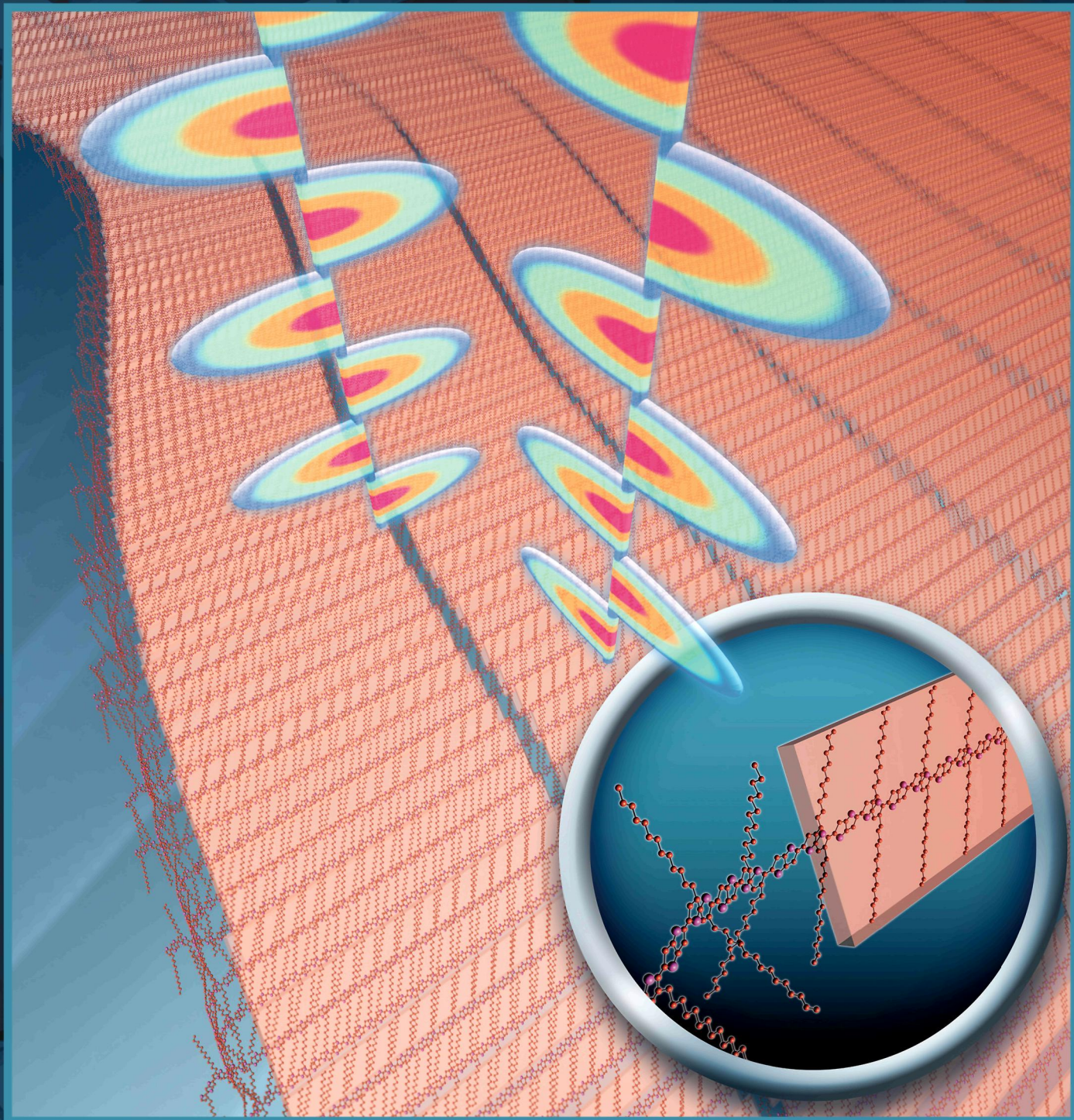


CHEMISTRY OF | 25th Anniversary MATERIALS

OCTOBER 22, 2013

VOLUME 25 NUMBER 20 pubs.acs.org/cm

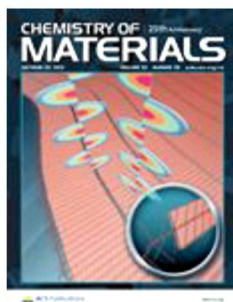


ACS Publications

MOST TRUSTED. MOST CITED. MOST READ.

