Matthew Li

List of Publications by Year in descending order

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82 papers	12,837 citations	41344 49 h-index	62596 80 g-index
85 all docs	85 docs citations	85 times ranked	11554 citing authors

#	Article	IF	Citations
1	30 Years of Lithiumâ€Ion Batteries. Advanced Materials, 2018, 30, e1800561.	21.0	3,039
2	Commercialization of Lithium Battery Technologies for Electric Vehicles. Advanced Energy Materials, 2019, 9, 1900161.	19.5	865
3	Siliconâ€Based Anodes for Lithiumâ€Ion Batteries: From Fundamentals to Practical Applications. Small, 2018, 14, 1702737.	10.0	650
4	New Concepts in Electrolytes. Chemical Reviews, 2020, 120, 6783-6819.	47.7	554
5	Revisiting the Role of Polysulfides in Lithiumâ€“Sulfur Batteries. Advanced Materials, 2018, 30, e1705590.	21.0	456
6	Bridging the academic and industrial metrics for next-generation practical batteries. Nature Nanotechnology, 2019, 14, 200-207.	31.5	420
7	Interlayer Material Selection for Lithium-Sulfur Batteries. Joule, 2019, 3, 361-386.	24.0	406
8	A disordered rock salt anode for fast-charging lithium-ion batteries. Nature, 2020, 585, 63-67.	27.8	326
9	Electrochemically activated spinel manganese oxide for rechargeable aqueous aluminum battery. Nature Communications, 2019, 10, 73.	12.8	291
10	Design strategies for nonaqueous multivalent-ion and monovalent-ion battery anodes. Nature Reviews Materials, 2020, 5, 276-294.	48.7	284
11	Rejuvenating dead lithium supply in lithium metal anodes by iodine redox. Nature Energy, 2021, 6, 378-387.	39.5	282
12	Cobalt in lithium-ion batteries. Science, 2020, 367, 979-980.	12.6	280
13	Understanding Co roles towards developing Co-free Ni-rich cathodes for rechargeable batteries. Nature Energy, 2021, 6, 277-286.	39.5	255
14	The Recycling of Spent Lithium-Ion Batteries: a Review of Current Processes and Technologies. Electrochemical Energy Reviews, 2018, 1, 461-482.	25.5	215
15	Rational Design of a Ni₃N_{0.85} Electrocatalyst to Accelerate Polysulfide Conversion in Lithiumâ€“Sulfur Batteries. ACS Nano, 2020, 14, 6673-6682.	14.6	212
16	Chemisorption of polysulfides through redox reactions with organic molecules for lithiumâ€“sulfur batteries. Nature Communications, 2018, 9, 705.	12.8	207
17	Controllable Urchinâ€Like NiCo₂S₄ Microsphere Synergized with Sulfurâ€Doped Graphene as Bifunctional Catalyst for Superior Rechargeable Znâ€“Air Battery. Advanced Functional Materials, 2018, 28, 1706675.	14.9	203
18	Revealing the Rapid Electrocatalytic Behavior of Ultrafine Amorphous Defective Nb₂O_{5â€“x} Nanocluster toward Superior Liâ€“S Performance. ACS Nano, 2020, 14, 4849-4860.	14.6	201

