

A review on non-precious metal electrocatalysts for PE

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Citation Report

#	ARTICLE	IF	CITATIONS
2	Electrochemical performance of annealed cobalt-benzotriazole/CNTs catalysts towards the oxygen reduction reaction. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 21600.	1.3	176
3	Highly Durable Graphene Nanosheet Supported Iron Catalyst for Oxygen Reduction Reaction in PEM Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2011, 159, B86-B89.	1.3	52
4	Fe-N-modified multi-walled carbon nanotubes for oxygen reduction reaction in acid. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 21437.	1.3	72
6	Nonprecious-Metal Catalysts for Low-Cost Fuel Cells. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 11570-11572.	7.2	184
7	Electrochemical Performance of Carbon-Supported Co-Phthalocyanine Modified with Co-Added Metals (M = Fe, Co, Ni, V) for Oxygen Reduction Reaction. <i>Journal of the Electrochemical Society</i> , 2012, 159, F577-F584.	1.3	34
8	Carbon-Supported Cobalt Oxide Nanoparticles Cobalt Porphyrin for Oxygen Reduction in Acids: Insights on Reactivity. <i>Journal of the Electrochemical Society</i> , 2012, 159, B426-B429.	1.3	11
9	Tailoring nanostructured catalysts for electrochemical energy conversion systems. <i>Nanotechnology Reviews</i> , 2012, 1, 427-453.	2.6	13
10	Current status of hybrid, battery and fuel cell electric vehicles: From electrochemistry to market prospects. <i>Electrochimica Acta</i> , 2012, 84, 235-249.	2.6	439
11	Using Photoelectron Spectroscopy and Quantum Mechanics to Determine d-Band Energies of Metals for Catalytic Applications. <i>Journal of Physical Chemistry C</i> , 2012, 116, 24016-24026.	1.5	106
12	Polymer fuel cells based on polybenzimidazole/H ₃ PO ₄ . <i>Energy and Environmental Science</i> , 2012, 5, 6436.	15.6	155
13	Determination of Iron Active Sites in Pyrolyzed Iron-Based Catalysts for the Oxygen Reduction Reaction. <i>ACS Catalysis</i> , 2012, 2, 2761-2768.	5.5	133
14	Heterogeneous Catalysis: A Key Tool toward Sustainability. <i>ChemCatChem</i> , 2012, 4, 1897-1906.	1.8	81
15	Energy-efficient electrodeposition of metal-based nanostructures through simultaneous deposition at both the cathode and the anode. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 9768.	1.3	2
16	Phosphorus-nitrogen dual doped carbon as an effective catalyst for oxygen reduction reaction in acidic media: effects of the amount of P-doping on the physical and electrochemical properties of carbon. <i>Journal of Materials Chemistry</i> , 2012, 22, 12107.	6.7	210
17	One dimensional Ag/Au/AgCl nanocomposites stemmed from Ag nanowires for electrocatalysis of oxygen reduction. <i>Journal of Materials Chemistry</i> , 2012, 22, 15285.	6.7	18
18	Poly(bis-2,6-diaminopyridinesulfoxide) as an active and stable electrocatalyst for oxygen reduction reaction. <i>Journal of Materials Chemistry</i> , 2012, 22, 12263.	6.7	16
19	Vitalizing fuel cells with vitamins: pyrolyzed vitamin B12 as a non-precious catalyst for enhanced oxygen reduction reaction of polymer electrolyte fuel cells. <i>Energy and Environmental Science</i> , 2012, 5, 5305-5314.	15.6	115
20	Vertically Aligned Carbon Nanotube Arrays Co-doped with Phosphorus and Nitrogen as Efficient Metal-Free Electrocatalysts for Oxygen Reduction. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 2863-2870.	2.1	294

