Polar polymerâ€“solvent interaction derived favorable batteries

Energy and Environmental Science

12, 3319-3327

DOI: 10.1039/c9ee02558h

Citation Report

#	Article	IF	Citations
1	A Tough and Self-Powered Hydrogel for Artificial Skin. Chemistry of Materials, 2019, 31, 9850-9860.	3.2	151
2	Cross-Linked Polyacrylonitrile-Based Elastomer Used as Gel Polymer Electrolyte in Li-Ion Battery. ACS Applied Energy Materials, 2020, 3, 1099-1110.	2.5	49
3	Protective coatings for lithium metal anodes: Recent progress and future perspectives. Journal of Power Sources, 2020, 450, 227632.	4.0	104
4	Dendriteâ€Free Zinc Deposition Induced by Tinâ€Modified Multifunctional 3D Host for Stable Zincâ€Based Flow Battery. Advanced Materials, 2020, 32, e1906803.	11.1	263
5	Design Principles of Artificial Solid Electrolyte Interphases for Lithium-Metal Anodes. Cell Reports Physical Science, 2020, 1, 100119.	2.8	133
6	Eutectic Electrolytes as a Promising Platform for Next-Generation Electrochemical Energy Storage. Accounts of Chemical Research, 2020, 53, 1648-1659.	7.6	143
7	Arrayed silk fibroin for high-performance Li metal batteries and atomic interface structure revealed by cryo-TEM. Journal of Materials Chemistry A, 2020, 8, 26045-26054.	5.2	47
8	Unveiling the dimensionality effect of conductive fillers in thick battery electrodes for high-energy storage systems. Applied Physics Reviews, 2020, 7, .	5.5	43
9	Advanced energy materials for flexible batteries in energy storage: A review. SmartMat, 2020, 1, .	6.4	186
10	An ultrathin, strong, flexible composite solid electrolyte for high-voltage lithium metal batteries. Journal of Materials Chemistry A, 2020, 8, 18802-18809.	5.2	48
11	Ionic conductive polymers as artificial solid electrolyte interphase films in Li metal batteries â€“ A review. Materials Today, 2020, 40, 140-159.	8.3	115
12	A high rate and long cycling life lithium metal anode with a self-repairing alloy coating. Journal of Materials Chemistry A, 2020, 8, 17415-17419.	5.2	31
13	Novel behavior in a polymer solution: the disappearance of the melting temperature (Tm) and enthalpy change (Î”Hm) of the solvent. Scientific Reports, 2020, 10, 13348.	1.6	2
14	In situ regulated solid electrolyte interphase via reactive separators for highly efficient lithium metal batteries. Energy Storage Materials, 2020, 30, 27-33.	9.5	90
15	Effective suppression of lithium dendrite growth using fluorinated polysulfonamide-containing single-ion conducting polymer electrolytes. Materials Advances, 2020, 1, 873-879.	2.6	11
16	Roomâ€Temperature Allâ€Liquidâ€Metal Batteries Based on Fusible Alloys with Regulated Interfacial Chemistry and Wetting. Advanced Materials, 2020, 32, e2002577.	11.1	102
17	Electrolyte with boron nitride nanosheets as leveling agent towards dendrite-free lithium metal anodes. Nano Energy, 2020, 72, 104725.	8.2	63
18	Recent progresses, challenges and perspectives on rechargeable Liâ€O₂ batteries. Nano Select, 2020, 1, 79-93.	1.9	9

