



## Content

- 1. From Adsorption to Ordered Mesoporous Materials: Jaroniec and Kruk**  
Carlos Toro and Jillian M. Buriak  
*Chemistry of Materials* **2015** 27 (6), 1903-1904  
DOI: 10.1021/acs.chemmater.5b00839
- 2. Responsive Metal–Organic Frameworks and Framework Materials: Under Pressure, Taking the Heat, in the Spotlight, with Friends**  
François-Xavier Coudert  
*Chemistry of Materials* **2015** 27 (6), 1905-1916  
DOI: 10.1021/acs.chemmater.5b00046
- 3. Amorphous Metal Fluoride Passivation Coatings Prepared by Atomic Layer Deposition on LiCoO<sub>2</sub> for Li-Ion Batteries**  
Joong Sun Park, Anil U. Mane, Jeffrey W. Elam, and Jason R. Croy  
*Chemistry of Materials* **2015** 27 (6), 1917-1920  
DOI: 10.1021/acs.chemmater.5b00603
- 4. Photocatalytic Suzuki Coupling Reaction Using Conjugated Microporous Polymer with Immobilized Palladium Nanoparticles under Visible Light**  
Zi Jun Wang, Saman Ghasimi, Katharina Landfester, and Kai A. I. Zhang  
*Chemistry of Materials* **2015** 27 (6), 1921-1924  
DOI: 10.1021/acs.chemmater.5b00516
- 5. Direct Extraction of Ag<sup>+</sup> and Hg<sub>2</sub><sup>+</sup> from Cyanide Complexes and Mode of Binding by the Layered K<sub>2</sub>MgSn<sub>2</sub>S<sub>6</sub> (KMS-2)**  
Zohreh Hassanzadeh Fard, Christos D. Malliakas, Joshua L. Mertz, and Mercouri G. Kanatzidis  
*Chemistry of Materials* **2015** 27 (6), 1925-1928  
DOI: 10.1021/acs.chemmater.5b00374
- 6. Light-Addressable and Degradable Silica Capsules for Delivery of Molecular Cargo to the Cytosol of Cells**  
Andrea Ott, Xiang Yu, Raimo Hartmann, Joanna Rejman, Adrian Schütz, Markus Ochs, Wolfgang J. Parak, and Susana Carregal-Romero  
*Chemistry of Materials* **2015** 27 (6), 1929-1942  
DOI: 10.1021/cm502472g
- 7. Alkali Metal Nitrate-Promoted High-Capacity MgO Adsorbents for Regenerable CO<sub>2</sub> Capture at Moderate Temperatures**  
Takuya Harada, Fritz Simeon, Esam Z. Hamad, and T. Alan Hatton  
*Chemistry of Materials* **2015** 27 (6), 1943-1949  
DOI: 10.1021/cm503295g
- 8. ZnO Binding Peptides: Smart Versatile Tools for Controlled Modification of ZnO Growth Mechanism and Morphology**  
Marion J. Limo, Rajesh Ramasamy, and Carole C. Perry  
*Chemistry of Materials* **2015** 27 (6), 1950-1960  
DOI: 10.1021/acs.chemmater.5b00419
- 9. Tandem MOF-Based Photonic Crystals for Enhanced Analyte-Specific Optical Detection**  
Annekathrin Ranft, Felicitas Niekiehl, Ida Pavlichenko, Norbert Stock, and Bettina V. Lotsch  
*Chemistry of Materials* **2015** 27 (6), 1961-1970  
DOI: 10.1021/cm503640c

