

Supported Metal Complexes; A New Generation of Catalysts; by F.R. Hartley, D. Reidel Publishing Company, 1985, xv + 318 pages, £ 45.75, ISBN 90-277-1855-5.

This volume is a further contribution to the series on specific topics in Catalysis by Metal Complexes. As noted by the author the 1970's represented a period of intense activity in this field, with almost every homogeneous catalyst studied generating an additional publication for its inventors by being immobilised on a polymer support. Much of this early work produced little more than a less active version of the original catalyst. There were, however, sufficient interesting results to justify more careful design of catalysts and it is in such developments that most of the justification for this book lies.

The first half of this work deals with the support for the catalyst, with chapters devoted to preparation and functionalisation of supports, introduction of metals and characterisation of the supported catalyst. I found these sections extremely valuable, particularly as the material is not readily accessible elsewhere outside the polymer literature. The treatment is particularly clear, a considerable advantage to organometallic chemists who frequently approach this area from a different perspective. The second half of the book deals with specific reaction types catalysed by supported metal complexes. As one might expect, there are long chapters dealing with hydrogenation, carbon monoxide reactions, and carbon-carbon bond forming processes, with shorter accounts of hydrosilylation, oxidation and hydrolysis. In a book of this length it is not possible or desirable to give comprehensive coverage of all known reactions, but the important areas and recent work are well-covered. The final chapter is entitled "Conclusions and Future Possibilities" and focuses particularly on polymers with more than one supported metal species, enhancement of activity and selectivity, and on the use of more mechanically durable supports.

Like the others in the series this volume is well produced and attractively presented. My only marginal criticism in this respect would be of the diagrams; the non-standardisation of the size and layout is occasionally somewhat distracting. There are over 1600 well-chosen references, running well into 1983, and a good index. This is one of the first texts to deal with this significant and growing area in metal catalysed reactions. Not only does it fill a useful niche, but it fills it well, and can be thoroughly recommended both as an introduction and as a handbook for anyone working in this important field.

*School of Chemistry and Molecular Sciences,
University of Sussex, Brighton BN1 9QJ (Great Britain)*

PENNY A. CHALONER