Zhen-Hua Sun

List of Publications by Year
in descending order

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107 papers	10,678 citations	41344 49 h-index	30922 102 g-index
115 all docs	115 docs citations	115 times ranked	12255 citing authors

#	Article	IF	Citations
1	More Reliable Lithiumâ€Sulfur Batteries: Status, Solutions and Prospects. Advanced Materials, 2017, 29, 1606823.	21.0	1,414
2	Conductive porous vanadium nitride/graphene composite as chemical anchor of polysulfides for lithium-sulfur batteries. Nature Communications, 2017, 8, 14627.	12.8	912
3	Understanding the Photothermal Conversion Efficiency of Gold Nanocrystals. Small, 2010, 6, 2272-2280.	10.0	505
4	Carbon materials for Liâ€“S batteries: Functional evolution and performance improvement. Energy Storage Materials, 2016, 2, 76-106.	18.0	504
5	3D Grapheneâ€Foamâ€“Reducedâ€Grapheneâ€Oxide Hybrid Nested Hierarchical Networks for Highâ€Performance Liâ€“S Batteries. Advanced Materials, 2016, 28, 1603-1609.	21.0	497
6	The Regulating Role of Carbon Nanotubes and Graphene in Lithiumâ€Ion and Lithiumâ€“Sulfur Batteries. Advanced Materials, 2019, 31, e1800863.	21.0	339
7	The Rechargeable Aluminum Battery: Opportunities and Challenges. Angewandte Chemie - International Edition, 2019, 58, 11978-11996.	13.8	276
8	pHâ€Controlled Reversible Assembly and Disassembly of Gold Nanorods. Small, 2008, 4, 1287-1292.	10.0	256
9	Key Aspects of Lithium Metal Anodes for Lithium Metal Batteries. Small, 2019, 15, e1900687.	10.0	253
10	Metalâ€“Organic Frameworks (MOFs)â€Derived Nitrogenâ€Doped Porous Carbon Anchored on Graphene with Multifunctional Effects for Lithiumâ€“Sulfur Batteries. Advanced Functional Materials, 2018, 28, 1707592.	14.9	246
11	Homogeneous and Fast Ion Conduction of PEOâ€Based Solidâ€State Electrolyte at Low Temperature. Advanced Functional Materials, 2020, 30, 2007172.	14.9	246
12	A Sulfurâ€Rich Copolymer@CNT Hybrid Cathode with Dualâ€Confinement of Polysulfides for Highâ€Performance Lithiumâ€“Sulfur Batteries. Advanced Materials, 2017, 29, 1603835.	21.0	202
13	A General Approach to the Synthesis of Goldâ€“Metal Sulfide Coreâ€“Shell and Heterostructures. Angewandte Chemie - International Edition, 2009, 48, 2881-2885.	13.8	191
14	A highly reversible Co3S4 microsphere cathode material for aluminum-ion batteries. Nano Energy, 2019, 56, 100-108.	16.0	179
15	Heteroatoms dual-doped hierarchical porous carbon-selenium composite for durable Liâ€“Se and Naâ€“Se batteries. Nano Energy, 2018, 49, 137-146.	16.0	158
16	Polysulfide immobilization and conversion on a conductive polar MoC@MoOx material for lithium-sulfur batteries. Energy Storage Materials, 2018, 10, 56-61.	18.0	157
17	An Aluminumâ€“Sulfur Battery with a Fast Kinetic Response. Angewandte Chemie - International Edition, 2018, 57, 1898-1902.	13.8	154
18	Magnetically Motive Porous Sphere Composite and Its Excellent Properties for the Removal of Pollutants in Water by Adsorption and Desorption Cycles. Advanced Materials, 2006, 18, 1968-1971.	21.0	147

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19	Covalently functionalized carbon nanotube supported Pd nanoparticles for catalytic reduction of 4-nitrophenol. Nanoscale, 2014, 6, 6609-6616.	5.6	146
20	Magnetically recyclable nanocatalysts (MRNCs): a versatile integration of high catalytic activity and facile recovery. Nanoscale, 2012, 4, 6244.	5.6	143
21	Structure-related electrochemical performance of organosulfur compounds for lithiumâ€“sulfur batteries. Energy and Environmental Science, 2020, 13, 1076-1095.	30.8	143
