Zhiliang Wang

List of Publications by Year
in descending order

77 papers	6,474 citations	70961 41 h-index	69108 77 g-index
80 all docs	80 docs citations	80 times ranked	6842 citing authors

#	Article	IF	Citations
1	Hollow Nanostructures for Photocatalysis: Advantages and Challenges. Advanced Materials, 2019, 31, e1801369.	11.1	506
2	Photoelectrocatalytic Water Splitting: Significance of Cocatalysts, Electrolyte, and Interfaces. ACS Catalysis, 2017, 7, 675-688.	5.5	488
3	Enhancing charge separation on high symmetry SrTiO₃exposed with anisotropic facets for photocatalytic water splitting. Energy and Environmental Science, 2016, 9, 2463-2469.	15.6	372
4	A Tantalum Nitride Photoanode Modified with a Holeâ€Storage Layer for Highly Stable Solar Water Splitting. Angewandte Chemie - International Edition, 2014, 53, 7295-7299.	7.2	354
5	Enabling an integrated tantalum nitride photoanode to approach the theoretical photocurrent limit for solar water splitting. Energy and Environmental Science, 2016, 9, 1327-1334.	15.6	332
6	Understanding the Roles of Oxygen Vacancies in Hematiteâ€Based Photoelectrochemical Processes. Angewandte Chemie - International Edition, 2019, 58, 1030-1034.	7.2	268
7	Mimicking the Key Functions of Photosystem II in Artificial Photosynthesis for Photoelectrocatalytic Water Splitting. Journal of the American Chemical Society, 2018, 140, 3250-3256.	6.6	224
8	Moltenâ€Saltâ€Mediated Synthesis of an Atomic Nickel Coâ€catalyst on TiO₂ for Improved Photocatalytic H₂ Evolution. Angewandte Chemie - International Edition, 2020, 59, 7230-7234.	7.2	221
9	2D Porous TiO₂ Singleâ€Crystalline Nanostructure Demonstrating High Photoâ€Electrochemical Water Splitting Performance. Advanced Materials, 2018, 30, e1705666.	11.1	176
10	Synergetic Effect of Conjugated Ni(OH)₂/IrO₂ Cocatalyst on Titanium-Doped Hematite Photoanode for Solar Water Splitting. Journal of Physical Chemistry C, 2015, 119, 19607-19612.	1.5	167
11	Efficiency Accreditation and Testing Protocols for Particulate Photocatalysts toward Solar Fuel Production. Joule, 2021, 5, 344-359.	11.7	165
12	Lithiationâ€Induced Vacancy Engineering of Co₃O₄ with Improved Faradic Reactivity for Highâ€Performance Supercapacitor. Advanced Functional Materials, 2020, 30, 2004172.	7.8	156
13	Efficient hydrogen peroxide synthesis by metal-free polyterthiophene via photoelectrocatalytic dioxygen reduction. Energy and Environmental Science, 2020, 13, 238-245.	15.6	146
14	Understanding the anataseâ€“rutile phase junction in charge separation and transfer in a TiO₂ electrode for photoelectrochemical water splitting. Chemical Science, 2016, 7, 6076-6082.	3.7	138
15	Cyclic Voltammetry in Lithiumâ€“Sulfur Batteriesâ€”Challenges and Opportunities. Energy Technology, 2019, 7, 1801001.	1.8	138
16	Liquid-phase sintering of lead halide perovskites and metal-organic framework glasses. Science, 2021, 374, 621-625.	6.0	137
17	To boost photocatalytic activity in selective oxidation of alcohols on ultrathin Bi2MoO6 nanoplates with Pt nanoparticles as cocatalyst. Journal of Catalysis, 2017, 345, 96-103.	3.1	116
18	Lattice distortion induced internal electric field in TiO2 photoelectrode for efficient charge separation and transfer. Nature Communications, 2020, 11, 2129.	5.8	108

