Jun Liu

List of Publications by Year
in descending order

#	Article	IF	Citations
1	Designing Advanced Liquid Electrolytes for Alkali Metal Batteries: Principles, Progress, and Perspectives. Energy and Environmental Materials, 2023, 6, .	12.8	19
2	Electrode materials for aqueous multivalent metal-ion batteries: Current status and future prospect. Journal of Energy Chemistry, 2022, 67, 563-584.	12.9	36
3	Wet-chemical synthesis of Li7P3S11 with tailored particle size for solid state electrolytes. Chemical Engineering Journal, 2022, 429, 132334.	12.7	12
4	The Quest for Stable Potassiumâ€Ion Battery Chemistry. Advanced Materials, 2022, 34, e2106876.	21.0	41
5	In situ TEM visualization of LiF nanosheet formation on the cathode-electrolyte interphase (CEI) in liquid-electrolyte lithium-ion batteries. Matter, 2022, 5, 1235-1250.	10.0	56
6	Advances in the Development of Singleâ€Atom Catalysts for Highâ€Energyâ€Density Lithiumâ€"Sulfur Batteries. Advanced Materials, 2022, 34, e2200102.	21.0	202
7	Early Failure of Lithiumâ€"Sulfur Batteries at Practical Conditions: Crosstalk between Sulfur Cathode and Lithium Anode. Advanced Science, 2022, 9, e2201640.	11.2	12
8	Low-solvation electrolytes for high-voltage sodium-ion batteries. Nature Energy, 2022, 7, 718-725.	39.5	137
9	Optimization of fluorinated orthoformate based electrolytes for practical high-voltage lithium metal batteries. Energy Storage Materials, 2021, 34, 76-84.	18.0	65
10	Identification of LiH and nanocrystalline LiF in the solidâ€"electrolyte interphase of lithium metal anodes. Nature Nanotechnology, 2021, 16, 549-554.	31.5	171
11	Effects of fluorinated solvents on electrolyte solvation structures and electrode/electrolyte interphases for lithium metal batteries. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	131
12	Surface/Interface Structure and Chemistry of Lithiumâ€"Sulfur Batteries: From Density Functional Theory Calculationsâ€™ Perspective. Advanced Energy and Sustainability Research, 2021, 2, 2100007.	5.8	27
13	Balancing interfacial reactions to achieve long cycle life in high-energy lithium metal batteries. Nature Energy, 2021, 6, 723-732.	39.5	285
14	Interface engineering for composite cathodes in sulfide-based all-solid-state lithium batteries. Journal of Energy Chemistry, 2021, 60, 32-60.	12.9	64
15	New Prelithiated V₂O₅ Superstructure for Lithium-Ion Batteries with Long Cycle Life and High Power. ACS Energy Letters, 2020, 5, 31-38.	17.4	113
16	Reversible Electrochemical Interface of Mg Metal and Conventional Electrolyte Enabled by Intermediate Adsorption. ACS Energy Letters, 2020, 5, 200-206.	17.4	44
17	Lithium Metal Anodes with Nonaqueous Electrolytes. Chemical Reviews, 2020, 120, 13312-13348.	47.7	393
18	Glassy Li metal anode for high-performance rechargeable Li batteries. Nature Materials, 2020, 19, 1339-1345.	27.5	162

