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Bamboo-like carbon nanotube/Fe<sub>3</sub>C nanoparticle hybrids and their highly efficient catalysis for oxygen reduction

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749	Nitrogen-Doped Carbon Electrocatalysts Decorated with Transition Metals for the Oxygen Reduction Reaction. <b>2015</b> , 7, 3808-3817		59
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598	Direct synthesis of a carbon nanotube interpenetrated doped porous carbon alloy as a durable Pt-free electrocatalyst for the oxygen reduction reaction in an alkaline medium. <b>2017</b> , 1, 1524-1532	14
597	N-Doped Defective Carbon Layer Encapsulated W <sub>2</sub> C as a Multifunctional Cathode Catalyst for High Performance Li-O <sub>2</sub> Battery. <b>2017</b> , 245, 430-437	18
596	Cerium carbide embedded in nitrogen-doped carbon as a highly active electrocatalyst for oxygen reduction reaction. <b>2017</b> , 359, 487-493	20
595	Unprecedented Activity of Bifunctional Electrocatalyst for High Power Density Aqueous Zinc-Air Batteries. <b>2017</b> , 9, 21216-21224	44
594	Directly anchoring Fe <sub>3</sub> C nanoclusters and FeN <sub>x</sub> sites in ordered mesoporous nitrogen-doped graphitic carbons to boost electrocatalytic oxygen reduction. <b>2017</b> , 121, 143-153	59
593	Achieving excellent activity and stability for oxygen reduction electrocatalysis by hollow mesoporous iron/nitrogen-doped graphitic carbon spheres. <b>2017</b> , 5, 12243-12251	40

592	Facile fabrication of N/S-doped carbon nanotubes with Fe <sub>3</sub> O <sub>4</sub> nanocrystals enched for lasting synergy as efficient oxygen reduction catalysts. <b>2017</b> , 5, 13189-13195	44
591	Novel highly active and selective Fe-N-C oxygen reduction electrocatalysts derived from in-situ polymerization pyrolysis. <b>2017</b> , 38, 201-209	71
590	N, S co-doped carbon spheres with highly dispersed CoO as non-precious metal catalyst for oxygen reduction reaction. <b>2017</b> , 360, 106-113	32
589	Nitrogen doped carbon materials derived from <i>Gentiana scabra</i> Bunge as high-performance catalysts for the oxygen reduction reaction. <b>2017</b> , 41, 7392-7399	15
588	Flower stamen-like porous boron carbon nitride nanoscrolls for water cleaning. <b>2017</b> , 9, 9787-9791	66
587	Biomass derived porous nitrogen doped carbon for electrochemical devices. <b>2017</b> , 2, 84-99	106
586	On-Off Ratiometric Electrochemical Biosensor for Accurate Detection of Glucose. <b>2017</b> , 235, 488-494	15
585	Fe/N co-doped carbon materials with controllable structure as highly efficient electrocatalysts for oxygen reduction reaction in Al-air batteries. <b>2017</b> , 8, 49-58	56
584	Porous carbon supported Fe-N-C composite as an efficient electrocatalyst for oxygen reduction reaction in alkaline and acidic media. <i>Applied Surface Science</i> , <b>2017</b> , 411, 487-493	6.7 29
583	Perfectly ordered mesoporous iron-nitrogen doped carbon as highly efficient catalyst for oxygen reduction reaction in both alkaline and acidic electrolytes. <b>2017</b> , 36, 286-294	171
582	Facile Synthesis of Cobalt Nanoparticles Entirely Encapsulated in Slim Nitrogen-Doped Carbon Nanotubes as Oxygen Reduction Catalyst. <b>2017</b> , 5, 3973-3981	70
581	MOF-Templated Assembly Approach for Fe C Nanoparticles Encapsulated in Bamboo-Like N-Doped CNTs: Highly Efficient Oxygen Reduction under Acidic and Basic Conditions. <b>2017</b> , 23, 12125-12130	56
580	In situ template synthesis of hollow nanospheres assembled from NiCoS@C ultrathin nanosheets with high electrochemical activities for lithium storage and ORR catalysis. <b>2017</b> , 19, 11554-11562	40
579	A metal-organic framework devised Co-N doped carbon microsphere/nanofiber hybrid as a free-standing 3D oxygen catalyst. <b>2017</b> , 53, 4034-4037	55
578	Novel Iron/Cobalt-Containing Polypyrrole Hydrogel-Derived Trifunctional Electrocatalyst for Self-Powered Overall Water Splitting. <b>2017</b> , 27, 1606497	255
577	Pyrolysis of Self-Assembled Iron Porphyrin on Carbon Black as Core/Shell Structured Electrocatalysts for Highly Efficient Oxygen Reduction in Both Alkaline and Acidic Medium. <b>2017</b> , 27, 1604356	94
576	Functional Species Encapsulated in Nitrogen-Doped Porous Carbon as a Highly Efficient Catalyst for the Oxygen Reduction Reaction. <b>2017</b> , 23, 3398-3405	28
575	Rational Construction of Multivoids-Assembled Hybrid Nanospheres Based on VPO Encapsulated in Porous Carbon with Superior Lithium Storage Performance. <b>2017</b> , 9, 1437-1445	22

574	A new method for developing defect-rich graphene nanoribbons/onion-like carbon@Co nanoparticles hybrid materials as an excellent catalyst for oxygen reactions. <b>2017</b> , 9, 1738-1744	51
573	Organic-acid-assisted synthesis of a 3D lasagna-like Fe-N-doped CNTs-G framework: An efficient and stable electrocatalyst for oxygen reduction reactions. <b>2017</b> , 10, 1258-1267	21
572	Red-blood-cell like nitrogen-doped carbons with highly catalytic activity towards oxygen reduction reaction. <b>2017</b> , 28, 748-754	15
571	Fe/N decorated mulberry-like hollow mesoporous carbon fibers as efficient electrocatalysts for oxygen reduction reaction. <b>2017</b> , 114, 706-716	32
570	Engineering Favorable Morphology and Structure of Fe-N-C Oxygen-Reduction Catalysts through Tuning of Nitrogen/Carbon Precursors. <b>2017</b> , 10, 774-785	97
569	A novel method to prepare a nanotubes@mesoporous carbon composite material based on waste biomass and its electrochemical performance. <b>2017</b> , 5, 3875-3887	61
568	Texturing in situ: N,S-enriched hierarchically porous carbon as a highly active reversible oxygen electrocatalyst. <b>2017</b> , 10, 742-749	374
567	Porous Boron Carbon Nitride Nanosheets as Efficient Metal-Free Catalysts for the Oxygen Reduction Reaction in Both Alkaline and Acidic Solutions. <b>2017</b> , 2, 306-312	134
566	Ultrafine Co-based Nanoparticle@Mesoporous Carbon Nanospheres toward High-Performance Supercapacitors. <b>2017</b> , 9, 1746-1758	56
565	Fabrication of N-doped Graphene/Carbon Nanotube Hybrids from Prussian Blue for Lithium/Sulfur Batteries. <b>2017</b> , 7, 1602014	235
564	Non-noble bimetallic alloy encased in nitrogen-doped nanotubes as a highly active and durable electrocatalyst for oxygen reduction reaction. <b>2017</b> , 114, 347-355	80
563	The synergistic effect achieved by combining different nitrogen-doped carbon shells for high performance capacitance. <b>2017</b> , 53, 857-860	15
562	Electropolymerization Fabrication of Co Phosphate Nanoparticles Encapsulated in N,P-Codoped Mesoporous Carbon Networks as a 3D Integrated Electrode for Full Water Splitting. <b>2017</b> , 5, 571-579	29
561	3D Porous Fe/N/C Spherical Nanostructures As High-Performance Electrocatalysts for Oxygen Reduction in Both Alkaline and Acidic Media. <b>2017</b> , 9, 36944-36954	70
560	Synthesis and ORR electrocatalytic activity of mixed Mn-Co oxides derived from divalent metal-based MIL-53 analogues. <b>2017</b> , 46, 15512-15519	25
559	Active Fe-N <sub>x</sub> Sites in Carbon Nanosheets as Oxygen Reduction Electrocatalyst for Flexible All-Solid-State Zinc/Air Batteries. <b>2017</b> , 1, 1700085	31
558	Magnetic Fe N/Fe C, Fe C, and Fe C by a Simple Route for Application as Electrochemical Catalysts. <b>2017</b> , 23, 17592-17597	9
557	Heteroatom-Doped Carbon Nanotube and Graphene-Based Electrocatalysts for Oxygen Reduction Reaction. <b>2017</b> , 13, 1702002	138

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552	Fe <sub>3</sub> C@nitrogen doped CNT arrays aligned on nitrogen functionalized carbon nanofibers as highly efficient catalysts for the oxygen evolution reaction. <b>2017</b> , 5, 19672-19679	84
551	From Chlorella to Nestlike Framework Constructed with Doped Carbon Nanotubes: A Biomass-Derived, High-Performance, Bifunctional Oxygen Reduction/Evolution Catalyst. <b>2017</b> , 9, 32168-32178 <sup>47</sup>	
550	Porous yolk-shell microspheres as N-doped carbon matrix for motivating the oxygen reduction activity of oxygen evolution oriented materials. <b>2017</b> , 28, 365403	5
549	Robust Catalysis on 2D Materials Encapsulating Metals: Concept, Application, and Perspective. <b>2017</b> , 29, 1606967	240
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547	Structural Evolution and Formation Mechanism of the Soft Colloidal Arrays in the Core of PAAM Nanofibers by Electrospun Packing. <b>2017</b> , 33, 10291-10301	6
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545	Transformation from FeS/Fe <sub>3</sub> C nanoparticles encased S, N dual doped carbon nanotubes to nanosheets for enhanced oxygen reduction performance. <b>2017</b> , 123, 135-144	23
544	One step in-situ synthesis of Co@N, S co-doped CNTs composite with excellent HER and ORR bi-functional electrocatalytic performances. <b>2017</b> , 247, 736-744	32
543	Biomass willow catkin-derived Co <sub>3</sub> O <sub>4</sub> /N-doped hollow hierarchical porous carbon microtubes as an effective tri-functional electrocatalyst. <b>2017</b> , 5, 20170-20179	70
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541	Recent advances in Fe (or Co)/N/C electrocatalysts for the oxygen reduction reaction in polymer electrolyte membrane fuel cells. <b>2017</b> , 5, 18933-18950	120
540	Shape-Customizable Macro-/Microporous Carbon Monoliths for Structure-to-Functionality CO <sub>2</sub> Adsorption and Novel Electrical Regeneration. <b>2017</b> , 2, 1700088	5
539	Encapsulated iron-based oxygen reduction electrocatalysts by high pressure pyrolysis. <b>2017</b> , 42, 22887-22896	8

538	Noble metal-free catalysts for oxygen reduction reaction. <b>2017</b> , 60, 1494-1507	35
537	Nanocarbon/Inorganic Liquid Hybrid Materials for Heterogeneous Catalysis. <b>2017</b> , 497-533	
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529	Ferric carbide nanocrystals encapsulated in nitrogen-doped carbon nanotubes as an outstanding environmental catalyst. <b>2017</b> , 4, 170-179	125
528	Co-N-Doped Mesoporous Carbon Hollow Spheres as Highly Efficient Electrocatalysts for Oxygen Reduction Reaction. <b>2017</b> , 13, 1602507	118
527	Nitrogen-Doped Carbon Vesicles with Dual Iron-Based Sites for Efficient Oxygen Reduction. <b>2017</b> , 10, 499-505	24
526	Ultrafine WC nanoparticles anchored on co-encased, N-doped carbon nanotubes for efficient hydrogen evolution. <b>2017</b> , 6, 104-111	42
525	Template Free Preparation of Heteroatoms Doped Carbon Spheres with Trace Fe for Efficient Oxygen Reduction Reaction and Supercapacitor. <b>2017</b> , 7, 1602002	137
524	The Ordered and Disordered Nano-Intermetallic AuCu/C Catalysts for the Oxygen Reduction Reaction: The Differences of the Electrochemical Performance. <b>2017</b> , 164, F1654-F1661	9
523	. <b>2017</b> ,	20
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521	Ancient Chemistry "Pharaoh's Snakes" for Efficient Fe-/N-Doped Carbon Electrocatalysts. <b>2018</b> , 10, 10778-10785	52

520	The photo-, electro- and photoelectro-catalytic properties and application prospects of porous coordinate polymers. <b>2018</b> , 6, 6130-6154	54
519	Fe <sub>3</sub> C/Fe/C Magnetic Hierarchical Porous Carbon with Micromesopores for Highly Efficient Chloramphenicol Adsorption: Magnetization, Graphitization, and Adsorption Properties Investigation. <b>2018</b> , 57, 3510-3522	33
518	FeC nanoparticles encapsulated in highly crystalline porous graphite: salt-template synthesis and enhanced electrocatalytic oxygen evolution activity and stability. <b>2018</b> , 54, 3158-3161	30
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516	3D interconnected hierarchical porous N-doped carbon constructed by flake-like nanostructure with Fe/FeC for efficient oxygen reduction reaction and supercapacitor. <b>2018</b> , 10, 9252-9260	69
515	Electrocatalytically Active Hollow Carbon Nanospheres Derived from PS-b-P4VP Micelles. <b>2018</b> , 35, 1700404	7
514	Correlating electrocatalytic oxygen reduction activity with d-band centers of metallic nanoparticles. <b>2018</b> , 13, 189-198	22
513	Recent developments in electrocatalysts and future prospects for oxygen reduction reaction in polymer electrolyte membrane fuel cells. <b>2018</b> , 27, 1124-1139	68
512	Iron Carbides and Nitrides: Ancient Materials with Novel Prospects. <b>2018</b> , 24, 8922-8940	31
511	Rational synthesis of N/S-doped porous carbons as high efficient electrocatalysts for oxygen reduction reaction and Zn-Air batteries. <b>2018</b> , 266, 17-26	39
510	From the inside-out: leached metal impurities in multiwall carbon nanotubes for purification or electrocatalysis. <b>2018</b> , 6, 4686-4694	17
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508	Coral-like CoO Decorated N-doped Carbon Particles as active Materials for Oxygen Reduction Reaction and Supercapacitor. <b>2018</b> , 8, 1802	35
507	Three-Dimensional Nanofibrous Air Electrode Assembled With Carbon Nanotubes-Bridged Hollow FeO Nanoparticles for High-Performance Lithium-Oxygen Batteries. <b>2018</b> , 10, 6531-6540	46
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505	Co-VN encapsulated in bamboo-like N-doped carbon nanotubes for ultrahigh-stability of oxygen reduction reaction. <b>2018</b> , 10, 4311-4319	57
504	Recent Advancements in Transition Metal-Nitrogen-Carbon Catalysts for Oxygen Reduction Reaction. <b>2018</b> , 30, 1217-1228	52
503	Significantly enhanced oxygen reduction activity of Cu/CuN <sub>x</sub> C <sub>y</sub> co-decorated ketjenblack catalyst for Al <sup>3+</sup> air batteries. <b>2018</b> , 27, 419-425	23