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21	Using pyridine as nitrogen-rich precursor to synthesize Co-N-S/C non-noble metal electrocatalysts for oxygen reduction reaction. <i>Applied Catalysis B: Environmental</i> , 2012, 125, 197-205.	10.8	50
22	Nitrogen-Doped Carbon Nanocages as Efficient Metal-Free Electrocatalysts for Oxygen Reduction Reaction. <i>Advanced Materials</i> , 2012, 24, 5593-5597.	11.1	693
23	Carbon Nanotube-Based Materials for Fuel Cell Applications. <i>Australian Journal of Chemistry</i> , 2012, 65, 1213.	0.5	31
24	Palladium Nanoparticles/Defective Graphene Composites as Oxygen Reduction Electrocatalysts: A First-Principles Study. <i>Journal of Physical Chemistry C</i> , 2012, 116, 2710-2719.	1.5	94
25	Preparation of non-precious metal catalysts for PEMFC cathode from pyrolyzed vitamin B12. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 13755-13762.	3.8	25
26	Highly active electrocatalysts for oxygen reduction from carbon-supported copper-phthalocyanine synthesized by high temperature treatment. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 14103-14113.	3.8	82
27	Covalent hybrid of hemin and mesoporous carbon as a high performance electrocatalyst for oxygen reduction. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 15976-15982.	3.8	23
28	New non-platinum Ir-Vo-Mo electro-catalyst, catalytic activity and CO tolerance in hydrogen oxidation reaction. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 18843-18850.	3.8	11
29	N-doped graphene/carbon composite as non-precious metal electrocatalyst for oxygen reduction reaction. <i>Electrochimica Acta</i> , 2012, 81, 313-320.	2.6	97
30	Iron phthalocyanine coated on single-walled carbon nanotubes composite for the oxygen reduction reaction in alkaline media. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 2557.	1.3	93
31	Metal-air batteries: from oxygen reduction electrochemistry to cathode catalysts. <i>Chemical Society Reviews</i> , 2012, 41, 2172.	18.7	2,322
32	Engineering manganese oxide/nanocarbon hybrid materials for oxygen reduction electrocatalysis. <i>Nano Research</i> , 2012, 5, 718-725.	5.8	104
33	Reduction Reaction by Porphyrin-Based Catalysts for Fuel Cells. <i>Electrocatalysis</i> , 2012, 3, 238-251.	1.5	40
34	Activity, Selectivity, and Anion-Exchange Membrane Fuel Cell Performance of Virtually Metal-Free Nitrogen-Doped Carbon Nanotube Electrodes for Oxygen Reduction Reaction. <i>Journal of Physical Chemistry C</i> , 2012, 116, 4340-4346.	1.5	106
35	Facile Synthesis and Evaluation of Nanofibrous Iron-Carbon Based Non-Precious Oxygen Reduction Reaction Catalysts for Li-O ₂ Battery Applications. <i>Journal of Physical Chemistry C</i> , 2012, 116, 9427-9432.	1.5	67
36	Highly Active and Durable Core-Corona Structured Bifunctional Catalyst for Rechargeable Metal-Air Battery Application. <i>Nano Letters</i> , 2012, 12, 1946-1952.	4.5	392
37	Iron imidazolate framework as precursor for electrocatalysts in polymer electrolyte membrane fuel cells. <i>Chemical Science</i> , 2012, 3, 3200.	3.7	215
38	Pyrolyzed Cobalt Corrole as a Potential Non-Precious Catalyst for Fuel Cells. <i>Advanced Functional Materials</i> , 2012, 22, 3500-3508.	7.8	97

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39	Facile Synthesis of Manganeseâ€Oxideâ€Containing Mesoporous Nitrogenâ€Doped Carbon for Efficient Oxygen Reduction. <i>Advanced Functional Materials</i> , 2012, 22, 4584-4591.	7.8	306
40	Grapheneâ€Based Materials for Energy Conversion. <i>Advanced Materials</i> , 2012, 24, 4203-4210.	11.1	303
41	Recent Progress in Nonâ€Precious Catalysts for Metalâ€Air Batteries. <i>Advanced Energy Materials</i> , 2012, 2, 816-829.	10.2	652
42	Cyanamide derived thin film on carbon nanotubes as metal free oxygen reduction reaction electrocatalyst. <i>Electrochimica Acta</i> , 2012, 59, 8-13.	2.6	45
43	Manganese dioxide nanotube and nitrogen-doped carbon nanotube based composite bifunctional catalyst for rechargeable zinc-air battery. <i>Electrochimica Acta</i> , 2012, 69, 295-300.	2.6	173
44	Effect of Se in Co-based selenides towards oxygen reduction electrocatalytic activity. <i>Journal of Power Sources</i> , 2012, 206, 103-107.	4.0	30
45	Mechanistic analysis of highly active nitrogen-doped carbon nanotubes for the oxygen reduction reaction. <i>Journal of Power Sources</i> , 2012, 205, 215-221.	4.0	35
46	Activated and nitrogen-doped exfoliated graphene as air electrodes for metalâ€air battery applications. <i>Journal of Materials Chemistry A</i> , 2013, 1, 2639.	5.2	79
47	A Novel Carbonâ€Encapsulated Cobaltâ€Tungsten Carbide as Electrocatalyst for Oxygen Reduction Reaction in Alkaline Media. <i>Fuel Cells</i> , 2013, 13, 387-391.	1.5	30
48	Synthesis of novel mesoporous carbon spheres and their supported Fe-based electrocatalysts for PEM fuel cell oxygen reduction reaction. <i>Electrochimica Acta</i> , 2013, 108, 480-485.	2.6	39
49	Defective Graphene Supported MPd_{12} (M = Fe, Co, Ni, Cu, Zn, Pd) Nanoparticles as Potential Oxygen Reduction Electrocatalysts: A First-Principles Study. <i>Journal of Physical Chemistry C</i> , 2013, 117, 1350-1357.	1.5	88
51	A review of hollow Pt-based nanocatalysts applied in proton exchange membrane fuel cells. <i>Journal of Power Sources</i> , 2013, 232, 310-322.	4.0	154
52	Free-standing nitrogen-doped carbon nanofiber films as highly efficient electrocatalysts for oxygen reduction. <i>Nanoscale</i> , 2013, 5, 9528.	2.8	111
53	Recent progress in nonâ€precious metal catalysts for PEM fuel cell applications. <i>Canadian Journal of Chemical Engineering</i> , 2013, 91, 1881-1895.	0.9	71
54	Pd ₅ Cu ₄ Pt oxygen reduction nanocatalyst for PEM fuel cells. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 12674-12680.	3.8	16
55	A density functional theory study of oxygen reduction reaction on Meâ€N ₄ (Me = Fe, Co, or Ni) clusters between graphitic pores. <i>Journal of Materials Chemistry A</i> , 2013, 1, 10790.	5.2	253
56	Hierarchical interconnected macro-/mesoporous Co-containing N-doped carbon for efficient oxygen reduction reactions. <i>Journal of Materials Chemistry A</i> , 2013, 1, 12074.	5.2	59
57	Enhanced electrochemical catalytic activity by copper oxide grown on nitrogen-doped reduced graphene oxide. <i>Journal of Materials Chemistry A</i> , 2013, 1, 13179.	5.2	105