- 10. Mesoporous Thin Films, Zwitterionic Monomers, and Iniferter-Initiated Polymerization: Polymerization in a Confined Space**  
Laura Silies, Haiko Didzoleit, Christian Hess, Bernd Stühn, and Annette Andrieu-Brunsen  
*Chemistry of Materials* **2015** 27 (6), 1971-1981  
DOI: 10.1021/cm503748d
- 11. Tuning the Size and Shape of Oxide Nanoparticles by Controlling Oxygen Content in the Reaction Environment: Morphological Analysis by Aspect Maps**  
G. Muscas, G. Singh, W. R. Glomm, R. Mathieu, P. Anil Kumar, G. Concas, E. Agostinelli, and D. Peddis  
*Chemistry of Materials* **2015** 27 (6), 1982-1990  
DOI: 10.1021/cm5038815
- 12. Monolithic High Performance Surface Anchored Metal–Organic Framework Bragg Reflector for Optical Sensing**  
Jianxi Liu, Engelbert Redel, Stefan Walheim, Zhengbang Wang, Vanessa Oberst, Jinxuan Liu, Stefan Heissler, Alexander Welle, Markus Moosmann, Torsten Scherer, Michael Bruns, Hartmut Gliemann, and Christof Wöll  
*Chemistry of Materials* **2015** 27 (6), 1991-1996  
DOI: 10.1021/cm503908g
- 13. Facile Method To Synthesize Na-Enriched Na<sub>1+x</sub>FeFe(CN)<sub>6</sub> Frameworks as Cathode with Superior Electrochemical Performance for Sodium-Ion Batteries**  
Wei-Jie Li, Shu-Lei Chou, Jia-Zhao Wang, Yong-Mook Kang, Jian-Li Wang, Yong Liu, Qin-Fen Gu, Hua-Kun Liu, and Shi-Xue Dou  
*Chemistry of Materials* **2015** 27 (6), 1997-2003  
DOI: 10.1021/cm504091z
- 14. Selenium Doped Graphene Quantum Dots as an Ultrasensitive Redox Fluorescent Switch**  
Siwei Yang, Jing Sun, Peng He, Xinxia Deng, Zhongyang Wang, Chenyao Hu, Guqiao Ding, and Xiaoming Xie  
*Chemistry of Materials* **2015** 27 (6), 2004-2011  
DOI: 10.1021/acs.chemmater.5b00112
- 15. New PbTiO<sub>3</sub>-Type Giant Tetragonal Compound Bi<sub>2</sub>ZnVO<sub>6</sub> and Its Stability under Pressure**  
Runze Yu, Hajime Hojo, Kengo Oka, Tetsu Watanuki, Akihiko Machida, Keisuke Shimizu, Kiho Nakano, and Masaki Azuma  
*Chemistry of Materials* **2015** 27 (6), 2012-2017  
DOI: 10.1021/cm504133e
- 16. Enhanced O<sub>2</sub> Selectivity versus N<sub>2</sub> by Partial Metal Substitution in Cu-BTC**  
Dorina F. Sava Gallis, Marie V. Parkes, Jeffery A. Greathouse, Xiaoyi Zhang, and Tina M. Nenoff  
*Chemistry of Materials* **2015** 27 (6), 2018-2025  
DOI: 10.1021/cm5042293
- 17. N-Doped Carbon-Wrapped Cobalt Nanoparticles on N-Doped Graphene Nanosheets for High-Efficiency Hydrogen Production**  
Weijia Zhou, Jian Zhou, Yucheng Zhou, Jia Lu, Kai Zhou, Linjing Yang, Zhenghua Tang, Ligui Li, and Shaowei Chen  
*Chemistry of Materials* **2015** 27 (6), 2026-2032  
DOI: 10.1021/acs.chemmater.5b00331
- 18. One-Photon Near-Infrared Sensitization of Well-Defined Yb(III) Surface Complexes for NIR-to-NIR Single Nanoparticle Imaging**  
Giuseppe Lapadula, David Trummer, Matthew P. Conley, Martin Steinmann, Ying-Fen Ran, Sophie Brasselet, Yannick Guyot, Olivier Maury, Silvio Decurtins, Shi-Xia Liu, and Christophe Copéret  
*Chemistry of Materials* **2015** 27 (6), 2033-2039  
DOI: 10.1021/acs.chemmater.5b00306
- 19. Grafting of Polyimide onto Chemically-Functionalized Graphene Nanosheets for Mechanically-Strong Barrier Membranes**  
Jun Lim, Hyeonuk Yeo, Munju Goh, Bon-Cheol Ku, Seo Gyun Kim, Heon Sang Lee, Byoungnam Park, and Nam-Ho You  
*Chemistry of Materials* **2015** 27 (6), 2040-2047  
DOI: 10.1021/cm5044254

