## Steve G Greenbaum

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/237870/publications.pdf Version: 2024-02-01



#	Article	IF	CITATIONS
1	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
2	Hybrid Aqueous/Non-aqueous Electrolyte for Safe and High-Energy Li-Ion Batteries. Joule, 2018, 2, 927-937.	24.0	303
3	An Iodide-Based Li <sub>7</sub> P <sub>2</sub> S <sub>8</sub> I Superionic Conductor. Journal of the American Chemical Society, 2015, 137, 1384-1387.	13.7	298
4	Liquid Structure with Nano-Heterogeneity Promotes Cationic Transport in Concentrated Electrolytes. ACS Nano, 2017, 11, 10462-10471.	14.6	283
5	Understanding Li <sup>+</sup> –Solvent Interaction in Nonaqueous Carbonate Electrolytes with <sup>17</sup> O NMR. Journal of Physical Chemistry Letters, 2013, 4, 1664-1668.	4.6	268
6	Copper-coordinated cellulose ion conductors for solid-state batteries. Nature, 2021, 598, 590-596.	27.8	262
7	Polymeric peptide pigments with sequence-encoded properties. Science, 2017, 356, 1064-1068.	12.6	244
8	Polymer Capacitor Dielectrics for High Temperature Applications. ACS Applied Materials & Interfaces, 2018, 10, 29189-29218.	8.0	220
9	Countersolvent Electrolytes for Lithiumâ€Metal Batteries. Advanced Energy Materials, 2020, 10, 1903568.	19.5	200
10	A 63 <i>m</i> Superconcentrated Aqueous Electrolyte for High-Energy Li-Ion Batteries. ACS Energy Letters, 2020, 5, 968-974.	17.4	197
11	Irreversible Capacities of Graphite in Lowâ€Temperature Electrolytes for Lithiumâ€Ion Batteries. Journal of the Electrochemical Society, 1999, 146, 3963-3969.	2.9	173
12	Solvation behavior of carbonate-based electrolytes in sodium ion batteries. Physical Chemistry Chemical Physics, 2017, 19, 574-586.	2.8	152
13	High Field Multinuclear NMR Investigation of the SEI Layer in Lithium Rechargeable Batteries. Electrochemical and Solid-State Letters, 2005, 8, A145.	2.2	131
14	Fundamental Limitations of Ionic Conductivity in Polymerized Ionic Liquids. Macromolecules, 2018, 51, 8637-8645.	4.8	103
15	Comparative Study of Ether-Based Electrolytes for Application in Lithium–Sulfur Battery. ACS Applied Materials & Interfaces, 2015, 7, 13859-13865.	8.0	95
16	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
17	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
18	New battery strategies with a polymer/Al2O3 separator. Journal of Power Sources, 2014, 263, 52-58.	7.8	74

#	Article	IF	CITATIONS
19	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
20	Lithium sulfur and lithium oxygen batteries: new frontiers of sustainable energy storage. Sustainable Energy and Fuels, 2017, 1, 228-247.	4.9	66
21	Defect chemistry and electrical properties of garnet-type Li <sub>7</sub> La <sub>3</sub> Zr <sub>2</sub> O <sub>12</sub> . Physical Chemistry Chemical Physics, 2018, 20, 1447-1459.	2.8	64
22	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
23	Lithium-Ion-Conducting Electrolytes: From an Ionic Liquid to the Polymer Membrane. Journal of the Electrochemical Society, 2009, 156, A514.	2.9	62
24	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
25	Structural Evolution and Li Dynamics in Nanophase Li <sub>3</sub> PS <sub>4</sub> by Solid-State and Pulsed-Field Gradient NMR. Chemistry of Materials, 2014, 26, 3558-3564.	6.7	60
26	Dielectric relaxation and deuteron NMR of water in polyimide films. Journal of Applied Physics, 1989, 66, 5290-5296.	2.5	59
27	Cation only conduction in new polymer–SiO2 nanohybrids: Na+ electrolytes. Journal of Materials Chemistry A, 2013, 1, 8348.	10.3	57
28	Lithiumâ€7 Nuclear Magnetic Resonance Investigation of Lithium Insertion in Hard Carbon. Journal of the Electrochemical Society, 1998, 145, 1179-1183.	2.9	54
29	A Key concept in Magnesium Secondary Battery Electrolytes. ChemSusChem, 2015, 8, 3069-3076.	6.8	54
30	Polyethylene glycol dimethyl ether (PEGDME)-based electrolyte for lithium metal battery. Journal of Power Sources, 2015, 299, 460-464.	7.8	52
31	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
32	A New Class of Lithium Hybrid Gel Electrolyte Systems. Journal of Physical Chemistry B, 2004, 108, 18832-18844.	2.6	50
33	Characterization of single walled carbon nanotube: Polyvinylene difluoride composites. Composites Science and Technology, 2006, 66, 1280-1284.	7.8	48
34	lonic conductivity in solid, crosslinked dimethylsiloxaneâ€ethylene oxide copolymer networks containing sodium. Journal of Applied Physics, 1986, 60, 1342-1345.	2.5	47
35	Connection between Lithium Coordination and Lithium Diffusion in [Pyr <sub>12O1</sub> ][FTFSI] Ionic Liquid Electrolytes. ChemSusChem, 2018, 11, 1981-1989.	6.8	46
36	High Pressure NMR Study of Water Self-Diffusion in NAFION-117 Membrane. Journal of Physical Chemistry B, 2004, 108, 4260-4262.	2.6	42