502	Silver@Nitrogen-Doped Carbon Nanorods as a Highly Efficient Electrocatalyst for the Oxygen Reduction Reaction in Alkaline Media. <b>2018</b> , 24, 3283-3288	8
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500	Graphene Layers-Wrapped Fe/Fe <sub>5</sub> C <sub>2</sub> Nanoparticles Supported on N-doped Graphene Nanosheets for Highly Efficient Oxygen Reduction. <b>2018</b> , 8, 1702476	162
499	Controlled synthesis of porous nitrogen-doped carbon nanoshells for highly efficient oxygen reduction. <b>2018</b> , 3, 238-243	4
498	Fe/Fe <sub>3</sub> C@graphitic carbon shell embedded in carbon nanotubes derived from Prussian blue as cathodes for LiD <sub>2</sub> batteries. <b>2018</b> , 2, 376-384	27
497	Fe/N-doped graphene with rod-like CNTs as an air-cathode catalyst in microbial fuel cells.. <b>2018</b> , 8, 1203-1209	18
496	N-doped carbon nanotubes containing a high concentration of single iron atoms for efficient oxygen reduction. <b>2018</b> , 10, e461-e461	72
495	Blood-Capillary-Inspired, Free-Standing, Flexible, and Low-Cost Super-Hydrophobic N-CNTs@SS Cathodes for High-Capacity, High-Rate, and Stable Li-Air Batteries. <b>2018</b> , 8, 1702242	88
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492	Facile synthesis and color-tunable properties of monodisperse E <sub>N</sub> YF:Ln (Ln = Eu, Tb, Tm, Sm, Ho) microtubes. <b>2018</b> , 47, 1294-1302	14
491	Uric acid-derived Fe <sub>3</sub> C-containing mesoporous Fe/N/C composite with high activity for oxygen reduction reaction in alkaline medium. <b>2018</b> , 378, 491-498	22
490	N-doped porous carbon-encapsulated Fe nanoparticles as efficient electrocatalysts for oxygen reduction reaction. <i>Applied Surface Science</i> , <b>2018</b> , 445, 462-470	6.7 25
489	Light-weight 3D Co-N-doped hollow carbon spheres as efficient electrocatalysts for rechargeable zinc-air batteries. <b>2018</b> , 10, 10412-10419	63
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486	Incorporation of Fe <sub>3</sub> C and Pyridinic N Active Sites with a Moderate N/C Ratio in Fe <sub>N</sub> Mesoporous Carbon Materials for Enhanced Oxygen Reduction Reaction Activity. <b>2018</b> , 1, 1801-1810	35
485	1D N-doped hierarchically porous hollow carbon tubes derived from a supramolecular template as metal-free electrocatalysts for a highly efficient oxygen reduction reaction. <b>2018</b> , 6, 6212-6219	55

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482	Nickel-Copper Alloy Encapsulated in Graphitic Carbon Shells as Electrocatalysts for Hydrogen Evolution Reaction. <b>2018</b> , 8, 1701759	164
481	<sup>57</sup> Fe-Mössbauer spectroscopy and electrochemical activities of graphitic layer encapsulated iron electrocatalysts for the oxygen reduction reaction. <b>2018</b> , 221, 406-412	46
480	MOF-Derived Cu/Cu <sub>2</sub> O Nanoparticles and Cu <sub>N</sub> C <sub>y</sub> Species to Boost Oxygen Reduction Activity of Ketjenblack Carbon in Al-Air Battery. <b>2018</b> , 6, 413-421	81
479	Engineering beneficial structures and morphologies of M-N-C oxygen-reduction catalysts derived from different metal-containing precursors. <b>2018</b> , 24, 1733-1744	4
478	Electrochemical probing into the active sites of graphitic-layer encapsulated iron oxygen reduction reaction electrocatalysts. <b>2018</b> , 63, 24-30	16
477	Facile synthesis of efficient core-shell structured iron-based carbon catalyst for oxygen reduction reaction. <b>2018</b> , 43, 1386-1395	4
476	Fe/Fe <sub>3</sub> C Nanoparticles Embedded in Nitrogen-Doped Carbon Nanotubes as Multifunctional Electrocatalysts for Oxygen Catalysis and CO <sub>2</sub> Reduction. <b>2018</b> , 5, 471-477	30
475	Electrocatalysis of oxygen reduction on heteroatom-doped nanocarbons and transition metal-nitrogen-carbon catalysts for alkaline membrane fuel cells. <b>2018</b> , 6, 776-804	257
474	Enhancement of oxygen reduction reaction performance: The characteristic role of FeN coordinations. <b>2018</b> , 260, 264-273	26
473	Hierarchical hollow microspheres grafted with Co nanoparticle-embedded bamboo-like N-doped carbon nanotube bundles as ultrahigh rate and long-life cathodes for rechargeable lithium-oxygen batteries. <b>2018</b> , 334, 2500-2510	25
472	Three-dimensional nanoporous N-doped graphene/iron oxides as anode materials for high-density energy storage in asymmetric supercapacitors. <b>2018</b> , 335, 467-474	23
471	Facile synthesis of N-doped carbon layer encapsulated Fe <sub>2</sub> N as an efficient catalyst for oxygen reduction reaction. <b>2018</b> , 127, 636-642	62
470	Fe/Fe <sub>3</sub> C@C nanoparticles encapsulated in N-doped graphene-CNTs framework as an efficient bifunctional oxygen electrocatalyst for robust rechargeable Zn-Air batteries. <b>2018</b> , 6, 516-526	288
469	A highly selective and sensitive fluorescent chemosensor for distinguishing cadmium(II) from zinc(II) based on amide tautomerization. <b>2018</b> , 42, 19245-19251	17
468	Synthesis of TiO <sub>2</sub> /rGO composites with different morphologies and their electrocatalysis for the oxygen reduction reaction. <b>2018</b> , 42, 19755-19763	13
467	Solid and macroporous FeC/N-C nanofibers with enhanced electromagnetic wave absorbability. <b>2018</b> , 8, 16832	22

466	Methanol-Tolerant MnO <sub>2</sub> Catalysts for Oxygen Reduction Reactions in Acidic Media and Their Application in Direct Methanol Fuel Cells. <b>2018</b> , 8, 650	25
465	Enhanced oxygen reduction with single-atomic-site iron catalysts for a zinc-air battery and hydrogen-air fuel cell. <b>2018</b> , 9, 5422	431
464	A Facile Synthesis of C-N Hollow Nanotubes as High Electroactivity Catalysts of Oxygen Reduction Reaction Derived from Dicyandiamide. <b>2018</b> , 3, 12603-12612	17
463	A Strategy to Achieve Well-Dispersed Hollow Nitrogen-Doped Carbon Microspheres with Trace Iron for Highly Efficient Oxygen Reduction Reaction in Al-Air Batteries. <b>2018</b> , 165, A3766-A3772	6
462	Template-Free Synthesis of Two-Dimensional Fe/N Codoped Carbon Networks as Efficient Oxygen Reduction Reaction Electrocatalysts. <b>2018</b> , 10, 37079-37086	12
461	Combined Electron and Structure Manipulation on Fe-Containing N-Doped Carbon Nanotubes To Boost Bifunctional Oxygen Electrocatalysis. <b>2018</b> , 10, 35888-35895	63
460	In situ derived Fe/N/S-codoped carbon nanotubes from ZIF-8 crystals as efficient electrocatalysts for the oxygen reduction reaction and zinc-air batteries. <b>2018</b> , 6, 20093-20099	97
459	N-doped carbon nanofibers aerogels derived from aramid as efficient electrocatalysts for oxygen reduction reaction in alkaline and acidic media. <b>2018</b> , 829, 177-183	17
458	Enhancement of Oxygen Reduction Performance of Biomass-Derived Carbon through Co-Doping with Early Transition Metal. <b>2018</b> , 165, J3148-J3156	9
457	Engineering the Interface of Carbon Electrocatalysts at the Triple Point for Enhanced Oxygen Reduction Reaction. <b>2018</b> , 24, 18374-18384	39
456	Cobalt-doped MnO <sub>2</sub> ultrathin nanosheets with abundant oxygen vacancies supported on functionalized carbon nanofibers for efficient oxygen evolution. <b>2018</b> , 54, 129-137	125
455	Covalent Phenanthroline Framework Derived FeS@Fe <sub>3</sub> C Composite Nanoparticles Embedding in N-S-Codoped Carbons as Highly Efficient Trifunctional Electrocatalysts. <b>2018</b> , 28, 1803973	95
454	Individual High-Quality N-Doped Carbon Nanotubes Embedded with Nonprecious Metal Nanoparticles toward Electrochemical Reaction. <b>2018</b> , 10, 39757-39767	25
453	Co <sup>2+</sup> /N Double Active Centers Confined in N-Doped Carbon Nanotube: Heterostructural Engineering for Trifunctional Catalysis toward HER, ORR, OER, and Zn-Air Batteries Driven Water Splitting. <b>2018</b> , 28, 1805641	303
452	Scalable Synthesis of Fe/N-Doped Porous Carbon Nanotube Frameworks for Aqueous Zn-Air Batteries. <b>2019</b> , 25, 635-641	8
451	Facile Fabrication of Novel Hetero-Structured Organic/Inorganic High-Performance Nanocatalyst: A Smart System for Enhanced Catalytic Activity toward Ciprofloxacin Degradation and Oxygen Reduction. <b>2018</b> , 1, 6015-6026	18
450	Self-Sacrificial Template Synthesis of a Nitrogen-Doped Microstructured Carbon Tube as Electrocatalyst for Oxygen Reduction. <b>2018</b> , 5, 3731-3740	9
449	Ni nanoparticle-decorated-MnO <sub>2</sub> nanodendrites as highly selective and efficient catalysts for CO <sub>2</sub> electroreduction. <b>2018</b> , 6, 19438-19444	21

448	Emerging Materials in Heterogeneous Electrocatalysis Involving Oxygen for Energy Harvesting. <b>2018</b> , 10, 33737-33767	34
447	One-Pot Pyrolysis Method to Fabricate Carbon Nanotube Supported Ni Single-Atom Catalysts with Ultrahigh Loading. <b>2018</b> ,	14
446	Fe <sup>N</sup> -functionalized carbon electrocatalyst derived from a zeolitic imidazolate framework for oxygen reduction: Fe and NH <sub>3</sub> treatment effects. <b>2018</b> , 8, 5368-5381	32
445	Well-defined Fe, Fe <sub>3</sub> C, and Fe <sub>2</sub> O <sub>3</sub> heterostructures on carbon black: a synergistic catalyst for oxygen reduction reaction. <b>2018</b> , 8, 4900-4906	32
444	Iron-based heterogeneous catalysts for oxygen evolution reaction; change in perspective from activity promoter to active catalyst. <b>2018</b> , 395, 106-127	44
443	Stable and Efficient Nitrogen-Containing Carbon-Based Electrocatalysts for Reactions in Energy-Conversion Systems. <b>2018</b> , 11, 2267-2295	15
442	Novel porous Fe <sub>x</sub> CyN <sub>z</sub> /N-doped CNT nanocomposites with excellent bifunctions for catalyzing oxygen reduction reaction and absorbing electromagnetic wave. <i>Applied Surface Science</i> , <b>2018</b> , 453, 83-92 <sup>6,7</sup>	18
441	Critical role of iron carbide nanodots on 3D graphene based nonprecious metal catalysts for enhancing oxygen reduction reaction. <b>2018</b> , 281, 502-509	16
440	MoS <sub>2</sub> -Carbon Nanotube Porous 3 D Network for Enhanced Oxygen Reduction Reaction. <b>2018</b> , 11, 2960-2966	32
439	Dicyandiamide and iron-tannin framework derived nitrogen-doped carbon nanosheets with encapsulated iron carbide nanoparticles as advanced pH-universal oxygen reduction catalysts. <b>2018</b> , 530, 196-201	18
438	Sustainable Synthesis of Co@NC Core Shell Nanostructures from Metal Organic Frameworks via Mechanochemical Coordination Self-Assembly: An Efficient Electrocatalyst for Oxygen Reduction Reaction. <b>2018</b> , 14, e1800441	103
437	In Situ Growth of NiFe Alloy Nanoparticles Embedded into N-Doped Bamboo-like Carbon Nanotubes as a Bifunctional Electrocatalyst for Zn-Air Batteries. <b>2018</b> , 10, 26178-26187	66
436	Design of novel graphdiyne-based materials with large second-order nonlinear optical properties. <b>2018</b> , 6, 7576-7583	47
435	Highly efficient hierarchical multiroom-structured molybdenum carbide/carbon composite microspheres grafted with nickel-nanoparticle-embedded nitrogen-doped carbon nanotubes as air electrode for lithium-oxygen batteries. <b>2018</b> , 351, 886-896	23
434	3D Edge-Enriched Fe C@C Nanocrystals with a Core-Shell Structure Grown on Reduced Graphene Oxide Networks for Efficient Oxygen Reduction Reaction. <b>2018</b> , 11, 3292-3298	21
433	Highly Graphitic Mesoporous Fe,N-Doped Carbon Materials for Oxygen Reduction Electrochemical Catalysts. <b>2018</b> , 10, 25337-25349	33
432	Porous Fe <sup>N</sup> -codoped carbon microspheres: an efficient and durable electrocatalyst for oxygen reduction reaction. <b>2018</b> , 5, 2211-2217	7
431	N, P (S) Co-doped Mo <sub>2</sub> C/C hybrid electrocatalysts for improved hydrogen generation. <b>2018</b> , 139, 845-852	55

