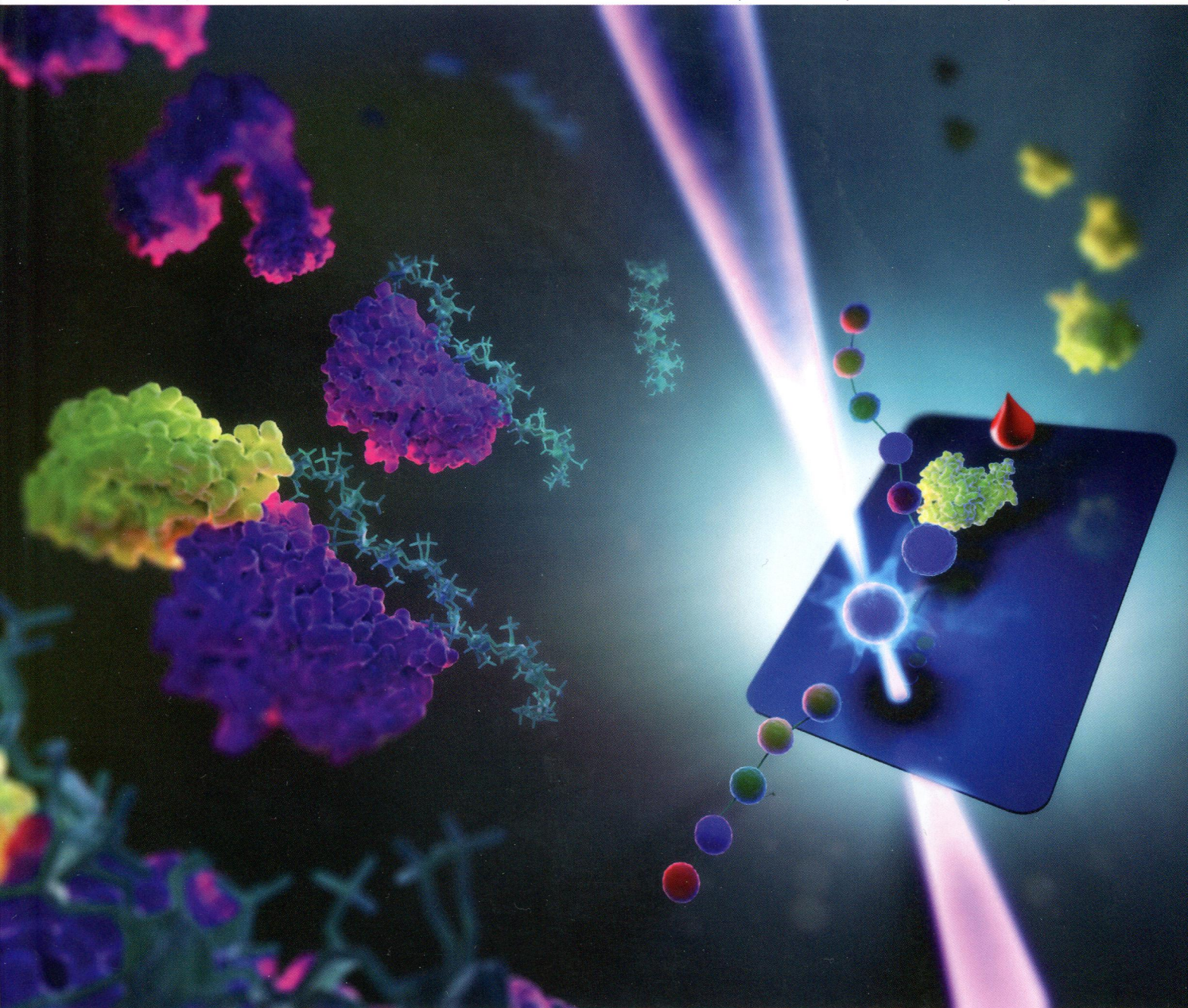


771
A53/2

Analyst

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Volume 138 | Number 17 | 7 September 2013 | Pages 4695–5158

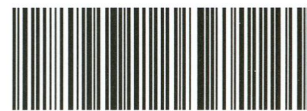


ISSN 0003-2654

RSC Publishing

HOT ARTICLE

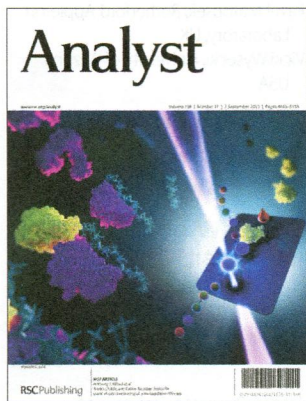
Anthony J. Killard *et al.*
A microfluidic anti-Factor Xa assay device for
point of care monitoring of anticoagulation therapy



0003-2654 (2013) 138:17;1-U

IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 138(17) 4695–5158 (2013)



Cover

See Anthony J. Killard *et al.*, pp. 4769–4776.
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Inside cover

See Pak Kin Wong *et al.*, pp. 4777–4785.
Image reproduced by permission of Pak Kin Wong from *Analyst*, 2013, **138**, 4777.

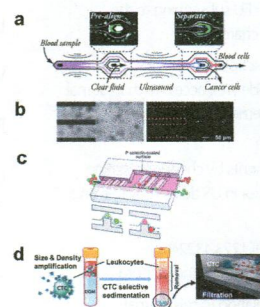
CRITICAL REVIEW

4714

Recent advances in microfluidic cell separations

Yan Gao, Wenjie Li and Dimitri Pappas*

The isolation and sorting of cells has become an increasingly important step in chemical and biological analyses.



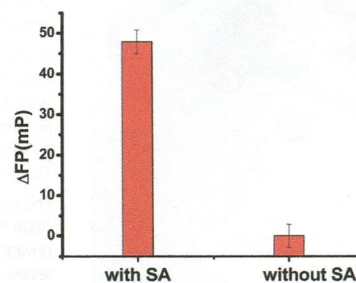
COMMUNICATIONS

4722

Protein-binding aptamer assisted signal amplification for the detection of influenza A (H1N1) DNA sequences based on quantum dot fluorescence polarization analysis

Juanni Zhang, Jianniao Tian,* Yanlong He, Sheng Chen, Yixuan Jiang, Yanchun Zhao* and Shulin Zhao

We report a fluorescence polarization platform for H1N1 detection based on the construction of a DNA functional QD fluorescence polarization probe and a bi-functional protein binding aptamer (Apt-DNA).



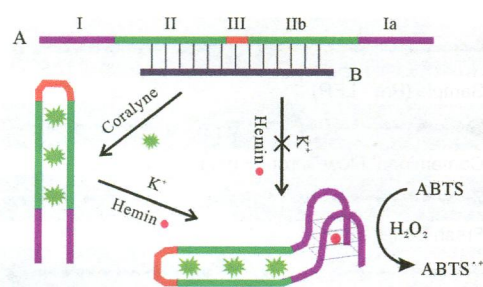
Федеральное государственное
бюджетное учреждение науки
Центральная научная библиотека
Уральского отделения
Российской академии наук (ЦНБ УРО РАН)

4728

A label-free and colorimetric turn-on assay for coralyne based on coralyne-induced formation of peroxidase-mimicking split DNAzyme

Ting Hou, Xiuzhong Wang, Xiaojuan Liu, Shufeng Liu, Zongfeng Du and Feng Li*

A simple, label-free and colorimetric method for coralyne detection was successfully established based on the coralyne-induced formation of split G-quadruplex-hemin DNAzyme.

