Enyuan Hu

List of Publications by Year
in descending order

109	12,587	31976 53	26613 107
papers	citations	h-index	g-index

115	115	115	10357
all docs	docs citations	times ranked	citing authors

#	ARTICLE	IF	CITATIONS
1	Structural Changes and Thermal Stability of Charged LiNi_{<i>x</i>}Mn_{<i>y</i>}Co_{<i>z</i>}O₂ Cathode Materials Studied by Combined <i>In Situ</i> Time-Resolved XRD and Mass Spectroscopy. ACS Applied Materials & Interfaces, 2014, 6, 22594-22601.	8.0	731
2	Solvation Structure Design for Aqueous Zn Metal Batteries. Journal of the American Chemical Society, 2020, 142, 21404-21409.	13.7	680
3	Evolution of redox couples in Li- and Mn-rich cathode materials and mitigation of voltage fade by reducing oxygen release. Nature Energy, 2018, 3, 690-698.	39.5	675
4	Trace doping of multiple elements enables stable battery cycling of LiCoO2 at 4.6â€‰V. Nature Energy, 2019, 4, 594-603.	39.5	572
5	Fluorinated interphase enables reversible aqueous zinc battery chemistries. Nature Nanotechnology, 2021, 16, 902-910.	31.5	560
6	Reversible planar gliding and microcracking in a single-crystalline Ni-rich cathode. Science, 2020, 370, 1313-1317.	12.6	472
7	Combining In Situ Synchrotron Xâ€Ray Diffraction and Absorption Techniques with Transmission Electron Microscopy to Study the Origin of Thermal Instability in Overcharged Cathode Materials for Lithiumâ€Ion Batteries. Advanced Functional Materials, 2013, 23, 1047-1063.	14.9	458
8	Singleâ€Crystalline Ultrathin Co₃O₄ Nanosheets with Massive Vacancy Defects for Enhanced Electrocatalysis. Advanced Energy Materials, 2018, 8, 1701694.	19.5	451
9	A highly active and stable hydrogen evolution catalyst based on pyrite-structured cobalt phosphosulfide. Nature Communications, 2016, 7, 10771.	12.8	418
10	Correlating Structural Changes and Gas Evolution during the Thermal Decomposition of Charged Li_{<i>x</i>}Ni_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode Materials. Chemistry of Materials, 2013, 25, 337-351.	6.7	317
11	Structure-Induced Reversible Anionic Redox Activity in Na Layered Oxide Cathode. Joule, 2018, 2, 125-140.	24.0	311
12	Designing Air-Stable O3-Type Cathode Materials by Combined Structure Modulation for Na-Ion Batteries. Journal of the American Chemical Society, 2017, 139, 8440-8443.	13.7	303
13	Anionic Redox Reaction-Induced High-Capacity and Low-Strain Cathode with Suppressed Phase Transition. Joule, 2019, 3, 503-517.	24.0	262
14	A rechargeable aqueous Zn²⁺-battery with high power density and a long cycle-life. Energy and Environmental Science, 2018, 11, 3168-3175.	30.8	258
15	Highâ€Voltage Chargingâ€Induced Strain, Heterogeneity, and Microâ€Cracks in Secondary Particles of a Nickelâ€Rich Layered Cathode Material. Advanced Functional Materials, 2019, 29, 1900247.	14.9	219
16	A Redoxâ€Active 2D Metalâ€“Organic Framework for Efficient Lithium Storage with Extraordinary High Capacity. Angewandte Chemie - International Edition, 2020, 59, 5273-5277.	13.8	189
17	Influence of Cation Ordering and Lattice Distortion on the Chargeâ€“Discharge Behavior of LiMn_{1.5}Ni_{0.5}O₄ Spinel between 5.0 and 2.0 V. Chemistry of Materials, 2012, 24, 3610-3620.	6.7	180
18	Tuning chargeâ€“discharge induced unit cell breathing in layer-structured cathode materials for lithium-ion batteries. Nature Communications, 2014, 5, 5381.	12.8	180