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59	High stability pyrolyzed vitamin B12 as a non-precious metal catalyst of oxygen reduction reaction in microbial fuel cells. <i>RSC Advances</i> , 2013, 3, 15375.	1.7	12
60	Ordered mesoporous porphyrinic carbons with very high electrocatalytic activity for the oxygen reduction reaction. <i>Scientific Reports</i> , 2013, 3, 2715.	1.6	282
61	Fe phthalocyanine supported by graphene nanosheet as catalyst in Li-air battery with the hybrid electrolyte. <i>Journal of Power Sources</i> , 2013, 244, 429-434.	4.0	28
62	Platinum catalysts supported on Nafion functionalized carbon black for fuel cell application. <i>Journal of Energy Chemistry</i> , 2013, 22, 87-92.	7.1	12
63	One-step synthesis of boron and nitrogen-dual-self-doped graphene sheets as non-metal catalysts for oxygen reduction reaction. <i>Journal of Materials Chemistry A</i> , 2013, 1, 14700.	5.2	107
64	Iron- and Nitrogen-Functionalized Graphene Nanosheet and Nanoshell Composites as a Highly Active Electrocatalyst for Oxygen Reduction Reaction. <i>Journal of Physical Chemistry C</i> , 2013, 117, 26501-26508.	1.5	71
65	Chelate resin self-assembled quaternary Co-N-P-C catalyst for oxygen reduction reaction. <i>RSC Advances</i> , 2013, 3, 14686.	1.7	17
66	Synergistic increase of oxygen reduction favourable Fe-N coordination structures in a ternary hybrid of carbon nanospheres/carbon nanotubes/graphene sheets. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 18482.	1.3	42
67	Hybrid chitosan derivative-carbon support for oxygen reduction reactions. <i>RSC Advances</i> , 2013, 3, 5378.	1.7	21
68	Polyaniline-Coupled Multifunctional 2D Metal Oxide/Hydroxide Graphene Nanohybrids. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 12105-12109.	7.2	117
69	Size-Dependent Enhancement of Electrocatalytic Oxygen-Reduction and Hydrogen-Evolution Performance of MoS ₂ Particles. <i>Chemistry - A European Journal</i> , 2013, 19, 11939-11948.	1.7	226
70	A Pt-free catalyst for oxygen reduction reaction based on Fe-N multiwalled carbon nanotube composites. <i>Electrochimica Acta</i> , 2013, 107, 126-132.	2.6	56
71	Porous calcium-manganese oxide microspheres for electrocatalytic oxygen reduction with high activity. <i>Chemical Science</i> , 2013, 4, 368-376.	3.7	164
72	Activating Ag by even more inert Au: a peculiar effect on electrocatalysis toward oxygen reduction in alkaline media. <i>Chemical Communications</i> , 2013, 49, 11023.	2.2	19
73	Identification of "hot spots" of the science of catalysis: bibliometric and thematic analysis of nowadays reviews and monographs. <i>Russian Chemical Bulletin</i> , 2013, 62, 2266-2278.	0.4	6
74	High-performance pyrolyzed iron corrole as a potential non-precious metal catalyst for PEMFCs. <i>Journal of Materials Chemistry A</i> , 2013, 1, 14692.	5.2	25
75	Highly active reduction of oxygen on a FeCo alloy catalyst encapsulated in pod-like carbon nanotubes with fewer walls. <i>Journal of Materials Chemistry A</i> , 2013, 1, 14868.	5.2	211

