Tomonori Saito

List of Publications by Year
in descending order

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100 papers	6,945 citations	66343 42 h-index	60623 81 g-index
105 all docs	105 docs citations	105 times ranked	7437 citing authors

#	Article	IF	Citations
1	Upcycling of semicrystalline polymers by compatibilization: mechanism and location of compatibilizers. RSC Advances, 2022, 12, 10886-10894.	3.6	10
2	Photopatterning of two stage reactive polymer networks with CO₂-philic thiolâ€“acrylate chemistry: enhanced mechanical toughness and CO₂/N₂ selectivity. Polymer Chemistry, 2022, 13, 2495-2505.	3.9	2
3	Membrane design for non-aqueous redox flow batteries: Current status and path forward. CheM, 2022, 8, 1611-1636.	11.7	16
4	Selective Plasticization of Poly (ethylene oxide) (PEO) Block in Nanostructured Polystyreneâ^' PEOâ^' Polystyrene Triblock Copolymer Electrolytes. Journal of the Electrochemical Society, 2022, 169, 050506.	2.9	1
5	Elastic vitrimers: Beyond thermoplastic and thermoset elastomers. Matter, 2022, 5, 1391-1422.	10.0	90
6	Closed-loop additive manufacturing of upcycled commodity plastic through dynamic cross-linking. Science Advances, 2022, 8, .	10.3	33
7	Autonomous Selfâ€Healing Elastomers with Unprecedented Adhesion Force. Advanced Functional Materials, 2021, 31, 2006298.	14.9	64
8	Anomalously high elastic modulus of a poly(ethylene oxide)-based composite electrolyte. Energy Storage Materials, 2021, 35, 431-442.	18.0	42
9	Turning Rubber into a Glass: Mechanical Reinforcement by Microphase Separation. ACS Macro Letters, 2021, 10, 197-202.	4.8	12
10	All-aerosol-jet-printed highly sensitive and selective polyaniline-based ammonia sensors: a route toward low-cost, low-power gas detection. Journal of Materials Science, 2021, 56, 12596-12606.	3.7	15
11	Polymers with Dynamic Bonds: Adaptive Functional Materials for a Sustainable Future. Journal of Physical Chemistry B, 2021, 125, 9389-9401.	2.6	66
12	Additive manufacturing of strong silica sand structures enabled by polyethyleneimine binder. Nature Communications, 2021, 12, 5144.	12.8	21
13	Selfâ€Healing Elastomers: Autonomous Selfâ€Healing Elastomers with Unprecedented Adhesion Force (Adv. Funct. Mater. 4/2021). Advanced Functional Materials, 2021, 31, 2170025.	14.9	4
14	Gel composite electrolyte â€“ an effective way to utilize ceramic fillers in lithium batteries. Journal of Materials Chemistry A, 2021, 9, 6555-6566.	10.3	14
15	Rational Polymer Design of Stretchable Poly(ionic liquid) Membranes for Dual Applications. Macromolecules, 2021, 54, 896-905.	4.8	19
16	Design of tough adhesive from commodity thermoplastics through dynamic crosslinking. Science Advances, 2021, 7, eabk2451.	10.3	66
17	Separator Effect on Zinc Electrodeposition Behavior and Its Implication for Zinc Battery Lifetime. Nano Letters, 2021, 21, 10446-10452.	9.1	94
18	Viscoelasticity in associating oligomers and polymers: experimental test of the bond lifetime renormalization model. Soft Matter, 2020, 16, 390-401.	2.7	40

