

Book reviews

Oxygen complexes and oxygen activation by transition metals, edited by A.E. Martell and D.T. Sawyer, ISBN 0-306-42789-3, Plenum Press, N.Y., 1988, pp. 341 + IX, US\$62.50.

This book represents the proceedings (lectures and poster abstracts) of a symposium held at Texas A&M University, U.S.A., in March 1987. The reviewer approached this book with a question. If not for drinking wine, a symposium is for discussion and interaction, to exchange ideas and to learn. It is not to present finished data, which should find their way into the more orthodox literature. What can there be in the proceedings of most symposia, that are essentially temporary conjunctions of individuals, which merits semi-permanent recording and presentation in a book? The reviewer was only in part reassured with this particular symposium.

There are eighteen invited lectures from distinguished chemists recorded here. These present a useful summary of knowledge of the bonding of dioxygen to transition metals, starting with a theoretical discussion and finishing with a review of dioxygen separation techniques using metal complexes. Replete with references, this is a valuable collection of information, mostly available elsewhere, but not so easily accessible as in this single volume. The next section is about dioxygen activation by transition metals. Dioxygen activation is, of course, not a problem, rather it is controlled activation, as observed in biology. The subject matter deals with this, and then moves on to catalytic oxidations of organic and inorganic materials, and heterogeneous oxidations on metals, metal oxides, and zeolites. Each of the reviews has value in itself, but taken as a group, they are somewhat less than satisfactory, since they cannot cover adequately the enormous area under discussion.

The final, short section of the book presents the poster abstracts. These data should appear elsewhere in full, and though readers are invited to approach senior authors to elicit further information, few are likely to do so. This is the least satisfactory part of the book, and could have been dispensed with.

In summary, this volume is part excellent, part useful, part of doubtful value, worth consulting if not buying for one's own collection, and the organometallic content not very great (more of general coordination chemistry). In the reviewer's opinion, symposium organizers who wish to publish the proceedings should ensure that the contributions are complete and integrated, so that their value is lasting rather than merely passing. This book only partly fulfils that requirement.