Tomonori Saito

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1 Bethel Valley Road, P. O. Box 2008 MS-6210, Oak Ridge, TN 37831-6210, U.S.A.
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Job

Oak Ridge National Laboratory Oak Ridge, TN, U.S.A.
R&D Staff December 2012 – current
Soft Materials Group
Chemical Sciences Division

Postdoctral Research Associate August 2010 – November 2012
Polymer Matrix Composites Group
Materials Science and Technology Division

Education

The Pennsylvania State University University Park PA, U.S.A.
Postdoctral Research Associate May 2008 – August 2010
Department of Materials Science and Engineering
Department of Civil and Environmental Engineering
Research Advisors: Prof. Bruce E. Logan (CEE), Prof. Michael A. Hickner (MATSE)

Virginia Polytechnic Institute and State University Blacksburg, VA, U.S.A.
Ph.D. Organic Polymer Chemistry May 2008
Department of Chemistry
Research Advisor: Prof. Timothy E. Long
Dissertation: "Synthesis and Characterization of Multiphase Block Copolymers: Influence of Functional Groups in Macromolecular Architecture"

Waseda University Tokyo, Japan
M. S. Chemical Engineering March 2003
B. S. Applied Chemistry March 2001

The University of British Columbia 2001-2002, Vancouver, Canada
(Exchange program in M.S.)

Research Expertise

Dr. Tomonori Saito is a synthetic polymer chemist, who has extensive experience in the synthesis of well-defined polymers via living/controlled polymerization as well as post-modification of various polymers. His expertise has been applied to various projects at ORNL including CO_2 separation membranes, flow battery, ion-conducting polymers for

batteries and battery binders, ionic liquid polymers, polymer nanocomposites, additive manufacturing, polymer nanoparticles, elastomers, self-healing materials, thermal insulation materials, uranium extraction from seawater, polyolefin-based carbon fibers, lignin based-carbon fibers, and lignin-based renewable thermoplastics. He has published 72 peer-reviewed articles, 4 patents issued (one was licensed.), won R&D 100 in 2012 and 2016.

His strength in research relies on the use of his skills in synthetic polymer chemistry to impact material sciences, energy, and chemical & environmental engineering applications. His polymer synthesis experience includes synthesis of block, graft, random copolymers with functional groups using living anionic polymerization, ATRP, RAFT, ROMP, conventional free radical polymerization, step-growth polymerization, and post-functionalization chemistry. His engineering expertise includes design, process and characterization of polymeric materials using various techniques for applications such as CO_2 separation membranes, flow battery, self-healing materials, elastomers, carbon fibers, 3D printing, thermal insulation materials, renewable plastics, metal adsorbents, ion-conducting polymers for batteries and hydrogen, methanol & microbial fuel cells.

Current Research Focus

- Gas Separation Membrane
- Energy Storage (Polymer Binders, Flow Battery)
- Polymer Nanocomposites
- Block Copolymers and Soft Nanoparticles
- Thermoplastic Elastomers and Superelastomers
- Self-healing Polymers
- Additive Manufacturing (Binger Jet 3D Printing)
- Polymer Electrolytes
- Building Materials

Mentoring History

He currently mentors 2 postdocs (Dr. Pengfei Cao and Dr. Lu Han), 3 graduate students, 1 undergraduate student. The list of current and past advisees with current institution is listed as follows:

Postdoctoral Advisees:

Dr. Zhenbin Niu, currently at Dow Corning

Dr. Sabornie Chatterjee, currently at Rayonier Advanced Materials

Dr. Casey Johnson, Amy Research Laboratory, then currently at Dow Chemical

Dr. Pengfei Cao, Oak Ridge National Laboratory

Dr. Konstantinos Misichronis, currently at BIC

Dr. Lu Han, Oak Ridge National Laboratory

Postmaster Advisees:

Mr. Bingrui Li, currently at graduate school, UTK

Ms. Eunice Hong, currently at Acella Performance Materials

Postbachelor Advisees:

