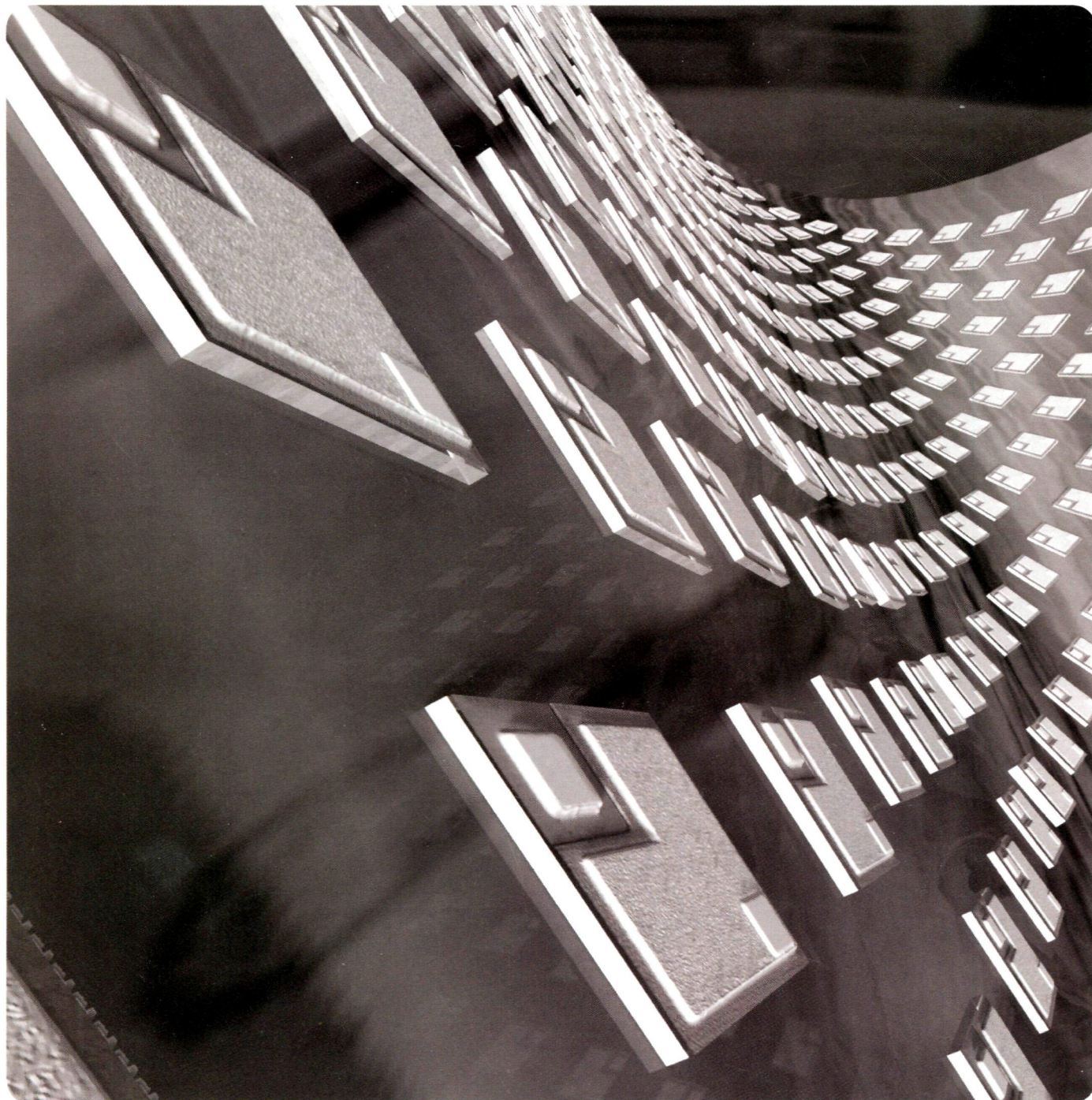


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JULY 22, 2014 | VOLUME 26 | NUMBER 14 | pubs.acs.org/cm



ON THE COVER: The image portrays flexible printed inorganic micro-LEDs that have been developed using an adhesive material designed to be highly transparent and thermally and electrically stable, and it can also be photocured after assembly. For more information, see “Thin Film Receiver Materials for Deterministic Assembly by Transfer Printing” by Tae-il Kim,* Mo Joon Kim, Yei Hwan Jung, Hyejin Jang, Canan Dagdeviren, Hsuan An Pao, Sang June Cho, Andrew Carlson, Ki Jun Yu, Abid Ameen, Hyun-joong Chung, Sung Hun Jin, Zhenqiang Ma, and John A. Rogers* (*Chem. Mater.* **2014**, *26* (11), 3502–3507).