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76	Mechanism of oxygen reduction reaction catalyzed by Fe(Co)â€“Nx/C. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 19330.	1.3	55
77	Nitrogen-doped grapheneâ€“vanadium carbide hybrids as a high-performance oxygen reduction reaction electrocatalyst support in alkaline media. <i>Journal of Materials Chemistry A</i> , 2013, 1, 13404.	5.2	50
78	Density functional theory calculations of XPS binding energy shift for nitrogen-containing graphene-like structures. <i>Chemical Communications</i> , 2013, 49, 2539.	2.2	347
79	Nanostructured metal chalcogenides: synthesis, modification, and applications in energy conversion and storage devices. <i>Chemical Society Reviews</i> , 2013, 42, 2986.	18.7	1,393
80	Recent progress in nanostructured electrocatalysts for PEM fuel cells. <i>Journal of Materials Chemistry A</i> , 2013, 1, 4631.	5.2	172
81	Graphene-xerogel-based non-precious metal catalyst for oxygen reduction reaction. <i>Electrochemistry Communications</i> , 2013, 28, 5-8.	2.3	26
82	Electrocatalysis of oxygen reduction on nitrogen-containing multi-walled carbon nanotube modified glassy carbon electrodes. <i>Electrochimica Acta</i> , 2013, 87, 709-716.	2.6	114
83	FeCoâ€“Nx embedded graphene as high performance catalysts for oxygen reduction reaction. <i>Applied Catalysis B: Environmental</i> , 2013, 130-131, 143-151.	10.8	169
84	Mesoporous carbons supported non-noble metal Feâ€“N X electrocatalysts for PEM fuel cell oxygen reduction reaction. <i>Journal of Applied Electrochemistry</i> , 2013, 43, 159-169.	1.5	78
85	B, N- and P, N-doped graphene as highly active catalysts for oxygen reduction reactions in acidic media. <i>Journal of Materials Chemistry A</i> , 2013, 1, 3694.	5.2	398
88	Iron Encapsulated within Podâ€“like Carbon Nanotubes for Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 371-375.	7.2	1,152
89	A Highly Efficient Electrocatalyst for the Oxygen Reduction Reaction: Nâ€“Doped Ketjenblack Incorporated into Fe/Fe₃Câ€“Functionalized Melamine Foam. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 1026-1030.	7.2	324
90	Non-precious cathode electrocatalyst for magnesium air fuel cells: Activity and durability of iron-polyphthalocyanine absorbed on carbon black. <i>Journal of Power Sources</i> , 2013, 242, 157-165.	4.0	42
91	Effect of template size on the synthesis of mesoporous carbon spheres and their supported Fe-based ORR electrocatalysts. <i>Electrochimica Acta</i> , 2013, 108, 814-819.	2.6	28
92	Performance of polyaniline-derived Fe-N-C catalysts for oxygen reduction reaction in alkaline electrolyte. <i>Chinese Journal of Catalysis</i> , 2013, 34, 1992-1997.	6.9	29
93	The effects of the ligand, central metal, and solvent on the O ₂ binding of non-precious metal catalyst model systems: An ab initio study. <i>Electrochimica Acta</i> , 2013, 101, 293-300.	2.6	12
94	Synthesis of high dispersed intermetallic Ag ₄ Sn/C and its enhanced oxygen reduction reaction activity. <i>Journal of Power Sources</i> , 2013, 240, 606-611.	4.0	29
95	Pt-W C nano-composites as an efficient electrochemical catalyst for oxygen reduction reaction. <i>Nano Energy</i> , 2013, 2, 28-39.	8.2	56

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96	Nitrogen and Sulfur Dual-Doped Non-Noble Catalyst Using Fluidic Acrylonitrile Telomer as Precursor for Efficient Oxygen Reduction. <i>Advanced Materials</i> , 2013, 25, 4794-4799.	11.1	179
97	A mini review on carbon-based metal-free electrocatalysts for oxygen reduction reaction. <i>Chinese Journal of Catalysis</i> , 2013, 34, 1986-1991.	6.9	42
98	Stability of iron species in heat-treated polyaniline-iron-carbon polymer electrolyte fuel cell cathode catalysts. <i>Electrochimica Acta</i> , 2013, 110, 282-291.	2.6	138
99	Enhanced ORR activity of cobalt porphyrin co-deposited with transition metal oxides on Au and C electrodes. The ORR threshold data. <i>Journal of Electroanalytical Chemistry</i> , 2013, 705, 8-12.	1.9	13
100	Cobalt selenide electrocatalyst supported by nitrogen-doped carbon and its stable activity toward oxygen reduction reaction. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 5655-5664.	3.8	36
101	SC-IrO ₂ /NR-carbon hybrid: A catalyst with high electrochemical stability for oxygen reduction. <i>Science China Chemistry</i> , 2013, 56, 131-136.	4.2	10
102	One-pot synthesis of a mesoporous NiCo ₂ O ₄ nanoplatelet and graphene hybrid and its oxygen reduction and evolution activities as an efficient bi-functional electrocatalyst. <i>Journal of Materials Chemistry A</i> , 2013, 1, 4754.	5.2	491
103	Challenges of non-aqueous Li-O ₂ batteries: electrolytes, catalysts, and anodes. <i>Energy and Environmental Science</i> , 2013, 6, 1125.	15.6	453
104	Electroanalysis using modified hierarchical nanoporous carbon materials. <i>Faraday Discussions</i> , 2013, 164, 147.	1.6	13
105	Strongly Coupled Inorganic/Nanocarbon Hybrid Materials for Advanced Electrocatalysis. <i>Journal of the American Chemical Society</i> , 2013, 135, 2013-2036.	6.6	856
106	Porous carbon supported Fe-N-C for applications as cathodic electrocatalysts in fuel cells. <i>Microporous and Mesoporous Materials</i> , 2013, 170, 150-154.	2.2	17
107	Strongly coupled inorganic-nano-carbon hybrid materials for energy storage. <i>Chemical Society Reviews</i> , 2013, 42, 3088.	18.7	795
108	Efficient oxygen reduction by a Fe/Co/C/N nano-porous catalyst in neutral media. <i>Journal of Materials Chemistry A</i> , 2013, 1, 1450-1456.	5.2	64
109	Fe-N doped carbon nanotube/graphene composite: facile synthesis and superior electrocatalytic activity. <i>Journal of Materials Chemistry A</i> , 2013, 1, 3302.	5.2	115
110	Morphology dependent oxygen reduction activity of titanium carbide: bulk vs. nanowires. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 8744.	1.3	54
111	Electrochemical behavior of N and Ar implanted highly oriented pyrolytic graphite substrates and activity toward oxygen reduction reaction. <i>Electrochimica Acta</i> , 2013, 88, 477-487.	2.6	52
112	Enhancing Electrocatalytic Oxygen Reduction on MnO ₂ with Vacancies. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 2474-2477.	7.2	623
113	Fuel Cell Electrocatalyst Using Polybenzimidazole-Modified Carbon Nanotubes As Support Materials. <i>Advanced Materials</i> , 2013, 25, 1666-1681.	11.1	160

