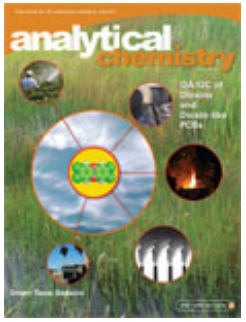

Analytical Chemistry

Analytical Chemistry is a peer-reviewed research journal that explores the latest concepts in analytical measurements and the best new ways to increase accuracy, selectivity, sensitivity, and reproducibility.

Browse Issues

Select Decade
2000-Current
Select Volume
2008/Vol 80
Select Issue Number
Iss. 9/(3095-3512
Go

ASAP Articles | Previous Issue | Next Issue | Printer-friendly version

Table of Contents

Vol. 80, No. 9: May 1, 2008

Citation Management

Learn More

AUDIO

Audio Introduction to the May 1 cover
Rajendrani Mukhopadhyay
p 3061

HTML

ANALYTICAL CURRENTS

Force required to move an atom or molecule | High-throughput encapsulation and passive sorting of single cells | NMR metabonomic profiling of bipolar disorder | A NIMS enzyme assay | New mechanism proposed for corona-ion-dependent signal enhancement | No MAGIC in Science paper | Shape and volume affect biochemical reactions | A new optical technique for breath analysis | Single-particle counting of quantum dots | Microfabricated zone plate for optical trapping
pp 3061 - 3065

HTML PDF

GOVERNMENT AND SOCIETY

Creationism creeps in
Linda Sage
pp 3066 - 3067

HTML PDF

RESEARCH PROFILE

Liquid crystals provide new twist on patterned surface analysis
Joe Alper
p 3068

HTML PDF

Top-down MS picking up speed
Christine Piggee
p 3069

HTML PDF

Hunting the elusive D-amino acid
Jennifer Griffiths
p 3070

HTML PDF

AC DETECTIVE

CS-Eye: Copenhagen
Randall C Willis
p 3071

HTML PDF

BIO SPHERE

Taking video across the diffraction barrier
Thomas Hayden
p 3072

HTML PDF

FEATURE

ASMS Technical Program
pp 3073 - 3081

HTML PDF

The Promise of Phage Display: Customized Affinity and Specificity
Gregory A. Weiss and Reginald M. Penner
pp 3082 - 3089

HTML PDF

BIO SPHERE

On the trail of a core proteome for bacteria
Christine Piggee
p 3090

HTML PDF

PRODUCT REVIEW

SFC: Embraced by industry but spurned by academia
Rajendrani Mukhopadhyay
pp 3091 - 3094

HTML PDF

ARTICLES

Two-Dimensional Method for Time Aligning Liquid Chromatography-Mass Spectrometry Data
Frank Suits, Jorge Lepre, Peicheng Du, Rainer Bischoff, and Peter Horvatovich
pp 3095 - 3104; **(Article)** DOI: 10.1021/ac702267h

Abstract Full: HTML / PDF (789K)

Capillary Electrophoresis Frontal Analysis for Characterization of $\alpha_v\beta_3$ Integrin Binding Interactions

Ying Sun, Sonya Cressman, Ning Fang, Pieter R. Cullis, and David D. Y. Chen
pp 3105 - 3111; **(Article)** DOI: 10.1021/ac701604a

Abstract Full: HTML / PDF (130K)

Capillary Electrophoresis-Fourier Transform Ion Cyclotron Resonance Mass Spectrometry for the Identification of Cationic Metabolites via a pH-Mediated Stacking-Transient Isotachophoretic Method
Edward E. K. Baidoo, Peter I. Benke, Christian Neusüss, Matthias Pelzing, Gary Kruppa, Julie A. Leary, and Jay D. Keasling
pp 3112 - 3122; **(Article)** DOI: 10.1021/ac800007q

Abstract Full: HTML / PDF (288K) Supporting Info

Fully Automated Determination in the Low Nanogram per Liter Level of Different Classes of Drugs of Abuse in Sewage Water by On-Line Solid-Phase Extraction-Liquid Chromatography-Electrospray-Tandem Mass Spectrometry
Cristina Postigo, Maria J. Lopez de Alda, and Damià Barceló
pp 3123 - 3134; **(Article)** DOI: 10.1021/ac702060j

