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Altri autori (Persone)	GerhardsPetra
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Nota di contenuto	GC/MS in Clinical Chemistry; Contents; Part I Fundamental Principles of Analysis by Gas Chromatography and Mass Spectrometry; 1. Physical Theory and Equipment Design; 1.1 Adsorption; 1.2 Partition; 1.3 Design of a Gas Chromatography System; 2. Injection and Headspace Technique; 2.1 Injection; 2.1.1 Splitless Injection; 2.1.2 Split Injection; 2.1.3 Temperature-Programmed Injection; 2.1.4 On-Column Injection; 2.2 Headspace Technique; 2.2.1 Static Headspace; 2.2.2 Dynamic Headspace; 3. Columns and Carrier Gas; 3.1 Packed Columns; 3.2 Capillary Columns; 3.3 Stationary Phases; 3.4 Film Thickness 3.5 Carrier Gas4. GC Detectors and Mass Spectrometry; 4.1 Selectivity; 4.2 The Flame Ionization Detector (FID); 4.3 The Electron Capture Detector (ECD); 4.4 Mass Spectrometry; 4.4.1 Design and Function of a Quadrupole Mass Spectrometer; 4.4.2 Detection; 4.4.3 Sample Introduction - the GC/MS Interface; 4.4.4 The Total Ion Current (TIC); 4.4.5 Selected Ion Monitoring (SIM); 4.4.6 Data Processing; 5. Quantification; 5.1 Methods Based on Internal Standards; 5.2 Standard

Addition; 5.3 External Calibration; 5.4 Quantification in the Split Mode; 5.5 Limits of Detection; References for Part I
Part II Drug Screening6. Epidemiology of the Abuse of Drugs and Medicaments; 6.1 Introduction; 6.2 Specific Data and Trends; 6.2.1 Opiates/Opioids; 6.2.1.1 Heroin; 6.2.1.2 Codeine; 6.2.1.3 Dehydrocodeine (DHC); 6.2.1.4 Methadone; 6.2.1.5 Tramadol; 6.2.1.6 Tilidine; 6.2.1.7 Other Centrally Active Analgesics; 6.2.2 Peripheral Analgesics; 6.2.3 Benzodiazepines; 6.2.3.1 Diazepam; 6.2.3.2 Flunitrazepam; 6.2.3.3 Bromazepam; 6.2.4 Barbiturates; 6.2.5 Other Sedatives and Addictive Substances; 6.2.5.1 Chlormethiazole; 6.2.5.2 Antihistamines; 6.2.6 Amphetamines and Related Substances
6.2.6.1 Substances of the Drug Scene6.2.6.2 Psychoanaleptics and Antihypotonics; 6.2.6.3 Appetite Suppressants; 6.2.7 Designer Drugs; 6.2.8 Cannabis; 6.2.9 Cocaine; 6.2.10 Other Hallucinogens; 6.2.10.1 Lysergic Acid Diethylamide (LSD); 6.2.10.2 Other Indole Derivatives; 6.2.10.3 Mescalin; 6.2.10.4 Nutmeg; 6.2.10.5 Pipendine Denvatives; 6.2.10.6 Fly Agaric; 6.2.10.7 Biperiden; 6.2.11 Substances Taken by Sniffing; 7. Methods of Sample Preparation for Drug Analysis; 7.1 History of Sample Preparation; 7.2 The Principle of Solid Phase Extraction; 7.2.1 Practical Aspects
7.2.1.1 Sample Preparation for the Matrix Urine7.2.1.2 Sample Preparation for the Matrix Whole Blood; 7.3 Liquid-Liquid Extraction (LLE); 7.4 Comparison of SPE with LLE; 7.5 Quantitative Determination of Derivatized Drugs; 7.5.1 Introduction; 7.5.2 Determination of the Detection Limits; 7.5.3 Sample Preparation and Analysis of Real Samples; 8. Drug Screening from Urine by GC/MS; 8.1 General Aspects of Drug Screening from Urine; 8.1.1 Differentiation between Drug Screening and Other Screening Procedures; 8.1.2 Sample Material; 8.1.3 Possibilities for Manipulation of Samples
8.1.4 Immunological Methods of Analysis

Sommario/riassunto

This book enables the reader to gain a rapid understanding of GC/MS analysis through a basic knowledge of the fundamental principles, linking these with simple and practical applications in the field of industrial medicine and analysis of drugs. Additional information from other specialist fields is also provided with the aim of helping the analyst to understand their relevance to the interpretation of results. The book describes efficient methods of sample preparation and quality assurance and provides information on epidemiology and pharmacology, without which drug screening is impossible.<