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114	Nitrogen Doping Effects on the Physical and Chemical Properties of Mesoporous Carbons. <i>Journal of Physical Chemistry C</i> , 2013, 117, 8318-8328.	1.5	237
115	Enhanced electrochemical oxygen reduction reaction by restacking of N-doped single graphene layers. <i>RSC Advances</i> , 2013, 3, 4246.	1.7	30
116	Heat-Treated Non-precious-Metal-Based Catalysts for Oxygen Reduction. <i>Lecture Notes in Energy</i> , 2013, , 213-246.	0.2	27
117	Recent Development of Non-precious Metal Catalysts. <i>Lecture Notes in Energy</i> , 2013, , 247-269.	0.2	10
118	Theoretical Study of Oxygen Reduction Reaction Catalysts: From Pt to Non-precious Metal Catalysts. <i>Lecture Notes in Energy</i> , 2013, , 339-373.	0.2	2
119	Metal-Free Electrocatalysts for Oxygen Reduction. <i>Lecture Notes in Energy</i> , 2013, , 375-389.	0.2	3
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121	One-step scalable preparation of N-doped nanoporous carbon as a high-performance electrocatalyst for the oxygen reduction reaction. <i>Nano Research</i> , 2013, 6, 293-301.	5.8	142
122	Tuning Nanoparticle Catalysis for the Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 8526-8544.	7.2	902
123	Highly active and durable nanostructured molybdenum carbide electrocatalysts for hydrogen production. <i>Energy and Environmental Science</i> , 2013, 6, 943.	15.6	874
124	Microorganism-Derived Heteroatom-Doped Carbon Materials for Oxygen Reduction and Supercapacitors. <i>Advanced Functional Materials</i> , 2013, 23, 1305-1312.	7.8	213
125	High Performance Fe- and N- Doped Carbon Catalyst with Graphene Structure for Oxygen Reduction. <i>Scientific Reports</i> , 2013, 3, .	1.6	514
126	A Graphene Oxide and Copper-Centered Metal Organic Framework Composite as a Tri-Functional Catalyst for HER, OER, and ORR. <i>Advanced Functional Materials</i> , 2013, 23, 5363-5372.	7.8	858
127	Phosphorus-doped graphene nanosheets as efficient metal-free oxygen reduction electrocatalysts. <i>RSC Advances</i> , 2013, 3, 9978.	1.7	365
128	NiCo ₂ S ₄ @graphene as a Bifunctional Electrocatalyst for Oxygen Reduction and Evolution Reactions. <i>ACS Applied Materials & Interfaces</i> , 2013, 5, 5002-5008.	4.0	641
129	A high-performance direct methanol fuel cell with a polymer fiber membrane and RuO ₂ /CNTs as a cathode catalyst. <i>Journal of Materials Chemistry A</i> , 2013, 1, 1834-1839.	5.2	15
130	Additional doping of phosphorus and/or sulfur into nitrogen-doped carbon for efficient oxygen reduction reaction in acidic media. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 1802-1805.	1.3	166
131	Self-deposition of Pt nanocrystals on Mn ₃ O ₄ coated carbon nanotubes for enhanced oxygen reduction electrocatalysis. <i>Journal of Materials Chemistry A</i> , 2013, 1, 7463.	5.2	47

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133	Promotion of oxygen reduction by a bio-inspired tethered iron phthalocyanine carbon nanotube-based catalyst. <i>Nature Communications</i> , 2013, 4, 2076.	5.8	630
134	A Highly Active and Support-Free Oxygen Reduction Catalyst Prepared from Ultrahigh-Surface-Area Porous Polyporphyrin. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 8349-8353.	7.2	157
135	Structure-Dependent Electrocatalytic Properties of Cu ₂ O Nanocrystals for Oxygen Reduction Reaction. <i>Journal of Physical Chemistry C</i> , 2013, 117, 13872-13878.	1.5	92
136	Nanostructured Nonprecious Metal Catalysts for Oxygen Reduction Reaction. <i>Accounts of Chemical Research</i> , 2013, 46, 1878-1889.	7.6	975
137	Molecular Architecture of Cobalt Porphyrin Multilayers on Reduced Graphene Oxide Sheets for High-Performance Oxygen Reduction Reaction. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 5585-5589.	7.2	242
138	On the Origin of Electrocatalytic Oxygen Reduction Reaction on Electrospun Nitrogen-Carbon Species. <i>Journal of Physical Chemistry C</i> , 2013, 117, 11619-11624.	1.5	112
139	Localized growth of Pt on Pd as a bimetallic electrocatalyst with enhanced catalytic activity and durability for proton exchange membrane fuel cell. <i>Electrochemistry Communications</i> , 2013, 34, 73-76.	2.3	14
140	Polyaniline-Coupled Multifunctional 2D Metal Oxide/Hydroxide Graphene Nanohybrids. <i>Angewandte Chemie</i> , 2013, 125, 12327-12331.	1.6	45
142	Enhancing Bi-functional Electrocatalytic Activity of Perovskite by Temperature Shock: A Case Study of LaNiO ₃ . <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 2982-2988.	2.1	172
143	Fe-N/C nanofiber electrocatalysts with improved activity and stability for oxygen reduction in alkaline and acid solutions. <i>Journal of Solid State Electrochemistry</i> , 2013, 17, 565-573.	1.2	33
145	Transition Metal Ion-Chelating Ordered Mesoporous Carbons as Noble Metal-Free Fuel Cell Catalysts. <i>Chemistry of Materials</i> , 2013, 25, 856-861.	3.2	55
146	Vesicular nitrogen doped carbon material derived from Fe ₂ O ₃ templated polyaniline as improved non-platinum fuel cell cathode catalyst. <i>Electrochimica Acta</i> , 2013, 99, 30-37.	2.6	37
147	Multiporous MnCo ₂ O ₄ Microspheres as an Efficient Bifunctional Catalyst for Nonaqueous Li-O ₂ Batteries. <i>Journal of Physical Chemistry C</i> , 2013, 117, 25890-25897.	1.5	169
148	Tuning the Process Gas in a Dual Plasma Process to Enhance the Performance of Cobalt-Polypyrrole Catalysts for the Oxygen Reduction Reaction in Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2013, 160, F1088-F1095.	1.3	7
149	Modeling Non-Precious Metal Catalyst Structures and Their Relationship to ORR. <i>ECS Transactions</i> , 2013, 58, 1869-1875.	0.3	1
151	Comparative Study on the Catalytic Activity of the TM-N ₂ Active Sites (TM = Mn, Fe, Co, Ni) in the Oxygen Reduction Reaction: Density Functional Theory Study. <i>Journal of the Physical Society of Japan</i> , 2013, 82, 114704.	0.7	22
152	Ordered Mesoporous Fe-Porphyrin-Like Architectures as Excellent Cathode Materials for the Oxygen Reduction Reaction in Both Alkaline and Acidic Media. <i>Chemistry - A European Journal</i> , 2013, 19, 16170-16175.	1.7	49

