

## MC-CAM Publications

### 2022:

“Polymer Electrolyte Based on Cyano-Functionalized Polysiloxane with Enhanced Salt Dissolution and High Ionic Conductivity”

Shuyi Xie, Andrei Nikolaev, Oscar A. Nordness, Luana C. Llanes, Seamus D. Jones, Peter M. Richardson, Hengbin Wang, Raphaële J. Clément, Javier Read de Alaniz, Rachel A. Segalman  
*Macromolecules*, 55, 13, 5723–5732 (2022). [DOI Link](#)

“Hydrogen-Bonding Bottlebrush Networks: Self-Healing Materials from Super-Soft to Stiff”

Renxuan Xie, Intanon Lapkriengkri, Nabendu B. Pramanik, Sanjoy Mukherjee, Jacob R. Blankenship, Kaitlin Albanese, Hengbin Wang, Michael L. Chabinyc, Christopher M. Bates  
*Macromolecules*, 55, 23, 10513–10521 (2022). [DOI Link](#)

“Role of Electron-Deficient Imidazoles in Ion Transport and Conductivity in Solid-State Polymer Electrolytes”

Andrei Nikolaev, Peter M. Richardson, Shuyi Xie, Luana Canzian Llanes, Seamus D. Jones, Oscar Nordness, Hengbin Wang, Guillermo C. Bazan, Rachel A. Segalman, Raphaële J. Clément, Javier Read de Alaniz  
*Macromolecules*, 55, 3, 971–977 (2022). [DOI Link](#)

“Design of Polymeric Zwitteronic Solid Electrolytes with Superionic Lithium Transport”

Seamus D. Jones, Howie Nguyen, Peter M. Richardson, Yan-Qiao Chen, Kira E. Wyckoff, Craig J. Hawker, Raphaële J. Clément, Glenn H. Fredrickson, Rachel A. Segalman  
*ACS Central Science*, 8, 2, 169–175 (2022). [DOI Link](#)

### 2021:

“Understanding and Countering Illumination-Sensitive Dark Current: Toward Organic Photodetectors with Reliable High Detectivity”

Jianfei Huang, Jaewon Lee, Hidenori Nakayama, Max Schrock, David Xi Cao, Kilwon Cho, Guillermo C. Bazan, Thuc-Quyen Nguyen  
*ACS Nano*, 15(1): 1753–1763 (2021). [DOI Link](#)

“Carbon Nanotube Composites with Bottlebrush Elastomers for Compliant Electrodes”

Jeffrey L. Self, Veronica G. Reynolds, Jacob Blankenship, Erin Mee, Jiaqi Guo, Kaitlin Albanese, Renxuan Xie, Craig J. Hawker, Javier Read de Alaniz, Michael L. Chabinyc, Christopher Bates  
*ACS Polymers Au*, Just Accepted Manuscript (2021). [DOI Link](#)

“Nanoscale Surface Compositions and Structures of Plasma-Modified Poly(ethylene terephthalate) Thin Films”

G.N. Manjunatha Reddy, Philipp Selter, Yuuta Makita, Saiko Arai, Michinari Miyajawa, Hikari Nakano, Hengbin Wang, Jeffrey A. Gerbec, Fumihiko Shimizu, Bradley F. Chmelka  
*The Journal of Physical Chemistry C*, 125(37): 20658-20669 (2021). [DOI Link](#)

“Yielding Behavior of Bottlebrush and Linear Block Copolymers”

Renxuan Xie, Sanjoy Mukherjee, Adam E. Levi, Jeffrey L. Self, Hengbin Wang, Michael L. Chabinyc, Christopher Bates  
*Macromolecules*, 54 (12): 5636-5647 (2021). [DOI Link](#)

“Role of Architecture on Thermorheological Properties of Poly(alkyl methacrylate)-Based Polymers”

Bas G.P. van Ravensteijn, Raghida Bou Zerdan, Craig J. Hawker, Matthew E. Helgeson  
*Macromolecules*, 54(12): 5473-5483 (2021). [DOI Link](#)

“Optimum in ligand density for conductivity in polymer electrolytes”