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19	Progress of 3D network binders in silicon anodes for lithium ion batteries. Journal of Materials Chemistry A, 2020, 8, 25548-25570.	10.3	88
20	Polymer Chain Diffusion in All-Polymer Nanocomposites: Confinement vs Chain Acceleration. Journal of Physical Chemistry C, 2020, 124, 18834-18839.	3.1	2
21	Recent Developments and Challenges in Hybrid Solid Electrolytes for Lithium-Ion Batteries. Frontiers in Energy Research, 2020, 8, .	2.3	52
22	Mechanism of Soft Nanoparticle Diffusion in Entangled Polymer Melts. Macromolecules, 2020, 53, 7580-7589.	4.8	9
23	Improved Single-Ion Conductivity of Polymer Electrolyte via Accelerated Segmental Dynamics. ACS Applied Energy Materials, 2020, 3, 12540-12548.	5.1	31
24	Well-designed Crosslinked Polymer Electrolyte Enables High Ionic Conductivity and Enhanced Salt Solvation. Journal of the Electrochemical Society, 2020, 167, 070539.	2.9	41
25	Ultra-efficient polymer binder for silicon anode in high-capacity lithium-ion batteries. Nano Energy, 2020, 73, 104804.	16.0	57
26	Elastic Single-Ion Conducting Polymer Electrolytes: Toward a Versatile Approach for Intrinsically Stretchable Functional Polymers. Macromolecules, 2020, 53, 3591-3601.	4.8	41
27	Tailored CO₂-philic Gas Separation Membranes via One-Pot Thiolâ€“ene Chemistry. Macromolecules, 2019, 52, 5819-5828.	4.8	20
28	What dielectric spectroscopy can tell us about supramolecular networksâ€†. European Physical Journal E, 2019, 42, 133.	1.6	30
29	Structural correlations tailor conductive properties in polymerized ionic liquids. Physical Chemistry Chemical Physics, 2019, 21, 14775-14785.	2.8	9
30	Tailored crosslinking of Poly(ethylene oxide) enables mechanical robustness and improved sodium-ion conductivity. Energy Storage Materials, 2019, 21, 85-96.	18.0	43
31	Understanding the Static Interfacial Polymer Layer by Exploring the Dispersion States of Nanocomposites. ACS Applied Materials & Interfaces, 2019, 11, 17863-17872.	8.0	35
32	Rational Design of a Multifunctional Binder for High-Capacity Silicon-Based Anodes. ACS Energy Letters, 2019, 4, 1171-1180.	17.4	108
33	Relative Size of the Polymer and Nanoparticle Controls Polymer Diffusion in All-Polymer Nanocomposites. Macromolecules, 2019, 52, 2843-2852.	4.8	14
34	Superstretchable, Selfâ€Healing Polymeric Elastomers with Tunable Properties. Advanced Functional Materials, 2018, 28, 1800741.	14.9	162
35	Influence of hydrophilic groups and metal-ion adsorption on polymer-chain conformation of amidoxime-based uranium adsorbents. Journal of Colloid and Interface Science, 2018, 524, 399-408.	9.4	27
36	Design, synthesis, and characterization of lightly sulfonated multigraft acrylate-based copolymer superelastomers. RSC Advances, 2018, 8, 5090-5098.	3.6	4

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37	Hydrogen-bond strength changes network dynamics in associating telechelic PDMS. Soft Matter, 2018, 14, 1235-1246.	2.7	43
38	Highly Permeable Oligo(ethylene oxide)â€•co â€poly(dimethylsiloxane) Membranes for Carbon Dioxide Separation. Advanced Sustainable Systems, 2018, 2, 1700113.	5.3	6
39	Effect of Binder Architecture on the Performance of Silicon/Graphite Composite Anodes for Lithium Ion Batteries. ACS Applied Materials & Interfaces, 2018, 10, 3470-3478.	8.0	77
40	Effect of Solvent Quality and Monomer Water Solubility on Soft Nanoparticle Morphology. ACS Symposium Series, 2018, , 117-137.	0.5	0
41	The Role of Chain-End Association Lifetime in Segmental and Chain Dynamics of Telechelic Polymers. Macromolecules, 2018, 51, 8561-8573.	4.8	42
42	Mechanically Robust, Sodium-Ion Conducting Membranes for Nonaqueous Redox Flow Batteries. ACS Energy Letters, 2018, 3, 1640-1647.	17.4	22
43	Impact of tuning CO2-philicity in polydimethylsiloxane-based membranes for carbon dioxide separation. Journal of Membrane Science, 2017, 530, 213-219.	8.2	31
44	Gas separation mechanism of CO₂ selective amidoxime-poly(1-trimethylsilyl-1-propyne) membranes. Polymer Chemistry, 2017, 8, 3341-3350.	3.9	25
45	A Rayleighian approach for modeling kinetics of ionic transport in polymeric media. Journal of Chemical Physics, 2017, 146, 064902.	3.0	12
46	Synthesis and properties of polymerized ionic liquids. European Polymer Journal, 2017, 90, 245-272.	5.4	165
47	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, 6710-6721.	4.8	78
48	Revealing the Charge Transport Mechanism in Polymerized Ionic Liquids: Insight from High Pressure Conductivity Studies. Chemistry of Materials, 2017, 29, 8082-8092.	6.7	32
49	Robust and Elastic Polymer Membranes with Tunable Properties for Gas Separation. ACS Applied Materials & Interfaces, 2017, 9, 26483-26491.	8.0	32
50	A star-shaped single lithium-ion conducting copolymer by grafting a POSS nanoparticle. Polymer, 2017, 124, 117-127.	3.8	45
51	Influence of Chain Rigidity and Dielectric Constant on the Glass Transition Temperature in Polymerized Ionic Liquids. Journal of Physical Chemistry B, 2017, 121, 11511-11519.	2.6	82
52	Materials for the Recovery of Uranium from Seawater. Chemical Reviews, 2017, 117, 13935-14013.	47.7	639
53	Tunable synthetic control of soft polymeric nanoparticle morphology. Soft Matter, 2017, 13, 8849-8857.	2.7	15
54	Impact of Hydrogen Bonding on Dynamics of Hydroxyl-Terminated Polydimethylsiloxane. Macromolecules, 2016, 49, 3138-3147.	4.8	55

