

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	Materials for the Recovery of Uranium from Seawater. <i>Chemical Reviews</i> , 2017, 117, 13935-14013.	47.7	639
2	Use of Carbon Mesh Anodes and the Effect of Different Pretreatment Methods on Power Production in Microbial Fuel Cells. <i>Environmental Science & Technology</i> , 2009, 43, 6870-6874.	10.0	486
3	Recovery of Uranium from Seawater: A Review of Current Status and Future Research Needs. <i>Separation Science and Technology</i> , 2013, 48, 367-387.	2.5	400
4	Turning renewable resources into value-added polymer: development of lignin-based thermoplastic. <i>Green Chemistry</i> , 2012, 14, 3295.	9.0	341
5	Using microbial desalination cells to reduce water salinity prior to reverse osmosis. <i>Energy and Environmental Science</i> , 2010, 3, 1114.	30.8	262
6	Lignin-Derived Advanced Carbon Materials. <i>ChemSusChem</i> , 2015, 8, 3941-3958.	6.8	228
7	Synthesis and properties of polymerized ionic liquids. <i>European Polymer Journal</i> , 2017, 90, 245-272.	5.4	165
8	Superstretchable, Self-Healing Polymeric Elastomers with Tunable Properties. <i>Advanced Functional Materials</i> , 2018, 28, 1800741.	14.9	162
9	Ion Conduction in Polymerized Ionic Liquids with Different Pendant Groups. <i>Macromolecules</i> , 2015, 48, 4461-4470.	4.8	158
10	Microbial Fuel Cell Cathodes With Poly(dimethylsiloxane) Diffusion Layers Constructed around Stainless Steel Mesh Current Collectors. <i>Environmental Science & Technology</i> , 2010, 44, 1490-1495.	10.0	155
11	Controlling Interfacial Dynamics: Covalent Bonding versus Physical Adsorption in Polymer Nanocomposites. <i>ACS Nano</i> , 2016, 10, 6843-6852.	14.6	152
12	Development of lignin-based polyurethane thermoplastics. <i>RSC Advances</i> , 2013, 3, 21832.	3.6	145
13	Uranium recovery from seawater: development of fiber adsorbents prepared via atom-transfer radical polymerization. <i>Journal of Materials Chemistry A</i> , 2014, 2, 14674-14681.	10.3	138
14	Examination of the fundamental relation between ionic transport and segmental relaxation in polymer electrolytes. <i>Polymer</i> , 2014, 55, 4067-4076.	3.8	136
15	Unexpected Molecular Weight Effect in Polymer Nanocomposites. <i>Physical Review Letters</i> , 2016, 116, 038302.	7.8	134
16	Methanol Fractionation of Softwood Kraft Lignin: Impact on the Lignin Properties. <i>ChemSusChem</i> , 2014, 7, 221-228.	6.8	132
17	Nitrogen removal in a single-chamber microbial fuel cell with nitrifying biofilm enriched at the air cathode. <i>Water Research</i> , 2012, 46, 2215-2224.	11.3	131
18	Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization (ATRP) from Poly(vinyl Tj ETQqO O O rgBT /Overlock 10 TF 5 Engineering Chemistry Research, 2016, 55, 4139-4148.	3.7	128

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19	Rational Design of a Multifunctional Binder for High-Capacity Silicon-Based Anodes. ACS Energy Letters, 2019, 4, 1171-1180.	17.4	108
20	Separator Effect on Zinc Electrodeposition Behavior and Its Implication for Zinc Battery Lifetime. Nano Letters, 2021, 21, 10446-10452.	9.1	94
21	Effect of nitrogen addition on the performance of microbial fuel cell anodes. Bioresource Technology, 2011, 102, 395-398.	9.6	93
22	Elastic vitrimers: Beyond thermoplastic and thermoset elastomers. Matter, 2022, 5, 1391-1422.	10.0	90
23	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
24	Progress of 3D network binders in silicon anodes for lithium ion batteries. Journal of Materials Chemistry A, 2020, 8, 25548-25570.	10.3	88
25	Zeta Potential of Ion-Conductive Membranes by Streaming Current Measurements. Langmuir, 2011, 27, 4721-4727.	3.5	86
26	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