Abstract Full: HTML / PDF (548K)

An Equilibrium Method for Continuous-Flow Cell Sorting Using Dielectrophoresis
M. D. Vahey and J. Voldman
pp 3135 - 3143; **(Article)** DOI: 10.1021/ac7020568

Abstract Full: HTML / PDF (656K) Supporting Info

Maximizing Coverage of Glycosylation Heterogeneity in MALDI-MS Analysis of Glycoproteins with Up to 27 Glycosylation Sites
Ying Zhang, Eden P. Go, and Heather Desaire
pp 3144 - 3158; **(Article)** DOI: 10.1021/ac702081a

Abstract Full: HTML / PDF (500K) Supporting Info

Select Citation | Feedback | $ Purchase

Feasibility of Analyzing Fine Particulate Matter in Air Using Solid-Phase Extraction Membranes and Dynamic Subcritical Water Extraction
Johanna Tollbäck, María Blasco Bigatá, Carlo Crescenzi, and Johan Ström
pp 3159 - 3167; **(Article)** DOI: 10.1021/ac7021458

Abstract Full: HTML / PDF (168K)

Select Citation | Feedback | $ Purchase

Separation and Characterization of an IgG2 Antibody Containing a Cyclic Imide in CDR1 of Light Chain by Hydrophobic Interaction Chromatography and Mass Spectrometry
John Valliere-Douglass, Laura Jones, Diana Shpektor, Paul Kodama, Alison Wallace, Alain Balland, Robert Bailey, and Yuling Zhang
pp 3168 - 3174; **(Article)** DOI: 10.1021/ac702245c

Abstract Full: HTML / PDF (212K)

Select Citation | Feedback | $ Purchase

Near-Infrared Spectropolarimetry Based on Acousto-Optical Tunable Filters
Claudete Fernandes Pereira, Fabiano Barbieri Gonzaga, and Celio Pasquini
pp 3175 - 3181; **(Article)** DOI: 10.1021/ac702351k

Abstract Full: HTML / PDF (256K)

Select Citation | Feedback | $ Purchase

Fast Electrophoretic Separation Optimization Using Gradient Micro Free-Flow Electrophoresis
Bryan R. Fonslow and Michael T. Bowser
pp 3182 - 3189; **(Article)** DOI: 10.1021/ac702367m

Abstract Full: HTML / PDF (375K)

Select Citation | Feedback | $ Purchase

Generation of Local Concentration Gradients by Gas-Liquid Contacting
Jorrit de Jong, Pascal W. Verheijden, Rob G. H. Lammertink, and Matthias Wessling
pp 3190 - 3197; **(Article)** DOI: 10.1021/ac7023602

Abstract Full: HTML / PDF (933K)

Select Citation | Feedback | $ Purchase

Increase of Reaction Rate and Sensitivity of Low-Abundance Enzyme Assay Using Micro/Nanofluidic Preconcentration Chip
Jeong Hoon Lee, Yong-Ak Song, Steven R. Tannenbaum, and Jongyoon Han
pp 3198 - 3204; **(Article)** DOI: 10.1021/ac800362e

Abstract Full: HTML / PDF (241K) Supporting Info

Select Citation | Feedback | $ Purchase

Development of a High-Affinity Anti-Domoic Acid Sheep scFv and its Use in Detection of the Toxin in Shellfish
Iain Shaw, Aoife O'Reilly, Margaret Charleton, and Marian Kane
pp 3205 - 3212; **(Article)** DOI: 10.1021/ac7024199

Abstract Full: HTML / PDF (274K)

Select Citation | Feedback | $ Purchase

Assaying Small-Molecule-Receptor Interactions by Continuous Flow Competitive Displacement Chromatography/Mass Spectrometry
Jai Sharma, Travis R. Besanger, and John D. Brennan
pp 3213 - 3220; **(Article)** DOI: 10.1021/ac702421e

Abstract Full: HTML / PDF (163K)

