Handbook of coordination catalysis in organic chemistry; by P.A. Chaloner, Butterworths, London, 1986, 1002 pages, ISBN 0-408-10776-6, £45.00.

This large reference book (over 1000 pages and 3400 references) may well become the definitive source for all practising organic chemists who use organotransition metal catalysts. It has successfully reviewed the most important selective reactions and highlighted their growing importance in organic synthesis. The text is well written and amply illustrated with clear structural diagrams. Separate chapters deal with the more important general types of reaction, and pertinent mechanistic information is presented where the reaction pathway has been established. There are separate chapters on hydrogenation, oxidation, metathesis, and isomerisation, in addition to surveys of reactions of carbon monoxide, the formation of carbon–carbon bonds, and additions to carbon–carbon multiple bonds. In each chapter many examples are given of a particular reaction type, providing good coverage of the literature up to 1984.

The book does not aim to be comprehensive, but there are some minor omissions such as the recent elucidation of the mechanism of alkene hydrocyanation and the important application of the ring opening metathetical polymerisation reaction to the synthesis of poly(acetylene). However the book is realistically priced and will prove an invaluable addition to all self-respecting chemistry libraries. Indeed, I believe that the publisher should contemplate publication of a soft-back version — say at around £15 to £20 — as most of the current texts which deal with organotransition metal chemistry are both inferior in coverage and lack the attention to mechanism given in this book.

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