Steve G Greenbaum

List of Publications by Year
in descending order

127 papers	6,287 citations	81900 39 h-index	74163 75 g-index
131 all docs	131 docs citations	131 times ranked	7123 citing authors

#	Article	IF	Citations
1	Evolution of microscopic heterogeneity and dynamics in choline chloride-based deep eutectic solvents. Nature Communications, 2022, 13, 219.	12.8	42
2	Glyme-based electrolytes: suitable solutions for next-generation lithium batteries. Green Chemistry, 2022, 24, 1021-1048.	9.0	28
3	Dynamics of Glyceline and Interactions of Constituents: A Multitechnique NMR Study. Journal of Physical Chemistry B, 2022, 126, 890-905.	2.6	14
4	Interplay between coordination, dynamics, and conductivity mechanism in Mg/Al-catenated ionic liquid electrolytes. Journal of Power Sources, 2022, 524, 231084.	7.8	6
5	Nanoscale Hybrid Electrolytes with Viscosity Controlled Using Ionic Stimulus for Electrochemical Energy Conversion and Storage. Jacs Au, 2022, 2, 590-600.	7.9	5
6	Broadband NMR relaxometry of electrolytes for energy storage. Chemical Physics Reviews, 2022, 3, .	5.7	5
7	Acidâ€inâ€Clay Electrolyte for Wideâ€Temperatureâ€Range and Longâ€Cycle Proton Batteries. Advanced Materials, 2022, 34, e2202063.	21.0	16
8	A sobering examination of the feasibility of aqueous aluminum batteries. Energy and Environmental Science, 2022, 15, 2460-2469.	30.8	27
9	Quantifying Lithium Ion Exchange in Solid Electrolyte Interphase (SEI) on Graphite Anode Surfaces. Inorganics, 2022, 10, 64.	2.7	1
10	Water Domain Enabled Transport in Polymer Electrolytes for Lithium-Ion Batteries. Macromolecules, 2021, 54, 2882-2891.	4.8	6
11	Examining the Impact of Polyzwitterion Chemistry on Lithium Ion Transport in Ionogel Electrolytes. ACS Applied Polymer Materials, 2021, 3, 2635-2645.	4.4	26
12	Molecular-level insights into structure and dynamics in ionic liquids and polymer gel electrolytes. Journal of Molecular Liquids, 2021, 329, 115454.	4.9	13
13	Transport studies of NaPF6 carbonate solvents-based sodium ion electrolytes. Electrochimica Acta, 2021, 377, 138062.	5.2	18
14	Hybrid twin-metal aluminumâ€“magnesium electrolytes for rechargeable batteries. Journal of Power Sources, 2021, 493, 229681.	7.8	11
15	NMR Investigation of Transport in Polybenzimidazole/Polyphosphoric Acid Membranes Prepared Via Novel Synthesis Route. ECS Meeting Abstracts, 2021, MA2021-01, 70-70.	0.0	0
16	Solvation Dynamics of Wet Ethaline: Water is the Magic Component. Journal of Physical Chemistry B, 2021, 125, 8888-8901.	2.6	32
17	Investigation of glass-ceramic lithium thiophosphate solid electrolytes using NMR and neutron scattering. Materials Today Physics, 2021, 21, 100478.	6.0	5
18	CO₂ utilization in built environment via the P_{CO2} swing carbonation of alkaline solid wastes with different mineralogy. Faraday Discussions, 2021, 230, 187-212.	3.2	20

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19	Copper-coordinated cellulose ion conductors for solid-state batteries. Nature, 2021, 598, 590-596.	27.8	262
20	High-temperature and high-pressure NMR investigations of low viscous fluids confined in mesoporous systems. Zeitschrift Fur Physikalische Chemie, 2021, .	2.8	1
21	Review of Multivalent Metal Ion Transport in Inorganic and Solid Polymer Electrolytes. Batteries, 2021, 7, 3.	4.5	17
