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Exploration of the active center structure of nitrogen-doped graphene-based catalysts for oxygen reduction reaction

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#	Paper	IF	Citations
1955	Fast Diffusion of O ₂ on Nitrogen-Doped Graphene to Enhance Oxygen Reduction and Its Application for High-Rate ZnAir Batteries.		
1954	Nitrogen-doped graphene-rich catalysts derived from heteroatom polymers for oxygen reduction in nonaqueous lithium-O ₂ battery cathodes. 2012 , 6, 9764-76		443
1953	Formation of active sites for oxygen reduction reactions by transformation of nitrogen functionalities in nitrogen-doped carbon nanotubes. 2012 , 6, 8904-12		479
1952	Graphene based catalysts. <i>Energy and Environmental Science</i> , 2012 , 5, 8848	35.4	642
1951	Graphene enriched with pyrrolic coordination of the doped nitrogen as an efficient metal-free electrocatalyst for oxygen reduction. 2012 , 22, 23506		143
1950	Bifunctional fluorescent carbon nanodots: green synthesis via soy milk and application as metal-free electrocatalysts for oxygen reduction. 2012 , 48, 9367-9		569
1949	Improved performance of graphene doped with pyridinic N for Li-ion battery: a density functional theory model. 2013 , 15, 12982-7		72
1948	Activated and nitrogen-doped exfoliated graphene as air electrodes for metal-air battery applications. 2013 , 1, 2639		74
1947	Nitrogen-Doped Carbon with Mesopore Confinement Efficiently Enhances the Tolerance, Sensitivity, and Stability of a Pt Catalyst for the Oxygen Reduction Reaction. 2013 , 30, 864-872		24
1946	Nitrogen-doped carbon nanotubes derived from ZnFe-ZIF nanospheres and their application as efficient oxygen reduction electrocatalysts with in situ generated iron species. 2013 , 4, 2941		250
1945	Graphene-induced Pd nanodendrites: A high performance hybrid nanoelectrocatalyst. 2013 , 6, 635-643		43
1944	A novel cobalt tetranitrophthalocyanine/graphene composite assembled by an in situ solvothermal synthesis method as a highly efficient electrocatalyst for the oxygen reduction reaction in alkaline medium. 2013 , 15, 13093-100		40
1943	Selective nitrogen doping in graphene for oxygen reduction reactions. 2013 , 49, 9627-9		152
1942	Porous nitrogen doped carbon fiber with churros morphology derived from electrospun bicomponent polymer as highly efficient electrocatalyst for Zn-air batteries. 2013 , 243, 267-273		81
1941	Porous B-doped graphene inspired by Fried-Ice for supercapacitors and metal-free catalysts. 2013 , 1, 13476		88
1940	A class of high performance metal-free oxygen reduction electrocatalysts based on cheap carbon blacks. 2013 , 3, 2505		150
1939	Enhanced electrochemical catalytic activity by copper oxide grown on nitrogen-doped reduced graphene oxide. 2013 , 1, 13179		87

1938	Two-Step Boron and Nitrogen Doping in Graphene for Enhanced Synergistic Catalysis. 2013 , 125, 3192-3198	332
1937	Simultaneous electrochemical detection of ascorbic acid, dopamine and uric acid based on nitrogen doped porous carbon nanopolyhedra. 2013 , 1, 2742-2749	143
1936	Covalent functionalization based heteroatom doped graphene nanosheet as a metal-free electrocatalyst for oxygen reduction reaction. 2013 , 5, 12255-60	61
1935	One-step synthesis of boron and nitrogen-dual-self-doped graphene sheets as non-metal catalysts for oxygen reduction reaction. 2013 , 1, 14700	97
1934	Electrocatalytic Activity of BN Codoped Graphene Oxide Derived from Carbon Dioxide. 2013 , 117, 24167-24173	8
1933	A density functional theory study on oxygen reduction reaction on nitrogen-doped graphene. 2013 , 19, 5515-21	33
1932	Carbon in Catalysis. 2013 , 56, 103-185	13
1931	Manageable N-doped graphene for high performance oxygen reduction reaction. 2013 , 3, 2771	168
1930	N-doped carbon nanotubes from functional tubular polypyrrole: A highly efficient electrocatalyst for oxygen reduction reaction. 2013 , 36, 57-61	62
1929	Nitrogen-doped graphene for dye-sensitized solar cells and the role of nitrogen states in triiodide reduction. <i>Energy and Environmental Science</i> , 2013 , 6, 3356	35.4 243
1928	Chelate resin self-assembled quaternary Co-Ni catalyst for oxygen reduction reaction. 2013 , 3, 14686	16
1927	Synergistic increase of oxygen reduction favourable Fe-N coordination structures in a ternary hybrid of carbon nanospheres/carbon nanotubes/graphene sheets. 2013 , 15, 18482-90	38
1926	Three-dimensional macroporous NiCo(2)O(4) sheets as a non-noble catalyst for efficient oxygen reduction reactions. 2013 , 19, 14271-8	90
1925	Graphene-based hollow spheres as efficient electrocatalysts for oxygen reduction. 2013 , 5, 10839-43	69
1924	Synthesis of amino-functionalized graphene as metal-free catalyst and exploration of the roles of various nitrogen states in oxygen reduction reaction. 2013 , 2, 88-97	377
1923	Facile synthesis of nitrogen doped reduced graphene oxide as a superior metal-free catalyst for oxidation. 2013 , 49, 9914-6	248
1922	N-heterocycles tethered graphene as efficient metal-free catalysts for an oxygen reduction reaction in fuel cells. 2013 , 1, 10166	13
1921	Nitrogen-doped graphene/niobium carbide hybrids as a high-performance oxygen reduction reaction electrocatalyst support in alkaline media. 2013 , 1, 13404	47

1920	Recent progress in graphene-based nanomaterials as advanced electrocatalysts towards oxygen reduction reaction. 2013 , 5, 1753-67	312
1919	FeCoNx embedded graphene as high performance catalysts for oxygen reduction reaction. 2013 , 130-131, 143-151	153
1918	Mesoporous carbons supported non-noble metal FeNx electrocatalysts for PEM fuel cell oxygen reduction reaction. 2013 , 43, 159-169	71
1917	B, N- and P, N-doped graphene as highly active catalysts for oxygen reduction reactions in acidic media. 2013 , 1, 3694	355
1916	Cobalt and nitrogen-cofunctionalized graphene as a durable non-precious metal catalyst with enhanced ORR activity,. 2013 , 1, 3593	150
1915	Nitrogen and sulfur dual-doped non-noble catalyst using fluidic acrylonitrile telomer as precursor for efficient oxygen reduction. 2013 , 25, 4794-9	166
1914	Trace metal residues promote the activity of supposedly metal-free nitrogen-modified carbon catalysts for the oxygen reduction reaction. 2013 , 34, 113-116	120
1913	Two-step boron and nitrogen doping in graphene for enhanced synergistic catalysis. 2013 , 52, 3110-6	776
1912	Nitrogen-enriched carbon from melamine resins with superior oxygen reduction reaction activity. 2013 , 6, 807-12	71
1911	Nitrogen-Rich Mesoporous Carbons: Highly Efficient, Regenerable Metal-Free Catalysts for Low-Temperature Oxidation of H2S. 2013 , 3, 862-870	110
1910	Improved synthesis of graphene flakes from the multiple electrochemical exfoliation of graphite rod. 2013 , 2, 377-386	174
1909	Sp2 C-dominant N-doped carbon sub-micrometer spheres with a tunable size: a versatile platform for highly efficient oxygen-reduction catalysts. 2013 , 25, 998-1003	690
1908	Nitrogen Doping Effects on the Physical and Chemical Properties of Mesoporous Carbons. 2013 , 117, 8318-8328	194
1907	Enhanced electrochemical oxygen reduction reaction by restacking of N-doped single graphene layers. 2013 , 3, 4246	30
1906	One-pot hydrothermal synthesis of highly luminescent nitrogen-doped amphoteric carbon dots for bioimaging from Bombyx mori silk - natural proteins. 2013 , 1, 2868-2873	388
1905	High-Loading Cobalt Oxide Coupled with Nitrogen-Doped Graphene for Oxygen Reduction in Anion-Exchange-Membrane Alkaline Fuel Cells. 2013 , 117, 8697-8707	221
1904	One-step scalable preparation of N-doped nanoporous carbon as a high-performance electrocatalyst for the oxygen reduction reaction. 2013 , 6, 293-301	137
1903	Phosphorus-doped graphene nanosheets as efficient metal-free oxygen reduction electrocatalysts. 2013 , 3, 9978	317

1902	Sulfur and nitrogen co-doped, few-layered graphene oxide as a highly efficient electrocatalyst for the oxygen-reduction reaction. 2013 , 6, 493-9	223
1901	Nanostructured nonprecious metal catalysts for oxygen reduction reaction. 2013 , 46, 1878-89	875
1900	Identifying the active site in nitrogen-doped graphene for the VO ₂ ⁺ /VO ₂ (⁺) redox reaction. 2013 , 7, 4764-73	206
1899	On the Origin of Electrocatalytic Oxygen Reduction Reaction on Electrospun Nitrogen-Carbon Species. 2013 , 117, 11619-11624	108
1898	Sustainable energy recovery in wastewater treatment by microbial fuel cells: stable power generation with nitrogen-doped graphene cathode. 2013 , 47, 13889-95	125
1897	Synthesis of shell/core structural nitrogen-doped carbon/silicon carbide and its electrochemical properties as a cathode catalyst for fuel cells. 2013 , 37, 40-44	9
1896	Sulfur- and nitrogen-doped, ferrocene-derived mesoporous carbons with efficient electrochemical reduction of oxygen. 2013 , 5, 12594-601	72
1895	Highly efficient oxygen reduction electrocatalysts based on winged carbon nanotubes. 2013 , 3, 3195	42
1894	The Effect of Metal Catalyst on the Electrocatalytic Activity of Nitrogen-Doped Carbon Nanotubes. 2013 , 117, 25213-25221	34
1893	Enhancing electrocatalytic oxygen reduction on nitrogen-doped graphene by active sites implantation. 2013 , 3, 3306	90
1892	Titanium nitride nanocrystals on nitrogen-doped graphene as an efficient electrocatalyst for oxygen reduction reaction. 2013 , 19, 14781-6	66
1891	. 2014 ,	15
1890	Two-step synthesis of boron and nitrogen co-doped graphene as a synergistically enhanced catalyst for the oxygen reduction reaction. 2014 , 4, 61437-61443	50
1889	Nitrogen-doped carbon nanosheets with size-defined mesopores as highly efficient metal-free catalyst for the oxygen reduction reaction. 2014 , 53, 1570-4	428
1888	Seaweed-derived heteroatom-doped highly porous carbon as an electrocatalyst for the oxygen reduction reaction. 2014 , 7, 1755-63	123
1887	Designed nitrogen doping of few-layer graphene functionalized by selective oxygenic groups. 2014 , 9, 646	51
1886	Simple one-step synthesis of water-soluble fluorescent carbon dots from waste paper. 2014 , 38, 906	100
1885	Carbonized nanoscale metal-organic frameworks as high performance electrocatalyst for oxygen reduction reaction. 2014 , 8, 12660-8	456

1884	N-doped graphene field-effect transistors with enhanced electron mobility and air-stability. 2014 , 10, 1999-2005	65
1883	Controllable synthesis and enhanced electrocatalysis of iron-based catalysts derived from electrospun nanofibers. 2014 , 10, 4072-9	26
1882	Spray-painted binder-free SnSe electrodes for high-performance energy-storage devices. 2014 , 7, 308-13	68
1881	High-Rate Oxygen Electroreduction over Graphitic-N Species Exposed on 3D Hierarchically Porous Nitrogen-Doped Carbons. 2014 , 126, 9657-9661	37
1880	Nanocomposite of N-doped TiO ₂ nanorods and graphene as an effective electrocatalyst for the oxygen reduction reaction. 2014 , 6, 21978-85	60
1879	Applications of RDE and RRDE Methods in Oxygen Reduction Reaction. 2014 , 231-277	6
1878	Magnesium-air batteries: from principle to application. 2014 , 1, 196-206	265
1877	Carbon nanosheets derived from soluble pitch molecules and their applications in organic transistors. 2014 , 15, 132-138	15
1876	A hierarchically honeycomb-like carbon via one-step surface and pore adjustment with superior capacity for lithium-oxygen batteries. 2014 , 262, 29-35	23
1875	Nitrogen-doped graphene/carbon nanotube self-assembly for efficient oxygen reduction reaction in acid media. 2014 , 144, 760-766	86
1874	Amide-functionalized carbon supports for cobalt oxide toward oxygen reduction reaction in Zn-air battery. 2014 , 148-149, 212-220	29
1873	Electrocatalytic oxygen reduction on nitrogen-doped graphene in alkaline media. 2014 , 147, 369-376	189
1872	Application and future challenges of functional nanocarbon hybrids. 2014 , 26, 2295-318	261
1871	Synergistically enhanced activity of graphene quantum dot/multi-walled carbon nanotube composites as metal-free catalysts for oxygen reduction reaction. 2014 , 6, 2603-7	95
1870	Doped graphene for metal-free catalysis. 2014 , 43, 2841-57	608
1869	Large scale production of biomass-derived N-doped porous carbon spheres for oxygen reduction and supercapacitors. 2014 , 2, 3317	179
1868	Transforming hair into heteroatom-doped carbon with high surface area. 2014 , 10, 2625-36	113
1867	Exploring the active sites of nitrogen-doped graphene as catalysts for the oxygen reduction reaction. 2014 , 39, 15996-16005	133

1866	Nitrogen-Doped Carbon Nanosheets with Size-Defined Mesopores as Highly Efficient Metal-Free Catalyst for the Oxygen Reduction Reaction. 2014 , 126, 1596-1600	208
1865	Few-layer borocarbonitride nanosheets: platinum-free catalyst for the oxygen reduction reaction. 2014 , 9, 838-43	23
1864	Nanocarbon Electrocatalysts for Oxygen Reduction in Alkaline Media for Advanced Energy Conversion and Storage. 2014 , 4, 1301415	307
1863	Chemically Functionalized Carbon Nanotubes with Pyridine Groups as Easily Tunable N-Decorated Nanomaterials for the Oxygen Reduction Reaction in Alkaline Medium. 2014 , 26, 3460-3470	93
1862	Enriched graphitic N-doped carbon-supported Fe ₃ O ₄ nanoparticles as efficient electrocatalysts for oxygen reduction reaction. 2014 , 2, 7281-7287	196
1861	Graphene-based polyaniline nanocomposites: preparation, properties and applications. 2014 , 2, 4491-4509	190
1860	Phosphorus-doped reduced graphene oxide as an electrocatalyst counter electrode in dye-sensitized solar cells. 2014 , 263, 246-251	93
1859	In situ nitrogen-doped nanoporous carbon nanocables as an efficient metal-free catalyst for oxygen reduction reaction. 2014 , 2, 10154	67
1858	A Review of Graphene-Based Nanostructural Materials for Both Catalyst Supports and Metal-Free Catalysts in PEM Fuel Cell Oxygen Reduction Reactions. 2014 , 4, 1301523	365
1857	Bicontinuous nanoporous N-doped graphene for the oxygen reduction reaction. 2014 , 26, 4145-50	229
1856	Preparation of MOF(Fe) and its catalytic activity for oxygen reduction reaction in an alkaline electrolyte. 2014 , 35, 185-195	80
1855	Ultra-high-performance doped carbon catalyst derived from o-phenylenediamine and the probable roles of Fe and melamine. 2014 , 158-159, 60-69	43
1854	One-step synthesis of dopamine-derived micro/mesoporous nitrogen-doped carbon materials for highly efficient oxygen-reduction catalysts. 2014 , 262, 414-420	30
1853	Investigation of hydrogen peroxide reduction reaction on graphene and nitrogen doped graphene nanoflakes in neutral solution. 2014 , 257, 356-363	39
1852	Facile single-step synthesis of nitrogen-doped reduced graphene oxide-Mn(3)O(4) hybrid functional material for the electrocatalytic reduction of oxygen. 2014 , 6, 2692-9	186
1851	Amine-functionalized holey graphene as a highly active metal-free catalyst for the oxygen reduction reaction. 2014 , 2, 441-450	109
1850	The role of holes in improving the performance of nitrogen-doped holey graphene as an active electrode material for supercapacitor and oxygen reduction reaction. 2014 , 251, 55-65	106
1849	Pyridyne cycloaddition of graphene: External active sites for oxygen reduction reaction. 2014 , 2, 897-901	30

1848	Heterogeneous nanocarbon materials for oxygen reduction reaction. <i>Energy and Environmental Science</i> , 2014 , 7, 576	35.4	792
1847	High-performance bi-functional electrocatalysts of 3D crumpled graphene-cobalt oxide nanohybrids for oxygen reduction and evolution reactions. <i>Energy and Environmental Science</i> , 2014 , 7, 609-616	35.4	524
1846	Hierarchically porous graphene sheets and graphitic carbon nitride intercalated composites for enhanced oxygen reduction reaction. 2014 , 2, 3209-3215		49
1845	Sulfur-doped graphene as a potential alternative metal-free electrocatalyst and Pt-catalyst supporting material for oxygen reduction reaction. 2014 , 16, 103-9		185
1844	Nitrogen-doped graphene-supported Co/CoN _x nanohybrid as a highly efficient electrocatalyst for oxygen reduction reaction in an alkaline medium. 2014 , 4, 62272-62280		12
1843	A two-dimensional hybrid with molybdenum disulfide nanocrystals strongly coupled on nitrogen-enriched graphene via mild temperature pyrolysis for high performance lithium storage. 2014 , 6, 14679-85		59
1842	One-Pot Synthesis of Cobalt-Incorporated Nitrogen-Doped Reduced Graphene Oxide as an Oxygen Reduction Reaction Catalyst in Alkaline Medium. 2014 , 1, 2163-2171		31
1841	PtRu nanoparticles supported on nitrogen-doped polyhedral mesoporous carbons as electrocatalyst for methanol oxidation. 2014 , 25, 135607		17
1840	Nitrogen-containing mesoporous carbon cathode for lithium-oxygen batteries: The influence of Nitrogen on oxygen reduction reaction. 2014 , 150, 205-210		18
1839	Mussel-inspired nitrogen-doped graphene nanosheet supported manganese oxide nanowires as highly efficient electrocatalysts for oxygen reduction reaction. 2014 , 2, 6167		39
1838	Cobalt nanoparticles embedded in N-doped carbon as an efficient bifunctional electrocatalyst for oxygen reduction and evolution reactions. 2014 , 6, 15080-9		421
1837	Waste chicken eggshell as low-cost precursor for efficient synthesis of nitrogen-doped fluorescent carbon nanodots and their multi-functional applications. 2014 , 4, 58329-58336		37
1836	Synthesis of an efficient heteroatom-doped carbon electro-catalyst for oxygen reduction reaction by pyrolysis of protein-rich pulse flour cooked with SiO ₂ nanoparticles. 2014 , 16, 4251-9		40
1835	Nitrogen-doped activated carbon with micrometer-scale channels derived from luffa sponge fibers as electrocatalysts for oxygen reduction reaction with high stability in acidic media. 2014 , 149, 56-64		53
1834	Microwave assisted synthesis and characterization of silicon and phosphorous co-doped carbon as an electrocatalyst for oxygen reduction reaction. 2014 , 4, 6306		27
1833	Nitrogen-doped porous carbon nanosheets made from biomass as highly active electrocatalyst for oxygen reduction reaction. 2014 , 272, 8-15		167
1832	On the large capacitance of nitrogen doped graphene derived by a facile route. 2014 , 4, 38689-38697		104
1831	Nitrogen-doped hierarchically porous carbon as efficient oxygen reduction electrocatalysts in acid electrolyte. 2014 , 2, 17047-17057		57

1830	Conversion of polystyrene foam to a high-performance doped carbon catalyst with ultrahigh surface area and hierarchical porous structures for oxygen reduction. 2014 , 2, 12240-12246	48
1829	Engineering self-assembled N-doped graphene-carbon nanotube composites towards efficient oxygen reduction electrocatalysts. 2014 , 16, 13605-9	23
1828	Reduction of the oxygen reduction reaction overpotential of nitrogen-doped graphene by designing it to a microspherical hollow shape. 2014 , 2, 14071	35
1827	The mechanism of graphene oxide as a growth template for complete reduced graphene oxide coverage on an SiO ₂ substrate. 2014 , 2, 109-114	15
1826	Synthesis of nitrogen-doped mesoporous carbon spheres with extra-large pores through assembly of diblock copolymer micelles. 2015 , 54, 588-93	185
1825	Ideal N-doped carbon nanoarchitectures evolved from fibrils for highly efficient oxygen reduction. 2014 , 2, 19765-19770	21
1824	In situ solution plasma synthesis of nitrogen-doped carbon nanoparticles as metal-free electrocatalysts for the oxygen reduction reaction. 2014 , 2, 18677-18686	74
1823	Ionic liquid derived carbons as highly efficient oxygen reduction catalysts: first elucidation of pore size distribution dependent kinetics. 2014 , 50, 1469-71	46
1822	Nanostructured carbon-based cathode catalysts for nonaqueous lithium-oxygen batteries. 2014 , 16, 13568-82	102
1821	Ordered hierarchically porous carbon codoped with iron and nitrogen as electrocatalyst for the oxygen reduction reaction. 2014 , 7, 3435-41	15
1820	Enhanced Visible Activities of Fe ₂ O ₃ by Coupling N-Doped Graphene and Mechanism Insight. 2014 , 4, 990-998	126
1819	Nitrogen Modified-Reduced Graphene Oxide Supports for Catalysts for Fuel Cells and Their Electrocatalytic Activity. 2014 , 161, F518-F524	16
1818	Using a layer-by-layer assembly method to fabricate a uniform and conductive nitrogen-doped graphene anode for indium-tin oxide-free organic light-emitting diodes. 2014 , 6, 15753-9	18
1817	Nitrogen-doped porous carbon monolith as a highly efficient catalyst for CO ₂ conversion. 2014 , 2, 18360-18366	8
1816	Mass production of multi-channeled porous carbon nanofibers and their application as binder-free electrodes for high-performance supercapacitors. 2014 , 10, 4671-6	38
1815	A bioinspired approach to protectively decorate platinum-carbon for enhanced activity and durability in oxygen reduction. 2014 , 268, 591-595	12
1814	Liquid crystal size selection of large-size graphene oxide for size-dependent N-doping and oxygen reduction catalysis. 2014 , 8, 9073-80	99
1813	Free-standing nitrogen-doped graphene paper as electrodes for high-performance lithium/dissolved polysulfide batteries. 2014 , 7, 2545-53	135

1812	Metal-free doped carbon materials as electrocatalysts for the oxygen reduction reaction. 2014 , 2, 4085-4110	608
1811	Oxygen Reduction on Graphene/Carbon Nanotube Composites Doped Sequentially with Nitrogen and Sulfur. 2014 , 4, 2734-2740	145
1810	Electrospun Iron/Polyaniline/Polyacrylonitrile Derived Nanofibers as Non-Precious Oxygen Reduction Reaction Catalysts for PEM Fuel Cells. 2014 , 139, 111-116	60
1809	Pd Nanoparticles deposited on nitrogen-doped HOPG: New Insights into the Pd-catalyzed Oxygen Reduction Reaction. 2014 , 141, 89-101	39
1808	Recent advances of doped carbon as non-precious catalysts for oxygen reduction reaction. 2014 , 2, 15704-15716	16
1807	Advanced oxygen reduction reaction catalyst based on nitrogen and sulfur co-doped graphene in alkaline medium. 2014 , 16, 23196-205	31
1806	Heteroatom-doped graphene materials: syntheses, properties and applications. 2014 , 43, 7067-98	1258
1805	Metal-free ionic liquid-derived electrocatalyst for high-performance oxygen reduction in acidic and alkaline electrolytes. 2014 , 1, 588-594	63
1804	Nitrogen-doped carbon nanotubes and graphene composite structures for energy and catalytic applications. 2014 , 50, 6818-30	361
1803	Low-Temperature Growth of Large-Area Heteroatom-Doped Graphene Film. 2014 , 26, 2460-2466	77
1802	Density-Functional-Theory Calculation Analysis of Active Sites for Four-Electron Reduction of O ₂ on Fe/N-Doped Graphene. 2014 , 4, 4170-4177	168
1801	Mechanical exfoliation of graphite in 1-butyl-3-methylimidazolium hexafluorophosphate (BMIM-PF ₆) providing graphene nanoplatelets that exhibit enhanced electrocatalysis. 2014 , 271, 312-325	7
1800	Strategies on the Design of Nitrogen-Doped Graphene. 2014 , 5, 119-25	73
1799	Carbon Composite Cathode Catalysts for Alkaline PEM Fuel Cells. 2014 , 319-356	2
1798	Recent progress on nitrogen/carbon structures designed for use in energy and sustainability applications. <i>Energy and Environmental Science</i> , 2014 , 7, 1212-1249	35.4 487
1797	Observation of active sites for oxygen reduction reaction on nitrogen-doped multilayer graphene. 2014 , 8, 6856-62	445
1796	Impact of transition metal on nitrogen retention and activity of iron-nitrogen-carbon oxygen reduction catalysts. 2014 , 16, 4576-85	51
1795	Confined nanospace synthesis of less aggregated and porous nitrogen-doped graphene as metal-free electrocatalysts for oxygen reduction reaction in alkaline solution. 2014 , 6, 3023-30	40

1794	A quasi core-shell nitrogen-doped graphene/cobalt sulfide conductive catalyst for highly efficient dye-sensitized solar cells. <i>Energy and Environmental Science</i> , 2014 , 7, 2637-2641	35.4	177
1793	The key role of metal dopants in nitrogen-doped carbon xerogel for oxygen reduction reaction. 2014 , 269, 225-235		63
1792	Recent progress on graphene-based hybrid electrocatalysts. 2014 , 1, 379-399		277
1791	Nitrogen-doped graphene with enhanced oxygen reduction activity produced by pyrolysis of graphene functionalized with imidazole derivatives. 2014 , 39, 12749-12756		22
1790	Highly active nitrogen-doped few-layer graphene/carbon nanotube composite electrocatalyst for oxygen reduction reaction in alkaline media. 2014 , 73, 361-370		226
1789	High-rate oxygen electroreduction over graphitic-N species exposed on 3D hierarchically porous nitrogen-doped carbons. 2014 , 53, 9503-7		316
1788	Porous Fe ₂ O ₃ nanorods supported on carbon nanotubes-graphene foam as superior anode for lithium ion batteries. 2014 , 9, 364-372		211
1787	Effect of Transition Metals on the Structure and Performance of the Doped Carbon Catalysts Derived From Polyaniline and Melamine for ORR Application. 2014 , 4, 3797-3805		275
1786	Graphene quantum dots cut from graphene flakes: high electrocatalytic activity for oxygen reduction and low cytotoxicity. 2014 , 4, 23097-23106		51
1785	Atomistic mechanisms of codoping-induced p- to n-type conversion in nitrogen-doped graphene. 2014 , 6, 14911-8		28
1784	One-pot synthesis of nitrogen and sulfur co-doped onion-like mesoporous carbon vesicle as an efficient metal-free catalyst for oxygen reduction reaction in alkaline solution. 2014 , 272, 267-276		59
1783	N-doped graphene as a bifunctional electrocatalyst for oxygen reduction and oxygen evolution reactions in an alkaline electrolyte. 2014 , 39, 15913-15919		150
1782	Graphene-supported nanoelectrocatalysts for fuel cells: synthesis, properties, and applications. 2014 , 114, 5117-60		790
1781	Nitrogen implantation of suspended graphene flakes: Annealing effects and selectivity of sp ² nitrogen species. 2014 , 73, 371-381		61
1780	Activated nitrogen-doped carbon nanofibers with hierarchical pore as efficient oxygen reduction reaction catalyst for microbial fuel cells. 2014 , 266, 36-42		102
1779	Highly efficient cathode catalyst layer based on nitrogen-doped carbon nanotubes for the alkaline direct methanol fuel cell. 2014 , 156-157, 341-349		28
1778	Hierarchical porous iron and nitrogen co-doped carbons as efficient oxygen reduction electrocatalysts in neutral media. 2014 , 265, 246-253		54
1777	One-pot synthesis of shell/core structural N-doped carbide-derived carbon/SiC particles as electrocatalysts for oxygen reduction reaction. 2014 , 69, 630-633		9

1776	Synthesizing nitrogen-doped activated carbon and probing its active sites for oxygen reduction reaction in microbial fuel cells. 2014 , 6, 7464-70	138
1775	Hybrid of Iron Nitride and Nitrogen-Doped Graphene Aerogel as Synergistic Catalyst for Oxygen Reduction Reaction. 2014 , 24, 2930-2937	348
1774	Highly efficient non-precious metal electrocatalysts prepared from one-pot synthesized zeolitic imidazolate frameworks. 2014 , 26, 1093-7	270
1773	Nitrogen and phosphorus dual-doped hierarchical porous carbon foams as efficient metal-free electrocatalysts for oxygen reduction reactions. 2014 , 20, 3106-12	169
1772	Long-range electron transfer over graphene-based catalyst for high-performing oxygen reduction reactions: importance of size, N-doping, and metallic impurities. 2014 , 136, 9070-7	256
1771	Energetic carbon-based hybrids: green and facile synthesis from soy milk and extraordinary electrocatalytic activity towards ORR. 2014 , 6, 2964-70	49
1770	Molybdenum sulfide/N-doped CNT forest hybrid catalysts for high-performance hydrogen evolution reaction. 2014 , 14, 1228-33	554
1769	Growth mechanism of N-doped graphene materials and their catalytic behavior in the selective oxidation of ethylbenzene. 2014 , 35, 922-928	26
1768	Doping of Graphene by Nitrogen, Boron, and Other Elements. 2014 , 283-358	5
1767	N-Doped Hierarchical Hollow Mesoporous Carbon as Metal-Free Cathode for Dye-Sensitized Solar Cells. 2014 , 118, 16694-16702	44
1766	One-Step Production of Sulfur and Nitrogen Co-doped Graphitic Carbon for Oxygen Reduction: Activation Effect of Oxidized Sulfur and Nitrogen. 2014 , 6, n/a-n/a	7
1765	The value of mixed conduction for oxygen electroreduction on graphene-chitosan composites. 2014 , 73, 234-243	13
1764	An In Situ Source-Template-Interface Reaction Route to 3D Nitrogen-Doped Hierarchical Porous Carbon as Oxygen Reduction Electrocatalyst. 2015 , 2, 1500199	38
1763	Electrocatalytic activity of a nitrogen-enriched mesoporous carbon framework and its hybrids with metal nanoparticles fabricated through the pyrolysis of block copolymers. 2015 , 5, 105760-105773	7
1762	Structure and Electroanalytical Application of Nitrogen-doped Carbon Thin Film Electrode with Lower Nitrogen Concentration. 2015 , 31, 651-6	10
1761	Stochastic Events in Nanoelectrochemical Systems. 2015 , 256-307	
1760	Nanocarbon-Based Hybrids as Cathode Electrocatalysts for Microbial Fuel Cells. 2015 , 215-232	
1759	Doped Graphene as Electrocatalysts for Oxygen Reduction Reaction. 2015 , 17-42	1