Nicole S. Schauser, Peter M. Richardson, Andrei Nikolaev, Piper Cooke, Gabrielle A. Kliegle, Ethan M. Susca, Keith Johnson, Hengbin Wang, Javier Read de Alaniz, Raphaële Clément, Rachel A. Segalman  
*Molecular Systems Design & Engineering*, 6, 1025-1038 (2021). [DOI Link](#)

“Glass Transition Temperature and Ion Binding Determine Conductivity and Lithium-Ion Transport in Polymer Electrolytes”

Nicole S. Schauser, Andrei Nikolaev, Peter M. Richardson, Shuyi Xie, Keith Johnson, Ethan M. Susca, Hengbin Wang, Ram Seshadri, Raphaële J. Clément, Javier Read de Alaniz, and Rachel A. Segalman  
*ACS Macro Letters*, 10(1): 104-109 (2021). [DOI Link](#)

## 2020:

“Insight into the structures and dynamics of organix semiconductors through solid-state NMR spectroscopy”

Martin Seifrid, G.N. Manjunatha Reddy, Bradley F. Chmelka, Guillermo Bazan  
*Nature Reviews Materials*, 5: 910-930 (2020). [DOI Link](#)

“Room temperature 3D printing of super-soft and solvent-free elastomers”

Renxuan Xie, Sanjoy Mukherjee, Adam E. Levi, Veronica G. Reynolds, Hengbin Wang, Michael L. Chabinyc, Christopher M. Bates  
*Science Advances*, 6(46): eabc6900 (2020). [DOI Link](#)

“A new family of liquid and solid guanidine-based n-type dopants for solution-processed perovskite solar cells”  
Hidenori Nakayama, Julia A. Schneider, Mina Faust, Hengbin Wang, Javier Read de Alaniz, Michael A. Chabinyc

*Materials Chemistry Frontiers*, 4: 3616-3622 (2020). [DOI Link](#)

“Bandgap Tailored Nonfullerene Acceptors for Low-Energy-Loss Near-Infrared Organic Photovoltaics”

Jaewon Lee, Seyeong Song, Jianfei Huang, Zhifang Du, Hansol Lee, Ziyue Zhu, Seo-Jin Ko, Thuc-Quyen Nguyen, Jin Young Kim, Kilwon Cho, Guillermo Bazan  
*ACS Materials Letters*, 2(4): 395-402 (2020). [DOI Link](#)

“Large-gain low-voltage and wideband organic photodetectors *via* unbalanced charge transport”

Jianfei Huang, Jaewon Lee, Max Schrock, Alana L. Dixon, Alexander T. Lill, Kilwon Cho, Guillermo Bazan, Thuc-Quyen Nguyen  
*Materials Horizons*, 12: 3234-3241 (2020). [DOI Link](#)

“Robust Unipolar Electron Conduction using an Ambipolar Polymer Semiconductor with Solution-Processable Blends”

Michael J. Ford, Mitsuharu Suzuki, Colin R. Bridges, Karen C. Bustillo, Martin Seifrid, Ming Wang, Hiroko Yamada, Thuc-Quyen Nguyen, Guillermo Bazan  
*Chemistry of Materials*, 32(16): 6831-6837 (2020). [DOI Link](#)

“Universal Approach to Photo-Crosslink Bottlebrush Polymers”

Sanjoy Mukherjee, Renxuan Xie, Veronica G. Reynolds, Takumi Uchiyama, Adam E. Levi, Eric Valois, Hengbin Wang, Michael L. Chabinyc, Christopher Bates  
*Macromolecules*, 53(3): 1090-1097 (2020). [DOI Link](#)

“Super-soft solvent-free bottlebrush elastomers for touch sensing”

Veronica G. Reynolds, Sanjoy Mukherjee, Renxuan Xie, Adam E. Levi, Amalie Atassi, Takumi Uchiyama, Hengbin Wang, Michael L. Chabinyc, Christopher M. Bates  
*Materials Horizons*, 7: 181-187 (2020). [DOI Link](#)

