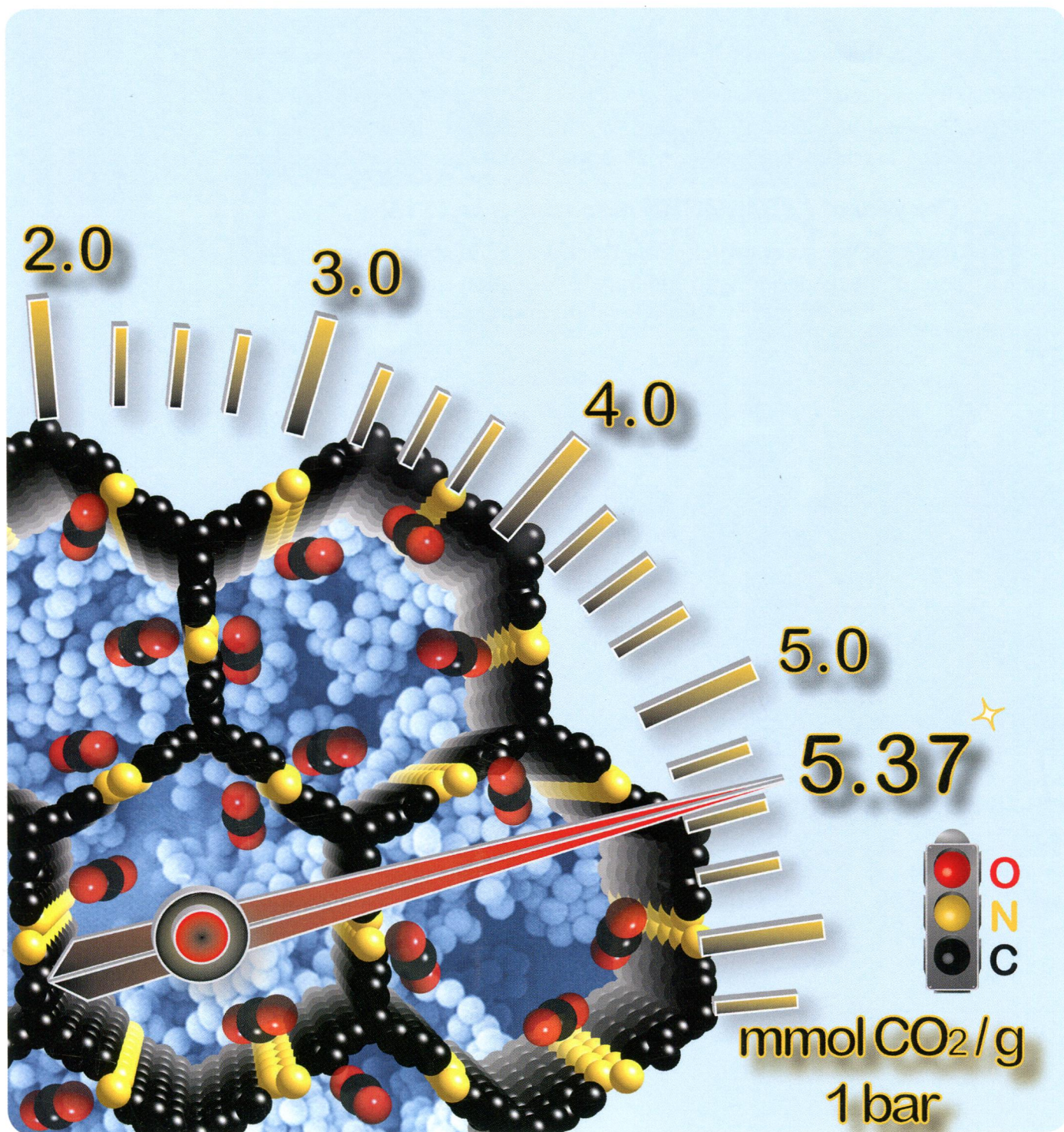


PM
0.51/gm

cm

CHEMISTRY OF
MATERIALS

FEBRUARY 11, 2014 | VOLUME 26 | NUMBER 3 | pubs.acs.org/cm



ACS Publications
MOST TRUSTED. MOST CITED. MOST READ.

www.acs.org

ON THE COVER: Azo-linked nanoporous organic polymers synthesized by homocoupling of aniline-like building units using copper(I) catalyst possess remarkable physicochemical stability, high surface area, and nitrogen-rich pores that make them very attractive for selective carbon dioxide capture and separation from flue gas and natural gas under industrial settings. For more information, see “Copper(I)-Catalyzed Synthesis of Nanoporous Azo-Linked Polymers: Impact of Textural Properties on Gas Storage and Selective Carbon Dioxide Capture” by Pezghan Arab, Mohammad Gulam Rabbani, Ali Kemal Sekizkardes, Timur Islamoğlu, and Hani M. El-Kaderi* (*Chem. Mater.* **2014**, *26*, 1385–1392).

