

JPCCK

RU  
J80/pe2

OCTOBER 3, 2013

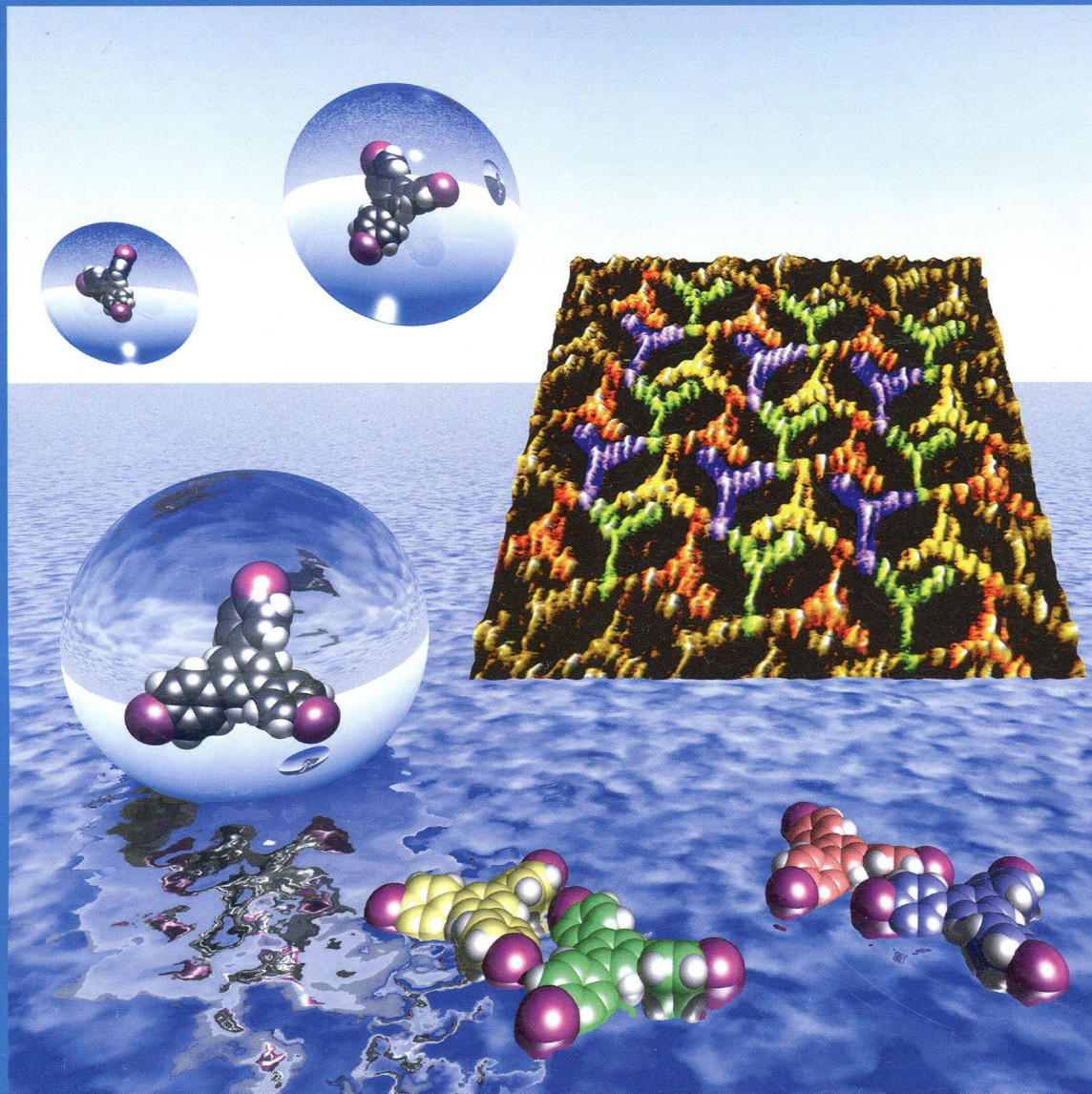
VOLUME 117

NUMBER 39

pubs.acs.org/JPCCK

# THE JOURNAL OF PHYSICAL CHEMISTRY

# C



1,3,5-Tris(4-iodophenyl)benzene  
Self-Assembly at the  
Liquid-Solid Interface  
(see page 5A)

