Chao Wang

List of Publications by Year
in descending order

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131 papers	19,464 citations	14614 66 h-index	15218 126 g-index
143 all docs	143 docs citations	143 times ranked	20251 citing authors

#	Article	IF	Citations
1	Carbothermal shock synthesis of high-entropy-alloy nanoparticles. Science, 2018, 359, 1489-1494.	6.0	1,065
2	Improving the hydrogen oxidation reaction rate by promotion of hydroxyl adsorption. Nature Chemistry, 2013, 5, 300-306.	6.6	945
3	A General Approach to the Sizeâ€•and Shapeâ€Controlled Synthesis of Platinum Nanoparticles and Their Catalytic Reduction of Oxygen. Angewandte Chemie - International Edition, 2008, 47, 3588-3591.	7.2	791
4	Overview of carbon nanostructures and nanocomposites for electromagnetic wave shielding. Carbon, 2018, 140, 696-733.	5.4	574
5	Advanced Electrocatalysts with Single-Metal-Atom Active Sites. Chemical Reviews, 2020, 120, 12217-12314.	23.0	563
6	Design and Synthesis of Bimetallic Electrocatalyst with Multilayered Pt-Skin Surfaces. Journal of the American Chemical Society, 2011, 133, 14396-14403.	6.6	541
7	Synthesis of Monodisperse Pt Nanocubes and Their Enhanced Catalysis for Oxygen Reduction. Journal of the American Chemical Society, 2007, 129, 6974-6975.	6.6	530
8	Ultrathin W₁₈O₄₉ Nanowires with Diameters below 1â€…nm: Synthesis, Nearâ€Infrared Absorption, Photoluminescence, and Photochemical Reduction of Carbon Dioxide. Angewandte Chemie - International Edition, 2012, 51, 2395-2399.	7.2	492
9	Auâ€“Fe₃O₄ Dumbbell Nanoparticles as Dualâ€Functional Probes. Angewandte Chemie - International Edition, 2008, 47, 173-176.	7.2	490
10	Synthesis and Stabilization of Monodisperse Fe Nanoparticles. Journal of the American Chemical Society, 2006, 128, 10676-10677.	6.6	483
11	Dumbbell-like Ptâ‹‚Fe₃O₄ Nanoparticles and Their Enhanced Catalysis for Oxygen Reduction Reaction. Nano Letters, 2009, 9, 1493-1496.	4.5	467
12	Ultrathin Au Nanowires and Their Transport Properties. Journal of the American Chemical Society, 2008, 130, 8902-8903.	6.6	445
13	Multimetallic Au/FePt₃ Nanoparticles as Highly Durable Electrocatalyst. Nano Letters, 2011, 11, 919-926.	4.5	435
14	Cold welding of ultrathin gold nanowires. Nature Nanotechnology, 2010, 5, 218-224.	15.6	432
15	Surfactant Removal for Colloidal Nanoparticles from Solution Synthesis: The Effect on Catalytic Performance. ACS Catalysis, 2012, 2, 1358-1362.	5.5	426
16	Advanced Platinum Alloy Electrocatalysts for the Oxygen Reduction Reaction. ACS Catalysis, 2012, 2, 891-898.	5.5	403
17	A facile synthesis of monodisperse Au nanoparticles and their catalysis of CO oxidation. Nano Research, 2008, 1, 229-234.	5.8	398
18	Tunable intrinsic strain in two-dimensional transition metal electrocatalysts. Science, 2019, 363, 870-874.	6.0	384

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19	Highly efficient decomposition of ammonia using high-entropy alloy catalysts. Nature Communications, 2019, 10, 4011.	5.8	376
20	Highly Dense Cu Nanowires for Low-Overpotential CO₂ Reduction. Nano Letters, 2015, 15, 6829-6835.	4.5	354
21	Mesostructured thin films as electrocatalysts with tunable composition and surface morphology. Nature Materials, 2012, 11, 1051-1058.	13.3	323
