

# A Bimetallic Zn/Fe Polyphthalocyanineâ€Derived Single- Superior Trifunctional Catalyst for Overall Water Splitting

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Preparation of Hollow Nitrogen Doped Carbon via Stresses Induced Orientation Contraction. <i>Small</i> , 2018, 14, e1804183.	5.2	83
2	Toward Bifunctional Overall Water Splitting Electrocatalyst: General Preparation of Transition Metal Phosphide Nanoparticles Decorated N-Doped Porous Carbon Spheres. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 44201-44208.	4.0	71
3	Sulfuration of an Fe <sup>N</sup> -C Catalyst Containing Fe <sub>x</sub> C/Fe Species to Enhance the Catalysis of Oxygen Reduction in Acidic Media and for Use in Flexible Zn-Air Batteries. <i>Advanced Materials</i> , 2018, 30, e1804504.	11.1	269
4	Single-Atom Catalysts: Synthetic Strategies and Electrochemical Applications. <i>Joule</i> , 2018, 2, 1242-1264.	11.7	1,618
5	Two-Dimensional Conjugated Aromatic Networks as High-Site Density and Single-Atom Electrocatalysts for the Oxygen Reduction Reaction. <i>Angewandte Chemie</i> , 2019, 131, 14866-14872.	1.6	95
6	Two-Dimensional Conjugated Aromatic Networks as High-Site Density and Single-Atom Electrocatalysts for the Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 14724-14730.	7.2	139
7	A pyrolysis-free path toward superiorly catalytic nitrogen-coordinated single atom. <i>Science Advances</i> , 2019, 5, eaaw2322.	4.7	290
8	Bimetallic Co <sub>3.2</sub> Fe <sub>0.8</sub> -Nitrogen-Carbon Nanocomposites for Simultaneous Electrocatalytic Oxygen Reduction, Oxygen Evolution, and Hydrogen Evolution. <i>ACS Applied Nano Materials</i> , 2019, 2, 5931-5941.	2.4	25
9	Co-Mn spinel supported self-catalysis induced N-doped carbon nanotubes with high efficiency electron transport channels for zinc-air batteries. <i>Journal of Materials Chemistry A</i> , 2019, 7, 22307-22313.	5.2	92
10	Iron-Salt Thermally Emitted Strategy to Prepare Graphene-like Carbon Nanosheets with Trapped Fe Species for an Efficient Electrocatalytic Oxygen Reduction Reaction in the All-pH Range. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 27823-27832.	4.0	23
11	Self-Templated Conversion of Metallogel into Heterostructured TMP@Carbon Quasiaerogels Boosting Bifunctional Electrocatalysis. <i>Advanced Functional Materials</i> , 2019, 29, 1903660.	7.8	93
12	Bifunctional atomic iron-based catalyst for oxygen electrode reactions. <i>Journal of Catalysis</i> , 2019, 378, 353-362.	3.1	41
13	Hollow Spherical (Co, Zn)/N, S-Doped Carbons: Efficient Catalysts for Oxygen Reduction in Both Alkaline and Acidic Media. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 18912-18925.	3.2	32
14	Cobalt-boron-oxide supported on N, P dual-doped carbon nanosheets as the trifunctional electrocatalyst and its application in rechargeable Zn-air battery and overall water-electrolysis. <i>Electrochimica Acta</i> , 2019, 327, 134980.	2.6	21
15	Chirality Induces the Self-Assembly To Generate a 3D Porous Spiral-like Polyhedron as Metal-Free Electrocatalysts for the Oxygen Reduction Reaction. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 45596-45605.	4.0	15
16	Transforming Energy with Single-Atom Catalysts. <i>Joule</i> , 2019, 3, 2897-2929.	11.7	216
17	Versatile Applications of Metal Single-Atom @ 2D Material Nanoplatforms. <i>Advanced Science</i> , 2019, 6, 1901787.	5.6	128
18	Isolated Iron Single-Atomic Site-Catalyzed Chemoselective Transfer Hydrogenation of Nitroarenes to Arylamines. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 33819-33824.	4.0	74

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19	Regulating the coordination structure of single-atom Fe-NxCy catalytic sites for benzene oxidation. <i>Nature Communications</i> , 2019, 10, 4290.	5.8	326
20	Recent Advances in Isolated Single-Atom Catalysts for Zinc Air Batteries: A Focus Review. <i>Nanomaterials</i> , 2019, 9, 1402.	1.9	42
21	Atomic Ni Anchored Covalent Triazine Framework as High Efficient Electrocatalyst for Carbon Dioxide Conversion. <i>Advanced Functional Materials</i> , 2019, 29, 1806884.	7.8	210
22	Cobalt nanoparticle-embedded nitrogen-doped carbon/carbon nanotube frameworks derived from a metal-organic framework for tri-functional ORR, OER and HER electrocatalysis. <i>Journal of Materials Chemistry A</i> , 2019, 7, 3664-3672.	5.2	243
23	A single-atom Fe <sub>4</sub> N catalytic site mimicking bifunctional antioxidative enzymes for oxidative stress cytoprotection. <i>Chemical Communications</i> , 2019, 55, 159-162.	2.2	209
24	Role of P-doping in Antipoisoning: Efficient MOF-Derived 3D Hierarchical Architectures for the Oxygen Reduction Reaction. <i>Journal of Physical Chemistry C</i> , 2019, 123, 16796-16803.	1.5	50
25	Atomically Dispersed Bimetallic FeNi Catalysts as Highly Efficient Bifunctional Catalysts for Reversible Oxygen Evolution and Oxygen Reduction Reactions. <i>ChemElectroChem</i> , 2019, 6, 3478-3487.	1.7	58
26	N,P co-coordinated Fe species embedded in carbon hollow spheres for oxygen electrocatalysis. <i>Journal of Materials Chemistry A</i> , 2019, 7, 14732-14742.	5.2	80
27	Carbon-Rich Nonprecious Metal Single Atom Electrocatalysts for CO <sub>2</sub> Reduction and Hydrogen Evolution. <i>Small Methods</i> , 2019, 3, 1900210.	4.6	136
28	Mono/Multinuclear Water Oxidation Catalysts. <i>ChemSusChem</i> , 2019, 12, 3209-3235.	3.6	22
29	Pyrolysis of Self-Assembled Iron(III) Porphyrin on Carbon toward Efficient Oxygen Reduction Reaction. <i>Journal of the Electrochemical Society</i> , 2019, 166, F441-F447.	1.3	10
30	Nitrogen-Doped Carbon Nanosheets Encapsulating Cobalt Nanoparticle Hybrids as High-Performance Bifunctional Electrocatalysts. <i>ChemElectroChem</i> , 2019, 6, 2683-2688.	1.7	17
31	Superaerophobic Nickel Phosphide Nanoarray Catalyst for Efficient Hydrogen Evolution at Ultrahigh Current Densities. <i>Journal of the American Chemical Society</i> , 2019, 141, 7537-7543.	6.6	401
32	Single-atom nanozymes. <i>Science Advances</i> , 2019, 5, eaav5490.	4.7	615
33	Single Atoms on Graphene for Energy Storage and Conversion. <i>Small Methods</i> , 2019, 3, 1800443.	4.6	64
34	Oxygen Reduction Reactions of Fe-N-C Catalysts: Current Status and the Way Forward. <i>Electrochemical Energy Reviews</i> , 2019, 2, 252-276.	13.1	119
35	Iron Single Atoms on Graphene as Nonprecious Metal Catalysts for High-Temperature Polymer Electrolyte Membrane Fuel Cells. <i>Advanced Science</i> , 2019, 6, 1802066.	5.6	164
36	Transition Metal (Fe, Co and Ni) Carbide/Nitride (M <sub>2</sub> C/N) Nanocatalysts: Structure and Electrocatalytic Applications. <i>ChemCatChem</i> , 2019, 11, 2780-2792.	1.8	46

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37	In-situ growth of iron/nickel phosphides hybrid on nickel foam as bifunctional electrocatalyst for overall water splitting. <i>Journal of Power Sources</i> , 2019, 424, 42-51.	4.0	56
38	Generation of Nanoparticle, Atomic-Cluster, and Single-Atom Cobalt Catalysts from Zeolitic Imidazole Frameworks by Spatial Isolation and Their Use in Zinc-Air Batteries. <i>Angewandte Chemie</i> , 2019, 131, 5413-5418.	1.6	106
39	Insights into Single-Atom Metal-Support Interactions in Electrocatalytic Water Splitting. <i>Small Methods</i> , 2019, 3, 1800481.	4.6	94
40	Recent Advances for MOF-Derived Carbon-Supported Single-Atom Catalysts. <i>Small Methods</i> , 2019, 3, 1800471.	4.6	315
41	Generation of Nanoparticle, Atomic-Cluster, and Single-Atom Cobalt Catalysts from Zeolitic Imidazole Frameworks by Spatial Isolation and Their Use in Zinc-Air Batteries. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 5359-5364.	7.2	500
42	Facile synthesis of impurity-free iron single atom catalysts for highly efficient oxygen reduction reaction and active-site identification. <i>Catalysis Science and Technology</i> , 2019, 9, 6556-6560.	2.1	10
43	Confined carburization-engineered synthesis of ultrathin nickel oxide/nickel heterostructured nanosheets for enhanced oxygen evolution reaction. <i>Nanoscale</i> , 2019, 11, 22261-22269.	2.8	18
44	Coupled nanocomposite $\text{Co}_{5.47}\text{N}_3\text{Co}_3\text{Fe}_7$ inlaid in a tremella-like carbon framework as a highly efficient multifunctional electrocatalyst for oxygen transformation and overall water splitting. <i>Sustainable Energy and Fuels</i> , 2019, 3, 3538-3549.	2.5	12
45	Single atom electrocatalysts supported on graphene or graphene-like carbons. <i>Chemical Society Reviews</i> , 2019, 48, 5207-5241.	18.7	441
46	Facile solution synthesis of $\text{FeN}_x$ atom clusters supported on nitrogen-enriched graphene carbon aerogels with superb electrocatalytic performance toward the oxygen reduction reaction. <i>Journal of Materials Chemistry A</i> , 2019, 7, 25557-25566.	5.2	29
47	A Br-regulated transition metal active-site anchoring and exposure strategy in biomass-derived carbon nanosheets for obtaining robust ORR/HER electrocatalysts at all pH values. <i>Journal of Materials Chemistry A</i> , 2019, 7, 27089-27098.	5.2	40
48	Cobalt-Tannin-Framework-Derived Amorphous $\text{Co}^{\sim}\text{P}/\text{Co}^{\sim}\text{N}^{\sim}\text{C}$ on N, P Co-Doped Porous Carbon with Abundant Active Moieties for Efficient Oxygen Reactions and Water Splitting. <i>ChemSusChem</i> , 2019, 12, 830-838.	3.6	48
49	Probe active sites of heterogeneous electrocatalysts by X-ray absorption spectroscopy: From single atom to complex multi-element composites. <i>Current Opinion in Electrochemistry</i> , 2019, 14, 7-15.	2.5	22
50	Boosting defective carbon by anchoring well-defined atomically dispersed metal-N <sub>4</sub> sites for ORR, OER, and Zn-air batteries. <i>Applied Catalysis B: Environmental</i> , 2020, 260, 118198.	10.8	216
51	Vacancy in Ultrathin 2D Nanomaterials toward Sustainable Energy Application. <i>Advanced Energy Materials</i> , 2020, 10, 1902107.	10.2	76
52	Carbon-Based Single-Atom Catalysts for Advanced Applications. <i>ACS Catalysis</i> , 2020, 10, 2231-2259.	5.5	426
53	Structural Regulation with Atomic-Level Precision: From Single-Atomic Site to Diatomic and Atomic Interface Catalysis. <i>Matter</i> , 2020, 2, 78-110.	5.0	221
54	Single iron atoms coordinated to $\text{g-C}_3\text{N}_4$ on hierarchical porous N-doped carbon polyhedra as a high-performance electrocatalyst for the oxygen reduction reaction. <i>Chemical Communications</i> , 2020, 56, 798-801.	2.2	45

