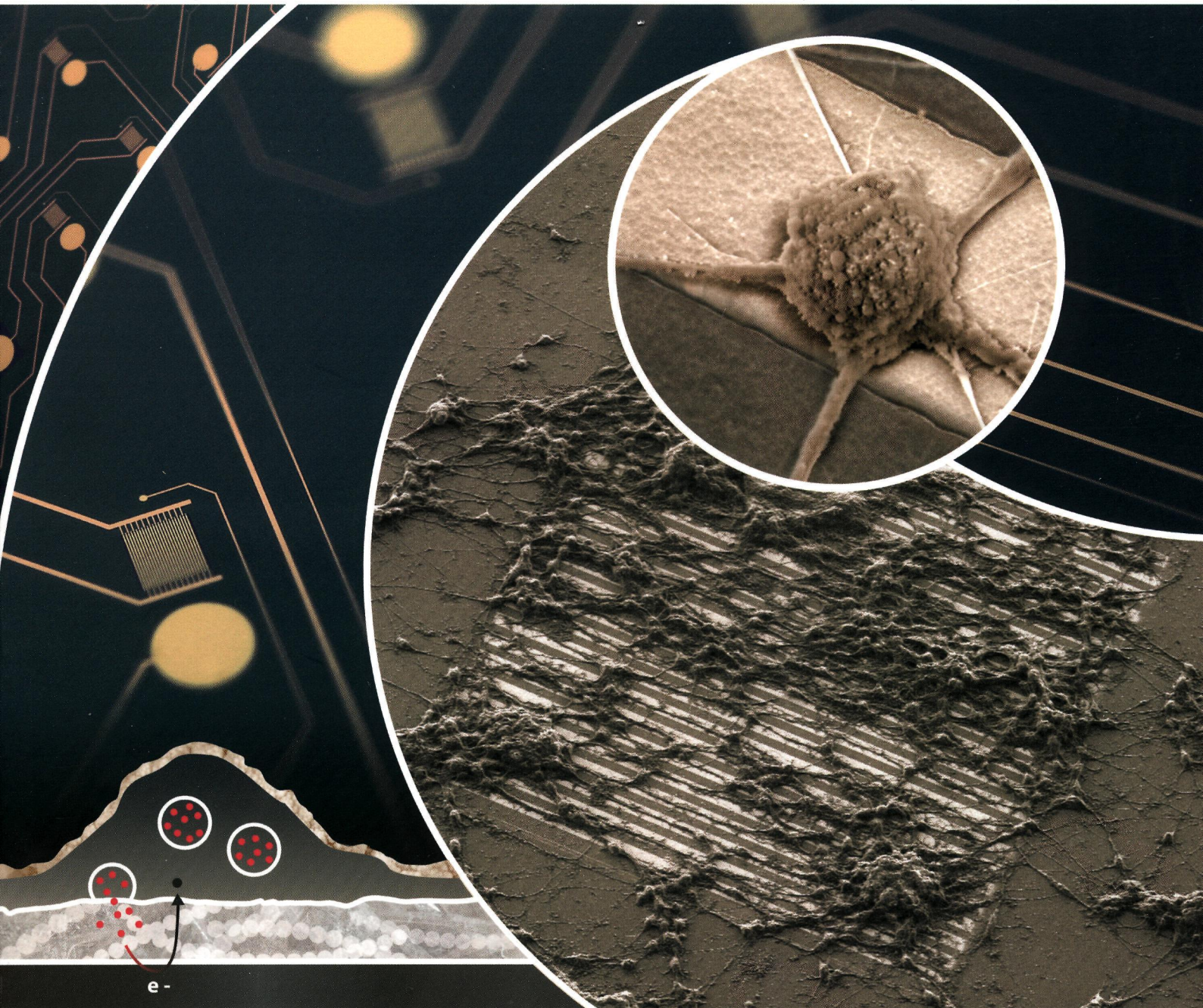


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HOT ARTICLE

Jenny Emnéus *et al.*
Doped overoxidized polypyrrole microelectrodes as sensors
for the detection of dopamine released from cell populations