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19	Cation-doped ZnS catalysts for polysulfide conversion in lithiumâ€“sulfur batteries. Nature Catalysis, 2022, 5, 555-563.	34.4	198
20	Correlation between manganese dissolution and dynamic phase stability in spinel-based lithium-ion battery. Nature Communications, 2019, 10, 4721.	12.8	182
21	Heteroatomâ€Doped Porous Carbon Materials with Unprecedented High Volumetric Capacitive Performance. Angewandte Chemie - International Edition, 2019, 58, 2397-2401.	13.8	178
22	Synergistic Engineering of Defects and Architecture in Binary Metal Chalcogenide toward Fast and Reliable Lithiumâ€“Sulfur Batteries. Advanced Energy Materials, 2019, 9, 1900228.	19.5	177
23	Constructing multifunctional solid electrolyte interface via in-situ polymerization for dendrite-free and low N/P ratio lithium metal batteries. Nature Communications, 2021, 12, 186.	12.8	163
24	Cationic and anionic redox in lithium-ion based batteries. Chemical Society Reviews, 2020, 49, 1688-1705.	38.1	152
25	Defect Engineering for Expediting Liâ€“S Chemistry: Strategies, Mechanisms, and Perspectives. Advanced Energy Materials, 2021, 11, 2100332.	19.5	143
26	Bambooâ€Like Nitrogenâ€Doped Carbon Nanotube Forests as Durable Metalâ€Free Catalysts for Selfâ€Powered Flexible Liâ€“CO₂ Batteries. Advanced Materials, 2019, 31, e1903852.	21.0	141
27	Activating Li₂S as the Lithium-Containing Cathode in Lithiumâ€“Sulfur Batteries. ACS Energy Letters, 2020, 5, 2234-2245.	17.4	125
28	Graphene Quantum Dotsâ€Based Advanced Electrode Materials: Design, Synthesis and Their Applications in Electrochemical Energy Storage and Electrocatalysis. Advanced Energy Materials, 2020, 10, 2001275.	19.5	109
29	Gas Pickering Emulsion Templated Hollow Carbon for High Rate Performance Lithium Sulfur Batteries. Advanced Functional Materials, 2016, 26, 8408-8417.	14.9	98
30	Electrolyte Design for Lithium Metal Anodeâ€Based Batteries Toward Extreme Temperature Application. Advanced Science, 2021, 8, e2101051.	11.2	95
31	Silica Restricting the Sulfur Volatilization of Nickel Sulfide for Highâ€Performance Lithiumâ€Ion Batteries. Advanced Energy Materials, 2019, 9, 1901153.	19.5	94
32	Construction of Hierarchically Porous Nanoparticles@Metalâ€“Organic Frameworks Composites by Inherent Defects for the Enhancement of Catalytic Efficiency. Advanced Materials, 2018, 30, e1803263.	21.0	88
33	Functionalized separator for next-generation batteries. Materials Today, 2020, 41, 143-155.	14.2	87
34	Design of Quasiâ€MOF Nanospheres as a Dynamic Electrocatalyst toward Accelerated Sulfur Reduction Reaction for Highâ€Performance Lithiumâ€“Sulfur Batteries. Advanced Materials, 2022, 34, e2105541.	21.0	87
35	Ultradispersed WxC nanoparticles enable fast polysulfide interconversion for high-performance Li-S batteries. Nano Energy, 2019, 59, 636-643.	16.0	83
36	A Lithiumâ€“Sulfur Battery using a 2D Current Collector Architecture with a Largeâ€Sized Sulfur Host Operated under High Areal Loading and Low E/S Ratio. Advanced Materials, 2018, 30, e1804271.	21.0	74