22	Insights into the deposition chemistry of Li ions in nonaqueous electrolyte for stable Li anodes. Chemical Society Reviews, 2021, 50, 3178-3210.	38.1	126
23	Plasmon Coupling in Clusters Composed of Twoâ€Dimensionally Ordered Gold Nanocubes. Small, 2009, 5, 2111-2119.	10.0	119
24	Engineering Gold Nanorodâ€“Copper Sulfide Heterostructures with Enhanced Photothermal Conversion Efficiency and Photostability. Small, 2018, 14, e1703077.	10.0	109
25	Effects of Dyes, Gold Nanocrystals, pH, and Metal Ions on Plasmonic and Molecular Resonance Coupling. Journal of the American Chemical Society, 2010, 132, 4806-4814.	13.7	97
26	Mesoporous TiN microspheres as an efficient polysulfide barrier for lithiumâ€“sulfur batteries. Journal of Materials Chemistry A, 2018, 6, 14359-14366.	10.3	96
27	Ionâ€Dipole Chemistry Drives Rapid Evolution of Li Ions Solvation Sheath in Lowâ€Temperature Li Batteries. Advanced Energy Materials, 2021, 11, 2100935.	19.5	95
28	Reliable liquid electrolytes for lithium metal batteries. Energy Storage Materials, 2020, 30, 113-129.	18.0	92
29	A gradient bi-functional graphene-based modified electrode for vanadium redox flow batteries. Energy Storage Materials, 2018, 13, 66-71.	18.0	84
30	Tunable Interaction between Metalâ€Organic Frameworks and Electroactive Components in Lithiumâ€“Sulfur Batteries: Status and Perspectives. Advanced Energy Materials, 2021, 11, 2100387.	19.5	84
31	Inâ€…Situ Oneâ€Step Electrochemical Preparation of Graphene Oxide Nanosheetâ€Modified Electrodes for Biosensors. ChemSusChem, 2011, 4, 1587-1591.	6.8	83
32	Catalytic oxidation of olefins and alcohols by molecular oxygen under air pressure over Cu2(OH)PO4 and Cu4O(PO4)2 catalysts. Journal of Catalysis, 2003, 218, 460-464.	6.2	80
33	Curvature-Directed Assembly of Gold Nanocubes, Nanobranches, and Nanospheres. Langmuir, 2009, 25, 1692-1698.	3.5	80
34	The growth and enhanced catalytic performance of Au@Pd coreâ€“shell nanodendrites. Nanoscale, 2013, 5, 139-142.	5.6	80
35	Electrospun carbon nanofibers with MnS sulfiphilic sites as efficient polysulfide barriers for high-performance wide-temperature-range Liâ€“S batteries. Journal of Materials Chemistry A, 2020, 8, 1212-1220.	10.3	73
36	Efficient polysulfide blocker from conductive niobium nitride@graphene for Li-S batteries. Journal of Energy Chemistry, 2020, 45, 135-141.	12.9	69

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37	One-Pot Synthesis of Noble Metal/Zinc Oxide Composites with Controllable Morphology and High Catalytic Performance. ACS Applied Materials & Interfaces, 2017, 9, 16417-16425.	8.0	68
38	Necklace-like MoC sulfiphilic sites embedded in interconnected carbon networks for Liâ€“S batteries with high sulfur loading. Journal of Materials Chemistry A, 2019, 7, 11298-11304.	10.3	68
39	Ni2P electrocatalysts decorated hollow carbon spheres as bi-functional mediator against shuttle effect and Li dendrite for Li-S batteries. Nano Energy, 2021, 90, 106584.	16.0	65
40	Oneâ€Pot Synthesis of (Au Nanorod)â€“(Metal Sulfide) Coreâ€“Shell Nanostructures with Enhanced Gasâ€Sensing Property. Small, 2012, 8, 1167-1172.	10.0	64
41	Self-supporting porous CoS2/rGO sulfur host prepared by bottom-up assembly for lithium-sulfur batteries. Journal of Alloys and Compounds, 2018, 749, 586-593.	5.5	64
42	From interlayer to lightweight capping layer: Rational design of mesoporous TiO2 threaded with CNTs for advanced Liâ€“S batteries. Carbon, 2019, 143, 523-530.	10.3	64
43	Single-atom catalysts for metal-sulfur batteries: Current progress and future perspectives. Journal of Energy Chemistry, 2021, 54, 452-466.	12.9	63
