Gmelin Handbook of Inorganic Chemistry. Sb. Organoantimony Compounds. Part 4. Compounds of Pentavalent Antimony with Three Sb–C Bonds. Springer, Berlin etc., 1986, xii + 250 pages. DM 1173.00 ISBN 3-540-93535-5.

The Gmelin Institute is now well into its programme of presenting comprehensive accounts of organometallic compounds over the whole range of the Periodic Table, and the volumes will make an important contribution to the further development of organometallic chemistry.

The number of organoantimony compounds now exceeds 3000. This fourth volume on such compounds is concerned with species of the types R_3SbX_2 and $R_3Sb{=}X$, where R denotes an organic group linked to antimony through carbon, and X denotes any group, inorganic or organic, linked to the antimony through an element other than carbon. The X atoms may be part of a ring system. For each compound the methods of preparation, reactions, and physical properties (including crystal structures where relevant) are outlined.

This survey, by M. Wieber, well maintains the standard of this fine series. A minor defect of the series is that the English sometimes leaves much to be desired. The overall standard in this volume is reasonably good, but there are minor irritations, which a few hours' editing by a British chemist could have removed; for example the form 'A is dropped into B' is regularly used, where what is meant is 'A is added dropwise to B'; the distinction is important, and a practising chemist failing to appreciate it could end up in disaster.

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Organic Syntheses by Oxidation with Metal Compounds, edited by W.J. Mijs and C.R.H.I. de Jonge, Plenum Press, 1986, xxv + 908 pages, US$115.00 (20% higher outside North America), ISBN 0-306-41999-8.

The collection of reviews in this volume provides an extremely thorough account of the synthetic aspects of oxidations using metal compounds both as stoicheiometric reagents and catalysts. Within each chapter the organisation is according to the type of substrate oxidised, clearly indicating that the book is intended primarily for the organic chemist, seeking to perform a particular transformation.

Chapter 1 (F. Freeman, 39 pages) details oxidation by vanadium compounds, considering both stoicheiometric reactions and the interesting vanadium catalysed epoxidations of allylic alcohols. The chapter opens with the statement that IUPAC recommends the use of Va(V) for vanadium(V). Not only is this not strictly true, since it is only offered as an option, but is sits ill in a chapter in which, to give but two examples, "benzeneamine" and "aniline" and "ethanoic" and "acetic" acids are used apparently at random. Chapter 2 (F. Freeman, 77 pages) considers oxochromium(VI) reagents, mostly of the type in which chromium(III) oxide has been combined with an organic nitrogen base. It is very useful in directing the synthetic chemist towards the appropriate choice among a range of apparently rather similar reagents. Chapters 3 (A.J. Fatiadi, 141 pages) and 4 (W.J. de Klein, 53