Editorial

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Appealing Chemistry: How Our Appeals Process Works

Jillian M. Buriak

dx.doi.org/10.1021/cm5024103

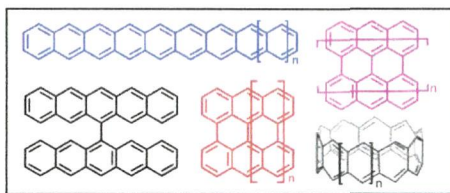
Perspectives

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Recent Highlights and Perspectives on Acene Based Molecules and Materials

Qun Ye and Chunyan Chi*

dx.doi.org/10.1021/cm501536p



Communications

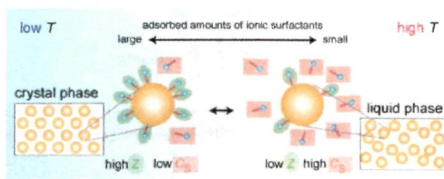
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Thermoresponsive Colloidal Crystallization Using Adsorption of Ionic Surfactants

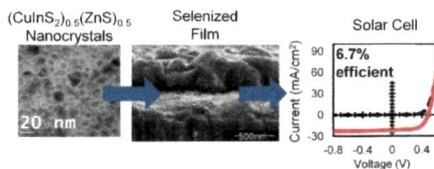
Akiko Toyotama, Masaaki Yamamoto, Yuki Nakamura, Chizuru Yamazaki, Ayumi Tobinaga, Yoshiaki Ohashi, Tohru Okuzono, Hiroshi Ozaki, Fumio Uchida, and Junpei Yamanaka*

dx.doi.org/10.1021/cm500580q

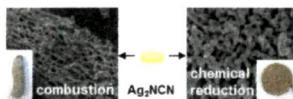


Synthesis of $(\text{CuInS}_2)_{0.5}(\text{ZnS})_{0.5}$ Alloy Nanocrystals and Their Use for the Fabrication of Solar Cells via Selenization

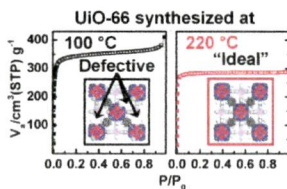
Brian K. Graeser, Charles J. Hages, Wei Chang Yang, Nathaniel J. Carter, Caleb K. Miskin, Eric A. Stach, and Rakesh Agrawal*

**Ultrafast Syntheses of Silver Foams from Ag_2NCN : Combustion Synthesis versus Chemical Reduction**

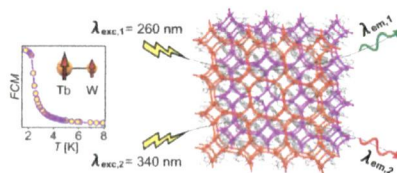
Debora Ressnig* and Markus Antonietti

**Tuned to Perfection: Ironing Out the Defects in Metal–Organic Framework UiO-66**

Greig C. Shearer, Sachin Chavan, Jayashree Ethiraj, Jenny G. Vitillo, Stian Svelle, Unni Olsbye, Carlo Lamberti, Silvia Bordiga, and Karl Petter Lillerud*

**Green to Red Luminescence Switchable by Excitation Light in Cyanido-Bridged $\text{Tb}^{\text{III}}-\text{W}^{\text{VI}}$ Ferromagnet**

Szymon Chorazy, Koji Nakabayashi, Shin-ichi Ohkoshi,* and Barbara Sieklucka*



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dx.doi.org/10.1021/cm500042c

Hydrogen Storage Material Composed of Polyacetylene and LiH and Investigation of Its Mechanisms