- 20. Conductive Lewis Base Matrix to Recover the Missing Link of Li<sub>2</sub>S<sub>8</sub> during the Sulfur Redox Cycle in Li–S Battery**  
Jia-Jia Chen, Ru-Ming Yuan, Jia-Min Feng, Qian Zhang, Jing-Xin Huang, Gang Fu, Ming-Sen Zheng, Bin Ren, and Quan-Feng Dong  
*Chemistry of Materials* **2015** 27 (6), 2048-2055  
DOI: 10.1021/cm5044667
- 21. Synthesis of Zeolites via Interzeolite Transformations without Organic Structure-Directing Agents**  
Sarika Goel, Stacey I. Zones, and Enrique Iglesia  
*Chemistry of Materials* **2015** 27 (6), 2056-2066  
DOI: 10.1021/cm504510f
- 22. Factors Affecting the Exfoliation of Graphite Intercalation Compounds for Graphene Synthesis**  
Gabin Yoon, Dong-Hwa Seo, Kyojin Ku, Jungmo Kim, Seokwoo Jeon, and Kisuk Kang  
*Chemistry of Materials* **2015** 27 (6), 2067-2073  
DOI: 10.1021/cm504511b
- 23. Computational Identification and Experimental Realization of Lithium Vacancy Introduction into the Olivine LiMgPO<sub>4</sub>**  
Leopoldo Enciso-Maldonado, Matthew S. Dyer, Michael D. Jones, Ming Li, Julia L. Payne, Michael J. Pitcher, Mona K. Omir, John B. Claridge, Frédéric Blanc, and Matthew J. Rosseinsky  
*Chemistry of Materials* **2015** 27 (6), 2074-2091  
DOI: 10.1021/cm504518q
- 24. Redox-Induced Reversible Uptake–Release of Cations in Porous Ionic Crystals Based on Polyoxometalate: Cooperative Migration of Electrons with Alkali Metal Ions**  
Ryosuke Kawahara, Sayaka Uchida, and Noritaka Mizuno  
*Chemistry of Materials* **2015** 27 (6), 2092-2099  
DOI: 10.1021/cm504526z
- 25. Thermally Conductive Graphene-Polymer Composites: Size, Percolation, and Synergy Effects**  
Michael Shtein, Roey Nadiv, Matat Buzaglo, Keren Kahil, and Oren Regev  
*Chemistry of Materials* **2015** 27 (6), 2100-2106  
DOI: 10.1021/cm504550e
- 26. Hierarchical Porous Graphene Carbon-Based Supercapacitors**  
Jianlin Huang, Junying Wang, Congwei Wang, Huinian Zhang, Chunxiang Lu, and Junzhong Wang  
*Chemistry of Materials* **2015** 27 (6), 2107-2113  
DOI: 10.1021/cm504618r
- 27. A Versatile Solution Route to Efficient Cu<sub>2</sub>ZnSn(S,Se)<sub>4</sub> Thin-Film Solar Cells**  
Ruihong Zhang, Stephen M. Szczepaniak, Nathaniel J. Carter, Carol A. Handwerker, and Rakesh Agrawal  
*Chemistry of Materials* **2015** 27 (6), 2114-2120  
DOI: 10.1021/cm504654t
- 28. Chemically Reduced Organic Small-Molecule-Based Lithium Battery with Improved Efficiency**  
Manik E. Bhosale and Kothandam Krishnamoorthy  
*Chemistry of Materials* **2015** 27 (6), 2121-2126  
DOI: 10.1021/cm5046786
- 29. In Situ Synthesis of PbS Nanocrystals in Polymer Thin Films from Lead(II) Xanthate and Dithiocarbamate Complexes: Evidence for Size and Morphology Control**  
Edward A. Lewis, Paul D. McNaughtner, Zhongjie Yin, Yiqiang Chen, Jack R. Brent, Selina A. Saah, James Raftery, Johannes A. M. Awudza, M. Azad Malik, Paul O'Brien, and Sarah J. Haigh  
*Chemistry of Materials* **2015** 27 (6), 2127-2136  
DOI: 10.1021/cm504765z
- 30. Electroactive and Photoactive Poly[Isoidigo-alt-EDOT] Synthesized Using Direct (Hetero)Arylation Polymerization in Batch and in Continuous Flow**  
François Grenier, Badrou Réda Aïch, Yu-Ying Lai, Maxime Guérette, Andrew B. Holmes, Ye Tao, Wallace W. H. Wong, and Mario Leclerc  
*Chemistry of Materials* **2015** 27 (6), 2137-2143

DOI: 10.1021/acs.chemmater.5b00083

**31. Remote Stabilization of Copper Paddlewheel Based Molecular Building Blocks in Metal–Organic Frameworks**

Wen-Yang Gao, Rong Cai, Tony Pham, Katherine A. Forrest, Adam Hogan, Patrick Nugent, Kia Williams, Lukasz Wojtas, Ryan Luebke, Łukasz J. Weseliński, Michael J. Zaworotko, Brian Space, Yu-Sheng Chen, Mohamed Eddaoudi, Xiaodong Shi, and Shengqian Ma  
*Chemistry of Materials* **2015** 27 (6), 2144-2151