22	Extremely High Proton Mobility in Nanoscopic Titania Hydrates. ECS Meeting Abstracts, 2021, MA2021-02, 1295-1295.	0.0	0
23	Plasticized 3D-Printed Polymer Electrolytes for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2021, 168, 110549.	2.9	10
24	Water Domain Enabled Transport and Enhanced Stability in Aqueous Solid Polymer-in-Salt Electrolytes for Lithium-Ion Batteries. ECS Meeting Abstracts, 2021, MA2021-02, 265-265.	0.0	0
25	NMR Relaxometry and Diffusometry Analysis of Dynamics in Ionic Liquids and Ionogels for Use in Lithium-Ion Batteries. Journal of Physical Chemistry B, 2020, 124, 6843-6856.	2.6	30
26	Li-Ion Diffusion in Nanoconfined LiBH₄-LiI/Al₂O₃: From 2D Bulk Transport to 3D Long-Range Interfacial Dynamics. ACS Applied Materials & Interfaces, 2020, 12, 38570-38583.	8.0	26
27	NMR Investigations of Crystalline and Glassy Solid Electrolytes for Lithium Batteries: A Brief Review. International Journal of Molecular Sciences, 2020, 21, 3402.	4.1	21
28	Modulation of Cation Diffusion by Reversible Supramolecular Assemblies in Ionic Liquid-Based Nanocomposites. ACS Applied Materials & Interfaces, 2020, 12, 31842-31851.	8.0	2
29	A Nuclear Magnetic Resonance Study of Cation and Anion Dynamics in Polymerâ€“Ceramic Composite Solid Electrolytes. ACS Applied Polymer Materials, 2020, 2, 1180-1189.	4.4	25
30	A 63 m Superconcentrated Aqueous Electrolyte for High-Energy Li-Ion Batteries. ACS Energy Letters, 2020, 5, 968-974.	17.4	197
31	Countersolvent Electrolytes for Lithiumâ€Metal Batteries. Advanced Energy Materials, 2020, 10, 1903568.	19.5	200
32	Multiscale and Multimodal Characterization of 2D Titanium Carbonitride MXene. Advanced Materials Interfaces, 2020, 7, 1902207.	3.7	35
33	29Si solid state MAS NMR study on leaching behaviors and chemical stability of different Mg-silicate structures for CO2 sequestration. Chemical Engineering Journal, 2020, 396, 125204.	12.7	31
34	Ion transport and association study of glyme-based electrolytes with lithium and sodium salts. Electrochimica Acta, 2019, 304, 239-245.	5.2	33
35	Alkyl chain length effects of hydroxyl-functionalized imidazolium ionic liquids in the ionothermal synthesis of LiFePO₄. Phosphorus, Sulfur and Silicon and the Related Elements, 2019, 194, 292-296.	1.6	2
36	Local structural changes due to the electric fieldâ€induced migration of oxygen vacancies at Feâ€doped SrTiO₃ interfaces. Journal of the American Ceramic Society, 2019, 102, 4353-4366.	3.8	12

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37	Graphene oxide and sulfonated-derivative: Proton transport properties and electrochemical behavior of Nafion-based nanocomposites. Electrochimica Acta, 2019, 297, 240-249.	5.2	37
38	An alternative route to single ion conductivity using multi-ionic salts. Materials Horizons, 2018, 5, 461-473.	12.2	24
39	Enhanced Lithium Oxygen Battery Using a Glyme Electrolyte and Carbon Nanotubes. ACS Applied Materials & Interfaces, 2018, 10, 16367-16375.	8.0	21
40	Fluorine-donating electrolytes enable highly reversible 5-V-class Li metal batteries. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1156-1161.	7.1	512
41	Anisotropic Ion Diffusion and Electrochemically Driven Transport in Nanostructured Block Copolymer Electrolytes. Journal of Physical Chemistry B, 2018, 122, 1537-1544.	2.6	39