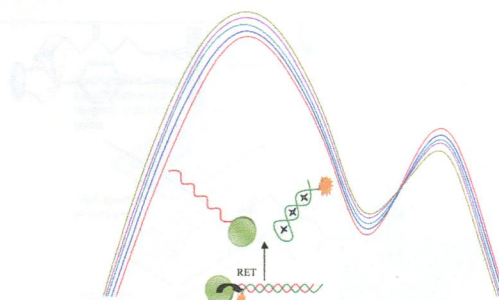


4732

A novel aptasensor for the ultra-sensitive detection of adenosine triphosphate via aptamer/quantum dot based resonance energy transfer

Zheng Li, Yijing Wang, Ying Liu, Yongyi Zeng, Aimin Huang, Niancai Peng, Xiaolong Liu* and Jingfeng Liu*

Ultrasensitive quantitative detection of ATP through an aptasensor based on quantum dot resonance energy transfer.

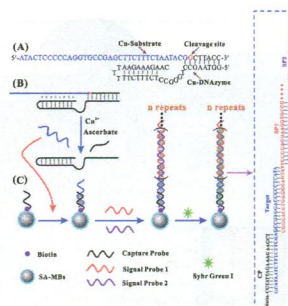


4737

An enzyme-free and label-free assay for copper(II) ion detection based on self-assembled DNA concatamers and Sybr Green I

Chenchen Ge, Junhua Chen, Wei Wu, Zhiyuan Fang, Lingbo Chen, Qi Liu, Lin Wang, Xuerong Xing and Lingwen Zeng*

An enzyme-free and label-free fluorescence turn on biosensor for amplified copper(II) ion (Cu^{2+}) detection has been constructed based on self-assembled DNA concatamers and Sybr Green I. This assay is simple, inexpensive and sensitive, enabling quantitative detection of as low as 12.8 pM Cu^{2+} .

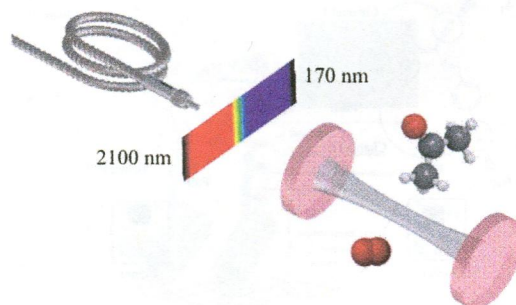


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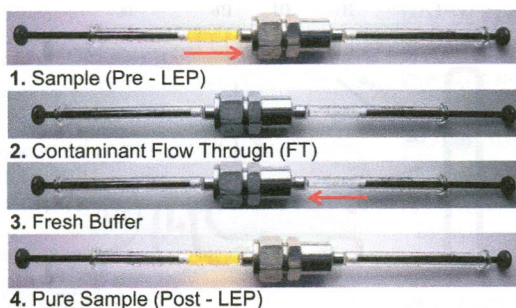
Demonstration of a novel laser-driven light source for broadband spectroscopy between 170 nm and 2.1 μm

Meez Islam,* Luca Ciaffoni, Gus Hancock and Grant A. D. Ritchie

A novel laser driven light source has been used to make broadband cavity enhanced spectroscopy measurements.



4746

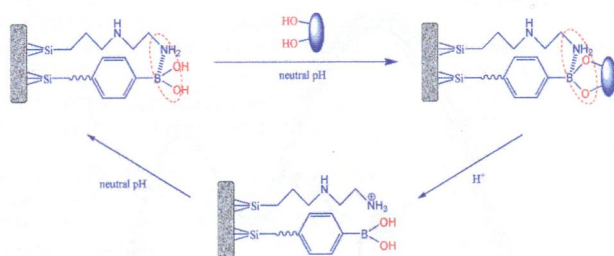


Functionalized liposome purification via Liposome Extruder Purification (LEP)

Nathan J. Alves, William Cusick, Jared F. Stefanick, Jonathan D. Ashley, Michael W. Handlogten and Basar Bilgicer*

Liposome Extruder Purification (LEP) rapidly purifies functionalized liposomes with >93% contaminant removal and >93% liposome recovery for diverse liposome formulations.

4752

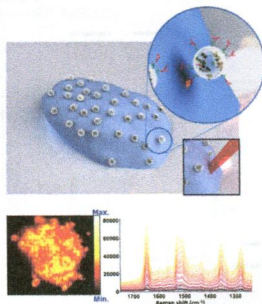


One-step synthesis of an organic-inorganic hybrid boronate affinity monolithic column with synergistic co-monomers

Qin Yang, Dihui Huang, Shanxia Jin, Hailong Zhou and Ping Zhou*

An organic-inorganic hybrid and synergistic boronate affinity monolithic column was synthesized by a facile "one-step" approach.

4756

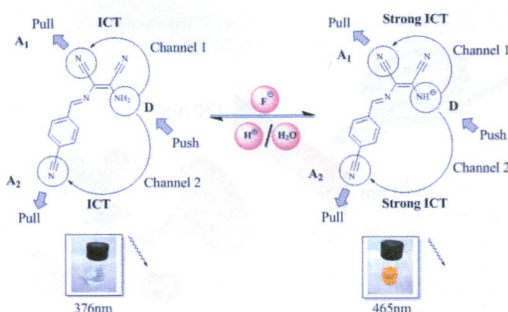


Controlled biohybrid nanoprobe with silver nanoparticle clusters for Raman imaging

Ghulam Jalani, Sangyeop Lee, Chan Woo Jung, Hongdeok Jang, Jaebum Choo* and Dong Woo Lim*

A new class of controlled biohybrid nanoprobe was developed by electrohydrodynamic jetting of polymer solutions with a homogeneous suspension of silver nanoparticle clusters for SERS-based imaging of biological markers. The control of SERS intensity with high sensitivity, chemical stability, and biocompatibility makes SERS biohybrid nanoprobe useful for bioimaging.

4760



Exclusive fluoride ion recognition and fluorescence "turn-on" response with a label-free DMN Schiff base

Masood Ayoub Kaloo and Jeyaraman Sankar*

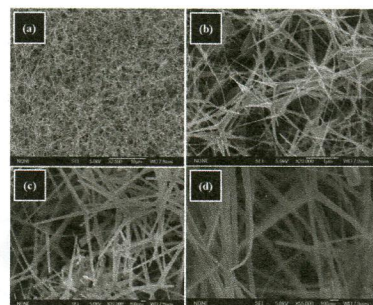
A simple and neutral diaminomalenonitrile Schiff base **4** with strong ICT properties has been developed as a highly selective and rapid signalling system for fluoride ions with a strong output signal response.

4764

Rapid microwave synthesis of high aspect-ratio ZnO nanotetrapods for swift bisphenol A detection

Ahsanulhaq Qurashi,* Jahangir Ahmad Rather, Karolien De Wael, Belabbes Merzougui, Naour Tabet and Mohammed Faiz

Low and high magnification FESEM images of synthesized ZnO nanotetrapods.