Select Citation | Feedback | $ Purchase

Routine Femtogram-Level Chemical Analyses Using Vibrational Spectroscopy and Self-Cleaning Scanning Probe Microscopy Tips
Keunhan Park, Jungchul Lee, Rohit Bhargava, and William P. King
pp 3221 - 3228; **(Article)** DOI: 10.1021/ac702423c

Abstract Full: HTML / PDF (578K) Supporting Info

Select Citation | Feedback | $ Purchase

Theory and Simulation of Diffusion-Reaction into Nano- and Mesoporous Structures. Experimental Application to Sequestration of Mercury(II)
Christian Amatore, Alexander Oleinick, Oleksiy V. Klymenko, Cyril Delacôte, Alain Walcarius, and Irina Svir
pp 3229 - 3243; **(Article)** DOI: 10.1021/ac702420p

Abstract Full: HTML / PDF (521K)

Select Citation | Feedback | $ Purchase

Measurements of the ^{17}O Excess in Water with the Equilibration Method
Joachim Elsig and Markus Leuenberger
pp 3244 - 3253; **(Article)** DOI: 10.1021/ac702436t

Abstract Full: HTML / PDF (1544K)

Select Citation | Feedback | $ Purchase

Scanning Electrochemical Microscopy. 60. Quantitative Calibration of the SECM Substrate Generation/Tip Collection Mode and Its Use for the Study of the Oxygen Reduction Mechanism
Carlos M. Sánchez-Sánchez, Joaquín Rodríguez-López, and Allen J. Bard
pp 3254 - 3260; **(Article)** DOI: 10.1021/ac702453n

Abstract Full: HTML / PDF (262K) Supporting Info

Select Citation | Feedback | $ Purchase

Formation of High-Mass Cluster Ions from Compound Semiconductors Using Time-of-Flight Secondary Ion Mass Spectrometry with Cluster Primary Ions
Robyn E. Goacher, Hong Luo, and Joseph A. Gardella, Jr.
pp 3261 - 3269; **(Article)** DOI: 10.1021/ac7024656

Abstract Full: HTML / PDF (388K)

Select Citation | Feedback | $ Purchase

Enzymatic Reactions in Microfluidic Devices: Michaelis-Menten Kinetics
William D. Ristenpart, Jiandi Wan, and Howard A. Stone
pp 3270 - 3276; **(Article)** DOI: 10.1021/ac702469u

Abstract Full: HTML / PDF (166K)

Select Citation | Feedback | $ Purchase

Spectrally Resolved Fluorescence Correlation Spectroscopy Based on Global Analysis
Michael J. R. Previte, Serge Pelet, Ki Hean Kim, Christoph Buehler, and Peter T. C. So
pp 3277 - 3284; **(Article)** DOI: 10.1021/ac702474u

Abstract Full: HTML / PDF (554K) Supporting Info

Select Citation | Feedback | $ Purchase

Simultaneous Determination of Ozone and Carbonyls Using *trans*-1,2-Bis(4-pyridyl)ethylene as an Ozone Scrubber for 2,4-Dinitrophenylhydrazine-Impregnated Silica Cartridge
Shigehisa Uchiyama and Yasufumi Otsubo
pp 3285 - 3290; **(Article)** DOI: 10.1021/ac702475s

Abstract Full: HTML / PDF (207K)

Select Citation | Feedback | $ Purchase

Direct Introduction of Biological Samples into a LTQ-Orbitrap Hybrid Mass Spectrometer as a Tool for Fast Metabolome Analysis
Geoffrey Madalinski, Emmanuel Godat, Sandra Alves, Denis Lesage, Eric Genin, Philippe Levi, Jean Labarre, Jean-Claude Tabet, Eric Ezan, and Christophe Junot
pp 3291 - 3303; **(Article)** DOI: 10.1021/ac7024915

Abstract Full: HTML / PDF (406K)

Select Citation | Feedback | $ Purchase

Development of an Electrochemical Oxidation Method for Probing Higher Order Protein Structure with Mass Spectrometry
Carlee McClintock, Vilmos Kertesz, and Robert L. Hettich
pp 3304 - 3317; **(Article)** DOI: 10.1021/ac702493a

