Wei-Hong Lai

List of Publications by Year
in descending order

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75 papers	5,320 citations	87888 38 h-index	85541 71 g-index
77 all docs	77 docs citations	77 times ranked	4755 citing authors

#	Article	IF	Citations
1	Atomic cobalt as an efficient electrocatalyst in sulfur cathodes for superior room-temperature sodium-sulfur batteries. Nature Communications, 2018, 9, 4082.	12.8	305
2	Hard Carbon Anodes: Fundamental Understanding and Commercial Perspectives for Naâ€Ion Batteries beyond Liâ€Ion and Kâ€Ion Counterparts. Advanced Energy Materials, 2021, 11, .	19.5	282
3	Achieving High-Performance Room-Temperature Sodiumâ€“Sulfur Batteries With S@Interconnected Mesoporous Carbon Hollow Nanospheres. Journal of the American Chemical Society, 2016, 138, 16576-16579.	13.7	280
4	Roomâ€Temperature Sodiumâ€Sulfur Batteries: A Comprehensive Review on Research Progress and Cell Chemistry. Advanced Energy Materials, 2017, 7, 1602829.	19.5	270
5	Nanocomposite Materials for the Sodiumâ€“Ion Battery: A Review. Small, 2018, 14, 1702514.	10.0	244
6	General Ïâ€Electronâ€Assisted Strategy for Ir, Pt, Ru, Pd, Fe, Ni Singleâ€Atom Electrocatalysts with Bifunctional Active Sites for Highly Efficient Water Splitting. Angewandte Chemie - International Edition, 2019, 58, 11868-11873.	13.8	229
7	Feâ€Niâ€Mo Nitride Porous Nanotubes for Full Water Splitting and Znâ€Air Batteries. Advanced Energy Materials, 2018, 8, 1802327.	19.5	227
8	Inâ€Situ Electrochemically Activated Surface Vanadium Valence in V₂C MXene to Achieve High Capacity and Superior Rate Performance for Znâ€Ion Batteries. Advanced Functional Materials, 2021, 31, 2008033.	14.9	156
9	Nickel sulfide nanocrystals on nitrogen-doped porous carbon nanotubes with high-efficiency electrocatalysis for room-temperature sodium-sulfur batteries. Nature Communications, 2019, 10, 4793.	12.8	147
10	Atomicâ€Local Environments of Singleâ€Atom Catalysts: Synthesis, Electronic Structure, and Activity. Advanced Energy Materials, 2019, 9, 1900722.	19.5	128
11	A Highâ€Kinetics Sulfur Cathode with a Highly Efficient Mechanism for Superior Roomâ€Temperature Naâ€“S Batteries. Advanced Materials, 2020, 32, e1906700.	21.0	126
12	Approaching a high-rate and sustainable production of hydrogen peroxide: oxygen reduction on Coâ€“Nâ€“C single-atom electrocatalysts in simulated seawater. Energy and Environmental Science, 2021, 14, 5444-5456.	30.8	126
13	A Novel Graphene Oxide Wrapped Na₂Fe₂(SO₄)₃/C Cathode Composite for Long Life and High Energy Density Sodiumâ€Ion Batteries. Advanced Energy Materials, 2018, 8, 1800944.	19.5	101
14	Ultrathin 2D TiS₂ Nanosheets for High Capacity and Longâ€Life Sodium Ion Batteries. Advanced Energy Materials, 2019, 9, 1803210.	19.5	100
15	Electrocatalyzing S Cathodes via Multisulfiphilic Sites for Superior Room-Temperature Sodiumâ€“Sulfur Batteries. ACS Nano, 2020, 14, 7259-7268.	14.6	100
16	Architecting Amorphous Vanadium Oxide/MXene Nanohybrid via Tunable Anodic Oxidation for Highâ€Performance Sodiumâ€Ion Batteries. Advanced Energy Materials, 2021, 11, 2100757.	19.5	99
17	The Quasiâ€Ptâ€Allotrope Catalyst: Hollow PtCo@singleâ€Atom Pt₁ on Nitrogenâ€Doped Carbon toward Superior Oxygen Reduction. Advanced Functional Materials, 2019, 29, 1807340.	14.9	97
18	Remedies for Polysulfide Dissolution in Roomâ€Temperature Sodiumâ€“Sulfur Batteries. Advanced Materials, 2020, 32, e1903952.	21.0	96