## 2019:

“Nanoscale Surface Compositions and Structures Influence Boron Adsorption Properties of Anion Exchange Resins”

G.N. Manjunatha Reddy, Jeffrey A. Gerbec, Fumihiko Shimizu, Bradley F. Chmelka  
*Langmuir*, 35(48): 15661-15673 (2019). [DOI Link](#)

“A High-Performance Solution-Processed Organic Photodetector for Near-Infrared Sensing”

Jianfei Huang, Jaewon Lee, Joachim Vollbrecht, Viktor V. Brus, Alana L. Dixon, David Xi Cao, Ziyue Zhu, Zhifang Du, Hengbin Wang, Kilwon Cho, Guillermo C. Bazan, Thuc-Quyen Nguyen  
*Advanced Materials*, 32(1): 1906027 (2019). [DOI Link](#)

“Side-Chain Engineering of Nonfullerene Acceptors for Near-Infrared Organic Photodetectors and Photovoltaics”

Jaewon Lee, Seo-Jin Ko, Hansol Lee, Jianfei Huang, Ziyue Zhu, Martin Seifrid, Joachim Vollbrecht, Viktor V. Brus, Akchheta Karki, Hengbin Wang, Kilwon Cho, Thuc-Quyen Nguyen, Guillermo C. Bazan  
*ACS Energy Letters*, 4(6): 1401-1409 (2019). [DOI Link](#)

“Sulfur-fused perylene diimide electron transport layers allow >400 h operational lifetime of methylammonium lead iodide photovoltaics”

Hidenori Nakayama, Yongzhao Zheng, Julia A. Schneider, Hengbin Wang, Naoya Ninomiya, Tatsuya Momose, Javier Read de Alaniz, Fred Wudl, Michael Chabinyo  
*Journal of Materials Chemistry C*, 36: 11126-11133 (2019). [DOI Link](#)

“High-k Fluoropolymer Gate Dielectric in Electrically Stable Organic Field-Effect Transistors”

Alexander T. Lill, Ala'a F. Eftaiha, Jianfei Huang, Hao Yang, Zach Rengert, Martin Seifrid, Hung Phan, Ming Wang, Guillermo C. Bazan, Thuc-Quyen Nguyen  
*ACS Appl. Materials Interfaces*, 11(17): 15821-15828 (2019). [DOI Link](#)

“Multi-Sulfur-Annulated Fused Perylene Diimides for Organic Solar Cells with Low Open-Circuit Voltage Loss”

Xiangchun Li, Hengbin Wang, Hidenori Nakayama, Zitang Wei, Julia A. Schneider, Kyle Clark, Wen-Yong Lai, Wei Huang, John G. Labram, Javier Read de Alaniz, Michael L. Chabinyo, Fred Wudl\*, Yonghao Zheng  
*ACS Appl. Energy Materials*, 2(5): 3805-3814 (2019). [DOI Link](#)

“Triple Function Lubricant Additives Based on Organic-inorganic Hybrid Star Polymers: Friction Reduction, Wear Protection, and Viscosity Modification”

Bas G. P. van Ravensteijn, Raghida Bou Zerdan, Dongjun Seo, Nicholas Cadirov, Jeffrey A. Gerbec, Craig J. Hawker, Jacob N. Israelchvili, Matthew E. Helgeson  
*ACS Applied Materials & Interfaces*, 11(1): 1363-1375 (2019). [DOI Link](#)

## 2018:

“Effects of Side Chain Branch Point on Self Assembly, Structure, and Electronic Properties of High Mobility Semiconducting Polymers”

Colin R. Bridges, Michael J. Ford, Elayne M. Thomas, Christian Gomez, Guillermo C. Bazan, Rachel A. Segalman  
*Macromolecules*, 51(21): 8597–8604 (2018). [DOI Link](#)

“Operando Studies Reveal Structural Evolution with Electrochemical Cycling in Li-CoS<sub>2</sub>”