ENERGY CONVERSION AND STORAGE, OPTICAL AND ELECTRONIC DEVICES,  
INTERFACES, NANOMATERIALS, AND HARD MATTER



ACS Publications

MOST TRUSTED. MOST CITED. MOST READ.

www.acs.org

# THE JOURNAL OF PHYSICAL CHEMISTRY **C**

October 3, 2013

Volume 117, Issue 39

Pages 19759-20378

## **Feature Article**

### ***Cation Exchange: A Versatile Tool for Nanomaterials Synthesis***

Brandon J. Beberwyck, Yogesh Surendranath, and A. Paul Alivisatos

pp 19759–19770

**Publication Date (Web):** September 3, 2013 (Feature Article)

**DOI:** 10.1021/jp405989z

 Section:

Surface Chemistry and Colloids

### ***Energy Conversion and Storage; Energy and Charge Transport Chemical Diffusivity for Hydrogen Storage: Pneumatochemical Intermittent Titration Technique***

Young-Hun Kim, Eui-Chol Shin, Sun-Jung Kim, Choong-Nyeon Park, Jaekook Kim, and Jong-Sook Lee

pp 19771–19785

**Publication Date (Web):** August 19, 2013 (Article)

**DOI:** 10.1021/jp401286b

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

### ***Pneumatochemical Impedance Spectroscopy for Hydrogen Storage Kinetics***

Eui-Chol Shin, Young-Hun Kim, Sun-Jung Kim, Choong-Nyeon Park, Jaekook Kim, and Jong-Sook Lee

pp 19786–19808

**Publication Date (Web):** August 19, 2013 (Article)

**DOI:** 10.1021/jp4023647

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

### ***Nanostructured TiO<sub>2</sub> Anatase Micropatterned Three-Dimensional Electrodes for High-Performance Li-Ion Batteries***

Deepak P. Singh, A. George, R.V. Kumar, J.E. ten Elshof, and Marnix Wagemaker

pp 19809–19815

**Publication Date (Web):** August 22, 2013 (Article)

**DOI:** 10.1021/jp3118659

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Solvent Controlled Energy Transfer Processes in Triarylamine-Triazole Based Dendrimers***

Fabian Zieschang, Alexander Schmiedel, Marco Holzapfel, Kay Ansorg, Bernd Engels, and Christoph Lambert

pp 19816–19831

**Publication Date (Web):** September 19, 2013 (Article)

**DOI:** 10.1021/jp404708x

 Section:

Physical Properties of Synthetic High Polymers

***Determining the Exciton Diffusion Length in a Polyfluorene from Ultrafast Fluorescence Measurements of Polymer/Fullerene Blend Films***

A. Bruno, L. X. Reynolds, C. Dyer-Smith, J. Nelson, and S. A. Haque

pp 19832–19838

**Publication Date (Web):** September 24, 2013 (Article)

**DOI:** 10.1021/jp404985q

 Section:

Plastics Fabrication and Uses

***Electronic Relaxation in Benzaldehyde Evaluated via TD-DFT and Localized Diabatization: Intersystem Crossings, Conical Intersections, and Phosphorescence***

Qi Ou and Joseph E. Subotnik

pp 19839–19849

**Publication Date (Web):** August 29, 2013 (Article)

**DOI:** 10.1021/jp405574q

 Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes

***Optimizing the Energy Offset between Dye and Hole-Transporting Material in Solid-State Dye-Sensitized Solar Cells***

Christian T. Weisspfennig, Michael M. Lee, Joël Teuscher, Pablo Docampo, Samuel D. Stranks, Hannah J. Joyce, Hermann Bergmann, Ingmar Bruder, Dmitry V. Kondratuk, Michael B. Johnston, Henry J. Snaith, and Laura M. Herz

pp 19850–19858

**Publication Date (Web):** September 3, 2013 (Article)

**DOI:** 10.1021/jp405734f

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Spectroscopic Study of  $\delta$  Electron Transfer between Two Covalently Bonded Dimolybdenum Units via a Conjugated Bridge: Adequate Complex Models to Test the Existing Theories for Electronic Coupling***

