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# analytical chemistry

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Zwitterionic  
Phospholipids  
Coated Upconversion  
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**ON THE COVER:** The efficient *in vivo* tumor imaging performance and long blood-circulation half-life suggests the excellent biocompatibility for *in vivo* imaging of the compact zwitterionic phospholipids coated UCNPs. Image created by Yonglong Qi.

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**Direct Quantification of Circulating miRNAs in Different Stages of Nasopharyngeal Cancerous Serum Samples in Single Molecule Level with Total Internal Reflection Fluorescence Microscopy**

See-Lok Ho, Ho-Man Chan, Amber Wai-Yan Ha, Ricky Ngok-Shun Wong,\* and Hung-Wing Li\*

**Precision High-Throughput Proton NMR Spectroscopy of Human Urine, Serum, and Plasma for Large-Scale Metabolic Phenotyping**

Anthony C. Dona, Beatriz Jiménez, Hartmut Schäfer, Eberhard Humpfer, Manfred Spraul, Matthew R. Lewis, Jake T. M. Pearce, Elaine Holmes, John C. Lindon, and Jeremy K. Nicholson\*

**Quantification of the Dissolved Inorganic Carbon Species and of the pH of Alkaline Solutions Exposed to CO<sub>2</sub> under Pressure: A Novel Approach by Raman Scattering**

Thomas Beuvier,\* Brice Calvignac, Jean-François Bardeau, Alain Bulou, Frank Boury, and Alain Gibaud\*

**Multiplexed Analysis of Protein–Ligand Interactions by Fluorescence Anisotropy in a Microfluidic Platform**

Lih Feng Cheow, Ramya Viswanathan, Chee-Sing Chin, Nancy Jennifer, Robert C. Jones, Ernesto Guccione, Stephen R. Quake, and William F. Burkholder\*

**Characterization of Solute Distribution Following Iontophoresis from a Micropipet**

Douglas C. Kirkpatrick, Martin A. Edwards, Paul A. Flowers, and R. Mark Wightman\*

**Sampled-Current Voltammetry at Microdisk Electrodes: Kinetic Information from Pseudo Steady State Voltammograms**

Samuel C. Perry, Laila M. Al Shandoudi, and Guy Denuault\*

**Supramolecular Gel Electrophoresis of Acidic Native Proteins**

Kanako Munenobu, Takayuki Hase, Takanori Oyoshi, and Masamichi Yamanaka\*

**Duplex Microfluidic SERS Detection of Pathogen Antigens with Nanoyeast Single-Chain Variable Fragments**

Yuling Wang, Sakandar Rauf, Yadveer S. Grewal, Lauren J. Spadafora, Muhammad J. A. Shiddiky, Gerard A. Cangelosi, Sebastian Schlücker,\* and Matt Trau\*

**Chemiluminescence Imaging for a Protein Assay via Proximity-Dependent DNAzyme Formation**

Chen Zong, Jie Wu, Mengmeng Liu, Linlin Yang, Feng Yan, and Huangxian Ju\*

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9945  dx.doi.org/10.1021/ac502766n

**Advantages of Extended Bottom-Up Proteomics Using Sap9 for Analysis of Monoclonal Antibodies**  
Kristina Srzentić, Luca Fornelli, Ünige A. Laskay, Michel Monod, Alain Beck, Daniel Ayoub, and Yury O. Tsybin\*

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9954  dx.doi.org/10.1021/ac502855n

**Chemical Recognition of Oxidation-Specific Epitopes in Low-Density Lipoproteins by a Nanoparticle Based Concept for Trapping, Enrichment, and Liquid Chromatography–Tandem Mass Spectrometry Analysis of Oxidative Stress Biomarkers**  
Elisabeth Haller, Gerald Stübiger, Daniel Lafitte, Wolfgang Lindner, and Michael Lämmerhofer\*

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9962  dx.doi.org/10.1021/ac502869j

**High-Efficiency Generation-Collection Microelectrochemical Platform for Interrogating Electroactive Thin Films**  
Morgan J. Anderson and Richard M. Crooks\*

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9970  dx.doi.org/10.1021/ac502909c

**A Highly Sensitive Ratiometric Fluorescent Probe for the Detection of Cytoplasmic and Nuclear Hydrogen Peroxide**  
Ying Wen, Keyin Liu, Huiran Yang, Yi Li, Haichuang Lan, Yi Liu, Xinyu Zhang,\* and Tao Yi\*

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9977  dx.doi.org/10.1021/ac5029159

**Quantitative Online Liquid Chromatography–Surface-Enhanced Raman Scattering of Purine Bases**  
David P. Cowcher, Roger Jarvis, and Royston Goodacre\*

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9985  dx.doi.org/10.1021/ac502991g

**Forensic Electrochemistry Applied to the Sensing of New Psychoactive Substances: Electroanalytical Sensing of Synthetic Cathinones and Analytical Validation in the Quantification of Seized Street Samples**  
Jamie P. Smith, Jonathan P. Metters, Osama I. G. Khreit, Oliver B. Sutcliffe, and Craig E. Banks\*

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9993  dx.doi.org/10.1021/ac5029962

**In Vitro Selection of a New Lanthanide-Dependent DNzyme for Ratiometric Sensing Lanthanides**  
Po-Jung Jimmy Huang, Mahsa Vazin, and Juewen Liu\*

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