

<<质谱>>

图书基本信息

书名：<<质谱>>

13位ISBN编号：9787030332967

10位ISBN编号：7030332962

出版时间：2012-1

出版时间：科学出版社

作者：格罗斯

页数：753

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<质谱>>

内容概要

《质谱(原著第2版)(英文版)》作为一部成功的教科书，其全新修订的第2版在内容上得以充分的扩展，以其详尽和准确的叙述，精美的插图和照片为读者津津乐道。

新增串联质谱法，涵盖了仪器设备、离子激活方法（CID，ECD，ETD，IRMPD）及其应用；新增敞开式质谱（DART，DESI等），新增无机质谱，包含元素形态分析和成像，新增了所有章节的学习目标，新增先进仪器介绍，诸如orbitraps、线性离子阱、串联TOFs、FT-ICR，以及各种联用仪器。

JurgenH.Gross对书中的概念、方法和技术做出了深入的阐述。

指导学生和专业人员从新手逐步成长为质谱应用的行家里手。

JurgenH.Gross首先介绍了气相离子化学原理、同位素组成和精确质量，然后是各种质量分析器和离子化方法的设计，最后是质谱图的解析和联用技术。

可以说《质谱(原著第2版)(英文版)》是实用信息和基于丰富文献的理论知识的完美结合。

<<质谱>>

作者简介

作者：(德国)格罗斯(Gross J ü rgen H)

书籍目录

Table of Contents

1 Introduction

Learning Objectives

1.1 Aims and Scope

1.1.1 Filling the Black Box

1.2 What Is Mass Spectrometry ?

1.2.1 Mass Spectrometry

1.2.2 Mass Spectrometer

1.2.3 Mass Scale

1.2.4 Mass Spectrum

1.3 Ion Chromatograms

1.4 Performance of Mass Spectrometers

1.4.1 Sensitivity

1.4.2 Detection Limit

1.4.3 Signal-to-Noise Ratio

1.5 Terminology - General Aspects

1.5.1 Basic Terminology in Describing Mass Spectra

1.6 Units, Physical Quantities, and Physical Constants

References

2 Principles of Ionization and Ion Dissociation

Learning Objectives

2.1 Gas Phase Ionization by Energetic Electrons

2.1.1 Formation of Ions

2.1.2 Processes Accompanying Electron Ionization

2.1.3 Ions Generated by Penning Ionization

2.1.4 Ionization Energy

2.1.5 Ionization Energy and Charge-Localization

2.2 Vertical Transitions

2.3 Ionization Efficiency and Ionization Cross Section

2.4 Internal Energy and the Further Fate of Ions

2.4.1 Degrees of Freedom

2.4.2 Appearance Energy

2.4.3 Bond Dissociation Energies and Heats of Formation

2.4.4 Randomization of Energy

2.5 Quasi-Equilibrium Theory

2.5.1 QET's Basic Premises

2.5.2 Basic QET

2.5.3 Rate Constants and Their Meaning

2.5.4 $k(E)$ Functions - Typical Examples2.5.5 Reacting Ions Described by $k(E)$ Functions

2.5.6 Direct Cleavages and Rearrangement Fragmentations

2.6 Time Scale of Events

2.6.1 Stable, Metastable, and Unstable Ions

2.6.2 Time Scale of Ion Storage Devices

<<质谱>>

- 2.7 Internal Energy - Practical Implications
- 2.8 Reverse Reactions and Kinetic Energy Release
 - 2.8.1 Activation Energy of the Reverse Reaction
 - 2.8.2 Kinetic Energy Release
 - 2.8.3 Energy Partitioning
- 2.9 Isotope Effects
 - 2.9.1 Primary Kinetic Isotope Effects
 - 2.9.2 Measurement of Isotope Effects
 - 2.9.3 Secondary Kinetic Isotope Effects
- 2.10 Determination of Ionization Energies
 - 2.10.1 Conventional Determination of Ionization Energies
 - 2.10.2 Improved IE Accuracy from Data Post-Processing
 - 2.10.3 IE Accuracy - Experimental Improvements
 - 2.10.4 Photoionization Processes
- 2.11 Determining the Appearance Energies
 - 2.11.1 Kinetic Shift
 - 2.11.2 Breakdown Graphs
- 2.12 Gas Phase Basicity and Proton Affinity
- References
- 3 Isotopic Composition and Accurate Mass
 - Learning Objectives
 - 3.1 Isotopic Classification of the Elements
 - 3.1.1 Monoisotopic Elements
 - 3.1.2 Di-isotopic Elements .
 - 3.1.3 Polyisotopic Elements
 - 3.1.4 Representation of Isotopic Abundances
 - 3.1.5 Calculation of Atomic, Molecular, and Ionic Mass
 - 3.1.6 Natural Variations in Relative Atomic Mass
 - 3.2 Calculation of Isotopic Distributions
 - 3.2.1 Carbon: An X+I Element
 -
- 4 Instrumentation
- 5 Practical Aspects of Electron Ionization...
- 6 Fragmentation of Organic Ions and Interpretation of E1 Mass Spectra
- 7 Chemical Ionization
- 8 Field Ionization and Field Desorption
- 9 Tandem Mass Spectrometry
- 10 Fast Atom Bombardment
- 11 Matrix-Assisted Laser Desorption/Ionization
- 12 Electrospray Ionization
- 13 Ambient Mass Spectrometry
- 14 Hyphenated Methods
- 15 Inorganic Mass Spectrometry
- Appendix
- Subject Index

<<质谱>>

章节摘录

版权页：插图：Applied to solid materials, especially semiconductors and thin films, SIMS can determine trace levels of all elements in the periodic table. Spatial microanalysis is provided by collimating the primary ion beam to about 1 μm in diameter and control of where the beam strikes the sample surface. This way, SIMS provides lateral and depth distributions of these elements within the sample. Currently, SIMS is being adapted to achieve lateral resolutions well below 100 nm. The driving force comes from the progress in microelectronics aiming at structures that approach 10 nm. Also, the depth resolution needs to come close to the atomic scale. SIMS surface analysis is classified into two modes of operation, the so-called static SIMS and dynamic SIMS mode. Static SIMS employs an extremely low sputtering rate, often with a pulsed primary ion beam, for better sensitivity to the characteristics of the top monolayer and even may reveal molecular information (see below) .

<<质谱>>

媒体关注与评论

“截至目前我见过的最好的质谱教科书之..... ” ——International Journal of Mass Spectrometry
“ 这是一本很好的现代质谱教科书.....如此系统的质谱教科书国内尚不多见，尤其是对质谱新技术的介绍值得称道..... ” ——刘虎威，北京大学化学与分子工程学院

<<质谱>>

编辑推荐

《质谱(原著第2版)(英文版)》是国外化学经典教材系列之一。

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>