The Analyst

Interdisciplinary detection science

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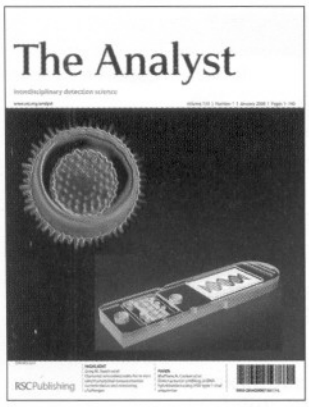

Cover

See Y. Uludağ, X. Li, H. Coleman, S. Efstathiou and M. A. Cooper, pp. 52–57.
The cover image illustrates a coloured transmission electron micrograph (TEM) showing a cross-section of a herpes simplex virus (HSV) and an AKT♦*iv* Covalent sensor chip that enables the detection of HSV type 1 viral DNA.
Virus image by Alfred Pasieka/ Science Photo Library and reproduced with permission of Matthew Cooper from *Analyst*, 2008, **133**, 52.

CHEMICAL TECHNOLOGY

T1

Chemical Technology highlights the latest applications and technological aspects of research across the chemical sciences.

Chemical Technology

January 2008/Volume 5/Issue 1

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EDITORIAL

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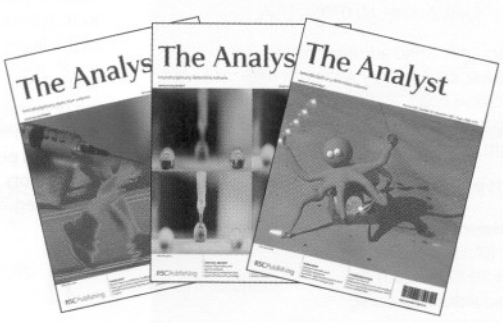
Happy New Year from *The Analyst* and RSC Publishing

Happy New Year from *The Analyst* and RSC Publishing. We take this opportunity to highlight the latest developments in the journal and RSC Publishing.



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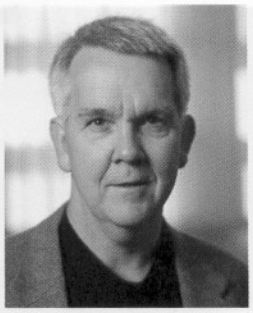

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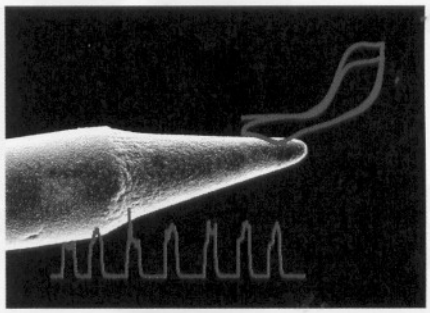
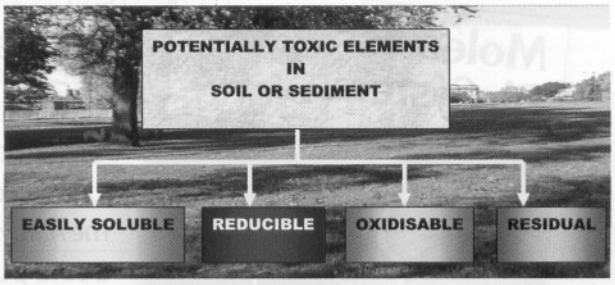
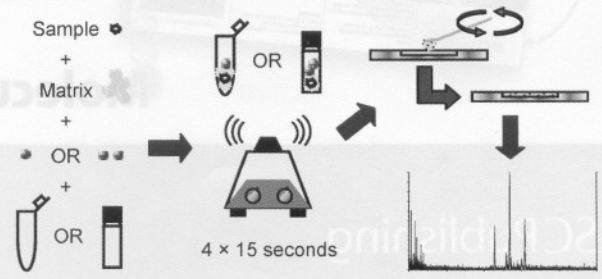
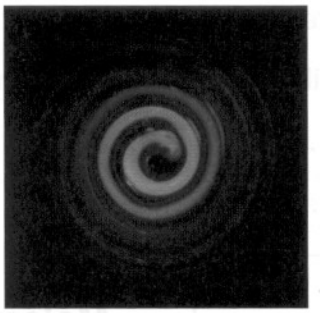