Megan M. Butala, Vicky V.T. Doan-Nguyen, Anna J. Lehner, Claudia Göbel, Margaret A. Lumley, Shiri Arnon, Kamila M. Wiaderek, Olaf J. Borkiewicz, Karena W. Chapman, Peter J. Chupas, Mahalingam Balasubramanian, Ram Seshadri  
*Journal of Physical Chemistry C*, 122(43): 24559-24569 (2018). [DOI Link](#)

“Solvent-Free Synthesis of High-Performance Polyhexahydrotriazine (PHT) Thermosets”

Revital Kaminker, E. Benjamin Callaway, Neil D. Dolinski, Stephanie M. Barbon, Masashi Shibata, Hengbin Wang, Jerry Hu, and Craig J. Hawker

*Chemistry of Materials*, 30(22): 8352-8358 (2018). [DOI Link](#)

“Acceptor Percolation Determines how Electron-Accepting Additives Modify Transport of Ambipolar Polymer Organic Field-Effect Transistors”

Michael J. Ford, Ming Wang, Karen C. Bustillo, Jianyu Yuan, Thuc-Quyen Nguyen, and Guillermo C. Bazan

*ACS Nano*, 12(7): 7134-7140 (2018). [DOI Link](#)

“Electrical Double-Slope Nonideality in Organic Field-Effect Transistors”

Hung Phan, Michael J. Ford, Alexander T. Lill, Ming Wang, Guillermo C. Bazan, and Thuc-Quyen Nguyen

*Advanced Functional Materials*, 28(17): 1707221 (2018). [DOI Link](#)

## 2017:

“Linear Conjugated Polymer Backbones Improve Alignment in Nanogroove-Assisted Organic Field-Effect Transistors”

Ming Wang, Michael J. Ford, Cheng Zhou, Martin Seifrid, Thuc-Quyen Nguyen, and Guillermo C. Bazan

*Journal of the American Chemical Society*, 139(48): 17624-17631 (2017). [DOI Link](#)

“Improving Electrical Stability and Ideality in Organic Field-Effect Transistors by the Addition of Fullerenes: Understanding the Working Mechanism”

Hung Phan, Michael J. Ford, Alexander T. Lill, Ming Wang, Guillermo C. Bazan, Thuc-Quyen Nguyen

*Advanced Functional Materials*, 27(38): 17013558 (2017). [DOI Link](#)

“Understanding the links between composition, polyhedral distortion, and luminescence properties in green-emitting  $\beta$ -Si<sub>6-z</sub>Al<sub>z</sub>O<sub>z</sub>N<sub>8-z</sub>:Eu<sup>2+</sup> phosphors”

Clayton Cozzan, Geneva Laurita, Michael W. Gaultois, Marcus Cohen, Alexander A. Mikhailovsky, Mahalingam Balasubramanian and Ram Seshadri

*Journal of Materials Chemistry C*, 5(38): 10039-10046 (2017). [DOI Link](#)

“Molecular Considerations for Mesophase Interaction and Alignment of Lyotropic Liquid Crystalline Semiconducting Polymers”

Colin R. Bridges, Michael J. Ford, Guillermo C. Bazan, and Rachel A. Segalman

*ACS Macro Letters*, 6(6): 619-624 (2017). [DOI Link](#)

“Catalyst-free one-step synthesis of ortho-tetraaryl perylene diimides for efficient OPV non-fullerene acceptors”

Xiangchun Li, Hengbin Wang, Julia A. Schneider, Zitang Wei, Wen-Yong Lai, Wei Huang, Fred Wudl, and Yonghao Zheng

*Journal of Materials Chemistry C*, 5(11): 2781-2785 (2017). [DOI Link](#)

“Carrier-Selective Traps: A New Approach for Fabricating Circuit Elements with Ambipolar Organic Semiconductors”

Michael J. Ford, John G. Labram, Ming Wang, Hengbin Wang, Thuc-Quyen Nguyen, Guillermo C. Bazan

*Advanced Electronic Materials*, 3: 1600537 (2017). [DOI Link](#)

“Structural Evolution and Atom Clustering in  $\beta$ -SiAlON:  $\beta$ -Si<sub>6-z</sub>Al<sub>z</sub>O<sub>z</sub>N<sub>8-z</sub>”