0003-2654 (2013) 138:13;1-Y

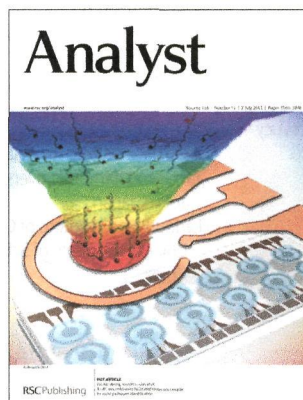
IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 138(13) 3563–3846 (2013)



Cover

See Jenny Emnéus *et al.*, pp. 3651–3659.
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Inside cover

See Pak Kin Wong, Joseph C. Liao *et al.*, pp. 3660–3666.
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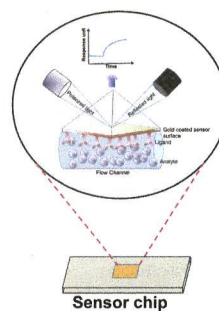
MINIREVIEW

3576

Label-free methods of reporting biomolecular interactions by optical biosensors

Marimuthu Citartan, Subash C. B. Gopinath,*
Junji Tominaga and Thean-Hock Tang*

Monitoring label-free biomolecular interactions *via* optical-based biosensors.



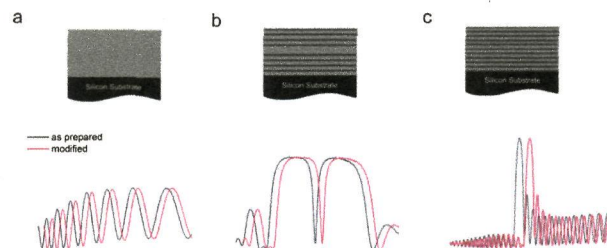
CRITICAL REVIEW

3593

Functionalised porous silicon as a biosensor: emphasis on monitoring cells *in vivo* and *in vitro*

Bakul Gupta,* Ying Zhu, Bin Guan, Peter J. Reece
and J. Justin Gooding*

Porous silicon photonics is the ideal platform for high sensitivity, high selectivity monitoring of biological molecules in a complex fluidic environment.



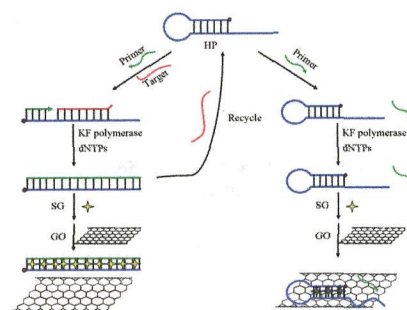
Федеральное государственное
бюджетное учреждение науки
Центральная научная библиотека
Уральского отделения
Российской академии наук (ЦНБ УрО РАН)

3616

A label-free amplified fluorescence DNA detection based on isothermal circular strand-displacement polymerization reaction and graphene oxide

Zhen Li, Wenping Zhu, Jinwen Zhang, Jianhui Jiang,*
Guoli Shen and Ruqin Yu*

A label-free fluorescent DNA biosensor was first developed based on isothermal circular strand-displacement polymerization reaction combined with graphene oxide binding.

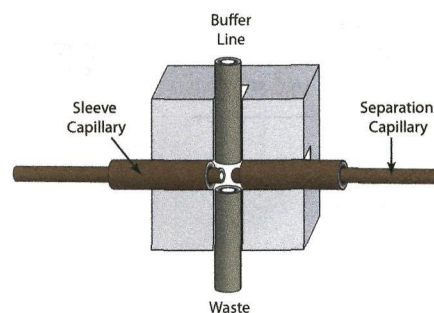


3621

Nicked-sleeve interface for two-dimensional capillary electrophoresis

Ryan J. Flaherty, Bonnie J. Huge, Spencer M. Bruce,
Oluwatosin O. Dada and Norman J. Dovichi*

We report an improved interface for two-dimensional capillary electrophoresis.