Chun Y. Liu, Xuan Xiao, Miao Meng, Yu Zhang, and Mei Juan Han

pp 19859–19865

**Publication Date (Web):** August 29, 2013 (Article)

**DOI:** 10.1021/jp406261w

 Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes

***Understanding the Effect of Donor Layer Thickness and a MoO<sub>3</sub> Hole Transport Layer on the Open-Circuit Voltage in Squaraine/C<sub>60</sub> Bilayer Solar Cells***

James W. Ryan, Thomas Kirchartz, Aurélien Viterisi, Jenny Nelson, and Emilio Palomares

pp 19866–19874

**Publication Date (Web):** September 5, 2013 (Article)

**DOI:** 10.1021/jp406472t

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Studying the Reversibility of Multielectron Charge Transfer in Fe(VI) Cathodes Utilizing X-ray Absorption Spectroscopy***

Maryam Farmand, Stuart Licht, and David Ramaker

pp 19875–19884

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp406626x

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Sensitization of Nanocrystalline TiO<sub>2</sub> with Multibranched Organic Dyes and Co(III)/(II) Mediators: Strategies to Improve Charge Collection Efficiency***

Miriam Mba, Marco D'Acunzo, Patrizio Salice, Tommaso Carofiglio, Michele Maggini, Stefano Caramori, Alessandra Campana, Alessandro Aliprandi, Roberto Argazzi, Stefano Carli, and Carlo A. Bignozzi

pp 19885–19896

**Publication Date (Web):** September 20, 2013 (Article)

**DOI:** 10.1021/jp4067586



Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes

***Silica Nanoparticles as Structural Promoters for Oxygen Cathodes of Lithium–Oxygen Batteries***

Chun Xia, Michael Waletzko, Klaus Peppeler, and Jürgen Janek

pp 19897–19904

**Publication Date (Web):** September 5, 2013 (Article)

**DOI:** 10.1021/jp407011d



Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Synthesis, Characterization, and Atomistic Modeling of Stabilized Highly Pyrophoric Al(BH<sub>4</sub>)<sub>3</sub> via the Formation of the Hypersalt K[Al(BH<sub>4</sub>)<sub>4</sub>]***

Douglas A. Knight, Ragaiy Zidan, Robert Lascola, Rana Mohtadi, Chen Ling, PremKumar Sivasubramanian, James A. Kaduk, Son-Jong Hwang, Devleena Samanta, and Puru Jena

pp 19905–19915

**Publication Date (Web):** September 4, 2013 (Article)

**DOI:** 10.1021/jp407230a



Section:

Inorganic Chemicals and Reactions

***Surfaces, Interfaces, Porous Materials, and Catalysis Adsorption and Reactions of ICH<sub>2</sub>CN on Cu(100) and O/Cu(100)***

Jong-Liang Lin, Che-Wei Kuo, Che-Ming Yang, Yi-Shiue Lin, Tz-Shiuan Wu, and Pei-Yu Chao

pp 19916–19926

**Publication Date (Web):** September 23, 2013 (Article)

**DOI:** 10.1021/jp400968d

 Section:

Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms

***CO Adsorption on Defective Graphene-Supported Pt<sub>13</sub> Nanoclusters***

Ioanna Fampiou and Ashwin Ramasubramaniam

pp 19927–19933

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp403468h

 Section:

Surface Chemistry and Colloids

***Light- and Electric-Field-Induced Switching of Thiolated Azobenzene Self-Assembled Monolayer***

Jin Wen, Ziqi Tian, and Jing Ma

pp 19934–19944

**Publication Date (Web):** September 3, 2013 (Article)

**DOI:** 10.1021/jp404434r

 Section:

Physical Organic Chemistry

***In Situ Diffusimetry of Porous Media in Polymer Electrolyte Fuel Cells Using Transient <sup>2</sup>H Labeling and Neutron Imaging***

Pierre Oberholzer and Pierre Boillat

pp 19945–19954

**Publication Date (Web):** August 28, 2013 (Article)

**DOI:** 10.1021/jp4045435

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***In Situ Oxidation Study of Pt Nanoparticles on MgO(001)***

