

## Book Reviews

*Iron Compounds in Organic Synthesis* A.J. Pearson,  
Academic Press, London 1994, £35 ISBN 3-540-93681-5

This volume is very welcome and contains a long overdue account of the use of organoiron complexes in organic synthesis. The author is an acknowledged authority in the area and has presented a detailed up-to-date (to 1992) survey of what is now a potent weapon in the armoury of the synthetic chemist. The contents are arranged in order of increasing ligand hapticity and contain a wealth of information on experimental details, including some from the author's personal experiences in handling the more labile reagents. The account is laced throughout with interesting applications to natural product synthesis, and particular attention is paid to regio- and stereospecificity of the organoiron reagents. It should prove an invaluable laboratory guide not only for organometallic chemists but also for natural product chemists seeking novel synthons in synthetic strategies. My only reservation is that some recent key reviews are not mentioned in the section on arene-iron complexes. It is a pity that new microwave techniques for the synthesis of the latter appeared too late for incorporation into this excellent practical guide to organoiron chemistry.

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*The Chemistry of the Copper and Zinc Triads*  
A.J. Welch and S.K. Chapman (eds.) Royal Society of  
Chemistry, Cambridge, 1993, 260 pages £47.50  
ISBN 0-85186-715-4

This book presents the proceedings of the First International Conference on the Chemistry of the Copper and Zinc Triads, held in Edinburgh in 1992. Three

main themes were recognised for the conference, viz. Environmental Chemistry, Organometallic and Coordination Chemistry, and Biological and Medicinal Chemistry. Because of the overlap between the themes the book itself is not sectionalized, but there is a concentration on biological and environmental aspects in the first 80 pages or so.

The very wide scope of the accounts can be illustrated by the following small selection from the 41 titles: electronic structures of active sites in copper proteins: blue copper sites; bacterial plasmid resistance to copper, cadmium and zinc; metallothionein genes from *synechococcus* PCC6301 and PCC7942; the analysis and speciation of mercury compounds in the natural environment; disilver(I) complexes of pendant-arm macrocycle; mixed-metal cluster complexes containing osmium and gold; a new algorithm and parameters for field force calculations of copper(II) complexes. The lengths of the articles range from 4 to 23 pages.

Some of the longer more general reviews are likely to be of particular value, such as 'The copper and zinc triads in biology', by R.J.P. Williams; 'The analysis and speciation of mercury compounds in the natural environment' by P.J. Craig and his colleagues; 'Recent developments in the cluster chemistry of gold' by D.M.P. Mingos; and 'Clusters of clusters: coining coinage metal clusters' by B.K. Teo and his colleagues. I also found of special interest a paper by A.J. Welch and his colleagues describing MEHMO calculations for predicting the most likely positions of hydride ligands in complexes of the copper triad and other systems when these cannot be determined experimentally.

The volume gives a good idea of the present scope of the chemistry of the copper and zinc triads and of the directions in which it is developing. It represents good value as book prices go these days.

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