www.acs.org

CHEMISTRY OF 25th Anniversary MATERIALS



Larger Cover

October 22, 2013

Volume 25, Issue 20

Pages 3929-4136

COMMUNICATIONS

Divalent Iron Nitridophosphates: A New Class of Cathode Materials for Li-Ion Batteries

Jue Liu, Xiqian Yu, Enyuan Hu, Kyung-Wan Nam, Xiao-Qing Yang, and Peter G. Khalifah

pp 3929-3931

Publication Date (Web): September 18, 2013 (Communication)

DOI: 10.1021/cm402567e

Section:

Electrochemical, Radiational, and Thermal Energy Technology

ARTICLES

Experimental Determination of the Crystallization Phase-Boundary Velocity in the Halozeotype CZX-1

Eric D. Dill, Amanda A. Josey, Jacob C.W. Folmer, Feier Hou, and James D. Martin

pp 3932-3940

Publication Date (Web): September 26, 2013 (Article)

DOI: 10.1021/cm402745e

Section:

Crystallography and Liquid Crystals

Crystal Growth Simulations To Establish Physically Relevant Kinetic Parameters from the Empirical Kolmogorov–Johnson–Mehl–Avrami Model

Eric D. Dill, Jacob C. W. Folmer, and James D. Martin

pp 3941-3951

Publication Date (Web): September 17, 2013 (Article)

DOI: 10.1021/cm402751x

 Section:

Crystallography and Liquid Crystals

Dinaphtho[1,2-*b*:2',1'-*d'*]chalcogenophenes: Comprehensive Investigation of the Effect of the Chalcogen Atoms in the Phenacene-Type π -Electronic Cores

Chikahiko Mitsui, Toshihiro Okamoto, Hiroyuki Matsui, Masakazu Yamagishi, Takeshi Matsushita, Junshi Soeda, Kazumoto Miwa, Hiroyasu Sato, Akihito Yamano, Takafumi Uemura, and Jun Takeya

pp 3952-3956

Publication Date (Web): September 14, 2013 (Article)

DOI: 10.1021/cm303376g

 Section:

Electric Phenomena

Preparation, Characterization, and Surface Modification of Periodic Mesoporous Silicon–Aluminum–Carbon–Nitrogen Frameworks

O. Majoulet, C. Salameh, M. E. Schuster, U. B. Demirci, Y. Sugahara, S. Bernard, and P. Miele

pp 3957-3970

Publication Date (Web): September 24, 2013 (Article)

DOI: 10.1021/cm401605a

 Section:

Ceramics

Condensation-Enhanced Self-Assembly as a Route to High Surface Area α -Aluminas

Lidia López Pérez, Valeriya Zarubina, Hero Jan Heeres, and Ignacio Melián-Cabrera

pp 3971-3978

Publication Date (Web): September 3, 2013 (Article)

DOI: 10.1021/cm401443b

Section:

Ceramics

Local Environments of Dilute Activator Ions in the Solid-State Lighting Phosphor $Y_{3-x}Ce_xAl_5O_{12}$

Nathan C. George, Andrew J. Pell, Géraldine Dantelle, Katharine Page, Anna Llobet, M. Balasubramanian, Guido Pintacuda, Bradley F. Chmelka, and Ram Seshadri

pp 3979-3995

Publication Date (Web): October 9, 2013 (Article)

DOI: 10.1021/cm401598n

Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

Avoiding Binary Compounds as Reaction Intermediates in Solid State Reactions

Michael D. Anderson, John O. Thompson, and David C. Johnson

pp 3996-4002

Publication Date (Web): September 5, 2013 (Article)

DOI: 10.1021/cm4019259

Section:

Surface Chemistry and Colloids

$Co_xCu_{1-x}Cr_2S_4$ Nanocrystals: Synthesis, Magnetism, and Band Structure Calculations

Karthik Ramasamy, Hunter Sims, Ram K. Gupta, Dhananjay Kumar, William H. Butler, and Arunava Gupta

pp 4003-4009

Publication Date (Web): September 17, 2013 (Article)

DOI: 10.1021/cm401938f

 Section:

Magnetic Phenomena

Crystal-Chemical Guide for Understanding Redox Energy Variations of $M^{2+/3+}$ Couples in Polyanion Cathodes for Lithium-Ion Batteries

Arturo Gutierrez, Nicole A. Benedek, and Arumugam Manthiram

pp 4010-4016

Publication Date (Web): September 19, 2013 (Article)

DOI: 10.1021/cm401949n

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

Perfectly Transparent $Sr_3Al_2O_6$ Polycrystalline Ceramic Elaborated from Glass Crystallization

Salaheddine Alahraché, Kholoud Al Saghier, Sébastien Chenu, Emmanuel Véron, Domingos De Sousa Meneses, Ana Isabel Becerro, Manuel Ocaña, Federico Moretti, Gael Patton, Christophe Dujardin, Fernando Cussó, Jean-Pierre Guin, Mariette Nivard, Jean-Christophe Sangleboeuf, Guy Matzen, and Mathieu Allix

pp 4017-4024

Publication Date (Web): September 27, 2013 (Article)

DOI: 10.1021/cm401953d

 Section:

Ceramics

Tunable Ti^{4+}/Ti^{3+} Redox Potential in the Presence of Iron and Calcium in NASICON-Type Related Phosphates as Electrodes for Lithium Batteries

María C. López, Gregorio F. Ortiz, Pedro Lavela, José L. Tirado, Radostina Stoyanova, and Ekaterina Zhecheva

pp 4025-4035

Publication Date (Web): September 12, 2013 (Article)

DOI: 10.1021/cm4020282

Section:

Electrochemical, Radiational, and Thermal Energy Technology

Reversible Shrinkage of Self-Assembled Two-Component Organogels by Lithium Salts: Synthesis of Gelation Property and Lithium Salt Response Using Bidomain Helicene Oligomer

Wataru Ichinose, Masamichi Miyagawa, and Masahiko Yamaguchi

pp 4036-4043

Publication Date (Web): September 16, 2013 (Article)

DOI: 10.1021/cm4024869

Section:

Surface Chemistry and Colloids

Magnesium Double Nitride Mg_3GaN_3 as New Host Lattice for Eu^{2+} Doping: Synthesis, Structural Studies, Luminescence, and Band-Gap Determination

Frauke Hintze, Neil W. Johnson, Markus Seibald, David Muir, Alexander Moewes, and Wolfgang Schnick

pp 4044-4052

Publication Date (Web): August 28, 2013 (Article)

DOI: 10.1021/cm402191d

Section:

Optical, Electron, and Mass Spectroscopy and Other Related Properties

Unprecedented High Solubility of Oxygen Interstitial Defects in $\text{La}_{1.2}\text{Sr}_{0.8}\text{MnO}_{4+\delta}$ up to $\delta \sim 0.42$ Revealed by *In Situ* High Temperature Neutron Powder Diffraction in Flowing O_2

Thibault Broux, Carmelo Prestipino, Mona Bahout, Olivier Hernandez, Diptikanta Swain, Serge Paofai, Thomas C. Hansen, and Colin Greaves

pp 4053-4063

Publication Date (Web): September 11, 2013 (Article)

DOI: 10.1021/cm402194q

Section:

Crystallography and Liquid Crystals

Neutron Diffraction and Magnetic Susceptibility Studies on a High-Voltage $\text{Li}_{1.2}\text{Mn}_{0.55}\text{Ni}_{0.15}\text{Co}_{0.10}\text{O}_2$ Lithium Ion Battery Cathode: Insight into the Crystal Structure

Debasish Mohanty, Ashfia Huq, E. Andrew Payzant, Athena S. Sefat, Jianlin Li, Daniel P. Abraham, David L. Wood, III, and Claus Daniel

pp 4064-4070

Publication Date (Web): September 12, 2013 (Article)

DOI: 10.1021/cm402278q

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

Synthesis and Properties of Charge-Ordered Thallium Halide Perovskites, $\text{CsTl}^{+}_{0.5}\text{Tl}^{3+}_{0.5}\text{X}_3$ (X = F or Cl): Theoretical Precursors for Superconductivity?