Editorial

1289

dx.doi.org/10.1021/cm500170w

Titles and Table of Contents Images: The Candy Store Analogy
Jillian M. Buriak

Communications

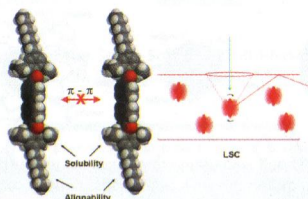
1291

5

dx.doi.org/10.1021/cm403286v

Sterically Engineered Perylene Dyes for High Efficiency Oriented Fluorophore Luminescent Solar Concentrators

Willie E. Benjamin, Darren R. Veit, Matt J. Perkins, Edward Bain, Kelsey Scharnhorst, Stephen McDowall, David L. Patrick,* and John D. Gilbertson*



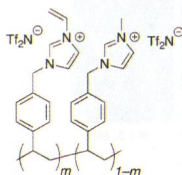
1294

5

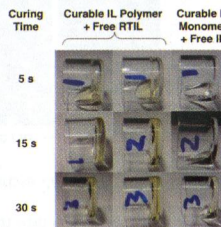
dx.doi.org/10.1021/cm403885r

Vinyl-Functionalized Poly(imidazolium)s: A Curable Polymer Platform for Cross-Linked Ionic Liquid Gel Synthesis

Trevor K. Carlisle, William M. McDanel, Matthew G. Cowan, Richard D. Noble,* and Douglas L. Gin*

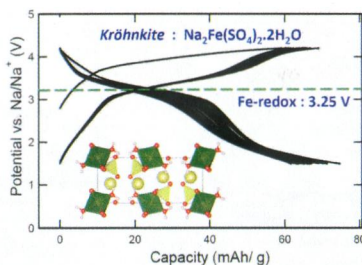


Curable IL Polymers
(random copolymers)
 $m = 1$ or 0.11



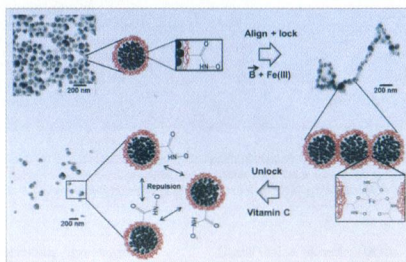
Kröhnkite-Type $\text{Na}_2\text{Fe}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$ as a Novel 3.25 V Insertion Compound for Na-Ion Batteries

Prabeer Barpanda,* Gosuke Oyama, Chris D. Ling, and Atsuo Yamada*



Reversible Redox-Responsive Assembly/Disassembly of Nanoparticles Mediated by Metal Complex Formation

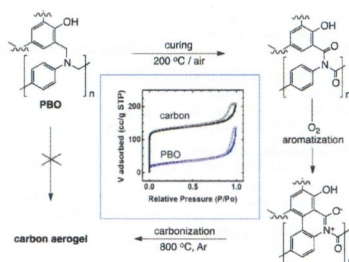
Markus B. Bannwarth,* Thomas Weidner, Evelyn Eidmann, Katharina Landfester, and Daniel Crespy*



Articles

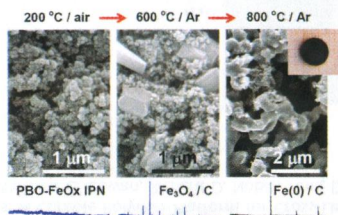
Polybenzoxazine Aerogels. 1. High-Yield Room-Temperature Acid-Catalyzed Synthesis of Robust Monoliths, Oxidative Aromatization, and Conversion to Microporous Carbons

Shruti Mahadik-Khanolkar, Suraj Donthula, Chariklia Sotiriou-Leventis,* and Nicholas Leventis*



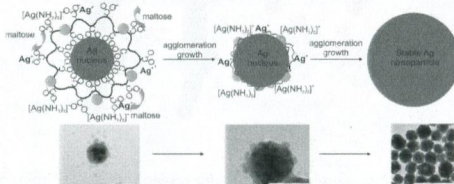
Polybenzoxazine Aerogels. 2. Interpenetrating Networks with Iron Oxide and the Carbothermal Synthesis of Highly Porous Monolithic Pure Iron(0) Aerogels as Energetic Materials