1758	Nanocarbon-Based Nonprecious-Metal Electrocatalysts for Oxygen Reduction in Various Electrolytes. 2015 , 75-116	
1757	Fullerene-Structured MoSe ₂ Hollow Spheres Anchored on Highly Nitrogen-Doped Graphene as a Conductive Catalyst for Photovoltaic Applications. 2015 , 5, 13214	38
1756	High Performance Heteroatoms Quaternary-doped Carbon Catalysts Derived from Shewanella Bacteria for Oxygen Reduction. 2015 , 5, 17064	47
1755	All Metal Nitrides Solid-State Asymmetric Supercapacitors. 2015 , 27, 4566-71	313
1754	Synthesis of Nitrogen-Doped Mesoporous Carbon Spheres with Extra-Large Pores through Assembly of Diblock Copolymer Micelles. 2015 , 127, 598-603	94
1753	Nitrogen-Doped Carbon Nanotube Arrays for High-Efficiency Electrochemical Reduction of CO ₂ : On the Understanding of Defects, Defect Density, and Selectivity. 2015 , 54, 13701-5	315
1752	One-pot Synthesis of Nitrogen and Phosphorus Co-doped Graphene and Its Use as High-performance Electrocatalyst for Oxygen Reduction Reaction. 2015 , 10, 2609-14	32
1751	Carbon-Based Nanostructures for Advanced Catalysis. 2015 , 7, 2806-2815	77
1750	Synergistic Effect of Nitrogen in Cobalt Nitride and Nitrogen-Doped Hollow Carbon Spheres for the Oxygen Reduction Reaction. 2015 , 7, 1826-1832	59
1749	Supramolecular Polymerization Promoted In Situ Fabrication of Nitrogen-Doped Porous Graphene Sheets as Anode Materials for Li-Ion Batteries. 2015 , 5, 1500559	112
1748	Soft-Templating Synthesis of N-Doped Mesoporous Carbon Nanospheres for Enhanced Oxygen Reduction Reaction. 2015 , 10, 1546-53	52
1747	Strongly Coupled 3D Hybrids of N-doped Porous Carbon Nanosheet/CoNi Alloy-Encapsulated Carbon Nanotubes for Enhanced Electrocatalysis. 2015 , 11, 5940-8	148
1746	Tuning Surface Wettability and Adhesivity of a Nitrogen-Doped Graphene Foam after Water Vapor Treatment for Efficient Oil Removal. 2015 , 2, 1500243	29
1745	Nitrogen-Doped Carbon Nanotube Arrays for High-Efficiency Electrochemical Reduction of CO ₂ : On the Understanding of Defects, Defect Density, and Selectivity. 2015 , 127, 13905-13909	78
1744	Electrocatalytic Activity of Tungsten Oxide Nanoclusters Grafted on Mesoporous Nitrogen-Rich Carbon Material in the Dioxygen Reduction Reaction. 2015 , 80, 1666-1672	7
1743	Advanced Graphene-Based Binder-Free Electrodes for High-Performance Energy Storage. 2015 , 27, 5264-79	130
1742	Metal-Free Carbonaceous Materials as Promising Heterogeneous Catalysts. 2015 , 7, 2765-2787	98
1741	A Discussion on the Activity Origin in Metal-Free Nitrogen-Doped Carbons For Oxygen Reduction Reaction and their Mechanisms. 2015 , 8, 2772-88	97

1740	Highly Elastic and Conductive N-Doped Monolithic Graphene Aerogels for Multifunctional Applications. 2015 , 25, 6976-6984	83
1739	On the Role of Metals in Nitrogen-Doped Carbon Electrocatalysts for Oxygen Reduction. 2015 , 54, 10102-20	514
1738	. 2015 ,	6
1737	Nitrogen-Doped Carbon Nanotube and Graphene Materials for Oxygen Reduction Reactions. 2015 , 5, 1574-1602	145
1736	Surfactant-Template Preparation of Polyaniline Semi-Tubes for Oxygen Reduction. 2015 , 5, 1202-1210	9
1735	Facile and gram-scale synthesis of metal-free catalysts: toward realistic applications for fuel cells. 2015 , 5, 8376	44
1734	High-quality functionalized few-layer graphene: facile fabrication and doping with nitrogen as a metal-free catalyst for the oxygen reduction reaction. 2015 , 3, 15444-15450	48
1733	Nitrogen and fluorine co-doped graphite nanofibers as high durable oxygen reduction catalyst in acidic media for polymer electrolyte fuel cells. 2015 , 93, 130-142	101
1732	Development of Cobalt Hydroxide as a Bifunctional Catalyst for Oxygen Electrocatalysis in Alkaline Solution. 2015 , 7, 12930-6	131
1731	Controllable synthesis of porous iron-nitrogen-carbon nanofibers with enhanced oxygen reduction electrocatalysis in acidic medium. 2015 , 5, 50324-50327	3
1730	Nitrogen and fluorine dual-doped mesoporous graphene: a high-performance metal-free ORR electrocatalyst with a super-low HO ₂ (-) yield. 2015 , 7, 10584-9	80
1729	Multifunctional glucose biosensors from Fe ³⁺ nanoparticles modified chitosan/graphene nanocomposites. 2015 , 5, 11129	87
1728	Charge transfer, bonding conditioning and solvation effect in the activation of the oxygen reduction reaction on unclustered graphitic-nitrogen-doped graphene. 2015 , 17, 16238-42	18
1727	Towards free-standing MoS ₂ nanosheet electrocatalysts supported and enhanced by N-doped CNT-graphene foam for hydrogen evolution reaction. 2015 , 5, 55396-55400	21
1726	Nitrogen-doped carbon nanoparticles derived from acrylonitrile plasma for electrochemical oxygen reduction. 2015 , 17, 6227-32	66
1725	GO/rGO as Advanced Materials for Energy Storage and Conversion. 2015 , 97-127	
1724	Pyrolyzed polyaniline and graphene nano sheet composite with improved rate and cycle performance for lithium storage. 2015 , 92, 354-361	17
1723	Nitrogen-doped porous carbon prepared by a facile soft-templating process as low-cost counter electrode for High-performance dye-sensitized solar cells. 2015 , 38, 234-239	15

1722	Nitrogen and Phosphorus Dual-Doped Graphene/Carbon Nanosheets as Bifunctional Electrocatalysts for Oxygen Reduction and Evolution. 2015 , 5, 4133-4142	539
1721	A facile nanocasting strategy to nitrogen-doped porous carbon monolith by treatment with ammonia for efficient oxygen reduction. 2015 , 3, 12836-12844	41
1720	Nitrogen-doped Graphene-Supported Transition-metals Carbide Electrocatalysts for Oxygen Reduction Reaction. 2015 , 5, 10389	69
1719	Influence of Carbon Precursors on the Structure, Composition, and Oxygen Reduction Reaction Performance of Nitrogen-Doped Carbon Materials. 2015 , 119, 28757-28765	38
1718	Simultaneous reduction and nitrogen doping of graphite oxide by using electron beam irradiation. 2015 , 5, 104502-104508	17
1717	Cobalt sulfide/N,S codoped porous carbon core-shell nanocomposites as superior bifunctional electrocatalysts for oxygen reduction and evolution reactions. 2015 , 7, 20674-84	235
1716	Remarkable performance of heavily nitrogenated graphene in the oxygen reduction reaction of fuel cells in alkaline medium. 2015 , 2, 095503	7
1715	Selective in-plane nitrogen doping of graphene by an energy-controlled neutral beam. 2015 , 26, 485602	10
1714	E. coli-derived carbon with nitrogen and phosphorus dual functionalities for oxygen reduction reaction. 2015 , 249, 228-235	12
1713	Optical and electrochemical applications of silicon-carbon dots/silicon dioxide nanocomposites. 2015 , 9, 312-9	51
1712	Covalent entrapment of cobalt-iron sulfides in N-doped mesoporous carbon: extraordinary bifunctional electrocatalysts for oxygen reduction and evolution reactions. 2015 , 7, 1207-18	243
1711	Platinum Nanoparticles Encapsulated in Nitrogen-Doped Mesoporous Carbons as Methanol-Tolerant Oxygen Reduction Electrocatalysts. 2015 , 2, 404-411	24
1710	Nitrogen and Sulfur Dual-Doped Reduced Graphene Oxide: Synergistic Effect of Dopants Towards Oxygen Reduction Reaction. 2015 , 163, 16-23	121
1709	Dielectric and mechanical properties and thermal stability of polyimide-graphene oxide composite films. 2015 , 584, 232-237	62
1708	Honeysuckles-derived porous nitrogen, sulfur, dual-doped carbon as high-performance metal-free oxygen electroreduction catalyst. 2015 , 12, 785-793	144
1707	Graphene Polymer Nanocomposites for Fuel Cells. 2015 , 91-130	3
1706	Facile synthesis of nitrogen and fluorine co-doped carbon materials as efficient electrocatalysts for oxygen reduction reactions in air-cathode microbial fuel cells. 2015 , 3, 6873-6877	62
1705	Microwave Enabled One-Pot, One-Step Fabrication and Nitrogen Doping of Holey Graphene Oxide for Catalytic Applications. 2015 , 11, 3358-68	98

1704	A significant improvement in the electrocatalytic stability of N-doped graphene nanosheets used as a counter electrode for [Co(bpy) ₃](3+/2+) based porphyrin-sensitized solar cells. 2015 , 7, 2116-23	26
1703	Low temperature combustion synthesis of nitrogen-doped graphene for metal-free catalytic oxidation. 2015 , 3, 3432-3440	156
1702	High Surface Iron/Cobalt-Containing Nitrogen-Doped Carbon Aerogels as Non-Precious Advanced Electrocatalysts for Oxygen Reduction. 2015 , 2, 584-591	56
1701	3-Dimensional porous N-doped graphene foam as a non-precious catalyst for the oxygen reduction reaction. 2015 , 3, 3343-3350	142
1700	Nitrogen-doped graphene for generation and evolution of reactive radicals by metal-free catalysis. 2015 , 7, 4169-78	471
1699	Highly active nitrogen-doped nanocarbon electrocatalysts for alkaline direct methanol fuel cell. 2015 , 281, 94-102	53
1698	Nitrogen-Doped Annealed Nanodiamonds with Varied sp ² /sp ³ Ratio as Metal-Free Electrocatalyst for the Oxygen Reduction Reaction. 2015 , 7, 2840-2845	30
1697	Recent Advances in Heteroatom-Doped Metal-Free Electrocatalysts for Highly Efficient Oxygen Reduction Reaction. 2015 , 6, 132-147	104
1696	Application of Graphene-Based Materials to Improve Electrode Performance in Microbial Fuel Cells. 2015 , 355-370	
1695	One-step codoping of reduced graphene oxide using boric and nitric acid mixture and its use in metal-free electrocatalyst. 2015 , 143, 205-208	8
1694	Nitrogen-doped graphene supported Pt nanoparticles with enhanced performance for methanol oxidation. 2015 , 40, 2641-2647	62
1693	Facile synthesis of nitrogen-doped unzipped carbon nanotubes and their electrochemical properties. 2015 , 5, 8175-8181	16
1692	Surface-modified single wall carbon nanohorn as an effective electrocatalyst for platinum-free fuel cell cathodes. 2015 , 3, 4361-4367	36
1691	Activity of Co ^{II} multi walled carbon nanotubes electrocatalysts for oxygen reduction reaction in acid conditions. 2015 , 278, 296-307	65
1690	Biomass-derived nitrogen self-doped porous carbon as effective metal-free catalysts for oxygen reduction reaction. 2015 , 7, 6136-42	214
1689	High-density iron nanoparticles encapsulated within nitrogen-doped carbon nanoshell as efficient oxygen electrocatalyst for zinc-air battery. 2015 , 13, 387-396	254
1688	Enhanced electrocatalytic activity of PANI and CoFe ₂ O ₄ /PANI composite supported on graphene for fuel cell applications. 2015 , 284, 383-391	45
1687	Conductive Lewis Base Matrix to Recover the Missing Link of Li ₂ S ₈ during the Sulfur Redox Cycle in LiS Battery. 2015 , 27, 2048-2055	258

1686	CHAPTER 6:Doped Nanostructured Carbon Materials as Catalysts. 2015 , 268-311	2
1685	High-Performance Electrocatalysts for Oxygen Reduction Based on Nitrogen-Doped Porous Carbon from Hydrothermal Treatment of Glucose and Dicyandiamide. 2015 , 2, 803-810	56
1684	Effects of boron oxidation state on electrocatalytic activity of carbons synthesized from CO ₂ . 2015 , 3, 5843-5849	20
1683	Highly nitrogen doped carbon nanosheets as an efficient electrocatalyst for the oxygen reduction reaction. 2015 , 51, 11791-4	46
1682	Polydopamine-graphene oxide derived mesoporous carbon nanosheets for enhanced oxygen reduction. 2015 , 7, 12598-605	96
1681	Nitrogen-doped ordered mesoporous carbon sphere with short channel as an efficient metal-free catalyst for oxygen reduction reaction. 2015 , 5, 70010-70016	26
1680	g-C ₃ N ₄ and Others: Predicting New Nanoporous Carbon Nitride Planar Structures with Distinct Electronic Properties. 2015 , 119, 19743-19751	22
1679	Bottom-up synthesis of high-performance nitrogen-enriched transition metal/graphene oxygen reduction electrocatalysts both in alkaline and acidic solution. 2015 , 7, 14707-14	26
1678	In situ synthesis of mesoporous manganese oxide/sulfur-doped graphitized carbon as a bifunctional catalyst for oxygen evolution/reduction reactions. 2015 , 94, 1028-1036	62
1677	Graphene oxide: A promising nanomaterial for energy and environmental applications. 2015 , 16, 488-515	406
1676	Sandwiched graphene with nitrogen, sulphur co-doped CQDs: an efficient metal-free material for energy storage and conversion applications. 2015 , 3, 16961-16970	86
1675	Honeycomb-like mesoporous nitrogen-doped carbon supported Pt catalyst for methanol electrooxidation. 2015 , 93, 1050-1058	73
1674	Application of GO in Energy Conversion and Storage. 2015 , 79-118	
1673	Nanodiamond/nitrogen-doped graphene (core/shell) as an effective and stable metal-free electrocatalyst for oxygen reduction reaction. 2015 , 174, 1017-1022	16
1672	Branched Graphene Nanocapsules for Anode Material of Lithium-Ion Batteries. 2015 , 27, 5253-5260	67
1671	Enhanced hydrogen evolution reaction on few-layer MoS ₂ nanosheets-coated functionalized carbon nanotubes. 2015 , 40, 8877-8888	100
1670	Nitrogen-Doped Graphene with Pyridinic Dominance as a Highly Active and Stable Electrocatalyst for Oxygen Reduction. 2015 , 7, 14763-9	207
1669	Enhanced electrocatalytic activity of nitrogen-doped multi-walled carbon nanotubes towards the oxygen reduction reaction in alkaline media. 2015 , 5, 59495-59505	56

1668	Spinel LiMn ₂ O ₄ nanoparticles dispersed on nitrogen-doped reduced graphene oxide nanosheets as an efficient electrocatalyst for aluminium-air battery. 2015 , 40, 9225-9234	42
1667	Oxygen Reduction in Alkaline Media: From Mechanisms to Recent Advances of Catalysts. 2015 , 5, 4643-4667	748
1666	Nitrogen doped mesoporous carbon derived from copolymer and supporting cobalt oxide for oxygen reduction reaction in alkaline media. 2015 , 40, 6072-6084	23
1665	Electrochemical performances of hydrothermal tannin-based carbons doped with nitrogen. 2015 , 70, 332-340	34
1664	Bottom-up construction of triazine-based frameworks as metal-free electrocatalysts for oxygen reduction reaction. 2015 , 27, 3190-5	149
1663	The dopant type and amount governs the electrochemical performance of graphene platforms for the antioxidant activity quantification. 2015 , 7, 9040-5	18
1662	Mesoporous N-doped carbons prepared with thermally removable nanoparticle templates: an efficient electrocatalyst for oxygen reduction reaction. 2015 , 137, 5555-62	543
1661	Oxidative unzipping of stacked nitrogen-doped carbon nanotube cups. 2015 , 7, 10734-41	9
1660	N- and S-doped high surface area carbon derived from soya chunks as scalable and efficient electrocatalysts for oxygen reduction. 2015 , 16, 014803	24
1659	Optimized electrospinning synthesis of iron-nitrogen-carbon nanofibers for high electrocatalysis of oxygen reduction in alkaline medium. 2015 , 26, 165401	11
1658	Carbon Nitrogen Nanotubes as Efficient Bifunctional Electrocatalysts for Oxygen Reduction and Evolution Reactions. 2015 , 7, 11991-2000	103
1657	Carbon-Coated Core-Shell Fe-Cu Nanoparticles as Highly Active and Durable Electrocatalysts for a Zn-Air Battery. 2015 , 9, 6493-501	142
1656	Nitrogen-doped graphene as a cathode material for dye-sensitized solar cells: effects of hydrothermal reaction and annealing on electrocatalytic performance. 2015 , 5, 10430-10439	56
1655	Preparation of nitrogen-doped carbon nanotubes with different morphologies from melamine-formaldehyde resin. 2015 , 7, 7413-20	76
1654	Facile synthesis of nitrogen and sulfur codoped carbon from ionic liquid as metal-free catalyst for oxygen reduction reaction. 2015 , 7, 7214-21	53
1653	Thiourea sole doping reagent approach for controllable N, S co-doping of pre-synthesized large-sized carbon nanospheres as electrocatalyst for oxygen reduction reaction. 2015 , 92, 339-347	54
1652	Facile Synthesis of In Situ Nitrogenated Graphene Decorated by Few Layer MoS ₂ for Hydrogen Evolution Reaction. 2015 , 171, 72-80	44
1651	Sulfur impregnated in tunable porous N-doped carbon as sulfur cathode: effect of pore size distribution. 2015 , 173, 282-289	19

1650	Metal-free catalysts for oxygen reduction reaction. 2015 , 115, 4823-92	1763
1649	Fe/N/C Electrocatalysts for Oxygen Reduction Reaction in PEM Fuel Cells Using Nitrogen-Rich Ligand as Precursor. 2015 , 119, 11311-11319	35
1648	Multiple roles of graphene in heterogeneous catalysis. 2015 , 44, 3023-35	271
1647	Nature of the N π d Interaction in Nitrogen-Doped Carbon Nanotube Catalysts. 2015 , 5, 2740-2753	273
1646	Magnesiothermic synthesis of sulfur-doped graphene as an efficient metal-free electrocatalyst for oxygen reduction. 2015 , 5, 9304	85
1645	Meso/macroporous nitrogen-doped carbon architectures with iron carbide encapsulated in graphitic layers as an efficient and robust catalyst for the oxygen reduction reaction in both acidic and alkaline solutions. 2015 , 27, 2521-7	461
1644	N-doped crumpled graphene derived from vapor phase deposition of PPy on graphene aerogel as an efficient oxygen reduction reaction electrocatalyst. 2015 , 7, 7066-72	38
1643	Optimization of catalyst layer composition for PEMFC using graphene-based oxygen reduction reaction catalysts. 2015 , 286, 166-174	15
1642	Wet-chemical nitrogen-doping of graphene nanoplatelets as electrocatalysts for the oxygen reduction reaction. 2015 , 3, 7659-7665	39
1641	Generalized Reaction Mechanism for the Selective Aerobic Oxidation of Aryl and Alkyl Alcohols over Nitrogen-Doped Graphene. 2015 , 119, 26438-26450	22
1640	Effect of annealing temperature and element composition of titanium dioxide/graphene/hemin catalysts for oxygen reduction reaction. 2015 , 5, 82879-82886	15
1639	Structural Evolution from Metal-Organic Framework to Hybrids of Nitrogen-Doped Porous Carbon and Carbon Nanotubes for Enhanced Oxygen Reduction Activity. 2015 , 27, 7610-7618	181
1638	Nitrogen-doped graphene/carbon nanotube/Co ₃ O ₄ hybrids: one-step synthesis and superior electrocatalytic activity for the oxygen reduction reaction. 2015 , 5, 94615-94622	28
1637	Chemistry of Multititudinous Active Sites for Oxygen Reduction Reaction in Transition Metal-Nitrogen-Carbon Electrocatalysts. 2015 , 119, 25917-25928	341
1636	Über die Rolle von Metallen in Elektrokatalysatoren auf Basis von stickstoffdotiertem Kohlenstoff für die Sauerstoffreduktion. 2015 , 127, 10240-10259	69
1635	Heteroatom-Doped Graphitic Carbon Catalysts for Efficient Electrocatalysis of Oxygen Reduction Reaction. 2015 , 5, 7244-7253	422
1634	Review Recent Progress in Electrocatalysts for Oxygen Reduction Suitable for Alkaline Anion Exchange Membrane Fuel Cells. 2015 , 162, F1504-F1539	119
1633	Pyrolyzed egg yolk as an efficient bifunctional electrocatalyst for oxygen reduction and evolution reactions. 2015 , 5, 97508-97511	7

1632	A bi-functional metal-free catalyst composed of dual-doped graphene and mesoporous carbon for rechargeable lithium-oxygen batteries. 2015 , 3, 18456-18465	69
1631	Highly Active and Durable Nanocrystal-Decorated Bifunctional Electrocatalyst for Rechargeable Zinc-Air Batteries. 2015 , 8, 3129-38	51
1630	An ultra high performance multi-element doped mesoporous carbon catalyst derived from poly(4-vinylpyridine). 2015 , 3, 23512-23519	12
1629	Nitrogen-doped graphene aerogel-supported spinel CoMn ₂ O ₄ nanoparticles as an efficient catalyst for oxygen reduction reaction. 2015 , 299, 492-500	67
1628	Significant Contribution of Intrinsic Carbon Defects to Oxygen Reduction Activity. 2015 , 5, 6707-6712	400
1627	An introduction to the chemistry of graphene. 2015 , 17, 28484-504	91
1626	Carbon Nanohorn-Derived Graphene Nanotubes as a Platinum-Free Fuel Cell Cathode. 2015 , 7, 24256-64	60
1625	Transformation of worst weed into N-, S-, and P-tridoped carbon nanorings as metal-free electrocatalysts for the oxygen reduction reaction. 2015 , 3, 23376-23384	42
1624	Carbon-based electrocatalysts for advanced energy conversion and storage. 2015 , 1, e1500564	434
1623	Template-free ultraspray pyrolysis synthesis of N/Fe-doped carbon microspheres for oxygen reduction electrocatalysis. 2015 , 3, 18920-18927	23
1622	Direct Transformation from Graphitic C ₃ N ₄ to Nitrogen-Doped Graphene: An Efficient Metal-Free Electrocatalyst for Oxygen Reduction Reaction. 2015 , 7, 19626-34	151
1621	Residual metals present in "metal-free" N-doped carbons. 2015 , 51, 15585-7	11
1620	Ultrathin Wrinkled N-Doped Carbon Nanotubes for Noble-Metal Loading and Oxygen Reduction Reaction. 2015 , 7, 20507-12	16
1619	Metal-free, carbon-based catalysts for oxygen reduction reactions. 2015 , 9, 280-294	15
1618	Iodine/nitrogen co-doped graphene as metal free catalyst for oxygen reduction reaction. 2015 , 95, 930-939	87
1617	Three-dimensional N,B-doped graphene aerogel as a synergistically enhanced metal-free catalyst for the oxygen reduction reaction. 2015 , 17, 25440-8	67
1616	Towards efficient electrocatalysts for oxygen reduction by doping cobalt into graphene-supported graphitic carbon nitride. 2015 , 3, 19657-19661	40
1615	A low-cost cementite (Fe ₃ C) nanocrystal@N-doped graphitic carbon electrocatalyst for efficient oxygen reduction. 2015 , 17, 27527-33	22

1614	Growth mechanism and active site probing of Fe ₃ C@N-doped carbon nanotubes/C catalysts: guidance for building highly efficient oxygen reduction electrocatalysts. 2015 , 3, 21451-21459	60
1613	Nitrogen-doped carbon cloth as a stable self-supported cathode catalyst for air/H ₂ -breathing alkaline fuel cells. 2015 , 182, 312-319	9
1612	Nitrogen-Doped Reduced Graphene Oxide Prepared by Simultaneous Thermal Reduction and Nitrogen Doping of Graphene Oxide in Air and Its Application as an Electrocatalyst. 2015 , 7, 26952-8	79
1611	An Advanced Nitrogen-Doped Graphene/Cobalt-Embedded Porous Carbon Polyhedron Hybrid for Efficient Catalysis of Oxygen Reduction and Water Splitting. 2015 , 25, 872-882	612
1610	High catalytic activity of nitrogen and sulfur co-doped nanoporous graphene in the hydrogen evolution reaction. 2015 , 54, 2131-6	641
1609	Porphyrin functionalized porous carbon derived from metal-organic framework as a biomimetic catalyst for electrochemical biosensing. 2015 , 3, 1335-1341	32
1608	Metal-support interaction in platinum and palladium nanoparticles loaded on nitrogen-doped mesoporous carbon for oxygen reduction reaction. 2015 , 7, 1170-9	129
1607	Transforming chitosan into N-doped graphitic carbon electrocatalysts. 2015 , 51, 1334-7	105
1606	Fe/N/C hollow nanospheres by Fe(iii)-dopamine complexation-assisted one-pot doping as nonprecious-metal electrocatalysts for oxygen reduction. 2015 , 7, 1501-9	196
1605	High Catalytic Activity of Nitrogen and Sulfur Co-Doped Nanoporous Graphene in the Hydrogen Evolution Reaction. 2015 , 127, 2159-2164	118
1604	Ionic Liquid Based Approaches to Carbon Materials Synthesis. 2015 , 2015, 1137-1147	52
1603	Nitrogen and sulfur dual-doped graphene for glucose biosensor application. 2015 , 738, 100-107	23
1602	Synthesis of nitrogen-doped graphene/ZnS quantum dots composites with highly efficient visible light photodegradation. 2015 , 151, 34-42	23
1601	Potential of metal-free graphene alloys as electrocatalysts for oxygen reduction reaction. 2015 , 3, 1795-1810	118
1600	Heteroatom-doped highly porous carbon from human urine. 2014 , 4, 5221	100
1599	Graphene Oxide: Physics and Applications. 2015 ,	30
1598	Graphene-modified electrodes for enhancing the performance of microbial fuel cells. 2015 , 7, 7022-9	135
1597	New approach of nitrogen and sulfur-doped graphene synthesis using dipyrrolemethane and their electrocatalytic activity for oxygen reduction in alkaline media. 2015 , 275, 73-79	88

1596	Single and Multiple Doping in Graphene Quantum Dots: Unraveling the Origin of Selectivity in the Oxygen Reduction Reaction. 2015 , 5, 129-144	142
1595	Nitrogen-induced surface area and conductivity modulation of carbon nanohorn and its function as an efficient metal-free oxygen reduction electrocatalyst for anion-exchange membrane fuel cells. 2015 , 11, 352-60	74
1594	Applications of Graphene-Modified Electrodes in Microbial Fuel Cells. 2016 , 9,	38
1593	The Application of Graphene and Its Derivatives to Energy Conversion, Storage, and Environmental and Biosensing Devices. 2016 , 16, 1591-634	48
1592	Pyridinic-Nitrogen-Dominated Graphene Aerogels with Fe ^{N/C} Coordination for Highly Efficient Oxygen Reduction Reaction. 2016 , 26, 5708-5717	301
1591	Potentiodynamic Uniform Anchoring of Platinum Nanoparticles on N-Doped Graphene with Improved Mass Activity for the Electrooxidation of Ammonia. 2016 , 3, 605-614	15
1590	Carbon Nanodot Surface Modifications Initiate Highly Efficient, Stable Catalysts for Both Oxygen Evolution and Reduction Reactions. 2016 , 6, 1502039	73
1589	Coprinus comatus-derived nitrogen-containing biocarbon electrocatalyst with the addition of self-generating graphene-like support for superior oxygen reduction reaction. 2016 , 61, 948-958	21
1588	Pomegranate-Inspired Design of Highly Active and Durable Bifunctional Electrocatalysts for Rechargeable Metal-Air Batteries. 2016 , 55, 4977-82	218
1587	CO Poisoning Effects on FeNC and CN _x ORR Catalysts: A Combined Experimental/Computational Study. 2016 , 120, 15173-15184	40
1586	A 3D hierarchical assembly of optimized heterogeneous carbon nanosheets for highly efficient electrocatalysis. 2016 , 4, 11625-11629	11
1585	A Hydrogen-Bonded Organic-Framework-Derived Mesoporous N-Doped Carbon for Efficient Electroreduction of Oxygen. 2016 , 3, 1116-1123	21
1584	Hybrid polymer matrix composite containing polyaniline and Nafion as novel precursor of the enhanced catalyst for oxygen reduction reaction. 2016 , 6, 59961-59969	1
1583	Superaerophilic Carbon-Nanotube-Array Electrode for High-Performance Oxygen Reduction Reaction. 2016 , 28, 7155-61	159
1582	Sulfur-Doped Fe/N/C Nanosheets as Highly Efficient Electrocatalysts for Oxygen Reduction Reaction. 2016 , 8, 19379-85	135
1581	Topological Defects in Metal-Free Nanocarbon for Oxygen Electrocatalysis. 2016 , 28, 6845-51	522
1580	Highly active Fe, N co-doped graphene nanoribbon/carbon nanotube composite catalyst for oxygen reduction reaction. 2016 , 222, 1922-1930	23
1579	Fe-carbon nitride Core-shell Electrocatalysts for the oxygen reduction reaction. 2016 , 222, 1778-1791	54

1578	MnO Nanofilms on Nitrogen-Doped Hollow Graphene Spheres as a High-Performance Electrocatalyst for Oxygen Reduction Reaction. 2016 , 8, 35264-35269	54
1577	FeN-doped carbon-based composite as an efficient and durable electrocatalyst for the oxygen reduction reaction. 2016 , 6, 114553-114559	23
1576	Napkin Paper Derived Nitrogen-Doped Carbon Sheets: A High-Performance Electrocatalyst for Oxygen Reduction Reaction. 2016 , 163, H1204-H1209	3
1575	A solution-based procedure for synthesis of nitrogen doped graphene as an efficient electrocatalyst for oxygen reduction reactions in acidic and alkaline electrolytes. 2016 , 192, 26-34	85
1574	Ionic liquid-derived FeN/C catalysts for highly efficient oxygen reduction reaction without any supports, templates, or multi-step pyrolysis. 2016 , 4, 6630-6638	44
1573	Nitrogen-doped porous carbon nanosheets derived from poly(ionic liquid)s: hierarchical pore structures for efficient CO ₂ capture and dye removal. 2016 , 4, 7313-7321	135
1572	Electrocatalytic oxygen reduction on nitrogen-doped carbon nanoparticles derived from cyano-aromatic molecules via a solution plasma approach. 2016 , 98, 411-420	60
1571	Effect of nitrogen precursors on the electrochemical performance of nitrogen-doped reduced graphene oxide towards oxygen reduction reaction. 2016 , 677, 112-120	52
1570	Nitrogen and sulfur co-doped carbon with three-dimensional ordered macroporosity: An efficient metal-free oxygen reduction catalyst derived from ionic liquid. 2016 , 323, 90-96	39
1569	Ba _{0.5} Sr _{0.5} Co _{0.8} Fe _{0.2} O ₃ N-doped mesoporous carbon derived from organic waste as a bi-functional oxygen catalyst. 2016 , 41, 10744-10754	46
1568	Tailoring the Electrode Interface with Enhanced Electron Transfer for High-Rate Lithium-Ion Battery Anodes. 2016 , 55, 6643-6648	3
1567	Hybrid two-dimensional materials in rechargeable battery applications and their microscopic mechanisms. 2016 , 45, 4042-73	157
1566	Graphene and its electrochemistry - an update. 2016 , 45, 2458-93	289
1565	Is reduced graphene oxide favorable for nonprecious metal oxygen-reduction catalysts?. 2016 , 102, 346-356	40
1564	Control of nitrogen content and its effects on the electrochemical behavior of nitrogen-doped carbon nanofibers. 2016 , 768, 34-40	9
1563	Diamond@carbon-onion hybrid nanostructure as a highly promising electrocatalyst for the oxygen reduction reaction. 2016 , 6, 27528-27534	10
1562	Understanding the chemisorption-based activation mechanism of the oxygen reduction reaction on nitrogen-doped graphitic materials. 2016 , 204, 245-254	25
1561	Hierarchical porous N-doped graphene foams with superior oxygen reduction reactivity for polymer electrolyte membrane fuel cells. 2016 , 175, 459-467	49