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55	A review of non-precious metal single atom confined nanomaterials in different structural dimensions (1D–3D) as highly active oxygen redox reaction electrocatalysts. <i>Journal of Materials Chemistry A</i> , 2020, 8, 2222-2245.	5.2	59
56	Boosting supercapacitor and capacitive deionization performance of hierarchically porous carbon by polar surface and structural engineering. <i>Journal of Materials Chemistry A</i> , 2020, 8, 2505-2517.	5.2	103
57	Well-Defined Materials for Heterogeneous Catalysis: From Nanoparticles to Isolated Single-Atom Sites. <i>Chemical Reviews</i> , 2020, 120, 623-682.	23.0	794
58	Atomic-Level Fe–N–C Coupled with Fe <sub>3</sub> C–Fe Nanocomposites in Carbon Matrixes as High-Efficiency Bifunctional Oxygen Catalysts. <i>Small</i> , 2020, 16, e1906057.	5.2	90
59	Engineering Local Coordination Environments of Atomically Dispersed and Heteroatom-Coordinated Single Metal Site Electrocatalysts for Clean Energy Conversion. <i>Advanced Energy Materials</i> , 2020, 10, 1902844.	10.2	245
60	Boosting Oxygen Reduction of Single Iron Active Sites via Geometric and Electronic Engineering: Nitrogen and Phosphorus Dual Coordination. <i>Journal of the American Chemical Society</i> , 2020, 142, 2404-2412.	6.6	680
61	Aqueous metal-air batteries: Fundamentals and applications. <i>Energy Storage Materials</i> , 2020, 27, 478-505.	9.5	221
62	Catalysis of a Single Transition Metal Site for Water Oxidation: From Mononuclear Molecules to Single Atoms. <i>Advanced Materials</i> , 2020, 32, e1904037.	11.1	78
63	A Freestanding 3D Heterostructure Film Stitched by MOF-Derived Carbon Nanotube Microsphere Superstructure and Reduced Graphene Oxide Sheets: A Superior Multifunctional Electrode for Overall Water Splitting and Zn–Air Batteries. <i>Advanced Materials</i> , 2020, 32, e2003313.	11.1	216
64	Design and operando/in situ characterization of precious-metal-free electrocatalysts for alkaline water splitting. , 2020, 2, 582-613.		105
65	Bifunctional Single Atom Electrocatalysts: Coordination–Performance Correlations and Reaction Pathways. <i>ACS Nano</i> , 2020, 14, 13279-13293.	7.3	107
66	Identifying the Active Sites of a Single Atom Catalyst with pH-Universal Oxygen Reduction Reaction Activity. <i>Cell Reports Physical Science</i> , 2020, 1, 100115.	2.8	26
67	Multilayer stabilization for fabricating high-loading single-atom catalysts. <i>Nature Communications</i> , 2020, 11, 5892.	5.8	195
68	Iron-based nanoparticles encapsulated in super-large 3D carbon nanotube networks as a bifunctional catalyst for ultrastable rechargeable zinc–air batteries. <i>Journal of Materials Chemistry A</i> , 2020, 8, 25913-25918.	5.2	7
69	CoNi alloys with slight oxidation@N,O Co-doped carbon: enhanced collective contributions of cores and shells to multifunctional electrocatalytic activity and Zn–air batteries. <i>Journal of Materials Chemistry A</i> , 2020, 8, 25805-25823.	5.2	39
70	Secondary-Atom-Doping Enables Robust Fe–N–C Single-Atom Catalysts with Enhanced Oxygen Reduction Reaction. <i>Nano-Micro Letters</i> , 2020, 12, 163.	14.4	114
71	Tuning of Trifunctional NiCu Bimetallic Nanoparticles Confined in a Porous Carbon Network with Surface Composition and Local Structural Distortions for the Electrocatalytic Oxygen Reduction, Oxygen and Hydrogen Evolution Reactions. <i>Journal of the American Chemical Society</i> , 2020, 142, 14688-14701.	6.6	231
72	Active Sites of Single-Atom Iron Catalyst for Electrochemical Hydrogen Evolution. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 6691-6696.	2.1	37

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73	Single atom is not alone: Metal–support interactions in single-atom catalysis. <i>Materials Today</i> , 2020, 40, 173-192.	8.3	174
74	Metal–Organic Framework–Derived Co <sub>2</sub> P Nanoparticle/Multi-Doped Porous Carbon as a Trifunctional Electrocatalyst. <i>Advanced Materials</i> , 2020, 32, e2003649.	11.1	261
75	Chemical design and synthesis of superior single-atom electrocatalysts <i>via in situ</i> polymerization. <i>Journal of Materials Chemistry A</i> , 2020, 8, 17683-17690.	5.2	19
76	Atomic iron on mesoporous N-doped carbon to achieve dehydrogenation reaction at room temperature. <i>Nano Research</i> , 2020, 13, 3075-3081.	5.8	23
77	Surface Coordination Chemistry of Atomically Dispersed Metal Catalysts. <i>Chemical Reviews</i> , 2020, 120, 11810-11899.	23.0	325
78	Advanced Electrocatalysts with Single-Metal-Atom Active Sites. <i>Chemical Reviews</i> , 2020, 120, 12217-12314.	23.0	563
79	<i>In situ</i> exsolved Co nanoparticles coupled on LiCoO <sub>2</sub> nanofibers to induce oxygen electrocatalysis for rechargeable Zn–air batteries. <i>Journal of Materials Chemistry A</i> , 2020, 8, 19946-19953.	5.2	27
80	A Review of Carbon-Supported Nonprecious Metals as Energy-Related Electrocatalysts. <i>Small Methods</i> , 2020, 4, 2000621.	4.6	76
81	Recent Progress in Non-Precious Metal Single Atomic Catalysts for Solar and Non-Solar Driven Hydrogen Evolution Reaction. <i>Advanced Sustainable Systems</i> , 2020, 4, 2000151.	2.7	14
82	Nonprecious Bimetallic Sites Coordinated on N-Doped Carbons with Efficient and Durable Catalytic Activity for Oxygen Reduction. <i>Small</i> , 2020, 16, e2000742.	5.2	50
83	High-Efficiency Electrocatalysis of Molecular Oxygen toward Hydroxyl Radicals Enabled by an Atomically Dispersed Iron Catalyst. <i>Environmental Science &amp; Technology</i> , 2020, 54, 12662-12672.	4.6	114
84	Microenvironment modulation of single-atom catalysts and their roles in electrochemical energy conversion. <i>Science Advances</i> , 2020, 6, .	4.7	214
85	Recent advances and strategies in the stabilization of single-atom catalysts for electrochemical applications. , 2020, 2, 488-520.		37
86	Heterostructure Design in Bimetallic Phthalocyanine Boosts Oxygen Reduction Reaction Activity and Durability. <i>Advanced Functional Materials</i> , 2020, 30, 2005000.	7.8	78
87	Isolated Single Atoms Anchored on N-Doped Carbon Materials as a Highly Efficient Catalyst for Electrochemical and Organic Reactions. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 14630-14656.	3.2	88
88	Edge-Functionalized Polyphthalocyanine Networks with High Oxygen Reduction Reaction Activity. <i>Journal of the American Chemical Society</i> , 2020, 142, 17524-17530.	6.6	75
89	Emerging Metal Single Atoms in Electrocatalysts and Batteries. <i>Advanced Functional Materials</i> , 2020, 30, 2003870.	7.8	38
90	2D-organic framework confined metal single atoms with the loading reaching the theoretical limit. <i>Materials Horizons</i> , 2020, 7, 2726-2733.	6.4	26