22	Recent Progress in Syntheses and Applications of Dumbbellâ€like Nanoparticles. Advanced Materials, 2009, 21, 3045-3052.	11.1	308
23	A General Strategy for Synthesizing FePt Nanowires and Nanorods. Angewandte Chemie - International Edition, 2007, 46, 6333-6335.	7.2	297
24	Recent Advances in CO₂ Reduction Electrocatalysis on Copper. ACS Energy Letters, 2018, 3, 1545-1556.	8.8	280
25	High temperature shockwave stabilized single atoms. Nature Nanotechnology, 2019, 14, 851-857.	15.6	278
26	Unique Electrochemical Adsorption Properties of Ptâ€Skin Surfaces. Angewandte Chemie - International Edition, 2012, 51, 3139-3142.	7.2	264
27	A General Approach to Noble Metalâ^'Metal Oxide Dumbbell Nanoparticles and Their Catalytic Application for CO Oxidation. Chemistry of Materials, 2010, 22, 3277-3282.	3.2	246
28	High-entropy nanoparticles: Synthesis-structure-property relationships and data-driven discovery. Science, 2022, 376, eabn3103.	6.0	239
29	Ensemble Effect in Bimetallic Electrocatalysts for CO₂ Reduction. Journal of the American Chemical Society, 2019, 141, 16635-16642.	6.6	238
30	Correlation Between Surface Chemistry and Electrocatalytic Properties of Monodisperse Pt_xNi_{1â€x} Nanoparticles. Advanced Functional Materials, 2011, 21, 147-152.	7.8	218
31	Nanoceria-Supported Single-Atom Platinum Catalysts for Direct Methane Conversion. ACS Catalysis, 2018, 8, 4044-4048.	5.5	214
32	Functional links between Pt single crystal morphology and nanoparticles with different size and shape: the oxygen reduction reaction case. Energy and Environmental Science, 2014, 7, 4061-4069.	15.6	205
33	Monodisperse Pt₃Co Nanoparticles as a Catalyst for the Oxygen Reduction Reaction: Size-Dependent Activity. Journal of Physical Chemistry C, 2009, 113, 19365-19368.	1.5	192
34	One-Pot Synthesis of Oleylamine Coated AuAg Alloy NPs and Their Catalysis for CO Oxidation. Chemistry of Materials, 2009, 21, 433-435.	3.2	184
35	On the importance of correcting for the uncompensated Ohmic resistance in model experiments of the Oxygen Reduction Reaction. Journal of Electroanalytical Chemistry, 2010, 647, 29-34.	1.9	177
36	Surface faceting and elemental diffusion behaviour at atomic scale for alloy nanoparticles during in situ annealing. Nature Communications, 2015, 6, 8925.	5.8	159

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37	Computationally aided, entropy-driven synthesis of highly efficient and durable multi-elemental alloy catalysts. Science Advances, 2020, 6, eaaz0510.	4.7	158
38	Denary oxide nanoparticles as highly stable catalysts for methane combustion. Nature Catalysis, 2021, 4, 62-70.	16.1	153
39	Rational Synthesis of Heterostructured Nanoparticles with Morphology Control. Journal of the American Chemical Society, 2010, 132, 6524-6529.	6.6	145
40	Low-Overpotential Electroreduction of Carbon Monoxide Using Copper Nanowires. ACS Catalysis, 2017, 7, 4467-4472.	5.5	137
41	Copper Nanocubes for CO₂ Reduction in Gas Diffusion Electrodes. Nano Letters, 2019, 19, 8461-8468.	4.5	135
42	Synthesis of AuAg Alloy Nanoparticles from Core/Shellâ€Structured Ag/Au. Small, 2009, 5, 567-570.	5.2	134
43	Rational Development of Ternary Alloy Electrocatalysts. Journal of Physical Chemistry Letters, 2012, 3, 1668-1673.	2.1	130