#	Article	IF	Citations
19	Hydrogels and Hydrogel-Derived Materials for Energy and Water Sustainability. Chemical Reviews, 2020, 120, 7642-7707.	23.0	646
20	Stabilizing Solid Electrolyte Interphases on Both Anode and Cathode for High Areal Capacity, Highâ€Voltage Lithium Metal Batteries with High Li Utilization and Lean Electrolyte. Advanced Functional Materials, 2020, 30, 2002824.	7.8	69
21	Toward Critical Electrode/Electrolyte Interfaces in Rechargeable Batteries. Advanced Functional Materials, 2020, 30, 1909887.	7.8	251
22	Lithium Metal Interface Modification for Highâ€Energy Batteries: Approaches and Characterization. Batteries and Supercaps, 2020, 3, 828-859.	2.4	38
23	Polymeric Backbone Eutectogels as a New Generation of Hybrid Solid-State Electrolytes. Chemistry of Materials, 2020, 32, 3783-3793.	3.2	52
24	A Ternary Hybridâ€Cation Roomâ€Temperature Liquid Metal Battery and Interfacial Selection Mechanism Study. Advanced Materials, 2020, 32, e2000316.	11.1	40
25	In Situ Formation of Liquid Metals via Galvanic Replacement Reaction to Build Dendriteâ€Free Alkaliâ€Metalâ€Ion Batteries. Angewandte Chemie, 2020, 132, 12268-12275.	1.6	9
26	In Situ Formation of Liquid Metals via Galvanic Replacement Reaction to Build Dendriteâ€Free Alkaliâ€Metalâ€Ion Batteries. Angewandte Chemie - International Edition, 2020, 59, 12170-12177.	7.2	41
27	A lithiated gel polymer electrolyte with superior interfacial performance for safe and long-life lithium metal battery. Journal of Energy Chemistry, 2021, 55, 313-322.	7.1	27
28	Elongating the cycle life of lithium metal batteries in carbonate electrolyte with gradient solid electrolyte interphase layer. Energy Storage Materials, 2021, 34, 241-249.	9.5	52
29	Fluorobenzene, A Lowâ€Density, Economical, and Bifunctional Hydrocarbon Cosolvent for Practical Lithium Metal Batteries. Advanced Functional Materials, 2021, 31, .	7.8	121
30	Two-dimensional matrices confining metal single atoms with enhanced electrochemical reaction kinetics for energy storage applications. Energy and Environmental Science, 2021, 14, 1794-1834.	15.6	45
31	Recent Developments in Dendrite-Free Lithium-Metal Deposition through Tailoring of Micro- and Nanoscale Artificial Coatings. ACS Nano, 2021, 15, 29-46.	7.3	80
32	Recent Advances on Metalâ€Organic Frameworks in the Conversion of Carbon Dioxide. Chinese Journal of Chemistry, 2021, 39, 440-462.	2.6	51
33	Polyeutectic-based stable and effective electrolytes for high-performance energy storage systems. Energy and Environmental Science, 2021, 14, 931-939.	15.6	21
34	Homogenous metallic deposition regulated by defect-rich skeletons for sodium metal batteries. Energy and Environmental Science, 2021, 14, 6381-6393.	15.6	70
35	Constructing nitrided interfaces for stabilizing Li metal electrodes in liquid electrolytes. Chemical Science, 2021, 12, 8945-8966.	3.7	72
36	A mini-review of advanced separator engineering in lithium metal batteries. Sustainable Energy and Fuels, 2021, 5, 5656-5671.	2.5	13