Shruti Mahadik-Khanolkar, Suraj Donthula, Abhishek Bang, Clarissa Wisner, Chariklia Sotiriou-Leventis,* and Nicholas Leventis*



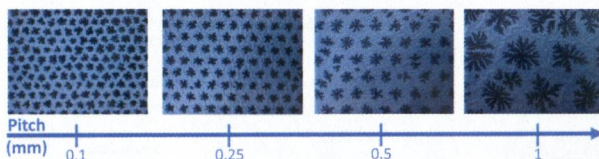
Polyacrylate-Assisted Size Control of Silver Nanoparticles and Their Catalytic Activity

Aleš Panáček, Robert Prucek, Jan Hrbáč, Tat'jana Nevečná, Jana Šteffková, Radek Zbořil, and Libor Kvítek*



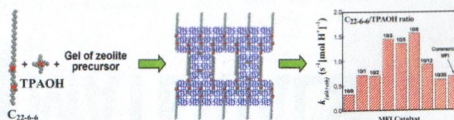
Deterministic Nucleation of InP on Metal Foils with the Thin-Film Vapor-Liquid-Solid Growth Mode

Rehan Kapadia, Zhibin Yu, Mark Hettick, Jingsan Xu, Maxwell S. Zheng, Cheng-Ying Chen, Arunima D. Balan, Daryl C. Chrzan, and Ali Javey*



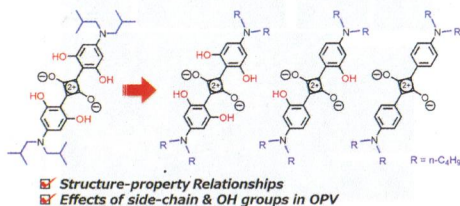
Dual Template Synthesis of Meso- and Microporous MFI Zeolite Nanosheet Assemblies with Tailored Activity in Catalytic Reactions

Laleh Emdadi, Yiqing Wu, Guanghui Zhu, Chun-Chih Chang, Wei Fan, Trong Pham, Raul F. Lobo, and Dongxia Liu*



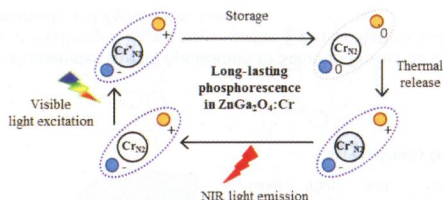
A Series of Squaraine Dyes: Effects of Side Chain and the Number of Hydroxyl Groups on Material Properties and Photovoltaic Performance

Guo Chen, Hisahiro Sasabe,* Yusuke Sasaki, Hiroshi Katagiri, Xiao-Feng Wang, Takeshi Sano, Ziruo Hong,* Yang Yang,* and Junji Kido*



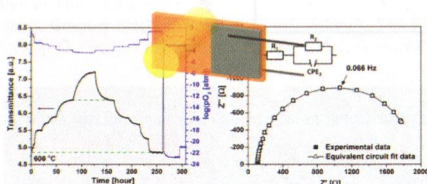
Storage of Visible Light for Long-Lasting Phosphorescence in Chromium-Doped Zinc Gallate

Aurélie Bessière,* Suchinder K. Sharma, Neelima Basavaraju, Kaustubh R. Priolkar, Laurent Binet, Bruno Viana, Adrie J. J. Bos, Thomas Maldiney, Cyrille Richard, Daniel Scherman, and Didier Gourier



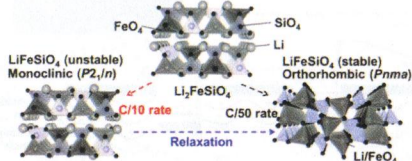
Investigation of Nonstoichiometry in Oxide Thin Films by Simultaneous *in Situ* Optical Absorption and Chemical Capacitance Measurements: Pr-Doped Ceria, a Case Study

Jae Jin Kim, Sean R. Bishop, Nicholas J. Thompson, Di Chen, and Harry L. Tuller*



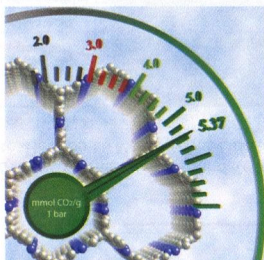
Relationship between Phase Transition Involving Cationic Exchange and Charge–Discharge Rate in $\text{Li}_2\text{FeSiO}_4$