Mr. Tyler White, currently at graduate school, Virginia Tech

Ms. Michelle Lehmann, currently at graduate school, UTK

Ms. Natasha Ghezawi, Oak Ridge National Laboratory

Graduate Student Advisees:

Dr. Tao Hong, University of Tennessee, Knoxville, currently a NETL postdoc

Ms. Michelle Lehmann, University of Tennessee, Knoxville

Mr. Dustin Gilmer, University of Tennessee, Knoxville

Mr. Bingrui Li, University of Tennessee, Knoxville

Undergraduate Student (SULI or HERE) Advisees:

Ms. Sophia Lai, currently at graduate school, Harvard University (SULI from Cornell)

Mr. Tyler White, currently at graduate school, Virginia Tech (SULI from UTK)

Mr. Christopher Scanlon, currently at graduate school, University of Southern Mississippi (SULI from Columbus State)

Mr. Connor Smith (SULI from Cornell)

Mr. Jay Hingu (SULI from New Jersey College)

Mr. Leo Parsons, currently at graduate school, UC Davis (SULI from Cal Poly)

Mr. Dustin Gilmer, currently at graduate school, UTK (SULI and HERE from East Tennessee State)

Ms. Michelle Lehmann, currently at graduate school, UTK (SULI and HERE from UTK)

Mr. Hoang Pham, currently at graduate school, UC Davis (HERE from Colorado College)

Mr. Tony Su (HERE from Grinnell College)

Mr. Alex Huynh (SULI from U of Houston)

Awards and Membership

2017	ORNL Research Team Award, Carter Abney, Vyacheslav Bryantsev, Christopher J. Janke, Sheng Dai, Richard Mayes, **Tomonori Saito**, Costas Tsouris
2016	2016 R&D 100, "U Grabber", Sheng Dai, Suree Brown, Robin Rogers, Christopher J. Janke, Richard Mayes, **Tomonori Saito**, Ronnie Hanes
2012	2012 R&D 100, "HiCap Adsorbents", Christopher J. Janke, Yatsandra Oyola, Sheng Dai, Chris Bauer, Richard Mayes, **Tomonori Saito**, Xiao-Guang Sun, Costas Tsouris, Jim Brang, Jeff Haggard
2006.5	ACS Polymer Division Travel Award – POLY Biennial Meeting
2005.1- 2005.6	MII (**Macromolecules and Interfaces Institute** *at Virginia Tech*) Frontiers in Graduate Research Fellowships
2003.3.5	Best Research Award (Kurita award) in 2003 at 37th Japan Society on Water Environment Conference in Kumamoto, Japan, Mar. 3-7, 2003
2005 -	Member of American Chemical Society (ACS) (POLY, PMSE)
2016 -	Member of Materials Research Society (MRS)
2018 -	Member of North American Membrane Society (NAMS)
2018 -	Member of the American Institute of Chemical Engineers (AIChE)

Research Accomplishments

Peer-reviewed Publications (total 72)

2019

1. Guang Yang, Robert L. Sacci, Ilia N. Ivanov, Rose E. Ruther, Kevin A. Hays, Yiman Zhang, Peng-Fei Cao, Gabriel M. Veith, Nancy J. Dudney, **Tomonori Saito**, Daniel T. Hallinan, Jagjit Nanda, Probing Electrolyte Solvents at Solid/Liquid Interface Using Gap-Mode Surface-Enhanced Raman Spectroscopy, *Journal of The Electrochemical Society*, 166 (2) A1-A10 (2019)