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19	Morphology tuning of inorganic nanomaterials grown by precipitation through control of electrolytic dissociation and supersaturation. Nature Chemistry, 2019, 11, 695-701.	13.6	86
20	Tailoring MXene-Based Materials for Sodium-Ion Storage: Synthesis, Mechanisms, and Applications. Electrochemical Energy Reviews, 2020, 3, 766-792.	25.5	86
21	Multiregion Janus-Featured Cobalt Phosphide-Cobalt Composite for Highly Reversible Room-Temperature Sodium-Sulfur Batteries. ACS Nano, 2020, 14, 10284-10293.	14.6	81
22	General Synthesis of Singleâ€Atom Catalysts for Hydrogen Evolution Reactions and Roomâ€Temperature Naâ€S Batteries. Angewandte Chemie - International Edition, 2020, 59, 22171-22178.	13.8	80
23	Organic Cathode Materials for Sodiumâ€Ion Batteries: From Fundamental Research to Potential Commercial Application. Advanced Functional Materials, 2022, 32, 2107718.	14.9	75
24	Promoted Photocharge Separation in 2D Lateral Epitaxial Heterostructure for Visibleâ€Lightâ€Driven CO₂ Photoreduction. Advanced Materials, 2020, 32, e2004311.	21.0	74
25	Highly efficient Co3O4/Co@NCs bifunctional oxygen electrocatalysts for long life rechargeable Zn-air batteries. Nano Energy, 2020, 77, 105200.	16.0	71
26	Sulfurâ€Based Electrodes that Function via Multielectron Reactions for Roomâ€Temperature Sodiumâ€Ion Storage. Angewandte Chemie - International Edition, 2019, 58, 18324-18337.	13.8	69
27	Effect of Eliminating Water in Prussian Blue Cathode for Sodiumâ€Ion Batteries. Advanced Functional Materials, 2022, 32, .	14.9	66
28	In Situ Grown S Nanosheets on Cu Foam: An Ultrahigh Electroactive Cathode for Room-Temperature Naâ€“S Batteries. ACS Applied Materials & Interfaces, 2017, 9, 24446-24450.	8.0	65
29	Fireâ€Retardant, Stableâ€Cycling and Highâ€Safety Sodium Ion Battery. Angewandte Chemie - International Edition, 2021, 60, 27086-27094.	13.8	63
30	General Synthesis of Singleâ€Atom Catalysts for Hydrogen Evolution Reactions and Roomâ€Temperature Naâ€S Batteries. Angewandte Chemie, 2020, 132, 22355-22362.	2.0	62
31	Understanding rhombohedral iron hexacyanoferrate with three different sodium positions for high power and long stability sodium-ion battery. Energy Storage Materials, 2020, 30, 42-51.	18.0	62
32	Soft-Carbon-Coated, Free-Standing, Low-Defect, Hard-Carbon Anode To Achieve a 94% Initial Coulombic Efficiency for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2021, 13, 44358-44368.	8.0	50
33	Continuous Carbon Channels Enable Full Naâ€Ion Accessibility for Superior Roomâ€Temperature Naâ€“S Batteries. Advanced Materials, 2022, 34, e2108363.	21.0	49
34	Ultrafine Mn₃O₄Nanowires/Three-Dimensional Graphene/Single-Walled Carbon Nanotube Composites: Superior Electrocatalysts for Oxygen Reduction and Enhanced Mg/Air Batteries. ACS Applied Materials & Interfaces, 2016, 8, 27710-27719.	8.0	48
35	Ordered platinumâ€“bismuth intermetallic clusters with Pt-skin for a highly efficient electrochemical ethanol oxidation reaction. Journal of Materials Chemistry A, 2019, 7, 5214-5220.	10.3	48
36	Lowâ€Cost Polyanionâ€Type Sulfate Cathode for Sodiumâ€Ion Battery. Advanced Energy Materials, 2021, 11, 2101751.	19.5	48