#	Article	IF	CITATIONS
37	Evolution of microscopic heterogeneity and dynamics in choline chloride-based deep eutectic solvents. Nature Communications, 2022, 13, 219.	12.8	42
38	NMR Characterization of Composite Polymer Membranes for Low-Humidity PEM Fuel Cells. Journal of the Electrochemical Society, 2007, 154, B466.	2.9	40
39	Interactions between water and 1-butyl-1-methylpyrrolidinium ionic liquids. Journal of Chemical Physics, 2015, 143, 064503.	3.0	40
40	Polymeric δ-MgCl2 nanoribbons. Inorganica Chimica Acta, 2006, 359, 2513-2518.	2.4	39
41	Characteristics of glyme electrolytes for sodium battery: nuclear magnetic resonance and electrochemical study. Electrochimica Acta, 2017, 231, 223-229.	5.2	39
42	Anisotropic Ion Diffusion and Electrochemically Driven Transport in Nanostructured Block Copolymer Electrolytes. Journal of Physical Chemistry B, 2018, 122, 1537-1544.	2.6	39
43	Graphene oxide and sulfonated-derivative: Proton transport properties and electrochemical behavior of Nafion-based nanocomposites. Electrochimica Acta, 2019, 297, 240-249.	5.2	37
44	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
45	Influence of Solvent on Ion Aggregation and Transport in PY <sub>15</sub> TFSI Ionic Liquid–Aprotic Solvent Mixtures. Journal of Physical Chemistry B, 2013, 117, 10581-10588.	2.6	35
46	Multiscale and Multimodal Characterization of 2D Titanium Carbonitride MXene. Advanced Materials Interfaces, 2020, 7, 1902207.	3.7	35
47	Ion transport and association study of glyme-based electrolytes with lithium and sodium salts. Electrochimica Acta, 2019, 304, 239-245.	5.2	33
48	Solvation Dynamics of Wet Ethaline: Water is the Magic Component. Journal of Physical Chemistry B, 2021, 125, 8888-8901.	2.6	32
49	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
50	Bulk and interfacial ionic conduction in Lil/Al2O3 mixtures. Solid State Ionics, 1998, 113-115, 477-485.	2.7	30
51	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
52	Review of Recent Nuclear Magnetic Resonance Studies of Ion Transport in Polymer Electrolytes. Membranes, 2018, 8, 120.	3.0	30
53	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
54	Chemical and Electrical Dynamics of Polyimide Film Damaged by Electron Radiation. IEEE Transactions on Plasma Science, 2017, 45, 2573-2577.	1.3	29

Steve G Greenbaum

#	Article	IF	CITATIONS
55	Subsurface diffusion of oxide electrolyte decomposition products in metal fluoride nanocomposite electrodes. Electrochimica Acta, 2013, 88, 735-744.	5.2	28
56	Glyme-based electrolytes: suitable solutions for next-generation lithium batteries. Green Chemistry, 2022, 24, 1021-1048.	9.0	28
57	NMR investigation of water and methanol mobility in nanocomposite fuel cell membranes. Ionics, 2008, 14, 243-253.	2.4	27
58	A sobering examination of the feasibility of aqueous aluminum batteries. Energy and Environmental Science, 2022, 15, 2460-2469.	30.8	27
59	NMR studies of water in polyimide films. Journal of Polymer Science, Part B: Polymer Physics, 1995, 33, 403-409.	2.1	26
60	Solid Polymer-in-Ceramic Electrolyte Formed by Electrophoretic Deposition. Journal of the Electrochemical Society, 2015, 162, D3084-D3089.	2.9	26
61	Natural Abundance Oxygen-17 NMR Investigation of Lithium Ion Solvation in Glyme-based Electrolytes. Electrochimica Acta, 2016, 213, 606-612.	5.2	26
62	Carbon Composites for a Highâ€Energy Lithium–Sulfur Battey with a Glymeâ€Based Electrolyte. ChemElectroChem, 2017, 4, 209-215.	3.4	26
63	Correlating Li <sup>+</sup> -Solvation Structure and its Electrochemical Reaction Kinetics with Sulfur in Subnano Confinement. Journal of Physical Chemistry Letters, 2018, 9, 1739-1745.	4.6	26
64	Li-Ion Diffusion in Nanoconfined LiBH <sub>4</sub> -LiI/Al <sub>2</sub> O <sub>3</sub> : From 2D Bulk Transport to 3D Long-Range Interfacial Dynamics. ACS Applied Materials & Interfaces, 2020, 12, 38570-38583.	8.0	26
65	Examining the Impact of Polyzwitterion Chemistry on Lithium Ion Transport in Ionogel Electrolytes. ACS Applied Polymer Materials, 2021, 3, 2635-2645.	4.4	26
66	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
67	Charge transfer in Li/CFx–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
68	A Nuclear Magnetic Resonance Study of Cation and Anion Dynamics in Polymer–Ceramic Composite Solid Electrolytes. ACS Applied Polymer Materials, 2020, 2, 1180-1189.	4.4	25
69	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
70	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
71	An alternative route to single ion conductivity using multi-ionic salts. Materials Horizons, 2018, 5, 461-473.	12.2	24
72	Solid-State NMR Studies of Chemically Lithiated CF[sub x]. Journal of the Electrochemical Society, 2010, 157, A148.	2.9	23