Akihiro Yoshida,* Takashi Okuyama, Yoshinori Mori, Naoki Saito, and Shuichi Naito*



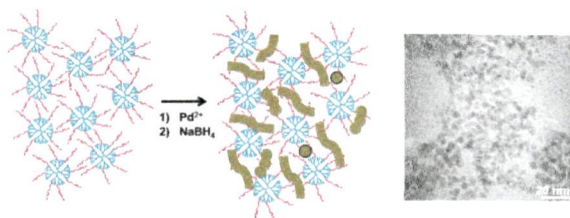
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dx.doi.org/10.1021/cm5007444

Peptide-Modified Dendrimers as Templates for the Production of Highly Reactive Catalytic Nanomaterials

Nicholas M. Bedford, Rohit Bhandari, Joseph M. Slocik, Soenke Seifert, Rajesh R. Naik,* and Marc R. Knecht*

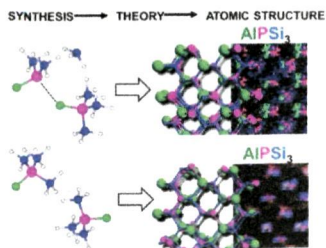


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dx.doi.org/10.1021/cm500926q

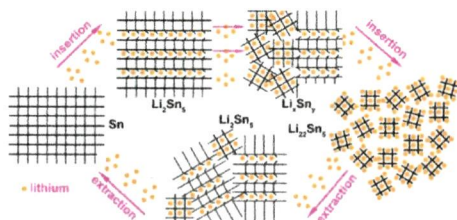
Nanostructure–Property Control in AlPSi₃/Si(100) Semiconductors Using Direct Molecular Assembly: Theory Meets Experiment at the Atomic Level

Liyang Jiang, Toshihiro Aoki, David J. Smith, Andrew V. G. Chizmeshya, Jose Menendez, and John Kouvetakis*



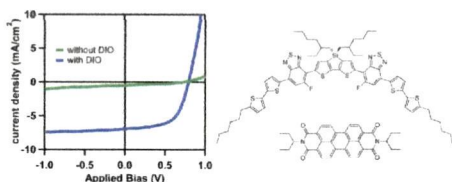
In Situ TEM on the Reversibility of Nanosized Sn Anodes during the Electrochemical Reaction

Qianqian Li, Peng Wang, Qiong Feng, Minmin Mao, Jiabin Liu,* Scott X. Mao, and Hongtao Wang*



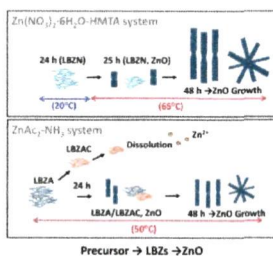
The Effect of Solvent Additive on the Charge Generation and Photovoltaic Performance of a Solution-Processed Small Molecule: Perylene Diimide Bulk Heterojunction Solar Cell

Alexander Sharenko, Dominik Gehrig, Frédéric Laqui,* and Thuc-Quyen Nguyen*



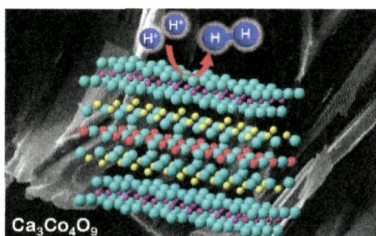
New Insights into the Mechanism of ZnO Formation from Aqueous Solutions of Zinc Acetate and Zinc Nitrate

Mei-Keat Liang, Marion J. Limo, Anna Sola-Rabada, Martin J. Roe, and Carole C. Perry*



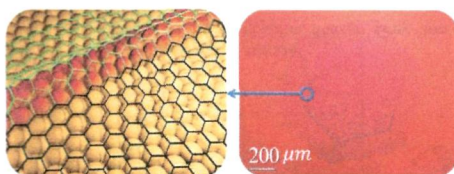
Alternating Misfit Layered Transition/Alkaline Earth Metal Chalcogenide $\text{Ca}_3\text{Co}_4\text{O}_9$ as a New Class of Chalcogenide Materials for Hydrogen Evolution

Chee Shan Lim, Chun Kiang Chua, Zdeněk Sofer, Ondřej Jankovský, and Martin Pumera*