430	Bioinspired foam with large 3D macropores for efficient solar steam generation. <b>2018</b> , 6, 16220-16227	62
429	Nitrogen-Doped Hollow Carbon Spheres with Embedded Co Nanoparticles as Active Non-Noble-Metal Electrocatalysts for the Oxygen Reduction Reaction. <b>2018</b> , 4, 11	1
428	An Iron-Based Catalyst with Multiple Active Components Synergetically Improved Electrochemical Performance for Oxygen Reduction Reaction. <b>2018</b> , 8, 243	4
427	Strategic Design of Vacancy-Enriched FeS Nanoparticles Anchored on FeC-Encapsulated and N-Doped Carbon Nanotube Hybrids for High-Efficiency Triiodide Reduction in Dye-Sensitized Solar Cells. <b>2018</b> , 10, 31208-31224	45
426	Surface-modulated palladium-nickel icosahedra as high-performance non-platinum oxygen reduction electrocatalysts. <b>2018</b> , 4, eaap8817	72
425	Non Noble Metal Catalyst for Oxygen Reduction Reaction and Its Characterization by Simulated Fuel Cell Test. <b>2018</b> , 165, J3008-J3015	10
424	The self-template synthesis of highly efficient hollow structure Fe/N/C electrocatalysts with Fe-N coordination for the oxygen reduction reaction.. <b>2018</b> , 8, 24509-24516	12
423	Induced growth of Fe-N <sub>x</sub> active sites using carbon templates. <b>2018</b> , 39, 1427-1435	17
422	Cobalt encapsulated in the nitrogen and sulfur co-doped carbon nanotube supported platinum for the oxygen reduction reaction catalyst. <b>2018</b> , 139, 656-665	5
421	Heteroatom-doped nanoporous carbon from recyclable lobata and its dual activities for oxygen reduction and hydrogen evolution reactions.. <b>2018</b> , 8, 24392-24398	
420	S, N co-doped carbon nanotube-encapsulated core-shelled CoS <sub>2</sub> @Co nanoparticles: efficient and stable bifunctional catalysts for overall water splitting. <b>2018</b> , 63, 1130-1140	156
419	Metal-organic framework-derived Fe <sub>3</sub> C@NC nanohybrids as highly-efficient oxygen reduction electrocatalysts in both acidic and basic media. <b>2018</b> , 823, 755-764	13
418	Sub-50 nm Iron-Nitrogen-Doped Hollow Carbon Sphere-Encapsulated Iron Carbide Nanoparticles as Efficient Oxygen Reduction Catalysts. <b>2018</b> , 5, 1800120	140
417	Recent developments of nano-structured materials as the catalysts for oxygen reduction reaction. <b>2018</b> , 5, 13	16
416	Transition Metal Carbide Complex Architectures for Energy-Related Applications. <b>2018</b> , 24, 16716-16736	21
415	Cobalt/Nitrogen-Doped Helical Carbonaceous Nanotubes as a Class of Efficient Electrocatalysts for the Oxygen Reduction Reaction. <b>2018</b> , 130, 13371-13375	15
414	Robust Synthesis of High-Performance N-Graphite Hollow Nanocatalysts Based on the Ostwald Ripening Mechanism for Oxygen Reduction Reaction Electrocatalysis. <b>2018</b> , 35, 1800266	1
413	Carbon-Supported Single Atom Catalysts for Electrochemical Energy Conversion and Storage. <b>2018</b> , 30, e1801995	339

4 <sup>12</sup>	A facile synthesis of porous N-doped carbon with hybridization of Fe <sub>3</sub> C nanoparticle-encased CNTs for an advanced oxygen reduction reaction electrocatalyst. <b>2018</b> , 5, 2546-2553	6
4 <sup>11</sup>	Hierarchically Porous MN <sub>x</sub> (M = Co and Fe) Single-Atom Electrocatalysts with Robust MN <sub>x</sub> Active Moieties Enable Enhanced ORR Performance. <b>2018</b> , 8, 1801956	35 <sup>1</sup>
4 <sup>10</sup>	Co nanoparticle embedded in atomically-dispersed Co-N-C nanofibers for oxygen reduction with high activity and remarkable durability. <b>2018</b> , 52, 485-493	13 <sup>1</sup>
4 <sup>09</sup>	Cobalt-Nitrogen-Doped Helical Carbonaceous Nanotubes as a Class of Efficient Electrocatalysts for the Oxygen Reduction Reaction. <b>2018</b> , 57, 13187-13191	84
4 <sup>08</sup>	Nitrogen-doped carbon nanotube sponge with embedded Fe/Fe <sub>3</sub> C nanoparticles as binder-free cathodes for high capacity lithium-sulfur batteries. <b>2018</b> , 6, 17473-17480	49
4 <sup>07</sup>	Bamboo-Structured Nitrogen-Doped Carbon Nanotube Coencapsulating Cobalt and Molybdenum Carbide Nanoparticles: An Efficient Bifunctional Electrocatalyst for Overall Water Splitting. <b>2018</b> , 6, 9912-9920	86
4 <sup>06</sup>	Ultra-thin Fe <sub>3</sub> C nanosheets promote the adsorption and conversion of polysulfides in lithium-sulfur batteries. <b>2019</b> , 18, 338-348	95
4 <sup>05</sup>	Architectural design and promises of carbon materials for energy conversion and storage: in laboratory and industry. <b>2019</b> , 25-61	3
4 <sup>04</sup>	Preparing LaMnO <sub>3</sub> nanocrystals on surface graphitized micro-diamond for efficient oxygen reduction. <b>2019</b> , 807, 151684	2
4 <sup>03</sup>	A multifunctional platform by controlling of carbon nitride in the core-shell structure: From design to construction, and catalysis applications. <b>2019</b> , 258, 117957	97
4 <sup>02</sup>	Activity-Selectivity Trends in the Electrochemical Production of Hydrogen Peroxide over Single-Site Metal-Nitrogen-Carbon Catalysts. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 12372-12381	16.4 236
4 <sup>01</sup>	Fe <sub>3</sub> C nanoparticles-loaded 3D nanoporous N-doped carbon: A highly efficient electrocatalyst for oxygen reduction in alkaline media. <b>2019</b> , 44, 21506-21517	10
4 <sup>00</sup>	The relationship between inherent properties of carbon nanotubes and electrochemical durability of supported-Pt catalysts. <b>2019</b> , 97, 107459	2
399	Iron Carbides: Control Synthesis and Catalytic Applications in CO Hydrogenation and Electrochemical HER. <b>2019</b> , 31, e1901796	40
398	Scale-up biopolymer-chelated fabrication of cobalt nanoparticles encapsulated in N-enriched graphene shells for biofuel upgrade with formic acid. <b>2019</b> , 21, 4732-4747	15
397	ZIF-8 derived nitrogen, phosphorus and sulfur tri-doped mesoporous carbon for boosting electrocatalysis to oxygen reduction in universal pH range. <b>2019</b> , 318, 783-793	16
396	High catalytic activity of supported Au nanoparticles assisted with the surface selective adsorption. <b>2019</b> , 21, 1	1
395	Genuine four-electron oxygen reduction over precious-metal-free catalyst in alkaline media. <b>2019</b> , 319, 382-389	14



394	Recent advances in confining metal-based nanoparticles into carbon nanotubes for electrochemical energy conversion and storage devices. <b>2019</b> , 12, 2924-2956	104
393	A novel strategy for realizing high nitrogen doping in Fe <sub>3</sub> C-embedded nitrogen and phosphorus-co-doped porous carbon nanowires: efficient oxygen reduction reaction catalysis in acidic electrolytes. <b>2019</b> , 7, 17923-17936	35
392	Single Fe atoms anchored by short-range ordered nanographene boost oxygen reduction reaction in acidic media. <b>2019</b> , 66, 104164	46
391	Generic Derivation of Optimal Architecture for A Resilient Microgrid with Graph Theory. <b>2019</b> ,	3
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388	Metal-organic frameworks: a promising platform for constructing non-noble electrocatalysts for the oxygen-reduction reaction. <b>2019</b> , 7, 1964-1988	118
387	Integrating MXene nanosheets with cobalt-tipped carbon nanotubes for an efficient oxygen reduction reaction. <b>2019</b> , 7, 1281-1286	101
386	Porous Fe, Co, and N-co-doped carbon nanofibers as high-efficiency oxygen reduction catalysts. <b>2019</b> , 21, 1	10
385	Fe-functionalized mesoporous carbonaceous microsphere with high sulfur loading as cathode for lithium-sulfur batteries. <b>2019</b> , 850, 113408	5
384	Enhanced Electrochemiluminescence Detection for Hydrogen Peroxide Using Peroxidase-Mimetic Fe/N-Doped Porous Carbon. <b>2019</b> , 166, B1594-B1601	11
383	Cell cycle dynamics in the reprogramming of cellular identity. <b>2019</b> , 593, 2840-2852	8
382	An Integrated Structural Air Electrode Based on Parallel Porous Nitrogen-Doped Carbon Nanotube Arrays for Rechargeable Li-Air Batteries. <b>2019</b> , 9,	5
381	Fe/Co-based nanoparticles encapsulated in heteroatom-doped carbon electrocatalysts for oxygen reduction reaction. <b>2019</b> , 62, 1626-1641	13
380	Interwoven Molecular Chains Obtained by Ionic Self-Assembly of Two Iron(III) Porphyrins with Opposite and Mismatched Charges. <b>2019</b> , 11, 34203-34211	5
379	Markedly Enhanced Oxygen Reduction Activity of Single-Atom Fe Catalysts via Integration with Fe Nanoclusters. <b>2019</b> , 13, 11853-11862	189
378	Tuning the electronic structure of PtRu bimetallic nanoparticles for promoting the hydrogen oxidation reaction in alkaline media. <b>2019</b> , 6, 2900-2905	32
377	A "MOF-Protective-Pyrolysis" Strategy for the Preparation of Fe-N-C Catalysts and the Role of Fe, N, and C in the Oxygen Reduction Reaction in Acidic Medium. <b>2019</b> , 11, 35755-35763	36



376	Multiscale porous Fe-N-C networks as highly efficient catalysts for the oxygen reduction reaction. <b>2019</b> , 11, 19506-19511	22
375	In Situ Confined Bimetallic Metal-Organic Framework Derived Nanostructure within 3D Interconnected Bamboo-like Carbon Nanotube Networks for Boosting Electromagnetic Wave Absorbing Performances. <b>2019</b> , 11, 35999-36009	74
374	Scalable Synthesis of Micromesoporous Iron-Nitrogen-Doped Carbon as Highly Active and Stable Oxygen Reduction Electrocatalyst. <b>2019</b> , 11, 39263-39273	25
373	Bioinspired FeC@C as Highly Efficient Electrocatalyst for Nitrogen Reduction Reaction under Ambient Conditions. <b>2019</b> , 11, 40062-40068	31
372	Nonprecious Catalyst for Three-Phase Contact in a Proton Exchange Membrane CO Conversion Full Cell for Efficient Electrochemical Reduction of Carbon Dioxide. <b>2019</b> , 11, 40432-40442	6
371	Rational design and construction of nanoporous iron- and nitrogen-doped carbon electrocatalysts for oxygen reduction reaction. <b>2019</b> , 7, 1380-1393	111
370	The synthesis, morphology and magnetic properties of (Fe <sub>1-x</sub> Mn <sub>x</sub> ) <sub>3</sub> N nanoparticles. <b>2019</b> , 30, 277-283	2
369	Air-Stable Carbon-Fe Based Magnetic Nanostructures. <b>2019</b> , 2019, 1374-1383	2
368	Coupling O <sub>2</sub> and K <sub>2</sub> S <sub>2</sub> O <sub>8</sub> Dual Co-reactant with Fe-N-C Modified Electrode for Ultrasensitive Electrochemiluminescence Signal Amplification. <b>2019</b> , 4, 1673-1680	2
367	Effect of electrolyte on regenerated cellulose film as gold nanoparticle carrier. <b>2019</b> , 210, 234-244	12
366	Fe <sub>3</sub> C-N-doped carbon modified separator for high performance lithium-sulfur batteries. <b>2019</b> , 39, 101-108	47
365	Electrochemical synthesis of ammonia from N <sub>2</sub> and H <sub>2</sub> O using a typical non-noble metal carbon-based catalyst under ambient conditions. <b>2019</b> , 9, 1208-1214	25
364	Cobalt oxide doped with titanium dioxide and embedded with carbon nanotubes and graphene-like nanosheets for efficient trifunctional electrocatalyst of hydrogen evolution, oxygen reduction, and oxygen evolution reaction. <b>2019</b> , 414, 333-344	31
363	Boosting oxygen reduction activity with low-temperature derived high-loading atomic cobalt on nitrogen-doped graphene for efficient Zn-air batteries. <b>2019</b> , 55, 334-337	25
362	Substrate-free and label-free electrocatalysis-assisted biosensor for sensitive detection of microRNA in lung cancer cells. <b>2019</b> , 55, 1172-1175	18
361	The design of a novel and resistant Zn(PZDC)(ATZ) MOF catalyst for the chemical fixation of CO <sub>2</sub> under solvent-free conditions. <b>2019</b> , 6, 317-325	32
360	The combination of metal-organic frameworks and polydopamine nanotubes aiming for efficient one-dimensional oxygen reduction electrocatalyst. <b>2019</b> , 552, 351-358	17
359	Novel CdFe Bimetallic Complex-Derived Ultrasmall Fe- and N-Codoped Carbon as a Highly Efficient Oxygen Reduction Catalyst. <b>2019</b> , 11, 21481-21488	15