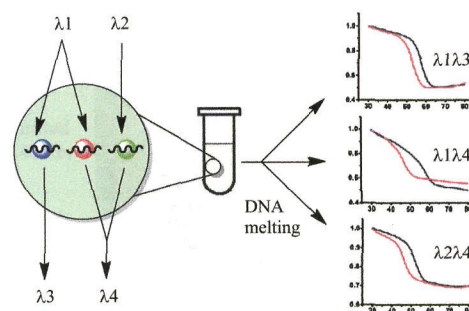


3626

Use of a large Stokes-shift fluorophore to increase the multiplexing capacity of a point-of-care DNA diagnostic device

James A. Richardson, Trevor Morgan, Michael Andreou
and Tom Brown*

A simple and effective method for increased multiplexing has been developed for use in point of care DNA diagnostic applications.

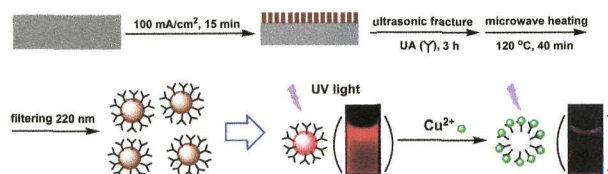


3629

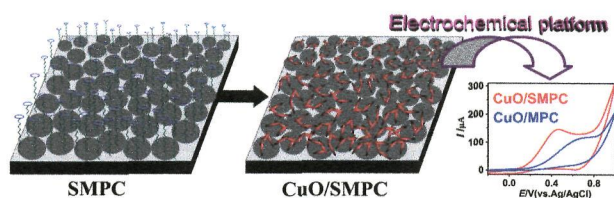
Fluorescence quenching in luminescent porous silicon nanoparticles for the detection of intracellular Cu^{2+}

Bing Xia,* Wenyi Zhang, Jisen Shi and Shoujun Xiao

A PSiNPs-based fluorescent assay with high specificity and sensitivity was designed for cellular imaging and biosensing of intracellular Cu^{2+} .



3633

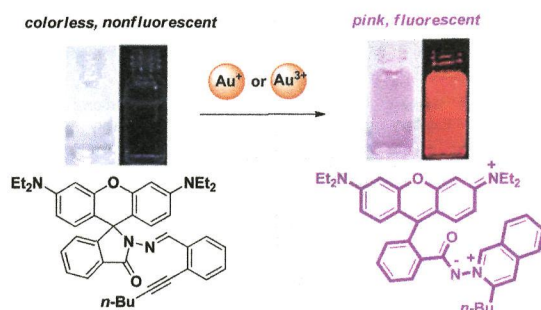


Preparation of copper oxide anchored on surfactant-functionalized macroporous carbon composite and its electrochemical applications

Yufan Zhang, Xiangjie Bo, Anaclet Nsabimana, Huan Wang, Mian Li and Liping Guo*

CuO nanoparticles were anchored on surfactant-functionalized macroporous carbon (MPC), which exhibits significant catalytic activity for the oxidation of hydrazine.

3638

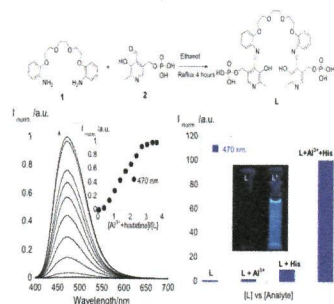


A rhodamine based "turn-on" chemodosimeter for monitoring gold ions in synthetic samples and living cells

Mustafa Emrullahoğlu,* Erman Karakuş and Muhammed Uçüncü

The novel "turn-on" type chemodosimeter shows highly selective recognition towards Au(I) and Au(III) ions over other metal ions.

