CHEMISTRY OF MATERIALS

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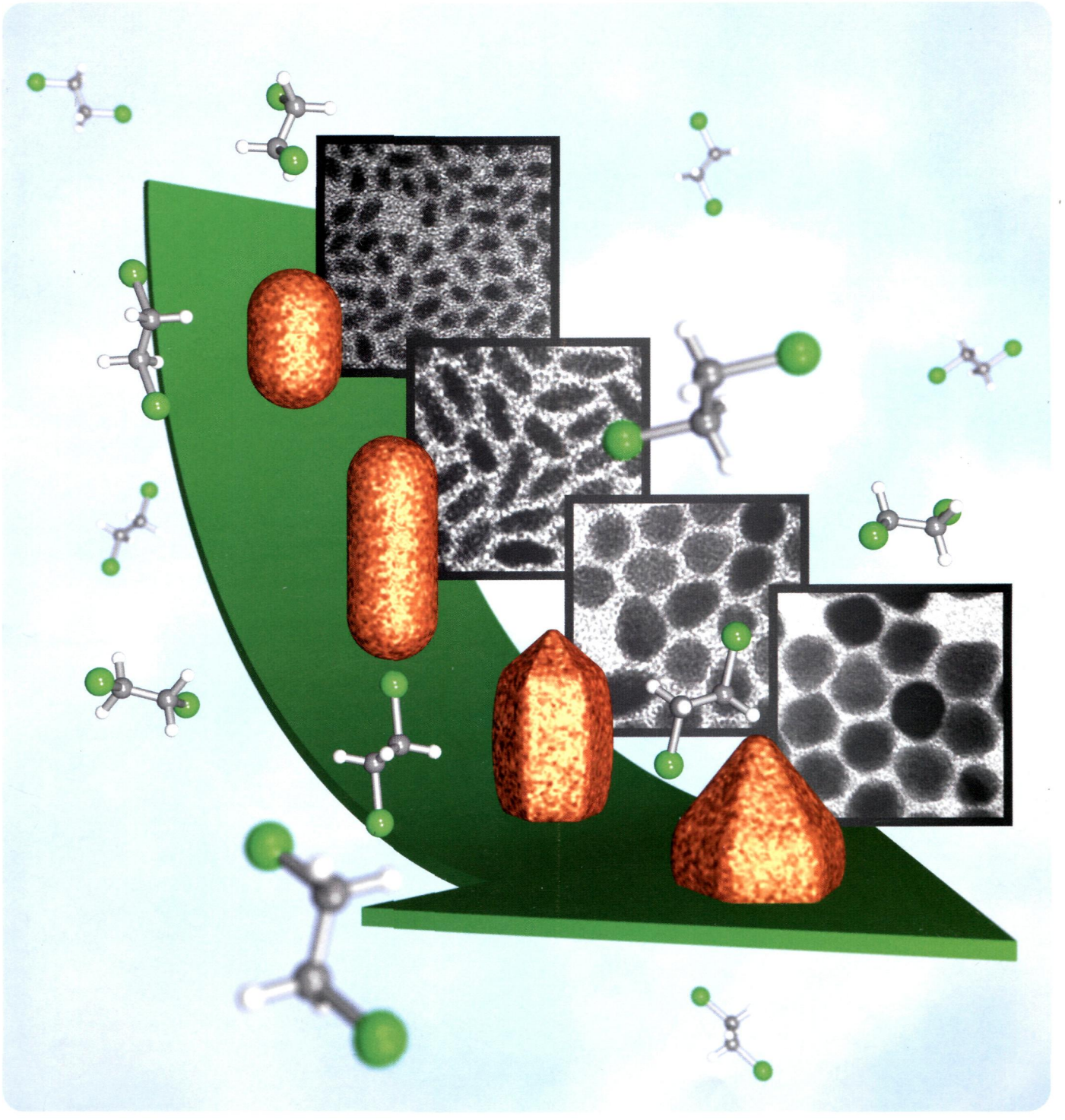

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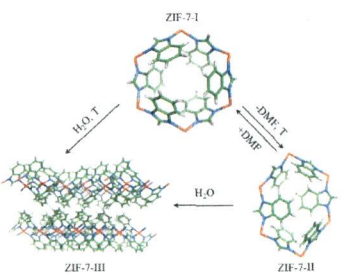
ON THE COVER: Halogenated organic compounds, such as dichloroethane, represent a new degree of freedom in in-situ shaping of colloidal CdSe nanostructures. For more information, see "Shape Evolution of CdSe Nanoparticles Controlled by Halogen Compounds" by Michaela Meyns,* Fabiola Iacono, Cristina Palencia, Jan Geweke, Mauricio D. Coderch, Ursula E. A. Fittschen, José M. Gallego, Roberto Otero, Beatriz H. Juárez,* and Christian Klinke* (*Chem. Mater.* **2014**, *26*, 1813−1821).