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19	Role of the Solventâ€"Surfactant Duality of Ionic Liquids in Directing Two-Dimensional Particle Assembly. Journal of Physical Chemistry C, 2020, 124, 24215-24222.	3.1	8
20	Reaction heterogeneity in practical high-energy lithiumâ€"sulfur pouch cells. Energy and Environmental Science, 2020, 13, 3620-3632.	30.8	127
21	Heuristic solution for achieving long-term cycle stability for Ni-rich layered cathodes at full depth of discharge. Nature Energy, 2020, 5, 860-869.	39.5	278
22	Role of inner solvation sheath within saltâ€"solvent complexes in tailoring electrode/electrolyte interphases for lithium metal batteries. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 28603-28613.	7.1	191
23	Designing Advanced In Situ Electrode/Electrolyte Interphases for Wide Temperature Operation of 4.5 V Li||LiCoO₂ Batteries. Advanced Materials, 2020, 32, e2004898.	21.0	123
24	High-Performance Aqueous Zincâ€"Manganese Battery with Reversible Mn2+/Mn4+ Double Redox Achieved by Carbon Coated MnOx Nanoparticles. Nano-Micro Letters, 2020, 12, 110.	27.0	58
25	Controlling Metalâ€"Organic Framework/ZnO Heterostructure Kinetics through Selective Ligand Binding to ZnO Surface Steps. Chemistry of Materials, 2020, 32, 6666-6675.	6.7	16
26	Unlocking the passivation nature of the cathodeâ€"air interfacial reactions in lithium ion batteries. Nature Communications, 2020, 11, 3204.	12.8	55
27	Understanding and applying coulombic efficiency in lithium metal batteries. Nature Energy, 2020, 5, 561-568.	39.5	526
28	High-Performance Lithium-Rich Layered Oxide Material: Effects of Preparation Methods on Microstructure and Electrochemical Properties. Materials, 2020, 13, 334.	2.9	20
29	Energy Material Advances: From Fundamental Discoveries to Practical Applications. Energy Material Advances, 2020, 2020, .	11.0	16
30	Enabling High-Voltage Lithium-Metal Batteries under Practical Conditions. Joule, 2019, 3, 1662-1676.	24.0	598
31	Origin of lithium whisker formation and growth under stress. Nature Nanotechnology, 2019, 14, 1042-1047.	31.5	211
32	Capacity Fading of Ni-Rich NCA Cathodes: Effect of Microcracking Extent. ACS Energy Letters, 2019, 4, 2995-3001.	17.4	297
33	Monolithic solidâ€"electrolyte interphases formed in fluorinated orthoformate-based electrolytes minimize Li depletion and pulverization. Nature Energy, 2019, 4, 796-805.	39.5	621
34	Revisiting the Growth Mechanism of Hierarchical Semiconductor Nanostructures: The Role of Secondary Nucleation in Branch Formation. Journal of Physical Chemistry Letters, 2019, 10, 6827-6834.	4.6	20
35	High-energy lithium metal pouch cells with limited anode swelling and long stable cycles. Nature Energy, 2019, 4, 551-559.	39.5	492
36	Self-smoothing anode for achieving high-energy lithium metal batteries under realistic conditions. Nature Nanotechnology, 2019, 14, 594-601.	31.5	451

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37	High-Concentration Ether Electrolytes for Stable High-Voltage Lithium Metal Batteries. ACS Energy Letters, 2019, 4, 896-902.	17.4	302
38	Reaction Mechanisms for Long-Life Rechargeable Zn/MnO₂ Batteries. Chemistry of Materials, 2019, 31, 2036-2047.	6.7	195
39	Pathways for practical high-energy long-cycling lithium metal batteries. Nature Energy, 2019, 4, 180-186.	39.5	2,101
40	Critical Parameters for Evaluating Coin Cells and Pouch Cells of Rechargeable Li-Metal Batteries. Joule, 2019, 3, 1094-1105.	24.0	358
41	Bridging the academic and industrial metrics for next-generation practical batteries. Nature Nanotechnology, 2019, 14, 200-207.	31.5	420
42	Good Practices for Rechargeable Lithium Metal Batteries. Journal of the Electrochemical Society, 2019, 166, A4141-A4149.	2.9	42
43	Stable Li Metal Anode with â€œIonâ€"Solvent-Coordinatedâ€•Nonflammable Electrolyte for Safe Li Metal Batteries. ACS Energy Letters, 2019, 4, 483-488.	17.4	148
44	Addressing Passivation in Lithiumâ€"Sulfur Battery Under Lean Electrolyte Condition. Advanced Functional Materials, 2018, 28, 1707234.	14.9	143
45	Enhanced Stability of Lithium Metal Anode by using a 3D Porous Nickel Substrate. ChemElectroChem, 2018, 5, 761-769.	3.4	58
46	Mechanism of Formation of Li₇P₃S₁₁ Solid Electrolytes through Liquid Phase Synthesis. Chemistry of Materials, 2018, 30, 990-997.	6.7	118
47	Highâ€Voltage Lithiumâ€Metal Batteries Enabled by Localized Highâ€Concentration Electrolytes. Advanced Materials, 2018, 30, e1706102.	21.0	761
48	Detrimental Effects of Chemical Crossover from the Lithium Anode to Cathode in Rechargeable Lithium Metal Batteries. ACS Energy Letters, 2018, 3, 2921-2930.	17.4	89
49	High-Efficiency Lithium Metal Batteries with Fire-Retardant Electrolytes. Joule, 2018, 2, 1548-1558.	24.0	436
50	Lithiumâ€Metal Batteries: Highâ€Voltage Lithiumâ€Metal Batteries Enabled by Localized Highâ€Concentration Electrolytes (Adv. Mater. 21/2018). Advanced Materials, 2018, 30, 1870144.	21.0	4
51	Non-flammable electrolytes with high salt-to-solvent ratios for Li-ion and Li-metal batteries. Nature Energy, 2018, 3, 674-681.	39.5	557
52	Stable cycling of high-voltage lithium metal batteries in ether electrolytes. Nature Energy, 2018, 3, 739-746.	39.5	767
53	A Localized High-Concentration Electrolyte with Optimized Solvents and Lithium Difluoro(oxalate)borate Additive for Stable Lithium Metal Batteries. ACS Energy Letters, 2018, 3, 2059-2067.	17.4	257
54	A biomimetic high-capacity phenazine-based anolyte for aqueous organic redox flow batteries. Nature Energy, 2018, 3, 508-514.	39.5	337

