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Book review

Mössbauer Spectroscopy; by A. Vértes, L. Korecz and K. Burger, Elsevier Scientific Publishing Company, Amsterdam, 1979, 432 pp., \$73.25, Dfl. 150.00.

The subject matter of this book is not as broad as suggested by the title. The stated aim is to draw particular attention to the Mössbauer spectroscopy of quick frozen (quenched) solutions and to applications in solution chemistry and co-ordination chemistry. After a standard introduction to the technique (122 pages), these topics form the bulk of the text which is completed by relatively brief chapters on biological and metallurgical applications. The book is essentially a survey of the published literature, the approach is similar to that of a Specialist Periodical Report, and does not make for easy reading. The translation from the Hungarian original is generally good but there are a fair number of typographical errors. The sentence at the foot of p. 113, "on the basis of the information of the nuclear firmes it can be supposed that the microprocessorized Mössbauer equipments are to be available in the next future", is fortunately not typical. Isoelectronic compounds are consistently referred to as isoelectric.

In summary a useful reference volume, but not a suitable introduction to Mössbauer spectroscopy for the uninitiated.

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Book review

Metal and Metalloid Amides: Synthesis, Structures, and Physical and Chemical Properties, by M.F. Lappert, P.P. Power, A.R. Sanger, and R.C. Srivastava; Ellis Horwood Limited, Chichester, and John Wiley and Sons, New York, 1980, 847 pages, £50, \$145.

This excellent new book by Lappert et al. provides a most welcome and long-needed comprehensive overview of the field of metal and metalloid amide chemistry. This is a very large field indeed, since stable compounds which contain

one or more NH_2 ligands or simple derivatives (such as NHMe , NMe_2 , or $\text{N}(\text{SiMe}_3)_2$) are found for almost all of the elements. Although selected topics in element-nitrogen chemistry have been surveyed before, this is the first attempt at such a broad spectrum of coverage. The authors have succeeded admirably in their primary goal of attempting to reveal common patterns which might otherwise be hidden as isolated facts.

The text is divided into two parts. Part I, chapters 2–9, deals with the preparation, physical properties, and structures of metal and metalloid amides using the Periodic Table as the basis for classification. Individual chapters are devoted to amides of the alkali and alkaline earth metals, boron and Gr. 3, silicon and Gr. 4, phosphorus and Group 5, the transition and *f*-block metals, and zinc, cadmium, and mercury. The amides of sulfur and Group 6 have been intentionally excluded from coverage. Part II, chapters 10–18, covers the chemical properties of these compounds, including their application in synthesis and catalysis, with separate chapters on insertion reactions, reactions with protic reagents, reactions with metal hydrides, metathetical exchange reactions, dehydrohalogenations, Lewis acid–base reactions, and many others.

Extensive tables form an integral and valuable feature of this work, and have one of two functions. In Part I, individual amides of the elements are listed, together with appropriate references and notes on the methods of preparation, physical properties, and a comment as to which spectroscopic methods have been used in their characterization. In Part II, individual reactions of specific amides, listed according to the position of the metal in the Periodic Table, are cited with relevant bibliography. The treatise contains some three thousand references to the original literature up to the end of 1978. On occasion, more recent references are cited. There is an extensive Author Index and a rather modest Subject Index. Each chapter is prefaced by a detailed list of contents.

For anyone working in the area of element-nitrogen chemistry this should become a standard, if not a classic, reference book. Few inorganic or organometallic chemists would not find useful information here. Moreover, the book is quite readable, and could conceivably be used as a text for a specialized graduate level course.

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