Minghao Zhang

List of Publications by Year
in descending order

62 papers	6,456 citations	101543 36 h-index	118850 62 g-index
63 all docs	63 docs citations	63 times ranked	6033 citing authors

#	Article	IF	Citations
1	Quantifying inactive lithium in lithium metal batteries. Nature, 2019, 572, 511-515.	27.8	852
2	Gasâ€“solid interfacial modification of oxygen activity in layered oxide cathodes for lithium-ion batteries. Nature Communications, 2016, 7, 12108.	12.8	531
3	Narrowing the Gap between Theoretical and Practical Capacities in Liâ€Ion Layered Oxide Cathode Materials. Advanced Energy Materials, 2017, 7, 1602888.	19.5	455
4	Bisalt ether electrolytes: a pathway towards lithium metal batteries with Ni-rich cathodes. Energy and Environmental Science, 2019, 12, 780-794.	30.8	310
5	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
6	Performance and design considerations for lithium excess layered oxide positive electrode materials for lithium ion batteries. Energy and Environmental Science, 2016, 9, 1931-1954.	30.8	295
7	Sodiumâ€Ion Batteries Paving the Way for Grid Energy Storage. Advanced Energy Materials, 2020, 10, 2001274.	19.5	265
8	A carbonate-free, sulfone-based electrolyte for high-voltage Li-ion batteries. Materials Today, 2018, 21, 341-353.	14.2	258
9	Coâ€Construction of Sulfur Vacancies and Heterojunctions in Tungsten Disulfide to Induce Fast Electronic/Ionic Diffusion Kinetics for Sodiumâ€Ion Batteries. Advanced Materials, 2020, 32, e2005802.	21.0	244
10	Pressure-tailored lithium deposition and dissolution in lithium metal batteries. Nature Energy, 2021, 6, 987-994.	39.5	208
11	Ambientâ€Pressure Relithiation of Degraded Li<i>_x</i>Ni_{0.5}Co_{0.2}Mn_{0.3}O₂ (0 <) Tj ETQq1 1 0.784314 rgBT /Ov Advanced Energy Materials, 2019, 9, 1900454.	19.5	189
12	Glassy Li metal anode for high-performance rechargeable Li batteries. Nature Materials, 2020, 19, 1339-1345.	27.5	162
13	Boost sodium-ion batteries to commercialization: Strategies to enhance initial Coulombic efficiency of hard carbon anode. Nano Energy, 2021, 82, 105738.	16.0	161
14	Ultrathin Al2O3 Coatings for Improved Cycling Performance and Thermal Stability of LiNi0.5Co0.2Mn0.3O2 Cathode Material. Electrochimica Acta, 2016, 203, 154-161.	5.2	155
15	Unveiling the Stable Nature of the Solid Electrolyte Interphase between Lithium Metal and LiPON via Cryogenic Electron Microscopy. Joule, 2020, 4, 2484-2500.	24.0	136
16	Lotus Seedpod-Derived Hard Carbon with Hierarchical Porous Structure as Stable Anode for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2019, 11, 12554-12561.	8.0	131
17	Liquefied gas electrolytes for wide-temperature lithium metal batteries. Energy and Environmental Science, 2020, 13, 2209-2219.	30.8	120
18	Local structure adaptability through multi cations for oxygen redox accommodation in Li-Rich layered oxides. Energy Storage Materials, 2020, 24, 384-393.	18.0	101

