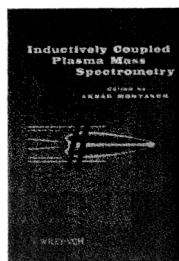


Getting Serious about ICPMS



Inductively Coupled Plasma Mass Spectrometry

Edited by Akbar Montaser
John Wiley & Sons
605 Third Ave.
New York, NY 10158
1998, 964 pp, \$149.50

Readers familiar with either edition of Montaser's previous book, *Inductively Coupled Plasmas in Analytical Atomic Spectrometry*, will be delighted to see that the same high editorial standard has been maintained in his latest contribution. Although the title suggests that this book is devoted entirely to inductively coupled plasma mass spectrometry (ICPMS), there is also extensive coverage of earlier literature on inductively coupled plasma atomic emission spectrometry (ICPAES), much of which is relevant to ICPMS.

The book is composed of 11 chapters written by 27 authors. The first five chapters cover topics that are common to both ICPAES and ICPMS, such as the generation of radio frequency ICPs and sample preparation and introduction. A short introductory chapter provides an overview of the two techniques, followed by a chapter by H. M. Kingston and P. J. Walter on the art and science of microwave-assisted sample digestion procedures for the preparation of samples for trace and ultratrace elemental analysis. Chapter 3 provides a descriptive review of the various means of introducing liquid, solid, and gaseous samples into ICPMS instruments. This chapter,

181 pages in length and supplemented by more than 600 references, provides both a descriptive and comprehensive review of this topic. It is complemented by Chapter 5, in which fundamental aspects of sample introduction in ICP spectrometry, such as the measurement and interpretation of aerosol droplet size distribution, are discussed. The various components of the ICP systems used in ICPMS instrumentation are reviewed in Chapter 4.

Chapters 6-9 are devoted exclusively to ICPMS. Chapter 6 provides an up-to-date survey of the types of low- and high-resolution instrumentation available, and Chapter 7, an overview of the analytical characteristics of ICPMS, is contributed by Gary Horlick. Chapter 8 is a readable treatment of fundamental considerations in ICPMS, including properties of the ICP as an ion source, the sampling of ions from an ICP, and the influence of space charge effects in ICPMS instrumentation. Chapter 9 is exclusively devoted to applications of ICPMS. Although the author does not claim to provide a comprehensive review, the chapter does provide a balanced overview, and it is supplemented by more than 500 references.

The final two chapters of this book provide an overview of two topics which, while somewhat removed from the mainstream of ICPMS, are still of great interest in research laboratories: MS with mixed gas and helium ICPs and MS with microwave-induced plasmas. The book concludes with a 24-page subject index, which, although not exhaustive, is certainly detailed enough to be useful.

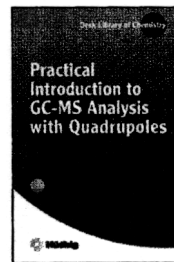
The production quality of this book, with the collaborative efforts of nearly 30 authors, is a remarkable achievement. Much of the credit for its excellence can be attributed to Montaser's encouragement and unyielding editorial standards for his contributing authors. The project was apparently completed in only three years, and the references (some as recent

as 1997) in all of the chapters are remarkably up-to-date.

This book is certainly the most comprehensive treatise on ICPMS currently available and an invaluable guide to the literature. It is sturdily bound; my copy remains in pristine condition after several months of regular use by me and my colleagues. The text is complemented by many figures, including numerous color plates. This is a book that all serious students and practitioners of ICPMS will want to add to their collection.

Reviewed by J. W. McLaren, National Research Council of Canada

Reference Guide for GC/MS



Practical Introduction to GC-MS Analysis with Quadrupoles

Michael Oehme
John Wiley-VCH
605 Third Ave.
New York, NY 10158
1998, 195 pp, \$47

The author presents a tidy reference book on GC/MS with quadrupoles that is informative and, for the most part, easy-to-read. The basics of GC/MS have changed little over the past two decades, but instrumentation is much more readily affordable and available, both for industry and academia. More and more users appear to have less