358	An easy synthesis of Ni-Co doped hollow C-N tubular nanocomposites as excellent cathodic catalysts of alkaline and neutral zinc-air batteries. <b>2019</b> , 62, 1251-1264	23
357	Fe <sub>3</sub> C/C nanoparticles encapsulated in N-doped graphene aerogel: an advanced oxygen reduction reaction catalyst for fiber-shaped fuel cells. <b>2019</b> , 44, 18393-18402	8
356	Iron and Iodine Co-doped Triazine-Based Frameworks with Efficient Oxygen Reduction Reaction in Alkaline and Acidic Media. <b>2019</b> , 7, 11787-11794	5
355	Calixarene-Based {Co <sub>2</sub> 6} Burr Puzzle: An Efficient Oxygen Reduction Catalyst. <b>2019</b> , 2, 4232-4237	8
354	Chromium phosphide CrP as highly active and stable electrocatalysts for oxygen electroreduction in alkaline media. <b>2019</b> , 256, 117846	13
353	Iron carbides: Magic materials with magnetic and catalytic properties. <b>2019</b> , 489, 165432	7
352	Fe <sub>3</sub> O <sub>4</sub> Nanoparticles Supported on Arc-synthesized Carbon Nanotubes as Advanced Electrocatalyst for Oxygen Reduction Reaction. <b>2019</b> , 4, 6227-6232	1
351	Pyrolytic Carbon-coated Cu-Fe Alloy Nanoparticles with High Catalytic Performance for Oxygen Electroreduction. <b>2019</b> , 14, 2676-2684	11
350	In Situ Synthesis and Electrocatalytic Performance of Fe/Fe <sub>2</sub> S/Fe <sub>3</sub> N/Nitrogen-Doped Carbon Nanotubes for the Oxygen Reduction Reaction. <b>2019</b> , 6, 3030-3038	5
349	Poly(ferrocenedimethano)cyclotriphosphazene to Homogenously Fe, N, P, O Doped Carbon Nanotubes: An Efficient and Tremendous Electrocatalyst for Oxygen Reduction Reaction. <b>2019</b> , 166, H297-H303	10
348	Polyacrylamide Microspheres-Derived FeC@N-doped Carbon Nanospheres as Efficient Catalyst for Oxygen Reduction Reaction. <b>2019</b> , 11,	5
347	Low content of Fe <sub>3</sub> C anchored on Fe,N,S-codoped graphene-like carbon as bifunctional electrocatalyst for oxygen reduction and oxygen evolution reactions. <b>2019</b> , 150, 93-100	37
346	An ingenious approach for ZIFs derived N-doped hierarchical porous carbon hybrids with FeCo alloy nanoparticles as efficient bifunctional oxygen electrocatalysts. <i>Applied Surface Science</i> , <b>2019</b> , 487, 496-502	20
345	Hierarchically porous iron and nitrogen Co-doped carbon composite with enhanced ORR performance. <b>2019</b> , 276, 139-145	5
344	Fe <sub>3</sub> C-Co Nanoparticles Encapsulated in a Hierarchical Structure of N-Doped Carbon as a Multifunctional Electrocatalyst for ORR, OER, and HER. <b>2019</b> , 29, 1901949	136
343	Facile Synthesis of Cobalt and Nitrogen Coordinated Carbon Nanotube as a High-Performance Electrocatalyst for Oxygen Reduction Reaction in Both Acidic and Alkaline Media. <b>2019</b> , 7, 10951-10961	12
342	Yolk-shell-structured manganese oxide/nitride composite powders comprising cobalt-nanoparticle-embedded nitrogen-doped carbon nanotubes as cathode catalysts for long-life-cycle lithium-oxygen batteries. <b>2019</b> , 373, 86-94	15
341	Facile preparation of trace-iron doped manganese oxide/N-doped ketjenblack carbon composite for efficient ORR electrocatalyst. <b>2019</b> , 100, 230-238	14

340	Emerging applications of biochar-based materials for energy storage and conversion. <b>2019</b> , 12, 1751-1779	265
339	Fe/Fe C Nanoparticles Encapsulated in N-Doped Hollow Carbon Spheres as Efficient Electrocatalysts for the Oxygen Reduction Reaction over a Wide pH Range. <b>2019</b> , 25, 9650-9657	29
338	In-situ synthesis of bimetallic phosphide with carbon tubes as an active electrocatalyst for oxygen evolution reaction. <b>2019</b> , 254, 292-299	88
337	S, N co-doped rod-like porous carbon derived from S, N organic ligand assembled Ni-MOF as an efficient electrocatalyst for oxygen reduction reaction. <b>2019</b> , 275, 167-173	14
336	Ultrasmall Co <sub>2</sub> P <sub>2</sub> O <sub>7</sub> nanocrystals anchored on nitrogen-doped graphene as efficient electrocatalysts for the oxygen reduction reaction. <b>2019</b> , 43, 6492-6499	10
335	Soft magnetic FeC-FeC@C as an electrocatalyst for the hydrogen evolution reaction. <b>2019</b> , 48, 4636-4642	18
334	Systematic Theoretical Study of Electronic Structures and Stability of Transition-Metal-Adsorbed Graphdiyne Clusters. <b>2019</b> , 123, 8843-8850	14
333	A N, S dual doping strategy via electrospinning to prepare hierarchically porous carbon polyhedra embedded carbon nanofibers for flexible supercapacitors. <b>2019</b> , 7, 9040-9050	88
332	Importance of Electrocatalyst Morphology for the Oxygen Reduction Reaction. <b>2019</b> , 6, 2600-2614	28
331	Enhancement of photocurrent in Cu <sub>2</sub> ZnSnS <sub>4</sub> quantum dot-anchored multi-walled carbon nanotube for solar cell application. <b>2019</b> , 54, 8542-8555	8
330	Ordered mesoporous Co <sub>3</sub> O <sub>4</sub> /CMC nanoflakes for superior cyclic life and ultra high energy density supercapacitor. <i>Applied Surface Science</i> , <b>2019</b> , 480, 371-383	6.7 39
329	Role of Graphene Edges in the Electron Transfer Kinetics: Insight from Theory and Molecular Modeling. <b>2019</b> , 123, 6627-6634	14
328	Ultrathin NiS/Ni(OH) Nanosheets Filled within Ammonium Polyacrylate-Functionalized Polypyrrole Nanotubes as an Unique Nanoconfined System for Nonenzymatic Glucose Sensors. <b>2019</b> , 11, 10153-10162	22
327	Chemical state of surrounding iron species affects the activity of Fe-N <sub>x</sub> for electrocatalytic oxygen reduction. <b>2019</b> , 251, 240-246	65
326	Peroxymonosulfate activation for pollutants degradation by Fe-N-codoped carbonaceous catalyst: Structure-dependent performance and mechanism insight. <b>2019</b> , 369, 542-552	71
325	An integrated cathode with bi-functional catalytic effect for excellent-performance lithium-sulfur batteries. <b>2019</b> , 12, 1017-1024	15
324	Multicomponent Doped Sugar-Coated Haws Stick-like Nanofibers as Efficient Oxygen Reduction Reaction Catalysts for the Zn-Air Battery. <b>2019</b> , 7, 7716-7727	23
323	Phosphorus-doped hierarchical porous carbon as efficient metal-free electrocatalysts for oxygen reduction reaction. <b>2019</b> , 44, 12941-12951	18

322	Intercalation of Nanosized FeC in Iron/Carbon To Construct Multifunctional Interface with Reduction, Catalysis, Corrosion Resistance, and Immobilization Capabilities. <b>2019</b> , 11, 15709-15717	25
321	Strongly coupled ultrasmall-FeC/N-doped porous carbon hybrids for highly efficient Zn-air batteries. <b>2019</b> , 55, 5651-5654	25
320	Electrospun FeC-loaded carbon nanofibers as efficient electrocatalysts for oxygen reduction reaction. <b>2019</b> , 30, 325403	7
319	Co-, Fe-, and N-Modified Carbon Composites for Excellent Catalytic Performances toward Electrochemical Reduction Reaction. <b>2019</b> , 7, 8744-8754	10
318	Iron and nitrogen co-doped porous carbon derived from soybean dregs with enhanced catalytic performance for oxygen reduction. <b>2019</b> , 839, 141-148	13
317	Electrocatalytic Water Splitting and CO <sub>2</sub> Reduction: Sustainable Solutions via Single-Atom Catalysts Supported on 2D Materials. <b>2019</b> , 3, 1800492	41
316	Covalent organic frameworks derived hollow structured N-doped noble carbon for asymmetric-electrolyte Zn-air battery. <b>2019</b> , 62, 385-392	20
315	Fe <sub>3</sub> C-doped asymmetric porous carbon membrane binder-free integrated materials as high performance anodes of lithium-ion batteries. <b>2019</b> , 368, 310-320	21
314	Oriented arrays of CoO nanoneedles for highly efficient electrocatalytic water oxidation. <b>2019</b> , 55, 3971-3974	13
313	Highly efficient electrocatalysts for oxygen reduction reaction: Nitrogen-doped PtNiMo ternary alloys. <b>2019</b> , 44, 6582-6591	16
312	Highly effective and stable doped carbon catalyst with three-dimensional porous structure and well-covered Fe <sub>3</sub> C nanoparticles prepared with C <sub>3</sub> N <sub>4</sub> and tannic acid as template/precursors. <b>2019</b> , 417, 117-124	13
311	Synthesis, Morphology and Magnetic Properties of Fe <sub>3</sub> C/CNTs Composites by a g-C <sub>3</sub> N <sub>4</sub> Route. <b>2019</b> , 4, 13596-13600	0
310	3D interconnected nitrogen-self-doped carbon aerogels as efficient oxygen reduction electrocatalysts derived from biomass gelatin.. <b>2019</b> , 9, 40301-40308	18
309	Enhancement of the hydrogen evolution performance by finely tuning the morphology of Co-based catalyst without changing chemical composition. <b>2019</b> , 12, 191-196	10
308	One-step synthesis of novel Fe <sub>3</sub> C@nitrogen-doped carbon nanotubes/graphene nanosheets for catalytic degradation of Bisphenol A in the presence of peroxymonosulfate. <b>2019</b> , 356, 1022-1031	102
307	Two-in-one solution using insect wings to produce graphene-graphite films for efficient electrocatalysis. <b>2019</b> , 12, 33-39	22
306	3D carbon framework-supported CoNi nanoparticles as bifunctional oxygen electrocatalyst for rechargeable Zn-air batteries. <b>2019</b> , 240, 193-200	134
305	Designing iron carbide embedded isolated boron (B) and nitrogen (N) atoms co-doped porous carbon fibers networks with tiny amount of BN bonds as high-efficiency oxygen reduction reaction catalysts. <b>2019</b> , 533, 709-722	19

304	Novel and multifunctional inorganic mixing salt-templated 2D ultrathin Fe/Co-N/S-carbon nanosheets as effectively bifunctional electrocatalysts for Zn-air batteries. <b>2019</b> , 241, 95-103	76
303	Multiwall carbon nanotube encapsulated Co grown on vertically oriented graphene modified carbon cloth as bifunctional electrocatalysts for solid-state Zn-air battery. <b>2019</b> , 144, 370-381	76
302	Bimetallic Mn and Co encased within bamboo-like N-doped carbon nanotubes as efficient oxygen reduction reaction electrocatalysts. <b>2019</b> , 537, 238-246	22
301	Atomic Cobalt on Defective Bimodal Mesoporous Carbon toward Efficient Oxygen Reduction for Zinc-Air Batteries. <b>2019</b> , 3, 1800450	35
300	Improved oxygen reduction reaction via a partially oxidized Co-CoO catalyst on N-doped carbon synthesized by a facile sand-bath method. <b>2019</b> , 30, 624-629	11
299	Low-Cost and Highly Efficient Metal-Free Electrocatalysts for Oxygen Reduction Reaction: Environment-Friendly Three-Dimensional B, N Co-doped Graphene Aerogels. <b>2019</b> , 10, 56-62	8
298	Fused Aromatic Network Structures as a Platform for Efficient Electrocatalysis. <b>2019</b> , 31, e1805062	22
297	Activation of peroxydisulfate by magnetic catalysts derived from drinking water treatment residuals for the degradation of atrazine. <b>2019</b> , 366, 402-412	31
296	Cobalt sulfide/N,S-codoped defect-rich carbon nanotubes hybrid as an excellent bi-functional oxygen electrocatalyst. <b>2019</b> , 30, 075402	10
295	Robust fused aromatic pyrazine-based two-dimensional network for stably cocooning iron nanoparticles as an oxygen reduction electrocatalyst. <b>2019</b> , 56, 581-587	24
294	Fabricating hierarchically porous and Fe <sub>3</sub> C-embedded nitrogen-rich carbon nanofibers as exceptional electrocatalysts for oxygen reduction. <b>2019</b> , 142, 115-122	46
293	Bimetal- and nitrogen-codoped spherical porous carbon with efficient catalytic performance towards oxygen reduction reaction in alkaline media. <b>2019</b> , 534, 655-664	21
292	Boosting oxygen reduction activity of Fe-N-C by partial copper substitution to iron in Al-air batteries. <b>2019</b> , 242, 209-217	87
291	Developing an advanced electrocatalyst derived from Ce(TTA) <sub>3</sub> Phen embedded polyaniline for oxygen reduction reaction. <i>Applied Surface Science</i> , <b>2019</b> , 465, 979-985	6.7 7
290	Green synthesis of transition metal nanocrystals encapsulated into nitrogen-doped carbon nanotubes for efficient carbon dioxide capture. <b>2019</b> , 141, 692-703	33
289	The controllable magnetic properties of Fe <sub>3</sub> N nanoparticles synthesized by a simple urea route. <b>2020</b> , 122, 110662	4
288	Co Nanoparticles Encapsulated in Nitrogen Doped Carbon Tubes for Efficient Hydrogenation of Quinoline under Mild Conditions. <b>2020</b> , 12, 129-134	11
287	Development of N-doped bamboo-shaped carbon nanotube/magnesium oxide nanocomposites. <b>2020</b> , 54, 857-863	