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19	Identification of LiH and nanocrystalline LiF in the solidâ€“electrolyte interphase of lithium metal anodes. Nature Nanotechnology, 2021, 16, 549-554.	31.5	171
20	Designing In-Situ-Formed Interphases Enables Highly Reversible Cobalt-Free LiNiO2 Cathode for Li-ion and Li-metal Batteries. Joule, 2019, 3, 2550-2564.	24.0	167
21	Visualizing non-equilibrium lithiation of spinel oxide via in situ transmission electron microscopy. Nature Communications, 2016, 7, 11441.	12.8	162
22	In situ Visualization of State-of-Charge Heterogeneity within a LiCoO₂ Particle that Evolves upon Cycling at Different Rates. ACS Energy Letters, 2017, 2, 1240-1245.	17.4	159
23	Structure and Interface Design Enable Stable Li-Rich Cathode. Journal of the American Chemical Society, 2020, 142, 8918-8927.	13.7	151
24	Highly Reversible Aqueous Zinc Batteries enabled by Zincophilicâ€“Zincophobic Interfacial Layers and Interrupted Hydrogenâ€Bond Electrolytes. Angewandte Chemie - International Edition, 2021, 60, 18845-18851.	13.8	150
25	Achieving High Energy Density through Increasing the Output Voltage: A Highly Reversible 5.3ÂV Battery. CheM, 2019, 5, 896-912.	11.7	145
26	Understanding the Degradation Mechanism of Lithium Nickel Oxide Cathodes for Li-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 31677-31683.	8.0	144
27	Additive engineering for robust interphases to stabilize high-Ni layered structures at ultra-high voltage of 4.8â€‰V. Nature Energy, 2022, 7, 484-494.	39.5	138
28	Empowering the Lithium Metal Battery through a Silicon-Based Superionic Conductor. Journal of the Electrochemical Society, 2014, 161, A1812-A1817.	2.9	137
29	High energy-density and reversibility of iron fluoride cathode enabled via an intercalation-extrusion reaction. Nature Communications, 2018, 9, 2324.	12.8	136
30	A Replacement Reaction Enabled Interdigitated Metal/Solid Electrolyte Architecture for Battery Cycling at 20 mA cm^{â€“2} and 20 mAh cm^{â€“2}. Journal of the American Chemical Society, 2021, 143, 3143-3152.	13.7	132
31	Layered double hydroxides with atomic-scale defects for superior electrocatalysis. Nano Research, 2018, 11, 4524-4534.	10.4	130
32	How Water Accelerates Bivalent Ion Diffusion at the Electrolyte/Electrode Interface. Angewandte Chemie - International Edition, 2018, 57, 11978-11981.	13.8	123
33	Advanced Characterization Techniques for Sodiumâ€Ion Battery Studies. Advanced Energy Materials, 2018, 8, 1702588.	19.5	122
34	A novel P3-type Na_{2/3}Mg_{1/3}Mn_{2/3}O₂ as high capacity sodium-ion cathode using reversible oxygen redox. Journal of Materials Chemistry A, 2019, 7, 1491-1498.	10.3	122
35	Atomically Dispersed Nickel(I) on an Alloyâ€Encapsulated Nitrogenâ€Doped Carbon Nanotube Array for Highâ€Performance Electrochemical CO₂ Reduction Reaction. Angewandte Chemie - International Edition, 2020, 59, 12055-12061.	13.8	117
36	Activating Layered Double Hydroxide with Multivacancies by Memory Effect for Energy-Efficient Hydrogen Production at Neutral pH. ACS Energy Letters, 2019, 4, 1412-1418.	17.4	115

