Infrared spectroscopy: A potential tool in huanglongbing citrus variegated chlorosis diagnosis

Review Article

Marcelo Camponez do Brasil Cardinali, Paulino Ribeiro Villas Débora Marcondes Bastos Pereira Mlorni, Ednaldo José Ferre Marina França e Silva, Marcos Antonio Machado, Barbara Sa Bellete, Maria Fatima das Graças Fernandes da Silva

Show preview | Related articles | Related reference work art
Monoliths with proteins as chiral selectors for enantiomer separation

Pages 7-17
Yan Zheng, Xi Wang, Yibing Ji

Show preview | Related articles | Related reference work article

Monoliths with proteins as chiral selectors. Combinatorial chiral analysis. Monoliths and molecularly imprinted by protein. Possible mechanisms, associated problems and related areas.

Thiophene anchored coumarin derivative as a turn-on fluorescent probe for Cr³⁺: Cell imaging and speciation studies

Pages 18-25
Subarna Guha, Sisir Lohar, Arnab Banerjee, Animesh Sahan Hauli, Subhra Kanti Mukherjee, Jesús Sanmartín Matalobos, Debasis Das

Show preview | Supplementary content | Related articles | Related reference work articles

Cr(III) selective turn-on fluorescent sensor. Its use in environment friendly speciation of chromium without any separation.

New tetradecyltrimethylammonium-selective electrodes: Surface composition and topography as correlated with electrode's life span

Pages 26-32
Hayat M. Marafie, Tahani F. Al-Shammari, Adel F. Shoukry

Show preview | Related articles | Related reference work article

Novel tetradecyltrimethylammonium-electrodes with excimer formation. Ion aggregate and ion associate are very effective exchangers for surfactant's plastic membrane electrode. The used electrodes proved that topographical change at the surface of soaking in the test solution, contributes to limitation of its life span. Spectroscopy was used to monitor the leaching of ingredient membrane electrode.

Comprehensive analysis of gluten in processed foods using a new extraction method and a competitive ELISA based on R5 antibody

Pages 33-40
María C. Mena, Manuel Lombardía, Alberto Hernando, Enríqu Méndez, Juan P. Albar

High accuracy rate was obtained.
Highlights

► A disposable electrode based on chitosan modified carbon fiber electrode for dengue virus envelope protein detection.
► The use of 2′-azino-bis-(3-ethylthiazoline-6-sulfonic acid) (ABTS) as mediator for amperometric response showed a good enzyme sensors.
► The detection limit was lower than previously reported values.
► The intra- and inter-assay accuracy and precision, determined as relative standard deviation, respectively were 5.8% and 3.6%.
► This is a cost-effective tool for envelope protein DENV detection.

Gas diffusion flow injection determination of thiomersal in vaccines

Highlights

► Gas diffusion flow injection analysis.
► Cold vapor generation method used for thiomersal in vaccines.

Modification of VTMS hybrid monolith via thiol-ene click chemistry for capillary electrochromatography

Highlights

► Vinyl silica hybrid monolith was fabricated.
► Surface derivatization using thiol-ene “click” strategy on vinyl-silica monolithic matrix.
► A promising method for modification of organic–inorganic hybrids.

Reduction of acid effects on trace element determination in food samples by CH₄ mixed plasma-DRC-MS

Highlights

► The use of methane mixed plasma for trace element determination in food samples.
Highlights

► Addition of methane to Ar-plasma can eliminate the acid interferences on Cr, As and Se were removed by CH₄ as the has great potential for the trace elements in various food san

An optical sensor for mercuric ion based on immobilization Rhodamine B derivative in PVC membrane

Lixin Ling, Yan Zhao, Juan Du, Dan Xiao

Highlights

► A reversible RND-based mercuric ions PVC membrane unique dual chromo- and fluorescence enhancement was ob wide dynamic range, high reproducibility, good selectivity. ► 8.3 × 10⁻¹¹ M in bulk and flow-cell methods. ► It is useful for in situ without prior treatment.

Direct matrix assisted laser desorption ionization mass spectrometry-based analysis of wine as a powerful tool classification purposes

J.D. Nunes-Miranda, Hugo M. Santos, Miguel Reboiro-Jato, Florentino Fdez-Riverola, G. Igrejas, Carlos Lodeiro, J.L. Ca

Highlights

► Direct MALDI analysis for the classification of wines has b wines were correctly classified, including three wines done in different wineries. ► α-Cyano was found the best matrix m classify the wines was found to be Bayes Net.