#	Article	IF	Citations
37	A General Strategy of Anion-Rich High-Concentration Polymeric Interlayer for High-Voltage, All-Solid-State Batteries. Nano Letters, 2021, 21, 1184-1191.	4.5	29
38	Functional polymers in electrolyte optimization and interphase design for lithium metal anodes. Journal of Materials Chemistry A, 2021, 9, 13388-13401.	5.2	43
39	Quantification of the ion transport mechanism in protective polymer coatings on lithium metal anodes. Chemical Science, 2021, 12, 7023-7032.	3.7	7
40	Pulverizing Fe₂O₃ Nanoparticles for Developing Fe₃C/Nâ€Codoped Carbon Nanoboxes with Multiple Polysulfide Anchoring and Converting Activity in Liâ€S Batteries. Advanced Functional Materials, 2021, 31, 2011249.	7.8	79
41	Vinyl-Integrated In Situ Cross-Linked Composite Gel Electrolytes for Stable Lithium Metal Anodes. ACS Applied Energy Materials, 2021, 4, 2922-2931.	2.5	12
42	Metalâ€“Semiconductor Ohmic and Schottky Contact Interfaces for Stable Li-Metal Electrodes. ACS Energy Letters, 0, , 1432-1442.	8.8	27
43	Sol Electrolyte: Pathway to Longâ€Term Stable Lithium Metal Anode. Advanced Functional Materials, 2021, 31, 2100594.	7.8	19
44	Stabilizing metal battery anodes through the design of solid electrolyte interphases. Joule, 2021, 5, 1119-1142.	11.7	233
45	Redistributing Li-ion flux and homogenizing Li-metal growth by N-doped hierarchically porous membranes for dendrite-free Lithium metal batteries. Energy Storage Materials, 2021, 37, 233-242.	9.5	41
46	Revisiting the designing criteria of advanced solid electrolyte interphase on lithium metal anode under practical condition. Nano Energy, 2021, 83, 105847.	8.2	79
47	A high efficiency electrolyte enables robust inorganicâ€“organic solid electrolyte interfaces for fast Li metal anode. Science Bulletin, 2021, 66, 897-903.	4.3	23
48	Hybrid polyion complex micelles enabling high-performance lithium-metal batteries with universal carbonates. Energy Storage Materials, 2021, 38, 509-519.	9.5	10
49	Homogeneous Li⁺ Flux Distribution Enables Highly Stable and Temperatureâ€Tolerant Lithium Anode. Advanced Functional Materials, 2021, 31, 2102158.	7.8	41
50	In Situâ€Formed Dualâ€Conductive Protecting Layer for Dendriteâ€Free Li Metal Anodes in Allâ€Solidâ€State Batteries. Energy Technology, 2021, 9, 2100087.	1.8	12
51	Effectively Regulating More Robust Amorphous Li Clusters for Ultrastable Dendriteâ€Free Cycling. Advanced Science, 2021, 8, e2101584.	5.6	9
52	Nanostructured Polymer Electrolytes for Lithium-Ion Batteries. Macromolecular Research, 2021, 29, 509-518.	1.0	21
53	Multifunctional organosilicon compound contributes to stable operation of high-voltage lithium metal batteries. Journal of Colloid and Interface Science, 2021, 595, 35-42.	5.0	21
54	Large Cumulative Capacity Enabled by Regulating Lithium Plating with Metalâ€“Organic Framework Layers on Porous Carbon Nanotube Scaffolds. Advanced Functional Materials, 2021, 31, 2104899.	7.8	16

#	Article	IF	Citations
55	The passivity of lithium electrodes in liquid electrolytes for secondary batteries. Nature Reviews Materials, 2021, 6, 1036-1052.	23.3	201
56	Fatigueâ€Resistant Interfacial Layer for Safe Lithium Metal Batteries. Angewandte Chemie, 2021, 133, 25712-25717.	1.6	7
57	Interphase Building of Organicâ€“Inorganic Hybrid Polymer Solid Electrolyte with Uniform Intermolecular Li⁺ Path for Stable Lithium Metal Batteries. Small, 2021, 17, e2102454.	5.2	28
58	An advance review of solid-state battery: Challenges, progress and prospects. Sustainable Materials and Technologies, 2021, 29, e00297.	1.7	74
59	Fatigueâ€Resistant Interfacial Layer for Safe Lithium Metal Batteries. Angewandte Chemie - International Edition, 2021, 60, 25508-25513.	7.2	73
60	Polar interaction of polymer hostâ€“solvent enables stable solid electrolyte interphase in composite lithium metal anodes. Journal of Energy Chemistry, 2022, 64, 172-178.	7.1	42
61	Expandable crosslinked polymer coatings on silicon nanoparticle anode toward high-rate and long-cycle-life lithium-ion battery. Applied Surface Science, 2022, 571, 151294.	3.1	15
62	Large areal capacity and dendrite-free anodes with long lifetime enabled by distributed lithium plating with mossy manganese oxides. Journal of Materials Chemistry A, 2021, 9, 9291-9300.	5.2	6
63	Perspective on solidâ€electrolyte interphase regulation for lithium metal batteries. SmartMat, 2021, 2, 5-11.	6.4	58
64	Hybrid Electrolyte with Dualâ€Anionâ€Aggregated Solvation Sheath for Stabilizing Highâ€Voltage Lithiumâ€Metal Batteries. Advanced Materials, 2021, 33, e2007945.	11.1	130
65	A Novel Filler for Gel Polymer Electrolyte with a High Lithium-Ion Transference Number toward Stable Cycling for Lithium-Metal Anodes in Lithiumâ€“Sulfur Batteries. ACS Applied Materials & Interfaces, 2021, 13, 48622-48633.	4.0	15
66	Solid polymer electrolyte with in-situ generated fast Li+ conducting network enable high voltage and dendrite-free lithium metal battery. Energy Storage Materials, 2022, 44, 93-103.	9.5	77
67	Polymer Zwitterion-Based Artificial Interphase Layers for Stable Lithium Metal Anodes. ACS Applied Materials & Interfaces, 2021, 13, 57489-57496.	4.0	26
68	Safe and Stable Lithium Metal Batteries Enabled by an Amide-Based Electrolyte. Nano-Micro Letters, 2022, 14, 44.	14.4	34
69	A Multifunctional Siliconâ€Doped Polyether Network for Double Stable Interfaces in Quasiâ€Solidâ€State Lithium Metal Batteries. Small, 2022, 18, e2106395.	5.2	18
70	A Valence Gradient Protective Layer for Dendriteâ€Free and Highly Stable Lithium Metal Anodes. Advanced Energy Materials, 2022, 12, .	10.2	26
71	Influence of Polymer Interfacial Protective Layer Thickness on the Stability of Lithiumâ€Metal Batteries. Advanced Materials Interfaces, 2022, 9, .	1.9	1
72	Self-assembled monolayers direct a LiF-rich interphase toward long-life lithium metal batteries. Science, 2022, 375, 739-745.	6.0	368