286	Recent advances in carbon-based electrocatalysts for oxygen reduction reaction. <b>2020</b> , 31, 626-634	60
285	Charge Transfer Modulated Activity of Carbon-Based Electrocatalysts. <b>2020</b> , 10, 1901227	93
284	Enhancement of oxygen reduction on a newly fabricated cathode and its application in the electro-Fenton process. <b>2020</b> , 330, 135206	23
283	Epitaxial growth and multiferroic properties of artificial LCMO/BCZT heterostructure on (1 0 0) MgO substrate by pulsed laser deposition. <b>2020</b> , 53, 015002	4
282	Design of house centipede-like MoC/Mo <sub>2</sub> C nanorods grafted with N-doped carbon nanotubes as bifunctional catalysts for high-performance LiO <sub>2</sub> batteries. <b>2020</b> , 384, 123344	18
281	The Fe-N-C oxidase-like nanozyme used for catalytic oxidation of NOM in surface water. <b>2020</b> , 171, 115491	15
280	Graphitic Carbon Nitride (g-CN)-Derived Bamboo-Like Carbon Nanotubes/Co Nanoparticles Hybrids for Highly Efficient Electrocatalytic Oxygen Reduction. <b>2020</b> , 12, 4463-4472	53
279	Gas-liquid detonation synthesis of CNTs@Fe/Fe <sub>3</sub> C composites and their application as electrode materials for double-layer capacitors. <b>2020</b> , 28, 480-486	1
278	A nitrogen and fluorine enriched Fe/FeC@C oxygen reduction reaction electrocatalyst for anion/proton exchange membrane fuel cells. <b>2020</b> , 12, 2542-2554	26
277	Preparation of Iron- and Nitrogen-Codoped Carbon Nanotubes from Waste Plastics Pyrolysis for the Oxygen Reduction Reaction. <b>2020</b> , 13, 938-944	25
276	Pyridinic and graphitic nitrogen-enriched carbon paper as a highly active bifunctional catalyst for Zn-air batteries. <b>2020</b> , 334, 135562	26
275	Atomic-Level Fe-N-C Coupled with Fe C-Fe Nanocomposites in Carbon Matrixes as High-Efficiency Bifunctional Oxygen Catalysts. <b>2020</b> , 16, e1906057	50
274	Low-background electrochemical biosensor for one-step detection of base excision repair enzyme. <b>2020</b> , 150, 111865	8
273	Recent Progress of Metal Carbides Encapsulated in Carbon-Based Materials for Electrocatalysis of Oxygen Reduction Reaction. <b>2020</b> , 4, 1900575	41
272	AgCoO <sub>2</sub> /Co <sub>3</sub> O <sub>4</sub> /CMC Cloudy Architecture as High Performance Electrodes for Asymmetric Supercapacitors. <b>2020</b> , 7, 535-545	8
271	Fused Hybrid Linkers for Metal-Organic Framework-Derived Bifunctional Oxygen Electrocatalysts. <b>2020</b> , 3, 152-157	14
270	Promotion of Nitrogen Reserve and Electronic Regulation in Bamboo-like Carbon Tubules by Cobalt Nanoparticles for Highly Efficient ORR. <b>2020</b> , 3, 2323-2330	10
269	Honeycomb-like 3D N-, P-codoped porous carbon anchored with ultrasmall Fe <sub>2</sub> P nanocrystals for efficient Zn-air battery. <b>2020</b> , 158, 885-892	26

268	Electrochemical generation of Fe <sub>3</sub> C/N-doped graphitic carbon nanozyme for efficient wound healing in vivo. <b>2020</b> , 159, 149-160	34
267	Fe/N-doped hollow porous carbon spheres for oxygen reduction reaction. <b>2020</b> , 31, 125404	8
266	Toward Efficient Carbon and Water Cycles: Emerging Opportunities with Single-Site Catalysts Made of 3d Transition Metals. <b>2020</b> , 32, e1905548	14
265	Iron encased organic networks with enhanced lithium storage properties. <b>2020</b> , 2, e114	2
264	Cuprum Metal-Organic-Framework and Polyacrylonitrile-Derived Cu-N-C Electrocatalyst for Application in Zinc-Air Batteries. <b>2020</b> , 15, 2050012	3
263	Noble-Metal-Free Doped Carbon Nanomaterial Electrocatalysts. <b>2020</b> , 26, 15397-15415	13
262	Fe-Co Alloyed Nanoparticles Catalyzing Efficient Hydrogenation of Cinnamaldehyde to Cinnamyl Alcohol in Water. <b>2020</b> , 132, 23727-23732	1
261	Confined CoGe Alloy Nanoparticles in Nitrogen-Doped Carbon Nanotubes for Boosting Lithium Storage. <b>2020</b> , 12, 46247-46253	8
260	A facile synthesis of an Fe/N-doped ultrathin carbon sheet for highly efficient oxygen reduction reaction. <b>2020</b> , 7, 4652-4660	2
259	Surfactant-Mediated Morphological Evolution of MnCo Prussian Blue Structures. <b>2020</b> , 16, e2004614	18
258	Non-tubular-biomass-derived nitrogen-doped carbon microtubes for ultrahigh-area-capacity lithium-ion batteries. <b>2020</b> , 580, 638-644	10
257	Defect-controlled Fe-N-doped carbon nanofiber by ball-milling for oxygen reduction reaction. <b>2020</b> , 37, 938-945	3
256	Work function regulation of nitrogen-doped carbon nanotubes triggered by metal nanoparticles for efficient electrocatalytic nitrogen fixation. <b>2020</b> , 8, 26066-26074	12
255	Applications of biomass-derived materials for energy production, conversion, and storage. <b>2020</b> , 3, 905-920	10
254	Non-precious Melamine/Chitosan Composites for the Oxygen Reduction Reaction: Effect of the Transition Metal. <b>2020</b> , 7,	2
253	Highly efficient catalysts for oxygen reduction using well-dispersed iron carbide nanoparticles embedded in multichannel hollow nanofibers. <b>2020</b> , 8, 18125-18131	15
252	Highly ordered macroporous dual-element-doped carbon from metal-organic frameworks for catalyzing oxygen reduction. <b>2020</b> , 11, 9584-9592	14
251	The non-precious metal ORR catalysts for the anion exchange membrane fuel cells application: A numerical simulation and experimental study. <b>2020</b> , 45, 23353-23367	6



250	High performance biomass-derived catalysts for the oxygen reduction reaction with excellent methanol tolerance. <b>2020</b> , 45, 27026-27035	4
249	A computational evaluation of MoS <sub>2</sub> -based materials for the electrocatalytic oxygen reduction reaction. <b>2020</b> , 44, 14189-14197	6
248	Engineering the efficient three-dimension hollow cubic carbon from vacuum residuum with enhanced mass transfer ability towards H <sub>2</sub> O <sub>2</sub> production. <b>2020</b> , 38, 98-98	
247	Facile Synthesis of the Amorphous Carbon Coated Fe-N-C Nanocatalyst with Efficient Activity for Oxygen Reduction Reaction in Acidic and Alkaline Media. <b>2020</b> , 13,	4
246	Engineering hierarchical MOFs-derived Fe <sub>3</sub> C nanostructure with improved oxygen reduction activity for zinc-air battery: the role of iron oxide. <b>2020</b> , 18, 100500	19
245	A N-doped rice husk-based porous carbon as an electrocatalyst for the oxygen reduction reaction. <b>2020</b> , 35, 401-409	8
244	FeS/FeNC decorated N,S-co-doped porous carbon for enhanced ORR activity in alkaline media. <b>2020</b> , 56, 12921-12924	11
243	Unveiling the Potential of an Fe Bis(terpyridine) Complex for Precise Development of an Fe-N-C Electrocatalyst to Promote the Oxygen Reduction Reaction. <b>2020</b> , 59, 13453-13464	6
242	Fe-Co Alloyed Nanoparticles Catalyzing Efficient Hydrogenation of Cinnamaldehyde to Cinnamyl Alcohol in Water. <b>2020</b> , 59, 23521-23526	36
241	Uniform Bamboo-like N-Doped Carbon Nanotubes Derived from a g-C <sub>3</sub> N <sub>4</sub> Substrate Grown via Anchoring Effect to Boost the Performance of Metal-Air Batteries. <b>2020</b> , 3, 11213-11222	5
240	Hollow Carbon Nanocubes as Oxygen Reduction Reaction Electrocatalyst. <b>2020</b> , 5, 13300-13304	2
239	A No-Sweat Strategy for Graphene-Macrocyclic Co-assembled Electrocatalyst toward Oxygen Reduction and Ambient Ammonia Synthesis. <b>2020</b> , 59, 16385-16397	3
238	Fe/Fe <sub>3</sub> C-NC Nanosheet/Carbon Nanotube Composite Electrocatalysts for Oxygen Reduction Reaction. <b>2020</b> , 3, 11574-11580	12
237	Banana Leaflike C-Doped MoS Aerogels toward Excellent Microwave Absorption Performance. <b>2020</b> , 12, 26301-26312	38
236	Recent advances in Co-based electrocatalysts for the oxygen reduction reaction. <b>2020</b> , 4, 3848-3870	20
235	Facile synthesis of cobalt nanoparticles encapsulated in nitrogen-doped carbon nanotubes for use as a highly efficient bifunctional catalyst in rechargeable Zn-Air batteries. <b>2020</b> , 842, 155791	10
234	Fabrication of Fe <sub>3</sub> C caged in N doped carbon nanotube as a desirable ORR electrocatalyst by a facile method. <b>2020</b> , 871, 114316	4
233	Highly conductive skeleton Graphitic-C <sub>3</sub> N <sub>4</sub> assisted Fe-based metal-organic frameworks derived porous bimetallic carbon nanofiber for enhanced oxygen-reduction performance in microbial fuel cells. <b>2020</b> , 467, 228313	20

232	Tailored design of high-stability CoMn <sub>1.5</sub> O <sub>x</sub> @TiO <sub>2</sub> double-wall nanocages derived from Prussian blue analogue for catalytic combustion of o-dichlorobenzene. <b>2020</b> , 276, 119133	19
231	Microstructure Engineering of Fe/FeC-Decorated Metal-Nitrogen-Carbon Mesoporous Nanospheres via a Self-Template Method for Enhancing Oxygen Reduction Activity. <b>2020</b> , 12, 28065-28074	7
230	Insights into the regularity of the formation of 2D 3d transition metal monocarbides. <b>2020</b> , 12, 13407-13413	4
229	Hexamine-Coordination-Framework-Derived CoN-doped Carbon Nanosheets for Robust Oxygen Reduction Reaction. <b>2020</b> , 8, 9721-9730	13
228	Bubble-like Fe-encapsulated N,S-codoped carbon nanofibers as efficient bifunctional oxygen electrocatalysts for robust Zn-air batteries. <b>2020</b> , 13, 2175-2182	23
227	Ionic liquid derived Fe, N, B co-doped bamboo-like carbon nanotubes as an efficient oxygen reduction catalyst. <b>2020</b> , 579, 637-644	14
226	Ionothermal carbonization of biomass to construct sp <sup>2</sup> /sp <sup>3</sup> carbon interface in N-doped biochar as efficient oxygen reduction electrocatalysts. <b>2020</b> , 400, 125969	27
225	Bimetallic IrAu mesoporous nanovesicles. <b>2020</b> , 395, 125135	5
224	Synergistic heat treatment derived hollow-mesoporous-microporous Fe <sub>3</sub> C-SHT electrocatalyst for oxygen reduction reaction. <b>2020</b> , 305, 110382	9
223	A novel approach for the synthesis of iron carbide nanostructures using spark plasma sintering. <b>2020</b> , 510, 166935	4
222	Confining Iron Carbide Growth in Porous Carbon to Improve the Electrocatalytic Performance for Oxygen Reduction Reaction. <b>2020</b> , 11, 354-363	1
221	Solar energy conversion and utilization: Towards the emerging photo-electrochemical devices based on perovskite photovoltaics. <b>2020</b> , 393, 124766	42
220	Cobalt Metal-Cobalt Carbide Composite Microspheres for Water Reduction Electrocatalysis. <b>2020</b> , 3, 3909-3918	11
219	Yolk-shell Fe@FeN <sub>x</sub> nanoparticles decorated N-doped mesoporous carbon as highly active electrocatalyst for oxygen reduction reactions. <b>2020</b> , 829, 154558	14
218	Design and Preparation of Fe-N Catalytic Sites in Single-Atom Catalysts for Enhancing the Oxygen Reduction Reaction in Fuel Cells. <b>2020</b> , 12, 17334-17342	35
217	Highly Dispersed Nonprecious Metal Catalyst for Oxygen Reduction Reaction in Proton Exchange Membrane Fuel Cells. <b>2020</b> , 12, 17481-17491	14
216	Ultrafine Pt nanoparticles supported on double-shelled C/TiO <sub>2</sub> hollow spheres material as highly efficient methanol oxidation catalysts. <b>2020</b> , 49, 275-282	21
215	FeN <sub>x</sub> and FeFe <sub>2</sub> O <sub>3</sub> co-functionalized hollow graphitic carbon nanofibers for efficient oxygen reduction in an alkaline medium. <b>2020</b> , 8, 6076-6082	22