2018

2. Kunyue Xing, Martin Tress, Peng-Fei Cao, Fei Fan, Shiwang Cheng, **Tomonori Saito**, Alexei P. Sokolov, *The Role of Chain-End Association Lifetime in Segmental and Chain Dynamics of Telechelic Polymers*, Macromolecules, 2018, *51* (21), pp 8561–8573
3. Halie J. Martin, B. Tyler White, Huiqun Wang, Jimmy Mays, **Tomonori Saito,** Mark D. Dadmun, Effect of Solvent Quality and Monomer Water Solubility on Soft Nanoparticle Morphology, Chapter 7, pp 117-137, ACS Symposium Series #1296, Gels and Other Soft Amorphous Solids
4. Rose E. Ruther, Guang Yang, Frank M. Delnick, Zhijiang Tang, Michelle L. Lehmann, **Tomonori Saito**, Yujie Meng, Thomas A. Zawodzinski Jr., and Jagjit Nanda, *"*Mechanically Robust, Sodium-Ion Conducting Membranes for Nonaqueous Redox Flow Batteries*", ACS Energy Lett.*, 2018, *3* (7), 1640–1647
5. Alexander I. Wiechert , Wei-Po Liao, Eunice Hong, Candice E. Halbert, Sotira Yiacoumi, **Tomonori Saito***, Costas Tsouris*, "Influence of hydrophilic groups and metal-ion adsorption on polymer-chain conformation of amidoxime-based uranium adsorbents", Journal of Colloid and Interface Science 524 (2018) 399–408
6. Peng-Fei Cao*, Bingrui Li, Tao Hong, Jacob Townsend, Zhe Qiang, Kunyue Xing, Konstantinos D. Vogiatzis, Yangyang Wang, Jimmy W. Mays, Alexei P. Sokolov, **Tomonori Saito***, *"*Super-Stretchable, Self-Healing Polymeric Elastomers with Tunable Properties", *Advanced Functional Materials*, 2018, 1800741
7. Kevin A. Hays, Rose E. Ruther, Alexander J. Kukay, Pengfei Cao, **Tomonori Saito**, David L. Wood III, Jianlin Li, "What makes lithium substituted polyacrylic acid a better binder than polyacrylic acid for silicon-graphite composite anodes?", Journal of Power Sources 384 (2018) 136–144
8. Kunyue Xing, Martin Tress, Pengfei Cao, Shiwang Cheng,, **Tomonori Saito**, Vladimir N. Novikov, Alexei P. Sokolov, "Hydrogen-bond strength changes network dynamics in associating telechelic PDMS", *Soft Matter***,** 2018, 14, 1235-1246
9. Konstantinos Misichronis, Weiyu Wang, Shiwang Chen, Yangyang Wang, Umesh Shrestha, Mark Dadmun, Jimmy W. Mays, **Tomonori Saito***, "Design, Synthesis and Characterization of Lightly Sulfonated Multigraft Acrylate-based Copolymer Superelastomers" *RSC Advances,* 2018, 8, 5090-5098
10. Peng-Fei Cao,* Michael Naguib, Zhijia Du, Eric Stacy, Bingrui Li, Tao Hong, Kunyue Xing, Dmitry N. Voylov, Jianlin Li, David L. Wood, III, Alexei P. Sokolov, Jagjit Nanda, **Tomonori Saito***, "Effect of Binder Architecture on the Performance of Silicon/Graphite Composite Anodes for Lithium-ion Batteries" *ACS Appl. Mater. Interfaces,* 2018, 10, 3470−3478
11. Tao Hong, Sophia Lai, Shannon M. Mahurin, Peng-Fei Cao, Dmitry N. Voylov, Harry M. Meyer, III, Christopher B. Jacobs, Jan-Michael Y. Carrillo, Alexander Kisliuk, Ilia N. Ivanov, De-en Jiang, Brian K. Long, Jimmy W. Mays, Alexei P. Sokolov, **Tomonori Saito***, "Highly-permeable Oligo (ethylene oxide)-co-

Poly(dimethylsiloxane) Membranes for Carbon Dioxide Separation", *Advanced Sustainable Systems*, 2018, *2*, 1700113, **selected for a journal back cover**