1560	Significantly enhanced oxygen reduction reaction performance of N-doped carbon by heterogeneous sulfur incorporation: synergistic effect between the two dopants in metal-free catalysts. 2016 , 4, 7422-7429	64
1559	SiO ₂ decorated porous carbon materials: A new class of electrocatalysts for the oxygen reduction reaction. 2016 , 4, 7924-7929	30
1558	Nitrogen and boron co-doped hollow carbon catalyst for the oxygen reduction reaction. 2016 , 105, 1-7	48
1557	Iron polypyrrole electrocatalyst with remarkable activity and stability for ORR in both alkaline and acidic conditions: a comprehensive assessment of catalyst preparation sequence. 2016 , 4, 8645-8657	77
1556	A 2.0 V capacitive device derived from shape-preserved metal nitride nanorods. 2016 , 26, 1-6	23
1555	Hierarchical porous nitrogen doped reduced graphene oxide prepared by surface decoration thermal treatment method as high-activity oxygen reduction reaction catalyst and high-performance supercapacitor electrodes. 2016 , 6, 49497-49504	7
1554	Oxygen reduction reaction catalysts used in microbial fuel cells for energy-efficient wastewater treatment: a review. 2016 , 3, 382-401	257
1553	High graphite N content in nitrogen-doped graphene as an efficient metal-free catalyst for reduction of nitroarenes in water. 2016 , 18, 4254-4262	86
1552	Highly Efficient Oxygen Reduction Catalysts by Rational Synthesis of Nanoconfined Maghemite in a Nitrogen-Doped Graphene Framework. 2016 , 6, 3558-3568	67
1551	Synthesis of functionalized N-doped graphene DNA hybrid material in a deep eutectic solvent. 2016 , 18, 4297-4302	8
1550	Graphene aerogel-supported and graphene quantum dots-modified MnOOH nanotubes as a highly efficient electrocatalyst for oxygen reduction reaction. 2016 , 6, 43116-43126	19
1549	N-doped zeolite-templated carbon as a metal-free electrocatalyst for oxygen reduction. 2016 , 6, 43091-43097	15
1548	Nitrogen and gold nanoparticles co-doped carbon nanofiber hierarchical structures for efficient hydrogen evolution reactions. 2016 , 208, 1-9	22
1547	Efficient metal-free N-doped mesoporous carbon catalysts for ORR by a template-free approach. 2016 , 106, 179-187	149
1546	Chemical functionalization of N-doped carbon nanotubes: a powerful approach to cast light on the electrochemical role of specific N-functionalities in the oxygen reduction reaction. 2016 , 6, 6226-6236	29
1545	Preparation of Cobalt Sulfide Nanoparticle-Decorated Nitrogen and Sulfur Co-Doped Reduced Graphene Oxide Aerogel Used as a Highly Efficient Electrocatalyst for Oxygen Reduction Reaction. 2016 , 12, 5920-5926	61
1544	Tuning graphene for energy and environmental applications: Oxygen reduction reaction and greenhouse gas mitigation. 2016 , 328, 472-481	14
1543	Construction of a cobalt-embedded nitrogen-doped carbon material with the desired porosity derived from the confined growth of MOFs within graphene aerogels as a superior catalyst towards HER and ORR. 2016 , 4, 15536-15545	65

1542	High-Performance Direct Methanol Fuel Cells with Precious-Metal-Free Cathode. 2016 , 3, 1600140	89
1541	In Situ Growth of Co ₃ O ₄ Nanoparticles on Interconnected Nitrogen-Doped Graphene Nanoribbons as Efficient Oxygen Reduction Reaction Catalyst. 2016 , 2, 972-979	9
1540	Keratin-derived S/N co-doped graphene-like nanobubble and nanosheet hybrids for highly efficient oxygen reduction. 2016 , 4, 15870-15879	69
1539	Facile self-assembly N-doped graphene quantum dots/graphene for oxygen reduction reaction. 2016 , 216, 102-109	69
1538	Novel Hydrogel-Derived Bifunctional Oxygen Electrocatalyst for Rechargeable Air Cathodes. 2016 , 16, 6516-6522	192
1537	A facile method to fabricate N-doped graphene-like carbon as efficient electrocatalyst using spent montmorillonite. 2016 , 132-133, 731-738	14
1536	A Model for the pH-Dependent Selectivity of the Oxygen Reduction Reaction Electrocatalyzed by N-Doped Graphitic Carbon. 2016 , 138, 13923-13929	64
1535	Nitrogen, Phosphorus, and Fluorine Tri-doped Graphene as a Multifunctional Catalyst for Self-Powered Electrochemical Water Splitting. 2016 , 128, 13490-13494	93
1534	Scalable synthesis of nano-sandwich N-doped carbon materials with hierarchical-structure for energy conversion and storage. 2016 , 6, 93318-93324	9
1533	Facile one-pot synthesis of a nitrogen-doped mesoporous carbon architecture with cobalt oxides encapsulated in graphitic layers as a robust bicatalyst for oxygen reduction and evolution reactions. 2016 , 4, 16920-16927	43
1532	In situ formation of nitrogen-doped carbon nanoparticles on hollow carbon spheres as efficient oxygen reduction electrocatalysts. 2016 , 8, 18134-18142	49
1531	Synthesis of nitrogen-doped reduced graphene oxide as metal-free electrocatalyst for oxygen reduction reactions. 2016 , 12, 252	
1530	Ordered mesoporous carbons codoped with nitrogen and iron as effective catalysts for oxygen reduction reaction. 2016 , 8, 19249-19255	41
1529	In Situ Confinement Pyrolysis Transformation of ZIF-8 to Nitrogen-Enriched Meso-Microporous Carbon Frameworks for Oxygen Reduction. 2016 , 26, 8334-8344	218
1528	Porous N-Doped Carbon Prepared from Triazine-Based Polypyrrole Network: A Highly Efficient Metal-Free Catalyst for Oxygen Reduction Reaction in Alkaline Electrolytes. 2016 , 8, 28615-28623	35
1527	Correlation between Chemical Dopants and Topological Defects in Catalytically Active Nanoporous Graphene. 2016 , 28, 10644-10651	88
1526	Nitrogen, Phosphorus, and Fluorine Tri-doped Graphene as a Multifunctional Catalyst for Self-Powered Electrochemical Water Splitting. 2016 , 55, 13296-13300	406
1525	Electrocatalytically Active Graphene supported M ₂ Carbides (M Ni, Co) for Oxygen Reduction Reaction. 2016 , 216, 246-252	22

1524	Electron transfer number control of the oxygen reduction reaction on nitrogen-doped reduced graphene oxides for the air electrodes of zinc-air batteries and organic degradation. 2016 , 183, 551-560	7
1523	Microwave-assisted synthesis of nitrogen-doped activated carbon as an oxygen reduction catalyst in microbial fuel cells. 2016 , 6, 90410-90416	16
1522	ZIF-67 Derived Nanostructures of Co/CoO and Co@N-doped Graphitic Carbon as Counter Electrode for Highly Efficient Dye-sensitized Solar Cells. 2016 , 213, 252-259	70
1521	High porosity and surface area self-doped carbon derived from polyacrylonitrile as efficient electrocatalyst towards oxygen reduction. 2016 , 324, 134-141	29
1520	3D graphene-based hybrid materials: synthesis and applications in energy storage and conversion. 2016 , 8, 15414-47	105
1519	N-doped Carbon Nanotubes for the Oxygen Reduction Reaction in Alkaline Medium: Synergistic Relationship between Pyridinic and Quaternary Nitrogen. 2016 , 1, 2522-2530	26
1518	A three-dimensional nitrogen-doped graphene aerogel-activated carbon composite catalyst that enables low-cost microfluidic microbial fuel cells with superior performance. 2016 , 4, 15913-15919	61
1517	Iron and nitrogen co-functionalized porous 3D graphene frameworks as an efficient oxygen reduction catalyst. 2016 , 6, 74886-74894	4
1516	A Nanopore-Structured Nitrogen-Doped Biocarbon Electrocatalyst for Oxygen Reduction from Two-Step Carbonization of Lemna minor Biomass. 2016 , 11, 268	20
1515	Recent Progress in Synthesis, Characterization and Evaluation of Non-Precious Metal Catalysts for the Oxygen Reduction Reaction. 2016 , 16, 4-22	93
1514	Boosting vanadium flow battery performance by Nitrogen-doped carbon nanospheres electrocatalyst. 2016 , 28, 19-28	136
1513	Composites of a Prussian Blue Analogue and Gelatin-Derived Nitrogen-Doped Carbon-Supported Porous Spinel Oxides as Electrocatalysts for a Zn/Air Battery. 2016 , 6, 1601052	77
1512	Controllable crumpling of N-doped graphene induced by capillary force resistance. 2016 , 6, 87796-87801	8
1511	Valorization of coffee bean waste: a coffee bean waste derived multifunctional catalyst for photocatalytic hydrogen production and electrocatalytic oxygen reduction reactions. 2016 , 6, 82103-82111	14
1510	The influence of nitrogen source and doping sequence on the electrocatalytic activity for oxygen reduction reaction of nitrogen doped carbon materials. 2016 , 41, 13493-13503	29
1509	A direct phase separation approach synthesis of hierarchically porous functional carbon as an advanced electrocatalyst for oxygen reduction reaction. 2016 , 109, 306-313	6
1508	Electrocatalytic performances of heteroatom-containing functionalities in N-doped reduced graphene oxides. 2016 , 42, 149-156	19
1507	Fabrication of functionalized 3D graphene with controllable micro/meso-pores as a superior electrocatalyst for enhanced oxygen reduction in both acidic and alkaline solutions. 2016 , 6, 79459-79469	2

1506	Low Pt-Loaded Mesoporous Sodium Germanate as a High-Performance Electrocatalyst for the Oxygen Reduction Reaction. 2016 , 9, 2337-42	9
1505	An effective poly(p-phenylenevinylene) polymer adhesion route toward three-dimensional nitrogen-doped carbon nanotube/reduced graphene oxide composite for direct electrocatalytic oxygen reduction. 2016 , 9, 3364-3376	15
1504	Self-Assembly of Nitrogen-doped Graphene-Wrapped Carbon Nanoparticles as an Efficient Electrocatalyst for Oxygen Reduction Reaction. 2016 , 216, 347-354	16
1503	Co ₃ O ₄ Nanoparticles-Modified γ -MnO ₂ Nanorods Supported on Reduced Graphene Oxide as Cathode Catalyst for Oxygen Reduction Reaction in Alkaline Media. 2016 , 11, 1650126	18
1502	Defect Graphene as a Trifunctional Catalyst for Electrochemical Reactions. 2016 , 28, 9532-9538	711
1501	Cobalt/Nitrogen Co-doped Carbon Nanotube Cathode Catalyst for Alkaline Membrane Fuel Cells. 2016 , 3, 1455-1465	54
1500	Influence of different transition metals on the properties of Me ₂ Ni (Me = Fe, Co, Cu, Zn) catalysts synthesized using SBA-15 as tubular nano-silica reactor for oxygen reduction reaction. 2016 , 41, 22570-22588	55
1499	Graphene/nitrogen-doped porous carbon sandwiches for the metal-free oxygen reduction reaction: conductivity versus active sites. 2016 , 4, 12658-12666	76
1498	Nitrogen-doped carbon materials derived from acetonitrile and Mg-Co-Al layered double hydroxides as electrocatalysts for oxygen reduction reaction. 2016 , 212, 47-58	8
1497	Ternary Hollow Mesoporous TiN/N-Graphene/Pt Hybrid Results in Enhanced Electrocatalytic Performance for Methanol Oxidation and Oxygen Reduction Reaction. 2016 , 213, 771-782	17
1496	Nitrogen-doped mesoporous carbon nanosheet/carbon nanotube hybrids as metal-free bi-functional electrocatalysts for water oxidation and oxygen reduction. 2016 , 4, 13133-13141	102
1495	Non-Pt Nanostructured Catalysts for Oxygen Reduction Reaction: Synthesis, Catalytic Activity and its Key Factors. 2016 , 6, 1600458	125
1494	Synthesis and Activity of A Single Active Site N-doped Electro-catalyst for Oxygen Reduction. 2016 , 213, 927-932	14
1493	Synergistically Enhanced Electrocatalytic Activity of Sandwich-like N-Doped Graphene/Carbon Nanosheets Decorated by Fe and S for Oxygen Reduction Reaction. 2016 , 8, 19533-41	56
1492	Tungsten carbide encapsulated in nitrogen-doped carbon with iron/cobalt carbides electrocatalyst for oxygen reduction reaction. 2016 , 389, 157-164	29
1491	Self-Organized 3D Porous Graphene Dual-Doped with Biomass-Sponsored Nitrogen and Sulfur for Oxygen Reduction and Evolution. 2016 , 8, 29408-29418	127
1490	Bimetallic Metal-Organic Frameworks for Controlled Catalytic Graphitization of Nanoporous Carbons. 2016 , 6, 30295	267
1489	Microwave Exfoliation of Graphite Oxides in HS Plasma for the Synthesis of Sulfur-Doped Graphenes as Oxygen Reduction Catalysts. 2016 , 8, 31849-31855	26

- 1488 Synergistically Enhanced Electrocatalytic Performance of an N-Doped Graphene Quantum Dot-Decorated 3D MoS-Graphene Nanohybrid for Oxygen Reduction Reaction. **2016**, 1, 971-980 62
- 1487 Nitrogen-doped 3D porous carbons with iron carbide nanoparticles encapsulated in graphitic layers derived from functionalized MOF as an efficient noble-metal-free oxygen reduction electrocatalysts in both acidic and alkaline media. **2016**, 6, 110820-110830 20
- 1486 Application of a Nanostructured Composite Material Constructed by Self-Assembly of Titanoniobate Nanosheets and Cobalt Porphyrin to Electrocatalytic Reduction of Oxygen. **2016**, 34, 1021-1026⁵
- 1485 Tunable electronic properties of graphene through controlling bonding configurations of doped nitrogen atoms. **2016**, 6, 28330 38
- 1484 Probing the electro-catalytic ORR activity of cobalt-incorporated nitrogen-doped CNTs. **2016**, 344, 455-464 24
- 1483 Surface-nitrogen-rich ordered mesoporous carbon as an efficient metal-free electrocatalyst for oxygen reduction reaction. **2016**, 27, 445402 17
- 1482 Nanocarbon Hybrid Materials. **2016**, 625-646
- 1481 Elemental superdoping of graphene and carbon nanotubes. **2016**, 7, 10921 190
- 1480 Identification of catalytic sites for oxygen reduction and oxygen evolution in N-doped graphene materials: Development of highly efficient metal-free bifunctional electrocatalyst. **2016**, 2, e1501122 884
- 1479 Heteroatom (N or N-S)-Doping Induced Layered and Honeycomb Microstructures of Porous Carbons for CO₂ Capture and Energy Applications. **2016**, 26, 8651-8661 133
- 1478 Critical role of intercalated water for electrocatalytically active nitrogen-doped graphitic systems. **2016**, 2, e1501178 30
- 1477 FeP embedded in N, P dual-doped porous carbon nanosheets: an efficient and durable bifunctional catalyst for oxygen reduction and evolution reactions. **2016**, 4, 18723-18729 108
- 1476 Enhanced electrocatalytic hydrogen evolution in graphene via defect engineering and heteroatoms co-doping. **2016**, 219, 781-789 27
- 1475 Carbon-based metal-free catalysts. **2016**, 1, 777
- 1474 Coupled molybdenum carbide and reduced graphene oxide electrocatalysts for efficient hydrogen evolution. **2016**, 7, 11204 679
- 1473 One-pot hydrothermal synthesis of Nitrogen-doped graphene as high-performance anode materials for lithium ion batteries. **2016**, 6, 26146 257
- 1472 Visualization of the electrocatalytic activity of three-dimensional MoSe₂@reduced graphene oxide hybrid nanostructures for oxygen reduction reaction. **2016**, 9, 3795-3811 21
- 1471 Mussel-inspired approach to constructing robust cobalt-embedded N-doped carbon nanosheet toward enhanced sulphate radical-based oxidation. **2016**, 6, 33348 18

1470	Improved oxygen reduction reaction activity of three-dimensional porous N-doped graphene from a soft-template synthesis strategy in microbial fuel cells. 2016 , 6, 105211-105221	12
1469	Nitrogen-Doped Porous Carbon Derived from Malachium Aquaticum Biomass as a Highly Efficient Electrocatalyst for Oxygen Reduction Reaction. 2016 , 220, 427-435	57
1468	Aziridine-Functionalized Multiwalled Carbon Nanotubes: Robust and Versatile Catalysts for the Oxygen Reduction Reaction and Knoevenagel Condensation. 2016 , 8, 30099-30106	51
1467	High-performance oxygen reduction catalyst derived from porous, nitrogen-doped carbon nanosheets. 2016 , 27, 405401	8
1466	Nitrogen- and sulfur-doped carbon nanoplatelets via thermal annealing of alkaline lignin with urea as efficient electrocatalysts for oxygen reduction reaction. 2016 , 6, 104183-104192	21
1465	Graphene in Photocatalysis: A Review. 2016 , 12, 6640-6696	605
1464	Nanoporous Graphene Enriched with Fe/Co-N Active Sites as a Promising Oxygen Reduction Electrocatalyst for Anion Exchange Membrane Fuel Cells. 2016 , 26, 2150-2162	245
1463	Metallic Cobalt Nanoparticles Encapsulated in Nitrogen-Enriched Graphene Shells: Its Bifunctional Electrocatalysis and Application in Zinc/Air Batteries. 2016 , 26, 4397-4404	298
1462	Pomegranate-Inspired Design of Highly Active and Durable Bifunctional Electrocatalysts for Rechargeable Metal/Air Batteries. 2016 , 128, 5061-5066	19
1461	Binder-free nitrogen-doped graphene catalyst air-cathodes for microbial fuel cells. 2016 , 4, 12387-12391	39
1460	An Fe/N/C hybrid electrocatalyst derived from a bimetal/organic framework for efficient oxygen reduction. 2016 , 4, 11357-11364	114
1459	Heterocarbon nanosheets incorporating iron phthalocyanine for oxygen reduction reaction in both alkaline and acidic media. 2016 , 18, 10856-63	25
1458	Chemical Modification of Graphene. 2016 , 207-224	
1457	Activated carbon becomes active for oxygen reduction and hydrogen evolution reactions. 2016 , 52, 8156-9	114
1456	Fe/N/C catalyst with high activity for oxygen reduction reaction derived from surfactant modified porous carbon-supported melamine-formaldehyde resin. 2016 , 41, 11090-11098	17
1455	Template-free synthesis of three-dimensional nanoporous N-doped graphene for high performance fuel cell oxygen reduction reaction in alkaline media. 2016 , 175, 405-413	34
1454	Nitrogen-doped activated graphene/SWCNT hybrid for oxygen reduction reaction. 2016 , 16, 1242-1249	13
1453	Eco-friendly synthesis of nitrogen-doped carbon nanodots from wool for multicolor cell imaging, patterning, and biosensing. 2016 , 235, 316-324	40

1452	N-doped crumpled graphene: bottom-up synthesis and its superior oxygen reduction performance. 2016 , 59, 337-347	36
1451	Emerging new generation electrocatalysts for the oxygen reduction reaction. 2016 , 4, 11156-11178	143
1450	One-Step Scalable Production of Co1& S/Graphene Nanocomposite as High-Performance Bifunctional Electrocatalyst. 2016 , 33, 569-575	16
1449	Catalytic properties of graphitic and pyridinic nitrogen doped on carbon black for oxygen reduction reaction. 2016 , 37, 1119-1126	43
1448	Influence of nitrogen precursors on the structure, composition, and oxygen reduction reaction performance of dual heteroatom doped carbon nanohorns. 2016 , 6, 63730-63735	9
1447	Nitrogen-Doped Porous Carbon Superstructures Derived from Hierarchical Assembly of Polyimide Nanosheets. 2016 , 28, 1981-7	313
1446	Nitrogen-Doped Graphene Quantum Dots Anchored on Thermally Reduced Graphene Oxide as an Electrocatalyst for the Oxygen Reduction Reaction. 2016 , 3, 864-870	29
1445	New Electro-Fenton Gas Diffusion Cathode based on Nitrogen-doped Graphene@Carbon Nanotube Composite Materials. 2016 , 194, 228-238	84
1444	Phosphorus and nitrogen dual doped ordered mesoporous carbon with tunable pore size for supercapacitors. 2016 , 27, 3531-3539	14
1443	Nitrogen-doped graphene/CoNi alloy encased within bamboo-like carbon nanotube hybrids as cathode catalysts in microbial fuel cells. 2016 , 307, 561-568	113
1442	Mussel-inspired one-pot synthesis of transition metal and nitrogen co-doped carbon (M/N-C) as efficient oxygen catalysts for Zn-air batteries. 2016 , 8, 5067-75	89
1441	Nitrogen-doped carbons by sustainable N- and C-containing natural resources as nonprecious catalysts and catalyst supports for low temperature fuel cells. 2016 , 58, 34-51	78
1440	Synthesis of heteroatom-carbon nanosheets by solution plasma processing using N-methyl-2-pyrrolidone as precursor. 2016 , 6, 6990-6996	19
1439	Carbon nanocomposite catalysts for oxygen reduction and evolution reactions: From nitrogen doping to transition-metal addition. 2016 , 29, 83-110	540
1438	Facile synthesis of surface N-doped Bi2O2CO3: Origin of visible light photocatalytic activity and in situ DRIFTS studies. 2016 , 307, 163-72	109
1437	Controlled synthesis of hollow micro/meso-pore nitrogen-doped carbon with tunable wall thickness and specific surface area as efficient electrocatalysts for oxygen reduction reaction. 2016 , 4, 2433-2437	54
1436	Enhancing pyridinic nitrogen level in graphene to promote electrocatalytic activity for oxygen reduction reaction. 2016 , 27, 055404	31
1435	Active sites of nitrogen-doped carbon materials for oxygen reduction reaction clarified using model catalysts. 2016 , 351, 361-5	2682

1434	N-Doped Food-Grade-Derived 3D Mesoporous Foams as Metal-Free Systems for Catalysis. 2016 , 6, 1408-1419	57
1433	Investigation on the reduction of the oxides of Pd and graphite in alkaline medium and the simultaneous evolution of oxygen reduction reaction and peroxide generation features. 2016 , 191, 81-89	22
1432	Catalytic activities enhanced by abundant structural defects and balanced N distribution of N-doped graphene in oxygen reduction reaction. 2016 , 306, 85-91	54
1431	Towards high-efficiency nanoelectrocatalysts for oxygen reduction through engineering advanced carbon nanomaterials. 2016 , 45, 1273-307	510
1430	Carbon materials for high volumetric performance supercapacitors: design, progress, challenges and opportunities. <i>Energy and Environmental Science</i> , 2016 , 9, 729-762	35.4 876
1429	A Microporous Graphitized Biocarbon with High Adsorption Capacity toward Benzene Volatile Organic Compounds (VOCs) from Humid Air at Ultralow Pressures. 2016 , 55, 3765-3774	41
1428	Seaweed biomass derived (Ni,Co)/CNT nanoaerogels: efficient bifunctional electrocatalysts for oxygen evolution and reduction reactions. 2016 , 4, 6376-6384	135
1427	Co9S8 nanoparticles encapsulated in nitrogen-doped mesoporous carbon networks with improved lithium storage properties. 2016 , 6, 31775-31781	54
1426	Co-supported catalysts on nitrogen and sulfur co-doped vertically-aligned carbon nanotubes for oxygen reduction reaction. 2016 , 6, 32676-32684	6
1425	A Facile Synthesis of Nitrogen/Sulfur Co-Doped Graphene for the Oxygen Reduction Reaction. 2016 , 8, 163-170	45
1424	Iron-rich nanoparticle encapsulated, nitrogen doped porous carbon materials as efficient cathode electrocatalyst for microbial fuel cells. 2016 , 315, 302-307	70
1423	Nitrogen and sulphur co-doped crumbled graphene for the oxygen reduction reaction with improved activity and stability in acidic medium. 2016 , 4, 6014-6020	39
1422	Bio-inspired carbon electro-catalysts for the oxygen reduction reaction. 2016 , 25, 228-235	19
1421	One-pot synthesis of triazine-framework derived catalysts with high performance for polymer electrolyte membrane fuel cells. 2016 , 6, 21617-21623	1
1420	Conducting Polymer-Based Catalysts. 2016 , 138, 2868-76	120
1419	Nitrogen and sulfur co-doped graphene aerogels as an efficient metal-free catalyst for oxygen reduction reaction in an alkaline solution. 2016 , 6, 22781-22790	37
1418	Sulfur-doping achieves efficient oxygen reduction in pyrolyzed zeolitic imidazolate frameworks. 2016 , 4, 4457-4463	51
1417	Preparation of three-dimensional nitrogen-doped graphene layers by gas foaming method and its electrochemical capacitive behavior. 2016 , 193, 293-301	13

1416	Mechanism for Forming B,C,N,O Rings from NH ₃ BH ₃ and CO ₂ via Reaction Discovery Computations. 2016 , 120, 1135-44	14
1415	Two-dimensional layered MoS ₂ : rational design, properties and electrochemical applications. <i>Energy and Environmental Science</i> , 2016 , 9, 1190-1209	35-4 432
1414	Dispersion stability of chemically reduced graphene oxide nanoribbons in organic solvents. 2016 , 6, 19389-19393	
1413	Ultra-high Rates and Reversible Capacity of Li-S Battery with a Nitrogen-doping Conductive Lewis Base Matrix. 2016 , 192, 467-474	22
1412	Effects of Surface Roughness and N-content on Oxygen Reduction Reaction Activity for the Carbon-based Catalyst Derived from Poultry Featherfiber. 2016 , 191, 876-886	41
1411	Nitrogen and sulfur co-doping of partially exfoliated MWCNTs as 3-D structured electrocatalysts for the oxygen reduction reaction. 2016 , 4, 5678-5684	56
1410	Nitrogen-Doped Carbon Nanoparticle-Carbon Nanofiber Composite as an Efficient Metal-Free Cathode Catalyst for Oxygen Reduction Reaction. 2016 , 8, 6962-71	129
1409	On the electrocatalytic activity of nitrogen-doped reduced graphene Oxide: Does the nature of nitrogen really control the activity towards oxygen reduction?. 2016 , 128, 339-347	27
1408	Prediction of electrocatalytic activity of some nitrogen-doped polyaromatic hydrocarbons by molecular modelling. 2016 , 42, 976-980	1
1407	Ionic liquid-assisted synthesis of dual-doped graphene as efficient electrocatalysts for oxygen reduction. 2016 , 102, 58-65	45
1406	Highly Functional Bioinspired Fe/N/C Oxygen Reduction Reaction Catalysts: Structure-Regulating Oxygen Sorption. 2016 , 8, 6464-71	40
1405	An efficient preparation of N-doped mesoporous carbon derived from milk powder for supercapacitors and fuel cells. 2016 , 196, 527-534	42
1404	Carbon dioxide activated carbon nanofibers with hierarchical micro-/mesoporosity towards electrocatalytic oxygen reduction. 2016 , 4, 5553-5560	28
1403	Novel synthesis of N-doped graphene as an efficient electrocatalyst towards oxygen reduction. 2016 , 9, 808-819	72
1402	Strongly Coupled Ternary Hybrid Aerogels of N-deficient Porous Graphitic-C ₃ N ₄ Nanosheets/N-Doped Graphene/NiFe-Layered Double Hydroxide for Solar-Driven Photoelectrochemical Water Oxidation. 2016 , 16, 2268-77	215
1401	Polystyrene Microspheres-Templated Nitrogen-Doped Graphene Hollow Spheres as Metal-Free Catalyst for Oxygen Reduction Reaction. 2016 , 188, 230-239	22
1400	Effect of transition metal induced pore structure on oxygen reduction reaction of electrospun fibrous carbon. 2016 , 260, 82-88	28
1399	Self-Assembled N/S Codoped Flexible Graphene Paper for High Performance Energy Storage and Oxygen Reduction Reaction. 2016 , 8, 2078-87	101

1398	Graphene-modified explosive lead styphnate composites. 2016 , 124, 683-691	10
1397	Nitrogen-doped Co/Co ₉ S ₈ /partly-graphitized carbon as durable catalysts for oxygen reduction in microbial fuel cells. 2016 , 307, 1-10	77
1396	Facile synthesis of N-rich carbon quantum dots by spontaneous polymerization and incision of solvents as efficient bioimaging probes and advanced electrocatalysts for oxygen reduction reaction. 2016 , 8, 2219-26	49
1395	Integration of inorganic nanostructures with polydopamine-derived carbon: tunable morphologies and versatile applications. 2016 , 8, 1770-88	54
1394	Macroscopic-scale synthesis of nitrogen-doped carbon nanofiber aerogels by template-directed hydrothermal carbonization of nitrogen-containing carbohydrates. 2016 , 19, 117-127	99
1393	Nitrogen-doped carbons prepared from eutectic mixtures as metal-free oxygen reduction catalysts. 2016 , 4, 478-488	32
1392	Highly sensitive simultaneous determination of cadmium (II), lead (II), copper (II), and mercury (II) ions on N-doped graphene modified electrode. 2016 , 760, 52-58	116
1391	Review on recent advances in nitrogen-doped carbons: preparations and applications in supercapacitors. 2016 , 4, 1144-1173	706
1390	One-step electrochemical synthesis of tunable nitrogen-doped graphene. 2016 , 4, 1233-1243	60
1389	Construction of reduced graphene oxide supported molybdenum carbides composite electrode as high-performance anode materials for lithium ion batteries. 2016 , 73, 459-464	27
1388	The application of graphene and its composites in oxygen reduction electrocatalysis: a perspective and review of recent progress. <i>Energy and Environmental Science</i> , 2016 , 9, 357-390	35-4 387
1387	N-doped graphene coupled with Co nanoparticles as an efficient electrocatalyst for oxygen reduction in alkaline media. 2016 , 302, 114-125	115
1386	Effect of nitrogen doping on titanium carbonitride-derived adsorbents used for arsenic removal. 2016 , 302, 375-385	19
1385	Prussian blue as a single precursor for synthesis of Fe/Fe ₃ C encapsulated N-doped graphitic nanostructures as bi-functional catalysts. 2016 , 18, 427-432	125
1384	Self-constructed carbon nanoparticles-coated porous biocarbon from plant moss as advanced oxygen reduction catalysts. 2016 , 181, 635-643	75
1383	A facile sonochemical route for the synthesis of MoS ₂ /Pd composites for highly efficient oxygen reduction reaction. 2017 , 35, 681-688	32
1382	The effect of varying N/C ratios of nitrogen precursors during non-metal graphene catalyst synthesis. 2017 , 42, 9069-9076	12
1381	Transition metal/nitrogen/carbon nanostructured catalysts for the oxygen reduction reaction: From mechanistic insights to structural optimization. 2017 , 10, 1449-1470	122

1380	Oxygen Binding to Active Sites of Fe-N-C ORR Electrocatalysts Observed by Ambient-Pressure XPS. 2017 , 121, 2836-2843	97
1379	Polymerizable ionic liquid-derived carbon for oxygen reduction and evolution. 2017 , 47, 351-359	6
1378	Facile synthesis of nitrogen-doped graphene via low-temperature pyrolysis: The effects of precursors and annealing ambience on metal-free catalytic oxidation. 2017 , 115, 649-658	209
1377	Bottom-up fabrication of nitrogen-doped mesoporous carbon nanosheets as high performance oxygen reduction catalysts. 2017 , 492, 8-14	10
1376	An efficient exfoliation method to obtain graphitic carbon nitride nanosheets with superior visible-light photocatalytic activity. 2017 , 42, 7930-7937	31
1375	Synthesis of Mn ₃ O ₄ /N-doped graphene hybrid and its improved electrochemical performance for lithium-ion batteries. 2017 , 43, 4655-4662	27
1374	Nanocarbon for Oxygen Reduction Electrocatalysis: Dopants, Edges, and Defects. 2017 , 29, 1604103	544
1373	Cobalt sulfide nanoparticles anchored in three-dimensional carbon nanosheet networks for lithium and sodium ion batteries with enhanced electrochemical performance. 2017 , 492, 41-50	47
1372	Graphene-based Composites for Electrochemical Energy Storage. 2017 ,	9
1371	Graphene Electrocatalysts for Fiber Dye-Sensitized Solar Cells. 2017 , 79-105	
1370	Structure-activity relationship of doped-nitrogen (N)-based metal-free active sites on carbon for oxygen reduction reaction. 2017 , 115, 763-772	79
1369	2D Layered non-precious metal mesoporous electrocatalysts for enhanced oxygen reduction reaction. 2017 , 5, 4868-4878	45
1368	Surfactant-exfoliated 2D hexagonal boron nitride (2D-hBN): role of surfactant upon the electrochemical reduction of oxygen and capacitance applications. 2017 , 5, 4103-4113	43
1367	Intercalated Co(OH) ₂ -derived flower-like hybrids composed of cobalt sulfide nanoparticles partially embedded in nitrogen-doped carbon nanosheets with superior lithium storage. 2017 , 5, 3628-3637	28
1366	Free-standing vertically-aligned nitrogen-doped carbon nanotube arrays/graphene as air-breathing electrodes for rechargeable zinc-air batteries. 2017 , 5, 2488-2495	71
1365	Thermally Converted CoO Nanoparticles Embedded into N-Doped Carbon Layers as Highly Efficient Bifunctional Electrocatalysts for Oxygen Reduction and Oxygen Evolution Reactions. 2017 , 9, 1503-1510	27
1364	Facile fabrication of N-doped three-dimensional reduced graphene oxide as a superior electrocatalyst for oxygen reduction reaction. 2017 , 534, 30-39	32
1363	A versatile biomass derived carbon material for oxygen reduction reaction, supercapacitors and oil/water separation. 2017 , 33, 334-342	288