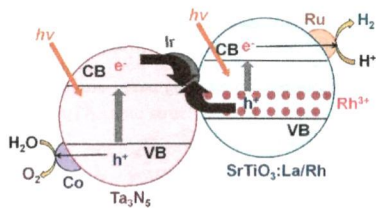
Graphene Amplification by Continued Growth on Seed Edges

Lin Gan, Xuewu Ou, Qicheng Zhang, Ruizhe Wu, and Zhengtang Luo*



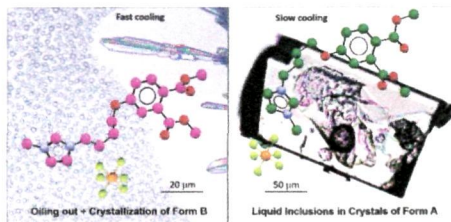
Core/Shell Structured La- and Rh-Codoped SrTiO_3 as a Hydrogen Evolution Photocatalyst in Z-Scheme Overall Water Splitting under Visible Light Irradiation

Qian Wang, Takashi Hisatomi, Su Su Khine Ma, Yanbo Li, and Kazunari Domen*



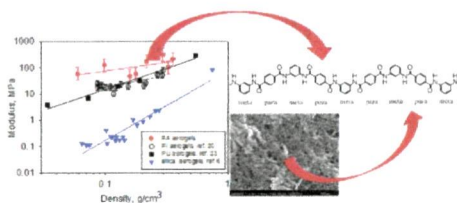
Crystal Growth, Structure, and Polymorphic Behavior of an Ionic Liquid: Phthalate Derivative of *N*-Butyl,*N*-methylimidazolium Hexafluorophosphate

Clément Brandel, Gabin Gbabode, Yohann Cartigny, Claudette Martin, Géraldine Gouhier, Samuel Petit,* and Gérard Coquerel



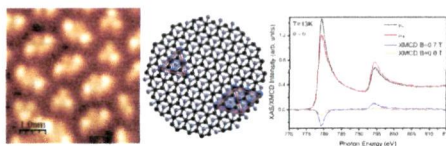
Synthesis and Properties of Step-Growth Polyamide Aerogels Cross-linked with Triacid Chlorides

Jarrod C. Williams,* Mary Ann B. Meador,* Linda McCorkle, Carl Mueller, and Nathan Wilmoth



Patterning Quasi-Periodic Co 2D-Clusters underneath Graphene on SiC(0001)

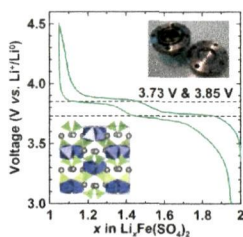
Luis Henrique de Lima, Richard Landers, and Abner de Siervo*



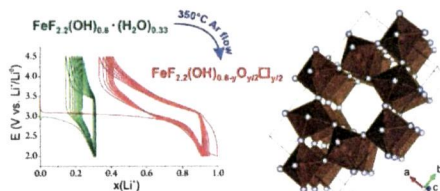
patterning magnetic Co clusters under graphene

Synthesis and Electrochemical Performance of the Orthorhombic $\text{Li}_7\text{Fe}(\text{SO}_4)_2$ Polymorph for Li-Ion Batteries

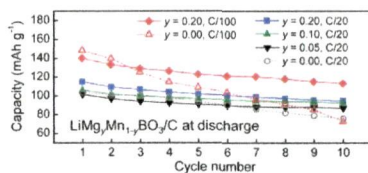
Laura Lander, Marine Reynaud, Gwenaëlle Rousse, Moulay T. Sougrati, Christel Laberty-Robert, Robert J. Messinger, Michaël Deschamps, and Jean-Marie Tarascon*

**Tailoring the Composition of a Mixed Anion Iron-Based Fluoride Compound: Evidence for Anionic Vacancy and Electrochemical Performance in Lithium Cells**

Mathieu Duttine, Damien Dambournet, Nicolas Penin, Dany Carlier, Lydie Bourgeois, Alain Wattiaux, Karen W. Chapman, Peter J. Chupas, Henri Groult, Etienne Durand, and Alain Demourgues*

