

# Mingwang Shao

## List of Publications by Year in descending order

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103  
papers

4,664  
citations

81743

39  
h-index

114278

63  
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103  
all docs

103  
docs citations

103  
times ranked

4985  
citing authors

#	ARTICLE	IF	CITATIONS
1	In-situ transient photovoltage study on interface electron transfer regulation of carbon dots/NiCo <sub>2</sub> O <sub>4</sub> photocatalyst for the enhanced overall water splitting activity. Nano Research, 2022, 15, 1786-1795.	5.8	41
2	Carbon dots regulate the interface electron transfer and catalytic kinetics of Pt-based alloys catalyst for highly efficient hydrogen oxidation. Journal of Energy Chemistry, 2022, 66, 61-67.	7.1	45
3	All-in-one photocatalysis device for one-step high concentration H <sub>2</sub> O <sub>2</sub> photoproduction. Chemical Engineering Journal, 2022, 427, 131972.	6.6	10
4	Rh/RhO nanosheets as pH-universal bifunctional catalysts for hydrazine oxidation and hydrogen evolution reactions. Journal of Materials Chemistry A, 2022, 10, 1891-1898.	5.2	25
5	Interfacial engineered PdRu/C with robust poison tolerance for oxygen reduction reaction and zinc-air battery. Journal of Alloys and Compounds, 2022, 896, 163112.	2.8	3
6	Two-Dimensional Confined Synthesis of Metastable 1T-Phase MoS <sub>2</sub> Nanosheets for the Hydrogen Evolution Reaction. ACS Applied Nano Materials, 2022, 5, 1377-1384.	2.4	15
7	Highly efficient metal-free catalyst from cellulose for hydrogen peroxide photoproduction instructed by machine learning and transient photovoltage technology. Nano Research, 2022, 15, 4000-4007.	5.8	26
8	Boosting electrocatalytic selectivity in carbon dioxide reduction: The fundamental role of dispersing gold nanoparticles on silicon nanowires. Chinese Chemical Letters, 2022, 33, 4380-4384.	4.8	5
9	Carbon dots bridge NiO and Mn <sub>2</sub> O <sub>3</sub> as highly efficient bifunctional oxygen electrocatalysts for rechargeable zinc-air batteries. Applied Surface Science, 2022, 596, 153642.	3.1	8
10	Diluted silicon promoting Pd/Pt catalysts for oxygen reduction reaction with strong anti-poisoning effect. Applied Catalysis B: Environmental, 2022, 315, 121549.	10.8	15
11	Highly crystalline core dominated the catalytic performance of carbon dot for cyclohexane to adipic acid reaction. Nano Research, 2022, 15, 7662-7669.	5.8	5
12	Interface photo-charge kinetics regulation by carbon dots for efficient hydrogen peroxide production. Journal of Materials Chemistry A, 2021, 9, 515-522.	5.2	53
13	Chiral Control of Carbon Dots via Surface Modification for Tuning the Enzymatic Activity of Glucose Oxidase. ACS Applied Materials & Interfaces, 2021, 13, 5877-5886.	4.0	48
14	ZIF/Co-C <sub>3</sub> N <sub>4</sub> with enhanced electrocatalytic reduction of carbon dioxide activity by the photoactivation process. Nanoscale, 2021, 13, 14089-14095.	2.8	7
15	A metal-free photocatalyst for highly efficient hydrogen peroxide photoproduction in real seawater. Nature Communications, 2021, 12, 483.	5.8	193
16	Palladium-Copper Bimetallic Nanoparticles Loaded on Carbon Black for Oxygen Reduction and Zinc-Air Batteries. ACS Applied Nano Materials, 2021, 4, 1478-1484.	2.4	12
17	Ultra-Bright and Stable Pure Blue Light-Emitting Diode from O, N Co-Doped Carbon Dots. Laser and Photonics Reviews, 2021, 15, 2000412.	4.4	54
18	Simple Semiempirical Method for the Location Determination of HOMO and LUMO of Carbon Dots. Journal of Physical Chemistry C, 2021, 125, 7451-7457.	1.5	22

