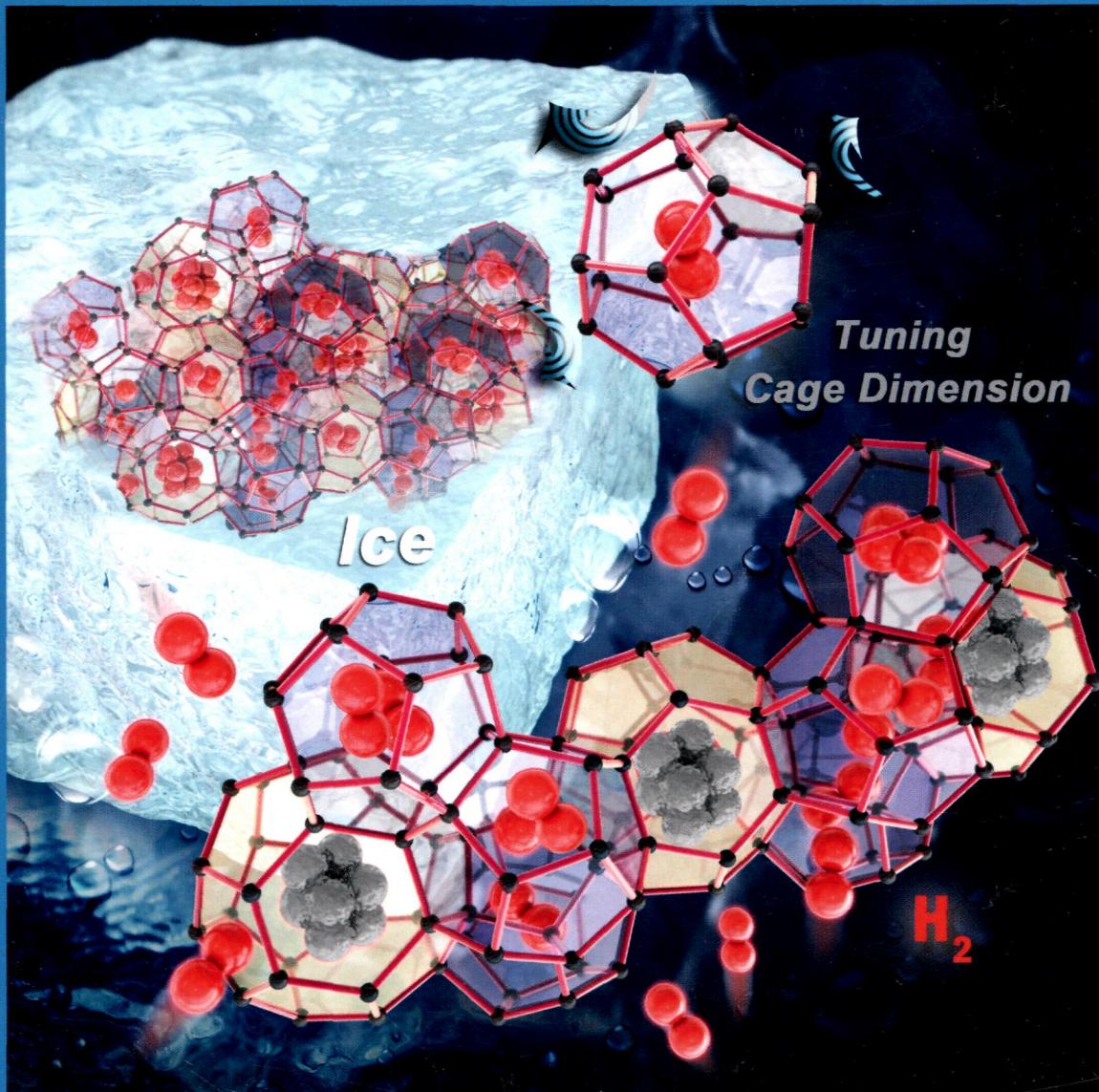


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C

Tunable Icy Cages for
Improving Hydrogen
Storage Capacity
(see page 5A)



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



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ON THE COVER: Tunable icy cages for improving hydrogen storage capacity. This study reports on how clathrate hydrate lattices can be tuned to result in multiple occupancy in ubiquitous nano-sized dodecahedral cavities (S^{12}), which are generally known to accept only one hydrogen molecule. Size and population of large guest molecule (LGM) in the hydrate matrix spontaneously control the degree of molecular hydrogen storage by tuning the cage dimensions. Generalization of this new insight to other sI and sH hydrates will raise the accepted hydrogen storage quantity limit in icy materials. See page 3324–3330.