3642

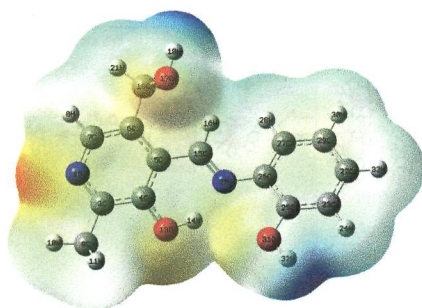


Turn-on selective vitamin B6 derivative fluorescent probe for histidine detection in biological samples

Elisabete Oliveira,* Carla Santos, Patrícia Poeta, José Luis Capelo and Carlos Lodeiro*

The complex LAI³⁺ is a turn-on selective fluorescent probe for histidine in HEPES buffer and urine samples.

3646



Fluorescence 'turn-on' sensor for F⁻ derived from vitamin B₆ cofactor

Darshna Sharma, Suban K. Sahoo,* Soma Chaudhary, Rati Kanta Bera and John F. Callan

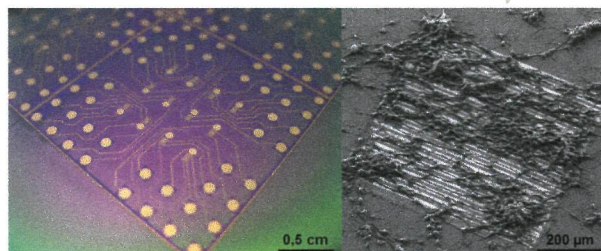
A novel vitamin B₆ Schiff base analog (L) was synthesized by combining vitamin B₆ cofactor pyridoxal with 2-aminophenol.

3651

Doped overoxidized polypyrrole microelectrodes as sensors for the detection of dopamine released from cell populations

Luigi Sasso, Arto Heiskanen, Francesco Diazzi, Maria Dimaki, Jaime Castillo-León, Marco Vergani, Ettore Landini, Roberto Raiteri, Giorgio Ferrari, Marco Carminati, Marco Sampietro, Winnie E. Svendsen and Jenny Ennéus*

Overoxidized polystyrene sulfone doped polypyrrole as electrode modification to enhance dopamine sensitivity for detection of dopamine release from cell populations.

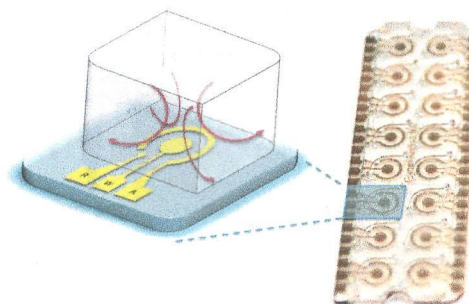


3660

An AC electrokinetics facilitated biosensor cassette for rapid pathogen identification

Mengxing Ouyang, Ruchika Mohan, Yi Lu, Tingting Liu, Kathleen E. Mach, Mandy L. Y. Sin, Mason McComb, Janhvi Joshi, Vincent Gau, Pak Kin Wong* and Joseph C. Liao*

To develop a portable point-of-care system based on biosensors for common infectious diseases such as urinary tract infection, the sensing process needs to be implemented within an enclosed fluidic system.

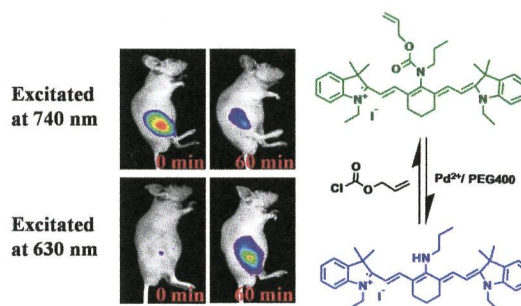


3667

A near-infrared and ratiometric fluorescent chemosensor for palladium

Junyu Wang, Fengling Song,* Jingyun Wang and Xiaojun Peng*

A NIR chemosensor for palladium based on the Tsuji–Trost reaction was developed and its bioimaging potential demonstrated by *in vitro* and *in vivo* experiments.