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91	Chromium-modulated multifunctional electrocatalytic activities of spinel oxide for Zn-air batteries and overall water splitting. <i>Journal of Power Sources</i> , 2020, 479, 229099.	4.0	19
92	Atomically Dispersed Cobalt Trifunctional Electrocatalysts with Tailored Coordination Environment for Flexible Rechargeable Zn-Air Battery and Self-Driven Water Splitting. <i>Advanced Energy Materials</i> , 2020, 10, 2002896.	10.2	210
93	Single-Atom Iron-Based Electrocatalysts for High-Temperature Polymer Electrolyte Membrane Fuel Cell: Organometallic Precursor and Pore Texture Tailoring. <i>ACS Applied Energy Materials</i> , 2020, 3, 11164-11176.	2.5	14
94	Recent Advances in the Development of Single-Atom Catalysts for Oxygen Electrocatalysis and Zinc-Air Batteries. <i>Advanced Energy Materials</i> , 2020, 10, 2003018.	10.2	181
95	Recent Progress of Carbon-Supported Single-Atom Catalysts for Energy Conversion and Storage. <i>Matter</i> , 2020, 3, 1442-1476.	5.0	196
96	Boosting the bifunctional oxygen electrocatalytic performance of atomically dispersed Fe site via atomic Ni neighboring. <i>Applied Catalysis B: Environmental</i> , 2020, 274, 119091.	10.8	130
97	Fe,N Co-Doped Mesoporous Carbon Nanosheets for Oxygen Reduction. <i>ACS Applied Nano Materials</i> , 2020, 3, 5637-5644.	2.4	16
98	Atomically dispersed metal active centers as a chemically tunable platform for energy storage devices. <i>Journal of Materials Chemistry A</i> , 2020, 8, 15358-15372.	5.2	16
99	Cu Nanoclusters/FeN <sub>4</sub> Amorphous Composites with Dual Active Sites in N-Doped Graphene for High-Performance Zn-Air Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 31340-31350.	4.0	71
100	Bifunctional iron-phthalocyanine metal-organic framework catalyst for ORR, OER and rechargeable zinc-air battery. <i>Rare Metals</i> , 2020, 39, 815-823.	3.6	94
101	Atomically dispersed catalysts for hydrogen/oxygen evolution reactions and overall water splitting. <i>Journal of Power Sources</i> , 2020, 471, 228446.	4.0	74
102	Single-Atom Catalysts for Electrocatalytic Applications. <i>Advanced Functional Materials</i> , 2020, 30, 2000768.	7.8	390
103	Single-Atom Iron Catalysts on Overhang-Free Carbon Cages for High-Performance Oxygen Reduction Reaction. <i>Angewandte Chemie</i> , 2020, 132, 7454-7459.	1.6	80
104	Molecular engineering of nanostructures and activities on bifunctional oxygen electrocatalysts for Zinc-air batteries. <i>Applied Catalysis B: Environmental</i> , 2020, 270, 118869.	10.8	34
105	Single-Atom Iron Catalysts on Overhang-Free Carbon Cages for High-Performance Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 7384-7389.	7.2	264
106	Single-Atom Catalytic Materials for Advanced Battery Systems. <i>Advanced Materials</i> , 2020, 32, e1906548.	11.1	156
107	General Strategy to Fabricate Metal-Incorporated Pyrolysis-Free Covalent Organic Framework for Efficient Oxygen Evolution Reaction. <i>Inorganic Chemistry</i> , 2020, 59, 4995-5003.	1.9	49
108	Mesoporous Iron-doped MoS <sub>2</sub> /CoMo <sub>2</sub> S <sub>4</sub> Heterostructures through Organic-Metal Cooperative Interactions on Spherical Micelles for Electrochemical Water Splitting. <i>ACS Nano</i> , 2020, 14, 4141-4152.	7.3	156

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109	Atomically dispersed cobalt catalyst anchored on nitrogen-doped carbon nanosheets for lithium-oxygen batteries. <i>Nature Communications</i> , 2020, 11, 1576.	5.8	237
110	Chemical Synthesis of Single Atomic Site Catalysts. <i>Chemical Reviews</i> , 2020, 120, 11900-11955.	23.0	806
111	Atomic site electrocatalysts for water splitting, oxygen reduction and selective oxidation. <i>Chemical Society Reviews</i> , 2020, 49, 2215-2264.	18.7	582
112	Edge-Rich Fe <sub>4</sub> Active Sites in Defective Carbon for Oxygen Reduction Catalysis. <i>Advanced Materials</i> , 2020, 32, e2000966.	11.1	215
113	Impact of electron transfer of atomic metals on adjacent graphyne layers on electrochemical water splitting. <i>Nanoscale</i> , 2020, 12, 7814-7821.	2.8	16
114	Boosting Defective Carbon by Anchoring Well-Defined Atomically Dispersed Ni <sub>4</sub> Sites for Electrocatalytic CO <sub>2</sub> Reduction. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 10536-10543.	3.2	52
115	Iron, Copper and Nitrogen Co-doped Carbon with Enhanced Electrocatalytic Activity towards Oxygen Reduction. <i>ChemElectroChem</i> , 2020, 7, 3116-3122.	1.7	3
116	Single Ni Atoms and Clusters Embedded in N-Doped Carbon @ Tubes on Fibers Matrix with Bifunctional Activity for Water Splitting at High Current Densities. <i>Small</i> , 2020, 16, e2002511.	5.2	38
117	Non-noble metal single-atom catalysts prepared by wet chemical method and their applications in electrochemical water splitting. <i>Journal of Energy Chemistry</i> , 2020, 47, 333-345.	7.1	104
118	Asymmetric Air Cathode Design for Enhanced Interfacial Electrocatalytic Reactions in High-Performance Zinc-Air Batteries. <i>Advanced Materials</i> , 2020, 32, e1908488.	11.1	107
119	Electrocatalyst engineering and structure-activity relationship in hydrogen evolution reaction: From nanostructures to single atoms. <i>Science China Materials</i> , 2020, 63, 921-948.	3.5	76
120	Atomic-level tuning of Co-N-C catalyst for high-performance electrochemical H <sub>2</sub> O <sub>2</sub> production. <i>Nature Materials</i> , 2020, 19, 436-442.	13.3	725
121	Zinc-Mediated Template Synthesis of Fe-N-C Electrocatalysts with Densely Accessible Fe <sub>x</sub> Active Sites for Efficient Oxygen Reduction. <i>Advanced Materials</i> , 2020, 32, e1907399.	11.1	319
122	Synergistic photocatalytic performance of chemically modified amino phthalocyanine-GPTMS/TiO <sub>2</sub> for the degradation of Acid Black 1. <i>Inorganic Chemistry Communication</i> , 2020, 113, 107795.	1.8	14
123	Simultaneously Integrating Single Atomic Cobalt Sites and Co <sub>9</sub> S <sub>8</sub> Nanoparticles into Hollow Carbon Nanotubes as Trifunctional Electrocatalysts for Zn-Air Batteries to Drive Water Splitting. <i>Small</i> , 2020, 16, e1906735.	5.2	98
124	Unadulterated carbon as robust multifunctional electrocatalyst for overall water splitting and oxygen transformation. <i>Nano Research</i> , 2020, 13, 401-411.	5.8	30
125	Atomically dispersed hierarchically ordered porous Fe-N-C electrocatalyst for high performance electrocatalytic oxygen reduction in Zn-Air battery. <i>Nano Energy</i> , 2020, 71, 104547.	8.2	206
126	Applications of metal-organic framework-derived materials in fuel cells and metal-air batteries. <i>Coordination Chemistry Reviews</i> , 2020, 409, 213214.	9.5	182

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127	Intrinsic Electrocatalytic Activity Regulation of M <sup>n</sup> -N-C Single-Atom Catalysts for the Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 4448-4463.	7.2	433
128	Intrinsische elektrokatalytische Aktivitätssteuerung von M-Einzelatom-Katalysatoren für die Sauerstoffreduktionsreaktion. <i>Angewandte Chemie</i> , 2021, 133, 4496-4512.	1.6	40
129	Surface/interface engineering of high-efficiency noble metal-free electrocatalysts for energy-related electrochemical reactions. <i>Journal of Energy Chemistry</i> , 2021, 54, 89-104.	7.1	65
130	Atomic Level Dispersed Metal-Nitrogen-Carbon Catalyst toward Oxygen Reduction Reaction: Synthesis Strategies and Chemical Environmental Regulation. <i>Energy and Environmental Materials</i> , 2021, 4, 5-18.	7.3	55
131	Rational design of iron single atom anchored on nitrogen doped carbon as a high-performance electrocatalyst for all-solid-state flexible zinc-air batteries. <i>Chemical Engineering Journal</i> , 2021, 405, 125956.	6.6	33
132	3D star-like atypical hybrid MOF derived single-atom catalyst boosts oxygen reduction catalysis. <i>Journal of Energy Chemistry</i> , 2021, 55, 355-360.	7.1	113
133	Recent progress on single atom/sub-nano electrocatalysts for energy applications. <i>Progress in Materials Science</i> , 2021, 115, 100711.	16.0	27
134	Carbon hybrid with 3D nano-forest architecture in-situ catalytically constructed by CoFe alloy as advanced multifunctional electrocatalysts for Zn-air batteries-driven water splitting. <i>Journal of Energy Chemistry</i> , 2021, 53, 422-432.	7.1	42
135	Turning on Zn 4s Electrons in a N <sub>2</sub> -Zn <sub>2</sub> Configuration to Stimulate Remarkable ORR Performance. <i>Angewandte Chemie</i> , 2021, 133, 183-187.	1.6	42
136	Single-Atom Materials: Small Structures Determine Macroproperties. <i>Small Structures</i> , 2021, 2, 2000051.	6.9	195
137	Atomically dispersed Ni-Ru-P interface sites for high-efficiency pH-universal electrocatalysis of hydrogen evolution. <i>Nano Energy</i> , 2021, 80, 105467.	8.2	114
138	Recent advances in non-precious metal electrocatalysts for pH-universal hydrogen evolution reaction. <i>Green Energy and Environment</i> , 2021, 6, 458-478.	4.7	79
139	Fabricating high-loading Fe-N <sub>4</sub> single-atom catalysts for oxygen reduction reaction by carbon-assisted pyrolysis of metal complexes. <i>Chinese Journal of Catalysis</i> , 2021, 42, 753-761.	6.9	21
140	Recent development on metal phthalocyanines based materials for energy conversion and storage applications. <i>Coordination Chemistry Reviews</i> , 2021, 431, 213678.	9.5	69
141	Design of Local Atomic Environments in Single-Atom Electrocatalysts for Renewable Energy Conversions. <i>Advanced Materials</i> , 2021, 33, e2003075.	11.1	187
142	Enabling selective, room-temperature gas detection using atomically dispersed Zn. <i>Sensors and Actuators B: Chemical</i> , 2021, 329, 129221.	4.0	10
143	Two-dimensional matrices confining metal single atoms with enhanced electrochemical reaction kinetics for energy storage applications. <i>Energy and Environmental Science</i> , 2021, 14, 1794-1834.	15.6	45
144	Highly Active Fe/Pt Single-Atom Bifunctional Electrocatalysts on Biomass-Derived Carbon. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 189-196.	3.2	30