Uta Hejral, Alina Vlad, Philipp Nolte, and Andreas Stierle

pp 19955–19966

**Publication Date (Web):** September 24, 2013 (Article)

**DOI:** 10.1021/jp404698k

 Section:

Surface Chemistry and Colloids

## ***Highly Stable Ultrathin Carbosiloxane Films by Molecular Layer Deposition***

Han Zhou and Stacey F. Bent

pp 19967–19973

**Publication Date (Web):** September 20, 2013 (Article)

**DOI:** 10.1021/jp4058725

 Section:

Plastics Fabrication and Uses

## ***Controlling Physical Properties of Iron Nanoparticles during Assembly by “Click Chemistry”***

Yue Liu, Neelam RamaRao, Timothy Miller, George Hadjipanayis, and Andrew V. Teplyakov

pp 19974–19983

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp406021z

 Section:

Surface Chemistry and Colloids

## ***Atomic Force Microscopy Adhesion Mapping: Revealing Assembly Process in Inorganic Systems***

Pichitchai Pimpang, Ahmad Sabirin Zoolfakar, Duangmanee Wongratanaphisan, Atcharawon Gardchareon, Emily P. Nguyen, Serge Zhuiykov, Supab Chooapun, and Kourosh Kalantar-zadeh

pp 19984–19990

**Publication Date (Web):** September 10, 2013 (Article)

**DOI:** 10.1021/jp406210u

 Section:

Surface Chemistry and Colloids

## ***Identifying Selective Host–Guest Interactions Based on Hydrogen Bond Donor–Acceptor Pattern in Functionalized Al-MIL-53 Metal–Organic Frameworks***

Julia Wack, Renée Siegel, Tim Ahnfeldt, Norbert Stock, Luís Mafra, and Juergen Senker

pp 19991–20001

**Publication Date (Web):** September 4, 2013 (Article)

**DOI:** 10.1021/jp4063252

 Section:

Magnetic Phenomena

## ***First Principles Study of Cobalt (Hydr)oxides under Electrochemical Conditions***

Jia Chen and Annabella Selloni

pp 20002–20006

**Publication Date (Web):** September 11, 2013 (Article)

**DOI:** 10.1021/jp406331h

 Section:

Electrochemistry

## ***Following the Thermal Activation of Au<sub>25</sub>(SR)<sub>18</sub> Clusters for Catalysis by X-ray Absorption Spectroscopy***

Atal Shivhare, Daniel M. Chevrier, Randy W. Purves, and Robert W. J. Scott

pp 20007–20016

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp4063687

 Section:

Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms

## ***Inorganic-Salt-Assisted Morphological Evolution and Visible-Light-Driven Photocatalytic Performance of Bi<sub>2</sub>WO<sub>6</sub> Nanostructures***

Yan Yan, Yafan Wu, Yuting Yan, Weisheng Guan, and Weidong Shi

pp 20017–20028

**Publication Date (Web):** September 10, 2013 (Article)

**DOI:** 10.1021/jp406574y

 Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes

## ***Enhanced Visible Light Photocatalysis of Bi<sub>2</sub>O<sub>3</sub> upon Fluorination***

Hai-Ying Jiang, Jingjing Liu, Kun Cheng, Wenbin Sun, and Jun Lin

pp 20029–20036

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp406834d

 Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes

## ***Modeling Methane Adsorption in Interpenetrating Porous Polymer Networks***



Richard L. Martin, Mahdi Niknam Shahrak, Joseph A. Swisher, Cory M. Simon, Julian P. Sculley, Hong-Cai Zhou, Berend Smit, and Maciej Haranczyk

pp 20037–20042

**Publication Date (Web):** September 3, 2013 (Article)

**DOI:** 10.1021/jp406918d

 Section:

Surface Chemistry and Colloids

### ***Mass Transport across the Porous Oxide Shells of Core–Shell and Yolk–Shell Nanostructures in Liquid Phase***

Jie Li, Xiaoliang Liang, Ji Bong Joo, Ilkeun Lee, Yadong Yin, and Francisco Zaera

pp 20043–20053

**Publication Date (Web):** September 18, 2013 (Article)

**DOI:** 10.1021/jp406991y

 Section:

Surface Chemistry and Colloids

### ***Hexagonal $MIn_2S_4$ ( $M = Mn, Fe, Co$ ): Formation and Phase Transition***

Yong-Fang Shi, Yue Wang, and Li-Ming Wu

pp 20054–20059

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp407067d

 Section:

Crystallography and Liquid Crystals

### ***4,4'-Dithiodipyridine on Au(111): A Combined STM, STS, and DFT Study***

Berndt Koslowski, Anna Tschetschetkin, Norbert Maurer, and Paul Ziemann, Jan Kučera and Axel Groß

pp 20060–20067

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp4071289

 Section:

Surface Chemistry and Colloids

### ***Monitoring the Activation of a Flexible Metal–Organic Framework Using Structurally Sensitive Spectroscopy Techniques***

Yuan Chen, Jingming Zhang, Jing Li, and Jenny V. Lockard

pp 20068–20077

**Publication Date (Web):** September 12, 2013 (Article)

**DOI:** 10.1021/jp4074202

 Section:

Inorganic Chemicals and Reactions

***Site-Specific Scaling Relations for Hydrocarbon Adsorption on Hexagonal Transition Metal Surfaces***

Matthew M. Montemore and J. Will Medlin

pp 20078–20088

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp4076405

 Section:

Surface Chemistry and Colloids

***Understanding Copper Activation and Xanthate Adsorption on Sphalerite by Time-of-Flight Secondary Ion Mass Spectrometry, X-ray Photoelectron Spectroscopy, and in Situ Scanning Electrochemical Microscopy***

Jingyi Wang, Qingxia Liu, and Hongbo Zeng

pp 20089–20097

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp407795k

 Section:

Surface Chemistry and Colloids

***Diffuse Unoccupied Molecular Orbital of Rubrene Causing Image-Potential State Mediated Excitation***

T. Ueba, R. Terawaki, T. Morikawa, Y. Kitagawa, M. Okumura, T. Yamada, H. S. Kato, and T. Munakata

pp 20098–20103

**Publication Date (Web):** September 3, 2013 (Article)

**DOI:** 10.1021/jp407933m

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Structure of Mixed-Monolayer-Protected Nanoparticles in Aqueous Salt Solution from Atomistic Molecular Dynamics Simulations***

Reid C. Van Lehn and Alfredo Alexander-Katz

pp 20104–20115

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp406035e

 Section:

Surface Chemistry and Colloids

***Noble Gas Adsorption in Copper Trimesate, HKUST-1: An Experimental and Computational Study***

Zeric Hulvey, Keith V. Lawler, Zhiwei Qiao, Jian Zhou, David Fairen-Jimenez, Randall Q. Snurr, Sergey V. Ushakov, Alexandra Navrotsky, Craig M. Brown, and Paul M. Forster

pp 20116–20126

**Publication Date (Web):** September 20, 2013 (Article)

**DOI:** 10.1021/jp408034u

 Section:

Surface Chemistry and Colloids

***Plasmonics, Optical Materials, and Hard Matter  
Ultrafast Third-Order Optical Nonlinearity in Au Triangular Nanoprism with Strong Dipole and Quadrupole Plasmon Resonance***

Zixuan Li, Ying Yu, Ziyu Chen, Tianran Liu, Zhang-Kai Zhou, Jun-Bo Han, Juntao Li, Chongjun Jin, and Xuehua Wang

pp 20127–20132

**Publication Date (Web):** September 5, 2013 (Article)

**DOI:** 10.1021/jp403308k

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Thermal Analysis for Low Temperature Synthesis of Oxide Thin Films from Chemical Solutions***

Daniel Sanchez-Rodriguez, Jordi Farjas, Pere Roura, Susagna Ricart, Narcís Mestres, Xavier Obradors, and Teresa Puig

pp 20133–20138

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp4049742

 Section:

Inorganic Chemicals and Reactions

### ***Silver Nanoparticles on Porous Silicon: Approaching Single Molecule Detection in Resonant SERS Regime***

Alessandro Virga, Paola Rivolo, Francesca Frascella, Angelo Angelini, Emiliano Descrovi, Francesco Geobaldo, and Fabrizio Giorgis

pp 20139–20145

**Publication Date (Web):** September 8, 2013 (Article)

**DOI:** 10.1021/jp405117p

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

### ***Sensing the Moving Direction, Position, Size, and Material Type of Nanoparticles with the Two-Photon-Induced Luminescence of a Single Gold Nanorod***

Lei Chen, Guang-Can Li, Guang-Yin Liu, Qiao-Feng Dai, Sheng Lan, Shao-Long Tie, and Hai-Dong Deng

pp 20146–20153

**Publication Date (Web):** September 5, 2013 (Article)

**DOI:** 10.1021/jp405403g

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

### ***Extended Investigations on Luminescent $Cs_2[Mo_6Br_{14}]@SiO_2$ Nanoparticles: Physico-Structural Characterizations and Toxicity Studies***

Tangi Aubert, Francisco Cabello-Hurtado, Marie-Andrée Esnault, Chrystelle Neaime, Dominique Lebreton-Chauvel, Sylvie Jeanne, Pascal Pellen, Claire Roiland, Laurent Le Polles, Noriko Saito, Koji Kimoto, Hajime Haneda, Naoki Ohashi, Fabien Grasset, and Stéphane Cordier

pp 20154–20163

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp405836q

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

### ***Nonstoichiometry in Bixbyite-Type Vanadium Sesquioxide***

C. Reimann, D. Weber, M. Lerch, and T. Bredow

pp 20164–20170

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp406622u

 Section:

Thermodynamics, Thermochemistry, and Thermal Properties

***Optical Properties of PbS/CdS Core/Shell Quantum Dots***

Yolanda Justo, Pieter Geiregat, Karen Van Hoecke, Frank Vanhaecke, Celso De Mello Donega, and Zeger Hens

pp 20171–20177

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp406774p

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Photonic and Thermofluidic Analysis of Colloidal Plasmonic Nanorings and Nanotori for Pulsed-Laser Photothermal Applications***

Fatema Alali, Ioannis H. Karampelas, Young Hwa Kim, and Edward P. Furlani

pp 20178–20185

**Publication Date (Web):** September 12, 2013 (Article)

**DOI:** 10.1021/jp406986y

 Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes

***Anisotropic Optical Properties of Thin-Film Thiocarbocyanine Dye Aggregates***

K. Roodenko, H. M. Nguyen, L. Caillard, A. Radja, P. Thissen, J. M. Gordon, Yu. N. Gartstein, A. V. Malko, and Y. J. Chabal

pp 20186–20192

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp407056t

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Nuclear Quadrupole Resonance Study of Hydrogen Bonds in Solid 2-Methylbenzimidazole and 5,6-Dimethylbenzimidazole***

Janez Seliger and Veselko Žagar

pp 20193–20200

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp4071746

 Section:

Physical Organic Chemistry

***Defect-Driven Radioluminescence Sensitization in Scintillators: The Case of  $\text{Lu}_2\text{Si}_2\text{O}_7:\text{Pr}$***

Elisa Dell'Orto, Mauro Fasoli, Guohao Ren, and Anna Vedda

pp 20201–20208

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp407248q



Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Physical Processes in Nanomaterials and Nanostructures  
Effect of Quantum Confinement on Optical and Magnetic Properties of Pr–Cr–  
Codoped Bismuth Ferrite Nanowires***

Rajasree Das, Gobinda Gopal Khan, Shikha Varma, Goutam Dev Mukherjee, and Kalyan Mandal

pp 20209–20216

**Publication Date (Web):** September 11, 2013 (Article)

**DOI:** 10.1021/jp407334d



Section:

Magnetic Phenomena

***Noncovalent Functionalization of Single-Wall Carbon Nanotubes for the  
Elaboration of Gas Sensor Dedicated to BTX Type Gases: The Case of Toluene***

Amadou Ndiaye, Pierre Bonnet, Alain Pauly, Marc Dubois, Jérôme Brunet, Christelle Varenne, Katia Guerin, and Bernard Lauron

pp 20217–20228

**Publication Date (Web):** September 3, 2013 (Article)

**DOI:** 10.1021/jp402787f



Section:

Organic Analytical Chemistry

***Contrasting Elastic Properties of Heavily B- and N-doped Graphene with  
Random Impurity Distributions Including Aggregates***

Karolina Z. Milowska, Magdalena Woińska, and Małgorzata Wierzbowska

pp 20229–20235

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp403552k

 Section:

Industrial Inorganic Chemicals

***Dynamics of Silica-Nanoparticle-Filled Hybrid Hydrogels: Nonlinear Viscoelastic Behavior and Chain Entanglement Network***

Jun Yang and Chun-Rui Han

pp 20236–20243

**Publication Date (Web):** September 10, 2013 (Article)

**DOI:** 10.1021/jp404616s

 Section:

Plastics Manufacture and Processing

***Selecting Two-Dimensional Halogen–Halogen Bonded Self-Assembled 1,3,5-Tris(4-iodophenyl)benzene Porous Nanoarchitectures at the Solid–Liquid Interface***

Fabien Silly

pp 20244–20249

**Publication Date (Web):** July 31, 2013 (Article)

**DOI:** 10.1021/jp4057626

 Section:

Surface Chemistry and Colloids

***Controlling the Atomic Layer Deposition of Titanium Dioxide on Silicon: Dependence on Surface Termination***

Stephen McDonnell, Roberto C. Longo, Oliver Seitz, Josh B. Ballard, Greg Mordi, Don Dick, James H. G. Owen, John N. Randall, Jiyoung Kim, Yves J. Chabal, Kyeongjae Cho, and Robert M. Wallace

pp 20250–20259

**Publication Date (Web):** September 9, 2013 (Article)

**DOI:** 10.1021/jp4060022

 Section:

Crystallography and Liquid Crystals

***Atomic Layer Deposition of Lithium Tantalate Solid-State Electrolytes***

Jian Liu, Mohammad N. Banis, Xifei Li, Andrew Lushington, Mei Cai, Ruying Li, Tsun-Kong Sham, and Xueliang Sun

pp 20260–20267

**Publication Date (Web):** September 6, 2013 (Article)

DOI: 10.1021/jp4063302

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Extinction Coefficients, Oscillator Strengths, and Radiative Lifetimes of CdSe, CdTe, and CdTe/CdSe Nanocrystals***

Ke Gong, Youhong Zeng, and David F. Kelley

pp 20268–20279

**Publication Date (Web):** September 18, 2013 (Article)

DOI: 10.1021/jp4065449

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***A Supramolecular Amphiphile Based on Calix[4]resorcinarene and Cationic Surfactant for Controlled Self-Assembly***

Sergey V. Kharlamov, Ruslan R. Kashapov, Tatiana N. Pashirova, Elena P. Zhiltsova, Svetlana S. Lukashenko, Albina Yu. Ziganshina, Aidar T. Gubaidullin, Lucia Ya. Zakharova, Margit Gruner, Wolf D. Habicher, and Alexander I. Konovalov

pp 20280–20288

**Publication Date (Web):** September 3, 2013 (Article)

DOI: 10.1021/jp406643g

 Section:

Surface Chemistry and Colloids

***Transient Absorption Kinetics Associated with Higher Exciton States in Semiconducting Single-Walled Carbon Nanotubes: Relaxation of Excitons and Phonons***

Takeshi Koyama, Shohei Yoshimitsu, Yasumitsu Miyata, Hisanori Shinohara, Hideo Kishida, and Arao Nakamura

pp 20289–20299

**Publication Date (Web):** September 24, 2013 (Article)

DOI: 10.1021/jp406650t

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Interaction of Boron and Phosphorus Impurities in Silicon Nanowires during Low-Temperature Ozone Oxidation***

Naoki Fukata, Jun Kaminaga, Ryo Takiguchi, Riccardo Rurali, Mrinal Dutta, and Kouichi Murakami



pp 20300–20307

**Publication Date (Web):** September 10, 2013 (Article)

**DOI:** 10.1021/jp406713p

 Section:

Electric Phenomena

***Realization of Thin Film Encapsulation by Atomic Layer Deposition of Al<sub>2</sub>O<sub>3</sub> at Low Temperature***

Yong-Qiang Yang, Yu Duan, Ping Chen, Feng-Bo Sun, Ya-Hui Duan, Xiao Wang, and Dan Yang

pp 20308–20312

**Publication Date (Web):** August 29, 2013 (Article)

**DOI:** 10.1021/jp406738h

 Section:

Electric Phenomena

***Effect of the Specific Surface Sites on the Reducibility of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/Graphene Composites by Hydrogen***

V. Papaefthimiou, I. Florea, W. Baaziz, I. Janowska, W. H. Doh, D. Begin, R. Blume, A. Knop-Gericke, O. Ersen, C. Pham-Huu, and S. Zafeiratos

pp 20313–20319

**Publication Date (Web):** September 3, 2013 (Article)

**DOI:** 10.1021/jp4067718

 Section:

Surface Chemistry and Colloids

***Magnetic Nanoparticles with Covalently Bound Self-Assembled Protein Corona for Advanced Biomedical Applications***

Rina Venerando, Giovanni Miotto, Massimiliano Magro, Marco Dallan, Davide Baratella, Emanuela Bonaiuto, Radek Zboril, and Fabio Vianello

pp 20320–20331

**Publication Date (Web):** September 5, 2013 (Article)

**DOI:** 10.1021/jp4068137

 Section:

Pharmaceuticals

***Nitridation Temperature Effects on Electronic and Chemical Properties of (Ga<sub>1-x</sub>Zn<sub>x</sub>)(N<sub>1-x</sub>O<sub>x</sub>) Solid Solution Nanocrystals***

Matthew James Ward, Wei-Qiang Han, and Tsun-Kong Sham

pp 20332–20342

**Publication Date (Web):** September 18, 2013 (Article)

**DOI:** 10.1021/jp406990n

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

***Resizing of Colloidal Gold Nanorods and Morphological Probing by SERS***

Sara Fateixa, Maria Rosário Correia, and Tito Trindade

pp 20343–20350

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp407216c

 Section:

Surface Chemistry and Colloids

***Effect of Conformational Symmetry upon the Formation of Cysteine Clusters on the Au(110)-(1 × 1) Surface: A First-Principles Study***

Luiza Buimaga-Iarinca and Cristian Morari

pp 20351–20360

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp4072857

 Section:

Surface Chemistry and Colloids

***Segregation of Impurities in GaAs and InAs Nanowires***

Marta Galicka, Ryszard Buczko, and Perla Kacman

pp 20361–20370

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp407685s

 Section:

Electric Phenomena

***Ultrafast Spin-Resolved Spectroscopy Reveals Dominant Exciton Dynamics in Conducting Polymer Polyaniline***

Soonyoung Cha, Yoochan Hong, Jaemoon Yang, Inhee Maeng, Seung Jae Oh, Kiyoung Jeong, Jin-Suck Suh, Seungjoo Haam, Yong-Min Huh, and Hyunyong Choi

pp 20371–20375

**Publication Date (Web):** September 6, 2013 (Article)

**DOI:** 10.1021/jp408800j

 Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

***Additions and Corrections***

***Correction to “How Electrostatics Influences Hydrodynamic Boundary Conditions: Poiseuille and Electro-Osmotic Flows in Clay Nanopores”***

A. Bořan, V. Marry, B. Rotenberg, P. Turq, and B. Noetinger

pp 20376–20376

**Publication Date (Web):** September 19, 2013 (Addition/Correction)

**DOI:** 10.1021/jp408784c

 Section:

Surface Chemistry and Colloids

***Correction to “Influence of Graphene Curvature on Hydrogen Adsorption: Toward Hydrogen Storage Devices”***

Sarah Goler, Camilla Coletti, Valentina Tozzini, Vincenzo Piazza, Torge Mashoff, Fabio Beltram, Vittorio Pellegrini, and Stefan Heun

pp 20377–20377

**Publication Date (Web):** September 24, 2013 (Addition/Correction)

**DOI:** 10.1021/jp408952u

 Section:

Electrochemical, Radiational, and Thermal Energy Technology