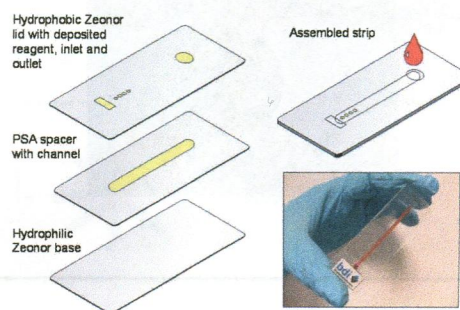
PAPERS

4769

A microfluidic anti-Factor Xa assay device for point of care monitoring of anticoagulation therapy

Leanne F. Harris, Paul Rainey, Vanessa Castro-López, James S. O'Donnell and Anthony J. Killard*

Here we present a novel fluorescence-based anti-Factor Xa microfluidic assay device for point of care monitoring of the effect of anticoagulant therapy.

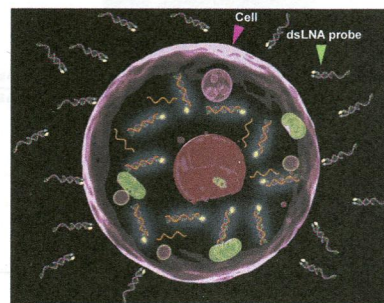


4777

Detection of mRNA in living cells by double-stranded locked nucleic acid probes

Reza Riahi, Zachary Dean, Ting-Hsiang Wu, Michael A. Teitell, Pei-Yu Chiou, Donna D. Zhang and Pak Kin Wong*

A double-stranded locked nucleic acid (dsLNA) probe enables real-time single cell gene expression analysis in living cells.

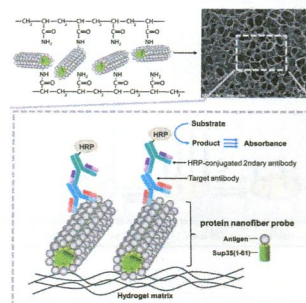


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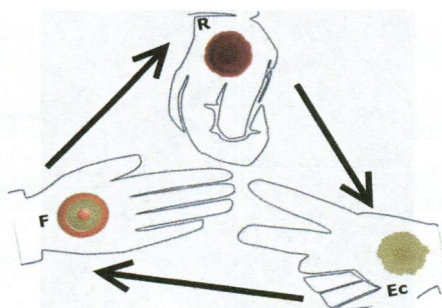
A protein nanofiber hydrogel for sensitive immunoassays

Dae-Sung Lee, Jin-Seung Park, Eun Jung Lee, Hyun Jin Kim and Jeewon Lee*

A protein nanofiber hydrogel with homogeneous porosity was synthesized by cross-linking protein nanofibers with acrylamide, followed by a simultaneous copolymerization, and was then used as a sensitive 3D assay platform for the diagnosis of Sjögren's syndrome.



4795

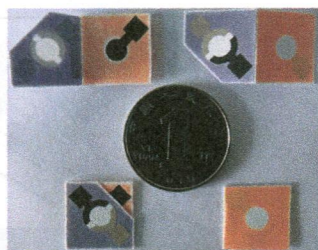


Real time monitoring of population dynamics in concurrent bacterial growth using SIFT-MS quantification of volatile metabolites

Kristýna Soyová, Jaroslav Čepl, Anton Markoš and Patrik Španěl*

Dynamics of the "rock-paper-scissors" game between *Serratia rubidaea* (R), *Serratia marcescens* (F) and *Escherichia coli* (Ec) was studied using concentrations of ammonia, ethanol, acetaldehyde, propanol, acetoin, acetone and acetic acid.

4802

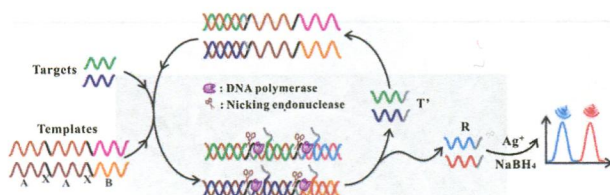


Photoelectrochemical lab-on-paper device based on molecularly imprinted polymer and porous Au-paper electrode

Panpan Wang, Guoqiang Sun, Lei Ge, Shenguang Ge, Jinghua Yu and Mei Yan*

In this work, a novel microfluidic photoelectrochemical origami device (μ -PECOD) was designed and tested in a PEC method as a truly low-cost, simple, portable, and disposable microfluidic paper-based analytical device (μ -PAD).

4812

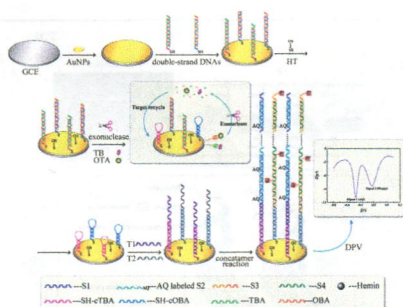


Multiplexed detection of microRNAs by tuning DNA-scaffolded silver nanoclusters

Min Zhang, Yu-Qiang Liu, Cui-Yuan Yu, Bin-Cheng Yin* and Bang-Ce Ye*

Light-up fluorescent detection of multiple nucleic acids by tuning DNA-scaffolded silver nanoclusters.

4818



An aptasensing platform for simultaneous detection of multiple analytes based on the amplification of exonuclease-catalyzed target recycling and DNA concatemers

Liping Jiang, Jingdong Peng,* Ruo Yuan,* Yaqin Chai, Yali Yuan, Lijuan Bai and Yan Wang

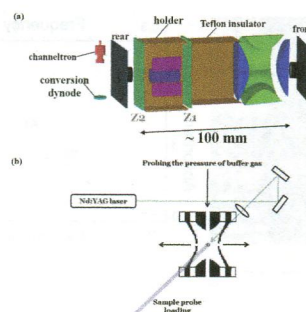
An ultrasensitive electrochemical aptasensor for the simultaneous detection of thrombin (TB) and ochratoxin A (OTA) was fabricated using exonuclease-catalyzed target recycling and DNA concatemers for signal amplification.

4823

Biomolecular dual-ion-trap mass analyzer

Yun-Fei Hsu, Jung-Lee Lin, Ming-Lee Chu
and Chung-Hsuan Chen*

A high transmission dual-ion-trap device for large biomolecule analysis.

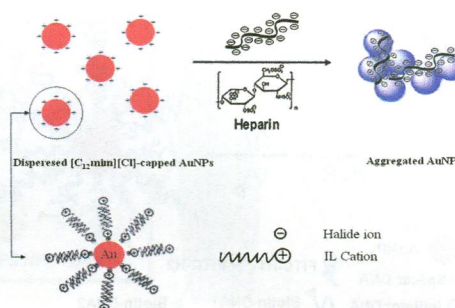


4830

pH-independent optical sensing of heparin based on ionic liquid-capped gold nanoparticles

Bahram Hemmateenejad,* Samira Dorostkar,
Fatemeh Shakerizadeh-Shirazi and Mojtaba Shamsipur

pH-independent optical method for the sensing of heparin, as a biomedically important polyionic drug, based on aggregation of AuNPs.