#	Article	IF	CITATIONS
73	Solid-state nuclear magnetic resonance studies of electrochemically discharged CF. Journal of Power Sources, 2011, 196, 5659-5666.	7.8	22
74	Enhanced Lithium Oxygen Battery Using a Glyme Electrolyte and Carbon Nanotubes. ACS Applied Materials & Interfaces, 2018, 10, 16367-16375.	8.0	21
75	Formation of structural defects and strain in electrodegraded Feâ€doped SrTiO <sub>3</sub> crystals due to oxygen vacancy migration. Journal of the American Ceramic Society, 2018, 101, 2545-2561.	3.8	21
76	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
77	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
78	CO <sub>2</sub> utilization in built environment <i>via</i> the <i>P</i> <sub>CO2</sub> swing carbonation of alkaline solid wastes with different mineralogy. Faraday Discussions, 2021, 230, 187-212.	3.2	20
79	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
80	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
81	Insight on the Li <sub>2</sub> S electrochemical process in a composite configuration electrode. New Journal of Chemistry, 2016, 40, 2935-2943.	2.8	18
82	Transport studies of NaPF6 carbonate solvents-based sodium ion electrolytes. Electrochimica Acta, 2021, 377, 138062.	5.2	18
83	Nuclear magnetic resonance studies of nanocomposite gel electrolytes. Electrochimica Acta, 2003, 48, 2113-2121.	5.2	17
84	Review of Multivalent Metal Ion Transport in Inorganic and Solid Polymer Electrolytes. Batteries, 2021, 7, 3.	4.5	17
85	Application of the bendler–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
86	Acidâ€inâ€Clay Electrolyte for Wideâ€Temperatureâ€Range and Longâ€Cycle Proton Batteries. Advanced Materials, 2022, 34, e2202063.	21.0	16
87	Lithium-7 NMR Studies of Li <sub>1â^'x</sub> CoO <sub>2</sub> Battery Cathodes. Materials Research Society Symposia Proceedings, 1994, 369, 59.	0.1	15
88	Nuclear magnetic resonance of polymer electrolyte membrane fuel cells. Chemical Record, 2010, 10, 377-393.	5.8	15
89	Angular dependence of spin-wave resonance and relaxation in half-metallic Sr2FeMoO6 films. Journal of Applied Physics, 2008, 103, .	2.5	14
90	Dynamics of Glyceline and Interactions of Constituents: A Multitechnique NMR Study. Journal of Physical Chemistry B, 2022, 126, 890-905.	2.6	14