Abstract Full: HTML / PDF (841K) Supporting Info

Select Citation | Feedback | $ Purchase

Quantitative Surface Acoustic Wave Detection Based on Colloidal Gold Nanoparticles and Their Bioconjugates
Chi-Shun Chiu and Shangjr Gwo
pp 3318 - 3326; **(Article)** DOI: 10.1021/ac702495g

Abstract Full: HTML / PDF (773K)

Select Citation | Feedback | $ Purchase

On-Chip Isoelectric Focusing Using Photopolymerized Immobilized pH Gradients
Greg J. Sommer, Anup K. Singh, and Anson V. Hatch
pp 3327 - 3333; **(Article)** DOI: 10.1021/ac702523g

Abstract Full: HTML / PDF (291K) Supporting Info

Select Citation | Feedback | $ Purchase

Enrichment by Organomercurial Agarose and Identification of Cys-Containing Peptides from Yeast Cell Lysates
Mark J. Raftery
pp 3334 - 3341; **(Article)** DOI: 10.1021/ac702539q

Abstract Full: HTML / PDF (338K) Supporting Info

Select Citation | Feedback | $ Purchase

Raman Multiplexers for Alternative Gene Splicing
Lan Sun, Chenxu Yu, and Joseph Irudayaraj
pp 3342 - 3349; **(Article)** DOI: 10.1021/ac702542n

Abstract Full: HTML / PDF (536K)

Select Citation | Feedback | $ Purchase

Emerging Use of Isotope Ratio Mass Spectrometry as a Tool for Discrimination of 3,4-Methylenedioxymethamphetamine by Synthetic Route
Hilary A. S. Buchanan, Niamh Nic Daéid, Wolfram Meier-Augenstein, Helen F. Kemp, William J. Kerr, and Michael Middleditch
pp 3350 - 3356; **(Article)** DOI: 10.1021/ac702559s

Abstract Full: HTML / PDF (137K)

Select Citation | Feedback | $ Purchase

Chemically Selective Displacers for High-Resolution Protein Separations in Ion-Exchange Systems: Effect of Displacer-Protein Interactions
Jia Liu, Zachary A. Hilton, and Steven M. Cramer
pp 3357 - 3364; **(Article)** DOI: 10.1021/ac702565p

Abstract Full: HTML / PDF (223K)

Select Citation | Feedback | $ Purchase

Application of the FLIPSY Pulse Sequence for Increased Sensitivity in ^{1}H NMR-Based Metabolic Profiling Studies
Michael Lauridsen, Anthony D. Maher, Hector Keun, John C. Lindon, Jeremy K. Nicholson, Nils T. Nyberg, Steen H. Hansen, Claus Cornett, and Jerzy W. Jaroszewski
pp 3365 - 3371; **(Article)** DOI: 10.1021/ac702563u

Abstract Full: HTML / PDF (254K) Supporting Info

Select Citation | Feedback | $ Purchase

Electrospray Micromixer Chip for On-Line Derivatization and Kinetic Studies
Mélanie Abonnenc, Loïc Dayon, Brice Perruche, Niels Lion, and Hubert H. Girault
pp 3372 - 3378; **(Article)** DOI: 10.1021/ac800058h

Abstract Full: HTML / PDF (294K) Supporting Info

Select Citation | Feedback | $ Purchase

One-Step Sampling, Extraction, and Storage Protocol for Peptidomics Using Dihydroxybenzoic Acid
Elena V. Romanova, Stanislav S. Rubakhin, and Jonathan V. Sweedler
pp 3379 - 3386; **(Article)** DOI: 10.1021/ac7026047

Abstract Full: HTML / PDF (222K)

Select Citation | Feedback | $ Purchase

Low-Cost Printing of Poly(dimethylsiloxane) Barriers To Define Microchannels in Paper
Derek A. Bruzewicz, Meital Reches, and George M. Whitesides
pp 3387 - 3392; **(Article)** DOI: 10.1021/ac702605a