M. Retuerto, T. Emge, J. Hadermann, P. W. Stephens, M. R. Li, Z. P. Yin, M. Croft, A. Ignatov, S. J. Zhang, Z. Yuan, C. Jin, J. W. Simonson, M. C. Aronson, A. Pan, D. N. Basov, G. Kotliar, and M. Greenblatt

pp 4071-4079

Publication Date (Web): September 18, 2013 (Article)

DOI: 10.1021/cm402423x

 Section:

Electric Phenomena

Aqueous Solution Processing of F-Doped SnO_2 Transparent Conducting Oxide Films Using a Reactive Tin(II) Hydroxide Nitrate Nanoscale Cluster

Athavan Nadarajah, Matthew E. Carnes, Matthew G. Kast, Darren W. Johnson, and Shannon W. Boettcher

pp 4080-4087

Publication Date (Web): September 16, 2013 (Article)

DOI: 10.1021/cm402424c

 Section:

Electric Phenomena

Control of Polymer-Packing Orientation in Thin Films through Synthetic Tailoring of Backbone Coplanarity

Mark S. Chen, Jeremy R. Niskala, David A. Unruh, Crystal K. Chu, Olivia P. Lee, and Jean M. J. Fréchet

pp 4088-4096

Publication Date (Web): September 18, 2013 (Article)

DOI: 10.1021/cm402489a

 Section:

Physical Properties of Synthetic High Polymers

Enhanced Thermoelectric Properties of Variants of Ti_9SbTe_6 and Ti_9BiTe_6

Quansheng Guo, Meghan Chan, Bryan A. Kuropatwa, and Holger Kleinke

pp 4097-4104

Publication Date (Web): September 18, 2013 (Article)

DOI: 10.1021/cm402593f

 Section:

Electric Phenomena

Direct Observation of Plugs and Intrawall Pores in SBA-15 Using Low Voltage High Resolution Scanning Electron Microscopy and the Influence of Solvent Properties on Plug-Formation

Tomas Kjellman, Shunsuke Asahina, Julien Schmitt, Marianne Impéror-Clerc, Osamu Terasaki, and Viveka Alfredsson

pp 4105-4112

Publication Date (Web): September 23, 2013 (Article)

DOI: 10.1021/cm402635m

 Section:

Surface Chemistry and Colloids

Stabilizing the Phase $\text{Li}_{15}\text{Si}_4$ through Lithium–Aluminum Substitution in $\text{Li}_{15-x}\text{Al}_x\text{Si}_4$ ($0.4 < x < 0.8$)—Single Crystal X-ray Structure Determination of $\text{Li}_{15}\text{Si}_4$ and $\text{Li}_{14.37}\text{Al}_{0.63}\text{Si}_4$

Michael Zeilinger, Volodymyr Baran, Leo van Wüllen, Ulrich Häussermann, and Thomas F. Fässler

pp 4113-4121

Publication Date (Web): September 16, 2013 (Article)

DOI: 10.1021/cm402721n

 Section:

Electrochemical, Radiational, and Thermal Energy Technology

Carbohydrate Coatings via Aryldiazonium Chemistry for Surface Biomimicry

Dilushan R. Jayasundara, Thomas Duff, M. Daniela Angione, Jean Bourke, Deirdre M. Murphy, Eoin M. Scanlan, and Paula E. Colavita

pp 4122-4128

Publication Date (Web): September 24, 2013 (Article)

DOI: 10.1021/cm4027896

 Section:

Biochemical Methods

Low-Temperature Synthesis of AMoO_4 ($A = \text{Ca}, \text{Sr}, \text{Ba}$) Scheelite Nanocrystals

Sean P. Culver, Federico A. Rabuffetti, Shiliang Zhou, Matthew Mecklenburg, Yan Song, Brent C. Melot, and Richard L. Brutchey

pp 4129-4134

Publication Date (Web): September 20, 2013 (Article)

DOI: 10.1021/cm402867y

 Section:

Ceramics

ADDITIONS AND CORRECTIONS

Correction to Controlling the Aluminum Distribution in the Zeolite Ferrierite via the Organic Structure Directing Agent

Ana B. Pinar, Luis Gómez-Hortigüela, Lynne B. McCusker, and Joaquín Pérez-Pariente

pp 4135-4135

Publication Date (Web): October 7, 2013 (Addition/Correction)

DOI: 10.1021/cm403177f

