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Titolo	Forensic chemistry handbook [[electronic resource] /] / edited by Lawrence F Kobilinsky
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Descrizione fisica	1 online resource (544 p.)
Collana	THEi Wiley ebooks
Altri autori (Persone)	KobilinskyLawrence F
Disciplina	363.25/62 614.12
Soggetti	Chemistry, Forensic Forensic sciences Criminal investigation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	FORENSIC CHEMISTRY HANDBOOK; CONTENTS; Preface; Contributors; 1. Forensic Environmental Chemistry; 1.1 Introduction; 1.2 Chemical Fingerprinting; 1.2.1 Hydrocarbon Mixtures; 1.2.2 Polycyclic Aromatic Hydrocarbons; 1.2.3 Biomarkers; 1.2.4 Additives; 1.2.5 Isotopes; 1.2.6 Tracers; 1.2.7 Methods of Detection; 1.2.8 Weathering; 1.3 Spatial Association of Environmental Incidents; References; 2. Principles and Issues in Forensic Analysis of Explosives; 2.1 Introduction; 2.2 Sample Collection; 2.3 Packaging; 2.4 Sorting; 2.5 Documentation; 2.6 Environmental Control and Monitoring; 2.7 Storage 2.8 Analysis2.9 Records; 2.10 Quality Assurance; 2.11 Safety and Other Issues; Conclusion; References; 3. Analysis of Fire Debris; 3.1 Introduction; 3.2 Evolution of Separation Techniques; 3.3 Evolution of Analytical Techniques; 3.4 Evolution of Standard Methods; 3.5 Isolating the Residue; 3.5.1 Initial Sample Evaluation; 3.5.2 ILR Isolation Method Selection; 3.5.3 Solvent Selection; 3.5.4 Internal Standards; 3.5.5 Advantages and Disadvantages of Isolation Methods; 3.6 Analyzing the Isolated ILR; 3.6.1 Criteria for Identification; 3.6.2 Improving Sensitivity

3.6.3 Estimating the Degree of Evaporation3.6.4 Identity of Source; 3.7 Reporting Procedures; 3.8 Record Keeping; 3.9 Quality Assurance; Conclusion; References; 4. Forensic Examination of Soils; 4.1 Introduction; 4.2 Murder and the Pond; 4.3 Oil Slicks and Sands; 4.4 Medical Link; 4.5 Examination Methods; 4.5.1 Color; 4.5.2 Particle-Size Distribution; 4.5.3 Stereo Binocular Microscope; 4.5.4 Petrographic Microscope; 4.5.5 Refractive Index; 4.5.6 Cathodoluminescence; 4.5.7 Scanning Electron Microscope; 4.5.8 X-Ray Diffraction; 4.6 Chemical Methods; 4.6.1 FTIR and Raman Spectroscopy
4.7 Looking AheadReferences; 5. Analysis of Paint Evidence; 5.1 Introduction; 5.2 Paint Chemistry and Color Science; 5.2.1 Binders; 5.2.2 Pigments; 5.3 Types of Paint; 5.3.1 Automotive Finish Systems; 5.3.2 Architectural Coatings (Structural Paints or House Paints); 5.3.3 Other Coatings; 5.4 Paint Evidence Interpretation Considerations; 5.5 Analytical Methods; 5.5.1 Microscopic Examinations; 5.5.2 Physical Nature of the Transfer; 5.5.3 Microscopy; 5.5.4 Microspectrophotometry; 5.5.5 Infrared Spectroscopy; 5.5.6 Raman Spectroscopy
5.5.7 Pyrolysis Gas Chromatography and Pyrolysis Gas Chromatography-Mass Spectrometry5.5.8 Elemental Analysis Methods; 5.5.9 Other Methods; 5.6 Examples; 5.6.1 Example 1; 5.6.2 Example 2; 5.6.3 Example 3; References; 6. Analysis Techniques Used for the Forensic Examination of Writing and Printing Inks; 6.1 Introduction; 6.2 Ink; 6.2.1 Ink Composition; 6.3 Ink Analysis; 6.3.1 Physical Examinations; 6.3.2 Optical Examinations; 6.3.3 Chemical Examinations; 6.3.4 Ink Dating; 6.4 Office Machine Systems; 6.4.1 Inkjet Ink; 6.4.2 Inkjet Ink Analysis; 6.4.3 Toner Printing; 6.4.4 Toner Analysis
Conclusion