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37	Understanding the Low-Voltage Hysteresis of Anionic Redox in Na₂Mn₃O₇. Chemistry of Materials, 2019, 31, 3756-3765.	6.7	112
38	Highâ€Rate Charging Induced Intermediate Phases and Structural Changes of Layerâ€Structured Cathode for Lithiumâ€Ion Batteries. Advanced Energy Materials, 2016, 6, 1600597.	19.5	110
39	A chemically stabilized sulfur cathode for lean electrolyte lithium sulfur batteries. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 14712-14720.	7.1	102
40	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
41	Rejuvenating zinc batteries. Nature Materials, 2018, 17, 480-481.	27.5	88
42	Utilizing Co²⁺/Co³⁺ Redox Couple in P2â€Layered Na_{0.66}Co_{0.22}Mn_{0.44}Ti_{0.34}O₂ Cathode for Sodiumâ€Ion Batteries. Advanced Science, 2017, 4, 1700219.	11.2	85
43	Phase transition behavior of NaCrO2 during sodium extraction studied by synchrotron-based X-ray diffraction and absorption spectroscopy. Journal of Materials Chemistry A, 2013, 1, 11130.	10.3	84
44	Probing the Complexities of Structural Changes in Layered Oxide Cathode Materials for Li-Ion Batteries during Fast Chargeâ€“Discharge Cycling and Heating. Accounts of Chemical Research, 2018, 51, 290-298.	15.6	78
45	Oxygen-Release-Related Thermal Stability and Decomposition Pathways of Li_{<i>x</i>}Ni_{0.5}Mn_{1.5}O₄ Cathode Materials. Chemistry of Materials, 2014, 26, 1108-1118.	6.7	75
46	Characterization of the structure and chemistry of the solidâ€“electrolyte interface by cryo-EM leads to high-performance solid-state Li-metal batteries. Nature Nanotechnology, 2022, 17, 768-776.	31.5	75
47	Unexpected high power performance of atomic layer deposition coated Li[Ni1/3Mn1/3Co1/3]O2 cathodes. Journal of Power Sources, 2014, 254, 190-197.	7.8	73
48	Explore the Effects of Microstructural Defects on Voltage Fade of Li- and Mn-Rich Cathodes. Nano Letters, 2016, 16, 5999-6007.	9.1	64
49	Controlling Surface Phase Transition and Chemical Reactivity of O3-Layered Metal Oxide Cathodes for High-Performance Na-Ion Batteries. ACS Energy Letters, 2020, 5, 1718-1725.	17.4	64
50	Solâ€“Gel Synthesis of Aliovalent Vanadiumâ€Doped LiNi_{0.5}Mn_{1.5}O₄ Cathodes with Excellent Performance at High Temperatures. ChemSusChem, 2014, 7, 829-834.	6.8	60
51	Anomalous metal segregation in lithium-rich material provides design rules for stable cathode in lithium-ion battery. Nature Communications, 2019, 10, 1650.	12.8	60
52	Vacancyâ€Enabled O3 Phase Stabilization for Manganeseâ€Rich Layered Sodium Cathodes. Angewandte Chemie - International Edition, 2021, 60, 8258-8267.	13.8	59
53	Probing Reversible Multielectron Transfer and Structure Evolution of Li_{1.2}Cr_{0.4}Mn_{0.4}O₂ Cathode Material for Li-Ion Batteries in a Voltage Range of 1.0â€“4.8 V. Chemistry of Materials, 2015, 27, 5238-5252.	6.7	57
54	Oxygen-redox reactions in LiCoO2 cathode without Oâ€“O bonding during charge-discharge. Joule, 2021, 5, 720-736.	24.0	56

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55	Suppressing the voltage decay of low-cost P2-type iron-based cathode materials for sodium-ion batteries. Journal of Materials Chemistry A, 2018, 6, 20795-20803.	10.3	54
56	Hydrogen production from bio-oil aqueous fraction with in situ carbon dioxide capture. International Journal of Hydrogen Energy, 2010, 35, 2612-2616.	7.1	52
57	A study of building envelope and thermal mass requirements for achieving thermal autonomy in an office building. Energy and Buildings, 2014, 78, 79-88.	6.7	50
58	Prelithiated Li-Enriched Gradient Interphase toward Practical High-Energy NMCâ€"Silicon Full Cell. ACS Energy Letters, 2021, 6, 320-328.	17.4	50
59	Quantifying and Suppressing Proton Intercalation to Enable Highâ€Voltage Znâ€Ion Batteries. Advanced Energy Materials, 2021, 11, 2102016.	19.5	48
60	Surface-to-Bulk Redox Coupling through Thermally Driven Li Redistribution in Li- and Mn-Rich Layered Cathode Materials. Journal of the American Chemical Society, 2019, 141, 12079-12086.	13.7	47
61	Modification of CO₂ Reduction Activity of Nanostructured Silver Electrocatalysts by Surface Halide Anions. ACS Applied Energy Materials, 2019, 2, 102-109.	5.1	46
62	Tuning Sodium Occupancy Sites in P2â€Layered Cathode Material for Enhancing Electrochemical Performance. Advanced Energy Materials, 2021, 11, 2003455.	19.5	46
63	Suppressing the chromium disproportionation reaction in O3-type layered cathode materials for high capacity sodium-ion batteries. Journal of Materials Chemistry A, 2017, 5, 5442-5448.	10.3	45
64	Structural integrityâ€"Searching the key factor to suppress the voltage fade of Li-rich layered cathode materials through 3D X-ray imaging and spectroscopy techniques. Nano Energy, 2016, 28, 164-171.	16.0	44
65	Biomass-derived high-performance tungsten-based electrocatalysts on graphene for hydrogen evolution. Journal of Materials Chemistry A, 2015, 3, 18572-18577.	10.3	43
66	Finding a Needle in the Haystack: Identification of Functionally Important Minority Phases in an Operating Battery. Nano Letters, 2017, 17, 7782-7788.	9.1	42
67	Correlations between Transition-Metal Chemistry, Local Structure, and Global Structure in Li₂Ru_{0.5}Mn_{0.5}O₃ Investigated in a Wide Voltage Window. Chemistry of Materials, 2017, 29, 9053-9065.	6.7	40
68	Novel Low-Temperature Electrolyte Using Isoxazole as the Main Solvent for Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 24995-25001.	8.0	38
69	Lowâ€Valence Metal Single Atoms on Graphdiyne Promotes Electrochemical Nitrogen Reduction via Mâ€toâ€N₂ Ï€â€Backdonation. Advanced Functional Materials, 2022, 32, .	14.9	38
70	Toward Higher Voltage Solidâ€State Batteries by Metastability and Kinetic Stability Design. Advanced Energy Materials, 2020, 10, 2001569.	19.5	36
71	Mesoscale-architecture-based crack evolution dictating cycling stability of advanced lithium ion batteries. Nano Energy, 2021, 79, 105420.	16.0	36
72	Utilizing Environmental Friendly Iron as a Substitution Element in Spinel Structured Cathode Materials for Safer High Energy Lithiumâ€Ion Batteries. Advanced Energy Materials, 2016, 6, 1501662.	19.5	35