44	Subâ€6 nm Fully Ordered L1₀â€Ptâ€“Niâ€“Co Nanoparticles Enhance Oxygen Reduction via Co Doping Induced Ferromagnetism Enhancement and Optimized Surface Strain. Advanced Energy Materials, 2019, 9, 1803771.	10.2	127
45	Eliminating dissolution of platinum-based electrocatalysts at the atomic scale. Nature Materials, 2020, 19, 1207-1214.	13.3	127
46	Monodisperse Pt3Co nanoparticles as electrocatalyst: the effects of particle size and pretreatment on electrocatalytic reduction of oxygen. Physical Chemistry Chemical Physics, 2010, 12, 6933.	1.3	124
47	Synthesis of Homogeneous Pt-Bimetallic Nanoparticles as Highly Efficient Electrocatalysts. ACS Catalysis, 2011, 1, 1355-1359.	5.5	124
48	Rational Design of Metal Nanoframes for Catalysis and Plasmonics. Small, 2015, 11, 2593-2605.	5.2	121
49	Platinum-nickel hydroxide nanocomposites for electrocatalytic reduction of water. Nano Energy, 2017, 31, 456-461.	8.2	119
50	High-throughput, combinatorial synthesis of multimetallic nanoclusters. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6316-6322.	3.3	119
51	Conductive Wood for High-Performance Structural Electromagnetic Interference Shielding. Chemistry of Materials, 2020, 32, 5280-5289.	3.2	117
52	Catalytic Dephosphorylation Using Ceria Nanocrystals. ACS Catalysis, 2017, 7, 1931-1938.	5.5	115
53	Colloidal deposition synthesis of supported gold nanocatalysts based on Auâ€“Fe3O4 dumbbell nanoparticles. Chemical Communications, 2008, , 4357.	2.2	113
54	Mechanistic Insights for Low-Overpotential Electroreduction of CO₂ to CO on Copper Nanowires. ACS Catalysis, 2017, 7, 8578-8587.	5.5	106

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55	Platinum-alloy nanostructured thin film catalysts for the oxygen reduction reaction. Electrochimica Acta, 2011, 56, 8695-8699.	2.6	101
56	Surfactant-Induced Postsynthetic Modulation of Pd Nanoparticle Crystallinity. Nano Letters, 2011, 11, 1614-1617.	4.5	98
57	Oxo dicopper anchored on carbon nitride for selective oxidation of methane. Nature Communications, 2022, 13, 1375.	5.8	98
58	Local pH Effect in the CO₂Reduction Reaction on High-Surface-Area Copper Electrocatalysts. Journal of the Electrochemical Society, 2018, 165, F799-F804.	1.3	90
59	Synthesis of high magnetic moment CoFe nanoparticles via interfacial diffusion in core/shell structured Co/Fe nanoparticles. Nano Research, 2009, 2, 380-385.	5.8	88
60	Mass transport modelling for the electroreduction of CO₂ on Cu nanowires. Nanotechnology, 2018, 29, 044001.	1.3	82
61	Unveiling One-Pot Template-Free Fabrication of Exquisite Multidimensional PtNi Multicube Nanoarchitectonics for the Efficient Electrochemical Oxidation of Ethanol and Methanol with a Great Tolerance for CO. ACS Applied Materials & Interfaces, 2020, 12, 31309-31318.	4.0	73
62	Coreâ€“Shell Nanostructured Cobaltâ€“Platinum Electrocatalysts with Enhanced Durability. ACS Catalysis, 2018, 8, 35-42.	5.5	72
63	Controlling the morphologies of WO3 particles and tuning the gas sensing properties. New Journal of Chemistry, 2012, 36, 2205.	1.4	71
64	Tug-of-War in Nanoparticles: Competitive Growth of Au on Auâ^'Fe₃O₄ Nanoparticles. Nano Letters, 2009, 9, 4544-4547.	4.5	70