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55	Minimizing Polysulfide Shuttle Effect in Lithium-Ion Sulfur Batteries by Anode Surface Passivation. ACS Applied Materials & Interfaces, 2018, 10, 21965-21972.	8.0	18
56	Enabling High-Energy-Density Cathode for Lithiumâ€"Sulfur Batteries. ACS Applied Materials & Interfaces, 2018, 10, 23094-23102.	8.0	67
57	Near surface nucleation and particle mediated growth of colloidal Au nanocrystals. Nanoscale, 2018, 10, 11907-11912.	5.6	48
58	Localized High-Concentration Sulfone Electrolytes for High-Efficiency Lithium-Metal Batteries. CheM, 2018, 4, 1877-1892.	11.7	628
59	Formation of Reversible Solid Electrolyte Interface on Graphite Surface from Concentrated Electrolytes. Nano Letters, 2017, 17, 1602-1609.	9.1	91
60	â€œWine-Dark Seaâ€•in an Organic Flow Battery: Storing Negative Charge in 2,1,3-Benzothiadiazole Radicals Leads to Improved Cyclability. ACS Energy Letters, 2017, 2, 1156-1161.	17.4	160
61	Progress and directions in low-cost redox-flow batteries for large-scale energy storage. National Science Review, 2017, 4, 91-105.	9.5	131
62	Improving Lithiumâ€"Sulfur Battery Performance under Lean Electrolyte through Nanoscale Confinement in Soft Swellable Gels. Nano Letters, 2017, 17, 3061-3067.	9.1	122
63	Multinuclear NMR Study of the Solid Electrolyte Interface Formed in Lithium Metal Batteries. ACS Applied Materials & Interfaces, 2017, 9, 14741-14748.	8.0	47
64	New Insights on the Structure of Electrochemically Deposited Lithium Metal and Its Solid Electrolyte Interphases via Cryogenic TEM. Nano Letters, 2017, 17, 7606-7612.	9.1	308
65	Controlling Solidâ€"Liquid Conversion Reactions for a Highly Reversible Aqueous Zincâ€"Iodine Battery. ACS Energy Letters, 2017, 2, 2674-2680.	17.4	207
66	Suppressing Lithium Dendrite Growth by Metallic Coating on a Separator. Advanced Functional Materials, 2017, 27, 1704391.	14.9	141
67	Non-encapsulation approach for high-performance Liâ€"S batteries through controlled nucleation and growth. Nature Energy, 2017, 2, 813-820.	39.5	326
68	Effects of Anion Mobility on Electrochemical Behaviors of Lithiumâ€"Sulfur Batteries. Chemistry of Materials, 2017, 29, 9023-9029.	6.7	35
69	Materials and Systems for Organic Redox Flow Batteries: Status and Challenges. ACS Energy Letters, 2017, 2, 2187-2204.	17.4	359
70	Restricting the Solubility of Polysulfides in Liâ€S Batteries Via Electrolyte Salt Selection. Advanced Energy Materials, 2016, 6, 1600160.	19.5	66
71	Effect of the Anion Activity on the Stability of Li Metal Anodes in Lithiumâ€Sulfur Batteries. Advanced Functional Materials, 2016, 26, 3059-3066.	14.9	117
72	Double Epitaxy as a Paradigm for Templated Growth of Highly Ordered Three-Dimensional Mesophase Crystals. ACS Nano, 2016, 10, 8670-8675.	14.6	2