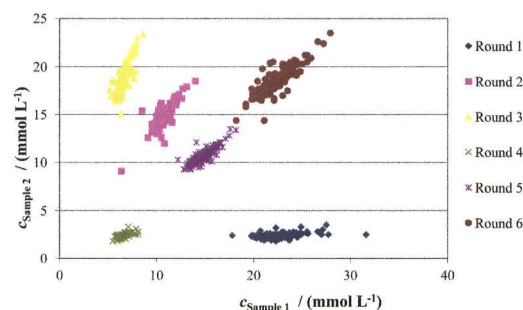


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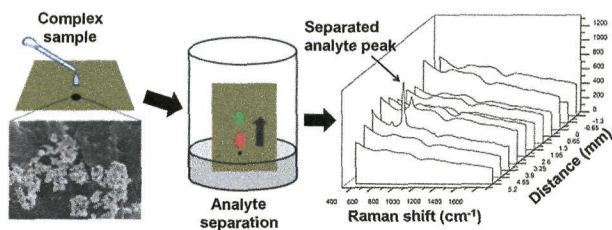
A study of the conditions of measurement required to evaluate bias in analytical results illustrated by the use of data from a multi-round, blind-duplicated, proficiency test

Gregory E. O'Donnell and D. Brynn Hibbert*

Analysis of the results of a proficiency testing program (218 laboratories, six rounds, two samples) for the measurement of creatinine in urine show that the bias, which is present in all measurements, contains contributions from laboratory bias and run bias.



3679

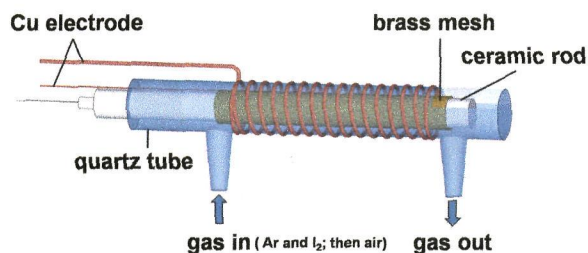


Chromatographic separation and detection of target analytes from complex samples using inkjet printed SERS substrates

Wei W. Yu and Ian M. White*

We demonstrate separation and detection of analytes from complex samples using the chromatographic properties of inkjet-printed surface enhance Raman spectroscopy (SERS) devices.

3687

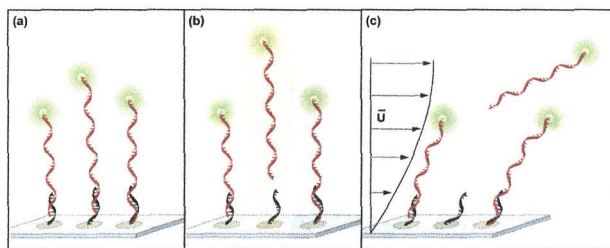


Solution-free, *in situ* preparation of nano/micro CuO/ZnO in dielectric barrier discharge for sensitive cataluminescence sensing of acetic acid

Hui Xia, Ronghui Zhou, Chengbin Zheng, Peng Wu, Yunfei Tian and Xiandeng Hou*

A new solution-free strategy is used for preparation of cluster-like nano/micro CuO/ZnO particles in dielectric barrier discharge in which the brass acts as the inner electrode for sensing of acetic acid.