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37	Nanoengineering to Achieve High Sodium Storage: A Case Study of Carbon Coated Hierarchical Nanoporous TiO₂ Microfibers. Advanced Science, 2016, 3, 1600013.	11.2	47
38	2D Titaniaâ€“Carbon Superlattices Vertically Encapsulated in 3D Hollow Carbon Nanospheres Embedded with 0D TiO₂ Quantum Dots for Exceptional Sodiumâ€Ion Storage. Angewandte Chemie - International Edition, 2019, 58, 14125-14128.	13.8	47
39	Processing Rusty Metals into Versatile Prussian Blue for Sustainable Energy Storage. Advanced Energy Materials, 2021, 11, 2102356.	19.5	41
40	Rechargeable Sodiumâ€Based Hybrid Metalâ€Ion Batteries toward Advanced Energy Storage. Advanced Functional Materials, 2021, 31, 2006457.	14.9	39
41	Sustainable S cathodes with synergic electrocatalysis for room-temperature Naâ€“S batteries. Journal of Materials Chemistry A, 2021, 9, 566-574.	10.3	39
42	Manipulating Molecular Structure and Morphology to Invoke Highâ€Performance Sodium Storage of Copper Phosphide. Advanced Energy Materials, 2020, 10, 1903542.	19.5	38
43	Streamline Sulfur Redox Reactions to Achieve Efficient Roomâ€Temperature Sodiumâ€“Sulfur Batteries. Angewandte Chemie - International Edition, 2022, 61, .	13.8	38
44	Manipulating metalâ€“sulfur interactions for achieving highâ€performance S cathodes for room temperature Li/Naâ€“sulfur batteries. , 2021, 3, 253-270.		37
45	Advanced Characterization Techniques Paving the Way for Commercialization of Lowâ€Cost Prussian Blue Analog Cathodes. Advanced Functional Materials, 2022, 32, 2108616.	14.9	35
46	Activating Inert Surface Pt Single Atoms via Subsurface Doping for Oxygen Reduction Reaction. Nano Letters, 2021, 21, 7970-7978.	9.1	33
47	Layered mesoporous CoO/reduced graphene oxide with strong interfacial coupling as a high-performance anode for lithium-ion batteries. Journal of Alloys and Compounds, 2020, 843, 156050.	5.5	32
48	Understanding Sulfur Redox Mechanisms in Different Electrolytes for Room-Temperature Naâ€“S Batteries. Nano-Micro Letters, 2021, 13, 121.	27.0	31
49	Atomically dispersed S-Fe-N4 for fast kinetics sodium-sulfur batteries via a dual function mechanism. Cell Reports Physical Science, 2021, 2, 100531.	5.6	31
50	The application of hollow micro-/nanostructured cathodes for sodium-ion batteries. Materials Chemistry Frontiers, 2020, 4, 1289-1303.	5.9	30
51	Uniform Polypyrrole Layer-Coated Sulfur/Graphene Aerogel via the Vapor-Phase Deposition Technique as the Cathode Material for Liâ€“S Batteries. ACS Applied Materials & Interfaces, 2020, 12, 5958-5967.	8.0	29
52	Electrolytes/Interphases: Enabling Distinguishable Sulfur Redox Processes in Roomâ€Temperature Sodiumâ€Sulfur Batteries. Advanced Energy Materials, 2022, 12, .	19.5	29
53	General Ïâ€Electronâ€Assisted Strategy for Ir, Pt, Ru, Pd, Fe, Ni Singleâ€Atom Electrocatalysts with Bifunctional Active Sites for Highly Efficient Water Splitting. Angewandte Chemie, 2019, 131, 11994-11999.	2.0	28
54	Atomic Cobalt Vacancyâ€Cluster Enabling Optimized Electronic Structure for Efficient Water Splitting. Advanced Functional Materials, 2021, 31, 2101797.	14.9	26