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19	Operando Lithium Dynamics in the Liâ€Rich Layered Oxide Cathode Material via Neutron Diffraction. Advanced Energy Materials, 2016, 6, 1502143.	19.5	98
20	Understanding and Controlling Anionic Electrochemical Activity in High-Capacity Oxides for Next Generation Li-Ion Batteries. Chemistry of Materials, 2017, 29, 908-915.	6.7	97
21	Pushing the limit of 3d transition metal-based layered oxides that use both cation and anion redox for energy storage. Nature Reviews Materials, 2022, 7, 522-540.	48.7	92
22	Understanding the Role of NH₄F and Al₂O₃ Surface Co-modification on Lithium-Excess Layered Oxide Li_{1.2}Ni_{0.2}Mn_{0.6}O₂. ACS Applied Materials & Interfaces, 2015, 7, 19189-19200.	8.0	87
23	Urea-based hydrothermal synthesis of LiNi0.5Co0.2Mn0.3O2 cathode material for Li-ion battery. Journal of Power Sources, 2018, 394, 114-121.	7.8	86
24	The structure, morphology, and electrochemical properties of Li1+xNi1/6Co1/6Mn4/6O2.25+x/2 (0.1â‰¤xâ‰¤0.7) cathode materials. Electrochimica Acta, 2012, 66, 61-66.	5.2	61
25	One-step hydrothermal method synthesis of coreâ€“shell LiNi0.5Mn1.5O4 spinel cathodes for Li-ion batteries. Journal of Power Sources, 2014, 256, 66-71.	7.8	61
26	Metal Chalcogenides with Heterostructures for Highâ€Performance Rechargeable Batteries. Small Science, 2021, 1, 2100012.	9.9	61
27	Role of electrolyte in stabilizing hard carbon as an anode for rechargeable sodium-ion batteries with long cycle life. Energy Storage Materials, 2021, 42, 78-87.	18.0	61
28	Revisiting Discharge Mechanism of CF_x as a High Energy Density Cathode Material for Lithium Primary Battery. Advanced Energy Materials, 2022, 12, .	19.5	61
29	Structural insights into composition design of Li-rich layered cathode materials for high-energy rechargeable battery. Materials Today, 2021, 51, 15-26.	14.2	60
30	Enabling high areal capacity for Co-free high voltage spinel materials in next-generation Li-ion batteries. Journal of Power Sources, 2020, 473, 228579.	7.8	55
31	Hyperaccumulation Route to Ca-Rich Hard Carbon Materials with Cation Self-Incorporation and Interlayer Spacing Optimization for High-Performance Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2020, 12, 10544-10553.	8.0	53
32	Identifying the chemical and structural irreversibility in LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ â€“ a model compound for classical layered intercalation. Journal of Materials Chemistry A, 2018, 6, 4189-4198.	10.3	48
33	In situ TEM observation of the electrochemical lithiation of N-doped anatase TiO₂ nanotubes as anodes for lithium-ion batteries. Journal of Materials Chemistry A, 2017, 5, 20651-20657.	10.3	45
34	Microwave synthesis of spherical spinel LiNi0.5Mn1.5O4 as cathode material for lithium-ion batteries. Journal of Alloys and Compounds, 2012, 518, 68-73.	5.5	40
35	Elucidating the Effect of Borate Additive in Highâ€Voltage Electrolyte for Liâ€Rich Layered Oxide Materials. Advanced Energy Materials, 2022, 12, .	19.5	38
36	Metastability and Reversibility of Anionic Redox-Based Cathode for High-Energy Rechargeable Batteries. Cell Reports Physical Science, 2020, 1, 100028.	5.6	37