#	ARTICLE	IF	CITATIONS
145	A new steric tetra-imidazole for facile synthesis of high loading atomically dispersed FeN <sub>4</sub> electrocatalysts. <i>Nano Energy</i> , 2021, 80, 105533.	8.2	28
146	Synergetic Subnano Ni <sup>II</sup> and Mn <sup>II</sup> Oxo Clusters Anchored by Chitosan Oligomers on 2D g-C <sub>3</sub> N <sub>4</sub> Boost Photocatalytic CO <sub>2</sub> Reduction. <i>Solar Rrl</i> , 2021, 5, 2000472.	3.1	20
147	Applications of Atomically Dispersed Oxygen Reduction Catalysts in Fuel Cells and Zinc-Air Batteries. <i>Energy and Environmental Materials</i> , 2021, 4, 307-335.	7.3	58
148	Turning on Zn 4s Electrons in a N <sub>2</sub> -Zn <sub>2</sub> Configuration to Stimulate Remarkable ORR Performance. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 181-185.	7.2	161
149	Enabling multifunctional electrocatalysts by modifying the basal plane of unifunctional 1T-MoS <sub>2</sub> with anchored transition metal single atoms. <i>Nanoscale</i> , 2021, 13, 13390-13400.	2.8	69
150	Iron-Nitrogen Co-doped Carbon with a Tunable Composition as Efficient Electrocatalysts for Oxygen Reduction. <i>ChemElectroChem</i> , 2021, 8, 1055-1061.	1.7	3
151	Recent advances of noble-metal-free bifunctional oxygen reduction and evolution electrocatalysts. <i>Chemical Society Reviews</i> , 2021, 50, 7745-7778.	18.7	385
152	Recent advance in single-atom catalysis. <i>Rare Metals</i> , 2021, 40, 767-789.	3.6	116
153	Carbon-supported catalysts with atomically dispersed metal sites for oxygen electroreduction: present and future perspectives. <i>Journal of Materials Chemistry A</i> , 2021, 9, 15919-15936.	5.2	24
154	Recent progress on the synthesis and oxygen reduction applications of Fe-based single-atom and double-atom catalysts. <i>Journal of Materials Chemistry A</i> , 2021, 9, 19489-19507.	5.2	104
155	Ultrasonic Plasma Engineering Toward Facile Synthesis of Single-Atom M-N <sub>4</sub> /N-Doped Carbon (M = Fe, Co, Ni, Cu, Pt) on Graphene Oxide. <i>Journal of Materials Chemistry A</i> , 2021, 9, 13600-13607.	14.4	63
156	Active site engineering of atomically dispersed transition metal-heteroatom carbon catalysts for oxygen reduction. <i>Chemical Communications</i> , 2021, 57, 7869-7881.	2.2	37
157	Perfecting electrocatalysts via imperfections: towards the large-scale deployment of water electrolysis technology. <i>Energy and Environmental Science</i> , 2021, 14, 1722-1770.	15.6	213
158	First-principles investigation of two-dimensional covalent-organic framework electrocatalysts for oxygen evolution/reduction and hydrogen evolution reactions. <i>Sustainable Energy and Fuels</i> , 2021, 5, 5615-5626.	2.5	13
159	IrFe/ZSM-5 Synergistic Catalyst for Selective Oxidation of Methane to Formic Acid. <i>Energy &amp; Fuels</i> , 2021, 35, 4418-4427.	2.5	19
160	One-Pot Synthesis of Fe-N-C Species-Modified Carbon Nanotubes for ORR Electrocatalyst with Overall Enhanced Performance Superior to Pt/C. <i>Nano</i> , 2021, 16, 2150028.	0.5	5
161	Cobalt porphyrins supported on carbon nanotubes as model catalysts of metal-N <sub>4</sub> /C sites for oxygen electrocatalysis. <i>Journal of Energy Chemistry</i> , 2021, 53, 77-81.	7.1	77
162	Melamine-assisted pyrolytic synthesis of bifunctional cobalt-based core-shell electrocatalysts for rechargeable zinc-air batteries. <i>Journal of Energy Chemistry</i> , 2021, 53, 364-371.	7.1	36

#	ARTICLE	IF	CITATIONS
163	Single-Atom Catalysts: A Sustainable Pathway for the Advanced Catalytic Applications. <i>Small</i> , 2021, 17, e2006473.	5.2	135
164	Recent Trends in Development of Metal Nitride Nanocatalysts for Water Electrolysis Application. , 0, , .		2
165	Recent Advances on Nonprecious-Metal-Based Bifunctional Oxygen Electrocatalysts for Zinc-Air Batteries. <i>Energy &amp; Fuels</i> , 2021, 35, 6380-6401.	2.5	48
166	Engineering the Coordination Environment of Single Cobalt Atoms for Efficient Oxygen Reduction and Hydrogen Evolution Reactions. <i>ACS Catalysis</i> , 2021, 11, 4498-4509.	5.5	94
167	Covalent Organic Frameworks for Efficient Energy Electrocatalysis: Rational Design and Progress. <i>Advanced Energy and Sustainability Research</i> , 2021, 2, 2000090.	2.8	29
168	Harnessing the Extracellular Electron Transfer Capability of <i>Geobacter sulfurreducens</i> for Ambient Synthesis of Stable Bifunctional Single-Atom Electrocatalyst for Water Splitting. <i>Advanced Functional Materials</i> , 2021, 31, 2010916.	7.8	11
169	Hierarchical porous S-doped Fe-N-C electrocatalyst for high-power-density zinc-air battery. <i>Materials Today Energy</i> , 2021, 19, 100624.	2.5	30
170	Regulating Fe-spin state by atomically dispersed Mn-N in Fe-N-C catalysts with high oxygen reduction activity. <i>Nature Communications</i> , 2021, 12, 1734.	5.8	488
171	Single Atom-Based Nanoarchitected Electrodes for High-Performance Lithium-Sulfur Batteries. <i>Advanced Materials Interfaces</i> , 2021, 8, 2002159.	1.9	22
172	Facile Synthesis of Bimetallic Fluoride Heterojunctions on Defect-Enriched Porous Carbon Nanofibers for Efficient ORR Catalysts. <i>Nano Letters</i> , 2021, 21, 2618-2624.	4.5	73
173	Single atom catalyst for electrocatalysis. <i>Chinese Chemical Letters</i> , 2021, 32, 2947-2962.	4.8	43
174	Heteroatom-doped porous carbon-supported single-atom catalysts for electrocatalytic energy conversion. <i>Journal of Energy Chemistry</i> , 2021, 63, 54-73.	7.1	16
175	Enhanced anchoring and catalytic conversion of polysulfides by iron phthalocyanine for graphene-based Li-S batteries. <i>Ionics</i> , 2021, 27, 3007-3016.	1.2	4
176	Polyoxometalate-Single Atom Catalysts (POM-SACs) in Energy Research and Catalysis. <i>Advanced Energy Materials</i> , 2021, 11, 2101120.	10.2	57
177	Carbonaceous Oxygen Evolution Reaction Catalysts: From Defect and Doping-Induced Activity over Hybrid Compounds to Ordered Framework Structures. <i>Small</i> , 2021, 17, e2007484.	5.2	25
178	Atomic Co/Ni dual sites with N/P-coordination as bifunctional oxygen electrocatalyst for rechargeable zinc-air batteries. <i>Nano Research</i> , 2021, 14, 3482-3488.	5.8	113
179	Fe <sub>4</sub> Ni <sub>4</sub> C Electrocatalysts with Densely Accessible Fe <sub>4</sub> N <sub>4</sub> Sites for Efficient Oxygen Reduction Reaction. <i>Advanced Functional Materials</i> , 2021, 31, 2102420.	7.8	110
180	Biocatalysts at atom level: From coordination structure to medical applications. <i>Applied Materials Today</i> , 2021, 23, 101029.	2.3	12

#	ARTICLE	IF	CITATIONS
181	Recent advances in synergistically enhanced single-atomic site catalysts for boosted oxygen reduction reaction. <i>Nano Energy</i> , 2021, 84, 105817.	8.2	59
182	Recent advances of single-atom electrocatalysts for hydrogen evolution reaction. <i>JPhys Materials</i> , 2021, 4, 042002.	1.8	11
183	Monolithic Co-N-C membrane integrating Co atoms and clusters as a self-supporting multi-functional electrode for solid-state zinc-air batteries and self-powered water splitting. <i>Chemical Engineering Journal</i> , 2021, 414, 128739.	6.6	20
184	Iron polyphthalocyanine-derived ternary-balanced Fe <sub>3</sub> O <sub>4</sub> /Fe <sub>3</sub> N/Fe-N-C@PC as a high-performance electrocatalyst for the oxygen reduction reaction. <i>Science China Materials</i> , 2021, 64, 2987-2996.	3.5	16
185	Novel core-shell CuMo-oxynitride@N-doped graphene nano hybrid as multifunctional catalysts for rechargeable zinc-air batteries and water splitting. <i>Nano Energy</i> , 2021, 85, 105987.	8.2	89
186	In Silico Design of Covalent Organic Framework-Based Electrocatalysts. <i>Jacs Au</i> , 2021, 1, 1497-1505.	3.6	28
187	Constructing Precise Coordination of Nickel Active Sites on Hierarchical Porous Carbon Framework for Superior Oxygen Reduction. <i>Small</i> , 2021, 17, e2102125.	5.2	35
188	Co <sub>9</sub> S <sub>8</sub> nanoparticles embedded in nitrogen, sulfur codoped porous carbon nanosheets for efficient oxygen/hydrogen electrocatalysis. <i>Electrochimica Acta</i> , 2021, 384, 138299.	2.6	11
189	Enhanced performance of atomically dispersed dual-site Fe-Mn electrocatalysts through cascade reaction mechanism. <i>Applied Catalysis B: Environmental</i> , 2021, 288, 120021.	10.8	104
190	Rational Design of Single-Atom Site Electrocatalysts: From Theoretical Understandings to Practical Applications. <i>Advanced Materials</i> , 2021, 33, e2008151.	11.1	175
191	Atomically dispersed Fe atoms anchored on S and N-codoped carbon for efficient electrochemical denitrification. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	49
192	Recent Advances in Electrode Design for Rechargeable Zinc-Air Batteries. <i>Small Science</i> , 2021, 1, 2100044.	5.8	47
193	Engineering Single Atom Catalysts to Tune Properties for Electrochemical Reduction and Evolution Reactions. <i>Advanced Energy Materials</i> , 2021, 11, 2101670.	10.2	42
194	Recent developments in the use of single-atom catalysts for water splitting. <i>Chinese Journal of Catalysis</i> , 2021, 42, 1269-1286.	6.9	44
195	Regulating Local Electron Density of Iron Single Sites by Introducing Nitrogen Vacancies for Efficient Photo-Fenton Process. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 21261-21266.	7.2	158
196	Metal-Organic Frameworks for Electrocatalysis: Beyond Their Derivatives. <i>Small Science</i> , 2021, 1, 2100015.	5.8	94
197	Ultra-high loading single CoN <sub>3</sub> sites in N-doped graphene-like carbon for efficient transfer hydrogenation of nitroaromatics. <i>Journal of Catalysis</i> , 2021, 400, 40-49.	3.1	26
198	Recent Developments of Microenvironment Engineering of Single-Atom Catalysts for Oxygen Reduction toward Desired Activity and Selectivity. <i>Advanced Functional Materials</i> , 2021, 31, 2103857.	7.8	77