#	Article	IF	CITATIONS
91	Molecular-level insights into structure and dynamics in ionic liquids and polymer gel electrolytes. Journal of Molecular Liquids, 2021, 329, 115454.	4.9	13
92	A Rayleighian approach for modeling kinetics of ionic transport in polymeric media. Journal of Chemical Physics, 2017, 146, 064902.	3.0	12
93	Local structural changes due to the electric fieldâ€induced migration of oxygen vacancies at Feâ€doped SrTiO <sub>3</sub> interfaces. Journal of the American Ceramic Society, 2019, 102, 4353-4366.	3.8	12
94	X-ray absorption spectroscopy of highly cycled Li/composite polymer electrolyte/FeS2 cells. Solid State Ionics, 2003, 164, 51-63.	2.7	11
95	Ferromagnetic resonance studies of surface and bulk spin-wave modes in a CoFeâ^•PtMnâ^•CoFe multilayer film. Journal of Applied Physics, 2008, 103, .	2.5	11
96	NMR Studies of Solvent-Free Ceramic Composite Polymer Electrolytes—A Brief Review. Membranes, 2015, 5, 915-923.	3.0	11
97	Hybrid twin-metal aluminum–magnesium electrolytes for rechargeable batteries. Journal of Power Sources, 2021, 493, 229681.	7.8	11
98	NMR studies of ion mobility and association in polyether-based polymer electrolytes. Polymers for Advanced Technologies, 1993, 4, 172-178.	3.2	10
99	Plasticized 3D-Printed Polymer Electrolytes for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2021, 168, 110549.	2.9	10
100	Investigation of Electric Field–Induced Structural Changes at Fe-Doped SrTiO3 Anode Interfaces by Second Harmonic Generation. Materials, 2016, 9, 883.	2.9	9
101	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
102	Improved Anisotropic Thermoelectric Behavior of Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) via Magnetophoresis. ACS Omega, 2018, 3, 12554-12561.	3.5	8
103	Detection of Nanoscale Structural Defects in Degraded Fe-Doped SrTiO <sub>3</sub> by Ultrafast Photoacoustic Waves. Journal of Physical Chemistry C, 2018, 122, 12864-12868.	3.1	8
104	Nmr Studies of Polymer Electrolytes. Materials Research Society Symposia Proceedings, 1990, 210, 237.	0.1	7
105	Properties of polycarbonate containing BaTiO3nanoparticles. Journal of Applied Physics, 2014, 115, 104103.	2.5	7
106	Water Domain Enabled Transport in Polymer Electrolytes for Lithium-Ion Batteries. Macromolecules, 2021, 54, 2882-2891.	4.8	6
107	Interplay between coordination, dynamics, and conductivity mechanism in Mg/Al-catenated ionic liquid electrolytes. Journal of Power Sources, 2022, 524, 231084.	7.8	6
108	Investigation of glass-ceramic lithium thiophosphate solid electrolytes using NMR and neutron scattering. Materials Today Physics, 2021, 21, 100478.	6.0	5

#	Article	IF	CITATIONS
109	Nanoscale Hybrid Electrolytes with Viscosity Controlled Using Ionic Stimulus for Electrochemical Energy Conversion and Storage. Jacs Au, 2022, 2, 590-600.	7.9	5
110	Broadband NMR relaxometry of electrolytes for energy storage. Chemical Physics Reviews, 2022, 3, .	5.7	5
111	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
112	Impedance and 2H-NMR Studies of Stoichiometric Alkaline Hydroxide Hydrates. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1991, 95, 1033-1036.	0.9	4
113	NMR and Raman spectroscopic characterization of single walled carbon nanotube composites of polybutadiene. Journal of Materials Research, 2009, 24, 2215-2220.	2.6	3
114	A Comparative Study of LiMn204 From Various Sources. Materials Research Society Symposia Proceedings, 1994, 369, 29.	0.1	2
115	Alkyl chain length effects of hydroxyl-functionalized imidazolium ionic liquids in the ionothermal synthesis of LiFePO <sub>4</sub> . Phosphorus, Sulfur and Silicon and the Related Elements, 2019, 194, 292-296.	1.6	2
116	Modulation of Cation Diffusion by Reversible Supramolecular Assemblies in Ionic Liquid-Based Nanocomposites. ACS Applied Materials & Interfaces, 2020, 12, 31842-31851.	8.0	2
117	ESR Investigation of Copper Ion Mobility in PEO:Cu(CF3SO3)2 Complexes. Materials Research Society Symposia Proceedings, 1990, 210, 249.	0.1	1
118	Pulsed Field Gradient NMR Investigation of Molecular Mobility of Trimethoxymethane in Nafion Membranes. Materials Research Society Symposia Proceedings, 1997, 496, 223.	0.1	1
119	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
120	Vanadium Doped Nanostructured TiO2 Dielectrics. Materials Research Society Symposia Proceedings, 2014, 1645, 1.	0.1	1
121	High-temperature and high-pressure NMR investigations of low viscous fluids confined in mesoporous systems. Zeitschrift Fur Physikalische Chemie, 2021, .	2.8	1
122	Quantifying Lithium Ion Exchange in Solid Electrolyte Interphase (SEI) on Graphite Anode Surfaces. Inorganics, 2022, 10, 64.	2.7	1
123	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
124	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
125	Multinuclear NMR studies of mass transport of phosphoric acid in water. , 2006, , .		0
126	Extremely High Proton Mobility in Nanoscopic Titania Hydrates. ECS Meeting Abstracts, 2021, MA2021-02, 1295-1295.	0.0	0

#	Article	IF	CITATIONS
127	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