4838

Mapping of egg yolk and animal skin glue paint binders in Early Renaissance paintings using near infrared reflectance imaging spectroscopy

Kathryn A. Dooley, Suzanne Lomax, Jason G. Zeibel,
Costanza Miliani, Paola Ricciardi, Ann Hoenigswald,
Murray Loew and John K. Delaney*

Development of high sensitivity standoff chemical imaging to map artist's selective use of binding media across entire painting.

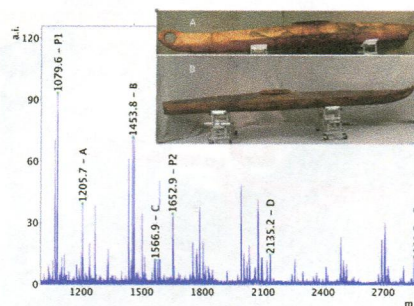


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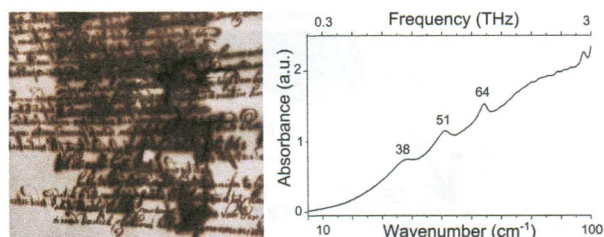
Identification of collagen-based materials in cultural heritage

Daniel P. Kirby,* Michael Buckley, Ellen Promise,
Sunia A. Trauger and T. Rose Holdcraft

Peptide mass fingerprinting provides species level identification of soft tissue materials from cultural heritage.



4859

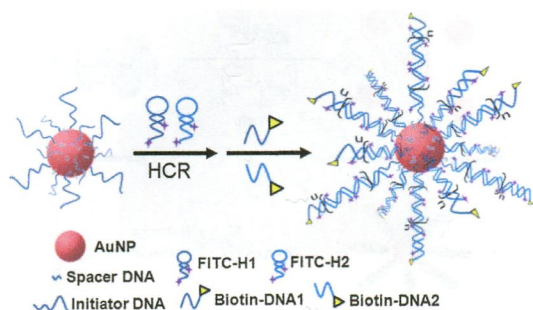


Systematic study of terahertz time-domain spectra of historically informed black inks

Tiphaine Bardon, Robert K. May, Philip F. Taday and Matija Strlič*

Advanced iron gall ink corrosion (image courtesy Nationaal Archief) and a terahertz spectrum of model iron gall ink.

4870

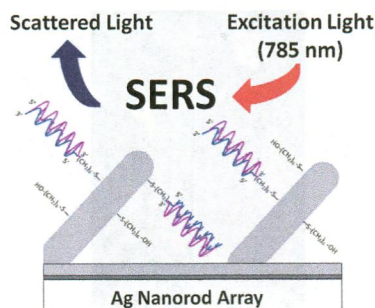


Hybridization chain reaction engineered DNA nanopolylinker for amplified electrochemical sensing of biomarkers

Liu Tong, Jie Wu,* Jie Li, Huangxian Ju* and Feng Yan

A three dimensional DNA nanopolylinker was designed with high loading of signal molecules for amplified electrochemical sensing of biomarkers.

4877

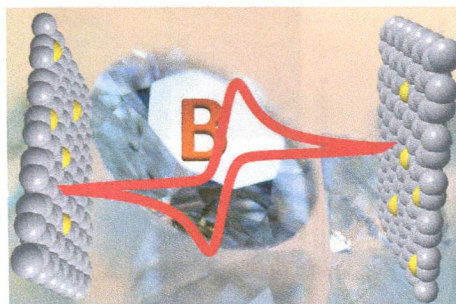


Detection of genetic markers related to high pathogenicity in influenza by SERS

Pierre Negri and Richard A. Dluhy*

We have developed a method for the detection of genetic markers associated with high pathogenicity in influenza.

4885



Boron-doped graphene and boron-doped diamond electrodes: detection of biomarkers and resistance to fouling

Shu Min Tan, Hwee Ling Poh, Zdeněk Sofer and Martin Pumera*

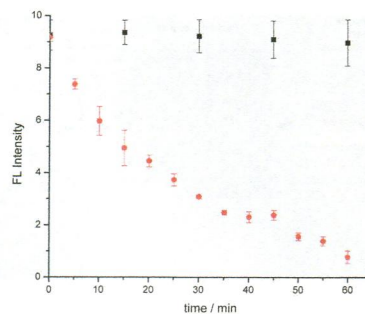
Doped carbon materials are of high interest as doping can change their properties. Here we wish to contrast the electrochemical behaviour of two carbon allotropes – sp^3 hybridized carbon as diamond and sp^2 hybridized carbon as graphene – doped by boron.

4892

High temporal resolution fluorescence measurements of a mitochondrial dye for detection of early stage apoptosis

Divya Iyer, Rachel D. Ray and Dimitri Pappas*

In the present study, early stage apoptosis is explored with high temporal resolution.

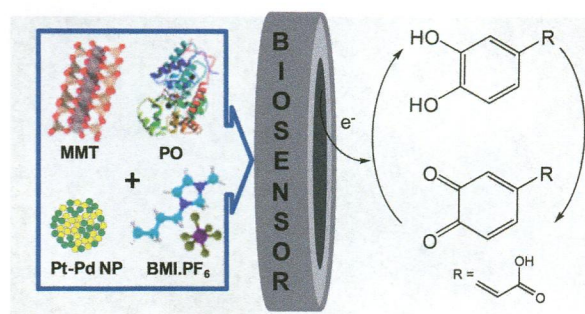


4898

Pt-Pd bimetallic nanoparticles dispersed in an ionic liquid and peroxidase immobilized on nanoclay applied in the development of a biosensor

Jessica M. E. Pusch, Daniela Brondani, Leandro Luza, Jairton Dupont and Iolanda C. Vieira*

Pt-Pd bimetallic nanoparticles dispersed in the ionic liquid 1-butyl-3-methylimidazolium hexafluorophosphate were employed together with peroxidase from cauliflower immobilized on nanoclay for the development of a new biosensor for polyphenol determination in wine.

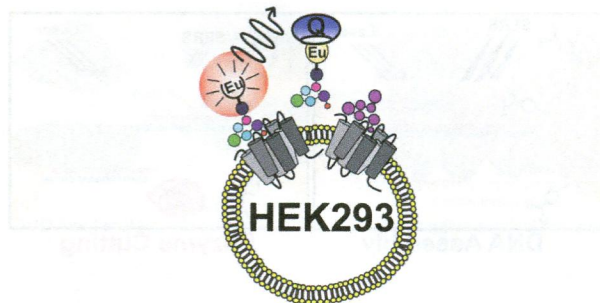


4907

A homogeneous single-label quenching resonance energy transfer assay for a δ -opioid receptor–ligand using intact cells

Kari Kopra,* Shweta,* Eija Martikkala, Pekka Hänninen, Ulla Petäjä-Repo and Harri Härmä

A time-resolved luminescence is produced when a Eu(III) labeled ligand is bound to an opioid receptor. The quenching resonance energy transfer assay enables rapid and reliable homogeneous detection using intact cells.