214	Fabrication of core-shell nanohybrid derived from iron-based metal-organic framework grafted on nitrogen-doped graphene for oxygen reduction reaction. <b>2020</b> , 401, 126001	34
213	An efficient pH-universal electrocatalyst for oxygen reduction: defect-rich graphitized carbon shell wrapped cobalt within hierarchical porous N-doped carbon aerogel. <b>2020</b> , 17, 100452	11
212	Preparation of monodisperse ferrous nanoparticles embedded in carbon aerogels via in situ solid phase polymerization for electrocatalytic oxygen reduction. <b>2020</b> , 12, 15318-15324	2
211	Scalable synthesis of FeN nanoparticles within N-doped carbon frameworks as efficient electrocatalysts for oxygen reduction reaction. <b>2020</b> , 580, 460-469	10
210	Rational design of hierarchical carbon hybrid microassemblies via reductive-catalytic chemical vapor deposition. <b>2020</b> , 167, 422-430	5
209	Electrospun CNF Supported Ceramics as Electrochemical Catalysts for Water Splitting and Fuel Cell: A Review. <b>2020</b> , 12,	18
208	Excellent electromagnetic wave absorbing properties of two-dimensional carbon-based nanocomposite supported by transition metal carbides Fe <sub>3</sub> C. <b>2020</b> , 162, 438-444	83
207	Tailor-made open porous 2D CoFe/SN-carbon with slightly weakened adsorption strength of ORR/OER intermediates as remarkable electrocatalysts toward zinc-air batteries. <b>2020</b> , 269, 118771	42
206	Highly Efficient Oxygen Reduction Reaction Electrocatalysts FeCo <sub>2</sub> N <sub>4</sub> Derived from Two Metallomacrocycles and N-doped Porous Carbon Materials. <b>2020</b> , 7, 865-872	6
205	In-situ formation of N doped hollow graphene Nanospheres/CNTs architecture with encapsulated Fe <sub>3</sub> C@C nanoparticles as efficient bifunctional oxygen electrocatalysts. <b>2020</b> , 828, 154238	7
204	FeNi intermetallic compound nanoparticles wrapped with N-doped graphitized carbon: a novel cocatalyst for boosting photocatalytic hydrogen evolution. <b>2020</b> , 8, 3481-3490	35
203	Fe <sub>3</sub> C nanoparticles decorated Fe/N codoped graphene-like hierarchically carbon nanosheets for effective oxygen electrocatalysis. <b>2020</b> , 45, 3930-3939	8
202	Synergistic effect between atomically dispersed Fe and Co metal sites for enhanced oxygen reduction reaction. <b>2020</b> , 8, 4369-4375	57
201	Bottom-Up Fabrication of a Sandwich-Like Carbon/Graphene Heterostructure with Built-In FeNC Dopants as Non-Noble Electrocatalyst for Oxygen Reduction Reaction. <b>2020</b> , 15, 432-439	9
200	Facile synthesis of CoSe nanoparticles encapsulated in N-doped carbon nanotubes-grafted N-doped carbon nanosheets for water splitting. <b>2020</b> , 337, 135685	14
199	Ordered micro-mesoporous carbon spheres embedded with well-dispersed ultrafine Fe <sub>3</sub> C nanocrystals as cathode material for high-performance lithium-sulfur batteries. <b>2020</b> , 388, 124315	16
198	Gadolinium-Induced Valence Structure Engineering for Enhanced Oxygen Electrocatalysis. <b>2020</b> , 10, 1903833	61
197	Indiscrete metal/metal-N-C synergic active sites for efficient and durable oxygen electrocatalysis toward advanced Zn-air batteries. <b>2020</b> , 272, 118967	53

196	Highly efficient Co@NCS nanosheet electrocatalyst for oxygen reduction reaction: An environment-friendly, low-cost and sustainable electrocatalyst. <b>2020</b> , 128, 110873	14
195	A Honeycomb-Like Bulk Superstructure of Carbon Nanosheets for Electrocatalysis and Energy Storage. <b>2020</b> , 59, 19627-19632	50
194	A Honeycomb-Like Bulk Superstructure of Carbon Nanosheets for Electrocatalysis and Energy Storage. <b>2020</b> , 132, 19795-19800	4
193	Fe/Fe <sub>3</sub> C nanoparticle-decorated N-doped carbon nanofibers for improving the nitrogen selectivity of electrocatalytic nitrate reduction. <b>2020</b> , 8, 15853-15863	42
192	High-efficiency degradation of organic pollutants with Fe, N co-doped biochar catalysts via persulfate activation. <b>2020</b> , 397, 122764	94
191	FeRh and Nitrogen Codoped Graphene, a Highly Efficient Bifunctional Catalyst toward Oxygen Reduction and Oxygen Evolution Reactions. <b>2020</b> , 124, 9142-9150	5
190	Enhanced utilization of active sites of Fe/N/C catalysts by pore-in-pore structures for ultrahigh mass activity. <b>2020</b> , 31, 315401	5
189	Novel Fe <sub>3</sub> C Nanoparticles Encapsulated in Bamboo-Like Nitrogen-Doped Carbon Nanotubes as High-Performance Electrocatalyst for Zinc-Air Battery. <b>2020</b> , 167, 060526	5
188	Dual-template strategy for electrocatalyst of cobalt nanoparticles encapsulated in nitrogen-doped carbon nanotubes for oxygen reduction reaction. <b>2021</b> , 581, 523-532	8
187	One-dimensional metal-organic nanowires-derived catalyst of carbon nanobamboos with encapsulated cobalt nanoparticles for oxygen reduction. <b>2021</b> , 394, 366-375	8
186	Bimetallic MOFs derived FeM(II)-alloy@C composites with high-performance electromagnetic wave absorption. <b>2021</b> , 420, 127609	12
185	A Highly Ordered HydrophilicHydrophobic Janus Bi-Functional Layer with Ultralow Pt Loading and Fast Gas/Water Transport for Fuel Cells. <b>2021</b> , 4, 126-133	19
184	Core-shell FeCo N-doped biocarbons as stable electrocatalysts for oxygen reduction reaction in fuel cells. <b>2021</b> , 45, 8285-8295	3
183	N-doped graphitic carbon shell-encapsulated FeCo alloy derived from metal-polyphenol network and melamine sponge for oxygen reduction, oxygen evolution, and hydrogen evolution reactions in alkaline media. <b>2021</b> , 581, 362-373	23
182	Carbon-based electrocatalysts for sustainable energy applications. <b>2021</b> , 116, 100717	71
181	Atomic Fe & FeP nanoparticles synergistically facilitate oxygen reduction reaction of hollow carbon hybrids. <b>2021</b> , 583, 371-375	6
180	Highly active sites of low spin FeII-N4 species: The identification and the ORR performance. <b>2021</b> , 14, 122-130	20
179	In-situ self-catalyzed growth of bimetallic nanoparticles/carbon nanotubes: A flexible binder-free electrocatalyst for high-performance oxygen evolution reaction. <b>2021</b> , 16, 100303	8

178	Designed Iron Single Atom Catalysts for Highly Efficient Oxygen Reduction Reaction in Alkaline and Acid Media. <b>2021</b> , 8, 2001788	5
177	Preparation of iron and nitrogen co-doped carbon material Fe/N-CCM-T for oxygen reduction reaction. <b>2021</b> , 46, 5332-5344	8
176	Modulated FeCo nanoparticle in situ growth on the carbon matrix for high-performance oxygen catalysts. <b>2021</b> , 19, 100610	5
175	Boosting NH <sub>3</sub> production from nitrate electroreduction via electronic structure engineering of Fe <sub>3</sub> C nanoflakes.	5
174	Significantly boosted oxygen electrocatalysis with cooperation between cobalt and iron porphyrins. <b>2021</b> , 50, 5120-5123	3
173	Hierarchically porous Fe,N-doped carbon nanorods derived from 1D Fe-doped MOFs as highly efficient oxygen reduction electrocatalysts in both alkaline and acidic media. <b>2021</b> , 13, 10500-10508	6
172	Iron-Nanoparticle-Loaded Nitrogen-Doped Carbon Nanotube/Carbon Sheet Composites Derived from MOF as Electrocatalysts for an Oxygen Reduction Reaction. <b>2021</b> , 4, 459-477	13
171	Self-templated formation of cobalt-embedded hollow N-doped carbon spheres for efficient oxygen reduction. <b>2021</b> , 14, 2819-2825	5
170	Rh particles in N-doped porous carbon materials derived from ZIF-8 as an efficient bifunctional electrocatalyst for the ORR and HER.. <b>2021</b> , 11, 13906-13911	4
169	Solid-state synthesis of single-phase nickel monophosphosulfide for the oxygen evolution reaction. <b>2021</b> , 50, 12870-12878	1
168	The cooperation of Fe <sub>3</sub> C nanoparticles with isolated single iron atoms to boost the oxygen reduction reaction for Zn  Air batteries. <b>2021</b> , 9, 6831-6840	28
167	Morphological and reactive optimization of g-C <sub>3</sub> N <sub>4</sub> -derived Co,N-codoped carbon nanotubes for hydrogen evolution reaction. <b>2021</b> , 45, 6308-6314	0
166	One-step synthesis of carbon-encapsulated nickel phosphide nanoparticles with efficient bifunctional catalysis on oxygen evolution and reduction. <b>2021</b> , 46, 8519-8530	10
165	Recycling of Graphite Anode from Spent Lithium-ion Batteries for Preparing Fe-N-doped Carbon ORR Catalyst. <b>2021</b> , 13, 2025-2033	6
164	An ultra-dispersive, nonprecious metal MOF@FeZn catalyst with good oxygen reduction activity and favorable stability in acid. <b>2021</b> , 56, 8600-8612	2
163	Single entity electrochemistry and the electron transfer kinetics of hydrazine oxidation. <b>2021</b> , 14, 4132	6
162	Incorporating Fe <sub>3</sub> C into B, N co-doped CNTs: Non-radical-dominated peroxymonosulfate catalytic activation mechanism. <b>2021</b> , 405, 126686	34
161	Single-Atom Fe Catalyst Outperforms Its Homogeneous Counterpart for Activating Peroxymonosulfate to Achieve Effective Degradation of Organic Contaminants. <b>2021</b> , 55, 7034-7043	64

160	Carbon-nanotube-entangled Co,N-codoped carbon nanocomposite for oxygen reduction reaction. <b>2021</b> , 32, 205402	2
159	Nitrogen-Rich Precursors Assisted Synthesis of Metal-Organic Framework-Derived Nanostructures as Bifunctional Catalysts for Electrochemical Sensing and Oxygen Reduction Reaction. <b>2021</b> , 168, 027514	3
158	Melamine-assisted pyrolytic synthesis of bifunctional cobalt-based core-shell electrocatalysts for rechargeable zinc-air batteries. <b>2021</b> , 53, 364-371	22
157	Cobalt Nanoparticle-Embedded Nitrogen-Doped Carbon Catalyst Derived from a Solid-State Metal-Organic Framework Complex for OER and HER Electrocatalysis. <b>2021</b> , 14, 1320	6
156	An Ingenious Strategy to Integrate Multiple Electrocatalytically Active Components within a Well-Aligned Nitrogen-Doped Carbon Nanotube Array Electrode for Electrocatalysis. <b>2021</b> , 11, 3958-3974	11
155	Fe <sub>3</sub> C nanoparticles with in situ grown CNT on nitrogen doped hollow carbon cube with greatly enhanced conductivity and ORR performance for alkaline fuel cell. <b>2021</b> , 174, 531-539	33
154	Electronic Optimization by Coupling FeCo Nanoclusters and Pt Nanoparticles to Carbon Nanotubes for Efficient Hydrogen Evolution. <b>2021</b> , 9, 5895-5901	4
153	Transformation to nonradical pathway for the activation of peroxydisulfate after doping S into Fe <sub>3</sub> C-encapsulated N/S-codoped carbon nanotubes. <b>2021</b> , 409, 128201	14
152	2021 Roadmap: electrocatalysts for green catalytic processes. <b>2021</b> , 4, 022004	24
151	Fe <sub>3</sub> C encapsulated in N-doped carbon shell grown on reduced graphene oxide as a high-performance negative material for electrochemical energy storage. <b>2021</b> , 412, 128720	9
150	Optimizing Surface N-Doping of Fe-N-C Catalysts Derived from Fe/Melamine-Decorated Polyaniline for Oxygen Reduction Electrocatalysis. <b>2021</b> , 8, 2100197	3
149	Fe/N-codoped carbocatalysts loaded on carbon cloth (CC) for activating peroxymonosulfate (PMS) to degrade methyl orange dyes. <i>Applied Surface Science</i> , <b>2021</b> , 549, 149300	6.7 13
148	A Highly Active Oxygen Reduction Composite Electrocatalyst of Fe <sub>3</sub> C with a N, F Dual-Doped Carbon Layer Hide. <b>2021</b> , 168, 054511	0
147	CoNi Alloy Nanoparticles Encapsulated in N-Doped Graphite Carbon Nanotubes as an Efficient Electrocatalyst for Oxygen Reduction Reaction in an Alkaline Medium. <b>2021</b> , 9, 8207-8213	2
146	Trace Bimetallic Iron/Manganese Co-Doped N-Ketjenblack Carbon Electrocatalyst for Robust Oxygen Reduction Reaction. <b>2021</b> , 168, 060502	1
145	Fe/Fe <sub>3</sub> C@CNTs anchored on carbonized wood as both self-standing anode and cathode for synergistic electro-Fenton oxidation and sequestration of As(III). <b>2021</b> , 414, 128925	5
144	Modulating Oxygen Reduction Behaviors on Nickel Single-Atom Catalysts to Probe the Electrochemiluminescence Mechanism at the Atomic Level. <b>2021</b> , 93, 8663-8670	8
143	Ternary TiMoBe Nanotubes as Efficient Photoanodes for Solar-Assisted Water Splitting. <b>2021</b> , 125, 12504-12517	4