1362	A high-performance composite ORR catalyst based on the synergy between binary transition metal nitride and nitrogen-doped reduced graphene oxide. 2017 , 5, 5829-5837	70
1361	Electrocatalysts for low temperature fuel cells. 2017 , 285, 3-12	41
1360	Layered Spongy-like O-Doped g-C3N4: An Efficient Non-Metal Oxygen Reduction Catalyst for Alkaline Fuel Cells. 2017 , 164, F354-F363	24
1359	Investigation on the ability of heteroatom-doped graphene for biorecognition. 2017 , 9, 3530-3536	7
1358	Using aminopyrine as a nitrogen-enriched small molecule precursor to synthesize high-performing nitrogen doped mesoporous carbon for catalyzing oxygen reduction reaction. 2017 , 7, 669-677	5
1357	Atomic Defects in Two-Dimensional Materials: From Single-Atom Spectroscopy to Functionalities in Opto-/Electronics, Nanomagnetism, and Catalysis. 2017 , 29, 1606434	146
1356	Evolution of Phosphorus-Containing Groups on Activated Carbons during Heat Treatment. 2017 , 33, 3112-3122	40
1355	Pyrolysis of Iron Vitamin B9 As a Potential Nonprecious Metal Electrocatalyst for Oxygen Reduction Reaction. 2017 , 5, 2897-2905	11
1354	Nitrogen-Doped Porous Carbons from Ionic Liquids@MOF: Remarkable Adsorbents for Both Aqueous and Nonaqueous Media. 2017 , 9, 10276-10285	106
1353	Nitrogen doped graphene anchored cobalt oxides efficiently bi-functionally catalyze both oxygen reduction reaction and oxygen evolution reaction. 2017 , 42, 5899-5907	38
1352	Self-Assembled Fe-N-Doped Carbon Nanotube Aerogels with Single-Atom Catalyst Feature as High-Efficiency Oxygen Reduction Electrocatalysts. 2017 , 13, 1603407	207
1351	Fast Diffusion of O on Nitrogen-Doped Graphene to Enhance Oxygen Reduction and Its Application for High-Rate Zn-Air Batteries. 2017 , 9, 7125-7130	41
1350	Design and Application of Foams for Electrocatalysis. 2017 , 9, 1721-1743	202
1349	Fe and N Co-doped Carbons Derived from an Ionic Liquid as Active Bifunctional Oxygen Catalysts. 2017 , 4, 1148-1153	13
1348	Reactive template synthesis of nitrogen-doped graphene-like carbon nanosheets derived from hydroxypropyl methylcellulose and dicyandiamide as efficient oxygen reduction electrocatalysts. 2017 , 345, 120-130	24
1347	In situ O ₂ -emission assisted synthesis of molybdenum carbide nanomaterials as an efficient electrocatalyst for hydrogen production in both acidic and alkaline media. 2017 , 5, 5178-5186	55
1346	Nitrogen-functionalized reduced graphene oxide as carbocatalysts with enhanced activity for polyaromatic hydrocarbon hydrogenation. 2017 , 7, 1217-1226	24
1345	Well-Defined ZIF-Derived Fe-N Codoped Carbon Nanoframes as Efficient Oxygen Reduction Catalysts. 2017 , 9, 9699-9709	134

1344	Synthesis of electrocatalytically functional carbon honeycombs through cooking with molecule precursors. 2017 , 42, 6472-6481	12
1343	Potential of Si-doped boron nitride nanotubes as a highly active and metal-free electrocatalyst for oxygen reduction reaction: A DFT study. 2017 , 226, 129-138	10
1342	A simplistic approach to green future with eco-friendly luminescent carbon dots and their application to fluorescent nano-sensor 'turn-off' probe for selective sensing of copper ions. 2017 , 75, 1456-1464	67
1341	A general approach for the direct fabrication of metal oxide-based electrocatalysts for efficient bifunctional oxygen electrodes. 2017 , 1, 823-831	23
1340	Nanomaterials for Fuel Cell Technology. 2017 , 569-596	7
1339	Facile Integration of Hierarchical Pores and N,P-Codoping in Carbon Networks Enables Efficient Oxygen Reduction Reaction. 2017 , 238, 375-383	30
1338	Preparation and characterization of Cu ₂ N/C electrocatalysts for oxygen reduction reaction in alkaline anion exchange membrane fuel cells. 2017 , 52, 35-41	18
1337	In Situ Preparation of Pt Nanoparticles Supported on N-Doped Carbon as Highly Efficient Electrocatalysts for Hydrogen Production. 2017 , 121, 8923-8930	24
1336	Mesoporous Co-CoO/N-CNR nanostructures as high-performance air cathode for lithium-oxygen batteries. 2017 , 354, 48-56	27
1335	Highly active and stable non noble metal catalyst for oxygen reduction reaction. 2017 , 42, 10423-10434	26
1334	Solution plasma synthesis of a boron-carbon-nitrogen catalyst with a controllable bond structure. 2017 , 19, 15264-15272	24
1333	Interconnected Hierarchically Porous Fe, N-Codoped Carbon Nanofibers as Efficient Oxygen Reduction Catalysts for Zn-Air Batteries. 2017 , 9, 16178-16186	74
1332	Nitrogen-doped porous carbon derived from Fe-MIL nanocrystals as an electrocatalyst for efficient oxygen reduction. 2017 , 7, 22610-22618	21
1331	Improving ORR activity of carbon nanotubes by hydrothermal carbon deposition method. 2017 , 26, 712-718	59
1330	Controlled Synthesis of Nitrogen-Doped Graphene on Ruthenium from Azafullerene. 2017 , 17, 2887-2894	22
1329	Hybrid bimetallic-N ₄ electrocatalyst derived from a pyrolyzed ferrocene-co-corrole complex for oxygen reduction reaction. 2017 , 5, 9279-9286	14
1328	Surface-rough Fe-N/C composite wrapped on carbon nanotubes as efficient electrocatalyst for oxygen reduction reaction. 2017 , 28, 225401	10
1327	Hierarchically porous nitrogen-doped carbon nanotubes derived from core-shell ZnO@zeolitic imidazolate framework nanorods for highly efficient oxygen reduction reactions. 2017 , 5, 12322-12329	75

1326	Defect Chemistry of Nonprecious-Metal Electrocatalysts for Oxygen Reactions. 2017 , 29, 1606459	943
1325	Nitrogen-doped graphene hydrogel-supported NiPt-CeO _x nanocomposites and their superior catalysis for hydrogen generation from hydrazine at room temperature. 2017 , 10, 2856-2865	30
1324	Core-shell N-doped carbon spheres for high-performance supercapacitors. 2017 , 52, 9673-9682	16
1323	Nitrogen-Doped Graphitic Porous Carbon Nanosheets Derived from In Situ Formed g-C ₃ N ₄ Templates for the Oxygen Reduction Reaction. 2017 , 12, 1816-1823	35
1322	Enhanced cycle stability of silicon nanoparticles coated with nitrogen-doped carbon layer for lithium-ion battery anode. 2017 , 17, 1087-1093	22
1321	Sustainable metal-free carbogels as oxygen reduction electrocatalysts. 2017 , 5, 16336-16343	21
1320	Fe, N, S-doped porous carbon as oxygen reduction reaction catalyst in acidic medium with high activity and durability synthesized using CaCl ₂ as template. 2017 , 38, 673-682	16
1319	One-step synthesis of three-dimensional nitrogen and sulfur co-doped graphene networks as low cost metal-free counter electrodes for dye-sensitized solar cells. 2017 , 311, 302-309	32
1318	N-Doping of graphene oxide at low temperature for the oxygen reduction reaction. 2017 , 53, 873-876	100
1317	Multiheteroatom-Doped Porous Carbon Catalyst for Oxygen Reduction Reaction Prepared using 3D Network of ZIF-8/Polymeric Nanofiber as a Facile-Doping Template. 2017 , 9, 21083-21088	36
1316	Gram-scale production of nitrogen doped graphene using a 1,3-dipolar organic precursor and its utilisation as a stable, metal free oxygen evolution reaction catalyst. 2017 , 53, 7748-7751	6
1315	Electrochemical catalytic contribution of transition metals at the center of porphyrin macrocycle structures as catalysts for oxygen reduction reaction. 2017 , 54, 200-204	9
1314	Current challenge and perspective of PGM-free cathode catalysts for PEM fuel cells. 2017 , 11, 286-298	64
1313	Highly active and durable nitrogen doped-reduced graphene oxide/double perovskite bifunctional hybrid catalysts. 2017 , 5, 13019-13031	34
1312	Lettuce-like, Hierarchically Porous and Nitrogen-Doped Carbon Catalyst: As a Superb non-Precious-Metal Oxygen Reduction Reaction Electrocatalyst in both Alkaline and Acidic Media. 2017 , 2, 4176-4186	
1311	In situ, facile synthesis of La _{0.8} Sr _{0.2} MnO ₃ /nitrogen-doped graphene: a high-performance catalyst for rechargeable Li-O ₂ batteries. 2017 , 23, 2241-2250	9
1310	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. 2017 , 1, 1524-1532	14
1309	Promotion of Electrocatalytic Hydrogen Evolution Reaction on Nitrogen-Doped Carbon Nanosheets with Secondary Heteroatoms. 2017 , 11, 7293-7300	271

1308	Soft template-assisted method for synthesis of nitrogen and sulfur co-doped three-dimensional reduced graphene oxide as an efficient metal free catalyst for oxygen reduction reaction. 2017 , 122, 237-246	73
1307	Nanosized-Fe ₃ PtN supported on nitrogen-doped carbon as electro-catalyst for oxygen reduction reaction. 2017 , 42, 15761-15769	1
1306	A rational design for enhanced oxygen reduction: Strongly coupled silver nanoparticles and engineered perovskite nanofibers. 2017 , 38, 392-400	44
1305	Unraveling the Hydrogen Evolution Reaction Active Sites in N-Functionalized Interconnected Graphene Quantum Dots. 2017 , 2, 4511-4515	6
1304	Fe/N/S-composited hierarchically porous carbons with optimized surface functionality, composition and nanoarchitecture as electrocatalysts for oxygen reduction reaction. 2017 , 352, 208-217	33
1303	A graphene quantum dot/phthalocyanine conjugate: a synergistic catalyst for the oxygen reduction reaction. 2017 , 7, 26113-26119	29
1302	A simple method for preparing a binder-free paper-based air cathode for microbial fuel cells. 2017 , 241, 325-331	30
1301	Recent Developments in Electrocatalysts and Hybrid Electrocatalyst Support Systems for Polymer Electrolyte Fuel Cells. 2017 , 197-239	3
1300	On-surface synthesis of different boron-nitrogen-carbon heterostructures from dimethylamine borane. 2017 , 120, 185-193	11
1299	General Oriented Formation of Carbon Nanotubes from Metal-Organic Frameworks. 2017 , 139, 8212-8221	598
1298	2D Porous Carbons prepared from Layered Organic-Inorganic Hybrids and their Use as Oxygen-Reduction Electrocatalysts. 2017 , 29, 1700707	95
1297	Achieving excellent activity and stability for oxygen reduction electrocatalysis by hollow mesoporous iron-nitrogen-doped graphitic carbon spheres. 2017 , 5, 12243-12251	40
1296	A monolithic air cathode derived from bamboo for microbial fuel cells. 2017 , 7, 28469-28475	14
1295	Electrochemically Prepared Three-dimensional Porous Nitrogen-doped Graphene Modified Electrode for Non-enzymatic Detection of Hydrogen Peroxide. 2017 , 29, 2083-2089	9
1294	Three-dimensional nanoarchitectures of Co nanoparticles inlayed on N-doped macroporous carbon as bifunctional electrocatalysts for glucose fuel cells. 2017 , 5, 14763-14774	34
1293	Biomass derived porous nitrogen doped carbon for electrochemical devices. 2017 , 2, 84-99	106
1292	3D interconnected hierarchically porous N-doped carbon with NH ₃ activation for efficient oxygen reduction reaction. 2017 , 210, 57-66	114
1291	2D quasi-ordered nitrogen and sulfur co-doped carbon materials from ionic liquid as metal-free electrocatalysts for ORR. 2017 , 7, 17941-17949	21

1290	Pyridinic and graphitic nitrogen-rich graphene for high-performance supercapacitors and metal-free bifunctional electrocatalysts for ORR and OER. 2017 , 7, 17950-17958	82
1289	N-Doped graphene as a metal-free catalyst for glucose oxidation to succinic acid. 2017 , 19, 1999-2005	44
1288	Perfectly ordered mesoporous iron-nitrogen doped carbon as highly efficient catalyst for oxygen reduction reaction in both alkaline and acidic electrolytes. 2017 , 36, 286-294	171
1287	Chrysanthemum-derived N and S co-doped porous carbon for efficient oxygen reduction reaction and aluminum-air battery. 2017 , 239, 1-9	33
1286	Simultaneous co-doping of N and S by a facile in-situ polymerization of 6-N,N-dibutylamine-1,3,5-triazine-2,4-dithiol on graphene framework: An efficient and durable oxygen reduction catalyst in alkaline medium. 2017 , 118, 531-544	28
1285	Facile synthesis of N-doped porous carbon encapsulated bimetallic PdCo as a highly active and durable electrocatalyst for oxygen reduction and ethanol oxidation. 2017 , 5, 10876-10884	73
1284	Two-dimensional nanosheets for electrocatalysis in energy generation and conversion. 2017 , 5, 7257-7284	186
1283	Recent Advances in Ultrathin Two-Dimensional Nanomaterials. 2017 , 117, 6225-6331	2919
1282	Combined Optoelectronic and Electrochemical Study of Nitrogenated Carbon Electrodes. 2017 , 121, 6596-6604	16
1281	Three-Dimensional Hierarchical Porous Nitrogen and Sulfur-Codoped Graphene Nanosheets for Oxygen Reduction in Both Alkaline and Acidic Media. 2017 , 9, 987-996	32
1280	Cobalt nanoparticles/nitrogen-doped graphene with high nitrogen doping efficiency as noble metal-free electrocatalysts for oxygen reduction reaction. 2017 , 490, 576-586	25
1279	Multifunctional Carbon-Based Metal-Free Electrocatalysts for Simultaneous Oxygen Reduction, Oxygen Evolution, and Hydrogen Evolution. 2017 , 29, 1604942	510
1278	Functions in cooperation for enhanced oxygen reduction reaction: the independent roles of oxygen and nitrogen sites in metal-free nanocarbon and their functional synergy. 2017 , 5, 3239-3248	31
1277	Molybdenum carbide nanoparticles embedded in nitrogen-doped porous carbon nanofibers as a dual catalyst for hydrogen evolution and oxygen reduction reactions. 2017 , 114, 628-634	83
1276	Nitrified coke wastewater sludge flocs: an attractive precursor for N,S dual-doped graphene-like carbon with ultrahigh capacitance and oxygen reduction performance. 2017 , 5, 2012-2020	33
1275	Bamboo charcoal as a cost-effective catalyst for an air-cathode of microbial fuel cells. 2017 , 224, 585-592	73
1274	Nitrogen-doped hollow mesoporous carbon spheres as a highly active and stable metal-free electrocatalyst for oxygen reduction. 2017 , 114, 177-186	111
1273	Ultrafine Co-doped ZnO nanoparticles on reduced graphene oxide as an efficient electrocatalyst for oxygen reduction reaction. 2017 , 224, 561-570	31

1272	Highly selective liquid-phase hydrogenation of furfural over N-doped carbon supported metallic nickel catalyst under mild conditions. 2017 , 429, 51-59	57
1271	Atomic interpretation of high activity on transition metal and nitrogen-doped carbon nanofibers for catalyzing oxygen reduction. 2017 , 5, 3336-3345	67
1270	Porous Boron Carbon Nitride Nanosheets as Efficient Metal-Free Catalysts for the Oxygen Reduction Reaction in Both Alkaline and Acidic Solutions. 2017 , 2, 306-312	134
1269	An insight into metal organic framework derived N-doped graphene for the oxidative degradation of persistent contaminants: formation mechanism and generation of singlet oxygen from peroxymonosulfate. 2017 , 4, 315-324	272
1268	Surfactant-free synthesis of three-dimensional nitrogen-doped hierarchically porous carbon and its application as an electrode modification material for simultaneous sensing of ascorbic acid, dopamine and uric acid. 2017 , 142, 478-484	27
1267	Synthesis of graphitic-N and amino-N in nitrogen-doped carbon via a solution plasma process and exploration of their synergic effect for advanced oxygen reduction reaction. 2017 , 5, 2073-2082	67
1266	Fe/Fe ₃ C@N-doped porous carbon hybrids derived from nano-scale MOFs: robust and enhanced heterogeneous catalyst for peroxymonosulfate activation. 2017 , 7, 396-404	100
1265	Scalable preparation of sized-controlled Co-N-C electrocatalyst for efficient oxygen reduction reaction. 2017 , 368, 46-56	50
1264	Building three-dimensional porous nano-network for the improvement of iron and nitrogen-doped carbon oxygen reduction electrocatalyst. 2017 , 125, 640-648	36
1263	Chitosan Intercalated Metal Organic Gel as a Green Precursor of Fe Entrenched and Fe Distributed N-Doped Mesoporous Graphitic Carbon for Oxygen Reduction Reaction. 2017 , 2, 8762-8770	11
1262	Biomass derived 2D carbons via a hydrothermal carbonization method as efficient bifunctional ORR/HER electrocatalysts. 2017 , 5, 23481-23488	122
1261	Synthesis of Nitrogen-Doped Porous Carbon Spheres with Improved Porosity toward the Electrocatalytic Oxygen Reduction. 2017 , 5, 11105-11116	45
1260	Investigation of Fe ₂ N@carbon encapsulated in N-doped graphene-like carbon as a catalyst in sustainable zinc-air batteries. 2017 , 7, 5670-5676	39
1259	Atomic layer deposition of TiO ₂ on nitrogen-doped carbon nanofibers supported Ru nanoparticles for flexible Li-O ₂ battery: A combined DFT and experimental study. 2017 , 368, 88-96	18
1258	From covalent triazine-based frameworks to N-doped porous carbon/reduced graphene oxide nanosheets: efficient electrocatalysts for oxygen reduction. 2017 , 5, 23170-23178	47
1257	Two-Dimensional N,S-Codoped Carbon/CoS Catalysts Derived from Co(OH) Nanosheets for Oxygen Reduction Reaction. 2017 , 9, 36755-36761	38
1256	Spectroscopic observation of oxygen dissociation on nitrogen-doped graphene. 2017 , 7, 7960	32
1255	Straightforward Synthesis of Hierarchically Porous Nitrogen-Doped Carbon via Pyrolysis of Chitosan/Urea/KOH Mixtures and Its Application as a Support for Formic Acid Dehydrogenation Catalysts. 2017 , 5, 9935-9944	38

1254	Multifunctional MoN/C@MoS ₂ Electrocatalysts for HER, OER, ORR, and Zn-Air Batteries. 2017 , 27, 1702300	519
1253	Heteroatom-Doped Carbon Nanotube and Graphene-Based Electrocatalysts for Oxygen Reduction Reaction. 2017 , 13, 1702002	138
1252	Tailoring platelet carbon nanofibers for high-purity Pyridinic-N doping: A novel method for synthesizing oxygen reduction reaction catalysts. 2017 , 125, 401-408	38
1251	Synthesis of dimethyl carbonate on single Cu atom embedded in N-doped graphene: Effect of nitrogen species. 2017 , 443, 1-13	11
1250	Easy synthesis of N-doped graphene by milling exfoliation with electrocatalytic activity towards the Oxygen Reduction Reaction (ORR). 2017 , 42, 30383-30388	17
1249	On site formation of N-doped carbon nanofibers, an efficient electrocatalyst for fuel cell applications. 2017 , 42, 30339-30348	10
1248	Effect of Dimensionality and Doping in Quasi-"One-Dimensional (1-D)" Nitrogen-Doped Graphene Nanoribbons on the Oxygen Reduction Reaction. 2017 , 9, 38409-38418	10
1247	Enhancing the pyridinic N content of Nitrogen-doped graphene and improving its catalytic activity for oxygen reduction reaction. 2017 , 42, 28298-28308	91
1246	A high-performance mesoporous carbon supported nitrogen-doped carbon electrocatalyst for oxygen reduction reaction. 2017 , 28, 485701	10
1245	Robust theoretical modelling of core ionisation edges for quantitative electron energy loss spectroscopy of B- and N-doped graphene. 2017 , 29, 225303	5
1244	Effect of new melamine-terephthaldehyde resin modified graphene oxide on thermal and mechanical properties of PVC. 2017 , 63, 382-391	35
1243	Porous Hollow-Structured LaNiO ₃ Stabilized N,S-Codoped Graphene as an Active Electrocatalyst for Oxygen Reduction Reaction. 2017 , 13, 1701884	48
1242	Effect of a sulfur and nitrogen dual-doped FeNS electrocatalyst for the oxygen reduction reaction. 2017 , 5, 19790-19799	41
1241	Metal-Organic Framework-Derived Reduced Graphene Oxide-Supported ZnO/ZnCoO/C Hollow Nanocages as Cathode Catalysts for Aluminum-O Batteries. 2017 , 9, 31841-31852	52
1240	Single Cobalt Atom and N Codoped Carbon Nanofibers as Highly Durable Electrocatalyst for Oxygen Reduction Reaction. 2017 , 7, 6864-6871	189
1239	Metal-free nitrogen-doped carbon nanoribbons as highly efficient electrocatalysts for oxygen reduction reaction. 2017 , 124, 34-41	32
1238	Nitrogen-doped micropore-dominant carbon derived from waste pine cone as a promising metal-free electrocatalyst for aqueous zinc/air batteries. 2017 , 365, 76-82	24
1237	Maximizing the utilization of Fe _{1-x} C/CN _x centres for an air-cathode material and practical demonstration of metal-air batteries. 2017 , 5, 20252-20262	35

1236	Selective Etching of Nitrogen-Doped Carbon by Steam for Enhanced Electrochemical CO ₂ Reduction. 2017 , 7, 1701456	146
1235	Alfalfa Leaf-Derived Porous Heteroatom-Doped Carbon Materials as Efficient Cathodic Catalysts in Microbial Fuel Cells. 2017 , 5, 9766-9773	43
1234	Molecular-Level Insights into Oxygen Reduction Catalysis by Graphite-Conjugated Active Sites. 2017 , 7, 7680-7687	25
1233	Nitrogen and Fluorine-Codoped Porous Carbons as Efficient Metal-Free Electrocatalysts for Oxygen Reduction Reaction in Fuel Cells. 2017 , 9, 32859-32867	66
1232	Cobalt ion-coordinated self-assembly synthesis of nitrogen-doped ordered mesoporous carbon nanosheets for efficiently catalyzing oxygen reduction. 2017 , 9, 15534-15541	38
1231	Deep-Eutectic Solvents Derived Nitrogen-Doped Graphitic Carbon as a Superior Electrocatalyst for Oxygen Reduction. 2017 , 9, 32737-32744	29
1230	A Facile and Versatile Electrochemical Tuning of Graphene for Oxygen Reduction Reaction in Acidic, Neutral and Alkali media. 2017 , 2, 8541-8552	2
1229	Three-Dimensional Hierarchical Architectures Derived from Surface-Mounted Metal-Organic Framework Membranes for Enhanced Electrocatalysis. 2017 , 56, 13781-13785	144
1228	Exposed N and S Active Sites: An Indicator for Oxygen Reduction on Metal-Free Yam-Derived Porous Carbons. 2017 , 4, 3156-3162	5
1227	A green, cheap, high-performance carbonaceous catalyst derived from <i>Chlorella pyrenoidosa</i> for oxygen reduction reaction in microbial fuel cells. 2017 , 42, 27657-27665	28
1226	Edge-Abundant Porous Fe ₃ O ₄ Nanoparticles Docking in Nitrogen-Rich Graphene Aerogel as Efficient and Durable Electrocatalyst for Oxygen Reduction. 2017 , 4, 2442-2447	28
1225	Effect of molybdophosphoric acid in iron and cobalt graphene/chitosan composites for oxygen reduction reaction. 2017 , 42, 28093-28101	11
1224	Fabrication of compressible and recyclable macroscopic g-C ₃ N ₄ /GO aerogel hybrids for visible-light harvesting: A promising strategy for water remediation. 2017 , 219, 241-248	112
1223	Bifunctional MOF-Derived Carbon Photonic Crystal Architectures for Advanced Zn air and Li Batteries: Highly Exposed Graphitic Nitrogen Matters. 2017 , 27, 1701971	121
1222	Coassembly and high ORR performance of monodisperse Pt nanocrystals with a mesopore-rich nitrogen-doped graphene aerogel. 2017 , 5, 17544-17548	25
1221	Recent advances in air electrodes for Zn air batteries: electrocatalysis and structural design. 2017 , 4, 945-976	174
1220	Solvothermal Fabrication of Nitrogen-Doped Carbon Nanoparticles as Efficient Catalyst for Oxygen Reduction in KOH Electrolyte. 2017 , 2, 5390-5393	1
1219	FeS ₂ Nanoparticles Embedded in Reduced Graphene Oxide toward Robust, High-Performance Electrocatalysts. 2017 , 7, 1700482	112

1218	Electrocatalysts Derived from Metal-Organic Frameworks for Oxygen Reduction and Evolution Reactions in Aqueous Media. 2017 , 13, 1701143	125
1217	A hierarchical 2D NiMoS nanosheet@nitrogen doped graphene hybrid as a Pt-free cathode for high-performance dye sensitized solar cells and fuel cells. 2017 , 5, 17896-17908	46
1216	Living Fe mineral@bacteria encrustation-derived and self-templated preparation of a mesoporous Fe-N-C electrocatalyst with high activity for oxygen reduction. 2017 , 123, 481-491	31
1215	Kinetics of Oxygen Electroreduction on MeNiO ₂ (Me = Fe, Co, Cu) Catalysts in Acidic Medium: Insights on the Effect of the Transition Metal. 2017 , 121, 17796-17817	77
1214	Role of Pyridinic-N for Nitrogen-doped graphene quantum dots in oxygen reaction reduction. 2017 , 508, 154-158	44
1213	Nitrogen-Doped Porous Graphdiyne: A Highly Efficient Metal-Free Electrocatalyst for Oxygen Reduction Reaction. 2017 , 9, 29744-29752	131
1212	High-performance Waste Biomass-derived Microporous Carbon Electrocatalyst with a Towel-like Surface for Alkaline Metal/air batteries. 2017 , 250, 384-392	11
1211	Fe/N/C Nanotubes with Atomic Fe Sites: A Highly Active Cathode Catalyst for Alkaline Polymer Electrolyte Fuel Cells. 2017 , 7, 6485-6492	108
1210	Quantum Chemical Predictions on Alkaline-Earth Doped Graphene: A Density Functional Theory (DFT) Based Investigation for a Novel Class of Carbon-Based Two-Dimensional Nanomaterials toward Electrochemical, Catalytic, and Electronic Applications. 2017 , 77, 629-636	1
1209	Exploring Novel Dopants in Graphene: Unique Properties, Group Trends, and New Insights from DFT for Electrocatalytic Applications. 2017 , 77, 1383-1391	
1208	Noble metal-free catalysts for oxygen reduction reaction. 2017 , 60, 1494-1507	35
1207	Synergistic Effects between Doped Nitrogen and Phosphorus in Metal-Free Cathode for Zinc-Air Battery from Covalent Organic Frameworks Coated CNT. 2017 , 9, 44519-44528	48
1206	Nitrogen doped nanoporous graphene: an efficient metal-free electrocatalyst for the oxygen reduction reaction. 2017 , 7, 55555-55566	12
1205	Rose flower-like nitrogen-doped NiCo ₂ O ₄ /carbon used as cathode electrocatalyst for oxygen reduction in air cathode microbial fuel cell. 2017 , 258, 1219-1227	35
1204	Modulating the electronic and magnetic properties of graphene. 2017 , 7, 51546-51580	39
1203	Hierarchical Mesoporous NiO/MnO@PANI Core-Shell Microspheres, Highly Efficient and Stable Bifunctional Electrocatalysts for Oxygen Evolution and Reduction Reactions. 2017 , 9, 42676-42687	65
1202	Halloysite-derived nitrogen doped carbon electrocatalysts for anion exchange membrane fuel cells. 2017 , 372, 82-90	42
1201	Cobalt sulfide supported on nitrogen and sulfur dual-doped reduced graphene oxide for highly active oxygen reduction reaction. 2017 , 7, 50246-50253	27

1200	Towards understanding ORR activity and electron-transfer pathway of M-Nx/C electro-catalyst in acidic media. 2017 , 356, 229-236	20
1199	High performance ORR electrocatalysts prepared via one-step pyrolysis of riboflavin. 2017 , 38, 1668-1679	7
1198	Carbon-Heteroatom Bond Formation by an Ultrasonic Chemical Reaction for Energy Storage Systems. 2017 , 29, 1702747	23
1197	Three-Dimensional Framework of Graphene Nanomeshes Shell/CoO Synthesized as Superior Bifunctional Electrocatalyst for Zinc-Air Batteries. 2017 , 9, 41273-41283	34
1196	A nanocrystalline structured NiO/MnO ₂ @nitrogen-doped graphene oxide hybrid nanocomposite for high performance supercapacitors. 2017 , 41, 15517-15527	32
1195	Advances, challenges and promises of carbon dots. 2017 , 4, 1963-1986	88
1194	Facile synthesis of nitrogen-doped graphene containing azobenzene moieties for the oxygen reduction reaction. 2017 , 653, 33-38	0
1193	Tuning the performance of nitrogen, phosphorus co-doped nanoporous carbon for oxygen reduction reaction. 2017 , 80, 728-737	5
1192	Fabrication of nitrogen-doped nano-onions and their electrocatalytic activity toward the oxygen reduction reaction. 2017 , 7, 4178	40
1191	Synthesis of three-dimensional graphene aerogel encapsulated n-octadecane for enhancing phase-change behavior and thermal conductivity. 2017 , 5, 15191-15199	77
1190	A Facile Activation Strategy for an MOF-Derived Metal-Free Oxygen Reduction Reaction Catalyst: Direct Access to Optimized Pore Structure and Nitrogen Species. 2017 , 7, 6082-6088	141
1189	Improved durability of Pt catalyst supported on N-doped mesoporous graphitized carbon for oxygen reduction reaction in polymer electrolyte membrane fuel cells. 2017 , 122, 746-755	29
1188	One-step and low-temperature synthesis of iodine-doped graphene and its multifunctional applications for hydrogen evolution reaction and electrochemical sensing. 2017 , 246, 1155-1162	16
1187	Different types of nitrogen species in nitrogen-doped carbon material: The formation mechanism and catalytic role on oxygen reduction reaction. 2017 , 245, 957-966	34
1186	A facile approach to tailoring electrocatalytic activities of imine-rich nitrogen-doped graphene for oxygen reduction reaction. 2017 , 122, 515-523	22
1185	Self-assembled dopamine nanolayers wrapped carbon nanotubes as carbon-carbon bi-functional nanocatalyst for highly efficient oxygen reduction reaction and antiviral drug monitoring. 2017 , 71, 51-60	10
1184	Nitrogen-doped graphene hydrogels as potential adsorbents and photocatalysts for environmental remediation. 2017 , 327, 751-763	56
1183	Hybrid nanocomposites of nanostructured Co ₃ O ₄ interfaced with reduced/nitrogen-doped graphene oxides for selective improvements in electrocatalytic and/or supercapacitive properties. 2017 , 7, 33166-33176	29

