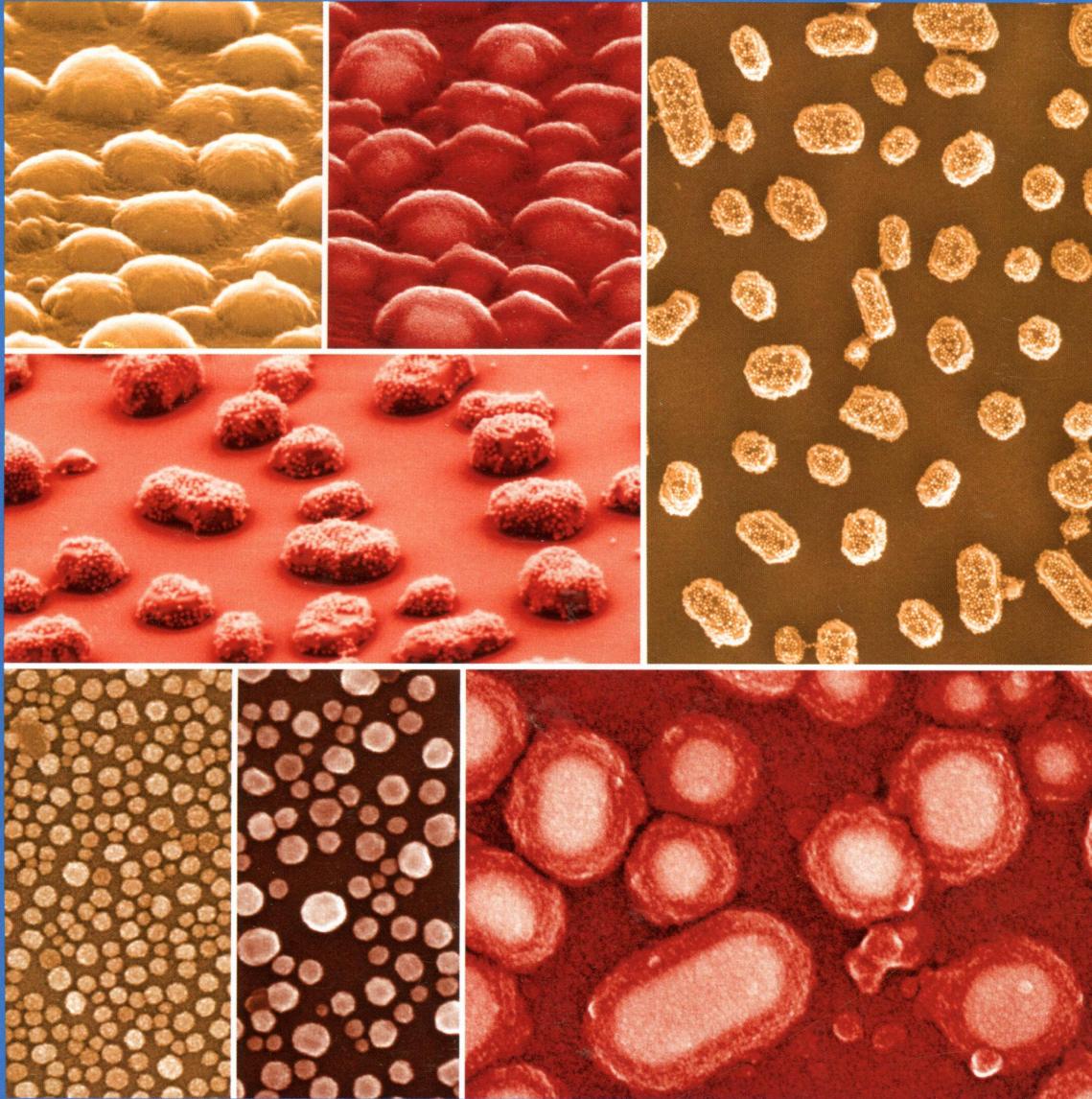


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# THE JOURNAL OF PHYSICAL CHEMISTRY C



**Plasmonic Gold  
Nanisland Films,  
Bare and Coated  
with Polymeric and  
Nanoparticle Layers  
(see page 8227)**

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



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**ON THE COVER:** Plasmonic gold nanoisland films, bare and coated with polymeric and nanoparticle layers. Gold nanoisland films prepared by evaporation on glass and annealing exhibit a distinct localized plasmon extinction band and can be used as refractometric transducers for chemical and biological sensing. Bottom left: Au nanoislands, ca. 20 (left) and 30 nm (right) average lateral dimension. Top left and bottom right: Au nanoislands (ca. 100 nm average dimension) coated with a ca. 40 nm polyelectrolyte layer-by-layer film. Reprinted from: Kedem, O.; Tesler, A. B.; Vaskevich, A.; Rubinstein, I. Sensitivity and Optimization of Localized Surface Plasmon Resonance Transducers. *ACS Nano* 2011, 5, 748–760. Middle left and top right: Au nanoislands (ca. 300 nm average dimension) covered with Au nanoparticles (ca. 16 nm average diameter). Reprinted from: Bellapadrona, G.; Tesler, A. B.; Grünstein, D.; Hossain, L. H.; Kikkeri, R.; Seeberger, P. H.; Vaskevich, A.; Rubinstein, I. Optimization of Localized Surface Plasmon Resonance Transducers for Studying Carbohydrate–Protein Interactions. *Anal. Chem.* 2012, 84, 232–240. The nanoparticles are bound to the nanoislands by means of carbohydrate–protein biorecognition sandwich assay. See page 8227.