#	ARTICLE	IF	CITATIONS
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163	The mechanism of oxygen evolution at superactivated gold electrodes in aqueous alkaline solution. <i>Journal of Solid State Electrochemistry</i> , 2014, 18, 3271-3286.	1.2	42
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165	Advances in Carbon-Incorporated Non-Noble Transition Metal Catalysts for Oxygen Reduction Reaction in Polymer Electrolyte Fuel Cells. <i>Journal of the Chinese Chemical Society</i> , 2014, 61, 93-100.	0.8	15
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1320	Recent advances in electrocatalytic chloride oxidation for chlorine gas production. <i>Journal of Materials Chemistry A</i> , 2021, 9, 18974-18993.	5.2	75
1321	Heteroatom-Doped Carbon Materials as Support for Anode Electrocatalysts for Direct Formic Acid Fuel Cells. <i>International Journal of Electrochemical Science</i> , 2021, 16, 150926.	0.5	9
1322	N,S-Codoped Mesoporous Carbons Derived from Polymer Micelle-Based Assemblies for the Oxygen Reduction Reaction. <i>ACS Applied Energy Materials</i> , 2021, 4, 1954-1961.	2.5	15
1323	Synergistic catalytic effects of MoO ₂ and Vulcan carbon on the oxygen reduction reaction. <i>New Journal of Chemistry</i> , 2021, 45, 2775-2780.	1.4	4
1324	Pyrolysis-free polymer-based oxygen electrocatalysts. <i>Energy and Environmental Science</i> , 2021, 14, 2789-2808.	15.6	55
1325	MOF-derived Co/Cu-embedded N-doped carbon for trifunctional ORR/OER/HER catalysis in alkaline media. <i>Dalton Transactions</i> , 2021, 50, 5473-5482.	1.6	44
1326	Effects of the morphology and heteroatom doping of CeO ₂ support on the hydrogenation activity of Pt single-atoms. <i>Catalysis Science and Technology</i> , 2021, 11, 2844-2851.	2.1	23
1327	Rational design and solvent-free synthesis of iron-embedded 2D composite materials derived from biomass for efficient oxygen reduction reaction. <i>Sustainable Energy and Fuels</i> , 2021, 5, 3979-3986.	2.5	4
1328	Iron-Nanoparticle-Loaded Nitrogen-Doped Carbon Nanotube/Carbon Sheet Composites Derived from MOF as Electrocatalysts for an Oxygen Reduction Reaction. <i>ACS Applied Nano Materials</i> , 2021, 4, 459-477.	2.4	35
1329	Catalyst Materials for Oxygen Reduction Reaction. , 2021, , 85-182.		0
1330	Mechanisms of oxygen reduction reaction on B doped FeN ₄ /G and FeN ₄ /CNT catalysts for proton-exchange membrane fuel cells. <i>International Journal of Energy Research</i> , 2021, 45, 8524-8535.	2.2	10
1331	Nitrogenated-carbon nanoelectrocatalyst advertently processed from bio-waste of <i>Allium sativum</i> for oxygen reduction reaction. <i>Journal of Nanostructure in Chemistry</i> , 2021, 11, 343-352.	5.3	13
1332	<i>In situ</i> self-doped biomass-derived porous carbon as an excellent oxygen reduction electrocatalyst for fuel cells and metal-air batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 14331-14343.	5.2	22
1333	Maximizing the Active Site Densities of Single-Atomic Fe-N-C Electrocatalysts for High-Performance Anion Membrane Fuel Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 1459-1466.	2.5	26
1334	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
1335	Four 3D Co MOFs based on 2,4,6-tris(4-pyridyl)-1,3,5-triazine and polycarboxylic acid ligands and their derivatives as efficient electrocatalysts for oxygen reduction reaction. <i>Dalton Transactions</i> , 2021, 50, 4904-4913.	1.6	9
1336	Efficient Fe-Nx/C electrocatalyst for the oxygen reduction reaction derived from porphyrin-encapsulated zeolitic imidazolate frameworks. <i>New Journal of Chemistry</i> , 2021, 45, 6018-6024.	1.4	4