65	Synthesis of Metal Oxide Nanoparticles by Rapid, Highâ€Temperature 3D Microwave Heating. Advanced Functional Materials, 2019, 29, 1904282.	7.8	65
66	Plating Precious Metals on Nonprecious Metal Nanoparticles for Sustainable Electrocatalysts. Nano Letters, 2017, 17, 3391-3395.	4.5	61
67	Nanoscale Laser Metallurgy and Patterning in Air Using MOFs. Journal of the American Chemical Society, 2019, 141, 5481-5489.	6.6	61
68	Mass transfer effects in CO₂ reduction on Cu nanowire electrocatalysts. Catalysis Science and Technology, 2018, 8, 2364-2369.	2.1	54
69	Electro-Oxidation of Ethanol Using Pt₃Sn Alloy Nanoparticles. ACS Catalysis, 2018, 8, 10931-10937.	5.5	53
70	Unprecedented Electromagnetic Interference Shielding from Three-Dimensional Bi-continuous Nanoporous Graphene. Matter, 2019, 1, 1077-1087.	5.0	53
71	Pt nanoparticles encapsulated on V2O5 nanosheets carriers as efficient catalysts for promoted aerobic oxidative desulfurization performance. Chinese Journal of Catalysis, 2021, 42, 557-562.	6.9	53
72	Electrocatalytic conversion of carbon dioxide for the Paris goals. Nature Catalysis, 2021, 4, 915-920.	16.1	53

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73	Prospects of Platinum-Based Nanostructures for the Electrocatalytic Reduction of Oxygen. ACS Catalysis, 2018, 8, 9388-9398.	5.5	52
74	Synthesis of Platinum Nanotubes and Nanorings via Simultaneous Metal Alloying and Etching. Journal of the American Chemical Society, 2016, 138, 6332-6335.	6.6	49
75	Graphene-Metal-Metastructure Monolith via Laser Shock-Induced Thermochemical Stitching of MOF Crystals. Matter, 2020, 2, 1535-1549.	5.0	49
76	Facile Synthesis of Ultrathin and Singleâ€Crystalline Au Nanowires. Chemistry - an Asian Journal, 2009, 4, 1028-1034.	1.7	47
77	Undercoordinated Active Sites on 4H Gold Nanostructures for CO₂ Reduction. Nano Letters, 2020, 20, 8074-8080.	4.5	46
78	Oriented-assembly of hollow FePt nanochains with tunable catalytic and magnetic properties. Nanoscale, 2016, 8, 11432-11440.	2.8	45
79	Exchange bias effect in Au-Fe₃O₄nanocomposites. Nanotechnology, 2014, 25, 055702.	1.3	43
80	Bending Nanowire Growth in Solution by Mechanical Disturbance. Nano Letters, 2010, 10, 2121-2125.	4.5	42
81	Interparticle interactions in coupled Auâ€“Fe3O4 nanoparticles. Journal of Applied Physics, 2009, 105, 07B502.	1.1	41
82	An overview of amphoteric ion exchange membranes for vanadium redox flow batteries. Journal of Materials Science and Technology, 2021, 69, 212-227.	5.6	41
83	Pt3Re alloy nanoparticles as electrocatalysts for the oxygen reduction reaction. Nano Energy, 2016, 20, 202-211.	8.2	38
84	Improving the High-Current-Density Performance of PEMFC through Much Enhanced Utilization of Platinum Electrocatalysts on Carbon. ACS Applied Materials & Interfaces, 2020, 12, 26076-26083.	4.0	38
85	High-Flux CO Reduction Enabled by Three-Dimensional Nanostructured Copper Electrodes. ACS Catalysis, 2018, 8, 5657-5663.	5.5	35
86	Asymmetrical Câ€“C Coupling for Electroreduction of CO on Bimetallic Cuâ€“Pd Catalysts. ACS Catalysis, 2022, 12, 5275-5283.	5.5	35
87	Recovery of ammonium from aqueous solutions using ZSM-5. Chemosphere, 2018, 198, 501-509.	4.2	29
88	Ultrafast, Controllable Synthesis of Sub-Nano Metallic Clusters through Defect Engineering. ACS Applied Materials & Interfaces, 2019, 11, 29773-29779.	4.0	28