Abstract Full: HTML / PDF (757K) Supporting Info

Select Citation | Feedback | $ Purchase

Thermogravimetry Coupled to Single Photon Ionization Quadrupole Mass Spectrometry: A Tool To Investigate the Chemical Signature of Thermal Decomposition of Polymeric Materials
M. Saraji-Bozorgzad, R. Geissler, T. Streibel, F. Mühlberger, M. Sklorz, E. Kaisersberger, T. Denner, and R. Zimmermann
pp 3393 - 3403; **(Article)** DOI: 10.1021/ac702599y

Abstract Full: HTML / PDF (683K)

Select Citation | Feedback | $ Purchase

Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry Determination of Estrogen Conjugates in Human Urine
Feng Qin, Yuan-Yuan Zhao, Michael B. Sawyer, and Xing-Fang Li
pp 3404 - 3411; **(Article)** DOI: 10.1021/ac702613k

Abstract Full: HTML / PDF (160K) Supporting Info

Select Citation | Feedback | $ Purchase

Depth Profiling of Organic Films with X-ray Photoelectron Spectroscopy Using C_{60}^+ and Ar^+ Co-Sputtering

Bang-Ying Yu, Ying-Yu Chen, Wei-Ben Wang, Mao-Feng Hsu, Shu-Ping Tsai, Wei-Chun Lin, Yu-Chin Lin, Jwo-Huei Jou, Chih-Wei Chu, and Jing-Jong Shyue
pp 3412 - 3415; **(Article)** DOI: 10.1021/ac702626n

Abstract Full: HTML / PDF (162K) Supporting Info

Select Citation | Feedback | $ Purchase

Identification of the Carboxylic Acid Functionality by Using Electrospray Ionization and Ion-Molecule Reactions in a Modified Linear Quadrupole Ion Trap Mass Spectrometer
Steven C. Habicht, Nelson R. Vinueza, Enada F. Archibold, Penggao Duan, and Hilkka I. Kenttämaa
pp 3416 - 3421; **(Article)** DOI: 10.1021/ac800002h

Abstract Full: HTML / PDF (161K) Supporting Info

Select Citation | Feedback | $ Purchase

Utility of Immonium Ions for Assignment of ε-*N*-Acetyllysine-Containing Peptides by Tandem Mass Spectrometry
Morten B. Trelle and Ole N. Jensen
pp 3422 - 3430; **(Article)** DOI: 10.1021/ac800005n

Abstract Full: HTML / PDF (179K)

Select Citation | Feedback | $ Purchase

Dynamic Measurement of Altered Chemical Messenger Secretion after Cellular Uptake of Nanoparticles Using Carbon-Fiber Microelectrode Amperometry
Bryce J. Marquis, Adam D. McFarland, Katherine L. Braun, and Christy L. Haynes
pp 3431 - 3437; **(Article)** DOI: 10.1021/ac800006y

Abstract Full: HTML / PDF (413K)

Select Citation | Feedback | $ Purchase

Characterization of Polyubiquitin Chain Structure by Middle-down Mass Spectrometry
Ping Xu and Junmin Peng
pp 3438 - 3444; **(Article)** DOI: 10.1021/ac800016w

Abstract Full: HTML / PDF (694K)

Select Citation | Feedback | $ Purchase

Organochlorine Pesticides by LC-MS
G. Famiglini, P. Palma, E. Pierini, H. Trufelli, and A. Cappiello
pp 3445 - 3449; **(Article)** DOI: 10.1021/ac8000435

Abstract Full: HTML / PDF (87K)

Select Citation | Feedback | $ Purchase

Sizing Subcellular Organelles and Nanoparticles Confined within Aqueous Droplets
Jennifer C. Gadd, Christopher L. Kuyper, Bryant S. Fujimoto, Richard W. Allen, and Daniel T. Chiu
pp 3450 - 3457; **(Article)** DOI: 10.1021/ac8000385

Abstract Full: HTML / PDF (320K) Supporting Info

Select Citation | Feedback | $ Purchase

Amine-Capped ZnS-Mn^{2+} Nanocrystals for Fluorescence Detection of Trace TNT Explosive
Renyong Tu, Bianhua Liu, Zhenyang Wang, Daming Gao, Feng Wang, Qunling Fang, and Zhongping Zhang
pp 3458 - 3465; **(Article)** DOI: 10.1021/ac800060f

