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Nota di contenuto	Part 1. Introductory Chapters -- Laboratory Standard Operating Procedures -- Reagents and Buffers -- Dilution and Concentration Calculations -- Statistics for Food Analysis -- Part 2. Laboratory Exercises -- Nutritional Labeling Using a Computer Program -- Accuracy and Precision Assessment -- Preparation of Solutions and Buffers -- High-Performance Liquid Chromatography -- Gas Chromatography -- Mass Spectometry with High Performance Liquid Chromatography -- Determination of Minerals on Nutrition Label by Atomic Absorption Spectroscopy Analysis -- Mid-Infrared Spectroscopy Analysis -- Moisture Content Determination -- Ash Content Determination -- Fat Content Determination -- Protein Nitrogen Determination -- Total Carbohydrate by Phenol-Sulfuric Acid Method -- Vitamin C Determination by Indophenol Method -- Water Hardness Testing by Complexometric Determination of Calcium -- Phosphorus

Determination by Murphy-Riley Method -- Sodium Determination Using Ion Selective Electrodes, Mohr Titration, and Test Strips -- Standard Solutions and Titratable Acidity -- Fat Characterization -- Proteins: Extraction, Quantitation, and Electrophoresis -- Glucose Determination by Enzyme Analysis -- Gliadin Detection by Immunoassay -- Rheological Measurements of Food Products -- Color Measurements of a Solid and Calculations of Color Specifications from Spectral -- Extraneous Matter Examination -- Food Forensics -- Part 3. Answers to Practice Problems -- Answers to Practice Problems in Chap. 2, Reagents and Buffers -- Answers to Practice Problems in Chap. 3, Dilutions and Concentrations -- Answers to Practice Problems in Chap. 4, Statistics for Food Analysis.

Sommario/riassunto

This fourth edition laboratory manual was written to accompany Nielsen’s Food Analysis, Sixth Edition, by the same authors. New to this fourth edition of the laboratory manual are three new chapters that complement both the textbook chapters and the laboratory exercises. The book again contains four introductory chapters that help prepare students for doing food analysis laboratory exercises. The 26 laboratory exercises in the manual cover 24 of the 35 chapters in the textbook. Many of the laboratory exercises have multiple sections to cover several methods of analysis for a particular food component or characteristic. Most of the laboratory exercises include the following: background, reading assignment, objective, principle of method, chemicals, reagents, precautions and waste disposal, supplies, equipment, procedure, data and calculations, questions, and references. This laboratory manual is ideal for the laboratory portion of undergraduate courses in food analysis.