

Book reviews

The Chemistry of the Carbon—Carbon Triple Bond, edited by S. Patai, Wiley-Interscience, Chichester, New York, Brisbane and Toronto, 1978, 1065 pages (in two parts), £70.00

This latest volume in the well known series on "The Chemistry of Functional Groups" edited by Professor Patai contains much material of direct interest to organometallic chemists. Thus as part of a chapter by A.C. Hopkinson on "Acidity, hydrogen bonding and complex formation", 30 pages (with about 250 references) are devoted to a concise account of alkyne complexes of transition metals and reactions of alkynes with or catalysed by transition metals (e.g. oligomerization, formation of cyclobutadienyl ligands, metallo-ring complexes, vinyl complexes and alkoxy-carbene complexes; it provides a good guide to the literature up to and including 1976. A chapter by P.F. Hudrlik and A.M. Hudrlik on "Applications of acetylenes in organic synthesis" includes almost 50 pages (with approximately 500 references) devoted to the use of alkenyl derivatives of boron, aluminium, silicon, tin, zirconium, copper and mercury, formed from alkynes mainly by hydro- or carbo-metallation. A chapter by J. Klein (47 pages, 121 references) provides a thorough and authoritative review of propargylic metallation, while a chapter by W.D. Huntsman (57 pages, 284 references) on "Synthetic acyclic poly-acetylenes" naturally devotes a good deal of space to use of lithium, magnesium and copper derivatives and of silyl protection. This last topic is also dealt with specifically in a chapter by D.A. Ben-Efraim on "The preparation of acetylenes and their protection" (58 pages, 262 references). There is, of course, much additional material of general background relevance to organometallic chemists.

This is a worthy addition to this valuable reference series, and in view of its quality and the importance of acetylenes to a large proportion of organic and organometallic chemists it will be in much demand in libraries.

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The Sadtler Handbook of Infrared Spectra, edited by W.W. Simons, Heyden and Son, Ltd, London, 1978, £98.

This book is an abridged edition of the Sadtler Standard Spectra, IR Grating, and provides a reference collection of IR spectra of approximately 3000 organic compounds arranged in chemical classes. Spectra of some organosilicon and organophosphorus compounds are included.

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