89	Nano-folded Gold Catalysts for Electroreduction of Carbon Dioxide. Nano Letters, 2019, 19, 9154-9159.	4.5	28
90	A Discovery of Strong Metalâ€“Support Bonding in Nanoengineered Auâ€“Fe₃O₄ Dumbbell-like Nanoparticles by in Situ Transmission Electron Microscopy. Nano Letters, 2017, 17, 4576-4582.	4.5	27

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91	Three-Dimensional Hierarchical Copper-Based Nanostructures as Advanced Electrocatalysts for CO₂ Reduction. ACS Applied Energy Materials, 2018, 1, 2392-2398.	2.5	27
92	Bridging adsorption analytics and catalytic kinetics for metal-exchanged zeolites. Nature Catalysis, 2021, 4, 144-156.	16.1	27
93	Electrocatalytic Oxidation of Glycerol on Platinum. Journal of Physical Chemistry C, 2019, 123, 426-432.	1.5	26
94	Morphologic evolution of Au nanocrystals grown in ionic liquid by plasma reduction. Journal of Colloid and Interface Science, 2012, 374, 40-44.	5.0	21
95	Static and Dynamic Magnetic Properties of Composite Au-Fe$_{3}$O$_4$Nanoparticles. IEEE Transactions on Magnetics, 2007, 43, 3094-3096.	1.2	19
96	Improved Prediction of Nanoalloy Structures by the Explicit Inclusion of Adsorbates in Cluster Expansions. Journal of Physical Chemistry C, 2018, 122, 18040-18047.	1.5	19
97	Cross-linked Heterogeneous Nanoparticles as Bifunctional Probe. Chemistry of Materials, 2012, 24, 2423-2425.	3.2	17
98	Electrochemical alternative to Fischerâ€“Tropsch. Nature Catalysis, 2018, 1, 741-742.	16.1	17
99	Metalâ€“Organic Framework-Derived BiIn Bimetallic Oxide Nanoparticles Embedded in Carbon Networks for Efficient Electrochemical Reduction of CO₂ to Formate. Inorganic Chemistry, 2022, 61, 12003-12011.	1.9	17
100	Synthesis of Supported Platinum Nanoparticles from Liâ^'Pt Solid Solution. Journal of the American Chemical Society, 2010, 132, 2151-2153.	6.6	16
101	Thermal Radiation Synthesis of Ultrafine Platinum Nanoclusters toward Methanol Oxidation. Small Methods, 2020, 4, 2000265.	4.6	16
102	Macromolecular Brushes as Stabilizers of Hydrophobic Solute Nanoparticles. Molecular Pharmaceutics, 2016, 13, 1855-1865.	2.3	13
103	Electrocatalytic Study of Ethylene Glycol Oxidation on Pt₃Sn Alloy Nanoparticles. ChemElectroChem, 2019, 6, 1004-1008.	1.7	13
104	Continuous Fly-Through High-Temperature Synthesis of Nanocatalysts. Nano Letters, 2021, 21, 4517-4523.	4.5	13
105	Template-free synthesis of uniform single-crystal hollow cerium dioxide nanocubes and their catalytic activity. Nanoscale, 2013, 5, 7193.	2.8	12
106	Recovery of Inorganic Phosphorus Using Copper-Substituted ZSM-5. ACS Sustainable Chemistry and Engineering, 2017, 5, 6192-6200.	3.2	10
107	Formation mechanisms for the dominant kinks with different angles in InP nanowires. Nanoscale Research Letters, 2014, 9, 211.	3.1	9
108	Comparative Studies of Ethanol and Ethylene Glycol Oxidation on Platinum Electrocatalysts. Topics in Catalysis, 2018, 61, 1035-1042.	1.3	9

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109	Designing an innovation system to support profitable electro- and bio-catalytic carbon upgrade. Energy and Environmental Science, 2022, 15, 1222-1233.	15.6	9