1182	Fe/N/S-doped mesoporous carbon nanostructures as electrocatalysts for oxygen reduction reaction in acid medium. 2017 , 203, 889-898	138
1181	Nitrogen-Doped Hierarchical Porous Carbons Derived from Sodium Alginate as Efficient Oxygen Reduction Reaction Electrocatalysts. 2017 , 9, 809-815	32
1180	A metal-free ORR/OER bifunctional electrocatalyst derived from metal-organic frameworks for rechargeable Zn-Air batteries. 2017 , 111, 641-650	233
1179	Cobalt-Embedded Nitrogen-Doped Carbon Nanotubes as High-Performance Bifunctional Oxygen Catalysts. 2017 , 5, 1265-1271	23
1178	Advancements in rationally designed PGM-free fuel cell catalysts derived from metal-organic frameworks. 2017 , 4, 20-37	111
1177	Active sites for oxygen reduction reaction on nitrogen-doped carbon nanotubes derived from polyaniline. 2017 , 112, 219-229	149
1176	Plasma-etched, S-doped graphene for effective hydrogen evolution reaction. 2017 , 42, 4184-4192	41
1175	3D cobalt-embedded nitrogen-doped graphene xerogel as an efficient electrocatalyst for oxygen reduction reaction in an alkaline medium. 2017 , 47, 13-23	5
1174	Simple solution-based synthesis of pyridinic-rich nitrogen-doped graphene nanoplatelets for supercapacitors. 2017 , 195, 1071-1078	46
1173	Noble-metal-free hetero-structural CdS/Nb ₂ O ₅ /N-doped-graphene ternary photocatalytic system as visible-light-driven photocatalyst for hydrogen evolution. 2017 , 201, 202-210	127
1172	Ni ₃ Fe-N Doped Carbon Sheets as a Bifunctional Electrocatalyst for Air Cathodes. 2017 , 7, 1601172	305
1171	Room temperature ferromagnetism in N ₂ plasma treated graphene oxide. 2017 , 692, 332-338	19
1170	Surface amination of carbon nanoparticles for modification of epoxy resins: plasma-treatment vs. wet-chemistry approach. 2017 , 87, 422-448	39
1169	Synergistic effect of Nitrogen-doped hierarchical porous carbon/graphene with enhanced catalytic performance for oxygen reduction reaction. 2017 , 393, 144-150	38
1168	Graphene incorporated, N doped activated carbon as catalytic electrode in redox active electrolyte mediated supercapacitor. 2017 , 337, 25-35	68
1167	Promotion of oxygen reduction performance by Fe ₃ O ₄ nanoparticles support nitrogen-doped three dimensional meso/macroporous carbon based electrocatalyst. 2017 , 42, 4133-4145	15
1166	Size dependence of uniformed carbon spheres in promoting graphitic carbon nitride toward enhanced photocatalysis. 2017 , 204, 358-364	52
1165	Macroscale cobalt-MOFs derived metallic Co nanoparticles embedded in N-doped porous carbon layers as efficient oxygen electrocatalysts. 2017 , 392, 402-409	75

1164	Oxygen Reduction Reaction Mechanism of Nitrogen-Doped Graphene Derived from Ionic Liquid. 2017 , 142, 1319-1326	9
1163	Haeckelite and N-Doped Haeckelite as Catalysts for Oxygen Reduction Reaction: Theoretical Studies. 2017 , 121, 28339-28347	6
1162	Post Iron Decoration of Mesoporous Nitrogen-Doped Carbon Spheres for Efficient Electrochemical Oxygen Reduction. 2017 , 7, 1701154	57
1161	Web-Like Interconnected Carbon Networks from NaCl-Assisted Pyrolysis of ZIF-8 for Highly Efficient Oxygen Reduction Catalysis. 2018 , 14, e1704169	77
1160	Supramolecular assembly promoted synthesis of three-dimensional nitrogen doped graphene frameworks as efficient electrocatalyst for oxygen reduction reaction and methanol electrooxidation. 2018 , 231, 224-233	102
1159	Three-dimensional nitrogen-doped carbon nanotubes/carbon nanofragments complexes for efficient metal-free electrocatalyst towards oxygen reduction reaction. 2018 , 43, 6158-6166	13
1158	One-step synthesis of graphene hollow nanoballs with various nitrogen-doped states for electrocatalysis in dye-sensitized solar cells. 2018 , 8, 15-21	17
1157	NiCo-loaded carbon nanofibers obtained by electrospinning: Bifunctional behavior as air electrodes. 2018 , 125, 250-259	26
1156	A zeolitic imidazolate framework-derived ZnSe/N-doped carbon cube hybrid electrocatalyst as the counter electrode for dye-sensitized solar cells. 2018 , 6, 5107-5118	39
1155	Polydopamine-Derived, In Situ N-Doped 3D Mesoporous Carbons for Highly Efficient Oxygen Reduction. 2018 , 4, 417-422	15
1154	Anisotropic N-Graphene-diffused CoO nanocrystals with dense upper-zone top-on-plane exposure facets as effective ORR electrocatalysts. 2018 , 8, 3740	47
1153	Scalable chemical-vapour-deposition growth of three-dimensional graphene materials towards energy-related applications. 2018 , 47, 3018-3036	98
1152	Understanding the Roles of Sulfur Dopants in Carbonaceous Electrocatalysts for the Oxygen Reduction Reaction: The Relationship between Catalytic Activity and Work Function. 2018 , 5, 1905-1913	7
1151	Hierarchically porous Fe ₃ C nanospindles derived from a porphyrinic coordination network for oxygen reduction reaction. 2018 , 8, 1945-1952	14
1150	Engineering Single-Atom Cobalt Catalysts toward Improved Electrocatalysis. 2018 , 14, e1704319	81
1149	Holey Co, N-codoped graphene aerogel with in-plane pores and multiple active sites for efficient oxygen reduction. 2018 , 269, 544-552	21
1148	The individual role of pyrrolic, pyridinic and graphitic nitrogen in the growth kinetics of Pd NPs on N-rGO followed by a comprehensive study on ORR. 2018 , 43, 5690-5702	46
1147	Core@shell structured Co-CoO@NC nanoparticles supported on nitrogen doped carbon with high catalytic activity for oxygen reduction reaction.. 2018 , 8, 14462-14472	26

1146	3D-ordered porous nitrogen and sulfur Co-Doped carbon supported PdCuW nanoparticles as efficient catalytic cathode materials for Li-O ₂ batteries. 2018 , 272, 33-43	9
1145	Effect of Catalyst Pore Size on the Performance of Non-Precious Fe/N/C-Based Electrocatalysts for High-Temperature Polymer Electrolyte Membrane Fuel Cells. 2018 , 5, 1805-1810	9
1144	MnCo ₂ O ₄ Anchored on Nitrogen-Doped Carbon Nanomaterials as an Efficient Electrocatalyst for Oxygen Reduction. 2018 , 3, 4228-4236	7
1143	Precious Versus Non-precious Electrocatalyst Centers. 2018 , 101-168	
1142	Urchin-like non-precious-metal bifunctional oxygen electrocatalysts: Boosting the catalytic activity via the In-situ growth of heteroatom (N, S)-doped carbon nanotube on mesoporous cobalt sulfide/carbon spheres. 2018 , 524, 465-474	21
1141	Electronic coupling induced high performance of N, S-codoped graphene supported CoS ₂ nanoparticles for catalytic reduction and evolution of oxygen. 2018 , 389, 178-187	33
1140	Synthesis of Efficient Ce Modified CuO/CoAl-HT Catalysts for Styrene Epoxidation. 2018 , 148, 1589-1596	3
1139	Synergistic interaction and controllable active sites of nitrogen and sulfur co-doping into mesoporous carbon sphere for high performance oxygen reduction electrocatalysts. 2018 , 440, 627-636	26
1138	Defect electrocatalytic mechanism: concept, topological structure and perspective. 2018 , 2, 1250-1268	90
1137	Inverse Spinel Cobalt-Iron Oxide and N-Doped Graphene Composite as an Efficient and Durable Bifunctional Catalyst for LiD ₂ Batteries. 2018 , 8, 4082-4090	74
1136	Single-Step Hydrothermal Synthesis of N, S-Dual-Doped Graphene Networks as Metal-Free Efficient Electrocatalysts for Oxygen Reduction Reaction. 2018 , 3, 3241-3250	9
1135	Oxygen-reduction catalysis of N-doped carbons prepared via heat treatment of polyaniline at over 1100 °C. 2018 , 54, 4441-4444	37
1134	Combustion reaction-derived nitrogen-doped porous carbon as an effective metal-Free catalyst for the oxygen reduction reaction. 2018 , 152, 333-340	12
1133	Carbazole-decorated covalent triazine frameworks: Novel nonmetal catalysts for carbon dioxide fixation and oxygen reduction reaction. 2018 , 362, 1-9	68
1132	Energy storage and loss capacity of graphene-reinforced poly(vinylidene fluoride) nanocomposites from electrical and dielectric properties perspective: A review. 2018 , 37, 2838-2858	37
1131	Multiple Metal (Cu, Mn, Fe) Centered Species Simultaneously Combined Nitrogen-doped Graphene as an Electrocatalyst for Oxygen Reduction in Alkaline and Neutral Solutions. 2018 , 10, 2471-2480	7
1130	The Effect of N-Doping in Activated Carbon-Supported Au-Sr Catalysts for Acetylene Hydrochlorination to Vinyl Chloride. 2018 , 3, 3561-3569	2
1129	Efficient Co-N/PC@CNT bifunctional electrocatalytic materials for oxygen reduction and oxygen evolution reactions based on metal-organic frameworks. 2018 , 10, 9077-9086	81

1128	Carbon catalysts for electrochemical hydrogen peroxide production in acidic media. 2018 , 272, 192-202	41
1127	Ammonia modification of high-surface-area activated carbons as metal-free electrocatalysts for oxygen reduction reaction. 2018 , 263, 465-473	22
1126	Facile preparation of three-dimensional Co _{1-x} S/sulfur and nitrogen-codoped graphene/carbon foam for highly efficient oxygen reduction reaction. 2018 , 378, 699-706	37
1125	Recent developments in electrocatalysts and future prospects for oxygen reduction reaction in polymer electrolyte membrane fuel cells. 2018 , 27, 1124-1139	68
1124	Nitrogen-incorporated carbon nanotube derived from polystyrene and polypyrrole as hydrogen storage material. 2018 , 43, 5077-5088	52
1123	Coral-like CoO Decorated N-doped Carbon Particles as active Materials for Oxygen Reduction Reaction and Supercapacitor. 2018 , 8, 1802	35
1122	Recent Progress of Carbon-Based Materials in Oxygen Reduction Reaction Catalysis. 2018 , 5, 1764-1774	47
1121	Graphene Composite Catalysts for Electrochemical Energy Conversion. 2018 , 203-230	1
1120	Biomimetic Bipolar Microcapsules Derived from Staphylococcus aureus for Enhanced Properties of Lithium-Sulfur Battery Cathodes. 2018 , 8, 1702373	77
1119	Recent advances in three-dimensional graphene based materials for catalysis applications. 2018 , 47, 2165-2216	326
1118	Cobalt nitride nanoparticle-modified nitrogen-doped graphene aerogel used as an efficient catalyst for oxygen reduction reaction in acidic medium. 2018 , 53, 7691-7702	8
1117	Porous Carbon-Hosted Atomically Dispersed Iron-Nitrogen Moiety as Enhanced Electrocatalysts for Oxygen Reduction Reaction in a Wide Range of pH. 2018 , 14, e1703118	89
1116	Co Nanoparticles Confined in 3D Nitrogen-Doped Porous Carbon Foams as Bifunctional Electrocatalysts for Long-Life Rechargeable Zn-Air Batteries. 2018 , 14, e1703739	101
1115	Recent Advancements in Transition Metal-Nitrogen-Carbon Catalysts for Oxygen Reduction Reaction. 2018 , 30, 1217-1228	52
1114	Advanced Architectures and Relatives of Air Electrodes in Zn-Air Batteries. 2018 , 5, 1700691	430
1113	The role of arginine as nitrogen doping and carbon source for enhanced oxygen reduction reaction. 2018 , 43, 1479-1488	7
1112	Nitrogen-doped carbon spider webs derived from pyrolysis of polyaniline nanofibers in ammonia for capacitive energy storage. 2018 , 33, 1109-1119	10
1111	Metal-free electrocatalysis: Quaternary-doped graphene and the alkaline oxygen reduction reaction. 2018 , 553, 107-116	33

1110	Interface engineered in situ anchoring of CoS nanoparticles into a multiple doped carbon matrix: highly efficient zinc-air batteries. 2018 , 10, 2649-2657	53
1109	Electrocatalysis of As(III) oxidation by cobalt oxide nanoparticles: measurement and modeling the effect of nanoparticle amount on As(III) oxidation potential. 2018 , 22, 1257-1267	1
1108	Multifunctional electrocatalysts derived from conducting polymer and metal organic framework complexes. 2018 , 45, 127-135	124
1107	Probing the effect of different graphitic nitrogen sites on the aerobic oxidation of thiols to disulfides: a DFT study. 2018 , 20, 2057-2065	2
1106	KOH activation of biomass-derived nitrogen-doped carbons for supercapacitor and electrocatalytic oxygen reduction. 2018 , 261, 49-57	236
1105	Hierarchically Designed 3D Holey CN Aerogels as Bifunctional Oxygen Electrodes for Flexible and Rechargeable Zn-Air Batteries. 2018 , 12, 596-608	125
1104	N, P Co-doped Hierarchical Porous Graphene as a Metal-Free Bifunctional Air Cathode for Zn/Air Batteries. 2018 , 5, 1811-1816	15
1103	Post iron-doping of activated nitrogen-doped carbon spheres as a high-activity oxygen reduction electrocatalyst. 2018 , 13, 142-150	29
1102	Highly Efficient Catalytic Oxidation of Inert C(sp ³) C-Bonds by the Synergistic Effect of Copper Nanoparticles/N-Doped Graphene. 2018 , 2018, 1121-1129	12
1101	Iron carbide encapsulated by porous carbon nitride as bifunctional electrocatalysts for oxygen reduction and evolution reactions. 2018 , 439, 439-446	27
1100	Improved Reversible Cross-Linking-Based Solid-Phase RNA Extraction for Pathogen Diagnostics. 2018 , 90, 1725-1733	11
1099	Facile Synthesis of N-Doped Graphene-Like Carbon Nanoflakes as Efficient and Stable Electrocatalysts for the Oxygen Reduction Reaction. 2018 , 10, 29	65
1098	Astragali Radix-derived nitrogen-doped porous carbon: An efficient electrocatalyst for the oxygen reduction reaction. 2018 , 43, 551-561	18
1097	Fe-N-Doped Mesoporous Carbon with Dual Active Sites Loaded on Reduced Graphene Oxides for Efficient Oxygen Reduction Catalysts. 2018 , 10, 2423-2429	77
1096	Cobalt and Iron Oxides Co-supported on Carbon Nanotubes as an Efficient Bifunctional Catalyst for Enhanced Electrocatalytic Activity in Oxygen Reduction and Oxygen Evolution Reactions. 2018 , 3, 207-213	9
1095	Uric acid-derived Fe ₃ C-containing mesoporous Fe/N/C composite with high activity for oxygen reduction reaction in alkaline medium. 2018 , 378, 491-498	22
1094	Assembly of Hollow Carbon Nanospheres on Graphene Nanosheets and Creation of Iron-Nitrogen-Doped Porous Carbon for Oxygen Reduction. 2018 , 12, 5674-5683	239
1093	Graphene-Like Nitrogen-Doped Carbon Nanosheet Prepared from Direct Calcination of Dopamine Confined by g-C ₃ N ₄ for Oxygen Reduction. 2018 , 5, 1800303	24

1092	KOH activated N-doped novel carbon aerogel as efficient metal-free oxygen reduction catalyst for microbial fuel cells. 2018 , 348, 775-785	66
1091	Oxidation of organic pollutants by peroxymonosulfate activated with low-temperature-modified nanodiamonds: Understanding the reaction kinetics and mechanism. 2018 , 237, 432-441	91
1090	Oxygen Reduction Reaction Activity of Thermally Tailored Nitrogen-Doped Carbon Electrocatalysts Prepared through Plasma Synthesis. 2018 , 5, 1995-2001	9
1089	Oxygen Reduction on Catalysts Prepared by Pyrolysis of Electrospun Styrene-Acrylonitrile Copolymer and Multi-walled Carbon Nanotube Composite Fibres. 2018 , 148, 1815-1826	10
1088	Activity Origins in Nanocarbons for the Electrocatalytic Hydrogen Evolution Reaction. 2018 , 14, e1800235	42
1087	Looking carbon in a solid salt-Synthesis of porous heteroatom-doped carbon foams for enhanced organic pollutant degradation under visible light. 2018 , 12, 168-176	12
1086	N-doped and N/Fe-codoped porous carbon spheres derived from tetrazine-based polypyrrole as efficient electrocatalysts for the oxygen reduction reaction. 2018 , 559, 102-111	13
1085	Chemoselective solution synthesis of pyrazolic-structure-rich nitrogen-doped graphene for supercapacitors and electrocatalysis. 2018 , 347, 754-762	30
1084	Nitrogen-doped carbon nanosheets and nanoflowers with holey mesopores for efficient oxygen reduction catalysis. 2018 , 6, 10354-10360	55
1083	Internal structure [Na storage mechanisms] Electrochemical performance relations in carbons. 2018 , 97, 170-203	72
1082	Theoretical insight into the catalytic activities of oxygen reduction reaction on transition metal-N-doped graphene. 2018 , 42, 9620-9625	14
1081	Polydopamine-coated graphene nanosheets as efficient electrocatalysts for oxygen reduction reaction.. 2018 , 8, 16044-16051	7
1080	A promising graphitic N-dominated porous carbon catalyst derived from lotus leaves for oxygen reduction reaction. 2018 , 24, 3601-3609	8
1079	Insights into the thermolytic transformation of lignocellulosic biomass waste to redox-active carbocatalyst: Durability of surface active sites. 2018 , 233, 120-129	106
1078	Taming transition metals on N-doped CNTs by a one-pot method for efficient oxygen reduction reaction. 2018 , 43, 7893-7902	36
1077	Electrochemical and electrocatalytic reaction characteristics of boron-incorporated graphene via a simple spin-on dopant process. 2018 , 6, 7351-7356	8
1076	Nitrogen and Phosphorus Co-doped Hollow Carbon Spheres as Efficient Metal-Free Electrocatalysts for the Oxygen Reduction Reaction. 2018 , 5, 1891-1898	27
1075	Rapidly Enhanced Electro-Fenton Efficiency by in Situ Electrochemistry-Activated Graphite Cathode. 2018 , 57, 4907-4915	19

1074	Hierarchically Porous N-Doped Carbon Nanotubes/Reduced Graphene Oxide Composite for Promoting Flavin-Based Interfacial Electron Transfer in Microbial Fuel Cells. 2018 , 10, 11671-11677	49
1073	Carbon-Based Metal-Free Electrocatalysis for Energy Conversion, Energy Storage, and Environmental Protection. 2018 , 1, 84-112	109
1072	Hydrothermal Synthesis of a New Kind of N-Doped Graphene Gel-like Hybrid As an Enhanced ORR Electrocatalyst. 2018 , 10, 10842-10850	64
1071	Emerging Two-Dimensional Nanomaterials for Electrocatalysis. 2018 , 118, 6337-6408	1057
1070	Identifying the Active Site of N-Doped Graphene for Oxygen Reduction by Selective Chemical Modification. 2018 , 3, 986-991	68
1069	A Facile Approach to Prepare Multiple Heteroatom-Doped Carbon Materials from Imine-Linked Porous Organic Polymers. 2018 , 8, 4200	39
1068	BIAN Based Electroactive Polymer with Defined Active Centers as Metal-Free Electrocatalysts for Oxygen Reduction Reaction (ORR) in Aqueous and Nonaqueous Media. 2018 , 1, 1183-1190	14
1067	Synthesis of M (Fe ₃ C, Co, Ni)-porous carbon frameworks as high-efficient ORR catalysts. 2018 , 11, 112-117	53
1066	Efficient N-doping of hollow core-mesoporous shelled carbon spheres via hydrothermal treatment in ammonia solution for the electrocatalytic oxygen reduction reaction. 2018 , 261, 88-97	57
1065	A Highly Efficient Electrocatalyst Derived from Polyaniline@CNTs@PS for the Oxygen Reduction Reaction. 2018 , 5, 195-200	4
1064	N-Doped Porous Molybdenum Carbide Nanobelts as Efficient Catalysts for Hydrogen Evolution Reaction. 2018 , 224, 533-540	281
1063	A review of nitrogen-doped graphene catalysts for proton exchange membrane fuel cells-synthesis, characterization, and improvement. 2018 , 15, 140-152	28
1062	High performance of N, P co-doped metal-free carbon catalyst derived from ionic liquid for oxygen reduction reaction. 2018 , 22, 519-525	14
1061	Nitrogen-doped carbon nanotubes based on melamine-formaldehyde resin as highly efficient catalyst for oxygen reduction reaction. 2018 , 509, 1-9	20
1060	Nitrogen-doped porous carbon derived from imidazole-functionalized polyhedral oligomeric silsesquioxane. 2018 , 53, 456-465	5
1059	Onion-derived N, S self-doped carbon materials as highly efficient metal-free electrocatalysts for the oxygen reduction reaction. 2018 , 427, 626-634	35
1058	Engineering beneficial structures and morphologies of M-N-C oxygen-reduction catalysts derived from different metal-containing precursors. 2018 , 24, 1733-1744	4
1057	A nitrogen-doped electrocatalyst from metal-organic framework-carbon nanotube composite. 2018 , 33, 538-545	13

1056	Facile synthesis of efficient core-shell structured iron-based carbon catalyst for oxygen reduction reaction. 2018 , 43, 1386-1395	4
1055	Covalent Triazine Framework Anchored with Co ₃ O ₄ Nanoparticles for Efficient Oxygen Reduction. 2018 , 5, 717-721	10
1054	Exploration of the Active Center Structure of Nitrogen-Doped Graphene for Control over the Growth of Co ₃ O ₄ for a High-Performance Supercapacitor. 2018 , 1, 143-153	50
1053	Nitrogen, Sulfur Co-doped Carbon Derived from Naphthalene-Based Covalent Organic Framework as an Efficient Catalyst for Oxygen Reduction. 2018 , 1, 161-166	25
1052	Bioinspired Synthesis of Melaninlike Nanoparticles for Highly N-Doped Carbons Utilized as Enhanced CO ₂ Adsorbents and Efficient Oxygen Reduction Catalysts. 2018 , 6, 2324-2333	10
1051	Ammonia Defective Etching and Nitrogen-Doping of Porous Carbon toward High Exposure of Heme-Derived Fe _N x Site for Efficient Oxygen Reduction. 2018 , 6, 551-560	23
1050	MIL-100-Fe derived N-doped Fe/Fe ₃ C@C electrocatalysts for efficient oxygen reduction reaction. 2018 , 434, 1266-1273	47
1049	Electrocatalysis of oxygen reduction on heteroatom-doped nanocarbons and transition metal/nitrogen/carbon catalysts for alkaline membrane fuel cells. 2018 , 6, 776-804	257
1048	Defect-Rich Ni ₃ FeN Nanocrystals Anchored on N-Doped Graphene for Enhanced Electrocatalytic Oxygen Evolution. 2018 , 28, 1706018	127
1047	A new facile approach to prepare reduced graphene oxide and MoO ₃ /reduced graphene oxide as electrode materials for oxygen reduction reactions. 2018 , 519, 194-202	11
1046	Enhanced adsorption and catalytic oxidation of ciprofloxacin on hierarchical CuS hollow nanospheres@N-doped cellulose nanocrystals hybrid composites: Kinetic and radical generation mechanism studies. 2018 , 335, 567-578	30
1045	Multi-scale porous graphene/activated carbon aerogel enables lightweight carbonaceous catalysts for oxygen reduction reaction. 2018 , 33, 1247-1257	6
1044	Nest-like assembly of the doped single-walled carbon nanotubes with unique mesopores as ultrastable catalysts for high power density Zn-air battery. 2018 , 128, 46-53	14
1043	Enhanced adsorption and catalytic oxidation of ciprofloxacin by an Ag/AgCl@N-doped activated carbon composite. 2018 , 114, 36-44	20
1042	Recent progress in solution plasma-synthesized-carbon-supported catalysts for energy conversion systems. 2018 , 57, 0102A2	6
1041	A Comprehensive Review on Controlling Surface Composition of Pt-Based Bimetallic Electrocatalysts. 2018 , 8, 1703597	97
1040	Electrocatalysis of Oxygen Reduction on Pristine and Heteroatom-Doped Graphene Materials. 2018 , 497-506	6
1039	Conducting Polymer Nanostructures and their Derivatives for Flexible Supercapacitors. 2018 , 58, 1299-1314	24

1038	Microfluidic Synthesis and Electrochemical Performance of Ternary Metals Nanoalloy: FePtSn. 2018 , 913, 831-837	
1037	Enhancement of nitrogen self-doped nanocarbons electrocatalyst tune-up solution plasma synthesis.. 2018 , 8, 35503-35511	2
1036	Multiple heteroatom-doped few-layer carbons for the electrochemical oxygen reduction reaction. 2018 , 6, 22277-22286	58
1035	In situ synthesis of nitrogen doped carbon with embedded Co@CoO nanoparticles as a bifunctional electrocatalyst for oxygen reduction and oxygen evolution reactions. 2018 , 54, 12746-12749	22
1034	Enriched graphitic N in nitrogen-doped graphene as a superior metal-free electrocatalyst for the oxygen reduction reaction. 2018 , 42, 19665-19670	41
1033	A nitrogen and boron co-doped metal-free carbon electrocatalyst for an efficient oxygen reduction reaction. 2018 , 5, 2985-2991	23
1032	. 2018 ,	9
1031	Silicon-Doped Nitrogen-Coordinated Graphene as Electrocatalyst for Oxygen Reduction Reaction. 2018 , 122, 27233-27240	36
1030	KIT-6 Three Dimensional Template Derived Mesoporous Carbon for Oxygen Reduction Reaction: Effect of Template Removal on Catalytic Activity. 2018 , 3, 11864-11874	5
1029	Single Nickel Atoms Anchored on Nitrogen-Doped Graphene as a Highly Active Cocatalyst for Photocatalytic H ₂ Evolution. 2018 , 8, 11863-11874	124
1028	Theoretical Study on the Quantum Capacitance Origin of Graphene Cathodes in Lithium Ion Capacitors. 2018 , 8, 444	18
1027	Manganese Vanadium Oxide-N-Doped Reduced Graphene Oxide Composites as Oxygen Reduction and Oxygen Evolution Electrocatalysts. 2018 , 10, 44511-44517	37
1026	Constructing Successive Active Sites for Metal-free Electrocatalyst with Boosted Electrocatalytic Activities Toward Hydrogen Evolution and Oxygen Reduction Reactions. 2018 , 10, 5194-5200	22
1025	Walnut-like Transition Metal Carbides with Three-Dimensional Networks by a Versatile Electropolymerization-Assisted Method for Efficient Hydrogen Evolution. 2018 , 10, 36824-36833	17
1024	Fluorine-doped graphene with an outstanding electrocatalytic performance for efficient oxygen reduction reaction in alkaline solution. 2018 , 5, 180925	15
1023	Visible-light driven photocatalyst of CdTe/CdS homologous heterojunction on N-rGO photocatalyst for efficient degradation of 2,4-dichlorophenol. 2018 , 93, 603-615	36
1022	In Situ Fabrication of a Nickel/Molybdenum Carbide-Anchored N-Doped Graphene/CNT Hybrid: An Efficient (Pre)catalyst for OER and HER. 2018 , 10, 35025-35038	109
1021	Development, Challenges, and Prospects of Carbon-Based Electrode for Lithium-Air Batteries. 2018 , 115-152	4

1020	Investigation on the Catalytic Performance of Reduced-Graphene-Oxide-Interpolated FeS ₂ and FeS for Oxygen Reduction Reaction. 2018 , 3, 10418-10427	11
1019	Defects on carbons for electrocatalytic oxygen reduction. 2018 , 47, 7628-7658	282
1018	Tea-leaf-residual derived electrocatalyst: Hierarchical pore structure and self nitrogen and fluorine co-doping for efficient oxygen reduction reaction. 2018 , 43, 19492-19499	19
1017	Boosting ORR Electrocatalytic Performance of Metal-Free Mesoporous Biomass Carbon by Synergism of Huge Specific Surface Area and Ultrahigh Pyridinic Nitrogen Doping. 2018 , 6, 13807-13812	49
1016	Iron-nitrogen dual-doped three-dimensional mesoporous carbons for high-activity electrocatalytic oxygen reduction. 2018 , 13, 174-181	14
1015	Nitrogen-Doped Defect-Rich Graphitic Carbon Nanorings with CoO _x Nanoparticles as Highly Efficient Electrocatalyst for Oxygen Electrochemistry. 2018 , 6, 15811-15821	29
1014	Restructured FeMn Alloys Encapsulated by N-doped Carbon Nanotube Catalysts Derived from Bimetallic MOF for Enhanced Oxygen Reduction Reaction. 2018 , 10, 5475-5486	22
1013	ZIF-derived carbons as highly efficient and stable ORR catalyst. 2018 , 29, 485402	12
1012	Design of Carbon-Based Metal-Free Electrocatalysts. 2018 , 35-58	
1011	Active Sites in Nitrogen-Doped Carbon Materials for Oxygen Reduction Reaction. 2018 , 227-249	8
1010	Unraveling the Active Site on Metal-Free, Carbon-Based Catalysts for Multifunctional Applications. 2018 , 251-283	
1009	Heteroatom-Doped, Carbon-Supported Metal Catalysts for Electrochemical Energy Conversions. 2018 , 675-698	
1008	Carbon-Based, Metal-Free Catalysts for Electrocatalysis of ORR. 2018 , 335-368	2
1007	Hydrothermal Carbon Materials for the Oxygen Reduction Reaction. 2018 , 369-401	2
1006	Functionalized Graphene-Based, Metal-Free Electrocatalysts for Oxygen Reduction Reaction in Fuel Cells. 2018 , 529-554	1
1005	Modulating Metal-Free and Non-Enzymatic Electrocatalytic Activity of sp ² Carbons Towards H ₂ O ₂ Reduction by a Facile and Low-Temperature Electrochemical Approach. 2018 , 5, 3668-3678	
1004	Ionic-Liquid-Derived Nitrogen-Doped Carbon Electrocatalyst for Peroxide Generation and Divalent Iron Regeneration: Its Application for Removal of Aqueous Organic Compounds. 2018 , 6, 14857-14865	12
1003	N,S-Atom-coordinated CoS ternary dopants within a porous graphene framework as efficient catalysts for oxygen reduction/evolution reactions. 2018 , 47, 14992-15001	27

1002	Oxygen reduction reaction activity and the microbial community in response to magnetite coordinating nitrogen-doped carbon catalysts in bioelectrochemical systems. 2018 , 122, 113-120	13
1001	Porous graphene doped with Fe/N/S and incorporating Fe ₃ O ₄ nanoparticles for efficient oxygen reduction. 2018 , 8, 5325-5333	19
1000	Polydopamine-inspired nanomaterials for energy conversion and storage. 2018 , 6, 21827-21846	74
999	High pyridine N-doped porous carbon derived from metal-organic frameworks for boosting potassium-ion storage. 2018 , 6, 17959-17966	95
998	Evaluating the Stability of Single-Atom Catalysts with High Chemical Activity. 2018 , 122, 21919-21926	16
997	CeO ₂ overlapped with nitrogen-doped carbon layer anchoring Pt nanoparticles as an efficient electrocatalyst towards oxygen reduction reaction. 2018 , 43, 12119-12128	14
996	Nitrogen-doped graphene derived from ionic liquid as metal-free catalyst for oxygen reduction reaction and its mechanisms. 2018 , 225, 513-521	39
995	Nitrogen-doped carbon layer coated CeNiO _x as electrocatalyst for oxygen reduction reaction. 2018 , 761, 8-14	8
994	Three-dimensional interconnected nitrogen-doped mesoporous carbons as active electrode materials for application in electrocatalytic oxygen reduction and supercapacitors. 2018 , 527, 230-240	43
993	Novel porous Fe _x CyNz/N-doped CNT nanocomposites with excellent bifunctions for catalyzing oxygen reduction reaction and absorbing electromagnetic wave. 2018 , 453, 83-92	18
992	Physicochemical and electrochemical properties of the carbon materials containing nitrogen and cobalt derived from acetonitrile and CoAl layered double hydroxides. 2018 , 53, 11292-11314	4
991	Co NP/NC hollow nanoparticles derived from yolk-shell structured ZIFs@polydopamine as bifunctional electrocatalysts for water oxidation and oxygen reduction reactions. 2018 , 27, 1261-1267	29
990	Structural Engineering of 3D Carbon Materials from Transition Metal Ion-Exchanged Y Zeolite Templates. 2018 , 30, 3779-3788	20
989	Sunlight-driven water-splitting using two-dimensional carbon based semiconductors. 2018 , 6, 12876-12931	159
988	An active and robust Si-Fe/N/C catalyst derived from waste reed for oxygen reduction. 2018 , 237, 85-93	62
987	Investigation of electrocatalytic activity on a N-doped reduced graphene oxide surface for the oxygen reduction reaction in an alkaline medium. 2018 , 43, 12129-12139	24
986	Synergistic effect of pyrrolic N and graphitic N for the enhanced nitrophenol reduction of nitrogen-doped graphene-modified cathode in the bioelectrochemical system. 2018 , 823, 32-39	11
985	Phosphorus Doped Multi-Walled Carbon Nanotubes: An Excellent Electrocatalyst for the VO ₂ ⁺ /VO ₂ ⁺ Redox Reaction. 2018 , 5, 2464-2474	6