#	ARTICLE	IF	CITATIONS
199	Activity Promotion of Core and Shell in Multifunctional Core@Shell Co <sub>2</sub> P@NC Electro-catalyst by Secondary Metal Doping for Water Electrolysis and Zn-Air Batteries. <i>Small</i> , 2021, 17, e2101856.	5.2	68
200	Regulating Local Electron Density of Iron Single Sites by Introducing Nitrogen Vacancies for Efficient Photo-Fenton Process. <i>Angewandte Chemie</i> , 2021, 133, 21431-21436.	1.6	12
201	Atomically dispersed Fe <sup>+</sup> anchored on nitrogen-rich carbon for enhancing benzyl alcohol oxidation through Mott-Schottky effect. <i>Applied Catalysis B: Environmental</i> , 2021, 292, 120195.	10.8	27
202	Flexible carbon nanofiber film with diatomic Fe-Co sites for efficient oxygen reduction and evolution reactions in wearable zinc-air batteries. <i>Nano Energy</i> , 2021, 87, 106147.	8.2	103
203	Multifunctional Electrocatalysis on Single-Site Metal Catalysts: A Computational Perspective. <i>Catalysts</i> , 2021, 11, 1165.	1.6	11
204	Effect of coordination surroundings of isolated metal sites on electrocatalytic performances. <i>Journal of Power Sources</i> , 2021, 506, 230143.	4.0	15
205	Conjugated Cobalt Phthalocyanine as Durable Electrode Materials for Lithium-Ion Storage. <i>Journal of the Electrochemical Society</i> , 2021, 168, 100513.	1.3	4
206	Boosting Nitrogen Reduction to Ammonia on FeN <sub>4</sub> Sites by Atomic Spin Regulation. <i>Advanced Science</i> , 2021, 8, e2102915.	5.6	64
207	Recent progress, developing strategies, theoretical insights, and perspectives towards high-performance copper single atom electrocatalysts. <i>Materials Today Energy</i> , 2021, 21, 100761.	2.5	8
208	Densely accessible Fe-N <sub>x</sub> active sites decorated mesoporous-carbon-spheres for oxygen reduction towards high performance aluminum-air flow batteries. <i>Applied Catalysis B: Environmental</i> , 2021, 293, 120176.	10.8	66
209	Carbon-Based Electrocatalysts for Efficient Hydrogen Peroxide Production. <i>Advanced Materials</i> , 2021, 33, e2103266.	11.1	104
210	Air Electrodes for Flexible and Rechargeable Zn-Air Batteries. <i>Small Structures</i> , 2022, 3, 2100103.	6.9	46
211	Atomically dispersed Ni <sup>+</sup> N <sub>4</sub> species and Ni nanoparticles constructing N-doped porous carbon fibers for accelerating hydrogen evolution. <i>Carbon</i> , 2021, 185, 96-104.	5.4	10
212	An efficient and durable trifunctional electrocatalyst for zinc-air batteries driven overall water splitting. <i>Applied Catalysis B: Environmental</i> , 2021, 297, 120405.	10.8	127
213	Large-scale synthesis of low-cost bimetallic polyphthalocyanine for highly stable water oxidation. <i>Applied Catalysis B: Environmental</i> , 2021, 299, 120637.	10.8	39
214	Engineering the coordination environment in atomic Fe/Ni dual-sites for efficient oxygen electrocatalysis in Zn-air and Mg-air batteries. <i>Chemical Engineering Journal</i> , 2021, 426, 130758.	6.6	30
215	Advanced opportunities and insights on the influence of nitrogen incorporation on the physico-electro-chemical properties of robust electrocatalysts for electrocatalytic energy conversion. <i>Coordination Chemistry Reviews</i> , 2021, 449, 214209.	9.5	28
216	Hierarchically ordered macro-microporous metal-organic framework derived oxygen reduction electrocatalyst. <i>Chemical Engineering Journal</i> , 2022, 429, 132214.	6.6	5

#	ARTICLE	IF	CITATIONS
217	Fe-N-C electrocatalysts in the oxygen and nitrogen cycles in alkaline media: the role of iron carbide. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 26674-26679.	1.3	13
218	Single-atom catalysts for high-energy rechargeable batteries. <i>Chemical Science</i> , 2021, 12, 7656-7676.	3.7	47
219	Carbon-Supported Single-Atom Catalysts for Formic Acid Oxidation and Oxygen Reduction Reactions. <i>Small</i> , 2021, 17, e2004500.	5.2	63
220	Non-carbon-supported single-atom site catalysts for electrocatalysis. <i>Energy and Environmental Science</i> , 2021, 14, 2809-2858.	15.6	198
221	Pyrolyzed M-N catalysts for oxygen reduction reaction: progress and prospects. <i>Energy and Environmental Science</i> , 2021, 14, 2158-2185.	15.6	170
222	Covalent organic frameworks (COFs) for electrochemical applications. <i>Chemical Society Reviews</i> , 2021, 50, 6871-6913.	18.7	461
223	Single Atom Catalysts for Fuel Cells and Rechargeable Batteries: Principles, Advances, and Opportunities. <i>ACS Nano</i> , 2021, 15, 210-239.	7.3	199
224	High-Performance Trifunctional Electrocatalysts Based on FeCo/Co <sub>2</sub> P Hybrid Nanoparticles for Zinc-Air Battery and Self-Powered Overall Water Splitting. <i>Advanced Energy Materials</i> , 2020, 10, 1903854.	10.2	259
225	Multiscale structural optimization: Highly efficient hollow iron-doped metal sulfide heterostructures as bifunctional electrocatalysts for water splitting. <i>Nano Energy</i> , 2020, 75, 104913.	8.2	119
226	Green Synthesis of a Highly Efficient and Stable Single-Atom Iron Catalyst Anchored on Nitrogen-Doped Carbon Nanorods for the Oxygen Reduction Reaction. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 137-146.	3.2	35
227	Surface/interface nanoengineering for rechargeable Zn-air batteries. <i>Energy and Environmental Science</i> , 2020, 13, 1132-1153.	15.6	344
228	Single-Atom (Iron-Based) Catalysts: Synthesis and Applications. <i>Chemical Reviews</i> , 2021, 121, 13620-13697.	23.0	136
229	Rational fabrication of ordered porous solid strong bases by utilizing the inherent reducibility of metal-organic frameworks. <i>Nano Research</i> , 2022, 15, 2905-2912.	5.8	7
230	Fe, B, and N Codoped Carbon Nanoribbons Derived from Heteroatom Polymers as High-Performance Oxygen Reduction Reaction Electrocatalysts for Zinc-Air Batteries. <i>Langmuir</i> , 2021, 37, 13018-13026.	1.6	13
231	Single-Atom Catalysts: Advances and Challenges in Metal-Support Interactions for Enhanced Electrocatalysis. <i>Electrochemical Energy Reviews</i> , 2022, 5, 145-186.	13.1	86
232	Graphene-Supported Atomically Dispersed Metals as Bifunctional Catalysts for Next-Generation Batteries Based on Conversion Reactions. <i>Advanced Materials</i> , 2022, 34, e2105812.	11.1	106
233	Co/CoP Heterojunction on Hierarchically Ordered Porous Carbon as a Highly Efficient Electrocatalyst for Hydrogen and Oxygen Evolution. <i>Advanced Energy Materials</i> , 2021, 11, 2102134.	10.2	138
234	Phosphorus-Driven Electron Delocalization on Edge-Type FeN <sub>4</sub> Active Sites for Oxygen Reduction in Acid Medium. <i>ACS Catalysis</i> , 2021, 11, 12754-12762.	5.5	98