42	A simple approach for making a viable, safe, and high-performances lithium-sulfur battery. Journal of Power Sources, 2018, 377, 26-35.	7.8	67
43	Connection between Lithium Coordination and Lithium Diffusion in [Pyr_{12O1}][FTFSI] Ionic Liquid Electrolytes. ChemSusChem, 2018, 11, 1981-1989.	6.8	46
44	Formation of structural defects and strain in electrodegraded Feâ€doped SrTiO₃ crystals due to oxygen vacancy migration. Journal of the American Ceramic Society, 2018, 101, 2545-2561.	3.8	21
45	Correlating Li⁺-Solvation Structure and its Electrochemical Reaction Kinetics with Sulfur in Subnano Confinement. Journal of Physical Chemistry Letters, 2018, 9, 1739-1745.	4.6	26
46	Hybrid Aqueous/Non-aqueous Electrolyte for Safe and High-Energy Li-Ion Batteries. Joule, 2018, 2, 927-937.	24.0	303
47	Defect chemistry and electrical properties of garnet-type Li₇La₃Zr₂O₁₂. Physical Chemistry Chemical Physics, 2018, 20, 1447-1459.	2.8	64
48	Cellulose, Cellobiose, and Glucose Cause Similar Decreases to Molar Conductivity and Drastically Different Increases to Dynamic Viscosity of 1-Ethyl-3-Methylimidazoilum Acetate Based Solvents. ECS Transactions, 2018, 86, 257-268.	0.5	0
49	Review of Recent Nuclear Magnetic Resonance Studies of Ion Transport in Polymer Electrolytes. Membranes, 2018, 8, 120.	3.0	30
50	Improved Anisotropic Thermoelectric Behavior of Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) via Magnetophoresis. ACS Omega, 2018, 3, 12554-12561.	3.5	8
51	Fundamental Limitations of Ionic Conductivity in Polymerized Ionic Liquids. Macromolecules, 2018, 51, 8637-8645.	4.8	103
52	Detection of Nanoscale Structural Defects in Degraded Fe-Doped SrTiO₃ by Ultrafast Photoacoustic Waves. Journal of Physical Chemistry C, 2018, 122, 12864-12868.	3.1	8
53	Multinuclear magnetic resonance investigation of cation-anion and anion-solvent interactions in carbonate electrolytes. Journal of Power Sources, 2018, 399, 215-222.	7.8	19
54	Polymer Capacitor Dielectrics for High Temperature Applications. ACS Applied Materials & Interfaces, 2018, 10, 29189-29218.	8.0	220

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55	Lithium sulfur and lithium oxygen batteries: new frontiers of sustainable energy storage. Sustainable Energy and Fuels, 2017, 1, 228-247.	4.9	66
56	Characteristics of glyme electrolytes for sodium battery: nuclear magnetic resonance and electrochemical study. Electrochimica Acta, 2017, 231, 223-229.	5.2	39
57	Investigation of Dynamics in BMIM TFSA Ionic Liquid through Variable Temperature and Pressure NMR Relaxometry and Diffusometry. Journal of the Electrochemical Society, 2017, 164, H5189-H5196.	2.9	24
58	Relevant Features of a Triethylene Glycol Dimethyl Ether-Based Electrolyte for Application in Lithium Battery. ACS Applied Materials & Interfaces, 2017, 9, 17085-17095.	8.0	24
59	Solvation behavior of carbonate-based electrolytes in sodium ion batteries. Physical Chemistry Chemical Physics, 2017, 19, 574-586.	2.8	152
60	Polymeric peptide pigments with sequence-encoded properties. Science, 2017, 356, 1064-1068.	12.6	244
61	A Rayleighian approach for modeling kinetics of ionic transport in polymeric media. Journal of Chemical Physics, 2017, 146, 064902.	3.0	12
62	Liquid Structure with Nano-Heterogeneity Promotes Cationic Transport in Concentrated Electrolytes. ACS Nano, 2017, 11, 10462-10471.	14.6	283