984	L-Phenylalanine-Templated Platinum Catalyst with Enhanced Performance for Oxygen Reduction Reaction. 2018 , 10, 21321-21327	12
983	Pod-like structured Co/CoOx nitrogen-doped carbon fibers as efficient oxygen reduction reaction electrocatalysts for Zn-air battery. 2018 , 456, 959-966	39
982	Dicyandiamide and iron-tannin framework derived nitrogen-doped carbon nanosheets with encapsulated iron carbide nanoparticles as advanced pH-universal oxygen reduction catalysts. 2018 , 530, 196-201	18
981	Sustainable Synthesis of Co@NC Core Shell Nanostructures from Metal Organic Frameworks via Mechanochemical Coordination Self-Assembly: An Efficient Electrocatalyst for Oxygen Reduction Reaction. 2018 , 14, e1800441	103
980	3D nitrogen-doped graphene aerogels as efficient electrocatalyst for the oxygen reduction reaction. 2018 , 139, 137-144	64
979	Recent advancements in the development of bifunctional electrocatalysts for oxygen electrodes in unitized regenerative fuel cells (URFCs). 2018 , 98, 108-167	26
978	NiFe LDH nanodots anchored on 3D macro/mesoporous carbon as a high-performance ORR/OER bifunctional electrocatalyst. 2018 , 6, 14299-14306	96
977	BCN nanosheets templated by g-C3N4 for high performance capacitive deionization. 2018 , 6, 14644-14650	61
976	Nitrogen and Phosphorus Dual-doped Porous Carbon Nanosheets for Efficient Oxygen Reduction in Both Alkaline and Acidic Media. 2018 , 10, 4038-4046	18
975	Collaborative enhancement of photon harvesting and charge carrier dynamics in carbon nitride photoelectrode. 2018 , 237, 783-790	27
974	Co4N/nitrogen-doped graphene: A non-noble metal oxygen reduction electrocatalyst for alkaline fuel cells. 2018 , 237, 826-834	57
973	MOF Templated Nitrogen Doped Carbon Stabilized PtCo Bimetallic Nanoparticles: Low Pt Content and Robust Activity toward Electrocatalytic Oxygen Reduction Reaction. 2018 , 1, 3331-3338	33
972	Synthesis and Supercapacitor Performance of Polyaniline/Nitrogen-Doped Ordered Mesoporous Carbon Composites. 2018 , 13, 163	21
971	Cobalt and nitrogen-codoped ordered mesoporous carbon as highly efficient bifunctional catalysts for oxygen reduction and hydrogen evolution reactions. 2018 , 6, 17067-17074	30
970	Hybridization of Binary Non-Precious-Metal Nanoparticles with d-Ti3C2 MXene for Catalyzing the Oxygen Reduction Reaction. 2018 , 5, 3307-3314	18
969	Molten-Salt-Assisted Synthesis of 3D Holey N-Doped Graphene as Bifunctional Electrocatalysts for Rechargeable ZnAir Batteries. 2018 , 2, 1800144	51
968	Versatility of a Nitrogen-Containing Monolithic Porous Carbon for Lithium-Based Energy Storage.. 2018 , 3, 8560-8567	3
967	Nonprecious Nanoalloys Embedded in N-Enriched Mesoporous Carbons Derived from a Dual-MOF as Highly Active Catalyst towards Oxygen Reduction Reaction. 2018 , 3, 7913-7920	7

966	Highly Graphitic Mesoporous Fe,N-Doped Carbon Materials for Oxygen Reduction Electrochemical Catalysts. 2018 , 10, 25337-25349	33
965	Carbon-Rich Nanomaterials: Fascinating Hydrogen and Oxygen Electrocatalysts. 2018 , 30, e1800528	102
964	Edge-Rich Quasi-Mesoporous Nitrogen-Doped Carbon Framework Derived from Palm Tree Bark Hair for Electrochemical Applications. 2018 , 10, 27047-27055	31
963	Monodisperse Co ₉ S ₈ nanoparticles in situ embedded within N, S-codoped honeycomb-structured porous carbon for bifunctional oxygen electrocatalyst in a rechargeable Zn air battery. 2018 , 10, 670-684	58
962	High performance Fe and N-codoped graphene quantum dot supported Pd ₃ Co catalyst with synergistically improved oxygen reduction activity and great methanol tolerance. 2018 , 83, 152-160	10
961	Progress in Research into 2D Graphdiyne-Based Materials. 2018 , 118, 7744-7803	499
960	A biomass derived nitrogen doped carbon fibers as efficient catalysts for the oxygen reduction reaction. 2018 , 824, 60-66	20
959	Nano casting fabrication of porous N-doped carbon using melamine-formaldehyde resins. 2018 ,	0
958	Metal Organic Framework Derived Materials: Progress and Prospects for the Energy Conversion and Storage. 2018 , 30, e1705146	237
957	Marine and Freshwater Feedstocks as a Precursor for Nitrogen-Containing Carbons: A Review. 2018 , 16,	6
956	Highly Dispersed Cu ₂ X Moieties Embedded in Graphene: A Promising Electrocatalyst towards the Oxygen Reduction Reaction. 2018 , 5, 3323-3329	21
955	Nanorice-like Structure of Carbon-Doped Hexagonal Boron Nitride as an Efficient Metal-Free Catalyst for Oxygen Electroreduction. 2018 , 6, 11115-11122	38
954	Nitrogen-doped graphene and graphene quantum dots: A review on synthesis and applications in energy, sensors and environment. 2018 , 259, 44-64	196
953	Tunable CoFe-based active sites on 3D heteroatom doped graphene aerogel electrocatalysts via annealing gas regulation for efficient water splitting. 2018 , 6, 15728-15737	44
952	Porous Co ₃ O ₄ decorated nitrogen-doped graphene electrocatalysts for efficient bioelectricity generation in MFCs. 2018 , 43, 10311-10321	14
951	Readily fabricated NiCo alloy-metal oxide-carbon black hybrid catalysts for the oxygen reduction reactions in the alkaline media. 2018 , 43, 12637-12645	8
950	Flower-like nanostructured V ₃ S ₄ grown on three-dimensional porous graphene aerogel for efficient oxygen reduction reaction. 2018 , 450, 348-355	16
949	Ultrafast microwave-assisted synthesis of nitrogen-doped carbons as electrocatalysts for oxygen reduction reaction. 2018 , 29, 305708	8

948	N-doped carbon supported Pd catalysts for N-formylation of amines with CO ₂ /H ₂ . 2018 , 61, 725-731	22
947	In situ formation of iron-cobalt sulfides embedded in N,S-doped mesoporous carbon as efficient electrocatalysts for oxygen reduction reaction. 2018 , 270, 1-9	33
946	Co@C Nanoparticle Embedded Hierarchically Porous N-Doped Hollow Carbon for Efficient Oxygen Reduction. 2018 , 24, 10178	32
945	NiCo-doped C-N nano-composites for cathodic catalysts of Zn-air batteries in neutral media. 2018 , 279, 1-9	62
944	A nitrogen-doped graphene cathode for high-capacitance aluminum-ion hybrid supercapacitors. 2018 , 42, 15684-15691	16
943	Coral-like cobaltous sulfide/N,S-codoped carbon with hierarchical pores as highly efficient noble metal-free electrocatalyst for oxygen reduction reactions. 2018 , 769, 801-807	8
942	Heavily Doped and Highly Conductive Hierarchical Nanoporous Graphene for Electrochemical Hydrogen Production. 2018 , 130, 13486-13491	8
941	Heavily Doped and Highly Conductive Hierarchical Nanoporous Graphene for Electrochemical Hydrogen Production. 2018 , 57, 13302-13307	51
940	Activating Transition Metal Dichalcogenides by Substitutional Nitrogen-Doping for Potential ORR Electrocatalysts. 2018 , 5, 4029-4035	17
939	Heteroatom-doped carbon nanospheres derived from cuttlefish ink: A bifunctional electrocatalyst for oxygen reduction and evolution. 2018 , 43, 17708-17717	19
938	Hierarchical Porous N-doped Graphene Monoliths for Flexible Solid-State Supercapacitors with Excellent Cycle Stability. 2018 , 1, 5024-5032	24
937	Mesoporous Co ₃ O ₄ @NC Micro-Disk Derived from ZIF-9 as Bifunctional Catalyst for Lithium-Oxygen Batteries. 2018 , 3, 9276-9283	6
936	Experimental and Computational Study of Dopamine as an Electrochemical Probe of the Surface Nanostructure of Graphitized N-Doped Carbon. 2018 , 122, 20763-20773	23
935	Co nanoparticle embedded in atomically-dispersed Co-N-C nanofibers for oxygen reduction with high activity and remarkable durability. 2018 , 52, 485-493	131
934	Nitrogen-Doped Carbon Nanomaterials as Highly Active and Specific Peroxidase Mimics. 2018 , 30, 6431-6439	139
933	Fe/N Codoped Carbon Nanocages with Single-Atom Feature as Efficient Oxygen Reduction Reaction Electrocatalyst. 2018 , 1, 4982-4990	28
932	Hybridization Effects of Nitrogen-Doped Graphene/Carbon Nanotubes and Nano-Onion Carbons on the Electrocatalytic Activity of the Oxygen Reduction Reaction. 2018 , 7, M128-M137	4
931	Nitrogen-doped carbon supported platinum catalyst via direct soft nitriding for high-performance polymer electrolyte membrane fuel cell. 2018 , 43, 17873-17879	6

930	Metal-free catalysis based on nitrogen-doped carbon nanomaterials: a photoelectron spectroscopy point of view. 2018 , 9, 2015-2031	6
929	Multifunctional nanostructured electrocatalysts for energy conversion and storage: current status and perspectives. 2018 , 10, 11241-11280	177
928	Boosting the oxygen reduction activity of a three-dimensional network Co ₃ N ₄ electrocatalyst via space-confined control of nitrogen-doping efficiency and the molecular-level coordination effect. 2018 , 6, 13050-13061	49
927	Urea treatment of nitrogen-doped carbon leads to enhanced performance for the oxygen reduction reaction. 2018 , 33, 1612-1624	14
926	Facile preparation of biomass-derived bifunctional electrocatalysts for oxygen reduction and evolution reactions. 2018 , 43, 8611-8622	39
925	Nanostructured FeNi Incorporated with Carbon Doped with Multiple Nonmetal Elements for the Oxygen Evolution Reaction. 2018 , 11, 2703-2709	57
924	Ultrathin, highly branched carbon nanotube cluster with outstanding oxygen electrocatalytic performance. 2018 , 282, 224-232	22
923	Graphitic Nitrogen Is Responsible for Oxygen Electroreduction on Nitrogen-Doped Carbons in Alkaline Electrolytes: Insights from Activity Attenuation Studies and Theoretical Calculations. 2018 , 8, 6827-6836	132
922	Hyperporous-Carbon-Supported Nonprecious Metal Electrocatalysts for the Oxygen Reduction Reaction. 2018 , 13, 2671-2676	12
921	Low-Cost Solutions for Fabrication of Microbial Fuel Cells: Ceramic Separator and Electrode Modifications. 2018 , 95-124	3
920	Degradation of aqueous 2,4,4'-Trihydroxybenzophenone by persulfate activated with nitrogen doped carbonaceous materials and the formation of dimer products. 2018 , 143, 176-187	102
919	Laser-Induced Graphene. 2018 , 51, 1609-1620	243
918	Facile synthesis of Co-N-rGO composites as an excellent electrocatalyst for oxygen reduction reaction. 2019 , 194, 45-53	19
917	Surface Engineering of Two-Dimensional Materials. 2019 , 5, 6-23	15
916	Performance optimization of microbial fuel cells using carbonaceous monolithic air-cathodes. 2019 , 44, 3425-3431	8
915	Chicken feather rachis: An improvement over feather fiber derived electrocatalyst for oxygen electroreduction. 2019 , 495, 143603	21
914	Reactive Template-Derived CoFe/N-Doped Carbon Nanosheets as Highly Efficient Electrocatalysts toward Oxygen Reduction, Oxygen Evolution, and Hydrogen Evolution. 2019 , 7, 15278-15288	43
913	Modulating the d-band center of boron doped single-atom sites to boost the oxygen reduction reaction. 2019 , 7, 20952-20957	60

912	Three-dimensional mesoporous graphene-like carbons derived from a biomolecule exhibiting high-performance oxygen reduction activity. 2019 , 3, 2809-2818	6
911	Nitrogen-doped carbon black supported PtM (M = Pd, Fe, Ni) alloy catalysts for oxygen reduction reaction in proton exchange membrane fuel cell. 2019 , 13, 374-381	25
910	The code for securing web applications. 2019 , 40, 905-917	
909	Doped porous carbon nanostructure materials as non-precious metal catalysts for oxygen reduction reaction in alkaline and acid media. 2019 , 80, 171-181	10
908	Magnetic Cathode Stimulates Extracellular Electron Transfer in Bioelectrochemical Systems. 2019 , 7, 15012-15018	8
907	Enhancement mechanism of sulfur dopants on the catalytic activity of N and P co-doped three-dimensional hierarchically porous carbon as a metal-free oxygen reduction electrocatalyst. 2019 , 9, 5906-5914	13
906	A review of oxygen reduction mechanisms for metal-free carbon-based electrocatalysts. 2019 , 5,	257
905	A highly efficient cathode based on modified graphite felt for aniline degradation by electro-Fenton. 2019 , 235, 49-57	22
904	2D-BCNO with Eu ³⁺ : partial energy transfer and direct natural white light for LEDs. 2019 , 43, 12431-12439	3
903	Confinement of Fe ₂ O ₃ nanoparticles in the shell of N-doped carbon hollow microsphere for efficient oxygen reduction reaction. 2019 , 207, 235-246	22
902	Red-blood-cell-like nitrogen-doped porous carbon as an efficient metal-free catalyst for oxygen reduction reaction. 2019 , 26, 1458-1468	7
901	Influence of Heat Resistance of Precursor in Cathode Catalysts for Polymer Electrolyte Fuel Cell on Oxygen Reduction Activity. 2019 , 48, 152-155	1
900	Three-dimensional electrode interface assembled from rGO nanosheets and carbon nanotubes for highly electrocatalytic oxygen reduction. 2019 , 378, 122127	19
899	3D interconnected crumpled porous carbon sheets modified with high-level nitrogen doping for high performance lithium sulfur batteries. 2019 , 154, 58-66	25
898	Cobalt Nanoparticles Embedded in N, S Co-Doped Carbon towards Oxygen Reduction Reaction Derived by in situ Reducing Cobalt Sulfide. 2019 , 11, 6039-6050	8
897	A comprehensive study on the characteristic spectroscopic features of nitrogen doped graphene. 2019 , 495, 143518	4
896	Nitrogen-Doped Reduced Graphene Oxide Hydrogel Achieved via a One-Step Hydrothermal Process. 2019 , 5, 1144-1151	3
895	One-pot hydrothermal synthesis of heteroatom co-doped with fluorine on reduced graphene oxide for enhanced ORR activity and stability in alkaline media. 2019 , 236, 121804	8

- 894 Why nitrogen favors oxygen reduction on graphitic materials. **2019**, 3, 2391-2398 8
- 893 2D Metal-Organic Framework Derived CuCo Alloy Nanoparticles Encapsulated by Nitrogen-Doped Carbonaceous Nanoleaves for Efficient Bifunctional Oxygen Electrocatalyst and Zinc-Air Batteries. **2019**, 25, 12780-12788 27
- 892 Preparation of Graphene/Polyaniline Nanocomposites as Electrocatalyst for Oxygen Reduction Reaction. **2019**, 14, 1950057 1
- 891 A Review of Recent Advances of Dielectric Barrier Discharge Plasma in Catalysis. **2019**, 9, 29
- 890 Nitrogen-doped carbon xerogels catalyst for oxygen reduction reaction: Improved structural and catalytic activity by enhancing nitrogen species and cobalt insertion. **2019**, 44, 28789-28802 12
- 889 State-of-the-art advancements in studies and applications of graphene: a comprehensive review. **2019**, 6, 100026 5
- 888 Top-down bottom-up graphene synthesis. **2019**, 3, 042003 12
- 887 Metal-organic frameworks: a promising platform for constructing non-noble electrocatalysts for the oxygen-reduction reaction. **2019**, 7, 1964-1988 118
- 886 Heteroatom embedded graphene-like structure anchored on porous biochar as efficient metal-free catalyst for ORR. **2019**, 44, 30986-30998 33
- 885 Enhanced cycling stability of capacitive deionization via effectively inhibiting H₂O₂ formation: The role of nitrogen dopants. **2019**, 855, 113488 8
- 884 Enhanced Sensitivity of Dopamine Biosensors: An Electrochemical Approach Based on Nanocomposite Electrodes Comprising Polyaniline, Nitrogen-Doped Graphene, and DNA-Functionalized Carbon Nanotubes. **2019**, 166, B1415-B1425 16
- 883 Surface Engineering of Rh Catalysts with N/S-Codoped Carbon Nanosheets toward High-Performance Hydrogen Evolution from Seawater. **2019**, 7, 18835-18843 24
- 882 Enhanced Electrochemiluminescence Detection for Hydrogen Peroxide Using Peroxidase-Mimetic Fe/N-Doped Porous Carbon. **2019**, 166, B1594-B1601 11
- 881 Chirality Induces the Self-Assembly To Generate a 3D Porous Spiral-like Polyhedron as Metal-Free Electrocatalysts for the Oxygen Reduction Reaction. **2019**, 11, 45596-45605 8
- 880 Nitrogen-doped graphene layers for electrochemical oxygen reduction reaction boosted by lattice strain. **2019**, 378, 113-120 10
- 879 Cover Picture: Synergistically Directed Assembly of Aromatic Stacks Based Metal-Organic Frameworks by Donor-Acceptor and Coordination Interactions (Chin. J. Chem. 9/2019). **2019**, 37, 861-861
- 878 Fe_NC Based Catalysts Prepared by the Calcination of Iron-Ethylenediamine@Polyaniline as the Cathode-Catalyst of Proton Exchange Membrane Fuel Cell. **2019**, 11, 4
- 877 Silver Nanoparticles Encapsulated in an N-Doped Porous Carbon Matrix as High-Active Catalysts toward Oxygen Reduction Reaction via Electron Transfer to Outer Graphene Shells. **2019**, 7, 16511-16519 11

876	Impacts of Imidazolate Ligand on Performance of Zeolitic-Imidazolate Framework-Derived Oxygen Reduction Catalysts. 2019 , 4, 2500-2507	21
875	Supramolecular Iron Complex Formed Between Nitrogen Riched Phenanthroline Derivative and Iron With Improved Oxygen Reduction Activity in Alkaline Electrolyte. 2019 , 7, 622	5
874	N-Doped MoC Nanobelts/Graphene Nanosheets Bonded with Hydroxy Nanocellulose as Flexible and Editable Electrode for Hydrogen Evolution Reaction. 2019 , 19, 1090-1100	28
873	Carbonisation temperature dependence of electrochemical activity of nitrogen-doped carbon fibres from electrospinning as air-cathodes for aqueous-alkaline metal-air batteries.. 2019 , 9, 27231-27241	9
872	Ultrafine Co@nitrogen-doped carbon core-shell nanostructures anchored on carbon nanotubes for highly efficient oxygen reduction. 2019 , 494, 691-699	18
871	Confined Co ₉ S ₈ into a defective carbon matrix as a bifunctional oxygen electrocatalyst for rechargeable zinc-air batteries. 2019 , 9, 5757-5762	5
870	N-doped graphene catalysts with high nitrogen concentration for the oxygen reduction reaction. 2019 , 438, 227036	42
869	Leveraging electrochemistry to uncover the role of nitrogen in the biological reactivity of nitrogen-doped graphene. 2019 , 6, 3525-3538	6
868	Recent Insights into the Oxygen-Reduction Electrocatalysis of Fe/N/C Materials. 2019 , 9, 10126-10141	171
867	Development of g-C ₃ N ₄ activated hollow carbon spheres with good performance for oxygen reduction and selective capture of acid gases. 2019 , 324, 134869	14
866	Insights into Water Interaction at the Interface of Nitrogen-Functionalized Hydrothermal Carbons. 2019 , 123, 25146-25156	6
865	Electronic synergism of pyridinic- and graphitic-nitrogen on N-doped carbons for the oxygen reduction reaction. 2019 , 10, 1589-1596	97
864	Nanotechnology: Emerging Opportunities for Fuel Cell Applications. 2019 , 135-174	
863	Nitrogen-doped braided-looking mesoporous carbonaceous nanotubes as an advanced oxygen reduction electrocatalyst. 2019 , 12, 62-69	7
862	Multi-heteroatom doped graphene-like carbon nanospheres with 3D inverse opal structure: a promising bisphenol-A remediation material. 2019 , 6, 809-819	29
861	N-Doped carbon nanotubes enriched with graphitic nitrogen in a buckypaper configuration as efficient 3D electrodes for oxygen reduction to HO. 2019 , 11, 2829-2839	33
860	Cobalt Phosphides Nanocrystals Encapsulated by P-Doped Carbon and Married with P-Doped Graphene for Overall Water Splitting. 2019 , 15, e1804546	66
859	Durable Freestanding Hierarchical Porous Electrode for Rechargeable Zinc-Air Batteries. 2019 , 2, 1505-1516	10

858	Why and how to tailor the vertical coordinate of pore size distribution to construct ORR-active carbon materials?. 2019 , 58, 384-391	69
857	Facile in situ fabrication of Co nanoparticles embedded in 3D N-enriched mesoporous carbon foam electrocatalyst with enhanced activity and stability toward oxygen reduction reaction. 2019 , 54, 5412-5423	37
856	Single-source precursor synthesis of nitrogen-doped porous carbon for high-performance electrocatalytic ORR application. 2019 , 45, 8354-8361	3
855	Trace sulfur promoted Fe, N-codoped carbon black as electrocatalyst for oxygen reduction reaction. 2019 , 44, 3625-3635	10
854	Flame synthesis of nitrogen, boron co-doped carbon as efficient electrocatalyst for oxygen reduction reaction. 2019 , 44, 4771-4779	15
853	Nitrogen-Doped Graphene Oxide Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 2, 1675-1682	47
852	Electrospun MOF-Based FeCo Nanoparticles Embedded in Nitrogen-Doped Mesoporous Carbon Nanofibers as an Efficient Bifunctional Catalyst for Oxygen Reduction and Oxygen Evolution Reactions in Zinc-Air Batteries. 2019 , 7, 5462-5475	89
851	Catalytic synthesis and simultaneous co-doping of hierarchically porous carbon with in-situ coated graphene from biomass tar as efficient catalyst for ORR. 2019 , 100, 52-59	16
850	Janus Electrocatalysts Containing MOF-Derived Carbon Networks and NiFe-LDH Nanoplates for Rechargeable Zinc-Air Batteries. 2019 , 2, 1784-1792	37
849	High-Density Cobalt Nanoparticles Encapsulated with Nitrogen-Doped Carbon Nanoshells as a Bifunctional Catalyst for Rechargeable Zinc-Air Battery. 2019 , 12,	6
848	MnCoO nanoparticles supported on nitrogen and sulfur co-doped mesoporous carbon spheres as efficient electrocatalysts for oxygen catalytic reactions. 2019 , 48, 945-953	11
847	N,P-Doped carbon with encapsulated Co nanoparticles as efficient electrocatalysts for oxygen reduction reactions. 2019 , 48, 2352-2358	16
846	Unraveling the relationship between the morphologies of metal-organic frameworks and the properties of their derived carbon materials. 2019 , 48, 7211-7217	15
845	Enhanced heterogeneous activation of peroxymonosulfate by Co and N codoped porous carbon for degradation of organic pollutants: the synergism between Co and N. 2019 , 6, 399-410	86
844	Facile synthesis of N-doped graphene supported porous cobalt molybdenum oxynitride nanodendrites for the oxygen reduction reaction. 2019 , 11, 1205-1216	16
843	A reliable procedure for the preparation of graphene-boron nitride superlattices as large area (cm ²) films on arbitrary substrates or powders (gram scale) and unexpected electrocatalytic properties. 2019 , 11, 2981-2990	7
842	The design of a novel and resistant Zn(PZDC)(ATZ) MOF catalyst for the chemical fixation of CO ₂ under solvent-free conditions. 2019 , 6, 317-325	32
841	Electrochemical nitrogen reduction to ammonia at ambient conditions on nitrogen and phosphorus co-doped porous carbon. 2019 , 55, 687-690	96

840	Engineering Two-Dimensional Materials and Their Heterostructures as High-Performance Electrocatalysts. 2019 , 2, 373-394	47
839	Optimizing the synthesis of Co/CoFe nanoparticles/N-doped carbon composite materials as bifunctional oxygen electrocatalysts. 2019 , 318, 281-289	15
838	Identification of active sites for acidic oxygen reduction on carbon catalysts with and without nitrogen doping. 2019 , 2, 688-695	251
837	g-C ₃ N ₄ templated synthesis of the Fe ₃ C@NSC electrocatalyst enriched with Fe _{1x} active sites for efficient oxygen reduction reaction. 2019 , 7, 16920-16936	53
836	Untangling Cooperative Effects of Pyridinic and Graphitic Nitrogen Sites at Metal-Free N-Doped Carbon Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 15, e1902081	38
835	Towards high performance of supercapacitor: New approach to design 3 D architected electrodes with bacteria. 2019 , 78, 232-238	9
834	Watermelon-like Metallic Co/Graphene-like Nanohybrids from Electrochemical Exfoliation of Anthracite Coal as Superior Oxygen Reduction Reaction Electrocatalyst. 2019 ,	3
833	Co and CeO co-decorated N-doping carbon nanofibers for rechargeable Zn-air batteries. 2019 , 30, 395401	26
832	Theoretical calculation guided electrocatalysts design: Nitrogen saturated porous Mo ₂ C nanostructures for hydrogen production. 2019 , 257, 117891	33
831	Oxygen Reduction Reaction Activity of Microwave Mediated Solvothermal Synthesized CeO/g-CN Nanocomposite. 2019 , 7, 403	21
830	Thermodynamic stability of nitrogen functionalities and defects in graphene and graphene nanoribbons from first principles. 2019 , 152, 715-726	11
829	Fe ₃ C/C nanoparticles encapsulated in N-doped graphene aerogel: an advanced oxygen reduction reaction catalyst for fiber-shaped fuel cells. 2019 , 44, 18393-18402	8
828	A N, P Dual-Doped Carbon with High Porosity as an Advanced Metal-Free Oxygen Reduction Catalyst. 2019 , 6, 1900592	21
827	Bridging N-doped graphene and carbon rich C ₃ N ₄ layers for photo-promoted multi-functional electrocatalysts. 2019 , 317, 25-33	13
826	Wall- and Hybridisation-Selective Synthesis of Nitrogen-Doped Double-Walled Carbon Nanotubes. 2019 , 131, 10382-10386	1
825	Carbon Defect Characterization of Nitrogen-Doped Reduced Graphene Oxide Electrocatalysts for the Two-Electron Oxygen Reduction Reaction. 2019 , 31, 3967-3973	53
824	Electrochemically Exfoliating Graphite Cathode to N-Doped Graphene Analogue and Its Excellent Al Storage Performance. 2019 , 166, A1738-A1744	5
823	Bacteria-Derived Biological Carbon Building Robust Li-S Batteries. 2019 , 19, 4384-4390	57

822	Metallic cobalt nanoparticles embedded in sulfur and nitrogen co-doped rambutan-like nanocarbons for the oxygen reduction reaction under both acidic and alkaline conditions. 2019 , 7, 14291-14301 ²¹	
821	Metal-Free Hybrid of Nitrogen-Doped Nanocarbon@Carbon Networks for Highly Efficient Oxygen Reduction Electrocatalyst. 2019 , 6, 2924-2930	18
820	Pyrolytic Carbon-coated Cu-Fe Alloy Nanoparticles with High Catalytic Performance for Oxygen Electroreduction. 2019 , 14, 2676-2684	11
819	Nitrogen and iron codoped porous carbon spheres derived from tetrazine-based polyindole as efficient catalyst for oxygen reduction reaction in acidic electrolytes. 2019 , 434, 226738	9
818	Graphene-Based Metal-Free Catalysis. 2019 , 173-200	
817	Glucose-derived carbon materials with tailored properties as electrocatalysts for the oxygen reduction reaction. 2019 , 10, 1089-1102	21
816	Porous Ni catalyst synthesized by pyrolyzing g-C ₃ N ₄ embedded in carbon as highly efficient oxygen reduction electrocatalysts for primary Zn-air battery. 2019 , 150, 475-484	36
815	Highly Efficient FeNi Electrocatalyst for Oxygen Reduction Derived from CoreShell-Structured Fe(OH) ₃ @Zeolitic Imidazolate Framework. 2019 , 2, 3194-3203	23
814	CO ₂ Conversion into N-Doped Carbon Nanomesh Sheets. 2019 , 2, 2991-2998	5
813	Lithium Intercalated-Layered Manganese Oxide and Reduced Graphene Oxide Composite as a Bifunctional Electrocatalyst for ORR and OER. 2019 , 166, A1543-A1549	9
812	Nitrogen-Doped Superporous Activated Carbons as Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 12,	31
811	Cobalt-based Catalysts Modified Cathode for Enhancing Bioelectricity Generation and Wastewater Treatment in Air-breathing Cathode Microbial Fuel Cells. 2019 , 31, 1465-1476	8
810	Wall- and Hybridisation-Selective Synthesis of Nitrogen-Doped Double-Walled Carbon Nanotubes. 2019 , 58, 10276-10280	4
809	An overview on nitride and nitrogen-doped photocatalysts for energy and environmental applications. 2019 , 172, 704-723	41
808	Reactable ionic liquid in situ-induced synthesis of Fe ₃ O ₄ nanoparticles modified N-doped hollow porous carbon microtubes for boosting multifunctional electrocatalytic activity. 2019 , 797, 849-858	14
807	Boosting the pseudocapacitance of nitrogen-rich carbon nanorod arrays for electrochemical capacitors. 2019 , 7, 12086-12094	23
806	Metal-Organic Frameworks as Electro-Catalysts for Oxygen Reduction Reaction in Electrochemical Technologies. 2019 , 48, 4127-4137	10
805	Fabrication of stable copper nanoparticles embedded in nanocellulose film as a bionanocomposite plasmonic sensor and thereof for optical sensing of cyanide ion in water samples. 2019 , 26, 4945-4956	9