#	ARTICLE	IF	CITATIONS
235	Single-atom dispersed Cu or Co on 2H-MoS <sub>2</sub> monolayer for improving electrocatalytic activity of overall water splitting. <i>Surfaces and Interfaces</i> , 2021, 27, 101538.	1.5	9
237	Site-density engineering of single-atomic iron catalysts for high-performance proton exchange membrane fuel cells. <i>Applied Catalysis B: Environmental</i> , 2022, 302, 120860.	10.8	42
238	Zinc/graphitic carbon nitride co-mediated dual-template synthesis of densely populated Fe <sup>N</sup> -embedded 2D carbon nanosheets towards oxygen reduction reactions for Zn-air batteries. <i>Journal of Materials Chemistry A</i> , 2022, 10, 5971-5980.	5.2	12
239	Dimethylimidazole and dicyandiamide assisted synthesized rich-defect and highly dispersed CuCo-N <sub>x</sub> anchored hollow graphite carbon nanocages as efficient trifunctional electrocatalyst in the same electrolyte. <i>Journal of Power Sources</i> , 2022, 517, 230721.	4.0	14
240	Synthesis of Single-Atom Catalysts Through Top-Down Atomization Approaches. <i>Frontiers in Catalysis</i> , 2021, 1, .	1.8	13
241	A Ferrocene Metal-Organic Framework Solid for Fe-Loaded Carbon Matrices and Nanotubes: High-Yield Synthesis and Oxygen Reduction Electrocatalysis. <i>Inorganic Chemistry</i> , 2021, 60, 17315-17324.	1.9	4
242	Functional role of single-atom catalysts in electrocatalytic hydrogen evolution: Current developments and future challenges. <i>Coordination Chemistry Reviews</i> , 2022, 452, 214289.	9.5	54
243	Co-Fe alloy nanoparticles and Fe <sub>3</sub> C nanocrystals on N-doped biomass-derived porous carbon for superior electrocatalytic oxygen reduction. <i>Journal of Solid State Chemistry</i> , 2022, 307, 122735.	1.4	9
244	Recent Progress of Electrospun Nanofibers for Zinc-Air Batteries. <i>Advanced Fiber Materials</i> , 2022, 4, 185-202.	7.9	33
245	Single-atom catalysis for zinc-air/O <sub>2</sub> batteries, water electrolyzers and fuel cells applications. <i>Energy Storage Materials</i> , 2022, 45, 504-540.	9.5	39
246	Single-atom catalysts for next-generation rechargeable batteries and fuel cells. <i>Energy Storage Materials</i> , 2022, 45, 301-322.	9.5	67
247	FeCoNi nanoalloys embedded in hierarchical N-rich carbon matrix with enhanced oxygen electrocatalysis for rechargeable Zn-air batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 27701-27708.	5.2	22
248	Recent advances in electrocatalysis with phthalocyanines. <i>Chemical Society Reviews</i> , 2021, 50, 12985-13011.	18.7	135
249	Hierarchically porous carbons fabricated by dual pore-forming approach for the oxygen reduction reaction. <i>Carbon</i> , 2022, 189, 634-641.	5.4	14
250	Insights into mechanism of Fe-dominated active sites via phosphorus bridging in Fe-Ni bimetal single atom photocatalysts. <i>Separation and Purification Technology</i> , 2022, 286, 120443.	3.9	23
251	Atomically dispersed catalysts for small molecule electrooxidation in direct liquid fuel cells. <i>Journal of Energy Chemistry</i> , 2022, 68, 439-453.	7.1	18
252	Atomically dispersed Ni anchored on polymer-derived mesh-like N-doped carbon nanofibers as an efficient CO <sub>2</sub> electrocatalytic reduction catalyst. <i>Nano Research</i> , 2022, 15, 3959-3963.	5.8	18
253	Electronic Metal-Support Interaction Modulation of Single-Atom Electrocatalysts for Rechargeable Zinc-Air Batteries. <i>Small Methods</i> , 2022, 6, e2100947.	4.6	29

#	ARTICLE	IF	CITATIONS
254	Sublayer-enhanced atomic sites of single atom catalysts through <i>in situ</i> atomization of metal oxide nanoparticles. Energy and Environmental Science, 2022, 15, 1183-1191.	15.6	25
255	Nitrogen-Doped Carbon Polyhedrons Confined Fe-P Nanocrystals as High-Efficiency Bifunctional Catalysts for Aqueous Zn-CO <sub>2</sub> Batteries. Small, 2022, 18, e2104965.	5.2	39
256	In-Situ Silica Xerogel Assisted Facile Synthesis of Fe-N-C Catalysts with Dense Fe-N Active Sites for Efficient Oxygen Reduction. Small, 2022, 18, e2104934.	5.2	25
257	Metal-containing heteroatom doped carbon nanomaterials for ORR, OER, and HER. , 2022, , 169-211.		0
258	Atomically Dispersed Fe-Co Dual Metal Sites as Bifunctional Oxygen Electrocatalysts for Rechargeable and Flexible Zn-Air Batteries. ACS Catalysis, 2022, 12, 1216-1227.	5.5	232
259	A multifunctional cobalt iron sulfide electrocatalyst for high performance Zn-air batteries and overall water splitting. Journal of Materials Chemistry A, 2022, 10, 4720-4730.	5.2	17
260	Graphynes: ideal supports of single atoms for electrochemical energy conversion. Journal of Materials Chemistry A, 2022, 10, 3905-3932.	5.2	21
261	Synergistically enhanced iron and zinc bimetallic sites as an advanced ORR electrocatalyst for flow liquid rechargeable Zn-air batteries. Journal of Materials Chemistry A, 2022, 10, 3169-3177.	5.2	10
262	Cobalt Nanocluster-Decorated N-Rich Hierarchical Carbon Architectures Efficiently Catalyze Oxygen Reduction and Hydrogen Evolution Reactions. ACS Sustainable Chemistry and Engineering, 2022, 10, 2001-2009.	3.2	8
263	Ni and Fe nanoparticles, alloy and Ni/Fe-Nx coordination co-boost the catalytic activity of the carbon-based catalyst for triiodide reduction and hydrogen evolution reaction. Journal of Colloid and Interface Science, 2022, 615, 501-516.	5.0	36
264	Synthetic strategies of single-atoms catalysts and applications in electrocatalysis. Electrochimica Acta, 2022, 409, 139835.	2.6	8
265	Self-grown layered double hydroxide nanosheets on bimetal-organic frameworks-derived N-doped CoOx carbon polyhedra for flexible all-solid-state rechargeable Zn-air batteries. Journal of Power Sources, 2022, 524, 231076.	4.0	10
266	Atomically Dispersed Iron with Densely Exposed Active Sites as Bifunctional Oxygen Catalysts for Zinc-Air Flow Batteries. Small, 2022, 18, e2105892.	5.2	26
267	Understanding hydrazine oxidation electrocatalysis on undoped carbon. Physical Chemistry Chemical Physics, 2022, 24, 9897-9903.	1.3	6
268	Nitrogen-Doped Carbon Nanosheets for Efficient Degradation of Bisphenol a by H2O2 Activation at Neutral Ph Values. SSRN Electronic Journal, 0, , .	0.4	0
269	Single-atom catalysts for high-efficiency photocatalytic and photoelectrochemical water splitting: distinctive roles, unique fabrication methods and specific design strategies. Journal of Materials Chemistry A, 2022, 10, 6835-6871.	5.2	63
270	Ordered carbonaceous frameworks: a new class of carbon materials with molecular-level design. Chemical Communications, 2022, 58, 3578-3590.	2.2	14
271	Square-pyramidal Fe-N4 with defect-modulated O-coordination: Two-tier electronic structure fine-tuning for enhanced oxygen reduction. Chem Catalysis, 2022, 2, 816-835.	2.9	23

#	ARTICLE	IF	CITATIONS
272	Recent Progress on Fe-Based Single/Dual-Atom Catalysts for Zn-Air Batteries. <i>Small</i> , 2022, 18, e2106635.	5.2	47
273	Ni Single Atoms and Ni Phosphate Clusters Synergistically Triggered Surface-Functionalized MoS <sub>2</sub> Nanosheets for High-Performance Freshwater and Seawater Electrolysis. <i>Energy and Environmental Materials</i> , 2022, 5, 1340-1349.	7.3	20
274	Advances in the Development of Single-Atom Catalysts for High-Energy-Density Lithium-Sulfur Batteries. <i>Advanced Materials</i> , 2022, 34, e2200102.	11.1	202
275	Bimetallic FeCo-N-C catalyst for efficient oxygen reduction reaction. <i>Electroanalysis</i> , 0, , .	1.5	5
276	Towards single-atom photocatalysts for future carbon-neutral application. <i>SmartMat</i> , 2022, 3, 417-446.	6.4	35
277	Iron single-atom catalysts confined in covalent organic frameworks for efficient oxygen evolution reaction. <i>Cell Reports Physical Science</i> , 2022, 3, 100804.	2.8	22
278	PO <sub>4</sub> <sup>3-</sup> Coordinated Robust Single-Atom Platinum Catalyst for Selective Polyol Oxidation**. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	21
279	PO <sub>4</sub> <sup>3-</sup> Coordinated Robust Single-Atom Platinum Catalyst for Selective Polyol Oxidation**. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	51
280	Oxygen Evolution Reaction in Alkaline Environment: Material Challenges and Solutions. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	209
281	Reductive Upgrading of Biomass-Based Levulinic Acid to Î <sup>3</sup> -Valerolactone Over Ru-Based Single-Atom Catalysts. <i>Frontiers in Chemistry</i> , 2022, 10, 895198.	1.8	2
282	Precise and controllable tandem strategy triggering boosted oxygen reduction activity. <i>Chinese Journal of Catalysis</i> , 2022, 43, 1042-1048.	6.9	10
283	Modulating the d-band centers by coordination environment regulation of single-atom Ni on porous carbon fibers for overall water splitting. <i>Nano Energy</i> , 2022, 98, 107266.	8.2	57
284	Structural design for electrocatalytic water splitting to realize industrial-scale deployment: Strategies, advances, and perspectives. <i>Journal of Energy Chemistry</i> , 2022, 70, 129-153.	7.1	60
285	Recent Advances in Synthesis and Applications of Single-Atom Catalysts for Rechargeable Batteries. <i>Chemical Record</i> , 2022, 22, .	2.9	14
286	High-Performance Zinc-Air Batteries Based on Bifunctional Hierarchically Porous Nitrogen-Doped Carbon. <i>Small</i> , 2022, 18, e2105928.	5.2	23
287	Interfacial Engineering of a Phase-Controlled Heterojunction for High-Efficiency HER, OER, and ORR Trifunctional Electrocatalysis. <i>ACS Omega</i> , 2022, 7, 13687-13696.	1.6	13
288	Metal organic framework-based nanomaterials as suitable electrocatalysts for evolution of hydrogen. , 2022, , 185-203.		0
289	Two-dimensional transition metal-based electrocatalyst and their application in water splitting. <i>Materials Science and Technology</i> , 2022, 38, 535-555.	0.8	9