2017

12. Carter Abney, Richard Mayes, **Tomonori Saito**, Sheng Dai, "Materials for the Recovery of Uranium from Seawater" *Chem Review*, 2017**,** *117* (23), 13935–14013
13. Vera Bocharova, Zaneta Wojnarowska, Peng-Fei Cao, Yao Fu, Rajeev, Bingrui Li, Vladimir N. Novikov, Sheng Zhao, Alexander M. Kisliuk, **Tomonori Saito**, Jimmy W. Mays, Bobby, G. Sumpter, Alexei P. Sokolov, Influence of Chain Rigidity and Dielectric Constant on the Glass Transition Temperature in Polymerized Ionic Liquids, *J. Phys. Chem. B*, 2017, *121* (51), 11511–11519
14. Halie J. Martin, B. Tyler White, Christopher J. Scanlon, **Tomonori Saito***, Mark D. Dadmun* , "Tunable synthetic control of soft polymeric nanoparticle morphology", *Soft Matter***,** 2017, 13**,** 8849-8857
15. Zaneta Wojnarowska, Hongbo Feng, Mariana Diaz, Alfredo Ortiz, Inmaculada Ortiz, Justyna Knapik-Kowalczuk, Miguel Vilas, Pedro Verdía, Emilia Tojo, **Tomonori Saito**, Eric W. Stacy, Nam-Goo Kang, Jimmy W. Mays, Danuta Kruk, Patryk Wlodarczyk, Alexei P. Sokolov, Vera Bocharova, Marian Paluch, "Revealing the Charge Transport Mechanism in Polymerized Ionic Liquids: Insight from High Pressure Conductivity Studies", *Chem. Mater.,* 2017 *29* (19), 8082–8092
16. Zaneta Wojnarowska, Hongbo Feng, Yao Fu, Shiwang Cheng, Bobby Carroll, Rajeev Kumar, Vladimir N. Novikov, Alexander M. Kisliuk, **Tomonori Saito**, Nam-Goo Kang, Jimmy W. Mays, Alexei P. Sokolov, Vera Bocharova, "Effect of Chain Rigidity on the Decoupling of Ion Motion from Segmental Relaxation in Polymerized Ionic Liquids: Ambient and Elevated Pressure Studies" *Macromolecules,* 2017, *50* (17), 6710–6721
17. Peng-Fei Cao*, Bingrui Li, Tao Hong, Kunyue Xing, Dmitry N. Voylov, Shiwang Cheng, Panchao Yin, Alexander Kisliuk, Shannon M. Mahurin, Alexei P. Sokolov, and **Tomonori Saito***, "Robust and Elastic Polymer Membranes with Tunable Properties for Gas Separation", *ACS Appl. Mater. Interfaces* 2017, 9, 26483−26491
18. Peng-Fei Cao*, Zaneta Wojnarowska, Tao Hong, Bobby Carroll, Bingrui Li, Hongbo Feng, Leo Parsons, Weiyu Wang, Bradley S. Lokitz, Shiwang Cheng, Vera Bocharova, Alexei P. Sokolov, **Tomonori Saito***, "A star-shaped single lithium-ion conducting copolymer by grafting a POSS nanoparticle", *Polymer* 124 (2017) 117-127
19. Hongbo Feng, Tao Hong, Shannon M. Mahurin, Konstantinos D. Vogiatzis, Kevin R. Gmernicki, Brian K. Long, Jimmy W. Mays, Alexei P. Sokolov, Nam-Goo Kang*, **Tomonori Saito***, "Gas separation mechanism of CO_2 selective amidoxime poly(1-trimethylsilyl-1-propyne) membranes", *Polymer Chemistry*, *2017, 8, 3341–3350*
20. Ali Eftekhari, **Tomonori Saito**, "Synthesis and properties of polymerized ionic liquids" *European Polymer Journal* 90 (2017) 245–272

21. Tao Hong, Sabornie Chatterjee, Shannon M. Mahurin, Fei Fan, Ziqi Tian, De-en Jiang, Brian K. Long, Jimmy W. Mays, Alexei P. Sokolov, **Tomonori Saito***, "Impact of tuning CO2-philicity in polydimethylsiloxane-based membranes for carbon dioxide separation", *Journal of Membrane Science* 530 (2017) 213–219
22. Rajeev Kumar, Jyoti P. Mahalik, Vera Bocharova, Eric W. Stacy, Catalin Gainaru, **Tomonori Saito**, Mallory P. Gobet, Steve Greenbaum, Bobby G. Sumpter, Alexei P. Sokolov, "A Rayleighian approach for modeling kinetics of ionic transport in polymeric media", *The Journal of Chemical Physics* 146, 064902 (2017)