804	Computational characterization of nitrogen-doped carbon nanotube functionalized by Fe adatom and Fe substituent for oxygen reduction reaction. 2019 , 485, 342-352	7
803	Ultrasonically aided selective stabilization of pyrrolic type nitrogen by one pot nitrogen doped and hydrothermally reduced Graphene oxide/Titania nanocomposite (N-TiO/N-RGO) for H production. 2019 , 57, 62-72	16
802	Designing bifunctional catalysts for oxygen reduction/evolution reactions for high efficiency and long lifetime. 2019 , 313, 41-47	4
801	Atomically Dispersed Cobalt- and Nitrogen-Codoped Graphene toward Bifunctional Catalysis of Oxygen Reduction and Hydrogen Evolution Reactions. 2019 , 7, 9249-9256	39
800	A room-temperature interfacial approach towards iron/nitrogen co-doped fibrous porous carbons as electrocatalysts for the oxygen reduction reaction and Zn-Air batteries. 2019 , 11, 10257-10265	26
799	Hybrid Porous Catalysts Derived from Metal-Organic Framework for Oxygen Reduction Reaction in an Anion Exchange Membrane Fuel Cell. 2019 , 7, 9143-9152	12
798	Electrochemical performance at sputter-deposited nanocarbon film with different surface nitrogen-containing groups. 2019 , 11, 10239-10246	7
797	Synthesis of cobalt and nitrogen co-doped carbon nanotubes and its ORR activity as the catalyst used in hydrogen fuel cells. 2019 , 44, 25180-25187	30
796	Molybdenum carbide nanoparticles supported on nitrogen-doped carbon as efficient electrocatalysts for hydrogen evolution reaction. 2019 , 842, 89-97	8
795	Ultrasml Co ₂ P ₂ O ₇ nanocrystals anchored on nitrogen-doped graphene as efficient electrocatalysts for the oxygen reduction reaction. 2019 , 43, 6492-6499	10
794	Fabrication of nitrogen-doped hollow carbon nanospheres with variable nitrogen contents using mixed polymer brushes as precursors. 2019 , 54, 8121-8132	5
793	Bifunctional mechanism of N, P co-doped graphene for catalyzing oxygen reduction and evolution reactions. 2019 , 150, 104701	19
792	Nitrogen-doped biochar derived from watermelon rind as oxygen reduction catalyst in air cathode microbial fuel cells. 2019 , 242, 516-525	83
791	Cobalt Phosphate Nanoparticles Embedded Nitrogen and Phosphorus-Codoped Graphene Aerogels as Effective Electrocatalysts for Oxygen Reduction. 2019 , 6,	4
790	Electrocatalytic Activity of Functionalized Carbon Paper Electrodes and Their Correlation to the Fermi Level Derived from Raman Spectra. 2019 , 2, 2324-2336	18
789	Importance of Electrocatalyst Morphology for the Oxygen Reduction Reaction. 2019 , 6, 2600-2614	28
788	Biomass-Derived Air Cathode Materials: Pore-Controlled S,N-Co-doped Carbon for Fuel Cells and Metal-Air Batteries. 2019 , 9, 3389-3398	69
787	Carbon Nanodot Composites: Fabrication, Properties, and Environmental and Energy Applications. 2019 , 223-273	1

786	An architecture of dandelion-type Ni-Co ₃ O ₄ microspheres on carbon nanotube films toward an efficient catalyst for oxygen reduction in zinc-air batteries. 2019 , 481, 40-51	15
785	Solid-state thermal exfoliation of graphite nano-fibers to edge-nitrogenized graphene nanosheets for oxygen reduction reaction. 2019 , 545, 71-81	11
784	Investigation on Template Etching Process of SBA-15 Derived Ordered Mesoporous Carbon on Electrocatalytic Oxygen Reduction Reaction. 2019 , 4, 2463-2474	5
783	Green synthesis of nitrogen-doped self-assembled porous carbon-metal oxide composite towards energy and environmental applications. 2019 , 9, 5187	24
782	Work function-tailored graphene via transition metal encapsulation as a highly active and durable catalyst for the oxygen reduction reaction. <i>Energy and Environmental Science</i> , 2019 , 12, 2200-2211	35-4 75
781	Recent Progress in Defective Carbon-Based Oxygen Electrode Materials for Rechargeable Zinc-Air Batteries. 2019 , 2, 509-523	26
780	Variation of nitrogen species in zeolite-templated carbon by low-temperature carbonization of pyrrole and the effect on oxygen reduction activity. 2019 , 7, 8353-8360	22
779	The Influence of Heteroatom Dopants Nitrogen, Boron, Sulfur, and Phosphorus on Carbon Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 84, 457-464	27
778	Cu ₉₇ P ₃ -x-yO _x N _y /NPC as a bifunctional electrocatalyst for rechargeable zinc-air battery. 2019 , 421, 109-115	16
777	Synthesis of carbon nanotubes@mesoporous carbon core-shell structured electrocatalysts via a molecule-mediated interfacial co-assembly strategy. 2019 , 7, 8975-8983	36
776	Urea treated metal organic frameworks-graphene oxide composites derived N-doped Co-based materials as efficient catalyst for enhanced oxygen reduction. 2019 , 425, 76-86	26
775	Moderate Adsorption of Oxygen Molecular Induced Better Performance of Oxygen Reduction Reaction. 2019 , 166, F386-F392	5
774	Effect of two-step doping pathway on the morphology, structure, composition, and electrochemical performance of three-dimensional N,S-codoped graphene framework. 2019 , 34, 1993-2002	1
773	One Simple Strategy towards Nitrogen and Oxygen Codoped Carbon Nanotube for Efficient Electrocatalytic Oxygen Reduction and Evolution. 2019 , 9, 159	6
772	Stepwise Fabrication of Co-Embedded Porous Multichannel Carbon Nanofibers for High-Efficiency Oxygen Reduction. 2019 , 11, 33	10
771	Pure nitrogen-doped graphene aerogel with rich micropores yields high ORR performance. 2019 , 242, 1-5	17
770	Correcting Flaws in the Assignment of Nitrogen Chemical Environments in N-Doped Graphene. 2019 , 123, 11319-11327	21
769	A Comprehensive Investigation on Pyrolyzed Fe-N-C Composites as Highly Efficient Electrocatalyst toward the Oxygen Reduction Reaction of PEMFCs. 2019 , 11, 14126-14135	18

768	Highly reactive N,N'-carbonyldiimidazole-tailored bifunctional electrocatalyst for oxygen reduction and oxygen evolution. 2019 , 307, 375-384	12
767	Efficient Oxygen Electrocatalyst for Zn-Air Batteries: Carbon Dots and CoS Nanoparticles in a N,S-Codoped Carbon Matrix. 2019 , 11, 14085-14094	66
766	Electronic Structure Engineering of 2D Carbon Nanosheets by Evolutionary Nitrogen Modulation for Synergizing CO ₂ Electroreduction. 2019 , 2, 3151-3159	5
765	Nitrogen-Doped Carbon Nano-Onions as a Metal-Free Electrocatalyst. 2019 , 10, 222-231	8
764	Biomass Derived Graphene-Like Carbons for Electrocatalytic Oxygen Reduction Reaction. 2019 , 5, 682-689	27
763	Progress in Nonmetal-Doped Graphene Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 12, 2133-2146	45
762	Bottom-up synthesis of MOF-derived hollow N-doped carbon materials for enhanced ORR performance. 2019 , 146, 248-256	119
761	Simultaneous cross-linking and pore-forming electrospun carbon nanofibers towards high capacitive performance. 2019 , 479, 128-136	35
760	Polyacrylonitrile-derived nanostructured carbon materials. 2019 , 92, 89-134	50
759	Nanomaterials With Different Dimensions for Electrocatalysis. 2019 , 435-464	5
758	Functionalized Graphene Nanocomposites in Air Filtration Applications. 2019 , 65-89	2
757	Enhanced electrochemical oxygen reduction reaction performance with Pt nanocluster catalysts supported on microporous graphene-like 3D carbon. 2019 , 838, 89-93	7
756	Exploration of Lewis basicity and oxygen reduction reaction activity in plasma-tailored nitrogen-doped carbon electrocatalysts. 2019 , 337, 102-109	18
755	Fe ₃ C/Fe ₂ O ₃ heterostructure embedded in N-doped graphene as a bifunctional catalyst for quasi-solid-state zinc-air batteries. 2019 , 146, 763-771	52
754	Facile Synthesis of Hierarchically Porous N/P Codoped Carbon with Simultaneously High-Level Heteroatom-Doping and Moderate Porosity for High-Performance Supercapacitor Electrodes. 2019 , 7, 5717-5726	50
753	Core@Shelled Co/CoO Embedded Nitrogen-Doped Carbon Nanosheets Coupled Graphene as Efficient Cathode Catalysts for Enhanced Oxygen Reduction Reaction in Microbial Fuel Cells. 2019 , 7, 6335-6344	24
752	Effect of nitrogen-doping configuration in graphene on the oxygen reduction reaction.. 2019 , 9, 6035-6041	14
751	Deciphering Z-scheme Charge Transfer Dynamics in Heterostructure NiFe-LDH/N-rGO/g-CN Nanocomposite for Photocatalytic Pollutant Removal and Water Splitting Reactions. 2019 , 9, 2458	94

750	Double graphitic-N doping for enhanced catalytic oxidation activity of carbocatalysts. 2019 , 21, 5481-5488	15
749	Copolymer-Induced Intermolecular Charge Transfer: Enhancing the Activity of Metal-Free Catalysts for Oxygen Reduction. 2019 , 25, 5652-5657	3
748	A review of studies using graphenes in energy conversion, energy storage and heat transfer development. 2019 , 184, 581-599	79
747	Metal-organic framework-derived core-shell-structured nitrogen-doped CoCx/FeCo@C hybrid supported by reduced graphene oxide sheets as high performance bifunctional electrocatalysts for ORR and OER. 2019 , 371, 185-195	52
746	Highly effective and stable doped carbon catalyst with three-dimensional porous structure and well-covered Fe ₃ C nanoparticles prepared with C ₃ N ₄ and tannic acid as template/precursors. 2019 , 417, 117-124	13
745	p-Type Doping of Graphene with Cationic Nitrogen. 2019 , 2, 1350-1355	27
744	N-Doped holey carbon materials derived from a metal-free macrocycle cucurbit[6]uril assembly as an efficient electrocatalyst for the oxygen reduction reaction. 2019 , 55, 13832-13835	8
743	Enriched Pyridinic Nitrogen Atoms at Nanoholes of Carbon Nanohorns for Efficient Oxygen Reduction. 2019 , 9, 20170	16
742	Recent advances in two-dimensional materials and their nanocomposites in sustainable energy conversion applications. 2019 , 11, 21622-21678	109
741	Towards understanding the active sites for the ORR in N-doped carbon materials through fine-tuning of nitrogen functionalities: an experimental and computational approach. 2019 , 7, 24239-24250	41
740	ZIF-67-derived Co ₃ O ₄ @carbon protected by oxygen-buffering CeO ₂ as an efficient catalyst for boosting oxygen reduction/evolution reactions. 2019 , 7, 25853-25864	79
739	A two-dimensional multi-shelled metal-organic framework and its derived bimetallic N-doped porous carbon for electrocatalytic oxygen reduction. 2019 , 55, 14805-14808	23
738	3D interconnected nitrogen-self-doped carbon aerogels as efficient oxygen reduction electrocatalysts derived from biomass gelatin.. 2019 , 9, 40301-40308	18
737	Nanostructured carbons containing FeNi/NiFeO supported over N-doped carbon nanofibers for oxygen reduction and evolution reactions.. 2019 , 9, 36586-36599	7
736	Facile synthesis of 3D sulfur/nitrogen co-doped graphene derived from graphene oxide hydrogel and the simultaneous determination of hydroquinone and catechol. 2019 , 279, 170-176	65
735	Solvation effects on DFT predictions of ORR activity on metal surfaces. 2019 , 323, 35-43	50
734	Bifunctional biomass-derived N, S dual-doped ladder-like porous carbon for supercapacitor and oxygen reduction reaction. 2019 , 773, 11-20	52
733	Defective graphene for electrocatalytic CO reduction. 2019 , 534, 332-337	44

732	Pyrolysis of iron phthalocyanine on activated carbon as highly efficient non-noble metal oxygen reduction catalyst in microbial fuel cells. 2019 , 361, 416-427	57
731	Co ₂ N nanoparticles embedded N-doped mesoporous carbon as efficient electrocatalysts for oxygen reduction reaction. 2019 , 473, 555-563	20
730	DNA-Templated In Situ Synthesis of Highly Dispersed AuNPs on Nitrogen-Doped Graphene for Real-Time Electrochemical Monitoring of Nitric Oxide Released from Live Cancer Cells. 2019 , 91, 2273-2278	23
729	Nitrogen-doped Porous Carbon with Brain-like Structure Derived from Quaternary Bipyridinium-type Framework for Efficient Oxygen Reduction Electrocatalysis and Supercapacitors. 2019 , 6, 848-855	6
728	Nanowire-Templated Synthesis of FeN -Decorated Carbon Nanotubes as Highly Efficient, Universal-pH, Oxygen Reduction Reaction Catalysts. 2019 , 25, 2637-2644	14
727	UIO-66-NH ₂ -Derived Mesoporous Carbon Catalyst Co-Doped with Fe/N/S as Highly Efficient Cathode Catalyst for PEMFCs. 2019 , 15, e1803520	47
726	Air Cathode Catalysts of Microbial Fuel Cell by Nitrogen-Doped Carbon Aerogels. 2019 , 7, 3917-3924	26
725	Porous Organic-Polymer-Derived Nitrogen-Doped Porous Carbon Nanoparticles for Efficient Oxygen Reduction Electrocatalysis and Supercapacitors. 2019 , 7, 2236-2244	19
724	Nitrogen and fluorine hybridization state tuning in hierarchical honeycomb-like carbon nanofibers for optimized electrocatalytic ORR in alkaline and acidic electrolytes. 2019 , 413, 376-383	28
723	CoSe ₂ /N-Doped Carbon Hybrid Derived from ZIF-67 as High-Efficiency Counter Electrode for Dye-Sensitized Solar Cells. 2019 , 7, 2784-2791	43
722	Doping of Carbon Materials for Metal-Free Electrocatalysis. 2019 , 31, e1804672	223
721	Catalysis with Two-Dimensional Materials Confining Single Atoms: Concept, Design, and Applications. 2019 , 119, 1806-1854	442
720	Thermal Sugar Bubbling Preparation of N-Doped Porous Carbon for High-Performance Solid-State Zn-Air Batteries. 2019 , 2, 373-379	18
719	Helical Ullazine-Quinoxaline-Based Polycyclic Aromatic Hydrocarbons. 2019 , 25, 1345-1352	16
718	Enhanced role of graphitic-N on nitrogen-doped porous carbon ball for direct dehydrogenation of ethylbenzene. 2019 , 462, 61-68	15
717	Sulfur, Nitrogen and Fluorine Triple-Doped Metal-Free Carbon Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 6, 741-747	18
716	Heteroatom-Doped Carbon Materials for Hydrazine Oxidation. 2019 , 31, e1804394	47
715	Bimetallic metal-organic framework derived FeO /TiO ₂ embedded in mesoporous carbon nanocomposite for the sensitive electrochemical detection of 4-nitrophenol. 2019 , 281, 1063-1072	61

714	Carbon-Based Metal-Free Catalysts for Key Reactions Involved in Energy Conversion and Storage. 2019 , 31, e1801526	184
713	Porous nitrogen/halogen dual-doped nanocarbons derived from imidazolium functionalized cationic metal-organic frameworks for highly efficient oxygen reduction reaction. 2019 , 62, 671-680	23
712	Metal-free N-doped carbon blacks as excellent electrocatalysts for oxygen reduction reactions. 2019 , 145, 481-487	22
711	Cost-effective preparation of metal-free electrocatalysts by phosphoric acid activation of lignocellulosic materials for oxygen reduction reaction. 2019 , 44, 2811-2822	9
710	Ni(II)-Dimeric Complex-Derived Nitrogen-Doped Graphitized Carbon-Encapsulated Nickel Nanoparticles: Efficient Trifunctional Electrocatalyst for Oxygen Reduction Reaction, Oxygen Evolution Reaction, and Hydrogen Evolution Reaction. 2019 , 7, 2187-2199	31
709	CoFe ₂ O ₄ nanoparticles anchored on N/S co-doped mesoporous carbon spheres as efficient bifunctional electrocatalysts for oxygen catalytic reactions. 2019 , 44, 2645-2655	20
708	Electrochemical catalytic mechanism of N-doped graphene for enhanced H ₂ O ₂ yield and in-situ degradation of organic pollutant. 2019 , 245, 583-595	97
707	Deriving Efficient Porous Heteroatom-Doped Carbon Electrocatalysts for Hydrazine Oxidation from Transition Metal Ions-Coordinated Casein. 2019 , 29, 1808486	19
706	B-Doped Fe/N/C Porous Catalyst for High-Performance Oxygen Reduction in Anion-Exchange Membrane Fuel Cells. 2019 , 6, 1754-1760	9
705	Biomolecule-derived N/S co-doped CNT-graphene hybrids exhibiting excellent electrochemical activities. 2019 , 413, 408-417	60
704	Carbon-Based Metal-Free ORR Electrocatalysts for Fuel Cells: Past, Present, and Future. 2019 , 31, e1804799	412
703	Functional Electrocatalysts Derived from Prussian Blue and its Analogues for Metal-Air Batteries: Progress and Prospects. 2019 , 2, 290-310	23
702	Improved organic pollutants removal and simultaneous electricity production via integrating Fenton process and dual rotating disk photocatalytic fuel cell system using bamboo charcoal cathode. 2019 , 361, 1198-1206	29
701	The role of nitrogen-doping and the effect of the pH on the oxygen reduction reaction on highly active nitrified carbon sphere catalysts. 2019 , 299, 736-748	17
700	Controllable active sites and facile synthesis of cobalt nanoparticle embedded in nitrogen and sulfur co-doped carbon nanotubes as efficient bifunctional electrocatalysts for oxygen reduction and evolution reactions. 2019 , 38, 60-67	26
699	Laser-Induced Graphene Hybrid Catalysts for Rechargeable Zn-Air Batteries. 2019 , 2, 1460-1468	36
698	Ultrapure Graphene Is a Poor Electrocatalyst: Definitive Proof of the Key Role of Metallic Impurities in Graphene-Based Electrocatalysis. 2019 , 13, 1574-1582	76
697	Noble-Metal-Free Iron Nitride/Nitrogen-Doped Graphene Composite for the Oxygen Reduction Reaction. 2019 , 4, 130-139	21

696	Nanostructured Cementite/Ferrous Sulfide Encapsulated Carbon with Heteroatoms for Oxygen Reduction in Alkaline Environment. 2019 , 7, 3185-3194	9
695	Promoted activity of nitrogen-doped activated carbon as a highly efficient oxygen reduction catalyst in microbial fuel cells. 2019 , 49, 119-133	2
694	Efficient Metal-Free Electrocatalysts from N-Doped Carbon Nanomaterials: Mono-Doping and Co-Doping. 2019 , 31, e1805121	205
693	Rational Design of Carbon-Rich Materials for Energy Storage and Conversion. 2019 , 31, e1804973	52
692	Nitrogen-doped nanocarbons (NNCs): Current status and future opportunities. 2019 , 15, 67-76	14
691	Doped-Graphene Modified Electrochemical Sensors. 2019 , 67-87	2
690	Liquid phase catalytic hydrogenation reduction of Cr(VI) using highly stable and active Pd/CNT catalysts coated by N-doped carbon. 2019 , 217, 742-753	17
689	CoMn ₂ O ₄ doped reduced graphene oxide as an effective cathodic electrocatalyst for ORR in microbial fuel cells. 2019 , 296, 214-223	39
688	Zn ₃ [Fe(CN) ₆] ₂ derived Fe/Fe ₅ C ₂ @N-doped carbon as a highly effective oxygen reduction reaction catalyst for zinc-air battery. 2019 , 244, 197-205	81
687	Graphene and Its Applications in Microbial Electrochemical Technology. 2019 , 75-97	3
686	MOF-derived carbonaceous materials enriched with nitrogen: Preparation and applications in adsorption and catalysis. 2019 , 25, 88-111	118
685	Carbon-Based Materials in Microbial Fuel Cells. 2019 , 49-74	5
684	Three-Dimensional Nitrogen-Doped Graphene Frameworks from Electrochemical Exfoliation of Graphite as Efficient Supercapacitor Electrodes. 2019 , 5, 152-157	13
683	Metal-free ovalbumin-derived N-S-co-doped nanoporous carbon materials as efficient electrocatalysts for oxygen reduction reaction. 2019 , 467-468, 75-83	22
682	Nitrogen-Doped Metal-Free Carbon Materials Derived from Cellulose as Electrocatalysts for the Oxygen Reduction Reaction. 2019 , 6, 514-521	26
681	Sandwich-like electrode with tungsten nitride nanosheets decorated with carbon dots as efficient electrocatalyst for oxygen reduction. 2019 , 466, 911-919	22
680	Hierarchical catalytic electrodes of cobalt-embedded carbon nanotube/carbon flakes arrays for flexible solid-state zinc-air batteries. 2019 , 142, 379-387	82
679	Highly active bimetallic CuFeNi electrocatalysts for oxygen reduction reaction in alkaline media. 2019 , 71, 234-241	7

678	A Tannic Acid-Derived N-, P-Codoped Carbon-Supported Iron-Based Nanocomposite as an Advanced Trifunctional Electrocatalyst for the Overall Water Splitting Cells and Zinc-Air Batteries. 2019 , 9, 1803312	138
677	The Vital Balance of Graphitization and Defect Engineering for Efficient Bifunctional Oxygen Electrocatalyst Based on N-doping Carbon/CNT Frameworks. 2019 , 11, 861-867	20
676	Guiding Principles for Designing Highly Efficient Metal-Free Carbon Catalysts. 2019 , 31, e1805252	74
675	Oxygen Reduction Reaction. 2019 , 27, 203-252	8
674	Alcohol Oxidation and Hydrogen Evolution. 2019 , 27, 253-301	10
673	Synthesis and Surface Modification. 2019 , 27, 67-108	1
672	Membrane-free electrochemical deoxygenation of aqueous solutions using symmetric activated carbon electrodes in flow-through cells. 2019 , 297, 163-172	3
671	Oxidizing Vacancies in Nitrogen-Doped Carbon Enhance Air-Cathode Activity. 2019 , 31, e1803339	39
670	MOFs for Electrocatalysis: From Serendipity to Design Strategies. 2019 , 3, 1800415	65
669	Nitrogen-doped carbon materials as a promising platform toward the efficient catalysis for hydrogen generation. 2019 , 571, 25-41	41
668	A novel electrocatalyst based on Fe ₂ Ni ₁ nanoparticles anchored nitrogen doped graphene nanosheets towards efficient oxygen reduction reaction. 2019 , 780, 734-742	8
667	Increased activity of nitrogen-doped graphene-like carbon sheets modified by iron doping for oxygen reduction. 2019 , 536, 42-52	26
666	Quantum chemistry of the oxygen reduction reaction (ORR) on Fe-G iron doped graphene for fuel cells. 2019 , 44, 12439-12445	12
665	Boosting oxygen reduction catalysis with N, F, and S tri-doped porous graphene: Tertiary N-precursors regulates the constitution of catalytic active sites. 2019 , 142, 1-12	51
664	Bifunctional biomass-derived 3D nitrogen-doped porous carbon for oxygen reduction reaction and solid-state supercapacitor. 2019 , 465, 303-312	57
663	New insights into the role of nitrogen-bonding configurations in enhancing the photocatalytic activity of nitrogen-doped graphene aerogels. 2019 , 534, 574-585	26
662	Construction of porous N-doped graphene layer for efficient oxygen reduction reaction. 2019 , 194, 36-44	24
661	In situ palladium/nitrogen-doped ordered mesoporous carbon hybrids as highly active and durable electrocatalysts for oxygen reduction reaction. 2019 , 26, 371-379	8

660	Co ₃ O ₄ modified Ag/g-C ₃ N ₄ composite as a bifunctional cathode for lithium-oxygen battery. 2020 , 41, 185-193	29
659	Thermal, electrical, and sensing properties of rubber nanocomposites. 2020 , 149-175	7
658	Porous carbon nanosheets from biological nucleobase precursor as efficient pH-independent oxygen reduction electrocatalyst. 2020 , 156, 179-186	26
657	High oxygen reduction reaction activity on various iron loading of Fe-PANI/C catalyst for PEM fuel cell. 2020 , 26, 813-822	7
656	String of pyrolyzed ZIF-67 particles on carbon fibers for high-performance electrocatalysis. 2020 , 25, 137-144	48
655	Boosting oxygen reduction catalysis with tailorable active-N-dominated doped defective CNTs. 2020 , 499, 143844	11
654	Fe/Ni bimetal and nitrogen co-doped porous carbon fibers as electrocatalysts for oxygen reduction reaction. 2020 , 560, 330-337	18
653	Recent advances in carbon-based electrocatalysts for oxygen reduction reaction. 2020 , 31, 626-634	60
652	Platinum Alloy Catalysts for Oxygen Reduction Reaction: Advances, Challenges and Perspectives. 2020 , 6, 32-41	38
651	Nitrogen-Doped Carbon Nanomaterials: Synthesis, Characteristics and Applications. 2020 , 15, 2282-2293	38
650	Tuning the type of nitrogen on N-RGO supported on N-TiO under ultrasonication/hydrothermal treatment for efficient hydrogen evolution - A mechanistic overview. 2020 , 64, 104866	7
649	Improved cathodic oxygen reduction and bioelectricity generation of electrochemical reactor based on reduced graphene oxide decorated with titanium-based composites. 2020 , 296, 122319	16
648	Green and facile synthesis of iron oxide nanoparticle-embedded N-doped biocarbon as an efficient oxygen reduction electrocatalyst for microbial fuel cells. 2020 , 385, 123393	33
647	High-Performance Flexible Asymmetric Supercapacitors Facilitated by N-doped Porous Vertical Graphene Nanomesh Arrays. 2020 , 7, 406-413	8
646	Synthesis of Benzoxazine-Based N-Doped Mesoporous Carbons as High-Performance Electrode Materials. 2020 , 10, 422	3
645	Strong pyrrolic-N-Pd interactions boost the electrocatalytic hydrodechlorination reaction on palladium nanoparticles. 2020 , 12, 843-850	10
644	Free-radical-initiated strategy aiming for pitch-based dual-doped carbon nanosheets engaged into high-energy asymmetric supercapacitors. 2020 , 26, 119-128	43
643	Iron-Nitrogen-Carbon Catalysts for Proton Exchange Membrane Fuel Cells. 2020 , 4, 33-44	127

642	Nanocellulose-assisted synthesis of ultrafine Co nanoparticles-loaded bimodal micro-mesoporous N-rich carbon as bifunctional oxygen electrode for Zn-air batteries. 2020 , 450, 227640	30
641	Advanced nanomaterials for efficient oxygen electrodes in metal-air batteries. 2020 , 191-222	
640	Understanding the roles of amorphous domains and oxygen-containing groups of nitrogen-doped carbon in oxygen reduction catalysis: toward superior activity. 2020 , 7, 177-185	8
639	3D Nitrogen-Doped Graphene Encapsulated Metallic Nickel-Iron Alloy Nanoparticles for Efficient Bifunctional Oxygen Electrocatalysis. 2020 , 26, 4044	12
638	Pomelo peel-derived, N-doped biochar microspheres as an efficient and durable metal-free ORR catalyst in microbial fuel cells. 2020 , 4, 1642-1653	22
637	L-Ascorbic acid oxygen-induced micro-electronic fields over metal-free polyimide for peroxymonosulfate activation to realize efficient multi-pathway destruction of contaminants. 2020 , 8, 810-819	17
636	Synthesis of amorphous and graphitized porous nitrogen-doped carbon spheres as oxygen reduction reaction catalysts. 2020 , 11, 1-15	7
635	Electrocatalysis at Nanocarbons: Model Systems and Applications in Energy Conversion. 2020 , 201-249	3
634	Enhanced activation of peroxymonosulfate by nitrogen-doped graphene/TiO under photo-assistance for organic pollutants degradation: Insight into N doping mechanism. 2020 , 244, 125526	20
633	Porous 2D carbon nanosheets synthesized via organic groups triggered polymer particles exfoliation: An effective cathode catalyst for polymer electrolyte membrane fuel cells. 2020 , 332, 135397	4
632	N configuration control of N-doped carbon for stabilizing Cu nanoparticles: The synergistic effects on oxy-carbonylation of methanol. 2020 , 158, 836-845	6
631	Engineered photocatalytic fuel cell with oxygen vacancies-rich rGO/BiO ₁ as photoanode and biomass-derived N-doped carbon as cathode: Promotion of reactive oxygen species production via Fe ²⁺ /Fe ³⁺ redox. 2020 , 385, 123824	25
630	Promotion of Nitrogen Reserve and Electronic Regulation in Bamboo-like Carbon Tubules by Cobalt Nanoparticles for Highly Efficient ORR. 2020 , 3, 2323-2330	10
629	Facile synthesis of flower-like dual-metal (Co/Zn) MOF-derived 3D porous Co@Co-NPC as reversible oxygen electrocatalyst for rechargeable zinc-air batteries. 2020 , 26, 1913-1922	12
628	Ionomer distribution control in porous carbon-supported catalyst layers for high-power and low Pt-loaded proton exchange membrane fuel cells. 2020 , 19, 77-85	190
627	Enhancing oxygen reduction reaction by using metal-free nitrogen-doped carbon black as cathode catalysts in microbial fuel cells treating wastewater. 2020 , 182, 109011	32
626	Carbon nanotube hollow polyhedrons derived from ZIF-8@ZIF-67 coupled to electro-deposited gold nanoparticles for voltammetric determination of acetaminophen. 2019 , 187, 6	18
625	Fe, N-decorated three dimension porous carbonaceous matrix for highly efficient oxygen reduction reaction. 2020 , 505, 144635	6

624	NiFe nanoparticles embedded N-doped carbon nanotubes as high-efficient electrocatalysts for wearable solid-state Zn-air batteries. 2020 , 68, 104293	107
623	Water hyacinth (<i>Eichhornia crassipes</i>) biochar as an alternative cathode electrocatalyst in an air-cathode single chamber microbial fuel cell. 2020 , 45, 5911-5927	29
622	Oxygen and nitrogen co-doped ordered mesoporous carbon materials enhanced the electrochemical selectivity of O reduction to HO. 2020 , 562, 540-549	19
621	Different strategies to simultaneously N-doping and reduce graphene oxide for electrocatalytic applications. 2020 , 857, 113695	10
620	N8IPolynitrogen Stabilized on Boron-Doped Graphene as Metal-Free Electrocatalysts for Oxygen Reduction Reaction. 2020 , 10, 160-167	25
619	Bionic Preparation of CeO-Encapsulated Nitrogen Self-Doped Biochars for Highly Efficient Oxygen Reduction. 2020 , 12, 3642-3653	16
618	Ordered mesoporous carbon assisted Fe-N-C for efficient oxygen reduction catalysis in both acidic and alkaline media. 2020 , 31, 165708	5
617	CO Activation Using Nitrogen-Doped Carbon Nanotubes for Reductive Carbonylation of Nitroaromatics to Benzimidazolinone and Phenyl Urea. 2020 , 12, 48700-48711	2
616	Co-doped carbon materials synthesized with polymeric precursors as bifunctional electrocatalysts.. 2020 , 10, 35966-35978	6
615	In situ synthesis of Co ₃ O ₄ nanoparticles confined in 3D nitrogen-doped porous carbon as an efficient bifunctional oxygen electrocatalyst. 2020 , 39, 1383-1394	37
614	Single-Atom Catalysts across the Periodic Table. 2020 , 120, 11703-11809	237
613	Synthesis of dopamine-derived N-doped carbon nanotubes/FeO composites as enhanced electrochemical sensing platforms for hydrogen peroxide detection. 2020 , 187, 605	7
612	Infrared-assisted synthesis of highly amidized graphene quantum dots as metal-free electrochemical catalysts. 2020 , 360, 137009	7
611	Modulation of oxygen functional groups and their influence on the supercapacitor performance of reduced graphene oxide. 2020 , 44, 19022-19027	4
610	Effect of Fe/N-doped carbon nanotube (CNT) wall thickness on CO ₂ conversion: A DFT study. 2020 , 26, e00224	0
609	Novel low-cost activated algal biochar as a cathode catalyst for improving performance of microbial fuel cell. 2020 , 42, 100808	16
608	FeN-doped carbon nanoparticles from coal tar soot and its novel application as a high performance air-cathode catalyst for microbial fuel cells. 2020 , 363, 137177	7
607	Nitrogen-doped nanostructured carbons: A new material horizon for water desalination by capacitive deionization. 2020 , 2, 100043	37