Clayton Cozzan, Kent J. Griffith, Geneva Laurita, Jerry G. Hu, Clare P. Grey, and Ram Seshadri,

*Inorganic Chemistry*, 56(4): 2153-2158 (2017). [DOI Link](#)

“Local Structure Evolution and Modes of Charge Storage in Secondary Li-FeS<sub>2</sub> Cells”

Megan M. Butala, Martin Mayo, Vicky V. T. Doan-Nguyen, Margaret A. Lumley, Claudia Göbel, Kamila M. Wiaderek, Olaf J. Borkiewicz, Karena W. Chapman, Peter J. Chupas, Mahalingam Balasubramanian, Geneva Laurita, Sylvia Britto, Andrew J. Morris, Clare P. Grey, and Ram Seshadri  
*Chemistry of Materials*, 29(7): 3070-3082 (2017). [DOI Link](#)

“Reversible Capacity of Conductive Carbon Additives at Low Potentials: Caveats for Testing Alternative Anode Materials for Li-Ion Batteries”

Kimberly A. See, Margaret A. Lumley, Galen D. Stucky, Clare P. Grey, and Ram Seshadri  
*Journal of the Electrochemical Society*, 164(2): A327-A333 (2017). [DOI Link](#)

“Hole Mobility and Electron Injection Properties of D-A Conjugated Copolymers with Fluorinated Phenylene Acceptor Units”

Ming Wang, Michael J. Ford, Alexander T. Lill, Hung Phan, Thuc-Quyen Nguyen, Guillermo C. Bazan  
*Advanced Materials*, 29 (7): 1603830 (2017). [DOI Link](#)

“Charge transport in a two-dimensional hybrid metal halide thiocyanate compound”

John G. Labram, Naveen R. Venkatesan, Christopher J. Takacs, Hayden A. Evans, Erin E. Perry, Fred Wudl, and Michael L. Chabinye  
*Journal of Materials Chemistry C*, 5(24): 5930-5938 (2017). [DOI Link](#)

“High Sulfur Content Material with Stable Cycling in Lithium - Sulfur Batteries”

Molleigh B. Preefer, Bernd Oschmann, Craig J. Hawker, Ram Seshadri, and Fred Wudl  
*Angewandte Chemie*, 56 (47): 15118-15122 (2017). [DOI Link](#)

## **2016:**

“Influence of molecular structure on the performance of low Voc loss polymer solar cells”

Ming Wang, Hengbin Wang, Michael Ford, Jianyu Yuan, Cheng-Kang Mai, Stephanie Fronk, Guillermo C. Bazan  
*Journal of Materials Chemistry A*, 4: 15232-15239 (2016). [DOI Link](#)

“A Fully Aromatic High Performance Thermoset via Sydnone-Alkyne Cycloaddition”

Nisha V. Handa, Shaoguang Li, Jeffrey A. Gerbec, Naoko Sumitani, Craig J. Hawker, and Daniel Klinger  
*Journal of the American Chemical Society*, 138 (20): 6400-6403 (2016). [DOI Link](#)

“Fullerene Additives Convert Ambipolar Transport to p-Type Transport while Improving the Operational Stability of Organic Thin Film Transistors”

Michael J. Ford, Ming Wang, Hung Phan, Thuc-Quyen Nguyen, Guillermo C. Bazan  
*Advanced Functional Materials*, 26(25): 4472-4480 (2016). [DOI Link](#)

“(TTF)Pb<sub>2</sub>I<sub>5</sub>: A Radical Cation-Stabilized Hybrid Lead Iodide with Synergistic Optoelectronic Signatures”

Hayden A. Evans, Anna J. Lehner, John G. Labram, Douglas H. Fabini, Omar Barreda, Sara R. Smock, Guang Wu, Michael L. Chabinye, Ram Seshadri and Fred Wudl  
*Chemistry of Materials*, 28(11): 3607-3611 (2016). [DOI Link](#)

“MnO Conversion in Li-Ion Batteries: In Situ Studies and the Role of Mesostructuring”