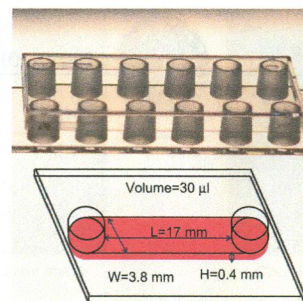


4915

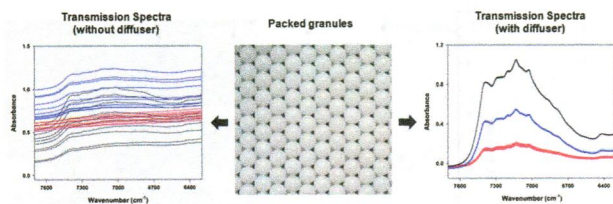
Measurement of cell respiration and oxygenation in standard multichannel biochips using phosphorescent O₂-sensitive probes

Alina V. Kondrashina, Dmitri B. Papkovsky* and Ruslan I. Dmitriev

Measurement of cell oxygenation and oxygen consumption is useful for studies of cell bioenergetics, metabolism, mitochondrial function, drug toxicity and common pathophysiological conditions.



4922

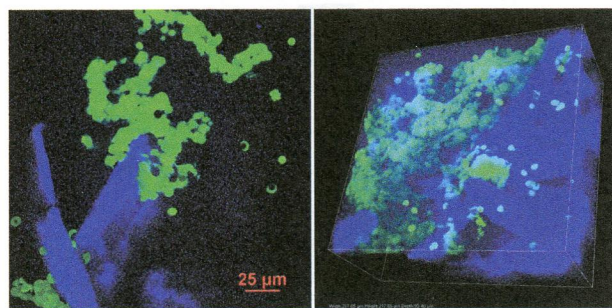


Diffuser-incorporated transmission NIR measurement for reliable analysis of packed granular samples

Jihye Yoon, Jaejin Kim, Pham Khac Duy, Moeung Kim, Sukwon Kang and Hoeil Chung*

The use of a diffuser substantially improves the reproducibility of transmission spectral collection for packed granular samples.

4933

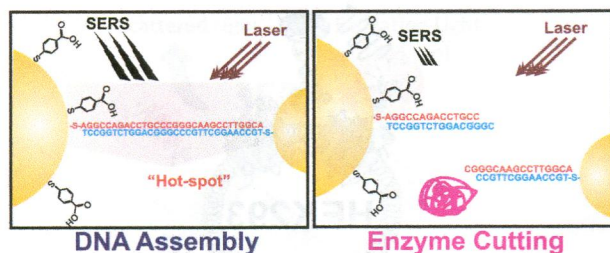


A study of the transport and immobilisation mechanisms of human red blood cells in a paper-based blood typing device using confocal microscopy

Lizi Li, Junfei Tian, David Ballerini, Miaosi Li and Wei Shen*

Agglutination of red blood cells inside a paper fibre network provides a new mechanism for blood typing using paper-based devices. This mechanism is revealed by confocal microscopy on the cellular level.

4941

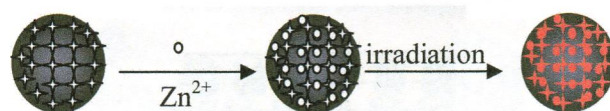


DNA assembly and enzymatic cutting in solutions: a gold nanoparticle based SERS detection strategy

Elizabeth Crew, Hong Yan, Liqin Lin, Jun Yin, Zakiya Skeete, Timur Kotlyar, Nuri Tchah, Jehwan Lee, Michael Bellavia, Isaac Goodshaw, Pharrah Joseph, Jin Luo, Susannah Gal* and Chuan-Jian Zhong*

A new strategy is demonstrated by exploiting an interparticle "hot-spot" for SERS detection of DNA assembly and enzyme cleavage in solution.

4950



A target-induced fluorescent nanoparticle for *in situ* monitoring of Zn(II)

Carrie L. John, Yanfu Huan, Xu Wu, Yuhui Jin, David T. Pierce and Julia Xiaojun Zhao*

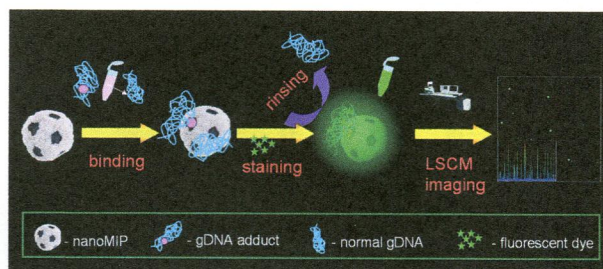
A target-induced fluorescent silica nanoparticle for monitoring of Zn(II).

4958

Plastic antibody for DNA damage: fluorescent imaging of BPDE–dG adducts in genomic DNA

Junfa Yin, Zhixin Wang, Maoyong Song, Chao Zhao and Hailin Wang*

We demonstrated that a synthetic nanoMIP could be utilized as the plastic antibody for fluorescent imaging of BPDE–ssDNA adducts in genomic DNA isolated from cancer cells. This highly-sensitive detection offers a promising alternative to immunoassays for DNA lesion analysis which has been based on natural immunogenic antibodies.

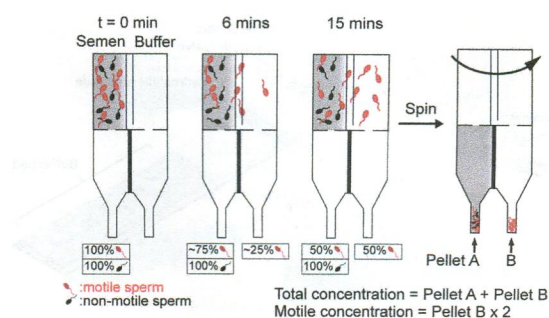


4967

Sperm quality assessment via separation and sedimentation in a microfluidic device

Chang-Yu Chen, Tsun-Chao Chiang, Cheng-Ming Lin, Shu-Sheng Lin, De-Shien Jong, Vincent F.-S. Tsai, Ju-Ton Hsieh and Andrew M. Wo*

A simple microfluidic device to assess sperm quality by quantifying both total and motile sperm counts in a single test.

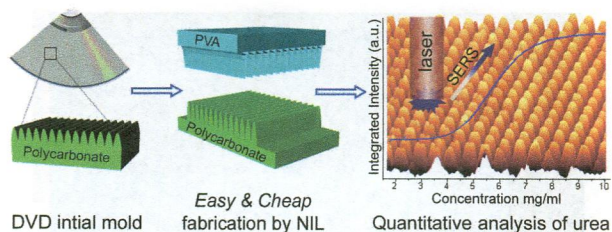


4975

Easy and cheap fabrication of ordered pyramidal-shaped plasmonic substrates for detection and quantitative analysis using surface-enhanced Raman spectroscopy

Cosmin Leordean, Ana-Maria Gabudean, Valentin Canpean and Simion Astilean*

In this work we present a simple approach for the fabrication of periodically ordered pyramidal-shaped metallic nanostructures and demonstrate their efficiency as SERS active substrates.