3692

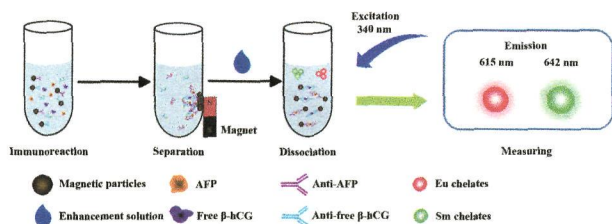


On-chip laser-induced DNA dehybridization

E. K. Wheeler, B. R. Baker, W. T. Piggott, S. L. Mabery, C. A. Hara, J. DeOtte, W. Benett, E. V. Mukerjee, J. Dzenitis and N. R. Beer*

Laser-induced DNA dehybridization and capture of oligonucleotides from individual microarray spots for sample enrichment.

3697

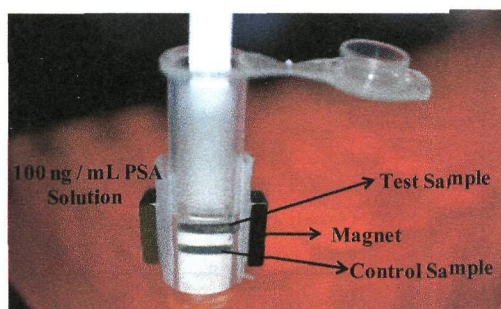


Magnetic particle-based time-resolved fluoroimmunoassay for the simultaneous determination of α -fetoprotein and the free β -subunit of human chorionic gonadotropin

Jing-Yuan Hou, Tian-Cai Liu, Zhi-Qi Ren, Mei-Jun Chen, Guan-Feng Lin and Ying-Song Wu*

A novel fluoroimmunoassay for the simultaneous determination of α -fetoprotein and the free β -subunit of human chorionic gonadotropin.

3735

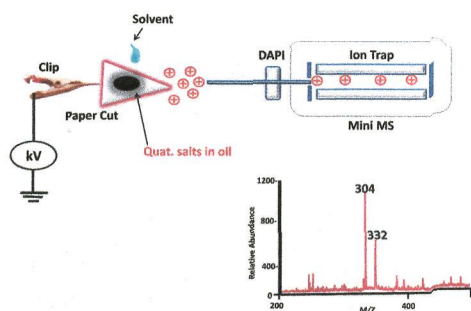


Ultra-rapid colorimetric assay for protease detection using magnetic nanoparticle-based biosensors

Ghadeer A. R. Y. Suaifan, Chiheb Esseghaier, Andy Ng and Mohammed Zourob*

A simple, instrument-free biosensor that can lead to low-cost point-of-care device for sensitive protease detection.

3740

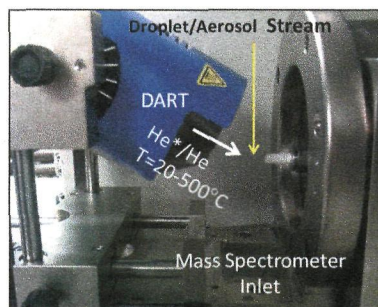


In situ analysis of corrosion inhibitors using a portable mass spectrometer with paper spray ionization

Fred. P. M. Jjunju, Anyin Li, Abraham Badu-Tawiah, Pu Wei, Linfan Li, Zheng Ouyang, Iman S. Roqan and R. Graham Cooks*

Paper spray (PS) ambient ionization is implemented using a portable mass spectrometer and applied to the detection of alkyl quaternary ammonium salts in a complex oil matrix.

3749

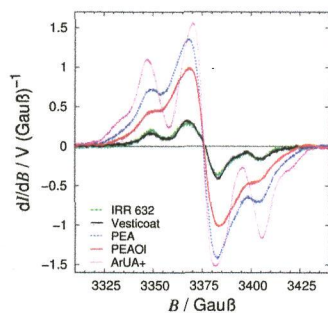


Real time *in situ* chemical characterization of sub-micron organic aerosols using Direct Analysis in Real Time mass spectrometry (DART-MS): the effect of aerosol size and volatility

Man Nin Chan, Theodora Nah and Kevin R. Wilson*

Direct Analysis in Real Time mass spectrometry is used to probe the surface chemical composition of organic aerosol and aqueous droplets.

