1. Record Nr. UNIBAS000028122

Titolo	Formation of bonds to N, P, As, Sb, Bi (Part 1) / editor J. J. Zuckerman ; subject index editor A. P. Hagen
Pubbl/distr/stampa	Deerfield Beach (Florida) : VCH, 1988
ISBN	0-89573-257-2
Descrizione fisica	XXII, 387 p. ; 24 cm.
Disciplina	546
Soggetti	Reazioni chimiche inorganiche
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910145900403321

Autore	Michaelin Kirk H
Titolo	Photoacoustic infrared spectroscopy / / Kirk H. Michaelin [[electronic resource]]
Pubbl/distr/stampa	New York, : Wiley, 2003
ISBN	1-280-55692-7 9786610556922 0-471-32657-7 0-471-72119-0
Descrizione fisica	1 online resource (xii, 335 p.) : ill. ;
Collana	Chemical analysis Photoacoustic infrared spectroscopy Chemical analysis ; ; v. 159, [161]
Disciplina	535.8/42
Soggetti	Infrared spectroscopy Optoacoustic spectroscopy Analytical Chemistry Light & Optics Physics Chemistry Physical Sciences & Mathematics Electronic books

Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	; Chapter 1. Introduction -- 1.1. Single- and multiple-wavelength PA spectroscopies -- ; 1.2. Scope -- ; 1.3. Other sources of information -- ; Chapter 2. Evolution of photoacoustic infrared spectroscopy -- ; 2.1. Early history -- ; 2.2. Multiple-wavelength PA infrared spectroscopy -- ; 2.3. Arrival of PA FTIR spectroscopy -- ; Chapter 3. Experimental methods -- ; 3.1. PA infrared spectroscopy with dispersive spectrometers -- ; 3.2. Rapid-scan PA FTIR spectroscopy -- ; 3.3. Step-scan PA FTIR spectroscopy -- ; 3.4. Photothermal beam deflection spectroscopy -- ; 3.5. Reverse mirage spectroscopy -- ; 3.6. Piezoelectric detection -- ; 3.7. Optothermal window spectroscopy -- ; Chapter 4. Depth profiling -- ; 4.1. Amplitude modulation -- ; 4.2. Phase modulation- ; 4.3. Generalized two-dimensional correlation -- ; Chapter 5. Numerical methods -- ; 5.1. Normalization of PA infrared spectra -- ; 5.2. Linearization of spectra -- ; 5.3. Phase analysis -- ; Chapter 6. Applications of PA infrared spectroscopy -- ; 6.1. Carbons -- ; 6.2. Coals -- ; 6.3. Hydrocarbons -- ; 6.4. Hydrocarbon fuels -- ; 6.5. Corrosion -- ; 6.6. Clays and clay minerals -- ; 6.7. Wood and paper -- ; 6.8. Polymers -- ; 6.9. Gases -- ; 6.10. Food products -- ; 6.11. Biology and biochemistry -- ; 6.12. Medical applications -- ; 6.13. Carbonyl compounds -- ; 6.14. Textiles -- ; 6.15. Catalysts -- ; Chapter 7. Quantitative analysis -- ; 7.1. Quantitation in PA near-infrared spectroscopy -- ; 7.2. Quantitation in PA mid-infrared spectroscopy -- ; 7.3. Quantitative analysis at higher concentrations -- ; Chapter 8. Special topics -- ; 8.1. PA infrared microspectroscopy -- ; 8.2. Synchrotron PA infrared spectroscopy.
Sommario/riassunto	Photoacoustic infrared spectroscopy differs from traditional infrared spectroscopy in one important way: in its most common implementation, a microphone is used to detect acoustic waves that result from absorption of infrared radiation by a sample. In other words, no optical detector is required to quantify the amount of incident radiation taken up by the sample. This gas-microphone method is one of a series of photoacoustic and photothermal techniques now being used for characterization and analysis of solids, liquids, and gases. Photoacoustic Infrared Spectroscopy represents the most comprehensive resource on this important, emerging technique. Kirk Michaelians trenchant study serves as both a text and reference for a broad community of academic and industrial scientists conducting extensive research and applications in photoacoustic infrared spectroscopy. Chapters include: Evolution of Photoacoustic Infrared Spectroscopy Experimental Methods Depth Profiling Numerical Methods Applications of Photoacoustic Infrared Spectroscopy Quantitative Analysis Special TopicsPhysicists, chemists, and spectroscopists in both academic and industrial laboratories, polymer and organic chemists, analysts in industry, forensic and government laboratories, and materials scientists will find Photoacoustic Infrared Spectroscopy to be a vital resource.