27	Patterned Functional Carbon Fibers from Polyethylene. Advanced Materials, 2012, 24, 2386-2389.	21.0	78
28	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
29	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
30	Polymers with Dynamic Bonds: Adaptive Functional Materials for a Sustainable Future. Journal of Physical Chemistry B, 2021, 125, 9389-9401.	2.6	66
31	Design of tough adhesive from commodity thermoplastics through dynamic crosslinking. Science Advances, 2021, 7, eabk2451.	10.3	66
32	Autonomous Self-Healing Elastomers with Unprecedented Adhesion Force. Advanced Functional Materials, 2021, 31, 2006298.	14.9	64
33	Pyrolysis Pathways of Sulfonated Polyethylene, an Alternative Carbon Fiber Precursor. Journal of the American Chemical Society, 2013, 135, 6130-6141.	13.7	60
34	Ultra-efficient polymer binder for silicon anode in high-capacity lithium-ion batteries. Nano Energy, 2020, 73, 104804.	16.0	57
35	Impact of Hydrogen Bonding on Dynamics of Hydroxyl-Terminated Polydimethylsiloxane. Macromolecules, 2016, 49, 3138-3147.	4.8	55
36	Recent Developments and Challenges in Hybrid Solid Electrolytes for Lithium-Ion Batteries. Frontiers in Energy Research, 2020, 8, .	2.3	52

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37	Neutral hydrophilic cathode catalyst binders for microbial fuel cells. <i>Energy and Environmental Science</i> , 2011, 4, 928-934.	30.8	50
38	High-speed recovery of antimony using chelating porous hollow-fiber membrane. <i>Journal of Membrane Science</i> , 2003, 214, 275-281.	8.2	47
39	Synthesis of Midblock-Sulfonated Triblock Copolymers. <i>Macromolecules</i> , 2010, 43, 599-601.	4.8	46
40	Uranium Adsorbent Fibers Prepared by Atom-Transfer Radical Polymerization from Chlorinated Polypropylene and Polyethylene Trunk Fibers. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 4130-4138.	3.7	46
41	Investigation of ionic polymer cathode binders for microbial fuel cells. <i>Electrochimica Acta</i> , 2010, 55, 3398-3403.	5.2	45
42	A star-shaped single lithium-ion conducting copolymer by grafting a POSS nanoparticle. <i>Polymer</i> , 2017, 124, 117-127.	3.8	45
43	Hydrogen-bond strength changes network dynamics in associating telechelic PDMS. <i>Soft Matter</i> , 2018, 14, 1235-1246.	2.7	43
44	Tailored crosslinking of Poly(ethylene oxide) enables mechanical robustness and improved sodium-ion conductivity. <i>Energy Storage Materials</i> , 2019, 21, 85-96.	18.0	43
45	The Role of Chain-End Association Lifetime in Segmental and Chain Dynamics of Telechelic Polymers. <i>Macromolecules</i> , 2018, 51, 8561-8573.	4.8	42
46	Anomalously high elastic modulus of a poly(ethylene oxide)-based composite electrolyte. <i>Energy Storage Materials</i> , 2021, 35, 431-442.	18.0	42
47	Well-designed Crosslinked Polymer Electrolyte Enables High Ionic Conductivity and Enhanced Salt Solvation. <i>Journal of the Electrochemical Society</i> , 2020, 167, 070539.	2.9	41
48	Elastic Single-Ion Conducting Polymer Electrolytes: Toward a Versatile Approach for Intrinsically Stretchable Functional Polymers. <i>Macromolecules</i> , 2020, 53, 3591-3601.	4.8	41
49	Synthesis of Naphthalimidedioxime Ligand-Containing Fibers for Uranium Adsorption from Seawater. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 4161-4169.	3.7	40
50	Viscoelasticity in associating oligomers and polymers: experimental test of the bond lifetime renormalization model. <i>Soft Matter</i> , 2020, 16, 390-401.	2.7	40
51	Morphology and transport properties of midblock-sulfonated triblock copolymers. <i>Journal of Materials Chemistry</i> , 2010, 20, 6316.	6.7	39
52	Polymer coatings as separator layers for microbial fuel cell cathodes. <i>Journal of Power Sources</i> , 2011, 196, 3009-3014.	7.8	37