2016

23. Catalin P. Gainaru, Eric W. Stacy, Vera Bocharova, Mallory Gobet, Adam P. Holt, **Tomonori Saito**, Steve Greenbaum, and Alexei P. Sokolov, "Mechanism of Conductivity Relaxation in Liquid and Polymeric Electrolytes: Direct Link between Conductivity and Diffusivity", *J. Phys. Chem. B,* 2016, *120* (42), pp 11074–11083
24. Michael Naguib*, **Tomonori Saito***, Sophia Lai, Matthew S Rager, Tolga Aytug, M Parans Paranthaman*, Meng-Qiang Zhao, Yury Gogotsi, "Ti 3 C 2 T x (MXene)–polyacrylamide nanocomposite films", *RSC Advances* 2016 6 (76), 72069-72073
25. Kevin R Gmernicki, Eunice Hong, Christopher R Maroon, Shannon M Mahurin, Alexei P Sokolov, **Tomonori Saito**, Brian K Long, "Accessing Siloxane Functionalized Polynorbornenes via Vinyl-Addition Polymerization for CO_2 Separation Membranes", *ACS Macro Letters* 2016, 5, 879-883
26. Adam P Holt, Vera Bocharova, Shiwang Cheng, Alexander M Kisliuk, Benjamin Tyler White, **Tomonori Saito**, David Uhrig, Jyoti P Mahalik, Rajeev Kumar, Adam E Imel, Thusitha Etampawala, Halie Martin, Nicole Sikes, Bobby G Sumpter, Mark D Dadmun, Alexei P Sokolov, "Controlling Interfacial Dynamics: Covalent Bonding versus Physical Adsorption in Polymer Nanocomposites", *ACS nano*, 2016, 10 (7) 6843-6852
27. Kunyue Xing, Sabornie Chatterjee, **Tomonori Saito**, Catalin Gainaru, and Alexei P. Sokolov, Impact of Hydrogen Bonding on Dynamics of Hydroxyl-Terminated Polydimethylsiloxane, *Macromolecules*, 2016, 49 (8), 3138-3147, DOI: 10.1021/acs.macromol.6b00262
28. Dmitry Voylov,* **Tomonori Saito**,* Bradley Lokitz, David Uhrig, Yangyang Wang, Alexander Agapov, Adam Holt, Vera Bocharova, Alexander Kisliuk, Alexei P. Sokolov, "Graphene Oxide as a Radical Initiator: Free Radical and Controlled Radical Polymerization of Sodium 4-Vinylbenzenesulfonate with Graphene Oxide" *ACS Macro Lett.* 2016, 5, 199−202
29. Shiwang Cheng, Adam P. Holt, Huiqun Wang, Fei Fan, Vera Bocharova, Halie Martin, Thusitha Etampawala, B. Tyler White, **Tomonori Saito**, Nam-Goo Kang, Mark D. Dadmun, Jimmy W. Mays, Alexei P. Sokolov, "Unexpected Molecular Weight Effect in Polymer Nanocomposites" *PhysRevLett.* 2016, 116, 038302
30. Sabornie Chatterjee, Vyacheslav Bryantsev, Suree Brown, J. Casey Johnson, Christopher Grant, Richard T. Mayes, Benjamin Hay*, Sheng Dai, **Tomonori Saito*** "Synthesis of Naphthalimidedioxime Ligand-Containing Fibers for Uranium Adsorption from Seawater" *Ind. Eng. Chem. Res.* 2016, 55, 4161−4169

31. Suree Brown*, Sabornie Chatterjee, Meijun Li, Yanfeng Yue, Costas Tsouris, Christopher J. Janke, **Tomonori Saito***, Sheng Dai*, "Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization from Chlorinated Polypropylene and Polyethylene Trunk Fibers", *Ind. Eng. Chem. Res.* 2016, 55, 4130−4138
32. Suree Brown*, Yanfeng Yue, Li-Jung Kuo, Nada Mehio, Meijun Li, Gary Gill, Costas Tsouris, Richard T. Mayes, **Tomonori Saito***, and Sheng Dai*, "Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization (ATRP) from Poly(vinyl chloride)-co-chlorinated poly(vinyl chloride) (PVC-co-CPVC) Fiber" *Ind. Eng. Chem. Res.* 2016, 55, 4139−4148 DOI: 10.1021/acs.iecr.5b03355