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55	Lignin-Derived Carbon Fibers. , 2016, , 207-216.		6
56	Unexpected Molecular Weight Effect in Polymer Nanocomposites. Physical Review Letters, 2016, 116, 038302.	7.8	134
57	Controlling Interfacial Dynamics: Covalent Bonding versus Physical Adsorption in Polymer Nanocomposites. ACS Nano, 2016, 10, 6843-6852.	14.6	152
58	Graphene Oxide as a Radical Initiator: Free Radical and Controlled Radical Polymerization of Sodium 4-Vinylbenzenesulfonate with Graphene Oxide. ACS Macro Letters, 2016, 5, 199-202.	4.8	24
59	Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization from Chlorinated Polypropylene and Polyethylene Trunk Fibers. Industrial & Engineering Chemistry Research, 2016, 55, 4130-4138.	3.7	46
60	Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization (ATRP) from Poly(vinyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 Engineering Chemistry Research, 2016, 55, 4139-4148.	3.7	128
61	Synthesis of Naphthalimidedioxime Ligand-Containing Fibers for Uranium Adsorption from Seawater. Industrial & Engineering Chemistry Research, 2016, 55, 4161-4169.	3.7	40
62	Effect of Cross-Link Density on Carbon Dioxide Separation in Polydimethylsiloxane-Norbornene Membranes. ChemSusChem, 2015, 8, 3524-3524.	6.8	2
63	Ligninâ€Derived Advanced Carbon Materials. ChemSusChem, 2015, 8, 3941-3958.	6.8	228
64	Effect of Crossâ€Link Density on Carbon Dioxide Separation in Polydimethylsiloxaneâ€Norbornene Membranes. ChemSusChem, 2015, 8, 3595-3604.	6.8	21
65	Ion Conduction in Polymerized Ionic Liquids with Different Pendant Groups. Macromolecules, 2015, 48, 4461-4470.	4.8	158
66	Ab Initio Screening of CO₂-philic Groups. Journal of Physical Chemistry A, 2015, 119, 3848-3852.	2.5	28
67	Lignin Based Carbon Materials for Energy Storage Applications. ACS Symposium Series, 2014, , 203-218.	0.5	11
68	Contact Doping with Subâ€Monolayers of Strong Polyelectrolytes for Organic Photovoltaics. Advanced Energy Materials, 2014, 4, 1400439.	19.5	25
69	Methanol Fractionation of Softwood Kraft Lignin: Impact on the Lignin Properties. ChemSusChem, 2014, 7, 221-228.	6.8	132
70	Examination of the fundamental relation between ionic transport and segmental relaxation in polymer electrolytes. Polymer, 2014, 55, 4067-4076.	3.8	136
71	Solvent Fractionation of Lignin. ACS Symposium Series, 2014, , 153-168.	0.5	5
72	Uranium recovery from seawater: development of fiber adsorbents prepared via atom-transfer radical polymerization. Journal of Materials Chemistry A, 2014, 2, 14674-14681.	10.3	138