53	Understanding the Static Interfacial Polymer Layer by Exploring the Dispersion States of Nanocomposites. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 17863-17872.	8.0	35
54	Characterization of Water in Proton-Conducting Membranes by Deuterium NMR T_1 Relaxation. <i>Journal of Physical Chemistry B</i> , 2011, 115, 776-783.	2.6	34

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55	Closed-loop additive manufacturing of upcycled commodity plastic through dynamic cross-linking. <i>Science Advances</i> , 2022, 8, .	10.3	33
56	Revealing the Charge Transport Mechanism in Polymerized Ionic Liquids: Insight from High Pressure Conductivity Studies. <i>Chemistry of Materials</i> , 2017, 29, 8082-8092.	6.7	32
57	Robust and Elastic Polymer Membranes with Tunable Properties for Gas Separation. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 26483-26491.	8.0	32
58	Impact of tuning CO ₂ -philicity in polydimethylsiloxane-based membranes for carbon dioxide separation. <i>Journal of Membrane Science</i> , 2017, 530, 213-219.	8.2	31
59	Improved Single-Ion Conductivity of Polymer Electrolyte via Accelerated Segmental Dynamics. <i>ACS Applied Energy Materials</i> , 2020, 3, 12540-12548.	5.1	31
60	Removal of Antimony (III) Using Polyol-Ligand-Containing Porous Hollow-Fiber Membranes. <i>Separation Science and Technology</i> , 2004, 39, 3011-3022.	2.5	30
61	What dielectric spectroscopy can tell us about supramolecular networks†. <i>European Physical Journal E</i> , 2019, 42, 133.	1.6	30
62	Ab Initio Screening of CO ₂ -philic Groups. <i>Journal of Physical Chemistry A</i> , 2015, 119, 3848-3852.	2.5	28
63	Influence of hydrophilic groups and metal-ion adsorption on polymer-chain conformation of amidoxime-based uranium adsorbents. <i>Journal of Colloid and Interface Science</i> , 2018, 524, 399-408.	9.4	27
64	Contact Doping with Sub-Å Monolayers of Strong Polyelectrolytes for Organic Photovoltaics. <i>Advanced Energy Materials</i> , 2014, 4, 1400439.	19.5	25
65	Gas separation mechanism of CO ₂ selective amidoxime-poly(1-trimethylsilyl-1-propyne) membranes. <i>Polymer Chemistry</i> , 2017, 8, 3341-3350.	3.9	25
66	Structure of polyol-ligand-containing polymer brush on the porous membrane for antimony(III) binding. <i>Journal of Membrane Science</i> , 2004, 236, 65-71.	8.2	24
67	Graphene Oxide as a Radical Initiator: Free Radical and Controlled Radical Polymerization of Sodium 4-Vinylbenzenesulfonate with Graphene Oxide. <i>ACS Macro Letters</i> , 2016, 5, 199-202.	4.8	24
68	Mechanically Robust, Sodium-Ion Conducting Membranes for Nonaqueous Redox Flow Batteries. <i>ACS Energy Letters</i> , 2018, 3, 1640-1647.	17.4	22
69	Effect of Cross-Link Density on Carbon Dioxide Separation in Polydimethylsiloxane-Norbornene Membranes. <i>ChemSusChem</i> , 2015, 8, 3595-3604.	6.8	21
70	Additive manufacturing of strong silica sand structures enabled by polyethyleneimine binder. <i>Nature Communications</i> , 2021, 12, 5144.	12.8	21
71	Influence of Site-Specific Sulfonation on Acrylic Graft Copolymer Morphology. <i>Macromolecules</i> , 2008, 41, 3503-3512.	4.8	20
72	Tailored CO ₂ -philic Gas Separation Membranes via One-Pot Thiol-ene Chemistry. <i>Macromolecules</i> , 2019, 52, 5819-5828.	4.8	20

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73	Rational Polymer Design of Stretchable Poly(ionic liquid) Membranes for Dual Applications. <i>Macromolecules</i> , 2021, 54, 896-905.	4.8	19
74	Membrane design for non-aqueous redox flow batteries: Current status and path forward. <i>CheM</i> , 2022, 8, 1611-1636.	11.7	16
75	Ion Conduction in Poly(ethylene oxide) Ionically Assembled Complexes. <i>Macromolecules</i> , 2011, 44, 9723-9730.	4.8	15
76	Tunable synthetic control of soft polymeric nanoparticle morphology. <i>Soft Matter</i> , 2017, 13, 8849-8857.	2.7	15