44	Fabrication of porous Snâ€“C composites with high initial coulomb efficiency and good cyclic performance for lithium ion batteries. Journal of Materials Chemistry A, 2013, 1, 9462.	10.3	62
45	An in-situ solidification strategy to block polysulfides in Lithium-Sulfur batteries. Energy Storage Materials, 2021, 37, 224-232.	18.0	55
46	Multifunctional Mesostructured Silica Microspheres from an Ultrasonic Aerosol Spray. Advanced Functional Materials, 2008, 18, 2956-2962.	14.9	53
47	Incorporation of Gold Nanorods and Their Enhancement of Fluorescence in Mesostructured Silica Thin Films. Journal of Physical Chemistry C, 2008, 112, 18895-18903.	3.1	52
48	Electronic structure adjustment of lithium sulfide by a single-atom copper catalyst toward high-rate lithium-sulfur batteries. Energy Storage Materials, 2022, 51, 890-899.	18.0	52
49	Spherical Structures Composed of Multiwalled Carbon Nanotubes: Formation Mechanism and Catalytic Performance. Angewandte Chemie - International Edition, 2012, 51, 7581-7585.	13.8	51
50	Ultrahigh energy density and stable supercapacitor with 2D NiCoAl Layered double hydroxide. Electrochimica Acta, 2017, 253, 324-332.	5.2	51
51	Formation of better catalytically active titanium species in Ti-MCM-41 by vapor-phase silylation. Journal of Catalysis, 2005, 235, 423-427.	6.2	46
52	Lithiumâ€Sulfur Batteries: Metalâ€“Organic Frameworks (MOFs)â€Derived Nitrogenâ€Doped Porous Carbon Anchored on Graphene with Multifunctional Effects for Lithiumâ€“Sulfur Batteries (Adv. Funct. Mater.) Tj ETQq0 0 0 rgBT /Overlock 10 T	14.9	44
53	An Aluminumâ€“Sulfur Battery with a Fast Kinetic Response. Angewandte Chemie, 2018, 130, 1916-1920.	2.0	43
54	Surfactant-free hydrothermal synthesis of sub-10 nm Î³-Fe2O3â€“polymer porous composites with high catalytic activity for reduction of nitroarenes. Chemical Communications, 2013, 49, 10088.	4.1	42

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55	Aerosol-spray diverse mesoporous metal oxides from metal nitrates. Scientific Reports, 2015, 5, 9923.	3.3	42
56	Electrochemical process of sulfur in carbon materials from electrode thickness to interlayer. Journal of Energy Chemistry, 2019, 31, 119-124.	12.9	42
57	Hybrid Solid Polymer Electrolytes with Twoâ€Dimensional Inorganic Nanofillers. Chemistry - A European Journal, 2018, 24, 18180-18203.	3.3	41
58	Super-hydrophobic ordered mesoporous carbon monolith. Carbon, 2006, 44, 1336-1339.	10.3	40
59	Ordered mesoporous titanosilicates with better catalytically active titanium sites assembled from preformed titanosilicate precursors with zeolite building units in alkaline media. Microporous and Mesoporous Materials, 2004, 72, 193-201.	4.4	38
60	Plasmonic Goldâ^'Superparamagnetic Hematite Heterostructures. Langmuir, 2011, 27, 5071-5075.	3.5	38
61	An alkali metalâ€“selenium battery with a wide temperature range and low self-discharge. Journal of Materials Chemistry A, 2019, 7, 21774-21782.	10.3	38
62	Double Ionicâ€“Electronic Transfer Interface Layers for Allâ€Solidâ€State Lithium Batteries. Angewandte Chemie - International Edition, 2021, 60, 18448-18453.	13.8	37
63	A 3D Multifunctional Architecture for Lithiumâ€“Sulfur Batteries with High Areal Capacity. Small Methods, 2018, 2, 1800067.	8.6	33
64	A Rechargeable Quasi-symmetrical MoS2 Battery. Joule, 2018, 2, 1278-1286.	24.0	33
65	An ultrathin and highly efficient interlayer for lithiumâ€“sulfur batteries with high sulfur loading and lean electrolyte. Journal of Materials Chemistry A, 2022, 10, 7653-7659.	10.3	33