3758



Introduction to analyzing the solidification of multifunctional acrylic esters by ESR

Michael Schmitt*

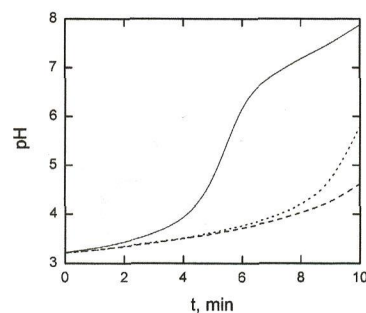
A kinetic *in situ* ESR-study of multifunctional resins is presented in combination with the computation of the trapped midchain radical.

3771

Retention modeling in combined pH/organic solvent gradient reversed-phase HPLC

Ch. Zisi, S. Fasoula, P. Nikitas and A. Pappa-Louisi*

An approach for retention modeling of double pH/organic solvent gradient data easily generated by automatically mixing two mobile phases with different pH and organic content according to a linear pump program is proposed.

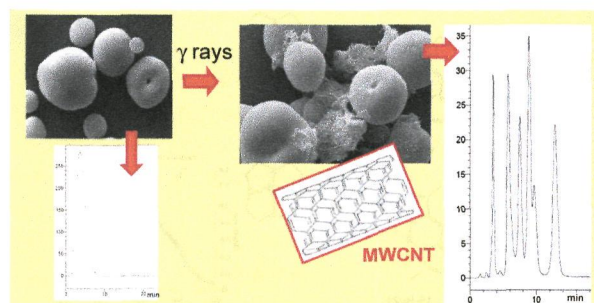


3778

Radiation-induced grafting of carbon nanotubes on HPLC silica microspheres: theoretical and practical aspects

Andrea Speltini,* Daniele Merli, Daniele Dondi, Chiara Milanese, Pietro Galinetto, Carlo Bozzetti and Antonella Profumo*

Carbon nanotubes immobilized on silica microspheres by γ -radiation preserve their pristine characteristics; this material is suitable for selective chromatographic separations.

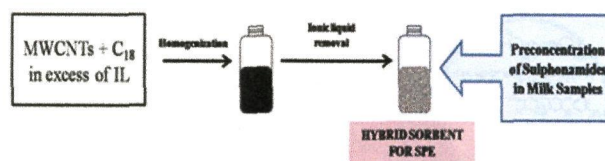


3786

Solid phase extraction-capillary electrophoresis determination of sulphonamide residues in milk samples by use of C₁₈-carbon nanotubes as hybrid sorbent materials

M. L. Polo-Luque, B. M. Simonet and M. Valcárcel*

The sorption capabilities of two CNT/C₁₈ hybrid sorbent materials for preconcentrating sulphonamides from milk samples are evaluated.

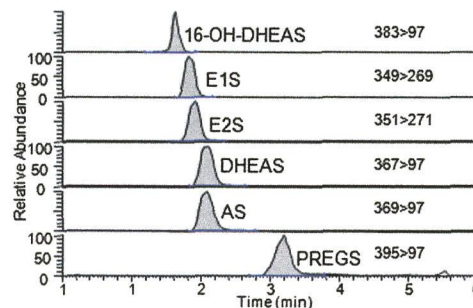


3792

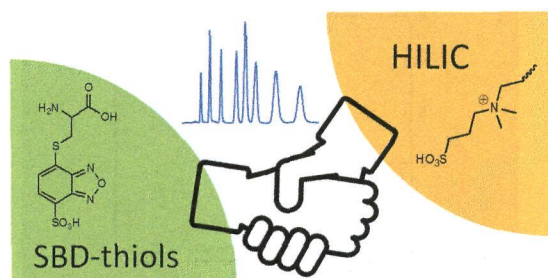
Profiling intact steroid sulfates and unconjugated steroids in biological fluids by liquid chromatography-tandem mass spectrometry (LC-MS-MS)

Christina E. Galuska, Michaela F. Hartmann,* Alberto Sánchez-Guijo, Katharina Bakhaus, Joachim Geyer, Gerhard Schuler, Klaus-Peter Zimmer and Stefan A. Wudy

To elucidate the metabolism of steroid sulfates, a LC-MS-MS method for profiling 6 sulfated and 11 unconjugated steroids was developed.