## Feature Article

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[dx.doi.org/10.1021/jp409954s](http://dx.doi.org/10.1021/jp409954s)

Critical Issues in Localized Plasmon Sensing

Ofer Kedem,<sup>\*</sup> Alexander Vaskevich,<sup>\*</sup> and Israel Rubinstein<sup>\*</sup>

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[dx.doi.org/10.1021/jp412095h](http://dx.doi.org/10.1021/jp412095h)

Negative Capacitance of an Electrolytic Cell in the Absence of Bias Potential

I. Lelidis<sup>\*</sup> and G. Barbero

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[dx.doi.org/10.1021/jp412449n](http://dx.doi.org/10.1021/jp412449n)

Influence of Chemical Structure on the Charge Transfer State Spectrum of a Polymer:Fullerene Complex

Sheridan Few, Jarvit M. Frost, James Kirkpatrick, and Jenny Nelson<sup>\*</sup>

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[dx.doi.org/10.1021/jp5009626](http://dx.doi.org/10.1021/jp5009626)

Anthraquinone on Porous Carbon Nanotubes with Improved Supercapacitor Performance

Xiao Chen, Huanwen Wang, Huan Yi, Xuefeng Wang,<sup>\*</sup> Xingru Yan, and Zhanhu Guo<sup>\*</sup>

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[dx.doi.org/10.1021/jp5012439](http://dx.doi.org/10.1021/jp5012439)

A First-Principles Study: Structure and Decomposition of Mono-/Bimetallic Ammine Borohydrides

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[dx.doi.org/10.1021/jp501445n](https://doi.org/10.1021/jp501445n)**Fluorescence Resonance Energy Transfer in Partially and Fully Labeled Pyrene Dendronized Porphyrins Studied with Model Free Analysis**

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[dx.doi.org/10.1021/jp5016214](https://doi.org/10.1021/jp5016214)**Donor–Acceptor Polymers for Electrochemical Supercapacitors: Synthesis, Testing, and Theory**

Paul M. DiCarmine, Tyler B. Schon, Theresa M. McCormick, Philipp P. Klein, and Dwight S. Seferos\*

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[dx.doi.org/10.1021/jp502163a](https://doi.org/10.1021/jp502163a)**Electronic Coupling and Electron Transfer between Two Dimolybdenum Units Spaced by a Biphenylene Group**

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[dx.doi.org/10.1021/jp503193m](https://doi.org/10.1021/jp503193m)**High-Conductance Conformers in Histograms of Single-Molecule Current–Voltage Characteristics**

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[dx.doi.org/10.1021/jp409531w](https://doi.org/10.1021/jp409531w)**Surface Structure, Adsorption, and Thermal Desorption Behaviors of Methaneselenolate Monolayers on Au(111) from Dimethyl Diselenides**

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[dx.doi.org/10.1021/jp410565e](https://doi.org/10.1021/jp410565e)**Inhomogeneous RVO<sub>4</sub> Photocatalyst Systems (R = Y, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu)**

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[dx.doi.org/10.1021/jp410607k](https://doi.org/10.1021/jp410607k)**Trends in Atomic Adsorption on Pt<sub>3</sub>M(111) Transition Metal Bimetallic Surface Overlays**

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[dx.doi.org/10.1021/jp410873v](https://doi.org/10.1021/jp410873v)**Predicting the Integral Heat of Adsorption for Gas Physisorption on Microporous and Mesoporous Adsorbents**

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Steven D. Conradson,\* Nicolas Bock, Julio M. Castro, Dylan R. Conradson, Lawrence E. Cox, Wojciech Dmowski, David E. Dooley, Takeshi Egami, Francisco J. Espinosa-Faller, Franz J. Freibert, Angel J. García-Adeva, Nancy J. Hess, Erik Holmström, Rafael C. Howell, Barbara A. Katz, Jason C. Lashley, Raymond J. Martinez, David P. Moore, Luis A. Morales, J. David Olivas, Ramiro A. Pereyra, Michael Ramos, Jeffrey H. Terry, and Phillip M. Villena

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[dx.doi.org/10.1021/jp500609h](https://doi.org/10.1021/jp500609h)**Lithium-Induced Phase Transitions in Lead-Free  $\text{Bi}_{0.5}\text{Na}_{0.5}\text{TiO}_3$  Based Ceramics**