#	Article	IF	Citations
73	Regulated lithium deposition behavior by an artificial coating of Cu foil for dendrite-free lithium metal batteries. Materials Today Sustainability, 2022, 18, 100127.	1.9	3
74	Effects of the Separator MOF-Al₂O₃ Coating on Battery Rate Performance and Solidâ€“Electrolyte Interphase Formation. ACS Applied Materials & Interfaces, 2022, 14, 13722-13732.	4.0	20
75	A dual-function liquid electrolyte additive for high-energy non-aqueous lithium metal batteries. Nature Communications, 2022, 13, 1297.	5.8	56
76	The Role of Hydrothermal Carbonization in Sustainable Sodiumâ€Ion Battery Anodes. Advanced Energy Materials, 2022, 12, .	10.2	61
77	Rigid and Flexible SEI Layer Formed Over a Crossâ€Linked Polymer for Enhanced Ultrathin Li Metal Anode Performance. Advanced Energy Materials, 2022, 12, .	10.2	42
78	Eutectic electrolyte and interface engineering for redox flow batteries. Energy Storage Materials, 2022, 48, 263-282.	9.5	9
79	In Situ Crossâ€Linked Plastic Crystal Electrolytes for Wideâ€Temperature and Highâ€Energyâ€Density Lithium Metal Batteries. Advanced Functional Materials, 2022, 32, .	7.8	30
80	PI-LAGP Separatorâ”€Construction, Battery Application Performance, and Chemical Valence Changes of Germanium. ACS Applied Polymer Materials, 2022, 4, 4003-4012.	2.0	1
81	Design of a multi-functional gel polymer electrolyte with a 3D compact stacked polymer micro-sphere matrix for high-performance lithium metal batteries. Journal of Materials Chemistry A, 2022, 10, 12563-12574.	5.2	31
82	Gradient Design for Highâ€Energy and Highâ€Power Batteries. Advanced Materials, 2022, 34, .	11.1	53
83	New UV-initiated lithiated-interpenetrating network gel-polymer electrolytes for lithium-metal batteries. Journal of Power Sources, 2022, 541, 231681.	4.0	6
84	Reactivity at the Electrodeâ€“Electrolyte Interfaces in Li-Ion and Gel Electrolyte Lithium Batteries for LiNi_{0.6}Mn_{0.2}Co_{0.2}O₂ with Different Particle Sizes. ACS Applied Materials & Interfaces, 0, , .	4.0	6
85	Grapheneâ€Enabled Electricâ€Field Regulation and Ionic Redistribution Around Lithiophilic Aurum Nanoparticles Toward a Dendriteâ€Free and 2000â€Cycleâ€Life Lithium Metal Battery. Chemistry - A European Journal, 2022, 28, .	1.7	1
86	In-situ imaging techniques for advanced battery development. Materials Today, 2022, 57, 279-294.	8.3	16
87	Effect of Alkyl Side Chain Length on the Lithium-Ion Conductivity for Polyether Electrolytes. Frontiers in Chemistry, 0, 10, .	1.8	3
88	Design of inorganic/organic bi-layered Li protection layer enabled dendrite-free practical Li metal battery. Chemical Engineering Journal, 2022, 450, 137993.	6.6	7
89	Interface engineering by gelling sulfolane for durable and safe Li/LiCoO2 batteries in wide temperature range. Science China Materials, 2022, 65, 2967-2974.	3.5	2
90	Advanced Nonflammable Organic Electrolyte Promises Safer Liâ€Metal Batteries: From Solvation Structure Perspectives. Advanced Materials, 2023, 35, .	11.1	35