63	Chemical and Electrical Dynamics of Polyimide Film Damaged by Electron Radiation. IEEE Transactions on Plasma Science, 2017, 45, 2573-2577.	1.3	29
64	Carbon Composites for a Highâ€Energy Lithiumâ€“Sulfur Battey with a Glymeâ€Based Electrolyte. ChemElectroChem, 2017, 4, 209-215.	3.4	26
65	Investigation of Electric Fieldâ€“Induced Structural Changes at Fe-Doped SrTiO3 Anode Interfaces by Second Harmonic Generation. Materials, 2016, 9, 883.	2.9	9
66	Enhancement of proton mobility and mitigation of methanol crossover in sPEEK fuel cells by an organically modified titania nanofiller. Journal of Solid State Electrochemistry, 2016, 20, 1585-1598.	2.5	30
67	Natural Abundance Oxygen-17 NMR Investigation of Lithium Ion Solvation in Glyme-based Electrolytes. Electrochimica Acta, 2016, 213, 606-612.	5.2	26
68	Insight on the Li₂S electrochemical process in a composite configuration electrode. New Journal of Chemistry, 2016, 40, 2935-2943.	2.8	18
69	A Key concept in Magnesium Secondary Battery Electrolytes. ChemSusChem, 2015, 8, 3069-3076.	6.8	54
70	NMR Studies of Solvent-Free Ceramic Composite Polymer Electrolytesâ€”A Brief Review. Membranes, 2015, 5, 915-923.	3.0	11
71	Comparative Study of Ether-Based Electrolytes for Application in Lithiumâ€“Sulfur Battery. ACS Applied Materials & Interfaces, 2015, 7, 13859-13865.	8.0	95
72	An Iodide-Based Li₇P₂S₈I Superionic Conductor. Journal of the American Chemical Society, 2015, 137, 1384-1387.	13.7	298

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73	Solid Polymer-in-Ceramic Electrolyte Formed by Electrophoretic Deposition. Journal of the Electrochemical Society, 2015, 162, D3084-D3089.	2.9	26
74	Polyethylene glycol dimethyl ether (PEGDME)-based electrolyte for lithium metal battery. Journal of Power Sources, 2015, 299, 460-464.	7.8	52
75	Interactions between water and 1-butyl-1-methylpyrrolidinium ionic liquids. Journal of Chemical Physics, 2015, 143, 064503.	3.0	40
76	Properties of polycarbonate containing BaTiO3nanoparticles. Journal of Applied Physics, 2014, 115, 104103.	2.5	7
77	Vanadium Doped Nanostructured TiO2 Dielectrics. Materials Research Society Symposia Proceedings, 2014, 1645, 1.	0.1	1
78	Charge transfer in Li/CFxâ€“silver vanadium oxide hybrid cathode batteries revealed by solid state 7Li and 19F nuclear magnetic resonance spectroscopy. Journal of Power Sources, 2014, 254, 293-297.	7.8	25
79	Structural Evolution and Li Dynamics in Nanophase Li₃PS₄ by Solid-State and Pulsed-Field Gradient NMR. Chemistry of Materials, 2014, 26, 3558-3564.	6.7	60
80	New battery strategies with a polymer/Al2O3 separator. Journal of Power Sources, 2014, 263, 52-58.	7.8	74
81	Subsurface diffusion of oxide electrolyte decomposition products in metal fluoride nanocomposite electrodes. Electrochimica Acta, 2013, 88, 735-744.	5.2	28
82	A structural, spectroscopic and electrochemical study of a lithium ion conducting Li10GeP2S12 solid electrolyte. Journal of Power Sources, 2013, 229, 117-122.	7.8	84
83	Recent progress in NMR spectroscopy of polymer electrolytes for lithium batteries. Current Opinion in Colloid and Interface Science, 2013, 18, 228-244.	7.4	35
84	Understanding Li⁺â€“Solvent Interaction in Nonaqueous Carbonate Electrolytes with ¹⁷O NMR. Journal of Physical Chemistry Letters, 2013, 4, 1664-1668.	4.6	268