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19	Rod-shaped $\gamma$ -MnO <sub>2</sub> electrocatalysts with high Mn <sup>3+</sup> content for oxygen reduction reaction and Zn-air battery. <i>Journal of Alloys and Compounds</i> , 2021, 860, 158427.	2.8	17
20	Carbon-Dot-Based White-Light-Emitting Diodes with Adjustable Correlated Color Temperature Guided by Machine Learning. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 12585-12590.	7.2	60
21	Charge storage of carbon dot enhances photo-production of H <sub>2</sub> and H <sub>2</sub> O <sub>2</sub> over Ni <sub>2</sub> P/carbon dot catalyst under normal pressure. <i>Chemical Engineering Journal</i> , 2021, 409, 128184.	6.6	54
22	Carbon Dots Promote the Performance of Anodized Nickel Passivation Film on Ethanol Oxidation by Enhancing Oxidation of the Intermediate $\alpha$ . <i>Chinese Journal of Chemistry</i> , 2021, 39, 1199-1204.	2.6	5
23	Carbon-Dot-Based White-Light-Emitting Diodes with Adjustable Correlated Color Temperature Guided by Machine Learning. <i>Angewandte Chemie</i> , 2021, 133, 12693-12698.	1.6	8
24	Effective Low-Temperature Methanol Aqueous Phase Reforming with Metal-Free Carbon Dots/C <sub>3</sub> N <sub>4</sub> Composites. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 24702-24709.	4.0	16
25	Polyaniline/Carbon Dots Composite as a Highly Efficient Metal-Free Dual-Functional Photoassisted Electrocatalyst for Overall Water Splitting. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 24814-24823.	4.0	41
26	In-situ photovoltage transients assisted catalytic study on H <sub>2</sub> O <sub>2</sub> photoproduction over organic molecules modified carbon nitride photocatalyst. <i>Applied Catalysis B: Environmental</i> , 2021, 285, 119817.	10.8	42
27	Carbon nitride assisted 2D conductive metal-organic frameworks composite photocatalyst for efficient visible light-driven H <sub>2</sub> O <sub>2</sub> production. <i>Applied Catalysis B: Environmental</i> , 2021, 289, 120035.	10.8	84
28	Carbon dots/Bi <sub>2</sub> WO <sub>6</sub> composite with compensatory photo-electronic effect for overall water photo-splitting at normal pressure. <i>Chinese Chemical Letters</i> , 2021, 32, 2283-2286.	4.8	23
29	Pyrolic nitrogen dominated the carbon dot mimic oxidase activity. <i>Carbon</i> , 2021, 179, 692-700.	5.4	50
30	A carbon dot-based total green and self-recoverable solid-state electrochemical cell fully utilizing O <sub>2</sub> /H <sub>2</sub> O redox couple. <i>SusMat</i> , 2021, 1, 448-457.	7.8	12
31	Surface fluorinated nickel-graphene nanocomposites for high-efficiency methanol electrooxidation. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 27138-27148.	3.8	5
32	Electric field polarized sulfonated carbon dots/NiFe layered double hydroxide as highly efficient electrocatalyst for oxygen evolution reaction. <i>Chemical Engineering Journal</i> , 2021, 420, 129690.	6.6	16
33	Carbon dots/PtW <sub>6</sub> O <sub>24</sub> composite as efficient and stable electrocatalyst for hydrogen oxidation reaction in PEMFCs. <i>Chemical Engineering Journal</i> , 2021, 426, 130709.	6.6	25
34	Carbon dots modified Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> -based fibrous supercapacitor with photo-enhanced capacitance. <i>Nano Research</i> , 2021, 14, 3886-3892.	5.8	31
35	Pd Nanoparticles with Twin Structures on F-Doped Graphene for Formic Acid Oxidation. <i>ChemCatChem</i> , 2020, 12, 504-509.	1.8	15
36	Phosphorus-doped porous carbon nitride for efficient sole production of hydrogen peroxide via photocatalytic water splitting with a two-channel pathway. <i>Journal of Materials Chemistry A</i> , 2020, 8, 3701-3707.	5.2	89