Articles

Energy Conversion and Storage; Energy and Charge Transport

2897 dx.doi.org/10.1021/jp5000057

α -Fe₂O₃ Submicron Spheres with Hollow and Macroporous Structures as High-Performance Anode Materials for Lithium Ion Batteries

Kyung-An Kwon, Hyung-Seok Lim, Yang-Kook Sun, and Kyung-Do Suh*

2908

dx.doi.org/10.1021/jp409581n

Electronic Transport Properties of [Ca₂CoO_{3- δ}]_q[CoO₂]

Matthias Schrade, Harald Fjeld, Terje G. Finstad, and Truls Norby*

2919

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Insight into the Solid Electrolyte Interphase on Si Nanowires in Lithium-Ion Battery: Chemical and Morphological Modifications upon Cycling

Catarina Pereira-Nabais, Jolanta Świątowska,* Alexandre Chagnes, Aurélien Gohier, Sandrine Zanna, Antoine Seyeux, Pierre Tran-Van, Costel-Sorin Cojocaru, Michel Cassir, and Philippe Marcus

2929 dx.doi.org/10.1021/jp4104273

Methane Storage in Metal-Substituted Metal–Organic Frameworks: Thermodynamics, Usable Capacity, and the Impact of Enhanced Binding Sites

Malay Kumar Rana, Hyun Seung Koh, Haroon Zuberi, and Donald J. Siegel*

2943

dx.doi.org/10.1021/jp410502s

Ultrahigh-Power Flexible Electrochemical Capacitors Using Binder-Free Single-Walled Carbon Nanotube Electrodes and Hydrogel Membranes

Jim Kalupson, Danhao Ma, Clive A. Randall, Ramakrishnan Rajagopalan,* and Kofi Adu

Surfaces, Interfaces, Porous Materials, and Catalysis

3102

Host–Guest Complexation in the Ferrocenyl Alkanethiols–Thio β -Cyclodextrin Mixed Self-Assembled Monolayers
Gaëlle Filippi, Florent Goujon, Christine Bonal,* and Patrice Malfreyt

[dx.doi.org/10.1021/jp4114128](https://doi.org/10.1021/jp4114128)[dx.doi.org/10.1021/jp5002918](https://doi.org/10.1021/jp5002918)

3110

Systematic Investigation of Nitrile Based Ionic Liquids for CO₂ Capture: A Combination of Molecular Simulation and *ab initio* Calculation
Krishna M. Gupta and Jianwen Jiang*

[dx.doi.org/10.1021/jp411434g](https://doi.org/10.1021/jp411434g)[dx.doi.org/10.1021/jp5006692](https://doi.org/10.1021/jp5006692)

3119

Structure Sensitivity of 2-Methyl-3-butyn-2-ol Hydrogenation on Pd: Computational and Experimental Modeling
Antonio Prestianni, Micaela Crespo-Quesada, Remedios Cortese, Francesco Ferrante, Liubov Kiwi-Minsker, and Dario Duca*

[dx.doi.org/10.1021/jp4114859](https://doi.org/10.1021/jp4114859)[dx.doi.org/10.1021/jp408545c](https://doi.org/10.1021/jp408545c)

3129

Electrospun Granular Hollow SnO₂ Nanofibers Hydrogen Gas Sensors Operating at Low Temperatures
Rosmalini Ab Kadir,* Zhenyu Li, Abu Z. Sadek, Rozina Abdul Rani, Ahmad Sabirin Zoolfakar, Matthew R. Field, Jian Zhen Ou, Adam F. Chrimes, and Kourosh Kalantar-zadeh*

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3140

Pt₂Cl₆²⁻ Dimer Formation of [Bmim]₂PtCl₄ Ionic Liquid When Confined in Silica Nanopores
Cheng Li, Yaxing Wang, Xiaojing Guo, Zheng Jiang, Fangling Jiang, Wenli Zhang, Wenfa Zhang, Haiying Fu, Hongjie Xu, and Guozhong Wu*

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3145

Sum-Frequency Generation Spectroscopy of an Adsorbed Monolayer of Mixed Surfactants at an Air–Water Interface
Ankur Saha, Hari P. Upadhyaya, Awadhesh Kumar,* Sipra Choudhury, and Prakash D. Naik

[dx.doi.org/10.1021/jp411641z](https://doi.org/10.1021/jp411641z)[dx.doi.org/10.1021/jp410131q](https://doi.org/10.1021/jp410131q)

3156

Investigation of the Electrical Double Layer with a Graphene Electrode by the Grand Canonical Monte Carlo Simulation
Rafał Górniāk and Stanisław Lamperski*

[dx.doi.org/10.1021/jp411698w](https://doi.org/10.1021/jp411698w)[dx.doi.org/10.1021/jp410167k](https://doi.org/10.1021/jp410167k)

3162

High Coverage CO Adsorption and Dissociation on the Orthorhombic Mo₂C(100) Surface
Tao Wang, Yong-Wang Li, Jianguo Wang, Matthias Beller, and Haijun Jiao*