3802

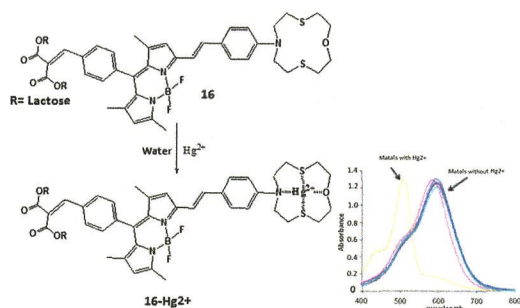


Fast and simultaneous analysis of biothiols by high-performance liquid chromatography with fluorescence detection under hydrophilic interaction chromatography conditions

Muneki Isokawa, Takashi Funatsu and Makoto Tsunoda*

A method for analyzing biothiols based on high-performance liquid chromatography (HPLC)-fluorescence detection under hydrophilic interaction chromatography (HILIC) conditions has been developed.

3809

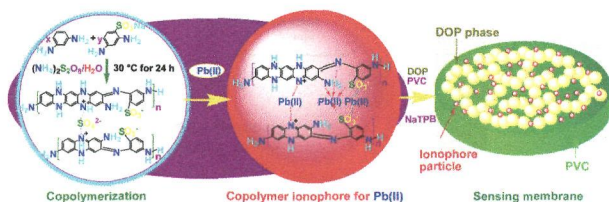


A water soluble fluorescent BODIPY dye with azathia-crown ether functionality for mercury chemosensing in environmental media

Jalal Isaad* and Ahmida El Achari

A novel water soluble fluorescent BODIPY probe with azathia-crown ether was synthesized for selective and sensitive mercury detection in water.

3820

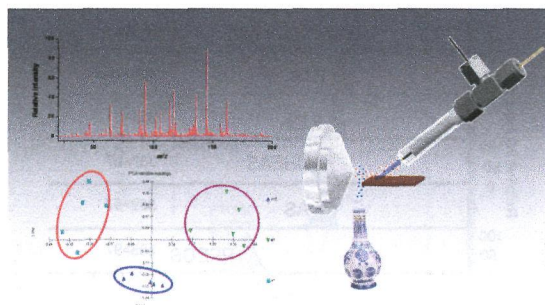


Lead-ion potentiometric sensor based on electrically conducting microparticles of sulfonic phenylenediamine copolymer

Mei-Rong Huang,* Yong-Bo Ding and Xin-Gui Li*

A robust potentiometric Pb(II)-sensor containing conducting copolymer ionophore demonstrates excellent comprehensive performance, achieving credible trace analysis of Pb(II) in real-world samples.

3830



Differentiation of Chinese liquors by using ambient glow discharge ionization mass spectrometry

Cheng Zhen, Yueming Zhou, Ning Zhang, Jiyun Wang, Caiqiao Xiong, Suming Chen and Zongxiu Nie*

A novel method based on ambient glow discharge ionization mass spectrometry has been developed to differentiate Chinese liquors.

3836

Correlated Raman micro-spectroscopy and scanning electron microscopy analyses of flame retardants in environmental samples: a micro-analytical tool for probing chemical composition, origin and spatial distribution

Sutapa Ghosal* and Jeff Wagner

We present correlated application of two micro-analytical techniques: Raman micro-spectroscopy and SEM/EDS for the non-invasive characterization and molecular identification of flame retardants (FRs) in environmental samples.

