

Spotlights

Spotlights on Recent *JACS* Publications

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Publication Date (Web): January 28, 2013 (Spotlights)

DOI: 10.1021/ja400789q

Perspectives

The Revolution and Evolution of Shotgun Proteomics for Large-Scale Proteome Analysis

John R. Yates, III

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Publication Date (Web): January 7, 2013 (Perspective)

DOI: 10.1021/ja3094313

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Dynamic Nuclear Polarization of Sedimented Solutes

Enrico Ravera, Björn Corzilius, Vladimir K. Michaelis, Camilla Rosa, Robert G. Griffin, Claudio Luchinat, and Ivano Bertini

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DOI: 10.1021/ja312553b

 Section:

Biochemical Methods

Multiplexed Protease Activity Assay for Low-Volume Clinical Samples Using Droplet-Based Microfluidics and Its Application to Endometriosis

Chia-Hung Chen, Miles A. Miller, Aniruddh Sarkar, Michael T. Beste, Keith B. Isaacson, Douglas A. Lauffenburger, Linda G. Griffith, and Jongyoon Han
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DOI: 10.1021/ja307866z

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Enzymes

Nanoscale Coating of LiMO_2 (M = Ni, Co, Mn) Nanobelts with Li^+ -Conductive Li_2TiO_3 : Toward Better Rate Capabilities for Li-Ion Batteries

Jun Lu, Qing Peng, Weiyang Wang, Caiyun Nan, Lihong Li, and Yadong Li
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DOI: 10.1021/ja308717z

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

On/Off Photoswitching in a Cyanide-Bridged $\{\text{Fe}_2\text{Co}_2\}$ Magnetic Molecular Square

Abhishake Mondal, Yanling Li, Mannan Seuleiman, Miguel Julve, Loïc Toupet, Marylise Buron-Le Cointe, and Rodrigue Lescouëzec
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DOI: 10.1021/ja3087467

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Label-Free SERS Monitoring of Chemical Reactions Catalyzed by Small Gold Nanoparticles Using 3D Plasmonic Superstructures

Wei Xie, Bernd Walkenfort, and Sebastian Schlücker
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DOI: 10.1021/ja309074a

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Real-Time Detection of Telomerase Activity Using the Exponential Isothermal Amplification of Telomere Repeat Assay

Leilei Tian and Yossi Weizmann

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DOI: 10.1021/ja309198j

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Induced Axial Chirality in Biocatalytic Asymmetric Ketone Reduction

Rubén Agudo, Gheorghe-Doru Roiban, and Manfred T. Reetz

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Publication Date (Web): October 17, 2012 (Communication)

DOI: 10.1021/ja3092517

 Section:

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Small-Molecule Inducer of β Cell Proliferation Identified by High-Throughput Screening

Weijun Shen, Matthew S. Tremblay, Vishal A. Deshmukh, Weidong Wang, Christophe M. Filippi, George Harb, You-qing Zhang, Anwesh Kamireddy, Janine E Baaten, Qihui Jin, Tom Wu, Jonathan G. Swoboda, Charles Y. Cho, Jing Li, Bryan A. Laffitte, Peter McNamara, Richard Glynne, Xu Wu, Ann E. Herman, and Peter G. Schultz

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Lewis Acid-Promoted Ketene–Alkene [2 + 2] Cycloadditions

Christopher M. Rasik and M. Kevin Brown

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DOI: 10.1021/ja3103007

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Nanoscience of an Ancient Pigment

Darrah Johnson-McDaniel, Christopher A. Barrett, Asma Sharafi, and Tina T. Salguero

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DOI: 10.1021/ja310587c

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Direct Electrodeposition of Crystalline Silicon at Low Temperatures

Junsi Gu, Eli Fahrenkrug, and Stephen Maldonado
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DOI: 10.1021/ja310897r

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High-Resolution Heteronuclear Multidimensional NMR of Proteins in Living Insect Cells Using a Baculovirus Protein Expression System

Jumpei Hamatsu, Daniel O'Donovan, Takashi Tanaka, Takahiro Shirai, Yuichiro Hourai, Tsutomu Mikawa, Teppei Ikeya, Masaki Mishima, Wayne Boucher, Brian O. Smith, Ernest D. Laue, Masahiro Shirakawa, and Yutaka Ito
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Douglas G. Brown, Phil A. Schauer, Javier Borau-Garcia, Brandon R. Fancy, and Curtis P. Berlinguette
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Yan-Jun Huang, Wen-Juan Ouyang, Xin Wu, Zhao Li, John S. Fossey, Tony D. James, and Yun-Bao Jiang

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A Super-Reduced Diferrous [2Fe–2S] Cluster

Antonia Albers, Serhiy Demeshko, Kevin Pröpper, Sebastian Dechert, Eckhard Bill, and Franc Meyer