Simple and rapid determination of norethindrone in human plasma by supported liquid extraction and ultra perform liquid chromatography with tandem mass spectrometry

Zhilong Gong, Kiresha Chandler, Stephen Webster, Remy K Susan Buist, Melanie McCort-Tipton

Highlights

► The first published LC/MS/MS method for norethindrone Simple, fast, convenient and very reproducible extraction. ► and LC/MS/MS analysis time. ► Fully validated, high precisi demonstrated. ► Successfully applied to analysis of thousa

Determination of puerarin in pharmaceutical and biological samples by capillary zone electrophoresis with UV detection

Pages 83-87

Highlights
Lizhen Liu, Feng Feng, Shaomin Shuang, Yunfeng Bai, Mart Choi

**Highlights**

► Development of a new capillary zone electrophoresis method
► The proposed CZE method is accurate, precise and reliable alternative of choice in pharmaceutical industries for quality control and therapeutic drug monitoring.

16  Fabrication of new single-walled carbon nanotubes microelectrode for electrochemical sensors application

Nguyen Xuan Viet, Yoshiaki Ukita, Miyuki Chikae, Yasuhide Kenzo Maehashi, Kazuhiko Matsumoto, Pham Hung Viet, Yū Takamura

**Highlights**

► The novel approach and simple method fabricate an array of SWCNT microelectrodes, electrically isolated from underlying organic compounds.
► SWCNT microelectrodes operation is improved.

17  Electrochemical immunosensor for carcinoembryonic antigen based on nanosilver-coated magnetic beads and gold-graphene nanolabels

Huafeng Chen, Dianping Tang, Bing Zhang, Bingqian Liu, Yū Cui, Guonan Chen

**Highlights**

► We designed a redox-active magnetic immunoassay for detection of antigen.
► Patterning nanosilver assembly on multifunctional graphene nanosheets.

18  Gold nanoparticle extraction followed by o-phthalaldehyde derivatization for fluorescence sensing of different forms of homocysteine in plasma

Yi-Jhen Lai, Wei-Lung Tseng

**Highlights**

► This method provided excellent selectivity toward HCy.
► Method provided the lowest LOD value for HCy.
► Determined different forms of HCy in plasma without chromatography.
► 30 μL of sample volume is required to determine total and parent forms of homocysteine.
Carbon nanotubes-ionic liquid nanocomposites sensing platform for NADH oxidation and oxygen, glucose detection in blood

Lu Bai, Dan Wen, Jianyuan Yin, Liu Deng, Chengzhou Zhu, Shaojun Dong

Highlights

► An excellent sensing platform based on CNTs and IL has nanocomposites enhanced electrocatalytic activity of O₂ and sensor and glucose biosensor was developed. ► The as-prepared sensing platform was used for the detection of NADH and O₂ in real blood samples.

Synthesis and time-gated fluorometric application of a europium(III) complex with a borono-substituted terpyridine polyacid ligand

Mingjing Liu, Zhiqiang Ye, Guilan Wang, Jingli Yuan

Highlights

► A new europium(III) complex has been synthesized as a luminogen. The complex is highly luminescent in buffers with a long luminescence lifetime and can be selectively excited by a short excitation pulse. The complex's luminescence is quenched by reaction with H₂O₂, the complex's luminescence can be selectively excited by a short excitation pulse. The complex's luminescence can be selectively excited by a short excitation pulse.

iTRAQ plus ¹⁸O: A new technique for target glycoprotein analysis

Shu Zhang, Xiaohui Liu, Xiaonan Kang, Chun Sun, Haojie Lu, Pengyuan Yang, Yinkun Liu

Highlights

► We established a novel strategy combining iTRAQ with ¹⁸O. Glycopeptides and glycosite ratio derived from Hp β chain were analyzed. VVLHPN#YSQVDILIK was observed to change significantly.

Determination of ultra-trace formaldehyde in air using ammonium sulfate as derivatization reagent and capillary electrophoresis coupled with on-line electrochemiluminescence detection

Biyang Deng, Yang Liu, Huihui Yin, Xi Ning, Hua Lu, Li Ye, Xu

Highlights

► A novel method for determination of ultra-trace formaldehyde in air was developed. This method allows real-time monitoring of formaldehyde covering five orders of magnitude was not reported before.
method was better than those previously reported. ► The sir
good reproducibility and high sensitivity.

23 Carbohydrate-functionalized surfactant vesicles for con-
the density of glycan arrays
Pages 134-139
Monique A. Pond, Rebecca A. Zangmeister

Highlights

► We developed a facile method for measuring carbohydrate
were functionalized with glycans in a controlled range of den
vesicles were deposited onto a nitrocellulose surface. ► Gly
easily varied through fabrication of the vesicles. ► Differen-
the glycan array were measured.