142	An overview on the development of nanofiber-based as polymer electrolyte membrane and electrocatalyst in fuel cell application. <b>2021</b> , 45, 18441	5
141	Novel core-shell CuMo-oxynitride@N-doped graphene nanohybrid as multifunctional catalysts for rechargeable zinc-air batteries and water splitting. <b>2021</b> , 85, 105987	30
140	Developing nitrogen and Co/Fe/Ni multi-doped carbon nanotubes as high-performance bifunctional catalyst for rechargeable zinc-air battery. <b>2021</b> , 593, 204-213	10
139	Noble-Metal-Free Multicomponent Nanointegration for Sustainable Energy Conversion. <b>2021</b> , 121, 10271-10366	1
138	Nanozymes-Hitting the Biosensing "Target". <b>2021</b> , 21,	7
137	Cobalt nanoparticles encapsulated in nitrogen-rich carbonitride nanotubes for efficient and stable hydrogen evolution reaction at all pH values. <b>2021</b> , 46, 26347-26357	1
136	3D Melamine Sponge-Derived Cobalt Nanoparticle-Embedded N-Doped Carbon Nanocages as Efficient Electrocatalysts for the Oxygen Reduction Reaction. <b>2021</b> , 6, 20130-20138	0
135	In Situ Growth of Novel Graphene Nanostructures in Reduced Graphene Oxide Microspherical Assembly with Restacking-Resistance and Inter-Particle Contacts for Energy Storage Devices. <b>2021</b> , 17, e2101930	1
134	FeCo-based mesoporous carbon shells modified N-doped porous carbon spheres for oxygen reduction reaction. <b>2021</b> , 31, 527-535	3
133	Recent Advances in Enhancing Oxygen Reduction Reaction Performance for Non-Noble-Metal Electrocatalysts Derived from Electrospinning. <b>2021</b> , 9, 2100301	0
132	Heteroatom sulfur-induced defect engineering in carbon nanotubes: Enhanced electrocatalytic activity of oxygen reduction reaction. <b>2021</b> , 180, 31-40	9
131	A scalable molecular-templating strategy toward well-defined microporous carbon aerogels for efficient water treatment and electrocatalysis. <b>2021</b> , 418, 129315	2
130	Non-layered transition metal carbides for energy storage and conversion. <b>2021</b> , 36, 751-778	1
129	Structure Optimization of a High-Temperature Oxygen-Membrane Module Using Finite Element Analysis. <b>2021</b> , 14, 4992	
128	Magnetic nanocomposites of Fe <sub>3</sub> C or Ni-substituted (Fe <sub>3</sub> C/Fe <sub>3</sub> O <sub>4</sub> ) with carbon for degradation of methylene orange and p-nitrophenol. <b>2021</b> , 309, 127372	3
127	Iron/Iron Carbide (Fe/Fe <sub>3</sub> C) Encapsulated in S, N Codoped Graphitic Carbon as a Robust HER Electrocatalyst.	3
126	In-situ construction of C-S-Zn structures on Enteromorpha-based porous carbon for efficient oxygen reduction reaction. <b>2021</b> , 391, 138918	
125	Hybrid hierarchically structured materials combining breath figures and thermal decomposition of KAuCl <sub>4</sub> . <b>2021</b> , 624, 126766	2



124	A g-CN self-templated preparation of N-doped carbon nanosheets@Co-CoO/Carbon nanotubes as high-rate lithium-ion batteries' anode materials. <b>2021</b> , 597, 1-8	7
123	CoNi Nanoalloys @ N-Doped Graphene Encapsulated in N-Doped Carbon Nanotubes for Rechargeable Zn/Air Batteries.	3
122	Interfacial enhancement of O* protonation on Fe <sub>2</sub> N/Fe <sub>3</sub> C nanoparticles to boost oxygen reduction reaction and the fuel cell in acidic electrolyte. <b>2021</b> , 21, 100834	2
121	Dual oxidation and sulfurization enabling hybrid Co/Co <sub>3</sub> O <sub>4</sub> @CoS in S/N-doped carbon matrix for bifunctional oxygen electrocatalysis and rechargeable Zn-air batteries. <b>2021</b> , 419, 129619	21
120	Endohedral Fe <sub>3</sub> C decorated multi-walled CNTs as an efficient electrocatalyst for oxygen evolution. <b>2021</b> , 118, 108508	1
119	Confining self-standing CoSe <sub>2</sub> nanostructures and Fe <sub>3</sub> C wrapped N-doped carbon frameworks with enhanced energy storage performances. <i>Applied Surface Science</i> , <b>2021</b> , 564, 150449	6.7 7
118	Nickel nanoparticles encapsulated by nitrogen-doped bamboo-shaped carbon nanotubes with a high-level doping: A boosting electrocatalyst for alkaline hydrogen evolution. <i>Applied Surface Science</i> , <b>2021</b> , 564, 150439	6.7 0
117	Second diffusion of Co particles during MoS <sub>2</sub> incorporated in N-doped carbon nanotubes towards superior electrochemical activity. <b>2021</b> , 46, 33801-33808	6
116	Influence of doping nitrogen on the catalytic performance of carbon nanotubes encapsulating cobalt for selective oxidation of arylalkanes. <b>2021</b> , 58, 85-91	1
115	Fe atom clusters embedded N-doped graphene decorated with ultrathin mesoporous carbon nitride nanosheets for high efficient photocatalytic performance. <b>2021</b> , 629, 127360	2
114	Hollow and Porous Fe <sub>3</sub> C-NC Nanoballoons Nanozymes for Cancer Cell H <sub>2</sub> O <sub>2</sub> Detection. <b>2021</b> , 347, 130597	3
113	Light-weight 1D heteroatoms-doped Fe <sub>3</sub> C@C nanofibers for microwave absorption with a thinner matching thickness. <b>2021</b> , 885, 160968	7
112	Cobalt nanoparticles/ nitrogen, sulfur-codoped ultrathin carbon nanotubes derived from metal organic frameworks as high-efficiency electrocatalyst for robust rechargeable zinc-air battery. <b>2021</b> , 603, 559-571	6
111	Multi-functional Co <sub>3</sub> O <sub>4</sub> embedded carbon nanotube architecture for oxygen evolution reaction and benzoin oxidation. <b>2021</b> , 343, 117616	2
110	Synthesis and application in oxygen reduction reaction of N-doping porous graphitic carbon from biomass waste. <b>2021</b> , 224, 107028	1
109	Binary ligand strategy toward interweaved encapsulation-nanotubes structured electrocatalyst for proton exchange membrane fuel cell. <b>2022</b> , 64, 129-135	2
108	Two-step assembly induced Fe <sup>0</sup> -anchored graphitic N-rich graphene with biactive centers for enhanced heterogeneous peroxymonosulfate activation. <b>2021</b> , 9, 17366-17379	8
107	Enhancement of Mass Transport for Oxygen Reduction Reaction Using Petal-Like Porous Fe-NC Nanosheet. <b>2021</b> , 17, e2006178	15

106	A Self-Jet Vapor-Phase Growth of 3D FeNi@NCNT Clusters as Efficient Oxygen Electrocatalysts for Zinc-Air Batteries. <b>2021</b> , 17, e2006183	20
105	Bimetallic carbon nanotube encapsulated Fe-Ni catalysts from fast pyrolysis of waste plastics and their oxygen reduction properties. <b>2020</b> , 109, 119-126	26
104	Calcination of Porphyrin-Based Conjugated Microporous Polymers Nanotubes As Nanoporous N-Rich Metal-Free Electrocatalysts for Efficient Oxygen Reduction Reaction. <b>2020</b> , 3, 5260-5268	16
103	Toward pH Independent Oxygen Reduction Reaction by Polydopamine Derived 3D Interconnected, Iron Carbide Embedded Graphitic Carbon. <b>2021</b> , 13, 8147-8158	5
102	Fe <sub>7</sub> C <sub>3</sub> @Fe <sub>3</sub> N/Fe <sub>Nx</sub> Cy Decorated Carbon Material as Highly Efficient Catalyst for Oxygen Reduction Reaction in Al-Air Batteries. <b>2017</b> , 9, 1909-1918	5
101	Superior Fe x N electrocatalyst derived from 1,1'-diacetylferrocene for oxygen reduction reaction in alkaline and acidic media. <b>2020</b> , 9, 843-852	3
100	Improving the Performance of Zn-Air Batteries with N-Doped Electroexfoliated Graphene. <b>2020</b> , 13,	10
99	Relevant Properties of Carbon Support Materials in Successful Fe-N-C Synthesis for the Oxygen Reduction Reaction: Study of Carbon Blacks and Biomass-Based Carbons. <b>2020</b> , 14,	7
98	Single-Atom Catalysts: Advances and Challenges in Metal-Support Interactions for Enhanced Electrocatalysis. 1	15
97	Alkaline Metal Oxide Assisting the Ionothermal Method for Efficient Fe-N/C Catalyst Preparation. <b>2021</b> ,	
96	Reducing ROS generation and accelerating the photocatalytic degradation rate of PPCPs at neutral pH by doping Fe-N-C to g-C <sub>3</sub> N <sub>4</sub> . <b>2022</b> , 301, 120790	6
95	Fe,N-modulated carbon fibers aerogel as freestanding cathode catalyst for rechargeable Zn/Air battery. <b>2022</b> , 187, 196-206	7
94	Facile fabrication of Fe/FeC embedded in N-doped carbon nanofiber for efficient degradation of tetracycline via peroxymonosulfate activation: Role of superoxide radical and singlet oxygen. <b>2021</b> , 609, 86-101	5
93	Co/Fe alloy nanoparticles and Fe <sub>3</sub> C nanocrystals on N-doped biomass-derived porous carbon for superior electrocatalytic oxygen reduction. <b>2021</b> , 122735	1
92	The regulation of coordination structure between cobalt and nitrogen on graphene for efficient bifunctional electrocatalysis in Zn-air batteries. <b>2021</b> , 68, 213-213	2
91	Fe <sub>3</sub> C/Carbon-Coated Fe <sub>3</sub> O <sub>4</sub> Core/Shell Nanoparticles as Recyclable Catalysts for Ciprofloxacin Degradation in Water.	1
90	Facile synthesis of N-doped carbon nanotubes grafted on N-doped carbon nanosheets co-encapsulating cobalt and molybdenum carbide nanoparticles for efficient methanol oxidation. <b>2022</b> , 23, 100665	1
89	Engineering Gd <sub>2</sub> O <sub>3</sub> -Ni heterostructure for efficient oxygen reduction electrocatalysis via the electronic reconfiguration and adsorption optimization of intermediates. <b>2022</b> , 433, 134597	2

88	Ultra-fast synthesis of iron decorated multiwalled carbon nanotube composite materials: A sensitive electrochemical sensor for determining dopamine. <b>2022</b> , 897, 163257	2
87	hcp-phased Ni nanoparticles with generic catalytic hydrogenation activities toward different functional groups. <b>2022</b> , 65, 1252	1
86	Unmasking the Critical Role of the Ordering Degree of Bimetallic Nanocatalysts on Oxygen Reduction Reaction by In-situ Raman Spectroscopy.	
85	Synthesis and electrocatalytic properties of M (Fe, Co),N co-doped porous carbon frameworks for efficient oxygen reduction reaction. <b>2022</b> , 47, 9504-9516	3
84	Adina Rubella-Like Microsized SiO@N-Doped Carbon Grafted with N-Doped Carbon Nanotubes as Anodes for High-Performance Lithium Storage. 2100105	7
83	Synergistic effect on ammonia borane hydrolysis by Co catalysts with atomically dispersed CoN <sub>x</sub> active sites for hydrogen generation.	1
82	Tailoring atomically dispersed cobalt–nitrogen active sites in wrinkled carbon nanosheets via Feencapsulation for highly sensitive detection of hydrogen peroxide. <b>2022</b> , 10, 3190-3200	1
81	Heteroatom-doped nanomaterials/core–shell nanostructure based electrocatalysts for the oxygen reduction reaction. <b>2022</b> , 10, 987-1021	5
80	Characterization on the formation mechanism of Fe <sub>0</sub> /Fe <sub>3</sub> C/C nanostructure and its effect on PMS activation performance towards BPA degradation. <b>2022</b> , 435, 134709	1
79	Unmasking the Critical Role of the Ordering Degree of Bimetallic Nanocatalysts on Oxygen Reduction Reaction by In-situ Raman Spectroscopy.. <b>2022</b> ,	2
78	Carbon foam-supported CoN nanoparticles and carbon nanotubes hybrids as bifunctional reduction electrocatalyst. <b>2022</b> , 163, 106408	1
77	High electrocatalytic performance of Fe <sub>3</sub> C-encapsulated N-doped carbon nanotubes and nanosheets for oxygen reduction reaction. <b>2022</b> , 149, 111719	0
76	One-Step Synthesis of PtNi Modified TiO <sub>2</sub> Nanotubes Array for Methanol Oxidation.	
75	Construction of single-atom catalysts for electro-, photo- and photoelectro-catalytic applications: State-of-the-art, opportunities, and challenges. <b>2022</b> ,	5
74	Tuning Active Species in N-Doped Carbon with Fe/FeC Nanoparticles for Efficient Oxygen Reduction Reaction.. <b>2022</b> ,	3
73	Advanced carbon-based nanostructured materials for fuel cells. <b>2022</b> , 201-227	
72	TiO <sub>2</sub> ??Ti <sub>3</sub> C <sub>2</sub> ??Mn-N-C?????????????. <b>2022</b> ,	
71	Gradually Anchoring N and Fe, Zn Atoms on Monodispersed Carbon Nanospheres: Their Contribution to the Oxygen Reduction Reaction under Analogous Structure.	0