2015

33. Tao Hong, Zhenbin Niu, Xunxiang Hu, Kevin Gmernicki, Shiwang Cheng, Fei Fan, J. Casey Johnson, Eunice Hong, Shannon Mahurin, De-en Jiang, Brian Long, Jimmy Mays, Alexei Sokolov, **Tomonori Saito***, "Effect of Cross-Link Density on Carbon Dioxide Separation in PDMS Norbornene Membranes" *ChemSusChem*, 2015, 8, 3595 – 3604, **selected for journal cover,** Cover and Cover Profile, 3522, 3524
34. Sabornie Chatterjee, **Tomonori Saito*,** "Lignin-derived Advanced Carbon Materials" *ChemSusChem*, 2015, 8, 3941 – 3958
35. Sabornie Chatterjee, **Tomonori Saito,** Priyanka Bhattacharya "Lignin-derived Carbon Fibers" *Lignin in Polymer Composites, 1st Edition* Chapter 11, 2015, 207-216
36. Fei Fan, Yangyang Wang, Tao Hong, Maximilian F. Heres, **Tomonori Saito**, Alexei P. Sokolov, "Ion Conduction in Polymerized Ionic Liquids with Different Pendant Groups", *Macromolecules*, 2015**,** *48* (13), 4461–4470
37. Ziqi Tian, **Tomonori Saito**, and De-en Jiang,"Ab Initio Screening of CO_2-philic Groups", *J. Phys. Chem. A* 2015, 119 (16), 3848−3852

2014

38. Gopal K. Mor, David Jones, Thinh P. Le, Zhengrong Shang, Patrick J. Weathers, Megumi K. B. Woltermann, Kiarash Vakhshouri, Bryan P. Williams, Sarah A. Tohran, **Tomonori Saito**, Rafael Verduzco, Alberto Salleo, Michael A. Hickner, Enrique D. Gomez, "Contact Doping with Sub-Monolayers of Strong Polyelectrolytes for Organic Photovoltaics" *Advanced Energy Materials* 2014, *4* (13) 1400439
39. Sabornie Chatterjee, **Tomonori Saito*,** "Solvent Fractionation of Lignin" *ACS Symposium Series, 1173 Polymer-Derived Carbon*, 2014 Chapter 7, 153-168
40. Sabornie Chatterjee, **Tomonori Saito,** Orlando Rios, Alexader Johs "Lignin Based Carbon Materials for Energy Storage Applications" *ACS Symposium Series, 1186 Green Technologies for the Environment*, 2014 Chapter 11, 203-218
41. **Tomonori Saito***, Suree Brown, Sabornie Chatterjee, Jungseung Kim, Costas Tsouris, Richard T. Mayes, Li-jung Kuo, Gary Gill, Yatsandra Oyola, Christopher J. Janke, Sheng Dai, "Uranium Recovery from Seawater: Development of Fiber Adsorbents Prepared via Atom-Transfer Radical Polymerization," *Journal of Materials Chemistry A* 2014, *2*, 14674–14681.
42. Yangyang Wang, Fei Fan, Alexander L. Agapov, **Tomonori Saito**, Jun Yang, Xiang Yu, Kunlun Hong, Jimmy Mays, Alexei P. Sokolov, "Examination of the fundamental relation between ionic transport and segmental relaxation in polymer electrolytes" *Polymer*, 2014, 55(16), 4067-4076.