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37	Conformal three-dimensional interphase of Li metal anode revealed by low-dose cryoelectron microscopy. Matter, 2021, 4, 3741-3752.	10.0	37
38	Self-Assembled Framework Formed During Lithiation of SnS₂ Nanoplates Revealed by in Situ Electron Microscopy. Accounts of Chemical Research, 2017, 50, 1513-1520.	15.6	29
39	Regeneration of degraded Li-rich layered oxide materials through heat treatment-induced transition metal reordering. Energy Storage Materials, 2021, 35, 99-107.	18.0	27
40	Microwave-irradiation synthesis of Li1.3NixCoyMn1â^'xâ^'yO2.4 cathode materials for lithium ion batteries. Electrochimica Acta, 2012, 80, 15-21.	5.2	26
41	Boosting the ultrahigh initial coulombic efficiency of porous carbon anodes for sodium-ion batteries<i>via in situ</i>fabrication of a passivation interface. Journal of Materials Chemistry A, 2021, 9, 10780-10788.	10.3	24
42	Artificial cathode electrolyte interphase for improving high voltage cycling stability of thick electrode with Co-free 5 V spinel oxides. Energy Storage Materials, 2022, 49, 77-84.	18.0	22
43	Perspective: Design of cathode materials for sustainable sodium-ion batteries. MRS Energy & Sustainability, 2022, 9, 183-197.	3.0	22
44	Effects of Angular Fillers on Thermal Runaway of Lithium-Ion Battery. Journal of Materials Science and Technology, 2016, 32, 1117-1121.	10.7	21
45	Modified Coprecipitation Synthesis of Mesostructure-Controlled Li-Rich Layered Oxides for Minimizing Voltage Degradation. ACS Applied Energy Materials, 2018, 1, 3369-3376.	5.1	21
46	Leveraging cryogenic electron microscopy for advancing battery design. Matter, 2022, 5, 26-42.	10.0	20
47	Exothermic behaviors of mechanically abused lithium-ion batteries with dibenzylamine. Journal of Power Sources, 2016, 326, 514-521.	7.8	19
48	Mitigating oxygen release in anionic-redox-active cathode materials by cationic substitution through rational design. Journal of Materials Chemistry A, 2018, 6, 24651-24659.	10.3	18
49	Role of Amines in Thermal-Runaway-Mitigating Lithium-Ion Battery. ACS Applied Materials & Interfaces, 2016, 8, 30956-30963.	8.0	16
50	Mitigating thermal runaway of lithium-ion battery through electrolyte displacement. Applied Physics Letters, 2017, 110, .	3.3	16
51	The Negative Impact of Transition Metal Migration on Oxygen Redox Activity of Layered Cathode Materials for Na-Ion Batteries. Journal of the Electrochemical Society, 2021, 168, 040539.	2.9	16
52	High Pressure Effect on Structural and Electrochemical Properties of Anionic Redox-Based Lithium Transition Metal Oxides. Matter, 2021, 4, 164-181.	10.0	15
53	Unraveling the Stable Cathode Electrolyte Interface in all Solidâ€State Thinâ€Film Battery Operating at 5ÂV. Advanced Energy Materials, 2022, 12, .	19.5	15
54	Quantifying lithium loss in amorphous silicon thin-film anodes via titration-gas chromatography. Cell Reports Physical Science, 2021, 2, 100597.	5.6	14

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55	Comprehensive study of a versatile polyol synthesis approach for cathode materials for Li-ion batteries. Nano Research, 2019, 12, 2238-2249.	10.4	13
56	Meso-Structure Controlled Synthesis of Sodium Iron-Manganese Oxides Cathode for Low-Cost Na-Ion Batteries. Journal of the Electrochemical Society, 2019, 166, A2528-A2535.	2.9	12
57	Internal short circuit mitigation of high-voltage lithium-ion batteries with functional current collectors. RSC Advances, 2017, 7, 45662-45667.	3.6	11
58	Preparation and characterization of self-healing furan-terminated polybutadiene (FTPB) based on Dielsâ€“Alder reaction. RSC Advances, 2021, 11, 32369-32375.	3.6	5
59	Disorder Dynamics in Battery Nanoparticles During Phase Transitions Revealed by Operando Singleâ€Particle Diffraction. Advanced Energy Materials, 2022, 12, .	19.5	5
60	Effects of electrode pattern on thermal runaway of lithium-ion battery. International Journal of Damage Mechanics, 2018, 27, 74-81.	4.2	4
61	Structure-Selective Operando X-ray Spectroscopy. ACS Energy Letters, 2022, 7, 261-266.	17.4	1
62	Development of Cryogenic Techniques for Characterizing Energy Storage Materials in Electrochemical Process. Microscopy and Microanalysis, 2020, 26, 1826-1827.	0.4	0