[dx.doi.org/10.1021/jp412067x](https://doi.org/10.1021/jp412067x)[dx.doi.org/10.1021/jp4102543](https://doi.org/10.1021/jp4102543)

3172

Condensation and Evaporation in Slit-Shaped Pores: Effects of Adsorbate Layer Structure and Temperature
Yonghong Zeng, Chunyan Fan, D. D. Do,* and D. Nicholson

[dx.doi.org/10.1021/jp412376w](https://doi.org/10.1021/jp412376w)[dx.doi.org/10.1021/jp411201k](https://doi.org/10.1021/jp411201k)

3181

Unraveling the Mechanism of the Covalent Coupling Between Terminal Alkynes on a Noble Metal
Jonas Björk,* Yi-Qi Zhang, Florian Klappenberger, Johannes V. Barth, and Sven Stafström

[dx.doi.org/10.1021/jp5002918](https://doi.org/10.1021/jp5002918)

3188

Interactions Between the Room-Temperature Ionic Liquid [C₂C₁Im][OTf] and Pd(111), Well-Ordered Al₂O₃, and Supported Pd Model Catalysts from IR Spectroscopy
Stefan Schernich, Dmytro Kostyshyn, Valentin Wagner, Nicola Taccardi, Mathias Laurin,* Peter Wasserscheid, and Jörg Libuda

[dx.doi.org/10.1021/jp5006692](https://doi.org/10.1021/jp5006692)

Plasmonics, Optical Materials, and Hard Matter

3194

TDDFT Study of the Optical Absorption Spectra of Bare Gold Clusters
Robertson W. Burgess and Vicki J. Keast*

[dx.doi.org/10.1021/jp408545c](https://doi.org/10.1021/jp408545c)

3202

A Novel Superhard Tetragonal Carbon Mononitride
Meiguang Zhang,* Qun Wei,* Haiyan Yan, Yaru Zhao, and Hui Wang

[dx.doi.org/10.1021/jp409152t](https://doi.org/10.1021/jp409152t)

3209

Gold Dimer Nanoantenna with Slanted Gap for Tunable LSPR and Improved SERS
Sameh Kessentini,* Dominique Barchiesi, Cristiano D’Andrea, Andrea Toma, Nicolas Guillot, Enzo Di Fabrizio, Barbara Fazio, Onofrio M. Maragò, Pietro G. Gucciardi, and Marc Lamy de la Chapelle

[dx.doi.org/10.1021/jp409844y](https://doi.org/10.1021/jp409844y)

3220

Energy Transfer and Tunable Luminescence of NaLa(PO₄)₄:Tb³⁺/Eu³⁺ under VUV and Low-Voltage Electron Beam Excitation
Chunmeng Liu, Dejian Hou, Jing Yan, Lei Zhou, Xiaojun Kuang, Hongbin Liang,* Yan Huang, Bingbing Zhang, and Ye Tao

[dx.doi.org/10.1021/jp410131q](https://doi.org/10.1021/jp410131q)

3230

Effect of Pressure and Temperature on Structural Stability of MoS₂
Nirup Bandaru, Ravhi S. Kumar,* Daniel Sneed, Oliver Tschauner, Jason Baker, Daniel Antonio, Sheng-Nian Luo, Thomas Hartmann, Yusheng Zhao, and Rama Venkat

[dx.doi.org/10.1021/jp410167k](https://doi.org/10.1021/jp410167k)

3236

Hydrogen Bond in Compressed Solid Hydrazine
Shuqing Jiang, Xiaoli Huang, Defang Duan, Songkuan Zheng, Fangfei Li, Xue Yang, Qiang Zhou, Bingbing Liu, and Tian Cui*

[dx.doi.org/10.1021/jp4102543](https://doi.org/10.1021/jp4102543)

3244

Defect Engineering of BiI₃ Single Crystals: Enhanced Electrical and Radiation Performance for Room Temperature Gamma-Ray Detection
HyukSu Han, Minki Hong, Sasmit S. Gokhale, Susan B. Sinnott, Kelly Jordan, James E. Baciak, and Juan C. Nino*

[dx.doi.org/10.1021/jp411201k](https://doi.org/10.1021/jp411201k)

3251

[dx.doi.org/10.1021/jp4115173](https://doi.org/10.1021/jp4115173)

Two-Color Surface Plasmon Polariton Enhanced Upconversion in $\text{NaYF}_4\text{-Yb:Tm}$ Nanoparticles on Au Nanopillar Arrays
 QuocAnh Luu, Amy Hor, Jon Fisher, Robert B. Anderson, Sheng Liu, Ting-Shan Luk, Hari P. Paudel, Mahdi Farrokh Baroughi, P. Stanley May,* and Steve Smith*