43. **Tomonori Saito***, Joshua H. Perkins, Frederic Vautard, Harry M. Meyer, Jamie M. Messman, Balazs Tolnai, and Amit K. Naskar*, "Methanol Fractionation of Softwood Kraft Lignin: Impact on the Lignin Properties" *ChemSusChem*, 2014, 7 (1), 221 – 228

2013

44. **Tomonori Saito**, Joshua H. Perkins, Daniel C. Jackson, Neil Trammel, Marcus A. Hunt, and Amit K. Naskar, "Development of Lignin-based Polyurethane Thermoplastics" *RSC Advances*, 2013, 3**,** 21832–21840
45. Jarod M. Younker, **Tomonori Saito**, Marcus A. Hunt, Amit K. Naskar, Ariana Beste, "Pyrolysis Pathways of Sulfonated Polyethylene, an Alternative Carbon Fiber Precursor" *Journal of the American Chemical Society***,** 2013**,** 135 (16), 6130–6141
46. Jungseung Kim, Costas Tsouris, Richard T. Mayes, Yatsandra Oyola, **Tomonori Saito**, Christopher J. Janke, Sheng Dai, Erich Schneider, and Darshan Sachde, "Recovery of Uranium from Seawater: A Review of Current Status and Future Research Needs", *Separation Science and Technology*, 2013, 48 (3)**,** 367-387

2012

47. **Tomonori Saito**, Rebecca H. Brown, Marcus A. Hunt, Deanna L. Pickel, Joseph M. Pickel, Jamie M. Messman, Fredrick S. Baker, Martin Keller and Amit K. Naskar, "Turning Renewable Resources into Value-added Polymer: Development of Lignin-based Thermoplastic" *Green Chemistry*, 2012, 14 (12)**,** 3295-3303, **selected for a journal cover**.
48. Marcus A. Hunt, **Tomonori Saito**, Rebecca H. Brown, Amar S. Kumbhar, Amit K. Naskar, "Patterned Functional Carbon Fibers from Polyethylene" *Advanced Materials* 2012, 24(18), 2386-2389, **selected for a journal back cover**.
49. Hengjing Yan, **Tomonori Saito**, John M. Regan, "Nitrogen Removal in a Single-Chamber Microbial Fuel Cell with Nitrifying Biofilm Enriched at the Air Cathode " *Water Research* 2012, 46, 2215-2224.
50. Jeremy N. Fowler, **Tomonori Saito**, Renlong Gao, Eric S. Fried, Timothy E. Long, David L. Green, "Impact of Diblock Copolymers on Droplet Coalescence, Emulsification, and Aggregation in Immiscible Homopolymer Blends " *Langmuir* 2012, 28(5), 2347-2356

2011

51. **Tomonori Saito**, Timothy H. Roberts, Timothy E. Long, Bruce E. Logan, Michael A. Hickner, "Neutral Hydrophilic Cathode Catalyst Binders for Microbial Fuel Cells" *Energy and Environmental Science* 2011, 4(3), 928-934.
52. Lu Zhang, Brian L. Chaloux, **Tomonori Saito**, Michael A. Hickner, Jodie L. Lutkenhaus, "Ion Conduction in Poly(ethylene oxide) Ionically Assembled Complexes" *Macromolecules* 2011, 44(24), 9723-9730.
53. Akshay Kokil, **Tomonori Saito**, Wade DePolo, Casey Elkins, Garth L. Wilkes, Timothy E. Long, "Multiple hydrogen bonding for enhanced mechanical performance of polymer-carbon nanotube composites," *Journal of Macromolecular Science Part A: Pure and Applied Chemistry*, 2011, 48(12), 1016-1021.
54. Xie He, **Tomonori Saito**, Michael A. Hickner, "Zeta potential of ion-conductive membranes by streaming current measurements," *Langmuir* 2011, 27(8), 4721-4727.

