Christopher G Arges

List of Publications by Year
in descending order

69 papers	2,710 citations	186209 28 h-index	182361 51 g-index
71 all docs	71 docs citations	71 times ranked	2801 citing authors

#	Article	IF	Citations
1	Two-dimensional NMR spectroscopy reveals cation-triggered backbone degradation in polysulfone-based anion exchange membranes. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 2490-2495.	3.3	416
2	Anion Exchange Membranesâ€™ Evolution toward High Hydroxide Ion Conductivity and Alkaline Resiliency. ACS Applied Energy Materials, 2018, 1, 2991-3012.	2.5	211
3	Assessing the influence of different cation chemistries on ionic conductivity and alkaline stability of anion exchange membranes. Journal of Materials Chemistry, 2012, 22, 3733.	6.7	156
4	Investigation of polymer electrolyte membrane chemical degradation and degradation mitigation using in situ fluorescence spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1029-1034.	3.3	128
5	Degradation of anion exchange membranes used for hydrogen production by ultrapure water electrolysis. RSC Advances, 2014, 4, 9875.	1.7	128
6	Polysulfone-based anion exchange membranes demonstrate excellent chemical stability and performance for the all-vanadium redox flow battery. Journal of Materials Chemistry A, 2013, 1, 10458.	5.2	97
7	Directed Self-Assembly of Polystyrene-<i>b</i>-poly(propylene carbonate) on Chemical Patterns via Thermal Annealing for Next Generation Lithography. Nano Letters, 2017, 17, 1233-1239.	4.5	97
8	The Chalkboard: Anion Exchange Membrane Fuel Cells. Electrochemical Society Interface, 2010, 19, 31-35.	0.3	93
9	Best Practices for Investigating Anion Exchange Membrane Suitability for Alkaline Electrochemical Devices: Case Study Using Quaternary Ammonium Poly(2,6-dimethyl 1,4-phenylene)oxide Anion Exchange Membranes. Journal of the Electrochemical Society, 2013, 160, F1258-F1274.	1.3	85
10	Investigation of Cation Degradation in Anion Exchange Membranes Using Multi-Dimensional NMR Spectroscopy. Journal of the Electrochemical Society, 2013, 160, F1006-F1021.	1.3	74
11	A perfluorinated anion exchange membrane with a 1,4-dimethylpiperazinium cation. Journal of Materials Chemistry, 2011, 21, 6158.	6.7	63
12	Mechanically Stable Poly(arylene ether) Anion Exchange Membranes Prepared from Commercially Available Polymers for Alkaline Electrochemical Devices. Journal of the Electrochemical Society, 2015, 162, F686-F693.	1.3	51
13	Interconnected ionic domains enhance conductivity in microphase separated block copolymer electrolytes. Journal of Materials Chemistry A, 2017, 5, 5619-5629.	5.2	50
14	Separators with Biomineralized Zirconia Coatings for Enhanced Thermo- and Electro-Performance of Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2017, 9, 21971-21978.	4.0	50
15	Role of Defects in Ion Transport in Block Copolymer Electrolytes. Nano Letters, 2019, 19, 4684-4691.	4.5	48
16	Synthesis and Alkaline Stability of Solubilized Anion Exchange Membrane Binders Based on Poly(phenylene oxide) Functionalized with Quaternary Ammonium Groups via a Hexyl Spacer. Journal of the Electrochemical Society, 2015, 162, F1236-F1242.	1.3	47
17	Low-Resistant Ion-Exchange Membranes for Energy Efficient Membrane Capacitive Deionization. ACS Sustainable Chemistry and Engineering, 2018, 6, 13778-13786.	3.2	46
18	Perpendicularly Aligned, Anion Conducting Nanochannels in Block Copolymer Electrolyte Films. Chemistry of Materials, 2016, 28, 1377-1389.	3.2	45