Physical Processes in Nanomaterials and Nanostructures

3258

$\text{Yb}_2\text{O}_3/\text{Au}$ Upconversion Nanocomposites with Broad-Band Excitation for Solar Cells
 Tong Liu, Xue Bai, Chuang Miao, Qilin Dai, Wen Xu, Yanhao Yu, Qidai Chen, and Hongwei Song*

3266

Dynamical Investigations of Inhomogeneous Vibrational Broadening in Diluted Magnetic Semiconductor Nanocrystals
 David B. Lingerfelt, Sean A. Fischer, Joseph W. May, and Xiaosong Li*

3274

Effect of Structural Dynamics on the Opto-Electronic Properties of Bare and Hydrated ZnS QDs
 Jon M. Azpiroz, Edoardo Mosconi, Jesus M. Ugalde, and Filippo De Angelis*

3285

Real-Time Spectroscopy of Single-Walled Carbon Nanotubes for Negative Time Delays by Using a Few-Cycle Pulse Laser
 Takayoshi Kobayashi,* Zhaogang Nie, Bing Xue, Hiromichi Kataura, Youichi Sakakibara, and Yasumitsu Miyata

3295

Centered Honeycomb NiSe_2 Nanoribbons: Structure and Electronic Properties
 J. A. Reyes-Retana,* G. G. Naumis, and Felipe Cervantes-Sodi

3305

Nanoscale Organic Ferroelectric Resistive Switches
 Vsevolod Khikhlovskyi, Rui Wang, Albert J. J. M. van Breemen, Gerwin H. Gelinck,* René A. J. Janssen, and Martijn Kemerink*

3313

Density Functional Study of Nonlinear Optical Properties of Grossly Warped Nanographene $\text{C}_{80}\text{H}_{30}$
 Yafei Dai, Zhenyu Li, and Jinlong Yang*

3319

Origin of the p-Type Character of AuCl_3 Functionalized Carbon Nanotubes
 Altynbek Murat, Ivan Rungger, Chengjun Jin, Stefano Sanvitto, and Udo Schwingenschlögl*

3324

Tuning Cage Dimension in Clathrate Hydrates for Hydrogen Multiple Occupancy
 Dong-Yeon Koh, Hyery Kang, Jiwon Jeon, Yun-Ho Ahn, Youngjune Park, Hyunjun Kim,* and Huen Lee*

[dx.doi.org/10.1021/jp410632q](https://doi.org/10.1021/jp410632q)

3331

Subgap Two-Photon States in Polycyclic Aromatic Hydrocarbons: Evidence for Strong Electron Correlations
 Karan Aryanpour,* Adam Roberts, Arvinder Sandhu, Rajendra Rathore, Alok Shukla, and Sumit Mazumdar

[dx.doi.org/10.1021/jp410793r](https://doi.org/10.1021/jp410793r)

3340

Ultrathin Chemical Vapor Deposition (CVD)-Grown Hexagonal Boron Nitride as a High-Quality Dielectric for Tunneling Devices on Rigid and Flexible Substrates
 Carlo M. Orofino, Satoru Suzuki, and Hiroki Hibino*

[dx.doi.org/10.1021/jp410874z](https://doi.org/10.1021/jp410874z)

3347

Synthesis and Optical Properties of Linker-Free TiO_2/CdSe Nanorods
 Yasser Hassan, Chi-Hung Chuang, Yoichi Kobayashi, Neil Coombs, Sandeep Gorantla, Gianluigi A. Botton, Mitchell A. Winnik, Clemens Burda, and Gregory D. Scholes*

[dx.doi.org/10.1021/jp411830u](https://doi.org/10.1021/jp411830u)

3359

Fe^{3+} to Fe^{2+} Conversion by Plasmonically Generated Hot Electrons from Ag Nanoparticles: Surface-Enhanced Raman Scattering Evidence
 Kwan Kim,* Seung Hun Lee, Jeong-Yong Choi, and Kuan Soo Shin*

[dx.doi.org/10.1021/jp411874v](https://doi.org/10.1021/jp411874v)

3366

A Force Field for Describing the Polyvinylpyrrolidone-Mediated Solution-Phase Synthesis of Shape-Selective Ag Nanoparticles
 Ya Zhou, Wissam A. Saidi, and Kristen A. Fichtner*

[dx.doi.org/10.1021/jp412098n](https://doi.org/10.1021/jp412098n)

Additions and Corrections

3375

Correction to "Thermodynamics of Ionized Monolayers: Surface Manometry on Very Low Density Spread Monolayers of Sodium Octadecyl Sulfate at the Air/Water Interface and Analysis of Ionic Double Layer Contributions to the Isotherms"
 S. R. Middleton, N. R. Pallas, J. Mingins, and B. A. Pethica*

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