85	Cation only conduction in new polymerâ€“SiO2 nanohybrids: Na+ electrolytes. Journal of Materials Chemistry A, 2013, 1, 8348.	10.3	57
86	Influence of Solvent on Ion Aggregation and Transport in PY₁₅TFSI Ionic Liquidâ€“Aprotic Solvent Mixtures. Journal of Physical Chemistry B, 2013, 117, 10581-10588.	2.6	35
87	Solid-state nuclear magnetic resonance studies of electrochemically discharged CF. Journal of Power Sources, 2011, 196, 5659-5666.	7.8	22
88	Solid-State NMR Studies of Chemically Lithiated CF[sub x]. Journal of the Electrochemical Society, 2010, 157, A148.	2.9	23
89	Nuclear magnetic resonance of polymer electrolyte membrane fuel cells. Chemical Record, 2010, 10, 377-393.	5.8	15
90	NMR and Raman spectroscopic characterization of single walled carbon nanotube composites of polybutadiene. Journal of Materials Research, 2009, 24, 2215-2220.	2.6	3

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91	Lithium-Ion-Conducting Electrolytes: From an Ionic Liquid to the Polymer Membrane. Journal of the Electrochemical Society, 2009, 156, A514.	2.9	62
92	NMR investigation of water and methanol mobility in nanocomposite fuel cell membranes. Ionics, 2008, 14, 243-253.	2.4	27
93	Ferromagnetic resonance studies of surface and bulk spin-wave modes in a CoFeâˆ•PtMnâˆ•CoFe multilayer film. Journal of Applied Physics, 2008, 103, .	2.5	11
94	Angular dependence of spin-wave resonance and relaxation in half-metallic Sr2FeMoO6 films. Journal of Applied Physics, 2008, 103, .	2.5	14
95	NMR Studies of Mass Transport in High-Acid-Content Fuel Cell Membranes Based on Phosphoric Acid and Polybenzimidazole. Journal of the Electrochemical Society, 2007, 154, B242.	2.9	76
96	Nuclear Magnetic Resonance and X-Ray Absorption Spectroscopic Studies of Lithium Insertion in Silver Vanadium Oxide Cathodes. Journal of the Electrochemical Society, 2007, 154, A500.	2.9	25
97	NMR Characterization of Composite Polymer Membranes for Low-Humidity PEM Fuel Cells. Journal of the Electrochemical Society, 2007, 154, B466.	2.9	40
98	Characterization of single walled carbon nanotube: Polyvinylene difluoride composites. Composites Science and Technology, 2006, 66, 1280-1284.	7.8	48
99	Polymeric Î´-MgCl2 nanoribbons. Inorganica Chimica Acta, 2006, 359, 2513-2518.	2.4	39
100	Multinuclear NMR studies of mass transport of phosphoric acid in water. , 2006, , .		0
101	High Field Multinuclear NMR Investigation of the SEI Layer in Lithium Rechargeable Batteries. Electrochemical and Solid-State Letters, 2005, 8, A145.	2.2	131
102	Solid-State NMR Studies of Lithium Phosphorus Oxynitride Films Prepared by Nitrogen Ion Beam-Assisted Deposition. Journal of the Electrochemical Society, 2005, 152, A516.	2.9	20
103	X-ray Absorption Spectroscopy Investigation of the Sub-Nanoscale Strain in Thin-Film Lithium Ion Battery Cathodes. Materials Research Society Symposia Proceedings, 2004, 822, S2.3.1.	0.1	1
104	High Pressure NMR Study of Water Self-Diffusion in NAFION-117 Membrane. Journal of Physical Chemistry B, 2004, 108, 4260-4262.	2.6	42
105	A New Class of Lithium Hybrid Gel Electrolyte Systems. Journal of Physical Chemistry B, 2004, 108, 18832-18844.	2.6	50
106	Nuclear magnetic resonance studies of nanocomposite gel electrolytes. Electrochimica Acta, 2003, 48, 2113-2121.	5.2	17
107	X-ray absorption spectroscopy of highly cycled Li/composite polymer electrolyte/FeS2 cells. Solid State Ionics, 2003, 164, 51-63.	2.7	11