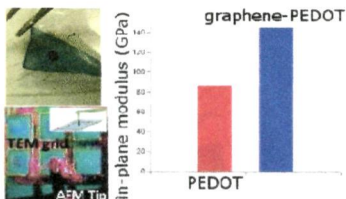
**Analysis of Charged State Stability for Monoclinic $\text{LiMg}_y\text{Mn}_{1-y}\text{BO}_3$ Cathode**

Jae Chul Kim, Xin Li, Charles J. Moore, Shou-Hang Bo, Peter G. Khalifah, Clare P. Grey, and Gerbrand Ceder*

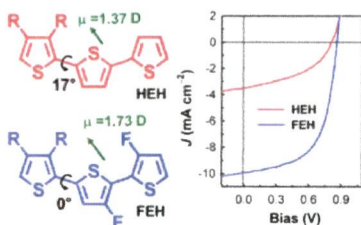


Vapor Phase Synthesis of Conducting Polymer Nanocomposites Incorporating 2D Nanoparticles

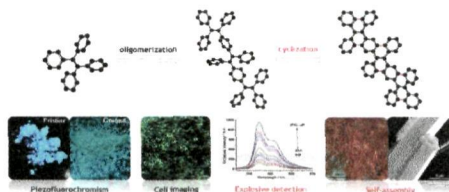
Nastasja Vucaj, Matthew D. J. Quinn, Curdin Baechler, Shannon M. Notley, Philip Cottis, Pejman Hojati-Talemi, Manrico V. Fabretto, Gordon G. Wallace, Peter J. Murphy, and Drew R. Evans*

**Fluorination of Polythiophene Derivatives for High Performance Organic Photovoltaics**

Jea Woong Jo, Jae Woong Jung, Hsin-Wei Wang, Paul Kim, Thomas P. Russell, and Won Ho Jo*

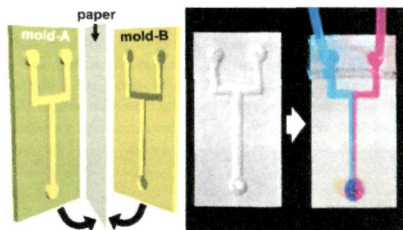
**Graphene-like Molecules Based on Tetraphenylethene Oligomers: Synthesis, Characterization, and Applications**

Ji Ma, Tingting Lin, Xiaoyong Pan, and Weizhi Wang*

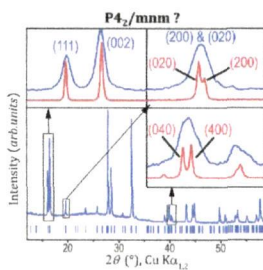


Fabrication of Low-Cost Paper-Based Microfluidic Devices by Embossing or Cut-and-Stack Methods

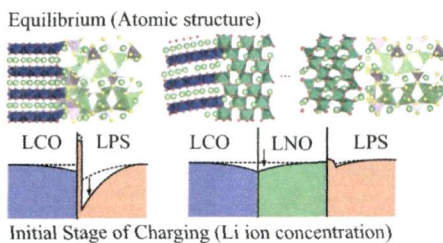
Martin M. Thuo, Ramses V. Martinez, Wen-Jie Lan, Xinyu Liu, Jabulani Barber, Manza B. J. Atkinson, Dineth Bandarage, Jean-Francois Bloch, and George M. Whitesides*

**Na₃V₂(PO₄)₂F₃ Revisited: A High-Resolution Diffraction Study**

M. Bianchini, N. Brisset, F. Fauth, F. Weill, E. Elkaim, E. Suard, C. Masquelier, and L. Croguennec*

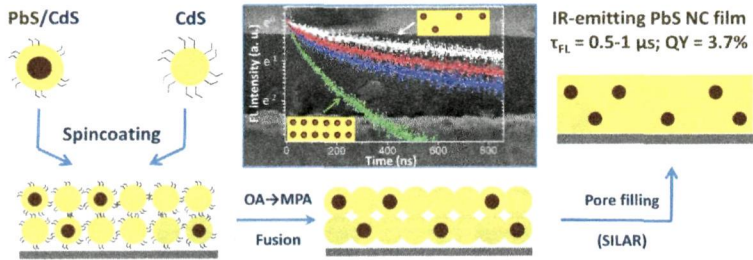
**Space-Charge Layer Effect at Interface between Oxide Cathode and Sulfide Electrolyte in All-Solid-State Lithium-Ion Battery**