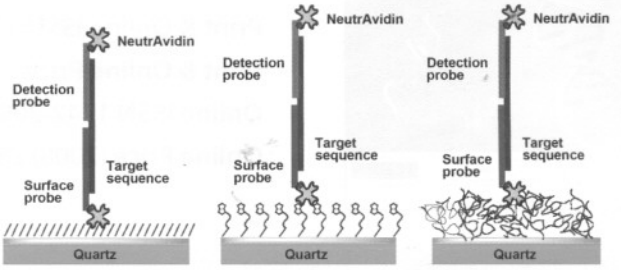
i-SECTION: CRITICAL REVIEW

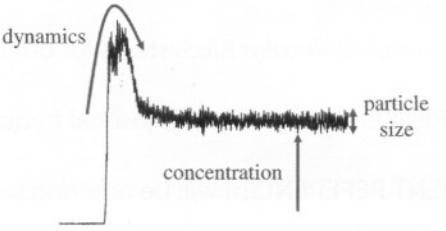


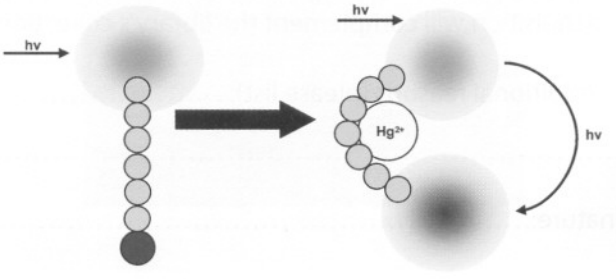
COMMUNICATIONS











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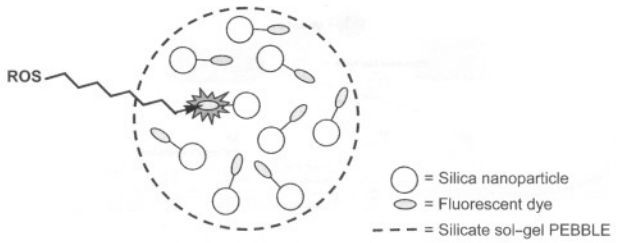
An optical sensor for reactive oxygen species: encapsulation of functionalised silica nanoparticles into silicate nanoprobes to reduce fluorophore leaching

Victoria J. Hammond, Jonathan W. Aylott, Gillian M. Greenway,* Paul Watts, Abigail Webster and Charlotte Wiles

Sol–gel nanoprobes capable of performing *in-vitro* intracellular monitoring of reactive oxygen species (ROS) have been developed.



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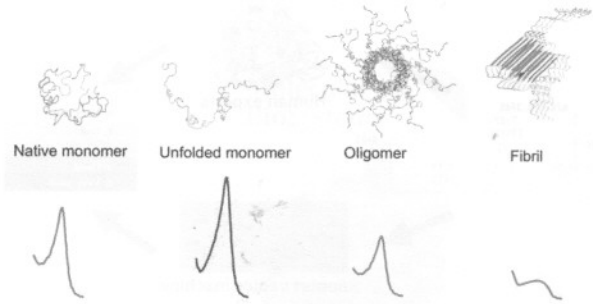
Changes in interfacial properties of α-synuclein preceding its aggregation

Emil Paleček,* Veronika Ostatná, Michal Masařík, Carlos W. Bertoncini and Thomas M. Jovin

Changes in interfacial behavior of α-synuclein protein were studied in the course of its aggregation *in vitro*. Incipient stages of the Parkinson's disease amyloid formation were found.



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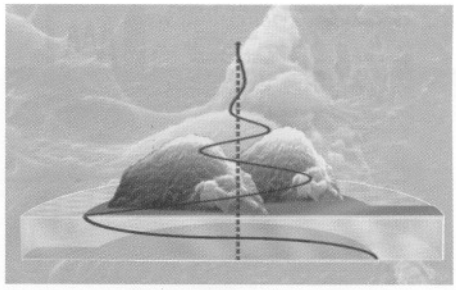
Surface immobilisation and properties of smooth muscle cells monitored by on-line acoustic wave detector

Xiaomeng Wang, Jonathan S. Ellis, Chung-Dann Kan, Ren-Ke Li and Michael Thompson*

On-line detection of aortic smooth muscle cell attachment to various surfaces is achieved using the Thickness Shear Mode acoustic wave device. A semi-quantitative analysis demonstrates the promise of this technique for studying cell adhesion and morphology.



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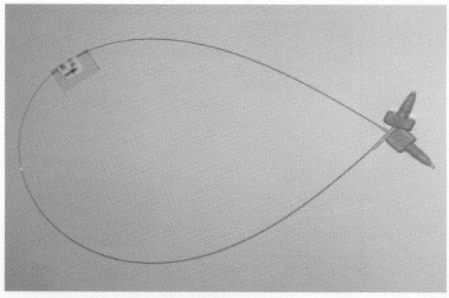
The development of an immobilized enzyme reactor containing glyceraldehyde-3-phosphate dehydrogenase from *Trypanosoma cruzi*: the effect of species' specific differences on the immobilization

C. L. Cardoso, M. C. de Moraes, R. V. Carvalho Guido, G. Oliva, A. D. Andricopulo, I. W. Wainer and Q. B. Cass*

The present work reports an immobilization process for the GAPDH of *Trypanosoma cruzi*, which resulted in a capillary IMER. The factors affecting stability and activity are fully discussed.