Editorial

Communications

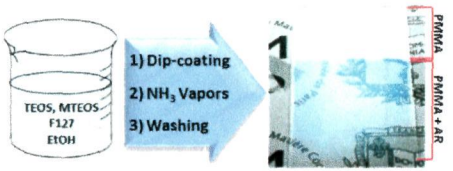


Articles

1822 S dx.doi.org/10.1021/cm403787v

Sol−Gel Based Hydrophobic Antireflective Coatings on Organic Substrates: A Detailed Investigation of Ammonia Vapor Treatment (AVT)

Mickael Boudot, Vincent Gaud, Mélanie Louarn, Mohamed Selmane, and David Grosso*

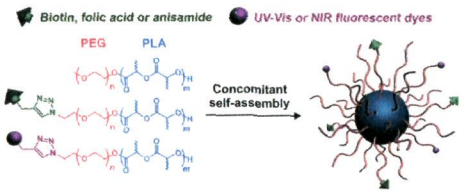


Hydrophobic, Antireflective films on PMMA

1834 S dx.doi.org/10.1021/cm403822w

Precise Engineering of Multifunctional PEGylated Polyester Nanoparticles for Cancer Cell Targeting and Imaging

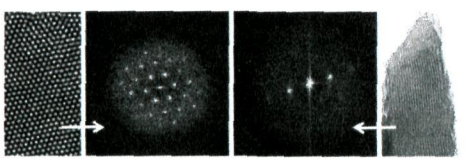
Nicolas Mackiewicz, Julien Nicolas,* Nadège Handké, Magali Noiray, Julie Mougin, Cyril Daveu, Harivardhan Reddy Lakkireddy, Didier Bazile, and Patrick Couvreur



1848 S dx.doi.org/10.1021/cm404014c

Electro-Assisted Self-Assembly of Cetyltrimethylammonium-Templated Silica Films in Aqueous Media: Critical Effect of Counteranions on the Morphology and Mesostructure Type

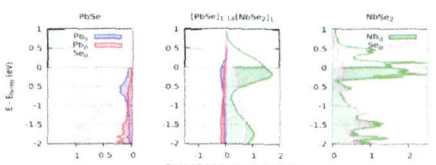
Yann Guillemin, Jaafar Ghanbaja, Emmanuel Aubert, Mathieu Etienne, and Alain Walcarius*



1859 dx.doi.org/10.1021/cm404018a

Charge Transfer between PbSe and $NbSe_2$ in $[(PbSe)_{1.14}]_m(NbSe_2)_1$ Ferecrystalline Compounds

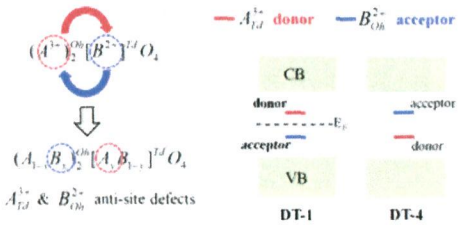
Matti B. Alemayehu, Gavin Mitchson, Jeffery Ditto, Ben E. Hanken, Mark Asta, and David C. Johnson*



1867 S dx.doi.org/10.1021/cm404031k

Self-Doping and Electrical Conductivity in Spinel Oxides: Experimental Validation of Doping Rules

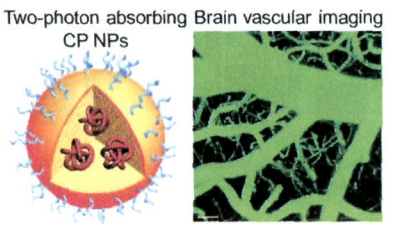
Yezhou Shi, Paul F. Ndione, Linda Y. Lim, Dimosthenis Sokaras, Tsu-Chien Weng, Arpun R. Nagaraja, Andreas G. Karydas, John D. Perkins, Thomas O. Mason, David S. Ginley, Alex Zunger, and Michael F. Toney*



1874 S dx.doi.org/10.1021/cm4040374

Micelle/Silica Co-protected Conjugated Polymer Nanoparticles for Two-Photon Excited Brain Vascular Imaging