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Sebastian Wieczorek, Eberhard Krause, Steffen Hackbarth, Beate Röder, Anna K. H. Hirsch, and Hans G. Börner

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Electron-Deficient η^1 -Indenyl, η^3 -allylpalladium(II) Complexes Stabilized by Fluxional Non-covalent Interactions

Christophe Werlé, Mustapha Hamdaoui, Corinne Bailly, Xavier-Frédéric Le Goff, Lydia Brelot, and Jean-Pierre Djukic

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Nb–Nb Interactions Define the Charge Density Wave Structure of 2H-NbSe₂

Christos D. Malliakas and Mercuri G. Kanatzidis

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Luke A. Wilkinson, Laura McNeill, Anthony J. H. M. Meijer, and Nathan J. Patmore

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Thiophene-Fused Bisdehydro[12]annulene That Undergoes Transannular Alkyne Cycloaddition by Either Light or Heat

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Characterization of Streptonigrin Biosynthesis Reveals a Cryptic Carboxyl Methylation and an Unusual Oxidative Cleavage of a N–C Bond

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Non-ribosomal Propeptide Precursor in Nocardicin A Biosynthesis Predicted from Adenylation Domain Specificity Dependent on the MbtH Family Protein NocI

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Atomistic Theory of Ostwald Ripening and Disintegration of Supported Metal Particles under Reaction Conditions

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How Do Disorder, Reorganization, and Localization Influence the Hole Mobility in Conjugated Copolymers?

Sebastian T. Hoffmann, Frank Jaiser, Anna Hayer, Heinz Bässler, Thomas Unger, Stavros Athanasopoulos, Dieter Neher, and Anna Köhler

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Strategy for Dual-Analyte Luciferin Imaging: *In Vivo* Bioluminescence Detection of Hydrogen Peroxide and Caspase Activity in a Murine Model of Acute Inflammation

Genevieve C. Van de Bittner, Carolyn R. Bertozzi, and Christopher J. Chang

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One-Pot versus Sequential Reactions in the Self-Assembly of Gigantic Nanoscale Polyoxotungstates

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Fluorine Substituents Reduce Charge Recombination and Drive Structure and Morphology Development in Polymer Solar Cells

Andrew C. Stuart, John R. Tumbleston, Huaxing Zhou, Wentao Li, Shubin Liu, Harald Ade, and Wei You

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Inhibition of IspH, a [4Fe–4S]²⁺ Enzyme Involved in the Biosynthesis of Isoprenoids via the Methylerythritol Phosphate Pathway

Karnjapan Janthawornpong, Sergiy Krasutsky, Philippe Chaignon, Michel Rohmer, C. Dale Poulter, and Myriam Seemann

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DOI: 10.1021/ja309557s

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Oxygen Switch in Visible-Light Photoredox Catalysis: Radical Additions and Cyclizations and Unexpected C–C-Bond Cleavage Reactions

Shaoqun Zhu, Arindam Das, Lan Bui, Hanjun Zhou, Dennis P. Curran, and Magnus Rueping

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DOI: 10.1021/ja309580a

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Reevaluation of the d-Amino Acid Compatibility with the Elongation Event in Translation

Tomoshige Fujino, Yuki Goto, Hiroaki Suga, and Hiroshi Murakami

pp 1830–1837

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DOI: 10.1021/ja309570x

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SrFe_{0.5}Ru_{0.5}O₂: Square-Planar Ru²⁺ in an Extended Oxide

Fabio Denis Romero, Steven J. Burr, John E. McGrady, Diego Gianolio, Giannantonio Cibin, and Michael A. Hayward

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DOI: 10.1021/ja309798e

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Single-Molecule Catalysis Mapping Quantifies Site-Specific Activity and Uncovers Radial Activity Gradient on Single 2D Nanocrystals

Nesha May Andoy, Xiaochun Zhou, Eric Choudhary, Hao Shen, Guokun Liu, and Peng Chen
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DOI: 10.1021/ja309948y

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Quantification of the Effect of Conformational Restriction on Supramolecular Effective Molarities

Harry Adams, Elena Chekmeneva, Christopher A. Hunter, Maria Cristina Misuraca, Cristina Navarro, and Simon M. Turega

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DOI: 10.1021/ja310221t

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Covalency in Metal–Oxygen Multiple Bonds Evaluated Using Oxygen K-edge Spectroscopy and Electronic Structure Theory

Stefan G. Minasian, Jason M. Keith, Enrique R. Batista, Kevin S. Boland, Joseph A. Bradley, Scott R. Daly, Stosh A. Kozimor, Wayne W. Lukens, Richard L. Martin, Dennis Nordlund, Gerald T. Seidler, David K. Shuh, Dimosthenis Sokaras, Tolek Tyliczszak, Gregory L. Wagner, Tsu-Chein Weng, and Ping Yang