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1338	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
1339	An overview of non-noble metal electrocatalysts and their associated air cathodes for Mg-air batteries. <i>Materials Reports Energy</i> , 2021, 1, 100002.	1.7	12
1340	Carbon-nanotube-entangled Co,N-codoped carbon nanocomposite for oxygen reduction reaction. <i>Nanotechnology</i> , 2021, 32, 205402.	1.3	6
1341	Water-Gas Shift Reaction to Capture Carbon Dioxide and Separate Hydrogen on Single-Walled Carbon Nanotubes. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 11026-11038.	4.0	10
1342	Understanding of Neighboring Fe-N ₄ -C and Co-N ₄ -C Dual Active Centers for Oxygen Reduction Reaction. <i>Advanced Functional Materials</i> , 2021, 31, 2011289.	7.8	149
1343	Shungite-derived graphene as a carbon support for bifunctional oxygen electrocatalysts. <i>Journal of Catalysis</i> , 2021, 395, 178-187.	3.1	11
1344	A simple convertible electrolyzer in membraneless and membrane-based modes for understanding water splitting mechanism. <i>Journal of Power Sources</i> , 2021, 487, 229353.	4.0	15
1345	Thermally Controlled Construction of Fe-N _x Active Sites on the Edge of a Graphene Nanoribbon for an Electrocatalytic Oxygen Reduction Reaction. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 15101-15112.	4.0	25
1346	Nanoporous Gold-Based Materials for Electrochemical Energy Storage and Conversion. <i>Energy Technology</i> , 2021, 9, 2000927.	1.8	26
1347	Fabrication of Non-precious Vanadium Tungsten Nanocomposite for Enhanced Electrocatalytic Oxygen Reduction Reaction. <i>Asian Journal of Chemistry</i> , 2021, 33, 919-924.	0.1	0
1348	A Novel Fe and Cu Bimetallic Mixed Porous Carbon Material for Oxygen Reduction. <i>Electrocatalysis</i> , 2021, 12, 362-371.	1.5	2
1349	Unique Coordination Structure of Cobalt Single-Atom Catalyst Supported on Dopant-Free Carbon. <i>Journal of Physical Chemistry C</i> , 2021, 125, 6735-6742.	1.5	1
1350	Atomic cobalt anchored on covalent triazine frameworks with ultra-high performance towards oxygen reduction reaction. <i>Science China Materials</i> , 2021, 64, 2221-2229.	3.5	12
1351	Recent Advances in Electrocatalysts for Proton Exchange Membrane Fuel Cells and Alkaline Membrane Fuel Cells. <i>Advanced Materials</i> , 2021, 33, e2006292.	11.1	300
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1354	Nanostructured Iron Sulfide/N, S Dual-Doped Carbon Nanotube-Graphene Composites as Efficient Electrocatalysts for Oxygen Reduction Reaction. <i>Materials</i> , 2021, 14, 2146.	1.3	19

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1362	Bioinorganic Platforms for Sensing, Biomimicry, and Energy Catalysis. <i>Chemistry Letters</i> , 2021, 50, 974-986.	0.7	2
1363	Surface-confinement assisted synthesis of nitrogen-rich single atom Fe [~] N/C electrocatalyst with dual nitrogen sources for enhanced oxygen reduction reaction. <i>Nanotechnology</i> , 2021, 32, 305402.	1.3	7
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1368	Distance synergy of single Ag atoms doped MoS ₂ for hydrogen evolution electrocatalysis. <i>Applied Surface Science</i> , 2021, 547, 149113.	3.1	24
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1370	Bimetallic ZIFs derived nitrogen-doped hollow carbon with carbon nanotube bridges as a superior oxygen reduction reaction electrocatalyst. <i>Journal of Industrial and Engineering Chemistry</i> , 2021, 97, 466-475.	2.9	19
1371	Iron and Nitrogen Co-doped Carbon Spheres as High Efficiency Oxygen Reduction Catalyst. <i>International Journal of Electrochemical Science</i> , 0, , ArticleID:210561.	0.5	0
1372	A Strategy of Bifunctional Nanoscale Melamineâ€“Resin Sphere Template to Fabricate Porous Carbons. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100244.	1.9	11