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19	Solar-to-hydrogen efficiency exceeding 2.5% achieved for overall water splitting with an all earth-abundant dual-photoelectrode. Physical Chemistry Chemical Physics, 2014, 16, 15608-15614.	1.3	94
20	An Unusual Red Carbon Nitride to Boost the Photoelectrochemical Performance of Wide Bandgap Photoanodes. Advanced Functional Materials, 2018, 28, 1805698.	7.8	94
21	Understanding the Roles of Oxygen Vacancies in Hematiteâ€Based Photoelectrochemical Processes. Angewandte Chemie, 2019, 131, 1042-1046.	1.6	89
22	Identifying Copper Vacancies and Their Role in the CuO Based Photocathode for Water Splitting. Angewandte Chemie - International Edition, 2019, 58, 17604-17609.	7.2	82
23	Formation, Detection, and Function of Oxygen Vacancy in Metal Oxides for Solar Energy Conversion. Advanced Functional Materials, 2022, 32, 2109503.	7.8	74
24	Intermarriage of Halide Perovskites and Metalâ€Organic Framework Crystals. Angewandte Chemie - International Edition, 2020, 59, 19434-19449.	7.2	73
25	Biomimetic electron transport via multiredox shuttles from photosystem II to a photoelectrochemical cell for solar water splitting. Energy and Environmental Science, 2017, 10, 765-771.	15.6	68
26	Role of oxygen vacancy in metal oxide based photoelectrochemical water splitting. EcoMat, 2021, 3, e12075.	6.8	65
27	Insight into the charge transfer in particulate Ta₃N₅photoanode with high photoelectrochemical performance. Chemical Science, 2016, 7, 4391-4399.	3.7	64
28	Design of twin junction with solid solution interface for efficient photocatalytic H2 production. Nano Energy, 2020, 69, 104410.	8.2	62
29	Fabricating highly efficient heterostructured CuBi₂O₄ photocathodes for unbiased water splitting. Journal of Materials Chemistry A, 2020, 8, 2498-2504.	5.2	57
30	Moltenâ€Saltâ€Mediated Synthesis of an Atomic Nickel Coâ€catalyst on TiO₂ for Improved Photocatalytic H₂ Evolution. Angewandte Chemie, 2020, 132, 7297-7301.	1.6	55
31	Moistureâ€Assisted Preparation of Compact GaN:ZnO Photoanode Toward Efficient Photoelectrochemical Water Oxidation. Advanced Energy Materials, 2016, 6, 1600864.	10.2	54
32	Enhancing photocatalytic activity of tantalum nitride by rational suppression of bulk, interface and surface charge recombination. Applied Catalysis B: Environmental, 2019, 246, 195-201.	10.8	50
33	Progress in designing effective photoelectrodes for solar water splitting. Chinese Journal of Catalysis, 2018, 39, 369-378.	6.9	49
34	Photocatalytic aerobic oxidation of toluene and its derivatives to aldehydes on Pd/Bi 2 WO 6. Chinese Journal of Catalysis, 2017, 38, 440-446.	6.9	48
35	Boosting the performance of hybrid supercapacitors through redox electrolyte-mediated capacity balancing. Nano Energy, 2020, 68, 104226.	8.2	48
36	Efficient photocatalytic destruction of recalcitrant micropollutants using graphitic carbon nitride under simulated sunlight irradiation. Environmental Science and Ecotechnology, 2021, 5, 100079.	6.7	48

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37	Luminescent europium-doped titania for efficiency and UV-stability enhancement of planar perovskite solar cells. Nano Energy, 2020, 69, 104392.	8.2	47
38	Bismuth based photoelectrodes for solar water splitting. Journal of Energy Chemistry, 2021, 61, 517-530.	7.1	47
39	Recent Advances of Metalâ€Oxide Photoanodes: Engineering of Charge Separation and Transportation toward Efficient Solar Water Splitting. Solar Rrl, 2020, 4, 1900509.	3.1	45
40	Photoelectrode for water splitting: Materials, fabrication and characterization. Science China Materials, 2018, 61, 806-821.	3.5	44
41	Identifying Copper Vacancies and Their Role in the CuO Based Photocathode for Water Splitting. Angewandte Chemie, 2019, 131, 17768-17773.	1.6	42
42	A hematite photoanode with gradient structure shows an unprecedentedly low onset potential for photoelectrochemical water oxidation. Physical Chemistry Chemical Physics, 2014, 16, 23544-23548.	1.3	41
43	Conversion of Biomass Derivatives to Electricity in Photo Fuel Cells using Undoped and Tungstenâ€doped Bismuth Vanadate Photoanodes. ChemSusChem, 2015, 8, 4049-4055.	3.6	41
44	Mechanochemically Synthesised Flexible Electrodes Based on Bimetallic Metalâ€“Organic Framework Glasses for the Oxygen Evolution Reaction. Angewandte Chemie - International Edition, 2022, 61, .	7.2	41
45	Bridging surface states and currentâ€“potential response over hematite-based photoelectrochemical water oxidation. RSC Advances, 2016, 6, 85582-85586.	1.7	39
46	Hollow Structure for Photocatalytic CO₂ Reduction. ChemNanoMat, 2020, 6, 881-888.	1.5	39
47	Metalâ€“Organic Frameworkâ€Based Materials for Solar Water Splitting. Small Science, 2021, 1, 2000074.	5.8	39
48	Amorphous Cobalt Oxide Nanoparticles as Active Waterâ€Oxidation Catalysts. ChemCatChem, 2017, 9, 3641-3645.	1.8	34
49	Promoting Charge Separation and Injection by Optimizing the Interfaces of GaN:ZnO Photoanode for Efficient Solar Water Oxidation. ACS Applied Materials & Interfaces, 2017, 9, 30696-30702.	4.0	34
50	Direct electron transfer from photosystem II to hematite in a hybrid photoelectrochemical cell. Chemical Communications, 2015, 51, 16952-16955.	2.2	33
51	Inhibiting competing reactions of iodate/iodide redox mediators by surface modification of photocatalysts to enable Z-scheme overall water splitting. Applied Catalysis B: Environmental, 2018, 224, 579-585.	10.8	33
52	Abnormal Effects of Cations (Li⁺, Na⁺, and K⁺) on Photoelectrochemical and Electrocatalytic Water Splitting. Journal of Physical Chemistry B, 2015, 119, 3560-3566.	1.2	31
53	Simultaneous Removal of Antibiotic Resistant Bacteria, Antibiotic Resistance Genes, and Micropollutants by FeS₂@GO-Based Heterogeneous Photo-Fenton Process. Environmental Science & Technology, 2022, 56, 15156-15166.	4.6	31
54	Substrateâ€“Electrode Interface Engineering by an Electron-Transport Layer in Hematite Photoanode. ACS Applied Materials & Interfaces, 2016, 8, 7086-7091.	4.0	30