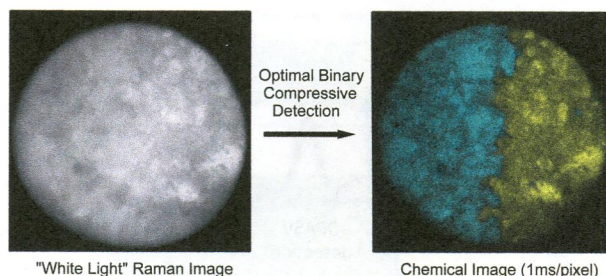


4982

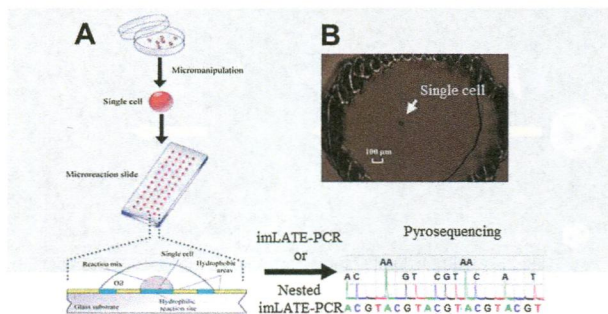
Digital compressive chemical quantitation and hyperspectral imaging

David S. Wilcox, Gregory T. Buzzard, Bradley J. Lucier, Owen G. Rehrauer, Ping Wang and Dor Ben-Amotz*

Optimal binary compressive detection is used to rapidly quantify the composition of liquid mixtures and to chemically image mixed solid powders.



4991

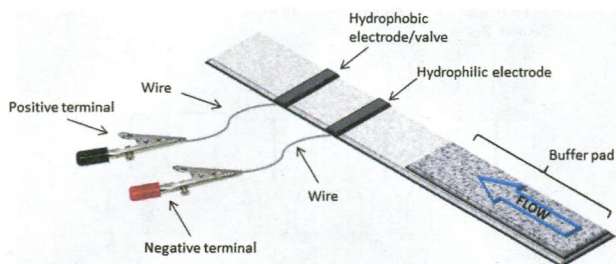


Improvement of LATE-PCR to allow single-cell analysis by pyrosequencing

Qinxin Song, Huiyong Yang, Bingjie Zou, Tomoharu Kajiyama, Hideki Kambara and Guohua Zhou*

Single cell genotyping by coupling an improved linear-after-the-exponential-PCR (imLATE-PCR) on a modified glass slide with highly sensitive pyrosequencing.

4998

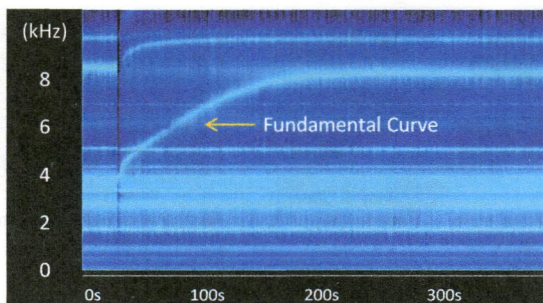


An inkjet-printed electrowetting valve for paper-fluidic sensors

Charmaine K. W. Koo, Fei He and Sam R. Nugen*

We created inkjet-printed electrowetting valves on paper-fluidic sensors to control the fluid flow. The valves are actuated by an applied voltage.

5005

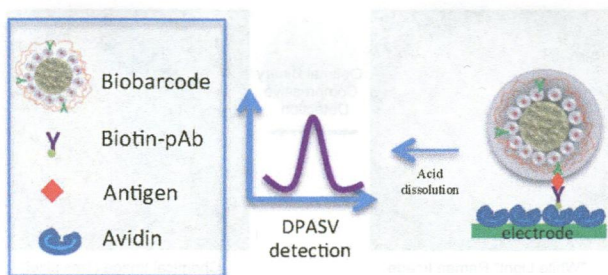


The relationship between dissolution, gas oversaturation and outgassing of solutions determined by Broadband Acoustic Resonance Dissolution Spectroscopy (BARDs)

Dara Fitzpatrick,* Rachel Evans-Hurson, Jacob Krüse, Bastiaan Vos, Seán McSweeney, Pierre Casaubieilh and Éadaoin O'Gorman

BARDs spectrum of 0.5 M KCl in 100 mL H₂O.

5011



Electrochemical immunoassay for *Salmonella* Typhimurium based on magnetically collected Ag-enhanced DNA biobarcode labels

Feby Wijaya Pratiwi, Patsamon Rijiravanich, Mithran Somasundrum* and Werasak Sureareungchai*

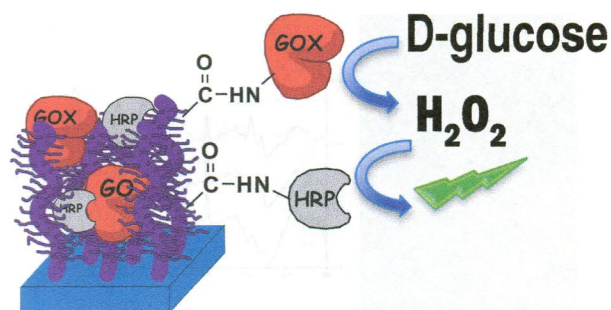
We describe a sensitive electrochemical immunoassay for *Salmonella enterica* serovar Typhimurium, a common foodborne pathogen which can cause infection at extremely small doses.

5019

Glucose level determination with a multi-enzymatic cascade reaction in a functionalized glass chip

Francesca Costantini, Roald Tiggelaar, Simona Sennato, Francesco Mura, Stefan Schlautmann, Federico Bordi, Han Gardeniers and Cesare Manetti*

A multi-enzymatic cascade reaction for the determination of glycaemia in blood is performed in glass chips of which the interior of microchannels is functionalized with a mixed layer of co-immobilized enzymes glucose-oxidase and horseradish peroxidase.

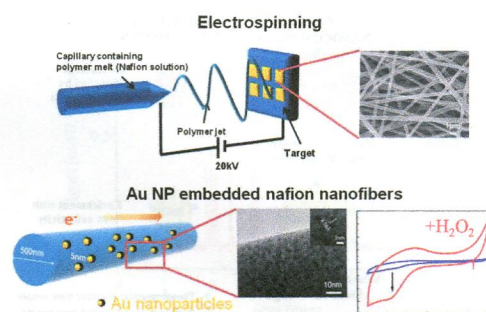


5025

Gold nanoparticle-composite nanofibers for enzymatic electrochemical sensing of hydrogen peroxide

Anitha Devadoss, Hyungkyu Han, Taeseup Song, Young-Pil Kim* and Ungyu Paik*

We demonstrated that gold nanoparticle (Au NP)-composite nanofibers (NFs) with a facile electrospinning technique enabled a sensitive detection of H_2O_2 , due to uniform distribution and large surface area of the Au NPs in the NFs.