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37	Unusual Effect of Trace Water on the Structure and Activity of Ni x Co 1â” x Electro catalysts for the Methanol Oxidation Reaction. <i>ChemSusChem</i> , 2020, 13, 964-973.	3.6	14
38	Sulfhydryl-functionalized carbon dots modified ball cactus-like Au composites facilitating the electrocatalytic ethanol oxidation through adsorption effect. <i>Journal of Applied Electrochemistry</i> , 2020, 50, 925-933.	1.5	6
39	Carbon Dots Enable Efficient Delivery of Functional DNA in Plants. <i>ACS Applied Bio Materials</i> , 2020, 3, 8857-8864.	2.3	33
40	Carbon dot-modified mesoporous carbon as a supercapacitor with enhanced light-assisted capacitance. <i>Nanoscale</i> , 2020, 12, 17925-17930.	2.8	25
41	Sensitive detection of clenbuterol by hybrid iridium/silicon nanowire-enhanced laser desorption/ionization mass spectrometry. <i>Journal of Materials Chemistry B</i> , 2020, 8, 7792-7800.	2.9	8
42	Carbon Dots Derived from Citric Acid and Glutathione as a Highly Efficient Intracellular Reactive Oxygen Species Scavenger for Alleviating the Lipopolysaccharide-Induced Inflammation in Macrophages. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 41088-41095.	4.0	74
43	Engineering CoN/Ni(OH) <sub>2</sub> heterostructures with improved intrinsic interfacial charge transfer toward simultaneous hydrogen generation and urea-rich wastewater purification. <i>Journal of Power Sources</i> , 2020, 480, 229151.	4.0	29
44	Highly efficient water splitting over a RuO <sub>2</sub> /F-doped graphene electrocatalyst with ultra-low ruthenium content. <i>Inorganic Chemistry Frontiers</i> , 2020, 7, 2188-2194.	3.0	29
45	Functionalization of metal oxides with thiocyanate groups: A general strategy for boosting oxygen evolution reaction in neutral media. <i>Nano Energy</i> , 2020, 76, 105079.	8.2	16
46	Metal-Free Catalyst with Large Carbon Defects for Efficient Direct Overall Water Splitting in Air at Room Pressure. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 30280-30288.	4.0	21
47	A 4e <sup>-</sup> 2e <sup>-</sup> cascaded pathway for highly efficient production of H <sub>2</sub> and H <sub>2</sub> O <sub>2</sub> from water photo-splitting at normal pressure. <i>Applied Catalysis B: Environmental</i> , 2020, 270, 118875.	10.8	68
48	Rhodium/graphitic-carbon-nitride composite electrocatalyst facilitates efficient hydrogen evolution in acidic and alkaline electrolytes. <i>Journal of Colloid and Interface Science</i> , 2020, 571, 30-37.	5.0	14
49	Highly Efficient Oxygen Evolution by a Thermocatalytic Process Cascaded Electrocatalysis Over Sulfurâ€”treated Feâ€”Based Metalâ€”Organicâ€”Frameworks. <i>Advanced Energy Materials</i> , 2020, 10, 2000184.	10.2	75
50	Robust carbon-dot-based evaporator with an enlarged evaporation area for efficient solar steam generation. <i>Journal of Materials Chemistry A</i> , 2020, 8, 14566-14573.	5.2	44
51	Efficient production of H <sub>2</sub> O <sub>2</sub> via two-channel pathway over ZIF-8/C <sub>3</sub> N <sub>4</sub> composite photocatalyst without any sacrificial agent. <i>Applied Catalysis B: Environmental</i> , 2020, 278, 119289.	10.8	110
52	Strain engineering for Janus palladium-gold bimetallic nanoparticles: Enhanced electrocatalytic performance for oxygen reduction reaction and zinc-air battery. <i>Chemical Engineering Journal</i> , 2020, 389, 124240.	6.6	40
53	Selective inactivation of Gram-negative bacteria by carbon dots derived from natural biomass: <i>Artemisia argyi</i> leaves. <i>Journal of Materials Chemistry B</i> , 2020, 8, 2666-2672.	2.9	57
54	One-Step Direct Fixation of Atmospheric CO <sub>2</sub> by Si-H Surface in Solution. <i>IScience</i> , 2020, 23, 100806.	1.9	3