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1374	ORR activity of metalated phenanthroline-strapped porphyrin adsorbed on carbon nanotubes. <i>Comptes Rendus Chimie</i> , 2021, 24, 5-12.	0.2	0
1375	Pore Modification and Phosphorus Doping Effect on Phosphoric Acid-Activated Fe-N-C for Alkaline Oxygen Reduction Reaction. <i>Nanomaterials</i> , 2021, 11, 1519.	1.9	3
1376	Synthesis and Characterization of Cobalt and Nitrogen Co-Doped Peat-Derived Carbon Catalysts for Oxygen Reduction in Acidic Media. <i>Catalysts</i> , 2021, 11, 715.	1.6	6
1377	Novel anion exchange membrane with poly ionic liquid-confined hypercrosslinked polymer for enhanced anion conduction and stability. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 21590-21599.	3.8	11
1378	FeS ₂ loading on chlorinated carbon nanotubes surface triggered by sulfur addition and their use as electrocatalyst for ORR. <i>Diamond and Related Materials</i> , 2021, 116, 108429.	1.8	2
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1380	Carbon Nanofibers as Potential Catalyst Support for Fuel Cell Cathodes: A Review. <i>Energy & Fuels</i> , 2021, 35, 11761-11799.	2.5	37
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1384	Carbon Quantum Dots for Energy Applications: A Review. <i>ACS Applied Nano Materials</i> , 2021, 4, 6515-6541.	2.4	145
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1387	NiCoS/carbon black based bifunctional air electrode for Zn-air secondary batteries. <i>Journal of Alloys and Compounds</i> , 2021, 873, 159749.	2.8	8
1388	Co/N-doped carbon nanotubes-grafted porous carbon sheets architecture as efficient electrocatalyst for oxygen reduction reaction. <i>Journal of Alloys and Compounds</i> , 2021, 871, 159566.	2.8	25
1389	Pyrolysis-Free Synthesized Catalyst towards Acidic Oxygen Reduction by Deprotonation. <i>Angewandte Chemie</i> , 2021, 133, 21033-21039.	1.6	4
1390	Recent advances of layered double hydroxides-based bifunctional electrocatalysts for ORR and OER. <i>Materials Today Chemistry</i> , 2021, 21, 100488.	1.7	15

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1392	Biomass waste-derived nitrogen and iron co-doped nanoporous carbons as electrocatalysts for the oxygen reduction reaction. <i>Electrochimica Acta</i> , 2021, 387, 138490.	2.6	23
1393	Encapsulating Cobalt Nanoparticles in Interconnected N-Doped Hollow Carbon Nanofibers with Enriched Co ₂ Ni ₂ C Moiety for Enhanced Oxygen Electrocatalysis in Zn-Air Batteries. <i>Advanced Science</i> , 2021, 8, e2101438.	5.6	104
1394	Engineering carbon-shells of M@NC bifunctional oxygen electrocatalyst towards stable aqueous rechargeable Zn-air batteries. <i>Chemical Engineering Journal</i> , 2021, 418, 129409.	6.6	35
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1398	Pyrolysis-Free Synthesized Catalyst towards Acidic Oxygen Reduction by Deprotonation. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 20865-20871.	7.2	33
1399	Metal-organic frameworks-derived heteroatom-doped carbon electrocatalysts for oxygen reduction reaction. <i>Nano Energy</i> , 2021, 86, 106073.	8.2	107
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1401	Fabrication of defective graphene oxide for efficient hydrogen production and enhanced 4-nitro-phenol reduction. <i>Nanotechnology</i> , 2021, 32, 495404.	1.3	19
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1403	Mechanochemical Synthesis as a Greener Way to Produce Iron-based Oxygen Reduction Catalysts. <i>Zeitschrift Fur Anorganische Und Allgemeine Chemie</i> , 0, , .	0.6	3
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1406	Spectroscopic Characterization of a Reactive [Cu ₂ ($\frac{1}{4}$ OH) ₂] ²⁺ Intermediate in Cu/TEMPO Catalyzed Aerobic Alcohol Oxidation Reaction. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 23018-23024.	7.2	16
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1413	Performance evaluation of functionalized carbon aerogel as oxygen reduction reaction electrocatalyst in zinc-air cell. <i>Journal of Power Sources</i> , 2021, 511, 230458.	4.0	12
1414	Preparation and application of 0D-2D nanomaterial hybrid heterostructures for energy applications. <i>Materials Today Advances</i> , 2021, 12, 100169.	2.5	20
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1425	History, Progress, and Development of Electrocatalysis. , 2020, , 401-424.		2
1426	Copolymerization of transition metal salen complexes and conversion into metal nanoparticles supported on hierarchically porous carbon monoliths: a one pot synthesis. <i>Journal of Sol-Gel Science and Technology</i> , 2017, 84, 258-273.	1.1	3

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1428	3D Co-N-doped hollow carbon spheres as excellent bifunctional electrocatalysts for oxygen reduction reaction and oxygen evolution reaction. <i>Applied Catalysis B: Environmental</i> , 2017, 217, 477-484.	10.8	212
1429	Noble-metal-free cobaloxime coupled with metal-organic frameworks NH ₂ -MIL-125: A novel bifunctional photocatalyst for photocatalytic NO removal and H ₂ evolution under visible light irradiation. <i>Journal of Hazardous Materials</i> , 2020, 399, 122824.	6.5	32
1430	Co nanoparticles-embedded N, S-codoped hierarchically porous graphene sheets as efficient bifunctional electrocatalysts for oxygen reduction reaction and hydrogen evolution reaction. <i>Journal of Materials Research and Technology</i> , 2020, 9, 16270-16279.	2.6	9
1431	Iron-incorporated nitrogen-doped carbon materials as oxygen reduction electrocatalysts for zinc-air batteries. <i>Chinese Journal of Catalysis</i> , 2020, 41, 858-867.	6.9	41
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1447	Recent progress of electrocatalysts for hydrogen proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2022, 47, 41956-41973.	3.8	21
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1456	Hochenergiebatterien nach Lithium-Ion. , 2018, , 301-351.		0
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