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37	Strain-Modulated Platinumâ€“Palladium Nanowires for Oxygen Reduction Reaction. Nano Letters, 2020, 20, 2416-2422.	9.1	70
38	Porous organic polymers for Li-chemistry-based batteries: functionalities and characterization studies. Chemical Society Reviews, 2022, 51, 2917-2938.	38.1	65
39	Rooting binder-free tin nanoarrays into copper substrate via tin-copper alloying for robust energy storage. Nature Communications, 2020, 11, 1212.	12.8	64
40	Hair-based flexible knittable supercapacitor with wide operating voltage and ultra-high rate capability. Nano Energy, 2017, 34, 491-499.	16.0	62
41	Chemical Heterointerface Engineering on Hybrid Electrode Materials for Electrochemical Energy Storage. Small Methods, 2021, 5, e2100444.	8.6	62
42	An Ultrafast, Durable, and Highâ€Loading Polymer Anode for Aqueous Zincâ€ion Batteries and Supercapacitors. Advanced Materials, 2022, 34, e2200077.	21.0	60
43	Green Solid Electrolyte with Cofunctionalized Nanocellulose/Graphene Oxide Interpenetrating Network for Electrochemical Gas Sensors. Small Methods, 2017, 1, 1700237.	8.6	58
44	Continuous fabrication of a MnS/Co nanofibrous air electrode for wide integration of rechargeable zincâ€“air batteries. Nanoscale, 2017, 9, 15865-15872.	5.6	58
45	Role of Lithium Doping in P2-Na_{0.67}Ni_{0.33}Mn_{0.67}O₂ for Sodium-Ion Batteries. Chemistry of Materials, 2021, 33, 4445-4455.	6.7	56
46	Li₂Sâ€•or Sâ€Based Lithiumâ€Ion Batteries. Advanced Materials, 2018, 30, e1801190.	21.0	54
47	Crystalâ€Growthâ€Dominated Fabrication of Metalâ€“Organic Frameworks with Orderly Distributed Hierarchical Porosity. Angewandte Chemie - International Edition, 2020, 59, 2457-2464.	13.8	53
48	Building sponge-like robust architectures of CNTâ€“grapheneâ€“Si composites with enhanced rate and cycling performance for lithium-ion batteries. Journal of Materials Chemistry A, 2015, 3, 3962-3967.	10.3	51
49	Selective Growth of a Discontinuous Subnanometer Pd Film on Carbon Defects for Liâ€“O₂ Batteries. ACS Energy Letters, 2019, 4, 2782-2786.	17.4	50
50	Electrochemically primed functional redox mediator generator from the decomposition of solid state electrolyte. Nature Communications, 2019, 10, 1890.	12.8	49
51	Compact high volumetric and areal capacity lithium sulfur batteries through rock salt induced nano-architectured sulfur hosts. Journal of Materials Chemistry A, 2017, 5, 21435-21441.	10.3	45
52	Evolution of atomic-scale dispersion of FeNx in hierarchically porous 3D air electrode to boost the interfacial electrocatalysis of oxygen reduction in PEMFC. Nano Energy, 2021, 83, 105734.	16.0	41
53	Advanced Electrode Materials Comprising of Structureâ€Engineered Quantum Dots for Highâ€Performance Asymmetric Microâ€Supercapacitors. Advanced Energy Materials, 2020, 10, 1903724.	19.5	36
54	Toward a mechanistic understanding of electrocatalytic nanocarbon. Nature Communications, 2021, 12, 3288.	12.8	35