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73	Synthesis and Characterization of a Molecularly Designed Highâ€Performance Organodisulfide as Cathode Material for Lithium Batteries. Advanced Energy Materials, 2019, 9, 1900705.	19.5	34
74	A Redoxâ€Active 2D Metalâ€“Organic Framework for Efficient Lithium Storage with Extraordinary High Capacity. Angewandte Chemie, 2020, 132, 5311-5315.	2.0	34
75	Depth-dependent valence stratification driven by oxygen redox in lithium-rich layered oxide. Nature Communications, 2020, 11, 6342.	12.8	34
76	Thermal stability in the blended lithium manganese oxide â€“ Lithium nickel cobalt manganese oxide cathode materials: An in situ time-resolved X-Ray diffraction and mass spectroscopy study. Journal of Power Sources, 2015, 277, 193-197.	7.8	33
77	Anionic redox induced anomalous structural transition in Ni-rich cathodes. Energy and Environmental Science, 2021, 14, 6441-6454.	30.8	33
78	Another Strategy, Detouring Potential Decay by Fast Completion of Cation Mixing. Advanced Energy Materials, 2018, 8, 1703092.	19.5	30
79	Large-Scale Synthesis and Comprehensive Structure Study of Î´-MnO₂. Inorganic Chemistry, 2018, 57, 6873-6882.	4.0	29
80	Atomically Dispersed Nickel(I) on an Alloyâ€Encapsulated Nitrogenâ€Doped Carbon Nanotube Array for Highâ€Performance Electrochemical CO₂ Reduction Reaction. Angewandte Chemie, 2020, 132, 12153-12159.	2.0	27
81	Sodium storage property and mechanism of NaCr1/4Fe1/4Ni1/4Ti1/4O2 cathode at various cut-off voltages. Energy Storage Materials, 2020, 24, 417-425.	18.0	25
82	Understanding the Roles of the Electrode/Electrolyte Interface for Enabling Stable Liâˆ¥Sulfurized Polyacrylonitrile Batteries. ACS Applied Materials & Interfaces, 2021, 13, 31733-31740.	8.0	25
83	Improved Low Temperature Performance of Graphite/Li Cells Using Isoxazole as a Novel Cosolvent in Electrolytes. Journal of the Electrochemical Society, 2021, 168, 070527.	2.9	25
84	Divalent Iron Nitridophosphates: A New Class of Cathode Materials for Li-Ion Batteries. Chemistry of Materials, 2013, 25, 3929-3931.	6.7	23
85	Pair distribution function analysis: Fundamentals and application to battery materials. Chinese Physics B, 2020, 29, 028802.	1.4	23
86	Expanded lithiation of titanium disulfide: Reaction kinetics of multi-step conversion reaction. Nano Energy, 2019, 63, 103882.	16.0	21
87	Unified View of the Local Cation-Ordered State in Inverse Spinel Oxides. Inorganic Chemistry, 2019, 58, 14389-14402.	4.0	21
88	The Role of Electron Localization in Covalency and Electrochemical Properties of Lithiumâ€Ion Battery Cathode Materials. Advanced Functional Materials, 2021, 31, 2001633.	14.9	21
89	<i>In Situ</i> Neutron Diffraction Studies of the Ion Exchange Synthesis Mechanism of Li₂Mg₂P₃O₉N: Evidence for a Hidden Phase Transition. Journal of the American Chemical Society, 2017, 139, 9192-9202.	13.7	19
90	Fundamental Linkage Between Structure, Electrochemical Properties, and Chemical Compositions of LiNi_{1â€“<i>x</i>â€“<i>y</i>}Mn<i>_x</i>Co<i>_y</i>O₂ Cathode Materials. ACS Applied Materials & Interfaces, 2021, 13, 2622-2629.	8.0	19