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19	A Solid-State and Flexible Supercapacitor That Operates across a Wide Temperature Range. ACS Applied Energy Materials, 2020, 3, 5693-5704.	2.5	45
20	Low-Temperature Electrochemical Upgrading of Bio-oils Using Polymer Electrolyte Membranes. Energy & Fuels, 2018, 32, 5944-5950.	2.5	42
21	High Power Thermally Regenerative Ammonia-Copper Redox Flow Battery Enabled by a Zero Gap Cell Design, Low-Resistant Membranes, and Electrode Coatings. ACS Applied Energy Materials, 2020, 3, 4787-4798.	2.5	42
22	Stable and Highly Conductive Polycationâ€“Polybenzimidazole Membrane Blends for Intermediate Temperature Polymer Electrolyte Membrane Fuel Cells. ACS Applied Energy Materials, 2020, 3, 573-585.	2.5	41
23	Bipolar polymer electrolyte interfaces for hydrogenâ€“oxygen and direct borohydride fuel cells. International Journal of Hydrogen Energy, 2014, 39, 14312-14321.	3.8	40
24	Probing Every Layer in Dendrons. Journal of the American Chemical Society, 2005, 127, 2020-2021.	6.6	34
25	Microbial desalination cell with sulfonated sodium poly(ether ether ketone) as cation exchange membranes for enhancing power generation and salt reduction. Bioelectrochemistry, 2018, 121, 176-184.	2.4	31
26	Investigation of patterned and non-patterned poly(2,6-dimethyl 1,4-phenylene) oxide based anion exchange membranes for enhanced desalination and power generation in a microbial desalination cell. Solid State Ionics, 2018, 314, 141-148.	1.3	30
27	Effect of Guest Molecule Flexibility in Access to Dendritic Interiors. Organic Letters, 2005, 7, 2809-2812.	2.4	29
28	Effect of Oxidation Level on the Interfacial Water at the Graphene Oxideâ€“Water Interface: From Spectroscopic Signatures to Hydrogen-Bonding Environment. Journal of Physical Chemistry B, 2020, 124, 8167-8178.	1.2	27
29	Quarternary Ammonium and Phosphonium Based Anion Exchange Membranes for Alkaline Fuel Cells. ECS Transactions, 2010, 33, 1903-1913.	0.3	26
30	Ion Conduction in Microphase-Separated Block Copolymer Electrolytes. Electrochemical Society Interface, 2017, 26, 61-67.	0.3	23
31	Anion Exchange Membranes (AEMs) with Perfluorinated and Polysulfone Backbones with Different Cation Chemistries. ECS Transactions, 2011, 41, 1795-1816.	0.3	22
32	Directed Self-Assembly of Colloidal Particles onto Nematic Liquid Crystalline Defects Engineered by Chemically Patterned Surfaces. ACS Nano, 2017, 11, 6492-6501.	7.3	22
33	Advancing electrodeionization with conductive ionomer binders that immobilize ion-exchange resin particles into porous wafer substrates. Npj Clean Water, 2020, 3, .	3.1	21
34	In situ fluorescence spectroscopy correlates ionomer degradation to reactive oxygen species generation in an operating fuel cell. Physical Chemistry Chemical Physics, 2013, 15, 18965.	1.3	20
35	The Solvent Distribution Effect on the Self-Assembly of Symmetric Triblock Copolymers during Solvent Vapor Annealing. Macromolecules, 2018, 51, 7145-7151.	2.2	20
36	Counterion condensation or lack of solvation? Understanding the activity of ions in thin film block copolymer electrolytes. Journal of Materials Chemistry A, 2020, 8, 15962-15975.	5.2	20

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37	Promoting water-splitting in Janus bipolar ion-exchange resin wafers for electrodeionization. Molecular Systems Design and Engineering, 2020, 5, 922-935.	1.7	20
38	Bipolar membrane polarization behavior with systematically varied interfacial areas in the junction region. Journal of Materials Chemistry A, 2021, 9, 2223-2238.	5.2	20
39	Electrochemical Pumping for Challenging Hydrogen Separations. ACS Energy Letters, 2022, 7, 1322-1329.	8.8	17
40	Rapid and Direct Perfluorooctanoic Acid Sensing with Selective Ionomer Coatings on Screen-Printed Electrodes under Environmentally Relevant Concentrations. ACS Omega, 2022, 7, 5001-5007.	1.6	16
41	Peptide-Modified Electrode Surfaces for Promoting Anion Exchange Ionomer Microphase Separation and Ionic Conductivity. , 2019, 1, 467-475.		14
42	Machine learning for guiding high-temperature PEM fuel cells with greater power density. Patterns, 2021, 2, 100187.	3.1	14
43	Electrolysis on a Chip with Tunable Thin Film Nanostructured PGM Electrocatalysts Generated from Selfâ€Assembled Block Copolymer Templates. Small, 2021, 17, e2100437.	5.2	14
44	Ionic conductivity and counterion condensation in nanoconfined polycation and polyanion brushes prepared from block copolymer templates. Molecular Systems Design and Engineering, 2019, 4, 365-378.	1.7	13
45	Understanding the ionic activity and conductivity value differences between random copolymer electrolytes and block copolymer electrolytes of the same chemistry. RSC Advances, 2021, 11, 15078-15084.	1.7	12
46	Correlating high temperature thin film ionomer electrode binder properties to hydrogen pump polarization. Materials Advances, 2021, 2, 4228-4234.	2.6	10
47	Simple and facile synthesis of water-soluble poly(phosphazenium) polymer electrolytes. RSC Advances, 2014, 4, 61869-61876.	1.7	9
48	Directed Selfâ€Assembly of Hierarchical Supramolecular Block Copolymer Thin Films on Chemical Patterns. Advanced Materials Interfaces, 2016, 3, 1600048.	1.9	9
49	Imidazolium-Type Anion Exchange Membranes for Improved Organic Acid Transport and Permselectivity in Electrodialysis. Journal of the Electrochemical Society, 2022, 169, 043511.	1.3	9
50	An In Situ Probe for Investigating PEM Degradation Kinetics and Degradation Mitigation. ECS Transactions, 2011, 41, 1347-1357.	0.3	6
51	Alkaline Stability and Ion Conductivity of Polysulfone Anion Exchange Membranes (AEMs) with Different Cation Chemistries. ECS Transactions, 2013, 50, 2183-2197.	0.3	6
52	Controlling domain orientation of liquid crystalline block copolymer in thin films through tuning mesogenic chemical structures. Journal of Polymer Science, Part B: Polymer Physics, 2017, 55, 532-541.	2.4	6
53	PemNet: A Transfer Learning-Based Modeling Approach of High-Temperature Polymer Electrolyte Membrane Electrochemical Systems. Industrial & Engineering Chemistry Research, 2022, 61, 3350-3357.	1.8	6
54	Combined main-chain/side-chain ionic liquid crystalline polymer based on â€˜jacketingâ€™ effect: Design, synthesis, supra-molecular self-assembly and photophysical properties. EXPRESS Polymer Letters, 2015, 9, 536-553.	1.1	4