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73	A symmetric organic-based nonaqueous redox flow battery and its state of charge diagnostics by FTIR. Journal of Materials Chemistry A, 2016, 4, 5448-5456.	10.3	167
74	Reversible aqueous zinc/manganese oxide energy storage from conversion reactions. Nature Energy, 2016, 1, .	39.5	2,186
75	Metalâ€“Organic Frameworks as Highly Active Electrocatalysts for High-Energy Density, Aqueous Zinc-Polyiodide Redox Flow Batteries. Nano Letters, 2016, 16, 4335-4340.	9.1	79
76	An Aqueous Redox Flow Battery Based on Neutral Alkali Metal Ferri/ferrocyanide and Polysulfide Electrolytes. Journal of the Electrochemical Society, 2016, 163, A5150-A5153.	2.9	64
77	Anion-Tunable Properties and Electrochemical Performance of Functionalized Ferrocene Compounds. Scientific Reports, 2015, 5, 14117.	3.3	62
78	Molecular-confinement of polysulfides within mesoscale electrodes for the practical application of lithium sulfur batteries. Nano Energy, 2015, 13, 267-274.	16.0	50
79	High performance Li-ion sulfur batteries enabled by intercalation chemistry. Chemical Communications, 2015, 51, 13454-13457.	4.1	55
80	On the Way Toward Understanding Solution Chemistry of Lithium Polysulfides for High Energy Liâ€“S Redox Flow Batteries. Advanced Energy Materials, 2015, 5, 1500113.	19.5	142
81	Following the Transient Reactions in Lithiumâ€“Sulfur Batteries Using an In Situ Nuclear Magnetic Resonance Technique. Nano Letters, 2015, 15, 3309-3316.	9.1	107
82	Ambipolar zinc-polyiodide electrolyte for a high-energy density aqueous redox flow battery. Nature Communications, 2015, 6, 6303.	12.8	392
83	Direct Observation of the Redistribution of Sulfur and Polysufides in Liâ€“S Batteries During the First Cycle by In Situ Xâ€Ray Fluorescence Microscopy. Advanced Energy Materials, 2015, 5, 1500072.	19.5	84
84	High Energy Density Lithiumâ€“Sulfur Batteries: Challenges of Thick Sulfur Cathodes. Advanced Energy Materials, 2015, 5, 1402290.	19.5	483
85	Towards Highâ€Performance Nonaqueous Redox Flow Electrolyte Via Ionic Modification of Active Species. Advanced Energy Materials, 2015, 5, 1400678.	19.5	181
86	Failure Mechanism for Fastâ€Charged Lithium Metal Batteries with Liquid Electrolytes. Advanced Energy Materials, 2015, 5, 1400993.	19.5	540
87	Manipulating surface reactions in lithiumâ€“sulphur batteries using hybrid anode structures. Nature Communications, 2014, 5, 3015.	12.8	290
88	Mesoporous silicon sponge as an anti-pulverization structure for high-performance lithium-ion battery anodes. Nature Communications, 2014, 5, 4105.	12.8	1,160
89	Molecular structure and stability of dissolved lithium polysulfide species. Physical Chemistry Chemical Physics, 2014, 16, 10923-10932.	2.8	210
90	Dendrite-Free Lithium Deposition via Self-Healing Electrostatic Shield Mechanism. Journal of the American Chemical Society, 2013, 135, 4450-4456.	13.7	1,736

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91	Ionic liquid-enhanced solid state electrolyte interface (SEI) for lithiumâ€“sulfur batteries. Journal of Materials Chemistry A, 2013, 1, 8464.	10.3	229
92	Controlled Nucleation and Growth Process of Li₂S₂/Li₂S in Lithium-Sulfur Batteries. Journal of the Electrochemical Society, 2013, 160, A1992-A1996.	2.9	89
93	How to Obtain Reproducible Results for Lithium Sulfur Batteries?. Journal of the Electrochemical Society, 2013, 160, A2288-A2292.	2.9	149
94	Revisit Carbon/Sulfur Composite for Li-S Batteries. Journal of the Electrochemical Society, 2013, 160, A1624-A1628.	2.9	98
95	Electrochemical Energy Storage for Green Grid. Chemical Reviews, 2011, 111, 3577-3613.	47.7	4,276
96	A Stable Vanadium Redoxâ€Flow Battery with High Energy Density for Largeâ€Scale Energy Storage. Advanced Energy Materials, 2011, 1, 394-400.	19.5	688
97	Free-standing V2O5 electrode for flexible lithium ion batteries. Electrochemistry Communications, 2011, 13, 383-386.	4.7	93
98	Complex and oriented ZnO nanostructures. Nature Materials, 2003, 2, 821-826.	27.5	1,404
99	Systematic Evaluation of Carbon Hosts for High-Energy Rechargeable Lithium-Metal Batteries. ACS Energy Letters, 0, , 1550-1559.	17.4	20
100	Enabling High-Voltage Lithium Metal Batteries Under Practical Conditions. SSRN Electronic Journal, 0, , .	0.4	0