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Laboratory Evolution of Enantiocomplementary *Candida antarctica* Lipase B Mutants with Broad Substrate Scope

Qi Wu, Pankaj Soni, and Manfred T. Reetz

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DOI: 10.1021/ja310455t

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Interplay between Drying and Stability of a TIM Barrel Protein: A Combined Simulation–Experimental Study

Payel Das, Divya Kapoor, Kevin T. Halloran, Ruhong Zhou, and C. Robert Matthews
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DOI: 10.1021/ja310544t

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Enantioselective Formal Aza-Diels–Alder Reactions of Enones with Cyclic Imines Catalyzed by Primary Aminothioureas

Mathieu P. Lalonde, Meredith A. McGowan, Naomi S. Rajapaksa, and Eric N. Jacobsen
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DOI: 10.1021/ja310718f

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DOI: 10.1021/ja310734n

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Electronic and Structural Effects of Stepwise Borylation and Quaternization on Borirene Aromaticity

Holger Braunschweig, Alexander Damme, Rian D. Dewhurst, Sundargopal Ghosh, Thomas Kramer, Bernd Pfaffinger, Krzysztof Radacki, and Alfredo Vargas
pp 1903–1911

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Size- and Orientation-Selective Si Nanowire Growth: Thermokinetic Effects of Nanoscale Plasma Chemistry

Hamid Mehdipour and Kostya (Ken) Ostrikov

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DOI: 10.1021/ja3110279

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Optimized Phospholipid Bilayer Nanodiscs Facilitate High-Resolution Structure Determination of Membrane Proteins

Franz Hagn, Manuel Etzkorn, Thomas Raschle, and Gerhard Wagner

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DOI: 10.1021/ja310901f

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Semiconductor@Metal–Organic Framework Core–Shell Heterostructures: A Case of ZnO@ZIF-8 Nanorods with Selective Photoelectrochemical Response

Wen-wen Zhan, Qin Kuang, Jian-zhang Zhou, Xiang-jian Kong, Zhao-xiong Xie, and Lan-sun Zheng

pp 1926–1933

Publication Date (Web): January 3, 2013 (Article)

DOI: 10.1021/ja311085e

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Smart Mesoporous SiO₂ Nanoparticles for the DNzyme-Induced Multiplexed Release of Substrates

Zhanxia Zhang, Dora Balogh, Fuan Wang, and Itamar Willner

pp 1934–1940

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DOI: 10.1021/ja311385y

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Synthesis of Ag Nanocubes 18–32 nm in Edge Length: The Effects of Polyol on Reduction Kinetics, Size Control, and Reproducibility

Yi Wang, Yiqun Zheng, Cheng Zhi Huang, and Younan Xia

pp 1941–1951

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Counterintuitive Mechanisms of the Addition of Hydrogen and Simple Olefins to Heavy Group 13 Alkene Analogues

Christine A. Caputo, Juha Koivistoinen, Jani Moilanen, Jessica N. Boynton, Heikki M. Tuononen, and Philip P. Power
pp 1952–1960

Publication Date (Web): January 23, 2013 (Article)

DOI: 10.1021/ja3116789


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Atomic Level Resolution of Dye Regeneration in the Dye-Sensitized Solar Cell

Kiyoshi C. D. Robson, Ke Hu, Gerald J. Meyer, and Curtis P. Berlinguette
pp 1961–1971

Publication Date (Web): January 10, 2013 (Article)

DOI: 10.1021/ja311640f


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The Dynamics of Dendrimers by NMR Relaxation: Interpretation Pitfalls

Luiz F. Pinto, Juan Correa, Manuel Martin-Pastor, Ricardo Riguera, and Eduardo Fernandez-Megia
pp 1972–1977

Publication Date (Web): January 8, 2013 (Article)

DOI: 10.1021/ja311908n

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Chemoselectivity in the Reductive Elimination from High Oxidation State Palladium Complexes – Scrambling Mechanism Uncovered

Mads C. Nielsen, Eirik Lyngvi, and Franziska Schoenebeck
pp 1978–1985

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DOI: 10.1021/ja312047b

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Dialkoxybithiazole: A New Building Block for Head-to-Head Polymer Semiconductors

Xugang Guo, Jordan Quinn, Zhihua Chen, Hakan Usta, Yan Zheng, Yu Xia, Jonathan W. Hennek, Rocío Ponce Ortiz, Tobin J. Marks, and Antonio Facchetti
pp 1986–1996

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Combined Experimental and Theoretical Study on the Reductive Cleavage of Inert C–O Bonds with Silanes: Ruling out a Classical Ni(0)/Ni(II) Catalytic Couple and Evidence for Ni(I) Intermediates

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