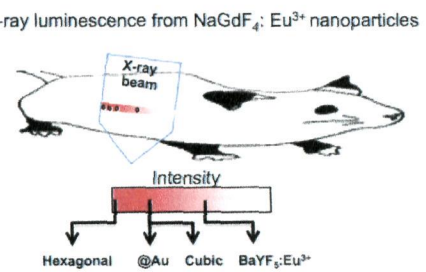
Junlong Geng, Chi Ching Goh, Nikodem Tomczak, Jie Liu, Rongrong Liu, Lin Ma, Lai Guan Ng, Gagik G. Gurzadyan, and Bin Liu*



1881 S dx.doi.org/10.1021/cm404044n

$NaGdF_4:Eu^{3+}$ Nanoparticles for Enhanced X-ray Excited Optical Imaging

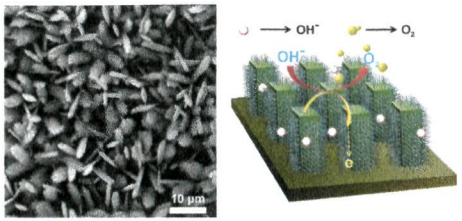
L. Sudheendra, Gautom K. Das, Changqing Li, Daniel Stark, Jake Cena, Simon Cherry, and Ian M. Kennedy*



1889 S dx.doi.org/10.1021/cm4040903

Hierarchical $Zn_xCo_{3-x}O_4$ Nanoarrays with High Activity for Electrocatalytic Oxygen Evolution

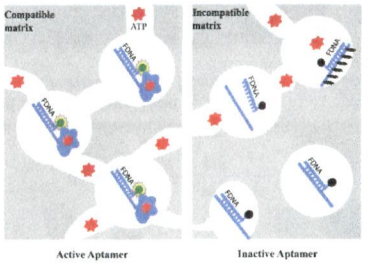
Xijun Liu, Zheng Chang, Liang Luo, Tianhao Xu, Xiaodong Lei, Junfeng Liu,* and Xiaoming Sun*



1896 S dx.doi.org/10.1021/cm404114g

Fluorescence Analysis of the Properties of Structure-Switching DNA Aptamers Entrapped in Sol–Gel-Derived Silica Materials

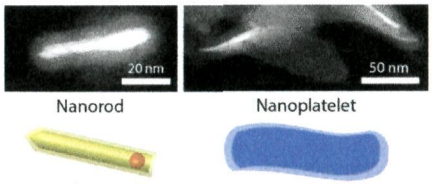
Christy Y. Hui, Yingfu Li,* and John D. Brennan*



1905 S dx.doi.org/10.1021/cm404122f

Method To Incorporate Anisotropic Semiconductor Nanocrystals of All Shapes in an Ultrathin and Uniform Silica Shell

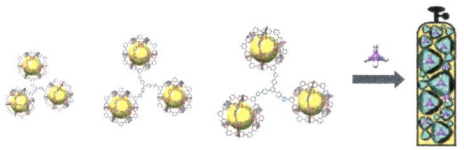
Eline M. Hutter, Francesca Pietra, Relinde J. A. van Dijk - Moes, Dariusz Mitoraj, Johannes D. Meeldijk, Celso de Mello Donegá,* and Daniël Vanmaekelbergh*



1912 S dx.doi.org/10.1021/cm404155s

Isoreticular Series of (3,24)-Connected Metal–Organic Frameworks: Facile Synthesis and High Methane Uptake Properties

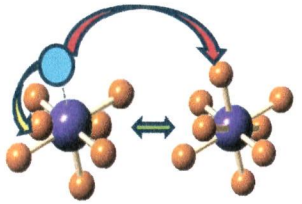
Gokhan Barin, Vaiva Krungleviciute, Diego A. Gomez-Gualdron, Amy A. Sarjeant, Randall Q. Snurr, Joseph T. Hupp, Taner Yildirim,* and Omar K. Farha*



1918 dx.doi.org/10.1021/cm4041852

Investigation of the Potential Energy Landscape for Vacancy Dynamics in Sc-Doped CeO_2

Sabyasachi Sen,* Trenton Edwards, Seong K. Kim, and Sangtae Kim*



1925 S dx.doi.org/10.1021/cm500557f

Phase-Pure Crystalline Zinc Phosphide Nanoparticles: Synthetic Approaches and Characterization

Md Hosnay Mobarok, Erik J. Luber, Guy M. Bernard, Li Peng, Roderick E. Wasylishen, and Jillian M. Buriak*