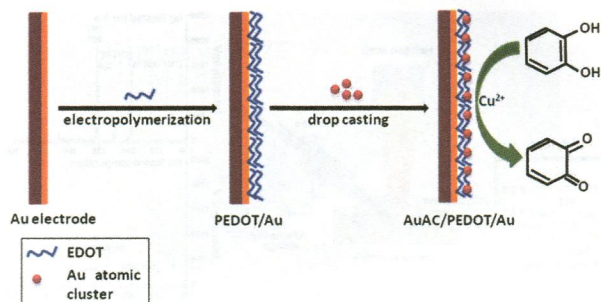


5031

Ultrasensitive voltammetric determination of catechol at a gold atomic cluster/poly(3,4-ethylenedioxythiophene) nanocomposite electrode

Sindhu R. Nambiar, Padamadathil K. Aneesh and Talasila P. Rao*

A gold atomic cluster/poly(3,4-ethylenedioxythiophene) nanocomposite film modified gold electrode for picomolar level detection of catechol in natural waters is described.

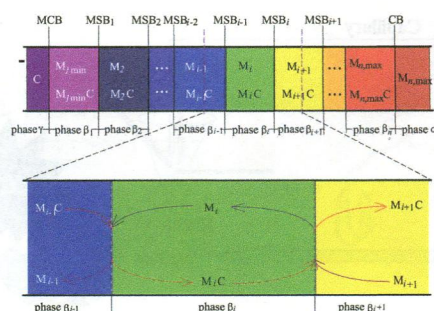


5039

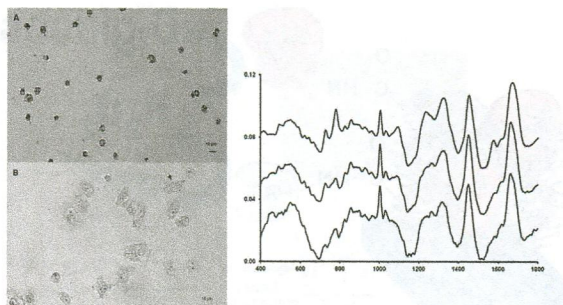
Theoretical and experimental studies on isotachopheresis in multi-moving chelation boundary system formed with metal ions and EDTA

Wei Zhang, Chen-Gang Guo, Liu-Yin Fan and Cheng-Xi Cao*

A general mode and theory of moving chelation boundary based isotachopheresis were developed from a multi-MCB system.



5052

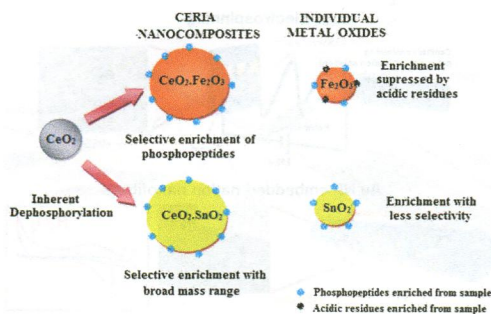


Identification of different subsets of lung cells using Raman microspectroscopy and whole cell nucleus isolation

Jacek K. Pijanka, Nicholas Stone, Abigail V. Rutter, Nicholas Forsyth, Ganesh D. Sockalingum, Ying Yang and Josep Sulé-Suso*

Raman microspectroscopy can differentiate lung cells from different lineages by studying isolated nuclei (Figure A), cytoplasm, and intact nuclei inside cells (Figure B).

5059

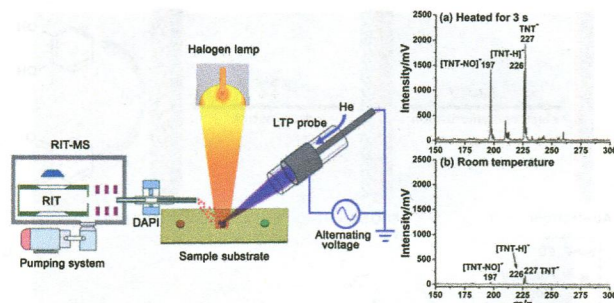


Ceria-based nanocomposites for the enrichment and identification of phosphopeptides

Batool Fatima, Muhammad Najam-ul-Haq,* Fahmida Jabeen, Saadat Majeed, Muhammad N. Ashiq, S. Ghulam Musharraf, Muhammad A. Shad and Guobao Xu

The synthesis, characterization and workings of two ceria nanocomposites for phosphopeptide enrichment are reported.

5068

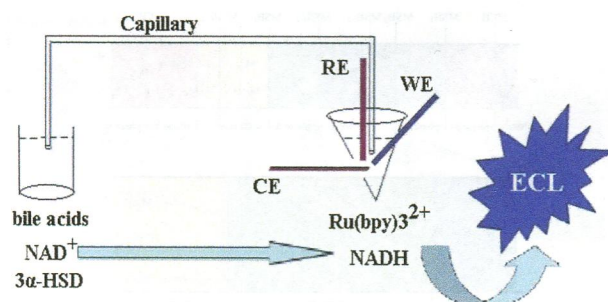


Non-contact halogen lamp heating assisted LTP ionization miniature rectilinear ion trap: a platform for rapid, on-site explosives analysis

Wendong Chen, Keyong Hou,* Xingchuan Xiong, You Jiang, Wuduo Zhao, Lei Hua, Ping Chen, Yuanyuan Xie, Zhenxin Wang and Haiyang Li*

With non-contact heating by a halogen lamp, the sensitivity of the proposed platform for explosive analysis was prominently improved.

5074



A highly sensitive electrically driven electrochemiluminescent assay for quantification of bile acids in human serum

Xiaoqing Zhang, Wenping Deng, Yanna Ban, Jieying Gao and Min Ding*

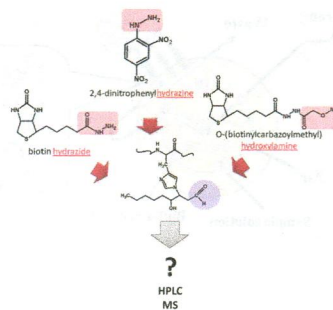
A capillary electrically driven assay with electrochemiluminescent detection was established for total bile acids in human serum, which is highly sensitive, without sample pretreatment and suitable for clinical tests.

5081

Qualitative and quantitative evaluation of derivatization reagents for different types of protein-bound carbonyl groups

Ravi Chand Bollineni, Maria Fedorova and Ralf Hoffmann*

We report various aspects of carbonyl derivatization strategies for proteomic analysis of protein bound carbonyls using a set of synthetic carbonylated peptides.

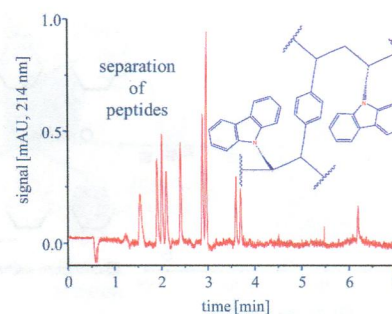


5089

Monolithic poly(*N*-vinylcarbazole-co-1,4-divinylbenzene) capillary columns for the separation of biomolecules

Rainer Koeck, Rania Bakry,* Richard Tessadri and Guenther K. Bonn

A monolithic poly(*N*-vinylcarbazole-co-1,4-divinylbenzene) stationary phase with high separation efficiency towards biomolecules, high permeability, minimum plate height of 1.7 μm in 100 μm i.d. capillary column and surface areas of 120–160 $\text{m}^2 \text{g}^{-1}$ is prepared.