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55	Molten Salt Synthesis of Atomic Heterogeneous Catalysts: Old Chemistry for Advanced Materials. European Journal of Inorganic Chemistry, 2020, 2020, 2942-2949.	1.0	26
56	Machine Learning Guided Dopant Selection for Metal Oxideâ€Based Photoelectrochemical Water Splitting: The Case Study of Fe₂O₃and CuO. Advanced Materials, 2022, 34, e2106776.	11.1	26
57	Nanoconfined Topochemical Conversion from MXene to Ultrathin Nonâ€Layered TiN Nanomesh toward Superior Electrocatalysts for Lithiumâ€Sulfur Batteries. Small, 2021, 17, e2101360.	5.2	25
58	Simultaneous removal of micropollutants, antibiotic resistant bacteria, and antibiotic resistance genes using graphitic carbon nitride under simulated solar irradiation. Chemical Engineering Journal, 2022, 433, 133839.	6.6	25
59	Photocatalytic and Photoelectrochemical Carbon Dioxide Reductions toward Value-Added Multicarbon Products. ACS ES&T Engineering, 2022, 2, 975-988.	3.7	22
60	Transition metal (Ni, Fe, and Cu) hydroxides enhanced Î±-Fe₂O₃photoanode-based photofuel cell. RSC Advances, 2014, 4, 47383-47388.	1.7	19
61	Metal-free Ï€-conjugated hybrid g-C3N4 with tunable band structure for enhanced visible-light photocatalytic H2 production. Journal of Materials Science and Technology, 2021, 87, 207-215.	5.6	18
62	Revisiting solar hydrogen production through photovoltaic-electrocatalytic and photoelectrochemical water splitting. Frontiers in Energy, 2021, 15, 596-599.	1.2	18
63	Photoelectrocatalytic hydrogen peroxide production based on transition-metal-oxide semiconductors. Chinese Journal of Catalysis, 2022, 43, 1204-1215.	6.9	17
64	Decorating mesoporous silicon with amorphous metalâ€“phosphorous-derived nanocatalysts towards enhanced photoelectrochemical water reduction. Journal of Materials Chemistry A, 2016, 4, 14960-14967.	5.2	16
65	Coordination Chemistry Engineered Polymeric Carbon Nitride Photoanode with Ultralow Onset Potential for Water Splitting. Angewandte Chemie - International Edition, 2022, 61, .	7.2	16
66	Energy loss analysis in photoelectrochemical water splitting: a case study of hematite photoanodes. Physical Chemistry Chemical Physics, 2018, 20, 22629-22635.	1.3	15
67	Intermarriage of Halide Perovskites and Metalâ€Organic Framework Crystals. Angewandte Chemie, 2020, 132, 19602-19617.	1.6	14
68	Designing efficient Bi₂Fe₄O₉ photoanodes via bulk and surface defect engineering. Chemical Communications, 2020, 56, 9376-9379.	2.2	14
69	Two-dimensional heterojunction SnS2/SnO2 photoanode with excellent photoresponse up to near infrared region. Solar Energy Materials and Solar Cells, 2020, 207, 110342.	3.0	13
70	Bridging localized electron states of pyrite-type CoS2 cocatalyst for activated solar H2 evolution. Nano Research, 0, , 1.	5.8	12
71	Hybridization of ZSMâ€5 with Spinel Oxides for Biomass Vapour Upgrading. ChemCatChem, 2020, 12, 1403-1412.	1.8	11
72	Efficient and stable polymer solar cells with electrochemical deposition of CuSCN as an anode interlayer. RSC Advances, 2016, 6, 56845-56850.	1.7	8

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73	Carbon Nitride Functionalized with Sb Resulting in High Photocatalytic Activity. ACS Applied Energy Materials, 2021, 4, 5677-5686.	2.5	8
74	Mechanochemically Synthesised Flexible Electrodes based on Bimetallic Metalâ€organic Framework Glasses for the Oxygen Evolution Reaction. Angewandte Chemie, 0, , .	1.6	7
75	Fabrication of a Robust Tantalum Nitride Photoanode from a Flameâ€Heatingâ€Derived Compact Oxide Film. ChemPhotoChem, 2018, 2, 249-256.	1.5	5
76	Reddish GaN:ZnO photoelectrode for improved photoelectrochemical solar water splitting. Journal of Chemical Physics, 2020, 153, 024706.	1.2	5
77	Chapter 7. Bridging Homogeneous and Heterogeneous Systemsâ€”Photoelectrodes for CO2 Electrochemical Conversion. RSC Energy and Environment Series, 2020, , 287-316.	0.2	1