Jun Haruyama, Keitaro Sodeyama, Liyuan Han, Kazunori Takada, and Yoshitaka Tateyama*



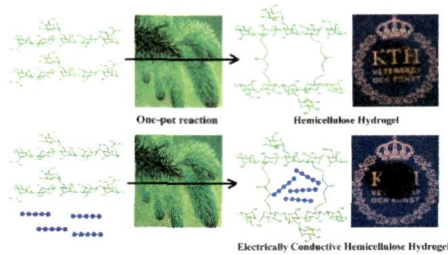
Infrared Emitting PbS Nanocrystal Solids through Matrix Encapsulation

Pavel Moroz, Geethika Liyanage, Natalia N. Kholmicheva, Sergii Yakunin, Upendra Rijal, Prakash Uprety, Ebin Bastola, Bryan Mellott, Kamal Subedi, Liangfeng Sun, Maksym V. Kovalenko, and Mikhail Zamkov*



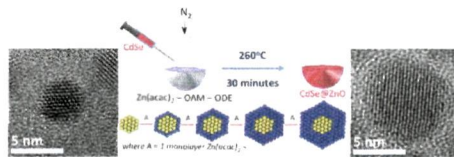
Facile and Green Approach towards Electrically Conductive Hemicellulose Hydrogels with Tunable Conductivity and Swelling Behavior

Weifeng Zhao, Lidija Glavas, Karin Odelius, Ulrica Edlund, and Ann-Christine Albertsson*



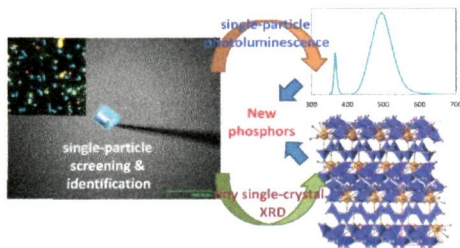
Synthesis of Highly Crystalline CdSe@ZnO Nanocrystals via Monolayer-by-Monolayer Epitaxial Shell Deposition

Tich-Lam Nguyen,* Margaret Michael, and Paul Mulvaney



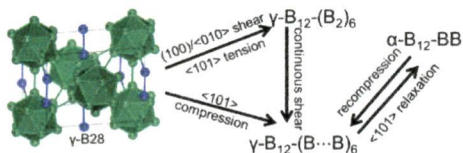
Discovery of New Nitridosilicate Phosphors for Solid State Lighting by the Single-Particle-Diagnosis Approach

Naoto Hirotsuki, Takashi Takeda, Shiro Funahashi, and Rong-Jun Xie*



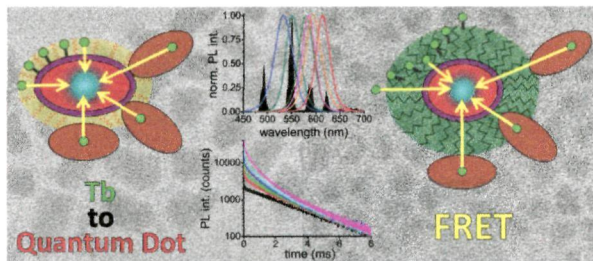
Deformation Induced Solid–Solid Phase Transitions in Gamma Boron

Qi An, William A. Goddard III,* Hai Xiao, and Tao Cheng



Three-Dimensional Solution-Phase Förster Resonance Energy Transfer Analysis of Nanomolar Quantum Dot Bioconjugates with Subnanometer Resolution

K. David Wegner, Frank Morgner, Eunkeu Oh, Ramasis Goswami, Kimihiro Susumu, Michael H. Stewart, Igor L. Medintz, and Niko Hildebrandt*



Fluorescent Quenching of Lanthanide-Doped Upconverting Nanoparticles by Photoresponsive Polymer Shells
Tuoqi Wu, Danielle Wilson, and Neil R. Branda*