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Nota di contenuto	Chapter 1. Analytical Method for Dye Food Adulteration -- Chapter 2. Advanced Techniques against Meat Adulteration -- Chapter 3. Gas chromatography for chemical fingerprinting of volatile compounds and adulteration tests in food -- Chapter 4. Microfluidic paper-based analytical devices as cost-effective tools for food adulteration -- Chapter 5. Next-Generation Solutions to Combat Food Adulteration: Integrating Advanced Detection Technologies and Risk Mitigation Strategies -- Chapter 6. Optical Sensor Arrays for Food Adulteration Detection -- Chapter 7. Electrochemical Sensors in Food Adulteration Detection -- Chapter 8. Advanced Liquid Chromatography Techniques

for Detecting and Analyzing Food Adulteration: Ensuring Safety and Quality in Food Products -- Chapter 9. Emerging Nanotechnology Applications in Food Safety Analysis -- Chapter 10. Enzyme-linked immunosorbent Assay (ELISA) for Food Adulteration Screening -- Chapter 11. Deep Eutectic Solvents for Extraction and Detection of Adulterants in Food Samples -- Chapter 12. Emerging Trends in Portable Analytical Devices (Miniaturized Systems) for Food Adulteration Analysis -- Chapter 13. Electronic Tongue and Nose Technologies for Flavor and Adulteration Analysis -- Chapter 14. Advances in Surface-Enhanced Raman Spectroscopy for the detection of synthetic dyes in the food matrices -- Chapter 15. Capillary Electrophoresis (CE) for high resolution food component separation.

Sommario/riassunto

This book outlines advanced techniques against food adulteration, addressing a pressing concern in food safety and consumer protection. As food fraud becomes increasingly sophisticated, this volume provides a timely resource, compiling cutting-edge research and methodologies, and offering a comprehensive guide to identifying and combating adulterants in various food products. Divided into 15 chapters, the book covers a range of innovative approaches, including gas chromatography for chemical fingerprinting, microfluidic paper-based analytical devices, and optical sensor arrays. It also provides expert analyses of emerging nanotechnology applications and enzyme-linked immunosorbent assays (ELISA) for food adulteration screening. Readers will encounter discussions on electrochemical sensors, advanced liquid chromatography techniques, and the use of deep eutectic solvents for the extraction and detection of adulterants in food samples. Particular attention is given to the role of electronic tongue and nose technologies in flavor and adulteration analysis, as well as advances in surface-enhanced Raman spectroscopy for detecting synthetic dyes in food matrices. By compiling the latest research findings, technological breakthroughs, and practical applications, this book offers a multidisciplinary approach to combating food fraud, ensuring the safety and authenticity of the global food supply. It serves as a valuable resource for researchers, industry professionals, and policymakers in the fields of food science, safety, and quality control. It is also an essential resource for those involved in regulatory affairs and public health, providing the tools and knowledge needed to address the challenges of food adulteration.