Titus Masese, Yuki Orikasa,* Cédric Tassel, Jungeun Kim, Taketoshi Minato, Hajime Arai, Takuya Mori, Kentaro Yamamoto, Yoji Kobayashi, Hiroshi Kageyama, Zempachi Ogumi, and Yoshiharu Uchimoto



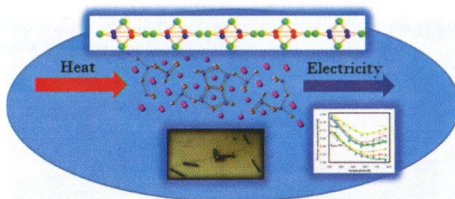
Copper(I)-Catalyzed Synthesis of Nanoporous Azo-Linked Polymers: Impact of Textural Properties on Gas Storage and Selective Carbon Dioxide Capture

Pezhman Arab, Mohammad Gulam Rabbani, Ali Kemal Sekizkardes, Timur İslamoğlu, and Hani M. El-Kaderi*

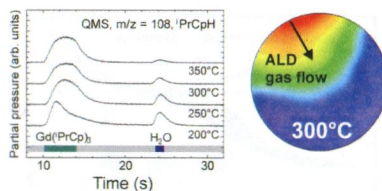


High-Temperature Thermoelectric Properties of the Solid–Solution Zintl Phase $\text{Eu}_{11}\text{Cd}_6\text{Sb}_{12-x}\text{As}_x$ ($x < 3$)

Nasrin Kazem, Weiwei Xie, Saneyuki Ohno, Alexandra Zevalkink, Gordon J. Miller, G. Jeffrey Snyder, and Susan M. Kauzlarich*

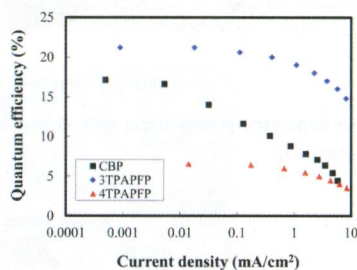
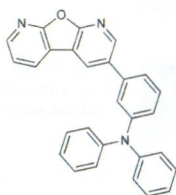


Reaction Chemistry during the Atomic Layer Deposition of Sc_2O_3 and Gd_2O_3 from $\text{Sc}(\text{MeCp})_3$, $\text{Gd}(\text{iPrCp})_3$, and H_2O
 Jeong Hwan Han, Laura Nyns, Annelies Delabie, Alexis Franquet, Sven Van Elshocht, and Christoph Adelmann*

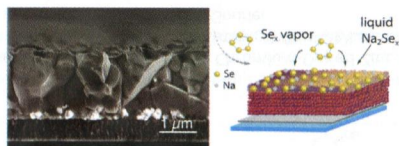


Above 20% External Quantum Efficiency in Thermally Activated Delayed Fluorescence Device Using Furodipyridine-Type Host Materials

Yirang Im and Jun Yeob Lee*

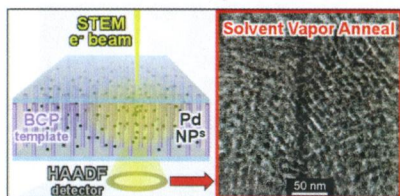


Sodium Assisted Sintering of Chalcogenides and Its Application to Solution Processed $\text{Cu}_2\text{ZnSn}(\text{S},\text{Se})_4$ Thin Film Solar Cells
 Carolin M. Sutter-Fella,* Josua A. Stückelberger, Harald Hagendorfer, Fabio La Mattina, Lukas Kranz, Shiro Nishiwaki, Alexander R. Uhl, Yaroslav E. Romanyuk, and Ayodhya N. Tiwari



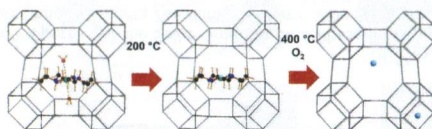
In Situ Observation of Directed Nanoparticle Aggregation During the Synthesis of Ordered Nanoporous Metal in Soft Templates

Lucas R. Parent,* David B. Robinson, Patrick J. Cappillino, Ryan J. Hartnett, Patricia Abellan, James E. Evans, Nigel D. Browning, and Ilke Arslan



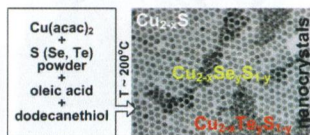
Monitoring the Activation of Copper-Containing Zeotype Catalysts Prepared by Direct Synthesis Using in Situ Synchrotron Infrared Microcrystal Spectroscopy and Complementary Techniques