110	Migration of Cobalt Species within Mixed Platinum-Cobalt Oxide Bifunctional Electrocatalysts in Alkaline Electrolytes. Journal of the Electrochemical Society, 2019, 166, F3093-F3097.	1.3	7
111	Glancing angle deposited Ni nanopillars coated with conformal, thin layers of Pt by a novel electrodeposition: Application to the oxygen reduction reaction. Electrochimica Acta, 2015, 151, 537-543.	2.6	4
112	In Situ Electrochemical Route to Bromide Anion-Adsorbed Coral-like Porous Silver Microspheres Achieving Highly Selective Electroreduction of CO₂ to CO over a Wide Potential Range. ACS Sustainable Chemistry and Engineering, 2021, 9, 6756-6763.	3.2	4
113	Ab Initio modeling of Near-Edge EELS spectra for chemisorbed molecules. Nanotechnology, 2021, 32, 355702.	1.3	4
114	Effect of cobalt addition on platinum supported on multi-walled carbon nanotubes for water-gas shift. Journal of Catalysis, 2020, 391, 25-34.	3.1	3
115	Probing the Thermal Behavior and Stability of Metal-Fe3O4 Heterodimer Nanoparticles Utilizing In Situ Pulsed Laser Heating TEM. Journal of Nanomaterials, 2022, 2022, 1-9.	1.5	3
116	Extremely Slow Diffusion of Gold Nanoparticles under Confinement in Mesoporous Silica. Journal of Physical Chemistry C, 2022, 126, 3614-3622.	1.5	3
117	Oxygen reduction over dealloyed Pt layers on glancing angle deposited Ni nanostructures. Electrochimica Acta, 2015, 176, 620-626.	2.6	2
118	Recent Development of Platinum-Based Nanocatalysts for Oxygen Reduction Electrocatalysis. Nanostructure Science and Technology, 2016, , 253-280.	0.1	2
119	Modeling Multiterminal Spintronic Devices. IEEE Nanotechnology Magazine, 2007, 6, 309-315.	1.1	1
120	H-Cell Vs Gas Diffusion Electrolyzer for Evaluating Intrinsic Activity of Nanocatalysts for Electrochemical CO₂ Reduction. ECS Meeting Abstracts, 2019, MA2019-02, 1072-1072.	0.0	1
121	Chapter 2. Design, Synthesis and Applications of Dumbbell-like Nanoparticles. RSC Smart Materials, 2012, , 29-53.	0.1	0
122	Advaced Core-Shell Nanostructures for Electrocatalysis. ECS Meeting Abstracts, 2017, , .	0.0	0
123	Nanoporous Cu Thin Films for Electrochemical CO2 Reduction. ECS Meeting Abstracts, 2017, , .	0.0	0
124	Interplay of Mass Transfer and Local pH Effects in CO2 Reduction Electrocatalysis. ECS Meeting Abstracts, 2017, , .	0.0	0
125	Advanced Core-Shell Nanostructures for Electrocatalytic Applications. ECS Meeting Abstracts, 2018, , .	0.0	0
126	Self-Driven Strain Tuning in Transition Metal Nanocrystals for the Oxygen Reduction Reaction. ECS Meeting Abstracts, 2018, , .	0.0	0

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127	Three-Dimensional Hierarchical Copper Nanostructures As Advanced Electrocatalysts for CO2 Reduction. ECS Meeting Abstracts, 2018, , .	0.0	0
128	(Invited) Tailoring Metal Nanostructures for Energy-Efficient Electroreduction of CO2 and O2. ECS Meeting Abstracts, 2019, , .	0.0	0
129	(Invited) First Principles Studies of Oxygen Cycle Electrocatalysis: Multifunctional Materials and Reactivity Trends. ECS Meeting Abstracts, 2020, MA2020-01, 1522-1522.	0.0	0
130	Electrocatalysis for CO2 and CO Reduction. ECS Meeting Abstracts, 2021, MA2021-02, 835-835.	0.0	0
131	First Principles Analysis of Oxygen Cycle Electrocatalysis: Multifunctional Materials and Reactivity Trends. ECS Meeting Abstracts, 2020, MA2020-02, 2487-2487.	0.0	0