useful and readable introduction to the subject.

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PII S0022-328X(96)06448-0

Stereoselective Synthesis, Robert S. Atkinson, John Wiley, Chichester, 1995, pp. 529 + xii, £29.95 (paperback), ISBN 0 471 95419 5

A major contribution of organometallic chemistry to organic synthesis has been the development of novel stereoselective synthetic methodology. The importance of synthesizing pharmaceutical products as single enantiomers has given added impetus to this work. This book is a timely summary of these efforts. A problem involved in the presentation of this work is to find a simple classification of the methods that have been developed in such a way that it affords an insight into their potential application. This book develops a unique classification of stereoselective reactions which is based on the number of chiral centres that are created in the