#	Article	IF	Citations
91	Inorganicâ€Rich and Flexible Solidâ€Electrolyte Interphase Formed Over Dipoleâ€Dipole Interaction for Highly Stable Lithiumâ€Metal Anodes. Advanced Functional Materials, 2022, 32, .	7.8	7
92	Functional Polymer Materials for Advanced Lithium Metal Batteries: A Review and Perspective. Polymers, 2022, 14, 3452.	2.0	3
93	Regulating solvation environment of Li ions via high donor number anions for high-performance Li-metal batteries. Chemical Engineering Journal, 2022, 450, 138369.	6.6	8
94	A review on modified polymer composite electrolytes for solid-state lithium batteries. Sustainable Energy and Fuels, 2022, 6, 5019-5044.	2.5	8
95	20 Âµm Li metal modified with phosphate rich polymer-inorganic interphase applied in commercial carbonate electrolyte. Journal of Energy Chemistry, 2023, 76, 233-238.	7.1	7
96	Revealing the size-dependent electrochemical Li-storage behaviors of SiO-based anodes. Journal of Materials Chemistry A, 2022, 10, 23770-23779.	5.2	8
97	Towards high-rate lithium metal anodes with electrochemically inert and catalytic COF separators. Energy Storage Materials, 2023, 54, 589-595.	9.5	9
98	Fast-Charging of Hybrid Lithium-Ion/Lithium-Metal Anodes by Nanostructured Hard Carbon Host. ACS Energy Letters, 2022, 7, 4417-4426.	8.8	14
99	Bis(fluorosulfonyl)imide- and allyl-functionalized electrolyte additive as an interface stabilizer for Li-metal batteries. Applied Surface Science, 2023, 614, 156140.	3.1	1
100	Wide temperature range- and damage-tolerant microsupercapacitors from salt-tolerant, anti-freezing and self-healing organohydrogel via dynamic bonds modulation. Journal of Energy Chemistry, 2023, 78, 283-293.	7.1	5
101	Building lithium metal batteries under lean electrolyte conditions: Challenges and progress. Energy Storage Materials, 2023, 55, 708-726.	9.5	16
102	Eutectic Solution Enables Powerful Click Reaction for Inâ€Situ Construction of Advanced Gel Electrolytes. Energy and Environmental Materials, 2023, 6, .	7.3	6
103	Next-generation battery technology based on solid-state electrolytes. , 2023, , 1-46.		0
104	An Ultrathin Nonporous Polymer Separator Regulates Na Transfer Toward Dendriteâ€Free Sodium Storage Batteries. Advanced Materials, 0, , 2203547.	11.1	16
105	Lithium dextran sulfate as dynamic and sustainable coating to stabilize lithium deposition. Materials Today Energy, 2023, 34, 101298.	2.5	2
119	From Liquid to Solid-State Lithium Metal Batteries: Fundamental Issues and Recent Developments. Nano-Micro Letters, 2024, 16, .	14.4	1