Megan M. Butala, Katherine R. Danks, Margaret A. Lumley, Shiliang Zhou, Brent C. Melot, and Ram Seshadri  
*ACS Applied Materials & Interfaces*, 8(10): 6496-653 (2016). [DOI Link](#)

“Fluorine substitution influence on benzo[2,1,3]thiadiazole based polymers for field-effect transistor applications”

Ming Wang, Michael Ford, Hung Phan, Jessica Coughlin, Thuc-Quyen Nguyen and Guillermo C. Bazan

*Chemical Communications*, 52: 3207-3210 (2016). [DOI Link](#)

“High Mobility Organic Field-Effect Transistors from Majority Insulator Blends”

Michael J. Ford, Ming Wang, Shrayesh N. Patel, Hung Phan, Rachel A. Segalman, Thuc-Quyen Nguyen, and Guillermo C. Bazan

*Chemistry of Materials*, 28 (5): 1256-1260 (2016). [DOI Link](#)

“Flexible Organic Transistors with Controlled Nanomorphology”

Byoung Hoon Lee, Ben B. Y. Hsu, Shrayesh N. Patel, John Labram, Chan Luo, Guillermo C. Bazan, and Alan J. Heeger

*Nanoletters*, 16 (1): 314-319 (2016). [DOI Link](#)

“Formation and Structure of Lyotropic Liquid Crystalline Mesophases in Donor–Acceptor Semiconducting Polymers”

Colin R. Bridges, Michael J. Ford, Bhooshan C. Popere, Guillermo C. Bazan, and Rachel A. Segalman

*Macromolecules*, 49 (19), 7220–7229 (2016). [DOI Link](#)

## 2015:

“A single-phase full-color phosphor based on Ba<sub>3</sub>MgSi<sub>2</sub>O<sub>8</sub> co-activated with Eu<sup>2+</sup>, Tb<sup>3+</sup>, and Mn<sup>2+</sup>”

Alexander Birkel, Nicholas A. DeCino, Clayton Cozzan, Alexander A. Mikhailovsky, Byung-Chul Hong, Ram Seshadri

*Solid State Sciences*, 48: 82-89 (2015). [DOI Link](#)

“Nanostructured Mn-Doped V<sub>2</sub>O<sub>5</sub> Cathode Material Fabricated from Layered Vanadium Jarosite”

Hongmei Zeng, Deyu Liu, Yichi Zhang, Kimberly A. See, Young-Si Jun, Guang Wu, Jeffrey A. Gerbec, Xiulei Ji, and Galen D. Stucky

*Chemistry of Materials*, 27 (21): 7331-7336 (2015). [DOI Link](#)

“NEXAFS Spectroscopy Reveals the Molecular Orientation in Blade-Coated Pyridal[2,1,3]thiadiazole-Containing Conjugated Polymer Thin Films”

Shrayesh N. Patel, Gregory M. Su, Chan Luo, Ming Wang, Louis A. Perez, Daniel A. Fischer, David Prendergast, Guillermo C. Bazan, Alan J. Heeger, Michael L. Chabinyc, and Edward J. Kramer

*Macromolecules*, 48 (18): 6606–6616 (2015). [DOI Link](#)

“Electronic structure and photovoltaic application of BiI<sub>3</sub>”

Anna J. Lehner, Hengbin Wang, Douglas H. Fabini, Christopher D. Liman, Claire-Alice Hébert, Erin E. Perry, Ming Wang, Guillermo C. Bazan, Michael L. Chabinyc and Ram Seshadri

*Applied Physics Letters*, 107: 131109 (2015). [DOI Link](#)

“Electrical Instability Induced by Electron Trapping in Low-Bandgap Donor–Acceptor Polymer Field-Effect Transistors”

Hung Phan, Ming Wang, Guillermo C. Bazan, Thuc-Quyen Nguyen

*Advanced Materials*, 27 (43): 7004-7009 (2015). [DOI Link](#)

“Temperature-Dependent Polarization in Field-Effect Transport and Photovoltaic Measurements of Methylammonium Lead Iodide”