Eike C. V. Eschenroeder, Alessandro Turrina, A. Lorena Picone, Gianfelice Cinque, Mark D. Frogley, Paul A. Cox, Russell F. Howe, and Paul A. Wright*



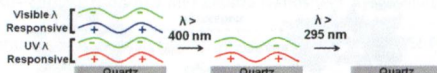
Generalized One-Pot Synthesis of Copper Sulfide, Selenide-Sulfide, and Telluride-Sulfide Nanoparticles

Pearl L. Saldanha, Rosaria Brescia, Mirko Prato, Hongbo Li, Mauro Povia, Liberato Manna, and Vladimir Lesnyak*



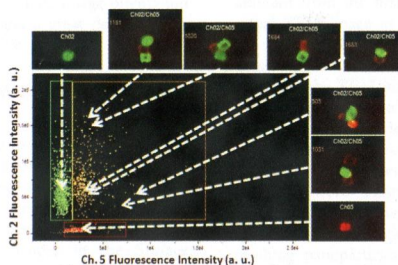
Wavelength-Selective Disruption and Triggered Release with Photolabile Polyelectrolyte Multilayers

Patricia Gumbley, Damla Koylu, Robert H. Pawle, Bond Umezuruike, Elise Spedden, Cristian Staii, and Samuel W. Thomas III*



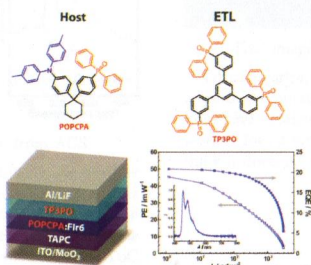
Progress Report on the Generation of Polyfunctional Microscale Particles for Programmed Self-Assembly

Ryan Deschner, Hao Tang, Peter Allen, Cecilia Hall, Rocco Hlis, Andrew Ellington, and C. Grant Willson*



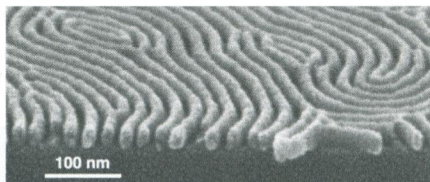
High-Power-Efficiency Blue Electrophosphorescence Enabled by the Synergistic Combination of Phosphine-Oxide-Based Host and Electron-Transporting Materials

Shaolong Gong, Yi-Lu Chang, Kailong Wu, Robin White, Zheng-Hong Lu,* Datong Song, and Chuluo Yang*



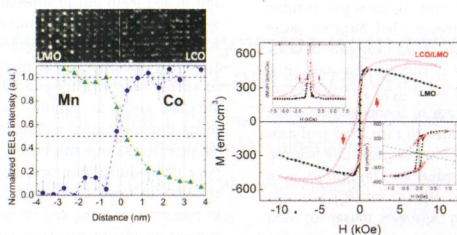
Interfacial Design for Block Copolymer Thin Films

Michael J. Maher, Christopher M. Bates, Gregory Blachut, Stephen Sirard, Jeffrey L. Self, Matthew C. Carlson, Leon M. Dean, Julia D. Cushen, William J. Durand, Colin O. Hayes, Christopher J. Ellison, and C. Grant Willson*

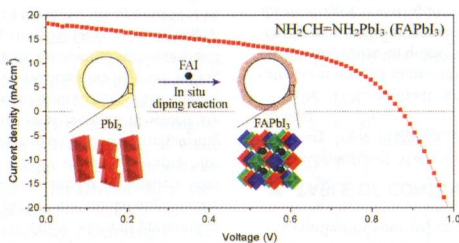


Interface Magnetic Coupling in Epitaxial Bilayers of $\text{La}_{0.92}\text{MnO}_3/\text{LaCoO}_3$ Prepared by Polymer-Assisted Deposition

José Manuel Vila-Fungueiriño, Beatriz Rivas-Murias, Benito Rodríguez-González, and Francisco Rivadulla*

 $\text{NH}_2\text{CH}=\text{NH}_2\text{PbI}_3$: An Alternative Organolead Iodide Perovskite Sensitizer for Mesoscopic Solar Cells

Shuping Pang, Hao Hu, Jiliang Zhang, Siliu Lv, Yaming Yu, Feng Wei, Tianshi Qin, Hongxia Xu, Zhihong Liu, and Guanglei Cui*



Insights into the Thermal Decomposition of Co(II) Oleate for the Shape-Controlled Synthesis of Wurtzite-Type CoO Nanocrystals

Matthew R. Buck, Adam J. Bicchi, and Raymond E. Schaak*