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55	Waterâ€soluble top coats for orientation control of liquid crystalâ€containing block copolymer films. Journal of Polymer Science, Part B: Polymer Physics, 2017, 55, 1569-1574.	2.4	3
56	Addressing Spacer Channel Resistances in MCDI Using Porous and Pliable Ionic Conductors. Journal of the Electrochemical Society, 2021, 168, 033503.	1.3	3
57	Assessing the Oxidative Stability of Anion Exchange Membranes in Oxygen Saturated Aqueous Alkaline Solutions. Frontiers in Energy Research, 2022, 10, .	1.2	2
58	Investigation of PEM Degradation Kinetics and Degradation Mitigation Using In Situ Fluorescence Spectroscopy and Real-Time Monitoring of Fluoride-Ion Release. ECS Transactions, 2013, 50, 935-944.	0.3	1
59	Investigation of Molecular Probes Sensitivity to the Fenton Reaction Using Fluorescence Spectroscopy. ECS Transactions, 2010, 33, 889-897.	0.3	0
60	Interdisciplinary Research for Next Generation Electrolytes Used in Electrochemical Systems. Electrochemical Society Interface, 2017, 26, 47-47.	0.3	0
61	Electrodeionization of Organic Acids Using Porous Bipolar Resin Wafers. ECS Meeting Abstracts, 2021, MA2021-01, 970-970.	0.0	0
62	Electrochemical Properties of High-Temperature Polymer Electrolyte Thin Films. ECS Meeting Abstracts, 2021, MA2021-01, 1191-1191.	0.0	0
63	Mesoscale Control of PGM Electrocatalysts Using Self-Assembled Block Copolymer Templates. ECS Meeting Abstracts, 2021, MA2021-01, 1206-1206.	0.0	0
64	Bipolar Membranes with Systematically Varied Interfacial Areas in the Junction Region. ECS Meeting Abstracts, 2021, MA2021-01, 1826-1826.	0.0	0
65	(Invited) Ionomer Adhesives, Coatings, and Membranes for Electrochemical Separations. ECS Meeting Abstracts, 2021, MA2021-02, 765-765.	0.0	0
66	A Versatile High-Temperature Electrochemical Pump for Hydrogen Separations. ECS Meeting Abstracts, 2021, MA2021-02, 754-754.	0.0	0
67	(Invited) Reaction Kinetics and Gas Permeability Properties of Thin Film Ionomers for High-Temperature Polymer Electrolyte Membrane Systems. ECS Meeting Abstracts, 2021, MA2021-02, 1119-1119.	0.0	0
68	Block Copolymer Templated Platinum Electrocatalysts from Various Fabrication Pathways: A Comparative Study. ECS Meeting Abstracts, 2021, MA2021-02, 1174-1174.	0.0	0
69	Micro and Nanopatterned Ion Exchange Membranes for Applications in Electrochemical Devices. ECS Meeting Abstracts, 2021, MA2021-02, 745-745.	0.0	0