#	ARTICLE	IF	CITATIONS
290	Experimental and Theoretical Advances on Single Atom and Atomic Clusterâ€Decorated Lowâ€Dimensional Platforms towards Superior Electrocatalysts. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	25
291	Atomic manganese coordinated to nitrogen and sulfur for oxygen evolution. <i>Nano Research</i> , 2022, 15, 6019-6025.	5.8	53
292	Mainâ€Group Metal Singleâ€Atomic Regulators in Dualâ€Metal Catalysts for Enhanced Electrochemical CO <sub>2</sub> Reduction. <i>Small</i> , 2022, 18, e2201391.	5.2	39
293	Surveying the electrocatalytic CO <sub>2</sub> -to-CO activity of heterogenized metallomacrocycles via accurate clipping at the molecular level. <i>Nano Research</i> , 2022, 15, 10070-10077.	5.8	10
294	Bridging heterogeneous and homogeneous catalysts by ultrathin metal-polyphthalocyanine-based nanosheets from electron-coupled transalkylation delamination. <i>Nano Energy</i> , 2022, 98, 107297.	8.2	9
295	Advances of atomically dispersed catalysts from single-atom to clusters in energy storage and conversion applications. <i>Progress in Materials Science</i> , 2022, 128, 100964.	16.0	40
296	Coordination anchoring synthesis of high-density single-metal-atom sites for electrocatalysis. <i>Coordination Chemistry Reviews</i> , 2022, 466, 214603.	9.5	21
297	Construction of N, P Coâ€Doped Carbon Frames Anchored with Fe Single Atoms and Fe <sub>2</sub> P Nanoparticles as a Robust Coupling Catalyst for Electrocatalytic Oxygen Reduction. <i>Advanced Materials</i> , 2022, 34, .	11.1	93
298	First-row transition metal-based materials derived from bimetallic metalâ€organic frameworks as highly efficient electrocatalysts for electrochemical water splitting. <i>Energy and Environmental Science</i> , 2022, 15, 3119-3151.	15.6	125
299	An efficient Fe <sub>2</sub> O <sub>3</sub> /FeS heterostructures water oxidation catalyst. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 22340-22347.	3.8	28
300	Mechanochemical-Driven Uniformly Dispersed Monatomic Feâ€N <sub>x</sub> Coordination in Carbon for Facilitating Efficient Oxygen Reduction Reaction. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 7553-7563.	3.2	11
301	Metal-organic frameworks/ hydrothermal/graphene oxide sandwich composites derived Fe-Ce@GSL hierarchical materials as highly efficient catalysts for rechargeable Zn-air batteries. <i>Journal of Colloid and Interface Science</i> , 2022, 625, 555-564.	5.0	13
302	Bifunctional Petal-Like Carbon-Nitrogen Doped Nifeox/ Nickel Foam Nanohybrid Electrocatalyst for Efficient Overall Water Splitting. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
303	High performance transition metal-based electrocatalysts for green hydrogen production. <i>Chemical Communications</i> , 2022, 58, 7874-7889.	2.2	14
304	Single Moâ€N <sub>4</sub> Atomic Sites Anchored on Nâ€Doped Carbon Nanoflowers as Sulfur Host with Multiple Immobilization and Catalytic Effects for Highâ€Performance Lithiumâ€Sulfur Batteries. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	39
305	Singleâ€atom catalysis for carbon neutrality. , 2022, 4, 1021-1079.		96
306	Iridiumâ€Iron Diatomic Active Sites for Efficient Bifunctional Oxygen Electrocatalysis. <i>ACS Catalysis</i> , 2022, 12, 9397-9409.	5.5	47
307	Asymmetric Coâ€N <sub>3</sub> P <sub>1</sub> Trifunctional Catalyst with Tailored Electronic Structures Enabling Boosted Activities and Corrosion Resistance in an Uninterrupted Seawater Splitting System. <i>Advanced Materials</i> , 2022, 34, .	11.1	80

#	ARTICLE	IF	CITATIONS
308	Oxygen-coordinated low-nucleus cluster catalysts for enhanced electrocatalytic water oxidation. , 2023, 5, .		12
309	Tailoring Bond Microenvironments and Reaction Pathways of Single-Atom Catalysts for Efficient Water Electrolysis. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	28
310	Tailoring Bond Microenvironments and Reaction Pathways of Single-Atom Catalysts for Efficient Water Electrolysis. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	5
311	Rational coordination regulation in carbon-based single-metal-atom catalysts for electrocatalytic oxygen reduction reaction. <i>Nano Convergence</i> , 2022, 9, .	6.3	14
312	Single-Atom Electrocatalysis for Hydrogen Evolution Based on the Constant Charge and Constant Potential Models. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 7036-7042.	2.1	12
313	MOFs encapsulated nanorods derived CoNi@CN composites with open structure as highly efficient bifunctional catalysts for rechargeable Zn-air batteries. <i>Journal of Colloid and Interface Science</i> , 2023, 629, 73-82.	5.0	14
314	Fully Conjugated Poly(phthalocyanine) Scaffolds Derived from a Mechanochemical Approach Towards Enhanced Energy Storage. <i>Angewandte Chemie</i> , 0, , .	1.6	0
315	Fully Conjugated Poly(phthalocyanine) Scaffolds Derived from a Mechanochemical Approach Towards Enhanced Energy Storage. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	6
316	Protocol for fabrication and characterization of Fe-SAC@COF for electrocatalytic oxygen evolution reaction. <i>STAR Protocols</i> , 2022, 3, 101626.	0.5	2
317	Microenvironment engineering of Fe-single-atomic-site with nitrogen coordination anchored on carbon nanotubes for boosting oxygen electrocatalysis in alkaline and acidic media. <i>Chemical Engineering Journal</i> , 2023, 451, 138684.	6.6	43
318	Bifunctional petal-like carbon-nitrogen covered NiFeOx/nickel foam nanohybrid electrocatalyst for efficient overall water splitting. <i>Journal of Electroanalytical Chemistry</i> , 2022, 922, 116764.	1.9	1
319	Advanced MOF-derived carbon-based non-noble metal oxygen electrocatalyst for next-generation rechargeable Zn-air batteries. <i>Coordination Chemistry Reviews</i> , 2022, 473, 214839.	9.5	36
320	Lanthanoid coordination compounds as diverse self-templating agents towards hierarchically porous Fe-N-C electrocatalysts. <i>Materials Advances</i> , 2022, 3, 7937-7945.	2.6	3
321	Recent advances in the metal-organic framework-based electrocatalysts for trifunctional electrocatalysis. <i>Dalton Transactions</i> , 2022, 51, 13573-13590.	1.6	16
322	Heterogeneous N-coordinated single-atom photocatalysts and electrocatalysts. <i>Chinese Journal of Catalysis</i> , 2022, 43, 2453-2483.	6.9	33
323	Single-atom catalysts based on Fenton-like/peroxymonosulfate system for water purification: design and synthesis principle, performance regulation and catalytic mechanism. <i>Nanoscale</i> , 2022, 14, 13861-13889.	2.8	18
324	Hierarchically porous N-doped carbon nanosheets with atomically dispersed Fe/Co dual-metallic sites for efficient and robust oxygen electrocatalysis in Zn-air batteries. <i>Energy Advances</i> , 0, , .	1.4	1
325	Unveiling the HER and ORR activity origin of isolated Co sites supported on N-doped carbon. <i>MATEC Web of Conferences</i> , 2022, 363, 01001.	0.1	0

#	ARTICLE	IF	CITATIONS
326	Advanced Strategies for Stabilizing Single-Atom Catalysts for Energy Storage and Conversion. <i>Electrochemical Energy Reviews</i> , 2022, 5, .	13.1	43
327	Highly Efficient Electrochemical CO <sub>2</sub> Reduction on a Precise Homonuclear Diatomic Fe <sup>II</sup> -Fe Catalyst. <i>ACS Catalysis</i> , 2022, 12, 11412-11420.	5.5	39
328	Atomically Dispersed Fe <sup>II</sup> -N <sub>5</sub> Sites Anchored in Porous N-Doped Carbon Nanofibers for Effective Hydrogen Evolution Reaction. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 13505-13513.	3.2	1
329	Tuning the coordination environment of Fe atoms enables 3D porous Fe/N-doped carbons as bifunctional electrocatalyst for rechargeable zinc-air battery. <i>Journal of Colloid and Interface Science</i> , 2022, 628, 1067-1076.	5.0	4
330	Isolating Fe Atoms in N-Doped Carbon Hollow Nanorods through a ZIF-Phase Transition Strategy for Efficient Oxygen Reduction. <i>Small</i> , 2022, 18, .	5.2	23
331	Co/CoS <sub>2</sub> heterojunction embedded in nitrogen-doped carbon framework as bifunctional electrocatalysts for hydrogen and oxygen evolution. <i>International Journal of Hydrogen Energy</i> , 2023, 48, 1831-1841.	3.8	6
332	Construction of Catalytic Covalent Organic Frameworks with Redox-Active Sites for the Oxygen Reduction and the Oxygen Evolution Reaction. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	7
333	Construction of Catalytic Covalent Organic Frameworks with Redox-Active Sites for the Oxygen Reduction and the Oxygen Evolution Reaction. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	53
334	Synthesis of Nitrogen-Doped Hierarchical Carbon Derived from Water Hyacinth with High Catalytic Activity for Oxygen Reduction Reaction. <i>ChemistrySelect</i> , 2022, 7, .	0.7	0
335	Facile Solid-Phase Method for Preparing a Highly Active and Stable PtZn-Based Oxygen Reduction/Hydrogen Evolution Bifunctional Electrocatalyst: Effect of Bi-Facet Lattice Strain on Catalytic Activity. <i>ACS Applied Energy Materials</i> , 2022, 5, 13791-13801.	2.5	5
336	Ferrocene doped ZIF-8 derived Fe-N-C single atom catalyst to active peroxymonosulfate for removal of bisphenol A. <i>Separation and Purification Technology</i> , 2023, 305, 122402.	3.9	19
337	Coordination engineering of single-atom copper embedded graphene-like borocarbonitrides for hydrogen production. <i>Applied Surface Science</i> , 2023, 610, 155506.	3.1	5
338	Effective regulation mechanisms of Fe-Ni(oxy)hydroxide: Ni-rich heteroatomic bonding (Ni-O-Fe-O-Ni) is essential. <i>Nano Research</i> , 2023, 16, 12026-12034.	5.8	6
339	Linking Enhanced Kinetics of Electrocatalytic Oxygen Reduction Reaction with Increased Utilization of Active Sites in a Hierarchical Single-Atom Catalyst. <i>Small</i> , 0, , 2205743.	5.2	0
340	Nitrogen-doped carbon nanosheets for efficient degradation of bisphenol A by H <sub>2</sub> O <sub>2</sub> activation at neutral pH values. <i>Separation and Purification Technology</i> , 2023, 306, 122687.	3.9	5
341	Constructing ultrahigh-loading unsymmetrically coordinated Zn-N <sub>3</sub> O single-atom sites with efficient oxygen reduction for H <sub>2</sub> O <sub>2</sub> production. <i>Chemical Engineering Journal</i> , 2023, 455, 140721.	6.6	20
342	Boosted photothermal hydrogenation of acetylene on an efficient Au <sup>II</sup> -Fe alloy catalyst. <i>Catalysis Science and Technology</i> , 2023, 13, 41-46.	2.1	5
343	Improving the sodium storage performance of carbonaceous anode: Synergistic coupling of pore structure and ordered domain engineering. <i>Carbon</i> , 2023, 203, 469-478.	5.4	14

