inorganic compounds and starting materials, organolanthanide compounds, actinide elements and their compounds, and organoactinide complexes. There are numerous references (including some from as late as 1996 and a few to unpublished work), as well as tables of data obtained during the characterisation of the various compounds. There are also points about safe working practice and many diagrams showing how the equipment needed for syntheses can be assembled. The book therefore provides welcome information to supplement that in the original research papers. Inevitably in a book of this kind with contributions from a large number of authors there is some inconsistency in the information provided from compound to compound. Data required to check the identity or purity of a product are given for most compounds and these seem to be entirely appropriate in a book on preparative chemistry. It is less clear why, in some cases, crystal data, bond lengths and angles are included since the significance of these is apparent only in a context which extends well beyond that of synthetic methods.

This will be an extremely useful book which will save many hours of searching in the literature. It will provide authoritative procedures and a huge amount of essential information for those working on the syntheses and properties of lanthanide and actinide compounds.

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Palladium Reagents and Catalysis; Innovations in Organic Synthesis, by Jiro Tsuji, John Wiley and Sons, Chichester, UK 1995, reprinted with corrections 1996, xiv + 560 pages, paperback, £40.00 ISBN 0 471 972029.

In terms of its uses in organic synthesis, one could easily say that palladium has been one of the key elements of the last two decades. The story begins with the use of the Wacker reaction to convert terminal alkenes to methyl ketones, continues with palladium catalysed substitution of aryl and vinyl halides, and of allylic derivatives, to the more recent cascade processes and cycloisomerisations. A quick glance at any recent issue of the Journal of the American Chemical Society will assure the reader that developments are not over; well-known processes are seen in new contexts, but there are also ever-more ornate construction reactions involving palladium complex catalysed processes. The author of this work has made a major contribution to the development of this field and this book is his second overview – an unrecognisable transformation of its 1980 predecessor.

The book is well-organised and the material categorised in a helpful way. Stoichiometric and catalytic reactions are separated, but the chapter on catalytic processes would have benefited from being split up. The final chapter also deals with catalytic processes, and is difficult to see why this group were separated. The referencing is comprehensive; there are over 2400 references in the work. The cut off date seems to be late 1993 with a few references from 1994. Given the speed at which the field is moving, this is unfortunate; there have been some exciting recent developments which are omitted, particularly in the area of cascade reactions. However, built-in obsolescence is probably inevitable in this area.

The book is generally well produced with many and clear diagrams. I found few typographic errors, but some of the writing is dense and hard work. This is definitely not an easy read, and some more aggressive editing would have been welcome. The index could be better; there are many entries for specific compounds, (citral, dopamine khellin pumiliotoxin), but none for "asymmetric", "enantioselective", "deallylation" or "cycloisomerisation".

Overall, this is a very useful book, and has high information content for its modest cost. It should be essential reading for anyone working in the field, but with the exciting developments currently taking place, it may have a limited shelf life.

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