77	All-aerosol-jet-printed highly sensitive and selective polyaniline-based ammonia sensors: a route toward low-cost, low-power gas detection. <i>Journal of Materials Science</i> , 2021, 56, 12596-12606.	3.7	15
78	Relative Size of the Polymer and Nanoparticle Controls Polymer Diffusion in All-Polymer Nanocomposites. <i>Macromolecules</i> , 2019, 52, 2843-2852.	4.8	14
79	Gel composite electrolyte "an effective way to utilize ceramic fillers in lithium batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 6555-6566.	10.3	14
80	Introduction of Multiple Hydrogen Bonding for Enhanced Mechanical Performance of Polymer-Carbon Nanotube Composites. <i>Journal of Macromolecular Science - Pure and Applied Chemistry</i> , 2011, 48, 1016-1021.	2.2	12
81	A Rayleighian approach for modeling kinetics of ionic transport in polymeric media. <i>Journal of Chemical Physics</i> , 2017, 146, 064902.	3.0	12
82	Turning Rubber into a Glass: Mechanical Reinforcement by Microphase Separation. <i>ACS Macro Letters</i> , 2021, 10, 197-202.	4.8	12
83	Lignin Based Carbon Materials for Energy Storage Applications. <i>ACS Symposium Series</i> , 2014, , 203-218.	0.5	11
84	Upcycling of semicrystalline polymers by compatibilization: mechanism and location of compatibilizers. <i>RSC Advances</i> , 2022, 12, 10886-10894.	3.6	10
85	Structural correlations tailor conductive properties in polymerized ionic liquids. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 14775-14785.	2.8	9
86	Mechanism of Soft Nanoparticle Diffusion in Entangled Polymer Melts. <i>Macromolecules</i> , 2020, 53, 7580-7589.	4.8	9
87	Impact of Diblock Copolymers on Droplet Coalescence, Emulsification, and Aggregation in Immiscible Homopolymer Blends. <i>Langmuir</i> , 2012, 28, 2347-2356.	3.5	8
88	Electrostatic Assembly of Poly(ethylene glycol) Nanotubes. <i>Macromolecular Rapid Communications</i> , 2010, 31, 745-751.	3.9	6
89	Lignin-Derived Carbon Fibers. , 2016, , 207-216.		6
90	Highly Permeable Oligo(ethylene oxide)-co-poly(dimethylsiloxane) Membranes for Carbon Dioxide Separation. <i>Advanced Sustainable Systems</i> , 2018, 2, 1700113.	5.3	6

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91	Solvent Fractionation of Lignin. ACS Symposium Series, 2014, , 153-168.	0.5	5
92	Pseudo-Living Anionic Telomerization of Buta-1,3-diene. Macromolecular Chemistry and Physics, 2008, 209, 1983-1991.	2.2	4
93	Carbon Fibers: Patterned Functional Carbon Fibers from Polyethylene (Adv. Mater. 18/2012). Advanced Materials, 2012, 24, 2506-2506.	21.0	4
94	Design, synthesis, and characterization of lightly sulfonated multigraft acrylate-based copolymer superelastomers. RSC Advances, 2018, 8, 5090-5098.	3.6	4
95	Self-Healing Elastomers: Autonomous Self-Healing Elastomers with Unprecedented Adhesion Force (Adv. Funct. Mater. 4/2021). Advanced Functional Materials, 2021, 31, 2170025.	14.9	4
96	Effect of Cross-Link Density on Carbon Dioxide Separation in Polydimethylsiloxane-Norbornene Membranes. ChemSusChem, 2015, 8, 3524-3524.	6.8	2
97	Polymer Chain Diffusion in All-Polymer Nanocomposites: Confinement vs Chain Acceleration. Journal of Physical Chemistry C, 2020, 124, 18834-18839.	3.1	2
98	Photopatterning of two stage reactive polymer networks with CO ₂ -philic thiol-acrylate chemistry: enhanced mechanical toughness and CO ₂ /N ₂ selectivity. Polymer Chemistry, 2022, 13, 2495-2505.	3.9	2
99	Selective Plasticization of Poly (ethylene oxide) (PEO) Block in Nanostructured Polystyrene-PEO Polystyrene Triblock Copolymer Electrolytes. Journal of the Electrochemical Society, 2022, 169, 050506.	2.9	1
100	Effect of Solvent Quality and Monomer Water Solubility on Soft Nanoparticle Morphology. ACS Symposium Series, 2018, , 117-137.	0.5	0