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73	Recovery of Uranium from Seawater: A Review of Current Status and Future Research Needs. Separation Science and Technology, 2013, 48, 367-387.	2.5	400
74	Pyrolysis Pathways of Sulfonated Polyethylene, an Alternative Carbon Fiber Precursor. Journal of the American Chemical Society, 2013, 135, 6130-6141.	13.7	60
75	Development of lignin-based polyurethane thermoplastics. RSC Advances, 2013, 3, 21832.	3.6	145
76	Nitrogen removal in a single-chamber microbial fuel cell with nitrifying biofilm enriched at the air cathode. Water Research, 2012, 46, 2215-2224.	11.3	131
77	Turning renewable resources into value-added polymer: development of lignin-based thermoplastic. Green Chemistry, 2012, 14, 3295.	9.0	341
78	Impact of Diblock Copolymers on Droplet Coalescence, Emulsification, and Aggregation in Immiscible Homopolymer Blends. Langmuir, 2012, 28, 2347-2356.	3.5	8
79	Patterned Functional Carbon Fibers from Polyethylene. Advanced Materials, 2012, 24, 2386-2389.	21.0	78
80	Carbon Fibers: Patterned Functional Carbon Fibers from Polyethylene (Adv. Mater. 18/2012). Advanced Materials, 2012, 24, 2506-2506.	21.0	4
81	Neutral hydrophilic cathode catalyst binders for microbial fuel cells. Energy and Environmental Science, 2011, 4, 928-934.	30.8	50
82	Zeta Potential of Ion-Conductive Membranes by Streaming Current Measurements. Langmuir, 2011, 27, 4721-4727.	3.5	86
83	Characterization of Water in Proton-Conducting Membranes by Deuterium NMR T₁ Relaxation. Journal of Physical Chemistry B, 2011, 115, 776-783.	2.6	34
84	Ion Conduction in Poly(ethylene oxide) Ionically Assembled Complexes. Macromolecules, 2011, 44, 9723-9730.	4.8	15
85	Effect of nitrogen addition on the performance of microbial fuel cell anodes. Bioresource Technology, 2011, 102, 395-398.	9.6	93
86	Mesh optimization for microbial fuel cell cathodes constructed around stainless steel mesh current collectors. Journal of Power Sources, 2011, 196, 1097-1102.	7.8	89
87	Polymer coatings as separator layers for microbial fuel cell cathodes. Journal of Power Sources, 2011, 196, 3009-3014.	7.8	37
88	Introduction of Multiple Hydrogen Bonding for Enhanced Mechanical Performance of Polymer-Carbon Nanotube Composites. Journal of Macromolecular Science - Pure and Applied Chemistry, 2011, 48, 1016-1021.	2.2	12
89	Investigation of ionic polymer cathode binders for microbial fuel cells. Electrochimica Acta, 2010, 55, 3398-3403.	5.2	45
90	Electrostatic Assembly of Poly(ethylene glycol) Nanotubes. Macromolecular Rapid Communications, 2010, 31, 745-751.	3.9	6

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91	Using microbial desalination cells to reduce water salinity prior to reverse osmosis. Energy and Environmental Science, 2010, 3, 1114.	30.8	262
92	Synthesis of Midblock-Sulfonated Triblock Copolymers. Macromolecules, 2010, 43, 599-601.	4.8	46
93	Microbial Fuel Cell Cathodes With Poly(dimethylsiloxane) Diffusion Layers Constructed around Stainless Steel Mesh Current Collectors. Environmental Science & Technology, 2010, 44, 1490-1495.	10.0	155
94	Morphology and transport properties of midblock-sulfonated triblock copolymers. Journal of Materials Chemistry, 2010, 20, 6316.	6.7	39
95	Use of Carbon Mesh Anodes and the Effect of Different Pretreatment Methods on Power Production in Microbial Fuel Cells. Environmental Science & Technology, 2009, 43, 6870-6874.	10.0	486
96	Pseudoâ€Living Anionic Telomerization of Butaâ€1,3â€diene. Macromolecular Chemistry and Physics, 2008, 209, 1983-1991.	2.2	4
97	Influence of Site-Specific Sulfonation on Acrylic Graft Copolymer Morphology. Macromolecules, 2008, 41, 3503-3512.	4.8	20
98	Structure of polyolâ€“ligand-containing polymer brush on the porous membrane for antimony(III) binding. Journal of Membrane Science, 2004, 236, 65-71.	8.2	24
99	Removal of Antimony (III) Using Polyol-Ligand-Containing Porous Hollow-Fiber Membranes. Separation Science and Technology, 2004, 39, 3011-3022.	2.5	30
100	High-speed recovery of antimony using chelating porous hollow-fiber membrane. Journal of Membrane Science, 2003, 214, 275-281.	8.2	47