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55	Determining Locations of Conduction Bands and Valence Bands of Semiconductor Nanoparticles Based on Their Band Gaps. <i>ACS Omega</i> , 2020, 5, 10297-10300.	1.6	30
56	Tree-inspired ultra-rapid steam generation and simultaneous energy harvesting under weak illumination. <i>Journal of Materials Chemistry A</i> , 2020, 8, 10260-10268.	5.2	25
57	Effective PtAu nanowire network catalysts with ultralow Pt content for formic acid oxidation and methanol oxidation. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 16071-16079.	3.8	27
58	A function-switchable metal-free photocatalyst for the efficient and selective production of hydrogen and hydrogen peroxide. <i>Journal of Materials Chemistry A</i> , 2020, 8, 11773-11780.	5.2	42
59	Carbon dots-Pt modified polyaniline nanosheet grown on carbon cloth as stable and high-efficient electrocatalyst for hydrogen evolution in pH-universal electrolyte. <i>Applied Catalysis B: Environmental</i> , 2019, 257, 117905.	10.8	74
60	Quantitative evaluation of synergistic effects for Pt nanoparticles embedded in N-enriched carbon matrix as an efficient and durable catalyst for the hydrogen evolution reaction and their PEMWE performance. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 31121-31128.	3.8	19
61	Biotoxicity of degradable carbon dots towards microalgae <i>Chlorella vulgaris</i> . <i>Environmental Science: Nano</i> , 2019, 6, 3316-3323.	2.2	28
62	Mesocrystal PtRu supported on reduced graphene oxide as catalysts for methanol oxidation reaction. <i>Journal of Colloid and Interface Science</i> , 2019, 557, 729-736.	5.0	22
63	Approaching the Volcano Top: Iridium/Silicon Nanocomposites as Efficient Electrocatalysts for the Hydrogen Evolution Reaction. <i>ACS Nano</i> , 2019, 13, 2786-2794.	7.3	106
64	Silicon nanowires decorated with gold nanoparticles <i>via in situ</i> reduction for photoacoustic imaging-guided photothermal cancer therapy. <i>Journal of Materials Chemistry B</i> , 2019, 7, 4393-4401.	2.9	15
65	Maltase Decorated by Chiral Carbon Dots with Inhibited Enzyme Activity for Glucose Level Control. <i>Small</i> , 2019, 15, e1901512.	5.2	56
66	Ir-Au Bimetallic Nanoparticle Modified Silicon Nanowires with Ultralow Content of Ir for Hydrogen Evolution Reaction. <i>ChemCatChem</i> , 2019, 11, 2126-2130.	1.8	15
67	Silicon monoxide assisted synthesis of Ru modified carbon nanocomposites as high mass activity electrocatalysts for hydrogen evolution. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 11817-11823.	3.8	16
68	Quasi-layer Co <sub>2</sub> P-polarized Cu <sub>3</sub> P nanocomposites with enhanced intrinsic interfacial charge transfer for efficient overall water splitting. <i>Nanoscale</i> , 2019, 11, 6394-6400.	2.8	23
69	Rhodium/silicon quantum dot/carbon quantum dot composites as highly efficient electrocatalysts for hydrogen evolution reaction with Pt-like performance. <i>Electrochimica Acta</i> , 2019, 299, 828-834.	2.6	24
70	Ternary Os-Ag-Si electrocatalysts for hydrogen evolution are more efficient than Os-Au-Si. <i>Journal of Colloid and Interface Science</i> , 2019, 539, 257-262.	5.0	2
71	Synergistic Cu@CoOx core-cage structure on carbon layers as highly active and durable electrocatalysts for methanol oxidation. <i>Applied Catalysis B: Environmental</i> , 2019, 244, 795-801.	10.8	42
72	All-solid-state Z-scheme system of NiO/CDs/BiVO <sub>4</sub> for visible light-driven efficient overall water splitting. <i>Chemical Engineering Journal</i> , 2019, 358, 134-142.	6.6	71

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73	Carbon dots promote the growth and photosynthesis of mung bean sprouts. <i>Carbon</i> , 2018, 136, 94-102.	5.4	182
74	Palladium $\alpha$ -silicon nanocomposites as a stable electrocatalyst for hydrogen evolution reaction. <i>Journal of Colloid and Interface Science</i> , 2018, 522, 242-248.	5.0	25
75	PbS Quantum Dots/2D Nonlayered CdS <sub>x</sub> Se <sub>1-x</sub> Nanosheet Hybrid Nanostructure for High-Performance Broadband Photodetectors. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 43887-43895.	4.0	29
76	Nanosponge Pt Modified Graphene Nanocomposites Using Silicon Monoxides as a Reducing Agent: High Efficient Electrocatalysts for Hydrogen Evolution. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 15238-15244.	3.2	11
77	Ir/g-C <sub>3</sub> N <sub>4</sub> /Nitrogen-Doped Graphene Nanocomposites as Bifunctional Electrocatalysts for Overall Water Splitting in Acidic Electrolytes. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 39161-39167.	4.0	80
78	Rhodium Nanoparticles/F-Doped Graphene Composites as Multifunctional Electrocatalyst Superior to Pt/C for Hydrogen Evolution and Formic Acid Oxidation Reaction. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 33153-33161.	4.0	63
79	High-performance NiO/g-C <sub>3</sub> N <sub>4</sub> composites for visible-light-driven photocatalytic overall water splitting. <i>Inorganic Chemistry Frontiers</i> , 2018, 5, 1646-1652.	3.0	92
80	Carbon Dots Enhance the Nitrogen Fixation Activity of <i>Azotobacter Chroococcum</i> . <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 16308-16314.	4.0	57
81	Pristine Carbon Dots Boost the Growth of <i>Chlorella vulgaris</i> by Enhancing Photosynthesis. <i>ACS Applied Bio Materials</i> , 2018, 1, 894-902.	2.3	45
82	One-step hydrothermal synthesis of chiral carbon dots and their effects on mung bean plant growth. <i>Nanoscale</i> , 2018, 10, 12734-12742.	2.8	128
83	Rh $\alpha$ Ag $\alpha$ Si ternary composites: highly active hydrogen evolution electrocatalysts over Pt $\alpha$ Ag $\alpha$ Si. <i>Journal of Materials Chemistry A</i> , 2017, 5, 1623-1628.	5.2	28
84	The self-activation and synergy of amorphous Re nanoparticle $\alpha$ Si nanowire composites for the electrocatalytic hydrogen evolution. <i>Electrochimica Acta</i> , 2017, 228, 268-273.	2.6	18
85	A stepwise-designed Rh-Au-Si nanocomposite that surpasses Pt/C hydrogen evolution activity at high overpotentials. <i>Nano Research</i> , 2017, 10, 1749-1755.	5.8	37
86	Rh $\alpha$ MoS <sub>2</sub> Nanocomposite Catalysts with Pt $\alpha$ -Like Activity for Hydrogen Evolution Reaction. <i>Advanced Functional Materials</i> , 2017, 27, 1700359.	7.8	185
87	Photoluminescence of pure silicon quantum dots embedded in an amorphous silica wire array. <i>Journal of Materials Chemistry C</i> , 2017, 5, 6713-6717.	2.7	10
88	Pt nanocrystals on nitrogen-doped graphene for the hydrogen evolution reaction using Si nanowires as a sacrificial template. <i>Nanoscale</i> , 2017, 9, 10138-10144.	2.8	73
89	Optimizing the hydrogen evolution reaction by shrinking Pt amount in Pt-Ag/SiNW nanocomposites. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 15024-15030.	3.8	31
90	High capacitance and rate capability of a Ni <sub>3</sub> S <sub>2</sub> @CdS core $\alpha$ shell nanostructure supercapacitor. <i>Journal of Materials Chemistry A</i> , 2017, 5, 7165-7172.	5.2	132