55. David Lee, **Tomonori Saito**, Alan Benesi, Michael A. Hickner, Harry Allcock,, "Characterization of Water in Proton Conducting Membranes by Deuterium NMR T1 Relaxation," *The Journal of Physical Chemistry B* 2011, 115(5), 776-783.
56. Valerie J. Watson, **Tomonori Saito,** Michael A. Hickner, Bruce E. Logan, "Polymer Coatings as Separator Layers for Microbial Fuel Cell Cathodes," *Journal of Power Source* 2011, 196(6), 3009-3014.
57. Fang Zhang, Matthew D. Merrill, Justin C. Tokash, **Tomonori Saito**, Shaoan Cheng, Michael A. Hickner, Bruce E. Logan, "Mesh optimization for microbial fuel cell cathodes constructed around stainless steel mesh current collectors," *Journal of Power Source* 2011, 196(3), 1097-1102.
58. **Tomonori Saito**, Maha Mehanna, Xin Wang, Roland Cusick, Yujie Feng, Michael A. Hickner, Bruce E. Logan, "Effect of Nitrogen Addition on the Performance of Microbial Fuel Cell Anodes" *Bioresource Technology* 2011, 102, 395–398.

2010

59. Maha Mehanna, **Tomonori Saito**, Jingling Yang, Michael Hickner, Xiaoxin Cao, Xia Huang, Bruce. E. Logan "Using microbial desalination cells to reduce water salinity prior to reverse osmosis" *Energy & Environmental Science* 2010, 3(8), 1114-1120.
60. Hunter D. Moore, **Tomonori Saito**, Michael A. Hickner, "Morphology and Transport Properties of Midblock-sulfonated Triblock Copolymers" *Journal of Materials Chemistry* 2010, 20(30), 6316-6321.
61. Woo-Sik Jang, **Tomonori Saito**, Michael A. Hickner, Jodie L. Lutkenhaus, "Electrostatic Assembly of Poly(ethylene glycol) Nanotubes" *Macromolecular Rapid Communications* 2010, 31(8), 745-751.
62. **Tomonori Saito**, Hunter D. Moore, Michael A. Hickner, "Synthesis of Midblock-Sulfonated Triblock Copolymers" *Macromolecules* 2010, 43(2), 599-601.
63. **Tomonori Saito**, Matthew D. Merrill, Valerie J. Watson, Bruce E. Logan, Michael A. Hickner, "Investigation of Ionic Polymer Cathode Binders for Microbial Fuel Cells" *Electrochimica Acta* 2010, 55(9), 3398-3403.
64. Fang Zhang, **Tomonori Saito**, Shaoan Cheng, Michael A. Hickner, Bruce E. Logan, "Microbial Fuel Cell Cathodes with Poly(dimethylsiloxane) Diffusion Layers Constructed around Stainless Steel Mesh Current Collectors." *Environmental Science & Technology* 2010, 44(4), 1490-1495.

2009 and earlier

65. Xin Wang, Shaoan Cheng, Yujie Feng, Matthew D. Merrill, **Tomonori Saito**, Bruce E. Logan, "Use of Carbon Mesh Anodes and the Effect of Different Pretreatment Methods on Power Production in Microbial Fuel Cells" *Environmental Science & Technology* 2009, 43(17), 6870-6874.
66. **Tomonori Saito**, Brian D. Mather, Philip J. Costanzo, Frederick L. Beyer, and Timothy E. Long, "Influence of Site-Specific Sulfonation on Acrylic Graft Copolymer Morphology" *Macromolecules* 2008, 41(10), 3503-3512.
67. **Tomonori Saito**, Kim C. Harich and Timothy E. Long, "Pseudo-Living Anionic Telomerization of 1,3-butadiene," *Macromolecular Chemistry and Physics*, 2008, 209(19), 1983-1991 **Selected for a journal cover**.

68. **Tomonori Saito**, Hidetaka Kawakita, Kazuya Uezu, Satoshi Tsuneda, Masao Tamada, "Introduction process of *N*-methylglucamino groups to the polymer brush for binding antimony(III)," *Ars Separatoria Acta*, 2006, 4, 8-17
69. **Tomonori Saito**, Hidetaka Kawakita, Kazuya Uezu, Satoshi Tsuneda, Akira Hirata, Kyoichi Saito, Masao Tamada and Takanobu Sugo, "Structure of Polyol-Ligand-Containing Polymer Brush for Antimony(III) Binding," *Journal of Membrane Science* 2004, 236(1-2), 65-71.
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