#	ARTICLE	IF	CITATIONS
344	A review on system and materials for aqueous flexible metal-air batteries. , 2023, 5, .		8
345	Engineering the Electronic Structure of Single-Atom Iron Sites with Boosted Oxygen Bifunctional Activity for Zinc-Air Batteries. <i>Advanced Materials</i> , 2023, 35, .	11.1	63
346	Rational design of carbon-based electrocatalysts for enhancing redox reactions in rechargeable metal batteries. <i>Nano Research</i> , 2023, 16, 4246-4276.	5.8	10
347	Cathode Materials for Secondary Zinc-Air Batteries. , 2023, , 67-156.		0
348	Multifunctional metal-phosphide-based electrocatalysts for highly efficient solar hydrogen production integrated devices. <i>Journal of Materials Chemistry A</i> , 2023, 11, 2899-2909.	5.2	14
349	Precise control of $\pi$ -conjugated polymer/carbon nanotubes heterointerfaces for oxygen reduction reactions. <i>International Journal of Hydrogen Energy</i> , 2023, 48, 13151-13158.	3.8	1
350	Boosting the oxygen reduction reaction behaviour of Ru single atoms in porous carbon nanospheres via microscopic coordination environment manipulation. <i>Applied Surface Science</i> , 2023, 615, 156304.	3.1	5
351	Mass Production of Sulfur-Tuned Single-Atom Catalysts for Zn-Air Batteries. <i>Advanced Materials</i> , 0, , 2209948.	11.1	23
352	Recent advances in carbon-resistant anodes for solid oxide fuel cells. <i>Materials Chemistry Frontiers</i> , 2023, 7, 1943-1991.	3.2	17
353	Recent advances in metal/covalent organic frameworks based materials: Their synthesis, structure design and potential applications for hydrogen production. <i>Coordination Chemistry Reviews</i> , 2023, 483, 215066.	9.5	29
354	Chemical vapor deposition strategy for inserting atomic Fe <sub>4</sub> sites into 3D porous honeycomb carbon aerogels as oxygen reduction reaction catalysts in high-performance Zn-air batteries. <i>Chemical Engineering Journal</i> , 2023, 464, 142719.	6.6	21
355	Emerging tetrapyrrole porous organic polymers for chemosensing applications. <i>Coordination Chemistry Reviews</i> , 2023, 482, 215078.	9.5	8
356	First row transition metal doped B <sub>12</sub> P <sub>12</sub> and Al <sub>12</sub> P <sub>12</sub> nanocages as excellent single atom catalysts for the hydrogen evolution reaction. <i>International Journal of Hydrogen Energy</i> , 2023, 48, 16663-16677.	3.8	19
357	Hybrid Catalyst Coupling Zn Single Atoms and Cu <sub>x</sub> Clusters for Synergetic Catalytic Reduction of CO <sub>2</sub> . <i>Advanced Functional Materials</i> , 2023, 33, .	7.8	10
358	Quasi-Solid-State Flexible Zn-Air Batteries with a Hydrophilic-Treated Co@NCNTs Array Electrocatalyst and PEO-PANa Electrolyte. , 2023, 5, 744-752.		8
359	Data-Driven Discovery of Graphene-Based Dual-Atom Catalysts for Hydrogen Evolution Reaction with Graph Neural Network and DFT Calculations. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 12936-12945.	4.0	12
360	Carbon-supported non-noble metal single-atom catalysts for electro-catalytic hydrogen evolution reaction. <i>International Journal of Hydrogen Energy</i> , 2023, 48, 17106-17136.	3.8	9
361	A Fe-Ni-Zn triple single-atom catalyst for efficient oxygen reduction and oxygen evolution reaction in rechargeable Zn-air batteries. <i>Chemical Engineering Journal</i> , 2023, 460, 141868.	6.6	19

#	ARTICLE	IF	CITATIONS
362	Intermolecular Metallic Single-Atom Site Complexes Dispersed on Mo <sub>2</sub> TiC <sub>2</sub> T <sub>x</sub> /MoS <sub>2</sub> Heterostructure Induce Boosted Solar-Driven Water Splitting. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	17
363	Floret-like Fe-N <sub>x</sub> nanoparticle-embedded porous carbon superstructures from a Fe-covalent triazine polymer boosting oxygen electroreduction. <i>Frontiers of Chemical Science and Engineering</i> , 2023, 17, 525-535.	2.3	2
364	Straightforward Preparation of Fe-Based Electrocatalytic Films at Various Substrates for IrO <sub>2</sub> -like Water Oxidation Activity. <i>Energy &amp; Fuels</i> , 2023, 37, 3934-3941.	2.5	4
365	Challenges and Perspectives of Single-Atom-Based Catalysts for Electrochemical Reactions. <i>Jacs Au</i> , 2023, 3, 736-755.	3.6	19
366	Recent advances in carbon-supported non-precious metal single-atom catalysts for energy conversion electrocatalysis. , 2023, 2, 20220059.		6
367	Direct Oxygen-Oxygen Cleavage through Optimizing Interatomic Distances in Dual Single-Atom Electrocatalysts for Efficient Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2023, 62, .	7.2	36
368	Direct Oxygen-Oxygen Cleavage through Optimizing Interatomic Distances in Dual Single-Atom Electrocatalysts for Efficient Oxygen Reduction Reaction. <i>Angewandte Chemie</i> , 2023, 135, .	1.6	1
369	Promoting ZIF-8-Derived Fe-N-C Oxygen Reduction Catalysts via Zr Doping in Proton Exchange Membrane Fuel Cells: Durability and Activity Enhancements. <i>ACS Catalysis</i> , 2023, 13, 4221-4230.	5.5	29
370	Trends and Prospects of Bulk and Single-Atom Catalysts for the Oxygen Evolution Reaction. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	25
371	Molten salt induced formation of chitosan based carbon nanosheets decorated with CoN <sub>x</sub> for boosting rechargeable Zn-air batteries. <i>Journal of Colloid and Interface Science</i> , 2023, 641, 842-852.	5.0	1
372	Electromagnetic absorption behavior regulation in bimetallic polyphthalocyanine derived CoFe-alloy/C OD/2D nanocomposites. <i>Materials Today Physics</i> , 2023, 33, 101058.	2.9	14
373	Carbon-Based Electrodes for Advanced Zinc-Air Batteries: Oxygen-Catalytic Site Regulation and Nanostructure Design. <i>Electrochemical Energy Reviews</i> , 2023, 6, .	13.1	32
374	Atomic-level regulation strategies of single-atom catalysts: Nonmetal heteroatom doping and polymetallic active site construction. <i>Chem Catalysis</i> , 2023, 3, 100586.	2.9	1
375	Insights into the Oxygen Evolution Reaction on Graphene-Based Single-Atom Catalysts from First-Principles-Informed Microkinetic Modeling. <i>ACS Catalysis</i> , 2023, 13, 5225-5235.	5.5	8
376	Recent advances in regulating the local environment of M-N <sub>4</sub> structure for tailored chemical reactions. <i>Nano Research</i> , 2023, 16, 8596-8613.	5.8	2
377	Bimetallic Atom Dual-Doped MoS <sub>2</sub> -Based Heterostructures as a High-Efficiency Catalyst To Boost Solar-Assisted Alkaline Seawater Electrolysis. <i>ACS Sustainable Chemistry and Engineering</i> , 2023, 11, 6688-6697.	3.2	11
378	Review of Carbon Support Coordination Environments for Single Metal Atom Electrocatalysts (SACS). <i>Advanced Materials</i> , 2024, 36, .	11.1	13
379	Pomegranate-Like Fe <sub>3</sub> N <sub>4</sub> /C with Optimized Fe <sub>3</sub> N <sub>4</sub> Configuration as Bi-Functional Catalysts for Rechargeable Zinc-Air Batteries. <i>Small Methods</i> , 2023, 7, .	4.6	5

#	ARTICLE	IF	CITATIONS
403	Noble metal-free N-doped carbon-based electrocatalysts for air electrode of rechargeable zinc-air battery. <i>Science China Materials</i> , 2023, 66, 2953-3003.	3.5	3
443	Non-noble metal single-atoms for oxygen electrocatalysis in rechargeable zinc-air batteries: recent developments and future perspectives. <i>Dalton Transactions</i> , 2024, 53, 1915-1934.	1.6	0
445	Single-atom catalysts for electrocatalytic oxygen reduction. , 2024, , 91-118.		0
446	Single atom catalysts for electrocatalytic hydrogen evolution reaction. , 2024, , 147-173.		0
447	Introduction to single-atom catalysts. , 2024, , 1-33.		0