108	Mass transport of phosphoric acid in water: A 1H and 31P pulsed gradient spin-echo nuclear magnetic resonance study. Journal of Chemical Physics, 2000, 112, 8515-8521.	3.0	62

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109	Irreversible Capacities of Graphite in Lowâ€Temperature Electrolytes for Lithiumâ€ion Batteries. Journal of the Electrochemical Society, 1999, 146, 3963-3969.	2.9	173
110	Bulk and interfacial ionic conduction in LiI/Al2O3 mixtures. Solid State Ionics, 1998, 113-115, 477-485.	2.7	30
111	Lithiumâ€7 Nuclear Magnetic Resonance Investigation of Lithium Insertion in Hard Carbon. Journal of the Electrochemical Society, 1998, 145, 1179-1183.	2.9	54
112	Pulsed Field Gradient NMR Investigation of Molecular Mobility of Trimethoxymethane in Nafion Membranes. Materials Research Society Symposia Proceedings, 1997, 496, 223.	0.1	1
113	NMR studies of water in polyimide films. Journal of Polymer Science, Part B: Polymer Physics, 1995, 33, 403-409.	2.1	26
114	A Comparative Study of LiMn204 From Various Sources. Materials Research Society Symposia Proceedings, 1994, 369, 29.	0.1	2
115	Lithium-7 NMR Studies of Li_{1â^'x}CoO₂ Battery Cathodes. Materials Research Society Symposia Proceedings, 1994, 369, 59.	0.1	15
116	NMR studies of ion mobility and association in polyether-based polymer electrolytes. Polymers for Advanced Technologies, 1993, 4, 172-178.	3.2	10
117	Studies of Water in Nafion Membranes: Using Deuteron and Oxygenâ€17 Nuclear Magnetic Resonance, and Dielectric Relaxation Techniques. Journal of the Electrochemical Society, 1993, 140, 889-895.	2.9	60
118	Diffusion and Deuteron Nuclear Magnetic Resonance Study of the Distribution of Water Molecules in Polyimide Films. Journal of the Electrochemical Society, 1992, 139, 662-667.	2.9	18
119	Impedance and 2H-NMR Studies of Stoichiometric Alkaline Hydroxide Hydrates. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1991, 95, 1033-1036.	0.9	4
120	Application of the bendlerâ€“shlesinger generalization of the vogel equation to ion-conducting polymers. Journal of Polymer Science, Part B: Polymer Physics, 1991, 29, 747-752.	2.1	16
121	ESR Investigation of Copper Ion Mobility in PEO:Cu(CF3SO3)2 Complexes. Materials Research Society Symposia Proceedings, 1990, 210, 249.	0.1	1
122	Nmr Studies of Polymer Electrolytes. Materials Research Society Symposia Proceedings, 1990, 210, 237.	0.1	7
123	Dielectric relaxation and deuteron NMR of water in polyimide films. Journal of Applied Physics, 1989, 66, 5290-5296.	2.5	59
124	D.s.c., electrical conductivity, and n.m.r. studies of salt precipitation effects in PPO complexes. British Polymer Journal, 1988, 20, 195-198.	0.7	50
125	Iodine L-Edge X-Ray Absorption Fine Structure Studies of Polymer-Iodide Salt Complexes. Molecular Crystals and Liquid Crystals Incorporating Nonlinear Optics, 1988, 160, 339-345.	0.3	4
126	High Pressure Conductivity and NMR Investigation of Siloxane-Based Polymer Electrolytes. Molecular Crystals and Liquid Crystals Incorporating Nonlinear Optics, 1988, 160, 347-357.	0.3	8

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127	Ionic conductivity in solid, crosslinked dimethylsiloxaneâ€ethylene oxide copolymer networks containing sodium. Journal of Applied Physics, 1986, 60, 1342-1345.	2.5	47