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55	Atomic Structural Evolution of Singleâ€Layer Pt Clusters as Efficient Electrocatalysts. Small, 2021, 17, e2100732.	10.0	26
56	Binders for sodium-ion batteries: progress, challenges and strategies. Chemical Communications, 2021, 57, 12406-12416.	4.1	26
57	Recent Advances in Seawater Electrolysis. Catalysts, 2022, 12, 123.	3.5	26
58	Confining Ultrathin 2D Superlattices in Mesoporous Hollow Spheres Renders Ultrafast and Highâ€Capacity Naâ€Ion Storage. Advanced Energy Materials, 2020, 10, 2001033.	19.5	25
59	Efficient separators with fast Li-ion transfer and high polysulfide entrapment for superior lithium-sulfur batteries. Chemical Engineering Journal, 2021, 408, 127348.	12.7	25
60	Oxygen redox chemistry in lithium-rich cathode materials for Li-ion batteries: Understanding from atomic structure to nano-engineering. Nano Materials Science, 2022, 4, 322-338.	8.8	24
61	Enriched dâ€Band Holes Enabling Fast Oxygen Evolution Kinetics on Atomicâ€Layered Defectâ€Rich Lithium Cobalt Oxide Nanosheets. Advanced Functional Materials, 2022, 32, .	14.9	24
62	Highâ€Voltage, Highly Reversible Sodium Batteries Enabled by Fluorineâ€Rich Electrode/Electrolyte Interphases. Small Methods, 2022, 6, e2200209.	8.6	22
63	Electrochemical release of catalysts in nanoreactors for solid sulfur redox reactions in room-temperature sodium-sulfur batteries. Cell Reports Physical Science, 2021, 2, 100539.	5.6	20
64	Lithium self-diffusion in a model lithium garnet oxide Li5La3Ta2O12: A combined quasi-elastic neutron scattering and molecular dynamics study. Solid State Ionics, 2017, 312, 1-7.	2.7	19
65	Carbonaceous Hosts for Sulfur Cathode in Alkaliâ€Metal/S (Alkali Metal = Lithium, Sodium, Potassium) Batteries. Small, 2021, 17, e2006504.	10.0	17
66	Research progress of flexible sodium-ion batteries derived from renewable polymer materials. Electrochemistry Communications, 2021, 128, 107067.	4.7	17
67	Fireâ€Retardant, Stableâ€Cycling and Highâ€Safety Sodium Ion Battery. Angewandte Chemie, 2021, 133, 27292-27300.	2.0	17
68	Manipulating 2D Fewâ€Layer Metal Sulfides as Anode Towards Enhanced Sodiumâ€Ion Batteries. Batteries and Supercaps, 2020, 3, 236-253.	4.7	16
69	Copper phosphide as a promising anode material for potassium-ion batteries. Journal of Materials Chemistry A, 2021, 9, 8378-8385.	10.3	16
70	2D Titaniaâ€“Carbon Superlattices Vertically Encapsulated in 3D Hollow Carbon Nanospheres Embedded with 0D TiO 2 Quantum Dots for Exceptional Sodiumâ€Ion Storage. Angewandte Chemie, 2019, 131, 14263-14266.	2.0	13
71	Temperature-regulated biomass-derived hard carbon as a superior anode for sodium-ion batteries. Materials Chemistry Frontiers, 2021, 5, 7595-7605.	5.9	11
72	Schwefelâ€basierte Elektroden mit Mehrelektronenreaktionen fÃ¼r Raumtemperaturâ€Natriumionenspeicherung. Angewandte Chemie, 2019, 131, 18490-18504.	2.0	9

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73	Self-assembling RuO₂ nanogranulates with few carbon layers as an interconnected nanoporous structure for lithiumâ€“oxygen batteries. Chemical Communications, 2020, 56, 7253-7256.	4.1	5
74	Streamline Sulfur Redox Reactions to Achieve Efficient Roomâ€Temperature Sodiumâ€“Sulfur Batteries. Angewandte Chemie, 2022, 134, .	2.0	3
75	Sodiumâ€“Sulfur Batteries: Remedies for Polysulfide Dissolution in Roomâ€Temperature Sodiumâ€“Sulfur Batteries (Adv. Mater. 18/2020). Advanced Materials, 2020, 32, 2070145.	21.0	2