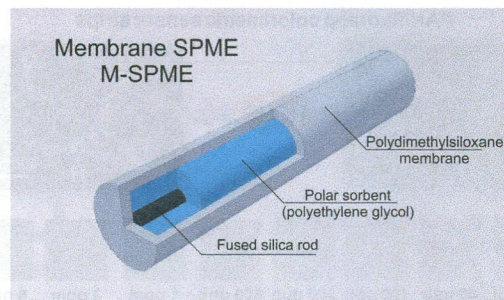


5099

Determination of volatile organic compounds in water samples using membrane-solid phase microextraction (M-SPME) (headspace version)

Agata Spietelun, Łukasz Marcinkowski, Adam Kloskowski* and Jacek Namieśnik

A novel two-phase sorption system for solid phase microextraction techniques – M-SPME.

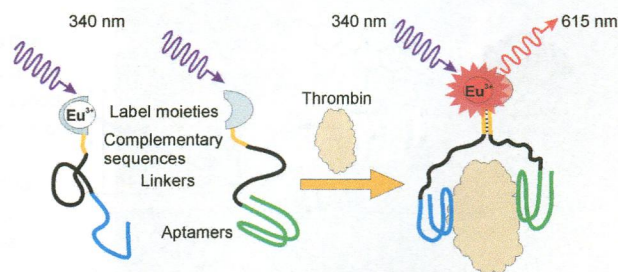


5107

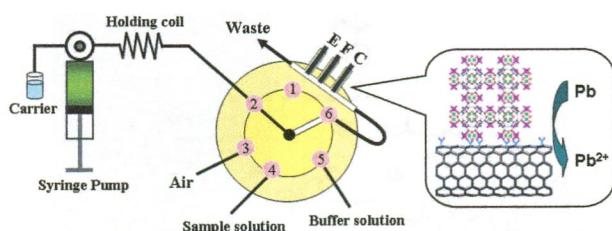
Aptamer-directed lanthanide chelate self-assembly for rapid thrombin detection

Henna Pääkkilä,* Sami Blom, Kari Kopra and Tero Soukka

A luminescent lanthanide complex is formed when two non-luminescent label moieties are brought together upon analyte recognition by two aptamers.



5113

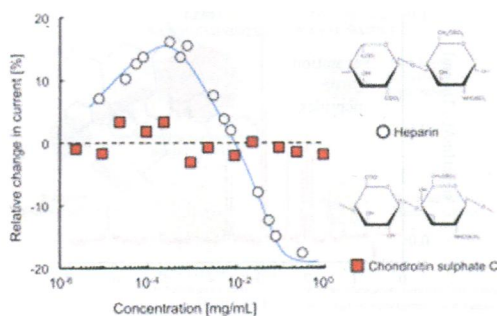


Multi-walled carbon nanotubes and metal–organic framework nanocomposites as novel hybrid electrode materials for the determination of nano-molar levels of lead in a lab-on-valve format

Yang Wang,* Yichun Wu, Jing Xie, Huali Ge and Xiaoya Hu*

MWCNTs@Cu₃(BTC)₂ nanocomposites were synthesized as a novel electrode modifier to detect nano-molar amounts of lead in a lab-on-valve system.

5121

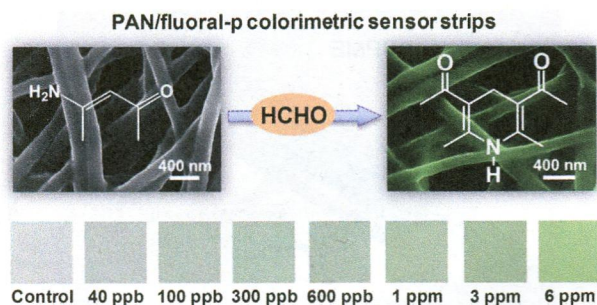


Application of the 'gate effect' of a molecularly imprinted polymer grafted on an electrode for the real-time sensing of heparin in blood

Yasuo Yoshimi,* Kuniaki Sato, Masaki Ohshima and Elena Piletska

This study describes the use of a molecularly imprinted polymer as a recognition element in the development of a heparin sensor for real-time monitoring

5129

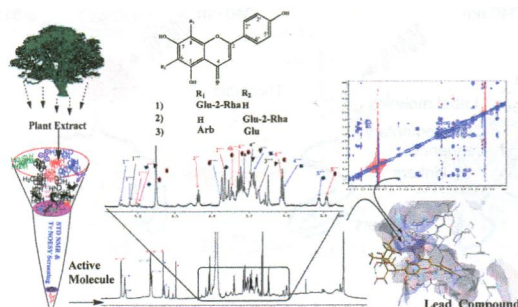


Colorimetric sensor strips for formaldehyde assay utilizing fluoral-p decorated polyacrylonitrile nanofibrous membranes

Xueqin Wang, Yang Si, Xue Mao, Yan Li, Jianyong Yu, Huaping Wang and Bin Ding*

A novel colorimetric strip for ultrasensitive and selective assay of formaldehyde based on fluoral-p functionalized electrospun PAN nanofibrous membranes.

5137



Crude to leads: a triple-pronged direct NMR approach in coordination with docking simulation

Sheraz A. K. Tanoli,* Nazish U. Tanoli, Tatiani M. Bondancia, Saman Usmani, Rainer Kerssebaum, Antonio G. Ferreira,* Joao B. Fernandes and Zaheer Ul-Haq

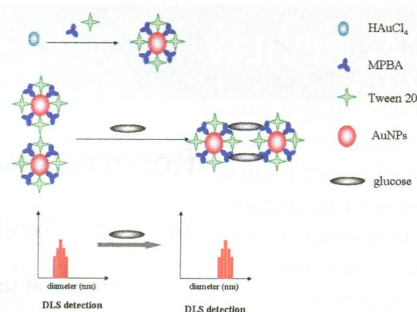
We have successfully reported lead screening for drug discovery by using direct NMR applications in combination with hyphenated systems.

5146

Use of mercaptophenylboronic acid functionalized gold nanoparticles in a sensitive and selective dynamic light scattering assay for glucose detection in serum

Qing Wang, Liyan Yang, Xiaohai Yang, Kemin Wang* and Jianbo Liu

A highly sensitive glucose assay without interference from ascorbic acid was demonstrated based on mercaptophenylboronic acid functionalized gold nanoparticles.

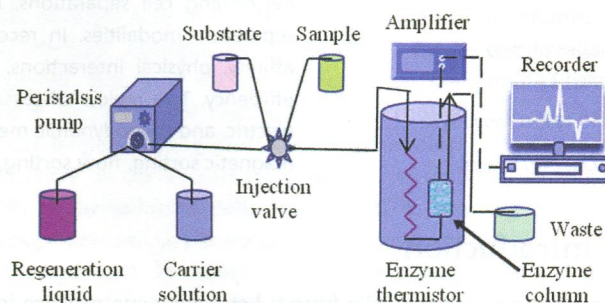


5151

Fast detection of atrazine in corn using thermometric biosensors

Zhiwei Qie, Baoan Ning, Ming Liu, Jialei Bai, Yuan Peng, Nan Song, Zhiqiang Lv, Ying Wang, Siming Sun, Xuan Su, Yihong Zhang and Zhixian Gao*

TELISA for fast detection of atrazine in corn.





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