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C. D'Andrea, B. Fazio, P. G. Guicciardi,\* M. C. Giordano, C. Martella, D. Chiappe, A. Toma, F. Buatier de Mongeot, F. Tantussi, P. Vasanthakumar, F. Fuso, and M. Allegrini

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[dx.doi.org/10.1021/jp5007445](https://doi.org/10.1021/jp5007445)**Localized Hybrid Plasmon Modes Reversion in Gold–Silica–Gold Multilayer Nanoshells**

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[dx.doi.org/10.1021/jp5007796](https://doi.org/10.1021/jp5007796)**Molecular Packing versus Strength and Effective Mass of the Emitting Exciton of  $\beta$ -1,1,4,4-Tetraphenyl-1,3-butadiene**

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Marc de Wergifosse, Jérôme de Ruyck, and Benoît Champagne\*

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Kuai Yu, Mary Sajini Devadas, Todd A. Major, Shun Shang Lo, and Gregory V. Hartland\*

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[dx.doi.org/10.1021/jp501752a](https://doi.org/10.1021/jp501752a)**Constructing New n-Type, Ambipolar, and p-Type Aggregation-Induced Blue Luminogens by Gradually Tuning the Proportion of Tetraphenylethene and Diphenylphosphine Oxide**

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[dx.doi.org/10.1021/jp411366q](https://doi.org/10.1021/jp411366q)**First-Principles Calculations of the Pressure Stability and Elasticity of Dense TiO<sub>2</sub> Phases Using the B3LYP Hybrid Functional**  
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[dx.doi.org/10.1021/jp501079b](https://doi.org/10.1021/jp501079b)**Ultrafast Carrier Dynamics of Silicon Nanowire Ensembles: The Impact of Geometrical Heterogeneity on Charge Carrier Lifetime**

Erik M. Grumstrup, Emma M. Cating, Michelle M. Gabriel, Christopher W. Pinion, Joseph D. Christesen, Justin R. Kirschbrown, Ernest L. Vallorz III, James F. Cahoon,\* and John M. Papanikolas\*

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[dx.doi.org/10.1021/jp502737e](https://doi.org/10.1021/jp502737e)**Ultrafast Carrier Dynamics in Individual Silicon Nanowires: Characterization of Diameter-Dependent Carrier Lifetime and Surface Recombination with Pump-Probe Microscopy**

Erik M. Grumstrup, Michelle M. Gabriel, Emma M. Cating, Christopher W. Pinion, Joseph D. Christesen, Justin R. Kirschbrown, Ernest L. Vallorz III, James F. Cahoon,\* and John M. Papanikolas\*

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Domenico Alberga, Giuseppe Felice Mangiavardi, Luisa Torsi, and Gianluca Lattanzi\*

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Divyraj Desai, Damon E. Turney, Balasubramanian Anantharaman, Daniel A. Steingart,\* and Sanjoy Banerjee\*

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[dx.doi.org/10.1021/jp411482e](https://doi.org/10.1021/jp411482e)**Passivation of Copper: Benzotriazole Films on Cu(111)**

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[dx.doi.org/10.1021/jp412675k](https://doi.org/10.1021/jp412675k)**Single-Molecule Junctions Based on Bipyridine: Impact of an Unusual Reorganization on Charge Transport**

Ioan Bâldea\*

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[dx.doi.org/10.1021/jp412689y](https://doi.org/10.1021/jp412689y)**Ultrathin Anodic Aluminum Oxide Membranes for Production of Dense Sub-20 nm Nanoparticle Arrays**

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[dx.doi.org/10.1021/jp500816u](https://doi.org/10.1021/jp500816u)**Large-Scale Synthesis of Colloidal Fe<sub>3</sub>O<sub>4</sub> Nanoparticles Exhibiting High Heating Efficiency in Magnetic Hyperthermia**

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**Atomic Layer Deposition of High-Purity Palladium Films from Pd(hfac)<sub>2</sub> and H<sub>2</sub> and O<sub>2</sub> Plasmas**

Matthieu J. Weber, Adriana J. M. Mackus, Marcel A. Verheijen, Valentino Longo, Ageeth A. Bol, and Wilhelmus M. M. Kessels\*

**Quantum Dot Photoactivation of Pt(IV) Anticancer Agents: Evidence of an Electron Transfer Mechanism Driven by Electronic Coupling**

Ivan Infante,\* Jon M. Azpiroz, Nina Gomez Blanco, Emmanuel Ruggiero, Jesus M. Ugalde, Juan C. Mareque-Rivas, and Luca Salassa\*

## Additions and Corrections

**Correction to "Atomic Layer Deposition of Spinel Lithium Manganese Oxide by Film-Body-Controlled Lithium Incorporation for Thin-Film Lithium-Ion Batteries"**

Ville Miikkulainen,\* Amund Ruud, Erik Østreng, Ola Nilsen, Mikko Laitinen, Timo Sajavaara, and Helmer Fjellvåg