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55	Heteroatomâ€Doped Porous Carbon Materials with Unprecedented High Volumetric Capacitive Performance. Angewandte Chemie, 2019, 131, 2419-2423.	2.0	34
56	Engineering Electrochemical Surface for Efficient Carbon Dioxide Upgrade. Advanced Energy Materials, 2022, 12, .	19.5	33
57	Vanadium Pentoxide Nanorods Anchored to and Wrapped with Graphene Nanosheets for Highâ€Power Asymmetric Supercapacitors. ChemElectroChem, 2015, 2, 1264-1269.	3.4	31
58	In Situ Localized Polysulfide Injector for the Activation of Bulk Lithium Sulfide. Journal of the American Chemical Society, 2021, 143, 2185-2189.	13.7	31
59	Micron-sized secondary Si/C composite with in situ crosslinked polymeric binder for high-energy-density lithium-ion battery anode. Electrochimica Acta, 2019, 309, 157-165.	5.2	29
60	Cation Additive Enabled Rechargeable LiOHâ€Based Lithiumâ€“Oxygen Batteries. Angewandte Chemie - International Edition, 2020, 59, 22978-22982.	13.8	29
61	Nanotechnology for Sulfur Cathodes. ACS Nano, 2021, 15, 8087-8094.	14.6	29
62	Tailoring the chemistry of blend copolymers boosting the electrochemical performance of Si-based anodes for lithium ion batteries. Journal of Materials Chemistry A, 2017, 5, 24159-24167.	10.3	28
63	The Absence and Importance of Operando Techniques for Metalâ€Free Catalysts. Advanced Materials, 2019, 31, e1805609.	21.0	25
64	Liâ€“CO₂ Batteries: Bambooâ€Like Nitrogenâ€Doped Carbon Nanotube Forests as Durable Metalâ€Free Catalysts for Selfâ€Powered Flexible Liâ€“CO₂ Batteries (Adv. Mater. 39/2019). Advanced Materials, 2019, 31, 1970279.	21.0	24
65	Oxygen-Based Anion Redox for Lithium Batteries. Accounts of Chemical Research, 2020, 53, 1436-1444.	15.6	21
66	Cationicâ€“anionic redox couple gradient to immunize against irreversible processes of Li-rich layered oxides. Journal of Materials Chemistry A, 2021, 9, 2325-2333.	10.3	20
67	(S)TEM-EELS as an advanced characterization technique for lithium-ion batteries. Materials Chemistry Frontiers, 2021, 5, 5186-5193.	5.9	20
68	In Situ Engineering of Intracellular Hemoglobin for Implantable Highâ€Performance Biofuel Cells. Angewandte Chemie - International Edition, 2019, 58, 6663-6668.	13.8	19
69	Flexible high performance lithium ion battery electrode based on a free-standing TiO₂ nanocrystals/carbon cloth composite. RSC Advances, 2016, 6, 35479-35485.	3.6	12
70	Engineering Solvation Complexâ€“Membrane Interaction to Suppress Cation Crossover in 3 V Cuâ€Al Battery. Small, 2020, 16, 2003438.	10.0	11
71	In Situ Engineering of Intracellular Hemoglobin for Implantable Highâ€Performance Biofuel Cells. Angewandte Chemie, 2019, 131, 6735-6740.	2.0	10
72	Cation Additive Enabled Rechargeable LiOHâ€Based Lithiumâ€“Oxygen Batteries. Angewandte Chemie, 2020, 132, 23178-23182.	2.0	8

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73	Highly Stable Low-Cost Electrochemical Gas Sensor with an Alcohol-Tolerant N,S-Codoped Non-Precious Metal Catalyst Air Cathode. ACS Sensors, 2021, 6, 752-763.	7.8	7
74	Evidence of Morphological Change in Sulfur Cathodes upon Irradiation by Synchrotron X-rays. ACS Energy Letters, 2022, 7, 577-582.	17.4	7
75	Exploring the charge reactions in a Liâ€“O₂ system with lithium oxide cathodes and nonaqueous electrolytes. Journal of Materials Chemistry A, 2019, 7, 15615-15620.	10.3	6
76	Crystalâ€Growthâ€Dominated Fabrication of Metalâ€“Organic Frameworks with Orderly Distributed Hierarchical Porosity. Angewandte Chemie, 2020, 132, 2478-2485.	2.0	5
77	Conformal formation of Carbon-TiOX matrix encapsulating silicon for high-performance lithium-ion battery anode. Journal of Power Sources, 2018, 399, 98-104.	7.8	4
78	Ferric sauce for potassium-ion battery. Nature Sustainability, 2022, 5, 183-184.	23.7	2
79	Batteries: Gas Pickering Emulsion Templated Hollow Carbon for High Rate Performance Lithium Sulfur Batteries (Adv. Funct. Mater. 46/2016). Advanced Functional Materials, 2016, 26, 8563-8563.	14.9	1
80	Vanadium Pentoxide Nanorods Anchored to and Wrapped with Graphene Nanosheets for Highâ€Power Asymmetric Supercapacitors. ChemElectroChem, 2015, 2, 1210-1210.	3.4	0
81	Titelbild: Cation Additive Enabled Rechargeable LiOHâ€Based Lithiumâ€“Oxygen Batteries (Angew. Chem.) Tj ETQq1 1 0.784314 rgBT /O	2.0	0
82	Design of Quasiâ€MOF Nanospheres as a Dynamic Electrocatalyst toward Accelerated Sulfur Reduction Reaction for Highâ€Performance Lithiumâ€“Sulfur Batteries (Adv. Mater. 2/2022). Advanced Materials, 2022, 34, .	21.0	0