

Book Review

Mass Spectrometry of Inorganic and Organometallic Compounds: by M.R. Litzow and T.R. Spalding. Elsevier Scientific Publishing Company, P.O. Box 1270, Amsterdam, The Netherlands. 620 pp., price \$52.60 U.S.

The above volume is very timely as the inorganic and organometallic applications of mass spectrometry have rapidly expanded. Literature coverage through early 1971 is thorough and extensive (~ 1750 references), although the two year publication lag is regrettable.

The text is divided into two parts, a short three-chapter Part I covering basic instrumentation, mass spectra and types of ions observed and information obtainable from mass spectrometry. The basic instrumentation section might well have been omitted, being so completely rudimentary, and the space given over to a more detailed discussion of inlet systems and sample handling techniques necessary in handling air- or moisture-sensitive compounds. Some effort could also have been given to assuring "organic" mass spectroscopists that organometallics will not contaminate their instruments. Part II is the meat of the book, eight chapters on the main group elements arranged according to group, and a long chapter on transition metals. Each group is discussed where applicable in terms of the elements, high temperature studies, hydrides, halides, compounds with the elements, organo derivatives, and where applicable, coordination complexes. When available ionization and appearance potentials are included.

The text reads well. Voluminous literature has been clearly summarized and presented with critical comparisons of individual groups. Effective comparisons across the periodic table were limited by individual authorship of chapters. Also, unfortunately, the early 1971 cut-off of references leaves barely touched the topic of organo-mercury derivatives, of some importance as a result of pollution scares.

This book is well printed and fairly free of errors, although a few errors such as J.E. Drake becoming J.E. Dale (ref. 215, p. 316) have crept in. The most unfortunate omission is that of effective subject and author indexes, chapter subheadings being more effective than the subject index, while an author index is absent. High price is likely to deter individual purchasers, but as a reference source this book is a necessity in inorganic, organometallic and mass spectrometry laboratories.

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