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91	How Water Accelerates Bivalent Ion Diffusion at the Electrolyte/Electrode Interface. Angewandte Chemie, 2018, 130, 12154-12157.	2.0	17
92	Engineering and characterization of interphases for lithium metal anodes. Chemical Science, 2022, 13, 1547-1568.	7.4	17
93	Oxygen redox chemistry in P2-Na_{0.6}Li_{0.11}Fe_{0.27}Mn_{0.62}O₂ cathode for high-energy Na-ion batteries. Journal of Materials Chemistry A, 2021, 9, 27651-27659.	10.3	16
94	Imaging the surface morphology, chemistry and conductivity of LiNi_{1/3}Fe_{1/3}Mn_{4/3}O₄ crystalline facets using scanning transmission X-ray microscopy. Physical Chemistry Chemical Physics, 2016, 18, 22789-22793.	2.8	14
95	Vacancyâ€Enabled O3 Phase Stabilization for Manganeseâ€Rich Layered Sodium Cathodes. Angewandte Chemie, 2021, 133, 8339-8348.	2.0	14
96	Strategies to curb structural changes of lithium/transition metal oxide cathode materials & the changesâ€™ effects on thermal & cycling stability. Chinese Physics B, 2016, 25, 018205.	1.4	13
97	A new carbon-incorporated lithium phosphate solid electrolyte. Journal of Power Sources, 2021, 514, 230603.	7.8	13
98	Few-Atom Copper Catalyst for the Electrochemical Reduction of CO to Acetate: Synergetic Catalysis between Neighboring Cu Atoms. CCS Chemistry, 2023, 5, 1176-1188.	7.8	13
99	Highly Reversible Aqueous Zinc Batteries enabled by Zincophilicâ€"Zincophobic Interfacial Layers and Interrupted Hydrogenâ€Bond Electrolytes. Angewandte Chemie, 2021, 133, 18993-18999.	2.0	11
100	Preparation and Cyclic Performance of Li_{1.2}(Fe_{0.16}Mn_{0.32}Ni_{0.32})O₂Layered Cathode Material by the Mixed Hydroxide Method. Bulletin of the Korean Chemical Society, 2013, 34, 1995-2000.	1.9	9
101	Cathode Materials: Combining In Situ Synchrotron Xâ€Ray Diffraction and Absorption Techniques with Transmission Electron Microscopy to Study the Origin of Thermal Instability in Overcharged Cathode Materials for Lithiumâ€Ion Batteries (Adv. Funct. Mater. 8/2013). Advanced Functional Materials, 2013, 23, 1046-1046.	14.9	7
102	Reversible dual anionic-redox chemistry in NaCrSSe with fast charging capability. Journal of Power Sources, 2021, 502, 230022.	7.8	5
103	Isoxazole-Based Electrolytes for Lithium Metal Protection and Lithium-Sulfurized Polyacrylonitrile (SPAN) Battery Operating at Low Temperature. Journal of the Electrochemical Society, 2022, 169, 030513.	2.9	4
104	Anionic Redox Reaction-Induced High-Capacity and Low-Strain Cathode with Suppressed Phase Transition. Joule, 2019, 3, 612.	24.0	3
105	Exploring Lithium Deficiency in Layered Oxide Cathode for Liâ€Ion Battery. Advanced Sustainable Systems, 2017, 1, 1700026.	5.3	1
106	Mechanistic Insights into the Interplay between Ion Intercalation and Water Electrolysis in Aqueous Batteries. ACS Applied Materials & Interfaces, 2022, 14, 12130-12139.	8.0	1
107	Liâ€Ion Batteries: Exploring Lithium Deficiency in Layered Oxide Cathode for Liâ€Ion Battery (Adv.) Tj ETQq1 1 0.784314 rgBT /Overlock	5.3	0
108	Synchrotron Radiation Nanoscale X-ray Imaging Technology And Scientific Big Data Mining Assist Energy Materials Research. Microscopy and Microanalysis, 2018, 24, 542-543.	0.4	0

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109	Titelbild: A Redoxâ€Active 2D Metalâ€“Organic Framework for Efficient Lithium Storage with Extraordinary High Capacity (Angew. Chem. 13/2020). Angewandte Chemie, 2020, 132, 5005-5005.	2.0	0