John G. Labram, Douglas H. Fabini, Erin E. Perry, Anna J. Lehner, Hengbin Wang, Anne M. Glaudell, Guang Wu, Hayden Evans, David Buck, Robert Cotta, Luis Echegoyen, Fred Wudl, Ram Seshadri, and Michael L. Chabinyc

*The Journal of Physical Chemistry Letters*, 6 (18): 3565-3571 (2015). [DOI Link](#)

“Crystal and Electronic Structures of Complex Bismuth Iodides  $A_3Bi_2I_9$  ( $A = K, Rb, Cs$ ) Related to Perovskite: Aiding the Rational Design of Photovoltaics”

Anna J. Lehner, Douglas H. Fabini, Hayden A. Evans, Claire-Alice Hébert, Sara R. Smock, Jerry Hu, Hengbin Wang, Josef W. Zwanziger, Michael L. Chabinye, and Ram Seshadri  
*Chemistry of Materials*, 27 (20): 7137-7148 (2015). [DOI Link](#)

“Twisted olefinic building blocks for low bandgap polymers in solar cells and ambipolar field-effect transistors”

Chien-Yang Chiu, Hengbin Wang, Hung Phan, Kazuya Shiratori, Thuc-Quyen Nguyen, Craig J. Hawker  
*Journal of Polymer Science Part A: Polymer Chemistry*, 54 (17): 889-899 (2015). [DOI Link](#)

## 2014:

“High-Mobility Field-Effect Transistors Fabricated with Macroscopic Aligned Semiconducting Polymers”

Hsin-Rong Tseng, Hung Phan, Chan Luo, Ming Wang, Louis A. Perez, Shrayesh N. Patel, Lei Ying, Edward J. Kramer, Thuc-Quyen Nguyen, Guillermo C. Bazan, and Alan J. Heeger  
*Advanced Materials*, 26 (19): 2993-2998 (2014). [DOI Link](#)

“High Open Circuit Voltage in Regioregular Narrow Band Gap Polymer Solar Cells”

Ming Wang, Hengbin Wang, Takamichi Yokoyama, Xiaofeng Liu, Ye Huang, Yuan Zhang, Thuc-Quyen Nguyen, Shinji Aramaki, and Guillermo C. Bazan  
*Journal of the American Chemical Society*, 136 (36): 12576-12579 (2014). [DOI Link](#)

“Local structure and structural rigidity of the green phosphor  $\beta$ -SiAlON:Eu<sup>2+</sup>”

J. Brgoch, M. W. Gaultois, M. Balasubramanian, K. Page, B.-C. Hong, and R. Seshadri  
*Applied Physics Letters*, 105: 181904 (2014). [DOI Link](#)

“Sulfur infiltrated mesoporous graphene–silica composite as a polysulfide retaining cathode material for lithium–sulfur batteries”

Kyoung Hwan Kim, Young-Si Jun, Jeffrey A. Gerbec, Kimberly A. See, Galen D. Stucky, Hee-Tae Jung  
*Carbon*, 69: 543-551 (2014). [DOI Link](#)

“Accessing  $(Ba_{1-x}Sr_x)Al_2Si_2O_8:Eu$  phosphors for solid state white lighting via microwave assisted preparation: Tuning emission color through coordination environment”

J. Brgoch, S. D. Klotz, K. A. Denault, and R. Seshadri  
*Zeitschrift für Anorganische und Allgemeine Chemie*, 640 (6): 1182-1189 (2014). [DOI Link](#)

“Data-driven discovery of energy materials: efficient  $BaM_2Si_3O_{10}:Eu^{2+}$  ( $M = Sc, Lu$ ) phosphors for application in solid state white lighting”

J. Brgoch, Kathryn Hasz, Kristin A. Denault, Christopher K. H. Borg, Alexander A. Mikhailovsky, and Ram Seshadri  
*Faraday Discussions*, 176: 333-347 (2014). [DOI Link](#)

“Sulfur-functionalized mesoporous carbons as sulfur hosts in Li–S batteries: Increasing the affinity of sulfur intermediates to enhance performance”