Abstract Full: HTML / PDF (235K)

Select Citation | Feedback | $ Purchase

Tunable Photochromism of Spirobenzopyran via Selective Metal Ion Coordination: An Efficient Visual and Ratioing Fluorescent Probe for Divalent Copper Ion
Na Shao, Jian Yu Jin, Hao Wang, Ying Zhang, Rong Hua Yang, and Wing Hong Chan
pp 3466 - 3475; **(Article)** DOI: 10.1021/ac800072y

Abstract Full: HTML / PDF (380K) Supporting Info

Select Citation | Feedback | $ Purchase

Polypyrrole Oligosaccharide Array and Surface Plasmon Resonance Imaging for the Measurement of Glycosaminoglycan Binding Interactions
Emilie Mercey, Rabia Sadir, Emmanuel Maillart, André Roget, Françoise Baleux, Hugues Lortat-Jacob, and Thierry Livache
pp 3476 - 3482; **(Article)** DOI: 10.1021/ac800226k

Abstract Full: HTML / PDF (314K) Supporting Info

Select Citation | Feedback | $ Purchase

96-Well Polycarbonate-Based Microfluidic Titer Plate for High-Throughput Purification of DNA and RNA
Małgorzata A. Witek, Mateusz L. Hupert, Daniel S.-W. Park, Kirby Fears, Michael C. Murphy, and Steven A. Soper
pp 3483 - 3491; **(Article)** DOI: 10.1021/ac8002352

Abstract Full: HTML / PDF (549K) Supporting Info

TECHNICAL NOTES

Select Citation | Feedback | $ Purchase

Rapidly Alternating Transmission Mode Electron-Transfer Dissociation and Collisional Activation for the Characterization of Polypeptide Ions
Hongling Han, Yu Xia, Min Yang, and Scott A. McLuckey
pp 3492 - 3497; **(Technical Note)** DOI: 10.1021/ac7022734

Abstract Full: HTML / PDF (203K)

Select Citation | Feedback | $ Purchase

Optical Biosensor Based On Hollow Integrated Waveguides
Víctor J. Cadarso, César Fernández-Sánchez, Andreu Llobera, Margarita Darder, and Carlos Domínguez
pp 3498 - 3501; **(Technical Note)** DOI: 10.1021/ac702293r

Abstract Full: HTML / PDF (136K)

Select Citation | Feedback | $ Purchase

Assay To Screen for Molecules That Associate with Alzheimer's Related β-Amyloid Fibrils
Petra Inbar, Mahealani R. Bautista, Stacy A. Takayama, and Jerry Yang
pp 3502 - 3506; **(Technical Note)** DOI: 10.1021/ac702592f

Abstract Full: HTML / PDF (211K) Supporting Info

Select Citation | Feedback | $ Purchase

Self-Sealed Vertical Polymeric Nanoporous-Junctions for High-Throughput Nanofluidic Applications
Sung Jae Kim and Jongyoon Han
pp 3507 - 3511; **(Technical Note)** DOI: 10.1021/ac800157q

Abstract Full: HTML / PDF (454K) Supporting Info

CORRECTION

Select Citation | Feedback | $ Purchase

Tandem Mass Spectrometry Characteristics of Silver-Cationized Polystyrenes: Backbone Degradation via Free Radical Chemistry
Michael J. Polce, Manuela Ocampo, Roderic P. Quirk, and Chrys Wesdemiotis
pp 3512 - 3512; **(Addition/Correction)** DOI: 10.1021/ac8005523

Full: HTML / PDF (22K)

Citation Management

Learn More

Return to Top

ACS Publications

Home | ACS Journals A–Z | Chemical & Engineering News | E-mail Alerts/RSS Feeds

Customer Services

Member Services | Librarian Resource Center | Customer Service | Technical Support | Sitemap

American Chemical Society

Home | Membership | Technical Divisions | Meetings | Careers | Chemical Abstracts Service