70	Recent advances in solid-liquid-gas three-phase interfaces in electrocatalysis for energy conversion and storage.		2
69	MXene boosted metal-organic framework-derived Fe <sub>Ni</sub> as an efficient electrocatalyst for oxygen reduction reactions. <b>2022</b> ,		3
68	Rare earth praseodymium-based single atom catalyst for high performance CO <sub>2</sub> reduction reaction. <b>2022</b> , 436, 135271		2
67	Highly dispersed and stable Fe species supported on active carbon for enhanced degradation of rhodamine B through peroxymonosulfate activation: Mechanism analysis, response surface modeling and kinetic study. <b>2022</b> , 10, 107463		0
66	Fe <sub>3</sub> C coupled with Fe-Nx supported on N-doped carbon as oxygen reduction catalyst for assembling Zn-air battery to drive water splitting. <b>2021</b> ,		2
65	Extra Storage Capacity Enabled by Structural Defects in Pseudocapacitive NbN Monocrystals for High-Energy Hybrid Supercapacitors. 2112592		2
64	Interplay of hetero-MN <sub>4</sub> catalytic sites on graphene for efficient oxygen reduction reaction. <b>2022</b> , 140397		0
63	In-situ growth of iron phosphide encapsulated by carbon nanotubes decorated with zeolitic imidazolate framework-8 for enhancing oxygen reduction reaction. <b>2022</b> ,		0
62	Bamboo-like N,S-doped carbon nanotubes with encapsulated Co nanoparticles as high-performance electrocatalyst for liquid and flexible all-solid-state rechargeable Zn-air batteries. <i>Applied Surface Science</i> , <b>2022</b> , 593, 153446	6.7	1
61	Rechargeable Zinc-Air Batteries with Seawater Electrolyte and Cranberry Bean Shell-Derived Carbon Electrocatalyst.		3
60	A review on biomass-derived N-doped carbons as electrocatalysts in electrochemical energy applications. <b>2022</b> , 446, 137116		4
59	Environmentally Friendly Bifunctional Catalyst for ORR and OER from Coconut Shell Particles. <b>2022</b> , 12, 106-123		0
58	Bio-Inspired Micro-Reactor Mimicking Multi-Ridged Mitochondrial Intima for Efficient Oxygen Reduction.		
57	Oxygen reduction reaction by non-noble metal-based catalysts. <b>2022</b> , 205-239		
56	Transition Metal Non-Oxides as Electrocatalysts: Advantages and Challenges. 2202033		4
55	Removal of organic contaminants by starch-derived porous carbon via peroxymonosulfate activation: The role of N doping and Fe/Mn loading. <b>2022</b> , 649, 129520		0
54	A self-supported bifunctional air cathode composed of Co <sub>3</sub> O <sub>4</sub> /Fe <sub>2</sub> O <sub>3</sub> nanoparticles embedded in nanosheet arrays grafted onto carbon nanofibers for secondary zinc-air batteries. <b>2022</b> , 921, 166128		1
53	Enhanced catalytic reduction of Cr(VI) with formic acid over spherical bimetallic Ni-Co nanoalloy catalysts at room temperature. <i>Applied Surface Science</i> , <b>2022</b> , 601, 154252	6.7	0

52	Bio-Inspired Micro-Reactor Mimicking Multi-Ridged Mitochondrial Intima for Efficient Oxygen Reduction.	
51	Efficient peroxymonosulfate activation of immobilized Fe <sup>III</sup> /Ti catalyst on ceramsite for the continuous flow removal of phenol. <b>2022</b> , 136149	1
50	Metal-Organic Frameworks (MOFs) Derived Materials Used in Zn-Air Battery. <b>2022</b> , 15, 5837	1
49	Facial synthesis of Fe/Fe <sub>3</sub> N@carbon nanocomposite for simultaneous electrochemical detection of dopamine and acetaminophen. <b>2022</b> , 132, 106984	1
48	Intensification of van der Waals interaction for efficient peroxymonosulfate activation and accuracy re-evaluation of quenching experiments for reactive oxidation species identification. <b>2022</b> , 450, 138353	1
47	Mineralize complex organic contaminants using only oxygen on dense copper atoms embedded in the walls of carbon nanotubes. <b>2022</b> , 605, 154760	0
46	Nitrogen-doped carbon nanotubes filled with Fe <sub>3</sub> C nanowires for efficient electrocatalytic oxygen reduction. <b>2022</b> , 654, 130095	0
45	Atomically dispersed Co in a cross-channel hierarchical carbon-based electrocatalyst for high-performance oxygen reduction in Zn-Air batteries. <b>2022</b> , 10, 18723-18729	1
44	Science and engineering for non-noble-metal-based electrocatalysts to boost their ORR performance: A critical review. <b>2023</b> , 474, 214854	1
43	The Stability of Cementite in the Presence of Water at Extreme Temperatures and Pressures. <b>2022</b> , 58, 615-619	0
42	Polydopamine-Derived Iron-Doped Hollow Carbon Nanorods as an Efficient Bifunctional Electrocatalyst for Simultaneous Generation of Hydrogen and Electricity. <b>2022</b> , 36, 11245-11260	0
41	Iron Carbide Nanoparticles Embedded in Edge-Rich, N and F Codoped Graphene/Carbon Nanotubes Hybrid for Oxygen Electrocatalysis. <b>2022</b> , 12, 1023	0
40	Metal-organic frameworks derived Co/N-doped carbon nanonecklaces as high-efficient oxygen reduction reaction electrocatalysts. <b>2022</b> ,	2
39	Iron and nitrogen co-doped porous carbon derived from natural cellulose of wood activating peroxymonosulfate for degradation of tetracycline: Role of delignification and mechanisms. <b>2022</b> ,	0
38	Selective Borohydride Oxidation Reactions of Zeolitic Imidazolate Framework-Derived Bimetallic Carbon Alloy Electrocatalysts for Alkaline Fuel Cell Applications.	0
37	In Situ Exfoliated Graphene-Like Carbon Nanosheets Strongly Coupled with the Biochar Tube as the Cathode for an Application-Ready Zn-Air Battery.	0
36	In-Situ Self-Catalyzed Growth of Manganese Embedded 3D Flakes-Coated Carbon Rod as an Efficient Oxygen Reduction Reaction Catalyst of Zinc-Air Batteries.	0
35	Enhanced removal of fluoroquinolone antibiotics by peroxydisulfate activated with N-doped sludge biochar: Performance, mechanism and toxicity evaluation. <b>2023</b> , 305, 122469	0

- 34 Bio-inspired micro-reactor mimicking multi-ridged mitochondrial intimae for efficient oxygen reduction. **2023**, 610, 155469 ○
- 33 Novel highly active and selective Co N S C efficient ORR catalyst derived from in-situ egg gel pyrolysis. **2023**, 333, 126432 1
- 32 Heteroatom-doped Carbon Sheets as Metal-free Electrocatalysts for Promoting Oxygen Reduction Reaction in Zn-air Batteries. ○
- 31 Magnetic nitrogen-doped carbon nanotubes as activators of peroxymonosulfate and their application in non-radical degradation of sulfonamide antibiotics. **2022**, 380, 135064 ○
- 30 Molecular engineering of atomically dispersed Fe-N<sub>4</sub> and Cu-N<sub>4</sub> dual-sites in carbon nitride nanotubes for rechargeable zinc-air batteries. **2023**, 55, 397-405 ○
- 29 Dispersed Mn<sub>2</sub>Co<sub>2</sub>C nanoparticles in interconnected nitrogen-doped carbon framework as cathode catalysts for efficient and long-life Li-CO<sub>2</sub> batteries. **2022**, 140564 ○
- 28 Zinc-assisted synthesis of Fe-N-C catalysts based on polyaniline with high oxygen reduction reaction catalytic activities in direct methanol fuel cells. ○
- 27 A Self-powered Aptasensor for Isocarbophos Determination Based on Nanozyme-catalytic Photoelectrochemical Fuel Cell. ○
- 26 Catalytic ozonation of phenol by magnetic Mn<sub>0.7</sub>Ce<sub>0.3</sub>O<sub>x</sub>/CNT@Fe<sub>3</sub>C. **2022**, 9, 126101 ○
- 25 CoO<sub>x</sub> Supported on BMoC for Efficient Electrocatalytic Oxygen Evolution Reaction. **2022**, 9, ○
- 24 Low-density polyethylene-derived carbon nanotubes from express packaging bags waste as electrode material for supercapacitors. **2022**, ○
- 23 Nitrogen-doped porous carbon derived from graphite of solid waste for activating peroxymonosulfate to degradation tetracycline. **2023**, 130984 ○
- 22 Caffeine derived graphene-wrapped Fe<sub>3</sub>C nanoparticles entrapped in hierarchically porous Fe-N-C nanosheets for boosting oxygen reduction reaction. **2023**, ○
- 21 Preparation of microfiber composite nitrogen doped carbon nanotube membranes and their degradation properties of phenol in the structured fixed bed. **2023**, 11, 109255 ○
- 20 Fe-N-C-based cathode catalyst enhances redox reaction performance of microbial fuel cells: Azo dyes degradation accompanied by electricity generation. **2023**, 11, 109264 ○
- 19 Molten-salt confined synthesis of nitrogen-doped carbon nanosheets supported Co<sub>3</sub>O<sub>4</sub> nanoparticles as a superior oxygen electrocatalyst for rechargeable Zn-air battery. **2023**, 560, 232692 ○
- 18 Agarose-gel-based self-limiting synthesis of a bimetal (Fe and Co)-doped composite as a bifunctional catalyst for a zinc-air battery. **2023**, 635, 186-196 ○
- 17 Cobalt nanoparticles-encapsulated holey nitrogen-doped carbon nanotubes for stable and efficient oxygen reduction and evolution reactions in rechargeable Zn-air batteries. **2023**, 325, 122386 ○

- 16 Synthesis of hierarchically structured Fe<sub>3</sub>C/CNTs composites in a FeNC matrix for use as efficient ORR electrocatalysts. **2023**, 13, 3835-3842 ○
- 15 A highly durable zinc-air battery from directly integrated Fe<sub>x</sub>NC@NiFe(OH)<sub>x</sub> bifunctional catalyst. ○
- 14 Regulating the Fe-spin state by Fe/Fe<sub>3</sub>C neighbored single Fe-N<sub>4</sub> sites in defective carbon promotes the oxygen reduction activity. **2023**, 56, 394-402 ○
- 13 One-step synthesis of PtNi anchored on TiO<sub>2</sub> nanotube arrays for methanol oxidation. **2023**, 943, 169179 ○
- 12 Rational design of porous Fe<sub>x</sub>-N@MOF as a highly efficient catalyst for oxygen reduction over a wide pH range. **2023**, 944, 169039 ○
- 11 Crystal structure regulation boosts the conductivity and redox chemistry of T-Nb<sub>2</sub>O<sub>5</sub> anode material. **2023**, 110, 108377 ○
- 10 Fe/Fe<sub>3</sub>C nanoparticles embedded in N-doped porous carbon as the heterogeneous electro-Fenton catalyst for efficient degradation of bisphenol A. **2023**, 316, 123778 ○
- 9 MOF-derived carbon nanotubes as an highly active electrocatalyst for oxygen reduction reaction in alkaline and acidic media. **2023**, 18, 100131 ○
- 8 Isocarbophos determination using a nanozyme-catalytic photoelectrochemical fuel cell-based aptasensor. **2023**, 190, 108662 ○
- 7 Fabrication of Fe<sub>3</sub>C nanoparticles encapsulated in undoped graphite carbon and their catalysis for oxygen reduction. **2023**, 30, 35-48 ○
- 6 Direct pyrolysis to convert biomass to versatile 3D carbon nanotubes/mesoporous carbon architecture: conversion mechanism and electrochemical performance. ○
- 5 Imidazole linker-induced covalent triazine framework/IF hybrids for confined hollow carbon super-heterostructures toward a long-life supercapacitor. ○
- 4 Porous Boron Nitride Nanoarchitectonics for Environment: Adsorption in Water. **2023**, 33, 637-662 ○
- 3 An attempt to confirm the contribution to ORR activity of different N-species in M-NC (M = Fe, Co, Ni) catalysts with XPS analysis. **2023**, 59, 4535-4538 ○
- 2 Design strategies of Pd-based electrocatalysts for efficient oxygen reduction. ○
- 1 Mn atomic clusters and Fe nanoparticles in-situ confined nitrogen carbon nanotubes for efficient and durable ORR electrocatalysts in both alkaline and acidic media. **2023**, 953, 169992 ○