DOI: 10.1021/acs.chemmater.5b00084

**32. Metal–Metal Binary Nanoparticle Superlattices: A Case Study of Mixing Co and Ag Nanoparticles**

Zhijie Yang, Jingjing Wei, and Marie-Paule Pileni  
*Chemistry of Materials* **2015** 27 (6), 2152-2157

DOI: 10.1021/acs.chemmater.5b00123

**33. Effect of Local Structure of NbSe<sub>2</sub> on the Transport Properties of ([SnSe]<sub>1.16</sub>)<sub>1</sub>(NbSe<sub>2</sub>)<sub>n</sub> Ferecrystals**

Matti B. Alemayehu, Matthias Falmbigl, Kim Ta, and David C. Johnson  
*Chemistry of Materials* **2015** 27 (6), 2158-2164

DOI: 10.1021/acs.chemmater.5b00131

**34. Enhanced Thermoelectric Figure-of-Merit in Thermally Robust, Nanostructured Superlattices Based on SrTiO<sub>3</sub>**

Anas I. Abutaha, S. R. Sarath Kumar, Kun Li, Arash M. Dehkordi, Terry M. Tritt, and Husam N. Alshareef

*Chemistry of Materials* **2015** 27 (6), 2165-2171

DOI: 10.1021/acs.chemmater.5b00144

**35. Structural Evolution of Ag–Pd Bimetallic Nanoparticles through Controlled Galvanic Replacement: Effects of Mild Reducing Agents**

Hao Jing and Hui Wang

*Chemistry of Materials* **2015** 27 (6), 2172-2180

DOI: 10.1021/acs.chemmater.5b00199

**36. Transforming Hybrid Organic Inorganic Perovskites by Rapid Halide Exchange**

Norman Pellet, Joël Teuscher, Joachim Maier, and Michael Grätzel

*Chemistry of Materials* **2015** 27 (6), 2181-2188

DOI: 10.1021/acs.chemmater.5b00281

**37. Hierarchically Designed Germanium Microcubes with High Initial Coulombic Efficiency toward Highly Reversible Lithium Storage**

Chuanjian Zhang, Zhou Lin, Zhenzhong Yang, Dongdong Xiao, Pu Hu, Hongxia Xu, Yulong Duan, Shuping Pang, Lin Gu, and Guanglei Cui

*Chemistry of Materials* **2015** 27 (6), 2189-2194

DOI: 10.1021/acs.chemmater.5b00218

**38. Mechanistic Study of the Persistent Luminescence of CaAl<sub>2</sub>O<sub>4</sub>:Eu,Nd**

Bingyan Qu, Bo Zhang, Lei Wang, Rulong Zhou, and Xiao Cheng Zeng

*Chemistry of Materials* **2015** 27 (6), 2195-2202

DOI: 10.1021/acs.chemmater.5b00288

**39. Competitive Coadsorption of CO<sub>2</sub> with H<sub>2</sub>O, NH<sub>3</sub>, SO<sub>2</sub>, NO, NO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub>, and CH<sub>4</sub> in M-MOF-74 (M = Mg, Co, Ni): The Role of Hydrogen Bonding**

Kui Tan, Sebastian Zuluaga, Qihan Gong, Yuzhi Gao, Nour Nijem, Jing Li, Timo Thonhauser, and Yves J Chabal

*Chemistry of Materials* **2015** 27 (6), 2203-2217

DOI: 10.1021/acs.chemmater.5b00315

**40. Phenanthrene Condensed Thiadiazoloquinoxaline Donor–Acceptor Polymer for Phototransistor Applications**

Mengmeng Li, Cunbin An, Tomasz Marszalek, Xin Guo, Yun-Ze Long, Hongxing Yin, Changzhi Gu, Martin Baumgarten, Wojciech Pisula, and Klaus Müllen

*Chemistry of Materials* **2015** 27 (6), 2218-2223

DOI: 10.1021/acs.chemmater.5b00341

**41. Bi<sub>x</sub>Ti<sub>1-x</sub>O<sub>2</sub> Functionalized Heterojunction Anode with an Enhanced Reactive Chlorine Generation Efficiency in Dilute Aqueous Solutions**

Kangwoo Cho and Michael R. Hoffmann

*Chemistry of Materials* **2015** 27 (6), 2224-2233

DOI: 10.1021/acs.chemmater.5b00376

**42. Nanoporous NiO Plates with a Unique Role for Promoted Oxidation of Carbonate and Carboxylate Species in the Li–O<sub>2</sub> Battery**

Misun Hong, Hee Cheul Choi, and Hye Ryung Byon

*Chemistry of Materials* **2015** 27 (6), 2234-2241

DOI: 10.1021/acs.chemmater.5b00488