Sommario/riassunto

A concise, robust introduction to the various topics covered by the discipline of forensic chemistry The Forensic Chemistry Handbook focuses on topics in each of the major chemistry-related areas of forensic science. With chapter authors that span the forensic chemistry field, this book exposes readers to the state of the art on subjects such as serology (including blood, semen, and saliva), DNA/molecular biology, explosives and ballistics, toxicology, pharmacology, instrumental analysis, arson investigation, and various other types of chemical residue analysis. In addition, th

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Altri autori (Persone)	TongGuangmo
Disciplina	004.0151
Soggetti	Computer science Image processing - Digital techniques Computer vision Data structures (Computer science) Information theory Computer science - Mathematics Discrete mathematics Numerical analysis Theory of Computation Computer Imaging, Vision, Pattern Recognition and Graphics Data Structures and Information Theory Discrete Mathematics in Computer Science Symbolic and Algebraic Manipulation Numerical Analysis
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Livello bibliografico	Monografia
Nota di contenuto	Complexity and Approximation -- Complexity and Enumeration in Models of Genome Rearrangement -- Conditional automatic complexity and its metrics -- Streaming and Query Once Space Complexity of Longest Increasing Subsequence -- Approximating Decision Trees with Priority Hypotheses -- Approximating the λ-low-density Value -- Exponential Time Complexity of the Complex Weighted Boolean \#CSP -- Hardness and approximation for the star p-hub

routing cost problem in Δ_β-metric graphs -- Graph Algorithms -- Linear Time Algorithms for NP-hard Problems restricted to GaTEx Graphs -- Polynomial Turing Compressions for Some Graph Problems Parameterized by Modular-Width -- Shortest Longest-Path Graph Orientations -- Sink Location Problems in Dynamic Flow Grid Networks -- List 3-Coloring on Comb-Convex and Caterpillar-Convex Bipartite Graphs -- Parameterized Algorithms for Cluster Vertex Deletion on Degree-4 Graphs and General Graphs -- Sum-of-Local-Effects Data Structures for Separable Graphs -- Applied Algorithms -- Variants of Euclidean k-center Clusterings -- Red-black Spanners for Mixed-charging Vehicular Networks -- Self-stabilizing (Delta+1)-Coloring in Sublinear (in Delta) Rounds via Locally-iterative Algorithms -- On Detecting Some Defective Items in Group Testing -- An Efficient Data Analysis Method for Big Data using Multiple-Model Linear Regression -- Multi-Load Agent Path Finding for Online Pickup and Delivery Problem -- Improved Sourcewise Roundtrip Spanners with Constant Stretch -- Randomized Data Partitioning with Efficient Search, Retrieval and Privacy Preservation -- The k edge-vertex domination problem -- Resource-Adaptive Newton’s Method for Distributed Learning -- DR-submodular Function Maximization with Adaptive Stepsize -- On the Routing Problems in Graphs with Ordered Forbidden Transitions -- DelayingDecisions and Reservation Costs -- A PTAS Framework for Clustering Problems in Doubling Metrics -- A Physical Zero-knowledge Proof for Sumplete, a Puzzle Generated by Chat GPT.

Sommario/riassunto

This two volume set volume LNCS 14422-14423 constitutes the refereed proceedings of the 29th International Conference, COCOON 2023, held in Hawaii, HI, USA, during December 2023. The 60 full papers were carefully reviewed and selected from 146 submissions. They are organized in the following topical sections: Part I : Combinatorics and Algorithms; Algorithmic Solution in Applications; and Algorithm in Networks. Part II: Complexity and Approximation; Graph Algorithms; and Applied Algorithms.