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91	Powerful synergy: efficient Pt@Au@Si nanocomposites as state-of-the-art catalysts for electrochemical hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2017, 5, 21903-21908.	5.2	19
92	Carbon cloth supported cobalt phosphide as multifunctional catalysts for efficient overall water splitting and zinc-air batteries. <i>Nanoscale</i> , 2017, 9, 18977-18982.	2.8	92
93	Os/Si nanocomposites as excellent hydrogen evolution electrocatalysts with thermodynamically more favorable hydrogen adsorption free energy than platinum. <i>Nano Energy</i> , 2017, 39, 284-290.	8.2	40
94	One-dimensional CdS <sub>x</sub> Se <sub>1-x</sub> nanoribbons for high-performance rigid and flexible photodetectors. <i>Journal of Materials Chemistry C</i> , 2017, 5, 7521-7526.	2.7	29
95	Prominent electrocatalytic methanol oxidation from cauliflower shape gold with high-index facets. <i>Materials Chemistry and Physics</i> , 2017, 186, 301-304.	2.0	9
96	A rhodium/silicon co-electrocatalyst design concept to surpass platinum hydrogen evolution activity at high overpotentials. <i>Nature Communications</i> , 2016, 7, 12272.	5.8	272
97	Improved Energy Storage Performance Based on Gamma-Ray Irradiated Activated Carbon Cloth. <i>Electrochimica Acta</i> , 2016, 191, 908-915.	2.6	42
98	Ru-modified silicon nanowires as electrocatalysts for hydrogen evolution reaction. <i>Electrochemistry Communications</i> , 2015, 52, 29-33.	2.3	56
99	Network-like mesoporous NiCo <sub>2</sub> O <sub>4</sub> grown on carbon cloth for high-performance pseudocapacitors. <i>Journal of Materials Chemistry A</i> , 2015, 3, 16520-16527.	5.2	107
100	Visible-light-enhanced gas sensing of CdS <sub>x</sub> Se <sub>1-x</sub> nanoribbons for acetic acid at room temperature. <i>Sensors and Actuators B: Chemical</i> , 2015, 215, 497-503.	4.0	25
101	Silicon Nanowires with Permanent Electrostatic Charges for Nanogenerators. <i>Nano Letters</i> , 2011, 11, 4870-4873.	4.5	49
102	Excellent Photocatalysis of HF-Treated Silicon Nanowires. <i>Journal of the American Chemical Society</i> , 2009, 131, 17738-17739.	6.6	209
103	Pd Nanoparticles/F, N Codoping Graphene Composites for Oxygen Reduction and Zinc-Air Batteries. <i>ACS Sustainable Chemistry and Engineering</i> , 0, , .	3.2	6