K. See, Y.-S. Jun, J. Gerbec, J. Sprafke, F. Wudl, G. Stucky, and R. Seshadri  
*ACS Applied Materials Interfaces*, 6 (14): 10908-10916 (2014). [DOI Link](#)

“Effect of copper metalation of tetrabenzoporphyrin donor material on organic solar cell performance”

Michele Guide, Jason D. A. Lin, Christopher M. Proctor, Jingrun Chen, Carlos Garcia-Cervera, and Thuc-Quyen Nguyen  
*Journal of Materials Chemistry A*, 21 (2): 7890-7896 (2014). [DOI Link](#)

“General Strategy for Self-Assembly of Highly Oriented Nanocrystalline Semiconducting Polymers with High Mobility”

Chan Luo, Aung Ko Kyaw, Louis A. Perez, Shrayesh Patel, Ming Wang, Bruno Grimm, Guillermo C. Bazan, Edward J. Kramer, and Alan J. Heeger  
*Nanoletters*, 14 (5): 2764-2771 (2014). [DOI Link](#)

“Twisted but Conjugated: Building Blocks for Low Bandgap Polymers”

Dr. Chien-Yang Chiu, Dr. Hengbin Wang, Dr. Fulvio G. Brunetti, Prof. Fred Wudl and Prof. Craig J. Hawker  
*Angewandte Chemie International Edition*, 53 (15): 3996-4000 (2014). [DOI Link](#)

### 2013:

“Allyl Glycidyl Ether-Based Polymer Electrolytes for Room Temperature Lithium Batteries”

Katherine P. Barteau, Martin Wolffs, Nathaniel A. Lynd, Glenn H. Fredrickson, Edward J. Kramer, and Craig J. Hawker  
*Macromolecules*, 46 (22): 8988-8994 (2013). [DOI Link](#)

“Average and Local Structural Origins of the Optical Properties of the Nitride Phosphor  $\text{La}_{3-x}\text{Ce}_x\text{Si}_6\text{N}_{11}$  ( $0 < x \leq 3$ )”

Nathan C. George, Alexander Birkel, Jakoah Brgoch, Byung-Chul Hong, Alexander A. Mikhailovsky, Katharine Page, Anna Llobet, and Ram Seshadri  
*Inorganic Chemistry*, 52 (23): 13730-13741 (2013). [DOI Link](#)

“A structure-property-performance investigation of perylene diimides as electron accepting materials in solar cells”

Michele Guide, Sara Pla, Alexander Sharenko, Peter Zalar, Fernando Fernández-Lázaro, Ángela Sastre-Santos, and Thuc-Quyen Nguyen  
*Physical Chemistry Chemical Physics*, 15: 18894 – 18899 (2013). [DOI Link](#)

“Bimodal Mesoporous Titanium Nitride/Carbon Microfibers as Efficient and Stable Electrocatalysts for Li–O<sub>2</sub> Batteries”

Jihee Park, Young-Si Jun, Woo-ram Lee, Jeffrey A. Gerbec, Kimberly A. See, and Galen D. Stucky  
*Chemistry of Materials*, 25 (19): 3779-3781 (2013). [DOI Link](#)

“Dithienylbenzodipyrrolidone: New Acceptor for Donor–Acceptor Low Band Gap Polymers”

Weibin Cui and Fred Wudl  
*Macromolecules*, 46 (18): 7232-7238 (2013). [DOI Link](#)

“A One-Step Strategy for End-Functionalized Donor–Acceptor Conjugated Polymers”

Maxwell J. Robb, Damien Montarnal, Nancy D. Eisenmenger, Sung-Yu Ku, Michael L. Chabinyc, and Craig J. Hawker  
*Macromolecules*, 46 (16): 6431-6438 (2013). [DOI Link](#)

“Regioregular pyridyl[2,1,3]thiadiazole-coindacenodithiophene conjugated polymers”

Wen Wen, Lei Ying, Ben B. Y. Hsu, Yuan Zhang, Thuc-Quyen Nguyen, and Guillermo C. Bazan  
*Chemical Communications*, 49 (65): 7192-7194 (2013). [DOI Link](#)

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