66	Fast lithium ion transport in solid polymer electrolytes from polysulfide-bridged copolymers. Nano Energy, 2020, 75, 104976.	16.0	32
67	Precursor-directed synthesis of quasi-spherical barium ferrite particles with good dispersion and magnetic properties. CrystEngComm, 2013, 15, 808-815.	2.6	31
68	Improving the photocatalytic activity of graphitic carbon nitride by thermal treatment in a high-pressure hydrogen atmosphere. Progress in Natural Science: Materials International, 2018, 28, 183-188.	4.4	31
69	Catalytic hydroxylation of 2,3,6-trimethylphenol with hydrogen peroxide over copper hydroxyphosphate (Cu2(OH)PO4). Applied Catalysis A: General, 2002, 236, 17-22.	4.3	30
70	Nanoscale metalâ€“organic framework composites for phototherapy and synergistic therapy of cancer. Materials Chemistry Frontiers, 2021, 5, 1632-1654.	5.9	30
71	Structure-related electrochemical behavior of sulfur-rich polymer cathode with solid-solid conversion in lithium-sulfur batteries. Energy Storage Materials, 2022, 45, 1144-1152.	18.0	30
72	Decoupling of ion pairing and ion conduction in ultrahigh-concentration electrolytes enables wide-temperature solid-state batteries. Energy and Environmental Science, 2022, 15, 3379-3387.	30.8	29

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73	Transverse oxidation of gold nanorods assisted by selective end capping of silver oxide. Journal of Materials Chemistry, 2011, 21, 11537.	6.7	26
74	Die wiederaufladbare Aluminiumbatterie: MÃ¶glichkeiten und Herausforderungen. Angewandte Chemie, 2019, 131, 12104-12124.	2.0	26
75	Development of Graphene-based Materials for Lithium-Sulfur Batteries. Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 2018, 34, 377-390.	4.9	26
76	Conjugated diketone-linked polyimide cathode material for organic lithium-ion batteries. Chemical Engineering Journal, 2022, 444, 136598.	12.7	26
77	Fluorescent Mesostructured Polythiopheneâ€“Silica Composite Particles Synthesized by in Situ Polymerization of Structure-Directing Monomers. Chemistry of Materials, 2007, 19, 6222-6229.	6.7	25
78	Immobilizing Carbon Nanotubes on SiC Foam as a Monolith Catalyst for Oxidative Dehydrogenation Reactions. ChemCatChem, 2013, 5, 1713-1717.	3.7	25
79	Easy fabrication of flexible and multilayer nanocarbon-based cathodes with a high unreal sulfur loading by electrostatic spraying for lithium-sulfur batteries. Carbon, 2018, 138, 18-25.	10.3	25
80	Title is missing!. Catalysis Letters, 2001, 76, 105-109.	2.6	24
81	Hydrothermal transformation from Au coreâ€“sulfide shell to Au nanoparticle-decorated sulfide hybrid nanostructures. Nanoscale, 2010, 2, 1650.	5.6	24
82	Porous polymer supported palladium catalyst for cross coupling reactions with high activity and recyclability. Science China Chemistry, 2012, 55, 2095-2103.	8.2	23
83	Porous V2O5-SnO2/CNTs composites as high performance cathode materials for lithium-ion batteries. Journal of Energy Chemistry, 2013, 22, 347-355.	12.9	23
84	Hydrothermal synthesis and intercalation behavior of a layered titanium phosphate Ti2(H2PO4)(HPO4)(PO4)2Â·0.5C6N2H16, with an extended Î³-phase intercalated into organic amine. Polyhedron, 2004, 23, 3033-3042.	2.2	21
85	High-temperature synthesis of stable ordered mesoporous silica materials using mesoporous carbon as a hard template. Microporous and Mesoporous Materials, 2005, 86, 81-88.	4.4	21
86	Direct encoding of silica submicrospheres with cadmium telluride nanocrystals. Journal of Materials Chemistry, 2009, 19, 7002.	6.7	20
