Book Review

Bor in Biologie, Medizin und Pharmazie; by W. Kliegel, Springer-Verlag, Berlin — Heidelberg — New York, 1980, x + 900 pages, D.M. 285.

As will be evident from the title this book will be of limited interest to readers of this Journal. It is a massive work, written with a degree of detail to be expected from a publication of the Gmelin Institute.

The organoboron section covers approximately 180 pages and deals with topics such as the use of (a) alkyl- and aryl-substituted boranes in pharmacology and as polymerisation initiators in medical and biological practice; (b) tetra-, phenylborates, including their analytical applications; (c) carboranes. Further sections deal with the toxicology of boron compounds, including those named above.

As specialist in organoboron chemistry will be aware, one significant use, which might have considerable potential, is the utilisation of boron compounds in the treatment of cancer, especially brain tumors. A key property is the ability of the radio-active ^{10}B isotope to absorb thermal neutrons. The two boron isotopes ^{10}B and ^{11}B differ greatly in this property and it was on this basis that Locher in 1936 first proposed the use of ^{10}B, and other nuclides with high cross section capture, as a means of selectively destroying or weakening cancerous cells.

This book is clearly encyclopaedic and will be important to the specialist.

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Book review

Principles and Applications of Homogeneous Catalysis, by A. Nakamura and M. Tsutsui, Wiley-Interscience, New York, 1980, ix + 204 pages, £ 18.80.

This book provides an introduction to homogeneous catalysis and it includes such topics as acid catalysis and enzyme catalysed reactions as well as processes involving organometallic intermediates. About half the book is devoted to introductory material of which a high proportion concerns the elementary processes in transition metal chemistry that make up the catalysed processes discussed later. A selection of mechanisms are then outlined in a chapter of some 60 pages and the book concludes with short chapters on "Further Developments" and "Industrial Applications".

The writing is clear and the illustrations are particularly good, and the wide range of the book has enabled the authors to bring out a number of useful

generalisations. However, I feel that rather too little space is devoted to the catalysed processes themselves (e.g. only 4 pages on "Hydrogenations" in the "Mechanisms" chapter), so that the coverage is often not greatly in excess of that available in standard inorganic texts, and there is insufficient space to explain the differing specificities of catalysts in a particular process.

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