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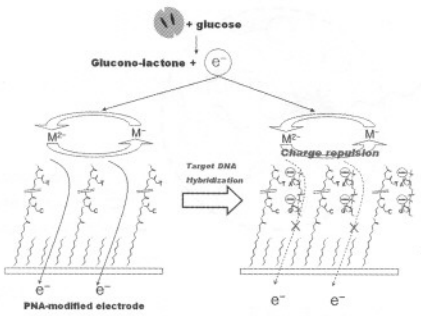

Enzyme-catalyzed signal amplification for electrochemical DNA detection with a PNA-modified electrode

Byoung Yeon Won, Hyun C. Yoon and Hyun Gyu Park*

The signal amplification technique of peptide nucleic acid (PNA)-based electrochemical DNA sensor is developed in a label-free, one-step method utilizing enzymatic catalysis.

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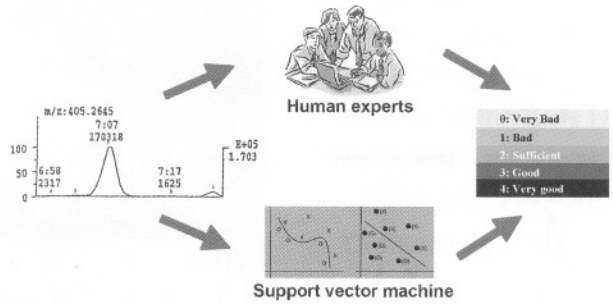

Qualitative evaluation of chromatographic data from quality control schemes using a support vector machine

M. Ventura,* A. Sanchez-Niubo, F. Ruiz, N. Agell, R. Ventura, C. Angulo, A. Domingo-Salvany, J. Segura and R. de la Torre

Two major issues concerning the qualitative evaluation of analytical data from EQAS are dealt with: (i) how experts evaluate chromatographic analytical data, and (ii) the development of a support vector machine as an alternative to human experts for a more homogenous and automatic evaluation.

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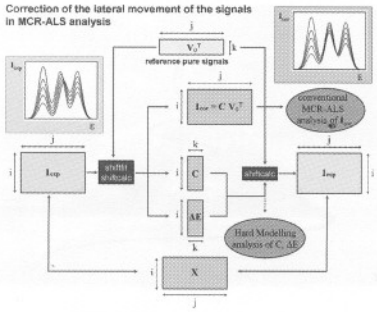

Potential shift correction in multivariate curve resolution of voltammetric data. General formulation and application to some experimental systems

Arístides Alberich, José Manuel Díaz-Cruz,* Cristina Ariño and Miquel Esteban

A new mathematical algorithm is proposed to correct the progressive potential shift of some voltammetric signals that decrease the linearity of the data.

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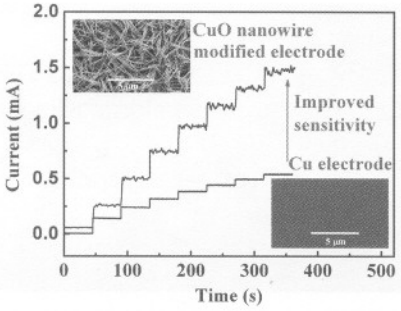

An improved sensitivity non-enzymatic glucose sensor based on a CuO nanowire modified Cu electrode

Zhenjing Zhuang, Xiaodong Su, Hongyan Yuan, Qun Sun, Dan Xiao* and Martin M. F. Choi*

CuO nanowires were prepared and applied for the fabrication of non-enzymatic glucose sensors with highly enhanced sensitivity.

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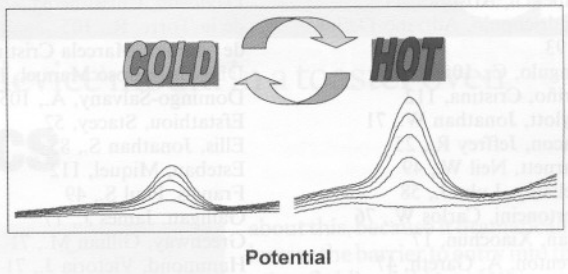
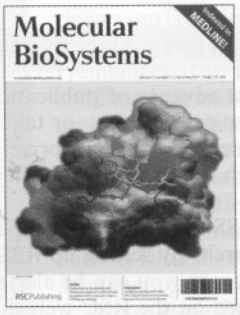


It's official, *Molecular BioSystems* has separated from host journal, *Chemical Communications*, and is now a fully fledged solo publication. Its availability since launch to readers of *Chemical Communications* and the online hosts, *Organic & Biomolecular Chemistry*, *Lab on a Chip*, *The Analyst* and *Analytical Abstracts*, has ensured that *Molecular BioSystems* received a large and interdisciplinary audience from the outset. *Analyst* readers wishing to continue to read *Molecular BioSystems* now need to recommend the journal to their librarian. Fill in the online recommendation form at www.rsc.org/libraryrecommendation



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