87	Noncovalent functionalization of multi-walled carbon nanotubes as metal-free catalysts for the reduction of nitrobenzene. Catalysis Science and Technology, 2014, 4, 1730-1733.	4.1	20
88	Factors of Kinetics Processes in Lithiumâ€“Sulfur Reactions. Energy Technology, 2019, 7, 1900574.	3.8	18
89	Role of Catalytic Materials on Conversion of Sulfur Species for Room Temperature Sodiumâ€“Sulfur Battery. Energy and Environmental Materials, 2022, 5, 693-710.	12.8	18
90	A salt-derived solid electrolyte interphase by electroreduction of water-in-salt electrolyte for uniform lithium deposition. Journal of Power Sources, 2019, 439, 227073.	7.8	17

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91	A Janus Separator for Inhibiting Shuttle Effect and Lithium Dendrite in Lithiumâ^'Sulfur Batteries. Batteries and Supercaps, 2022, 5, .	4.7	17
92	Coupling anodic/cathodic energy storage through in situ heterostructure regulation of ordered microporous carbon for sodium-ion hybrid capacitors. Journal of Materials Chemistry A, 2021, 9, 3360-3368.	10.3	15
93	Lithium Metal Batteries: Ionâ€Dipole Chemistry Drives Rapid Evolution of Li Ions Solvation Sheath in Lowâ€Temperature Li Batteries (Adv. Energy Mater. 28/2021). Advanced Energy Materials, 2021, 11, 2170112.	19.5	14
94	An Interlayer Containing Dissociated LiNO₃ with Fast Release Speed for Stable Lithium Metal Batteries with 400ÂWh kg^{â^'1} Energy Density. Small, 2022, 18, .	10.0	14
95	Formation of Different Gold Nanocrystal Coreâ€"Resin Shell Structures through the Control of the Core Assembly and Shell Polymerization. Langmuir, 2012, 28, 9082-9092.	3.5	12
96	Oriented outperforms disorder: Thickness-independent mass transport for lithium-sulfur batteries. Carbon, 2019, 154, 90-97.	10.3	12
97	Conductive Fe2N/N-rGO composite boosts electrochemical redox reactions in wide temperature accommodating lithium-sulfur batteries. Chemical Engineering Journal, 2022, 427, 131622.	12.7	12
98	A Novel Ion-exchange Method for the Synthesis of Nano-SnO/micro-C Hybrid Structure as High Capacity Anode Material in Lithium Ion Batteries. Journal of Materials Science and Technology, 2013, 29, 609-612.	10.7	11
99	Highly cross-linked carbon sponge enables room-temperature long-life semi-liquid Na/polysulfide battery. Materials Today Energy, 2019, 14, 100342.	4.7	11
100	A high tenacity electrode by assembly of a soft sorbent and a hard skeleton for lithiumâ€"sulfur batteries. Journal of Materials Chemistry A, 2017, 5, 22459-22464.	10.3	10
101	Lithium Batteries: The Regulating Role of Carbon Nanotubes and Graphene in Lithiumâ€"Ion and Lithiumâ€"Sulfur Batteries (Adv. Mater. 9/2019). Advanced Materials, 2019, 31, 1970066.	21.0	8
102	A Chlorine-Based Redox Electrochemical Capacitor. ACS Applied Materials & Interfaces, 2022, 14, 24396-24403.	8.0	8
103	A Stable Hexagonal Mesoporous Aluminophosphate Assembled from Preformed Aluminophosphate Precursors. Chemistry Letters, 2005, 34, 516-517.	1.3	7
104	Reducing the shuttle effect with the interactions of polar TiN and non-polar graphene for lithiumâ€"sulfur batteries. CrystEngComm, 2020, 22, 1555-1559.	2.6	7
105	Micro-Macroscopic Coupled Electrode Architecture for High-Energy-Density Lithiumâ€"Sulfur Batteries. ACS Applied Energy Materials, 2019, 2, 7393-7402.	5.1	6
106	Synthesis and Catalytic Activity of Cu-Incorporated MCM-41 with Spheres-within-a-Sphere Hollow Structure. Chinese Journal of Chemistry, 2006, 24, 1653-1656.	4.9	3
107	A Janus Separator for Inhibiting Shuttle Effect and Lithium Dendrite in Lithiumâ^'Sulfur Batteries. Batteries and Supercaps, 2022, 5, .	4.7	1