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The purpose of this book is to provide the practitioner of gas chromatography/mass spectrometry (GC/MS) with tools that will facilitate performing analyses and extracting information from the data of those analyses. To those ends, information regarding the tools available and a treatise on the evolution of the technique are also included. This book is not intended to be a detailed text on the theory of the technique of GC/MS; it includes information only on separation of components by gas chromatography (GC) followed by identification using mass spectrometry. No information is included on liquid chromatography/mass spectrometry (LC/MS).

In *Section I. The Fundamentals on GC/MS*, the available instrumentation and techniques (Chapters 1–6) have been greatly expanded over the first edition. More attention is given to available databases of electron ionization (EI) spectra, their use, and the use of programs for deconvolution of coeluting chromatographic components using the mass spectral data as well as software that can be used to develop elemental compositions from mass spectral peaks.

In *Section II. GC Conditions, Derivatization, and Mass Spectral Interpretation of Specific Compound Types* (Chapters 7–36), information pertaining to the use of packed columns has been eliminated due to the disuse of these columns and their replacement with PLOT (porous-layered open tubular) and WCOT (wall-coated open tubular) columns in the modern GC/MS laboratory. There is an overview of GC detectors included in Chapter 2 that should be useful for those considering the use of the gas chromatograph-mass spectrometer (GC-MS) for occasional GC applications. There are also some applications from which valuable information can be obtained by combining a selective GC detector with a mass spectrometer in a single analysis.

Analytes are introduced to the ion source of the GC-MS in ways other than through a GC. These techniques are carefully detailed in Chapters 2 and 4, and their advantages and disadvantages are articulated.

A good portion of the material in this book is tabular and should be used to gain information on how to perform an analysis of a specific sample category and then in the determination of the identity of the individual analytes. This is a book that should be both on the analyst's desk and on the bench next to the instrument. The original edition did an excellent job of presenting the needed tools. This edition expands mainly on the narrative section of the original book and retains and updates those tabular data that were so helpful in the previous edition. At the same time, this edition expands on the techniques of mass spectral data interpretation. Chapter 3