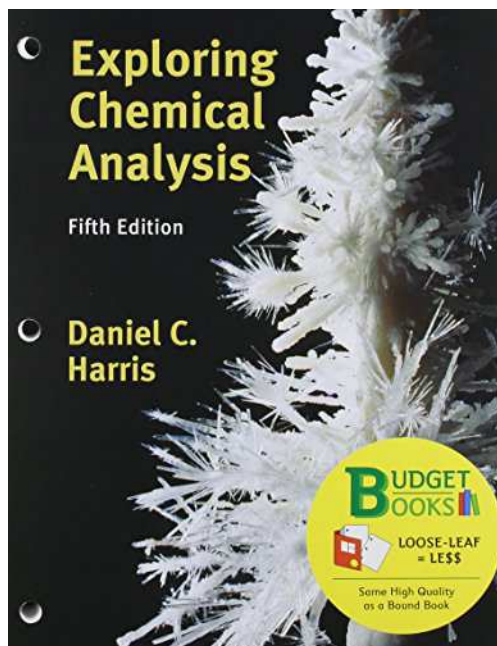# Books Exploring Chemical Analysis (Loose Leaf) Audiobook Download

## Book details

- Author : Daniel C. Harris
- Pages : 640 pages
- Publisher : W. H. Freeman 2012-03-30
- Language : English
- ISBN-10 : 1464124019
- ISBN-13 : 9781464124013



## Book Synopsis

Exploring Chemical Analysis provides an ideal one-term introduction to analytical chemistry for students whose primary interests generally lie outside of chemistry. Combining coverage of all major analytical topics with effective problem-solving methods, it teaches students how to understand analytical results and how to use quantitative manipulations, preparing them for the problems they will encounter in fields from biology to chemistry to geology. Consistent Approach to Problem Solving By providing Test Yourself questions (which break down problem-solving to more elementary steps) at the end of each worked example, students can check their understanding of the concepts covered in each worked example. Integrated Spreadsheet Applications The text can be used without ever opening a spreadsheet application, but the early introduction of spreadsheets allows more flexibility. Problems marked with a spreadsheet icon denote problems that can be answered with a spreadsheet. Chapter Openers show the relevance of analytical chemistry to the real world and to other disciplines of science. New Applications through the book include: * solid-phase extraction for the measurement of caffeine * measuring the common cold virus with an imprinted polymer on a quartz crystal microbalance * a precipitation titration conducted on the Phoenix Mars Lander * updated classroom data from a saltwater aquarium * microdialysis in biological sampling, measuring pH of oceans and rivers by spectrophotometry with indicators * continued highlighting of the effects of increasing carbon dioxide in the air and ocean * a description of the lithium-ion battery * how perchlorate was discovered on Mars with ion-selective electrodes * protein immunosensing with solid-state ion-selective electrodes * X-ray photoemission from the peeling of tape * how a home pregnancy test works * laser-ablation atomic emission on Mars * lead isotopes in archaeology * bisphenol A in food containers * measuring trans fat in food with an ionic liquid gas chromatography stationary phase * chromated copper arsenate preservative in wood * preconcentration of trace elements from seawater * simultaneous separation of anions and cations * detecting contaminated heparin * DNA profiling with a lab on a chip New topics in this edition include: * The F test for comparison of variance is introduced early in the chapter on statistics. * The meaning of statistical hypothesis testing is explained with an example from epidemiology. * Propagation of uncertainty for pH is described. * New topics in liquid chromatography include ultra-performance liquid chromatography, superficially porous particles, hydrophilic interaction chromatography, a waveguide absorbance detector, and an illustration of the charged aerosol detector. * An improved diagram showing the working of an electronic balance and a photograph of the optical train of an ultraviolet-visible spectrophotometer are included. Updated instructions for Excel

spreadsheets to Excel 2007.