606	Detailed Characterization of an Annealed Reduced Graphene Oxide Catalyst for Selective Peroxide Formation Activity. 2020 , 12, 46439-46445	3
605	Synergistic Catalytic Effect of Hollow Carbon Nanosphere and Silver Nanoparticles for Oxygen Reduction Reaction. 2020 , 5, 8099-8105	4
604	Evaluating Potential Catalytic Active Sites on Nitrogen-Doped Graphene for the Oxygen Reduction Reaction: An Approach Based on Constant Electrode Potential Density Functional Theory Calculations. 2020 , 124, 25675-25685	3
603	Thermal Transformation of End-of-Life Latex to Valuable Materials. 2020 , 4, 166	
602	Nitrogen-Doped Carbon Aerogels Prepared by Direct Pyrolysis of Cellulose Aerogels Derived from Coir Fibers Using an Ammonia/Urea System and Their Electrocatalytic Performance toward the Oxygen Reduction Reaction. 2020 , 59, 21371-21382	12
601	Sustainable biochar as an electrocatalysts for the oxygen reduction reaction in microbial fuel cells. 2020 ,	19
600	Nitrogen-Doped Mesoporous Carbon Microspheres by Spray Drying-Vapor Deposition for High-Performance Supercapacitor. 2020 , 8, 592904	0
599	In situ textured carbon nitride photoanodes with enhanced photoelectrochemical activity by band-gap state modulation. 2020 , 8, 24005-24012	6
598	Improved oxygen reduction performance of a N, S co-doped graphene-like carbon prepared by a simple carbon bath method. 2020 , 35, 531-539	10
597	Frontiers in hybrid and interfacial materials chemistry research. 2020 , 45, 951-964	2
596	A precious-metal-free Fe-intercalated carbon nitride porous-network with enhanced activity for the oxygen reduction reaction and methanol-tolerant oxygen reduction reaction. 2020 , 4, 5050-5060	10
595	Effect of graphene surface functionalization on the oxygen reduction reaction in alkaline media. 2020 , 30, 472-473	2
594	Application of Biomass-Derived Nitrogen-Doped Carbon Aerogels in Electrocatalysis and Supercapacitors. 2020 , 7, 3695-3712	18
593	Interfacial engineering of core-shell structured mesoporous architectures from single-micelle building blocks. 2020 , 35, 100940	8
592	Fabrication of porous graphene-like carbon nanosheets with rich doped-nitrogen for high-performance electromagnetic microwave absorption. 2020 , 530, 147298	30
591	Bimetallic organic framework-derived, oxygen-defect-rich $\text{Fe}_x\text{Co}_{3-x}\text{S}_4/\text{Fe}_y\text{Co}_{9-y}\text{S}_8$ heterostructure microsphere as a highly efficient and robust cathodic catalyst in the microbial fuel cell. 2020 , 472, 228582	14
590	Carbon-supported cobalt (III) complex for direct reduction of oxygen in alkaline medium. 2020 , 45, 24738-24748	
589	Recent progress of graphene based nanomaterials in bioelectrochemical systems. 2020 , 749, 141225	59

588	Assessment of three-dimensional nitrogen-doped mesoporous graphene functionalized carbon felt electrodes for high-performance all vanadium redox flow batteries. 2020 , 531, 147391	9
587	Sengon wood-derived RGO supported Fe-based electrocatalyst with stabilized graphitic N-bond for oxygen reduction reaction in acidic medium. 2020 , 45, 23237-23253	7
586	Single-site pyrrolic-nitrogen-doped sp-hybridized carbon materials and their pseudocapacitance. 2020 , 11, 3884	51
585	Polymer-Derived Heteroatom-Doped Porous Carbon Materials. 2020 , 120, 9363-9419	196
584	Combining structurally ordered intermetallics with N-doped carbon confinement for efficient and anti-poisoning electrocatalysis. 2020 , 279, 119370	17
583	Efficient hole transport material formed by atmospheric pressure plasma functionalization of Spiro-OMeTAD. 2020 , 17, 100321	4
582	Nitrogen-rich graphitic-carbon@graphene as a metal-free electrocatalyst for oxygen reduction reaction. 2020 , 10, 12431	18
581	Unveiling the Active Site of Metal-Free Nitrogen-doped Carbon for Electrocatalytic Carbon Dioxide Reduction. 2020 , 1, 100145	19
580	Heat-treated multi-walled carbon nanotubes-supported (Fe,Co,Ni)-coordinated polyporphyrin: A robust air cathode catalyst for rechargeable zinc-air batteries. 2020 , 358, 136918	7
579	Selective hydrogenation of nitroarenes under mild conditions by the optimization of active sites in a well defined Co@NC catalyst. 2020 , 22, 5730-5741	26
578	Advanced Electrocatalysts with Single-Metal-Atom Active Sites. 2020 , 120, 12217-12314	235
577	Pyrolyzed biosolid surface features promote a highly efficient oxygen reduction reaction. 2020 , 22, 7858-7870	6
576	Graphitic-N-rich N-doped graphene as a high performance catalyst for oxygen reduction reaction in alkaline solution. 2020 , 45, 32402-32412	19
575	Facile Synthesis of the Amorphous Carbon Coated Fe-N-C Nanocatalyst with Efficient Activity for Oxygen Reduction Reaction in Acidic and Alkaline Media. 2020 , 13,	4
574	Enhancing bioelectricity generation of bio-electrochemical reactors using porous nickel-based composite as effective oxygen reduction catalyst. 2020 , 277, 124137	4
573	Active learning-driven quantitative synthesis-structure-property relations for improving performance and revealing active sites of nitrogen-doped carbon for the hydrogen evolution reaction. 2020 , 5, 2134-2147	8
572	Nonprecious Bimetallic Sites Coordinated on N-Doped Carbons with Efficient and Durable Catalytic Activity for Oxygen Reduction. 2020 , 16, e2000742	28
571	Tuning the UV spectrum of PAHs by means of different N-doping types taking pyrene as paradigmatic example: categorization valence bond theory and high-level computational approaches. 2020 , 22, 22003-22015	3

570	N8Polynitrogen Stabilized on Nitrogen-Doped Carbon Nanotubes as an Efficient Electrocatalyst for Oxygen Reduction Reaction. 2020 , 10, 864	3
569	Biomass-derived nitrogen and sulfur co-doped carbon microtubes for the oxygen reduction reaction. 2020 , 4, 3251-3257	10
568	N-Doped Hollow Mesoporous Carbon Nanospheres for Oxygen Reduction Reaction in Alkaline Media. 2020 , 3, 8875-8887	15
567	A universal pH range and a highly efficient Mo ₂ C-based electrocatalyst for the hydrogen evolution reaction. 2020 , 8, 19879-19886	23
566	Metal-Organic-Framework Derived Core-Shell N-Doped Carbon Nanocages Embedded with Cobalt Nanoparticles as High-Performance Anode Materials for Lithium-Ion Batteries. 2020 , 30, 2006188	41
565	Highly Active Wood-Derived Nitrogen-Doped Carbon Catalyst for the Oxygen Reduction Reaction. 2020 , 5, 23578-23587	10
564	N-Doped carbon nanospheres with nanocavities to encapsulate manganese oxides as ORR electrocatalysts. 2020 , 44, 14915-14921	3
563	Biomass-derived nonprecious metal catalysts for oxygen reduction reaction: The demand-oriented engineering of active sites and structures. 2020 , 2, 561-581	28
562	Synthesis of Porous Mo ₂ C/Nitrogen-Doped Carbon Nanocomposites for Efficient Hydrogen Evolution Reaction. 2020 , 5, 14307-14311	2
561	One-step generation of S and N co-doped reduced graphene oxide for high-efficiency adsorption towards methylene blue.. 2020 , 10, 37757-37765	6
560	Recent advances in graphene-based materials for fuel cell applications. 2020 , 9, 958	25
559	Low-dimensional catalysts for oxygen reduction reaction. 2020 , 30, 787-795	7
558	Comprehensive Analysis of Critical Factors Determining Limiting Current of PEMFC: O ₂ and H ⁺ Transport Resistance without Cathode Humidification. 2020 , 167, 084511	2
557	Heteroatom doped graphene engineering for energy storage and conversion. 2020 , 39, 47-65	214
556	A Strategy to Synthesize Ultrahigh-N-Doped Hierarchical Carbons via Induced Sheet from Silk Fibroin by In Situ Electrogelation/Electropolymerization. 2020 , 3, 3596-3608	1
555	Nanostructured Carbon-Nitrogen-Sulfur-Nickel Networks Derived From Polyaniline as Bifunctional Catalysts for Water Splitting. 2020 , 8, 385	5
554	Mesoporous N-doped carbon nanofibers with surface nanocavities for enhanced catalytic activity toward oxygen reduction reaction. 2020 , 55, 11177-11187	4
553	Cathode Catalysts Based on Cobalt- and Nitrogen-Doped Nanocarbon Composites for Anion Exchange Membrane Fuel Cells. 2020 , 3, 5375-5384	36

- 552 Recent advances in Co-based electrocatalysts for the oxygen reduction reaction. **2020**, 4, 3848-3870 20
- 551 Tailor of high performance electrocatalyst for oxygen reduction reaction through rational structural adjustment of carbon-based architecture. **2020**, 45, 8466-8478 1
- 550 3D honeycombed cobalt, nitrogen co-doped carbon nanosheets via hypersaline-protected pyrolysis towards efficient oxygen reduction. **2020**, 31, 364003 7
- 549 Recent Developments in Heterogeneous Catalytic Routes for the Sustainable Production of Succinic Acid from Biomass Resources. **2020**, 13, 4026-4034 12
- 548 Metal-polydopamine framework-derived (Co)/N-doped carbon hollow nanocubes as efficient oxygen electrocatalysts. **2020**, 4, 3370-3377 8
- 547 Heteroatom-Doped Carbon Electrocatalysts Derived from Nanoporous Two-Dimensional Covalent Organic Frameworks for Oxygen Reduction and Hydrogen Evolution. **2020**, 3, 5481-5488 24
- 546 Efficient removal of tylosin by nitrogen-doped mesoporous carbon nanospheres with tunable pore sizes. **2020**, 27, 30844-30852 3
- 545 Active sites and reaction mechanism for N-doped carbocatalysis of phenol removal. **2020**, 5, 444-452 7
- 544 High performance of metal-organic framework-derived catalyst supported by tellurium nanowire for oxygen reduction reaction. **2020**, 158, 324-331 4
- 543 Active N dopant states of electrodes regulate extracellular electron transfer of *Shewanella oneidensis* MR-1 for bioelectricity generation: Experimental and theoretical investigations. **2020**, 160, 112231 7
- 542 High power generation in mixed-culture microbial fuel cells with corncob-derived three-dimensional N-doped bioanodes and the impact of N dopant states. **2020**, 399, 125848 21
- 541 Highly durable carbon supported Fe/N nanocrystals feature as efficient bi-functional oxygen electrocatalyst. **2020**, 44, 8413-8426 8
- 540 3D Rosa centifolia-like CeO encapsulated with N-doped carbon as an enhanced electrocatalyst for Zn-air batteries. **2020**, 578, 796-804 16
- 539 Oxygen Electrocatalysis with Mesoporous Co/N Catalysts: Towards Understanding the Active Site and Development of Rechargeable Zn-Air Batteries. **2020**, 7, 2877-2887 7
- 538 Cu Nanoclusters/Fe/N Amorphous Composites with Dual Active Sites in N-Doped Graphene for High-Performance Zn-Air Batteries. **2020**, 12, 31340-31350 42
- 537 Hexagonal La₂O₃ Nanocrystals Chemically Coupled with Nitrogen-Doped Porous Carbon as Efficient Catalysts for the Oxygen Reduction Reaction. **2020**, 26, 12606-12614 1
- 536 Solvothermal synthesis of oxygen-incorporated MoS_{2-x} nanosheets with abundant undercoordinated Mo for efficient hydrogen evolution. **2020**, 45, 19133-19143 10
- 535 Nitrogen doping to atomically match reaction sites in microbial fuel cells. **2020**, 3, 6

534	Heteroatom Doping: An Effective Way to Boost Sodium Ion Storage. 2020 , 10, 2000927	134
533	Electrochemical sensors based on nitrogen-doped reduced graphene oxide for the simultaneous detection of ascorbic acid, dopamine and uric acid. 2020 , 842, 155873	49
532	Influence of Fe on electrocatalytic activity of iron-nitrogen-doped carbon materials toward oxygen reduction reaction. 2020 , 1	0
531	A Directional Synthesis for Topological Defect in Carbon. 2020 , 6, 2009-2023	49
530	Non-enzymatic electrochemical detection of hydrogen peroxide on highly amidized graphene quantum dot electrodes. 2020 , 528, 146936	9
529	Confining Iron Carbide Growth in Porous Carbon to Improve the Electrocatalytic Performance for Oxygen Reduction Reaction. 2020 , 11, 354-363	1
528	Controllable Synthesis of Co@CoO/Helical Nitrogen-Doped Carbon Nanotubes toward Oxygen Reduction Reaction as Binder-free Cathodes for Al-Air Batteries. 2020 , 12, 16512-16520	13
527	N,S dual-doped carbon nanosheet networks with hierarchical porosity derived from biomass of <i>Allium cepa</i> as efficient catalysts for oxygen reduction and Zn-air batteries. 2020 , 55, 7464-7476	16
526	Melamine-Induced N,S-Codoped Hierarchically Porous Carbon Nanosheets for Enhanced Electrocatalytic Oxygen Reduction. 2020 , 5, 3477-3484	5
525	Molecular engineering of nanostructures and activities on bifunctional oxygen electrocatalysts for Zinc-air batteries. 2020 , 270, 118869	19
524	Carbon-Covered Hollow Nitrogen-Doped Carbon Nanoparticles and Nitrogen-Doped Carbon-Covered Hollow Carbon Nanoparticles for Oxygen Reduction. 2020 , 3, 3487-3493	11
523	Two-Dimensional Bimetallic Zn/Fe-Metal-Organic Framework (MOF)-Derived Porous Carbon Nanosheets with a High Density of Single/Paired Fe Atoms as High-Performance Oxygen Reduction Catalysts. 2020 , 12, 13878-13887	50
522	Bifunctional nitrogen-doped hybrid catalyst based on onion-like carbon and graphitic carbon encapsulated transition metal alloy nanostructure for rechargeable zinc-air battery. 2020 , 455, 227975	22
521	Yolk-shell Fe@FeN _x nanoparticles decorated N-doped mesoporous carbon as highly active electrocatalyst for oxygen reduction reactions. 2020 , 829, 154558	14
520	DFT analysis elementary reaction steps of catalytic activity for ORR on metal-, nitrogen- co-doped graphite embedded structure. 2020 , 2, 1	7
519	Electrospinning Janus Type CoO _x /C Nanofibers as Electrocatalysts for Oxygen Reduction Reaction. 2020 , 2, 85-92	19
518	A yolk-shell structured metal-organic framework with encapsulated iron-porphyrin and its derived bimetallic nitrogen-doped porous carbon for an efficient oxygen reduction reaction. 2020 , 8, 9536-9544	45
517	Engaging nanoporous carbons in Beyond adsorption applications: Characterization, challenges and performance. 2020 , 164, 69-84	24

- 516 The Chemistry and Promising Applications of Graphene and Porous Graphene Materials. **2020**, 30, 1909035 79
- 515 Hexanedioic acid mediated in situ functionalization of interconnected graphitic 3D carbon nanofibers as Pt support for trifunctional electrocatalysts. **2020**, 4, 2808-2822 5
- 514 Controlled engineering of nickel carbide induced N-enriched carbon nanotubes for hydrogen and oxygen evolution reactions in wide pH range. **2020**, 341, 136032 33
- 513 Ultrasound-assisted transformation from waste biomass to efficient carbon-based metal-free pH-universal oxygen reduction reaction electrocatalysts. **2020**, 65, 105048 22
- 512 Surface/Interface Engineering of Carbon-Based Materials for Constructing Multidimensional Functional Hybrids. **2020**, 4, 1900577 31
- 511 An efficient and stable NiFe selenides/nitrogen-doped carbon nanotubes in situ-derived electrocatalyst for oxygen evolution reaction. **2020**, 55, 13927-13937 8
- 510 Polymer-Assisted Electrophoretic Synthesis of N-Doped Graphene-Polypyrrole Demonstrating Oxygen Reduction with Excellent Methanol Crossover Impact and Durability. **2020**, 26, 12664-12673 8
- 509 Constructing flexible and self-standing electrocatalyst for oxygen reduction reaction by in situ doping nitrogen atoms into carbon cloth. **2020**, 523, 146424 4
- 508 N₂-dopant of graphene with electrochemically switchable bifunctional ORR/OER catalysis for Zn-air battery. **2020**, 32, 517-524 30
- 507 Co₉S₈ Nanoparticle-Supported Nitrogen-doped Carbon as a Robust Catalyst for Oxygen Reduction Reaction in Both Acidic and Alkaline Conditions. **2020**, 7, 3123-3134 2
- 506 Oriented Synthesis of Pyridinic-N Dopant within the Highly Efficient Multifunction Carbon-Based Materials for Oxygen Transformation and Energy Storage. **2020**, 8, 10431-10443 6
- 505 Sandwiching Sulfur into the Dents Between N, O Co-Doped Graphene Layered Blocks with Strong Physicochemical Confinements for Stable and High-Rate Li-S Batteries. **2020**, 12, 146 12
- 504 Revealing the dependence of active site configuration of N doped and N, S-co-doped carbon nanospheres on six-membered heterocyclic precursors for oxygen reduction reaction. **2020**, 389, 677-689 16
- 503 Rational design of hierarchical carbon hybrid microassemblies via reductive-catalytic chemical vapor deposition. **2020**, 167, 422-430 5
- 502 Theoretical Chemistry for Advanced Nanomaterials. **2020**,
- 501 Computational and Experimental Analysis of Carbon Functional Nanomaterials. **2020**, 269-311
- 500 Metal-organic framework-derived MnO/CoMn₂O₄@Ni nanorods with nanoparticle interstitial decoration in core@shell structure as improved bifunctional electrocatalytic cathodes for LiO₂ batteries. **2020**, 338, 135809 13
- 499 Coupling hollow FeO nanoparticles with oxygen vacancy on mesoporous carbon as a high-efficiency ORR electrocatalyst for Zn-air battery. **2020**, 567, 410-418 34

498	Pt-Decorated, Nanocarbon-Intercalated, and N-Doped Graphene with Enhanced Activity and Stability for Oxygen Reduction Reaction. 2020 , 3, 2490-2495	14
497	Fe ₃ O ₄ nanoparticles encapsulated in single-atom Fe ^{II} N towards efficient oxygen reduction reaction: Effect of the micro and macro pores. 2020 , 162, 245-255	42
496	Metal-free carbocatalysis for electrochemical oxygen reduction reaction: Activity origin and mechanism. 2020 , 48, 308-321	40
495	Identification of Efficient Active Sites in Nitrogen-Doped Carbon Nanotubes for Oxygen Reduction Reaction. 2020 , 124, 8689-8696	11
494	Iron Nanoparticles Encapsulated in S,N-Codoped Carbon: Sulfur Doping Enriches Surface Electron Density and Enhances Electrocatalytic Activity toward Oxygen Reduction. 2020 , 12, 12686-12695	23
493	Insights into the role of an Fe-N active site in the oxygen reduction reaction on carbon-supported supramolecular catalysts.. 2020 , 10, 8709-8716	5
492	N-doped graphene aerogels as efficient heterogeneous catalytic activators for peroxymonosulfate to remove 2-sec-butyl-4,6-dinitrophenol (DNBP) in aqueous solution. 2020 , 7, 015511	1
491	Pyrolyzed Co-Nx/C Electrocatalysts Supported on Different Carbon Materials for Oxygen Reduction Reaction in Neutral Solution. 2020 , 167, 024509	3
490	Hierarchically open-porous carbon networks enriched with exclusive Fe ^{Nx} active sites as efficient oxygen reduction catalysts towards acidic H ₂ O ₂ PEM fuel cell and alkaline Zn ^{air} battery. 2020 , 390, 124479	38
489	In situ integration of CoN and CoFe alloy nanoparticles into intertwined carbon network for efficient oxygen reduction. 2020 , 569, 267-276	13
488	Metal-free keratin modified poly(pyrrole-co-aniline)-reduced graphene oxide based nanocomposite materials: A promising cathode catalyst in microbial fuel cell application. 2020 , 8, 103813	22
487	One-step hydrothermal synthesis of nitrogen doped reduced graphene oxide-silver nanocomposites: Catalytic performance. 2020 , 34, e5621	3
486	Deconvoluting the XPS spectra for nitrogen-doped chars: An analysis from first principles. 2020 , 162, 528-544	95
485	Functionalized halloysite template-assisted polyaniline synthesis high-efficiency iron/nitrogen-doped carbon nanotubes towards nonprecious ORR catalysts. 2020 , 13, 4954-4965	6
484	Nitrogenous mesoporous carbon coated with Co/Cu nanoparticles modified activated carbon as air cathode catalyst for microbial fuel cell. 2020 , 860, 113904	11
483	3D nitrogen-doped carbon supported non-precious metals electrocatalyst for oxygen reduction reaction. 2020 , 485, 110834	4
482	Synergistic engineering of defects and architecture in CoFe@NC toward highly efficient oxygen electrode reactions. 2020 , 45, 8686-8694	7
481	Tailoring N-Coordination Environment by Ligand Competitive Thermolysis Strategy for Efficient Oxygen Reduction. 2020 , 12, 7270-7276	3

480	Engineering work function of graphene oxide from p to n type using a low power atmospheric pressure plasma jet. 2020 , 22, 7685-7698	16
479	Template-free synthesis of graphene-like carbons as efficient carbocatalysts for selective oxidation of alkanes. 2020 , 22, 1291-1300	18
478	One-step ball milling-prepared nano Fe ₂ O ₃ and nitrogen-doped graphene with high oxygen reduction activity and its application in microbial fuel cells. 2020 , 14, 1	11
477	Deciphering the Role of Quaternary N in O ₂ Reduction over Controlled N-Doped Carbon Catalysts. 2020 , 32, 1384-1392	25
476	Two-dimensional materials for energy conversion and storage. 2020 , 111, 100637	73
475	Bimetallic CoNi Alloy Nanoparticles Embedded in Pomegranate-like Nitrogen-Doped Carbon Spheres for Electrocatalytic Oxygen Reduction and Evolution. 2020 , 3, 1354-1362	22
474	From metal-organic frameworks to porous carbon materials: recent progress and prospects from energy and environmental perspectives. 2020 , 12, 4238-4268	49
473	Improvement of a commercial activated carbon for organic electric double-layer capacitors using a consecutive doping method. 2020 , 160, 45-53	14
472	Novel g-C ₃ N ₄ assisted metal organic frameworks derived high efficiency oxygen reduction catalyst in microbial fuel cells. 2020 , 450, 227681	24
471	Iron carbide/nitrogen-doped carbon core-shell nanostructures: Solution-free synthesis and superior oxygen reduction performance. 2020 , 566, 194-201	11
470	N- and S-doped nanoporous carbon framework derived from conjugated microporous polymers incorporation with ionic liquids for efficient oxygen reduction reaction. 2020 , 16, 100382	15
469	Solvent-Free Chemical Approach to Synthesize Co Nanoparticles Supported on N-doped Porous Carbon for Efficient Electrocatalytic Oxygen Reduction. 2020 , 12, 2580-2588	7
468	Boosting bifunctional electrocatalytic activity in S and N co-doped carbon nanosheets for high-efficiency Zn air batteries. 2020 , 8, 4386-4395	62
467	Cobalt Nanoparticles on Plasma-Controlled Nitrogen-Doped Carbon as High-Performance ORR Electrocatalyst for Primary Zn-Air Battery. 2020 , 10,	8
466	Nitrogen-doped carbide-derived carbon/carbon nanotube composites as cathode catalysts for anion exchange membrane fuel cell application. 2020 , 272, 119012	44
465	Self-Supported Vanadium Carbide by an Electropolymerization-Assisted Method for Efficient Hydrogen Production. 2020 , 13, 3671-3678	14
464	Metal-free heteroatom-doped carbon-based catalysts for ORR: A critical assessment about the role of heteroatoms. 2020 , 165, 434-454	109
463	An efficient Co-N/C electrocatalyst for oxygen reduction facilely prepared by tuning cobalt species content. 2020 , 45, 16105-16113	8

462	Molten-salt/oxalate mediating Fe and N-doped mesoporous carbon sheet nanostructures towards highly efficient and durable oxygen reduction electrocatalysis. 2020 , 303, 110281	10
461	. 2020 ,	2
460	B, N-codoped CuN/BC Composite as an Efficient Electrocatalyst for Oxygen-Reduction Reaction in Alkaline Media. 2020 , 5, 3647-3654	3
459	Indiscrete metal/metal-N-C synergic active sites for efficient and durable oxygen electrocatalysis toward advanced Zn-air batteries. 2020 , 272, 118967	53
458	Boosting the primary Zn-air battery oxygen reduction performance with mesopore-dominated semi-tubular doped-carbon nanostructures. 2020 , 8, 9832-9842	15
457	Nitrogen and sulfur co-doped fibrous-like carbon electrocatalyst derived from conductive polymers for highly active oxygen reduction catalysis. 2020 , 264, 116383	4
456	An advanced hollow bimetallic carbide/nitrogen-doped carbon nanotube for efficient catalysis of oxygen reduction and hydrogen evolution and oxygen evolution reaction. 2020 , 575, 69-77	15
455	Fe, N dual doped graphitic carbon derived from straw as efficient electrochemical catalysts for oxygen reduction reaction and Zn-air batteries. 2020 , 865, 114133	7
454	Metal-Free Graphene Modified Nitrogen-Doped Ultra-Thin Hollow Carbon Spheres as Superior Cathodic Catalysts of Zn-Air Battery. 2020 , 167, 070560	15
453	Tailoring the Porous Structure of Mono-dispersed Hierarchically Nitrogen-doped Carbon Spheres for Highly Efficient Oxygen Reduction Reaction. 2021 , 4, 81-87	4
452	Porous Ni-Mo bimetallic hybrid electrocatalyst by intermolecular forces in precursors for enhanced hydrogen generation. 2021 , 405, 126962	10
451	Nitrogen/sulphur dual-doped hierarchical carbonaceous fibers boosting potassium-ion storage. 2021 , 55, 420-427	20
450	Scalable fabrication and active site identification of MOF shell-derived nitrogen-doped carbon hollow frameworks for oxygen reduction. 2021 , 66, 186-192	16
449	Porous graphite felt electrode with catalytic defects for enhanced degradation of pollutants by electro-Fenton process. 2021 , 403, 126270	35
448	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. 2021 , 581, 362-373	23
447	Carbon-based electrocatalysts for sustainable energy applications. 2021 , 116, 100717	71
446	Hierarchical N-doped C/Fe ₃ O ₄ nanotube composite arrays grown on the carbon fiber cloth as a bioanode for high-performance bioelectrochemical system. 2021 , 406, 126832	7
445	Spontaneously producing syngas from MFC-MEC coupling system based on biocompatible bifunctional metal-free electrocatalyst. 2021 , 64, 592-600	0

444	Porous graphitic carbon from mangosteen peel as efficient electrocatalyst in microbial fuel cells. 2021 , 764, 142918	9
443	A mass-producible integrative structure Pt alloy oxygen reduction catalyst synthesized with atomically dispersive metal-organic framework precursors. 2021 , 583, 351-361	5
442	Intrinsic property and catalytic performance of single and double metal atoms incorporated g-C ₃ N ₄ for O ₂ activation: A DFT insight. 2021 , 541, 148671	5
441	Emerging carbon nanostructures in electrochemical processes. 2021 , 353-388	3
440	Electrospinning as a route to advanced carbon fibre materials for selected low-temperature electrochemical devices: A review. 2021 , 59, 492-529	14
439	Breaking Platinum Nanoparticles to Single-Atomic Pt-C Co-catalysts for Enhanced Solar-to-Hydrogen Conversion. 2021 , 60, 2541-2547	22
438	ZIF-8@ZIF-67 derived ZnCo ₂ O ₄ @nitrogen doped carbon/carbon nanotubes wrapped by a carbon layer: a stable oxygen reduction catalyst with a competitive strength in acid media. 2021 , 19, 100574	4
437	Simultaneous removal of pyridine and denitrification in an integrated bioelectro-photocatalytic system utilizing N-doped graphene/Fe ₂ O ₃ modified photoanode. 2021 , 366, 137425	8
436	Understanding the Selectivity of the Oxygen Reduction Reaction at the Atomistic Level on Nitrogen-Doped Graphitic Carbon Materials. 2021 , 11, 2002459	25
435	N,S-Co-Doped Porous Carbon Nanofiber Films Derived from Fullerenes (C ₆₀) as Efficient Electrocatalysts for Oxygen Reduction and a Zn-Air Battery. 2021 , 27, 1423-1429	8
434	Well-dispersed ultrafine CoFe nanoalloy decorated N-doped hollow carbon microspheres for rechargeable/flexible Zn-air batteries. 2021 , 407, 127961	24
433	nHighly N/O co-doped carbon nanospheres for symmetric supercapacitors application with high specific energy. 2021 , 33, 102152	7
432	Spent Li-Ion Battery Graphite Turned Into Valuable and Active Catalyst for Electrochemical Oxygen Reduction. 2021 , 14, 1103-1111	9
431	Active precursor-induced high-content graphitic-N-doped graphene oxide for the electrocatalytic degradation of paracetamol. 2021 , 542, 148753	2
430	Assigning XPS features in B,N-doped graphene: input from quantum chemical calculations. 2021 , 23, 1558-1565	5
429	Breaking Platinum Nanoparticles to Single-Atomic Pt-C ₄ Co-catalysts for Enhanced Solar-to-Hydrogen Conversion. 2021 , 133, 2571-2577	3
428	Two-step pyrolytic engineering to form porous nitrogen-rich carbons with a 3D network structure for Zn-air battery oxygen reduction electrocatalysis. 2021 , 46, 2117-2127	6
427	Ni ₃ Fe nanoalloys embedded in N-doped carbon derived from dual-metal ZIF: Efficient bifunctional electrocatalyst for Zn-air battery. 2021 , 174, 475-483	14

- 426 Coral-like nitrogen doped carbon derived from polyaniline-silicon nitride hybrid for highly active oxygen reduction electrocatalysis. **2021**, 1, e2000010
- 425 ZnO@Ni foam photoelectrode modified with heteroatom doped graphitic carbon for enhanced photoelectrochemical water splitting under solar light. **2021**, 46, 2075-2085 2
- 424 Recent progress in the development of biomass-derived nitrogen-doped porous carbon. **2021**, 9, 3703-3728 69
- 423 Mass production of high-performance single atomic FeNC electrocatalysts via sequenced ultrasonic atomization and pyrolysis process. **2021**, 64, 631-641 7
- 422 Biomass-derived nitrogen self-doped porous activation carbon as an effective bifunctional electrocatalysts. **2021**, 32, 92-98 9
- 421 Interface Engineering of CoS/CoO@N-Doped Graphene Nanocomposite for High-Performance Rechargeable Zn-Air Batteries. **2020**, 13, 3 34
- 420 Fabricating Co₃N₄ catalysts based on ZIF-67 for oxygen reduction reaction in alkaline electrolyte. **2021**, 294, 121788 7
- 419 A facile synthesis of nitrogen-doped bamboo-shaped carbon nanotubes by catalytic decomposition of 2-aminopyrimidine over Fe@MgO catalyst through chemical vapor deposition method. **2021**, 75, 591-598
- 418 Recent advances and perspective on heterogeneous catalysis using metals and oxide nanocrystals. **2021**, 5, 151-222 7
- 417 Nanostructured tubular carbon materials doped with cobalt as electrocatalyst for efficient oxygen reduction reaction. **2021**, 56, 8143-8158 2
- 416 Co₉S₈ Nanoparticles for Hydrogen Evolution. **2021**, 4, 1776-1785 8
- 415 Nitrojen Katkılı Grafen Film Sentezi ve Karakterizasyonu.
- 414 Conversion of CO₂ into cyclic carbonate catalyzed by an N-doped mesoporous carbon catalyst. **2021**, 6, 1911-1919
- 413 Nitrogen and phosphorus co-doped ultrathin carbon nanosheets as superior cathode catalysts for Zn-air batteries. **2021**, 5, 2458-2468 4
- 412 PMO₁₂@ZIF-8/ZnO-derived hierarchical porous molybdenum carbide as efficient electrocatalysts for hydrogen evolution. **2021**, 45, 9456-9461 3
- 411 Recent advances in metal-free heteroatom-doped carbon heterogonous catalysts.. **2021**, 11, 23725-23778 3
- 410 Design, Fabrication, and Mechanism of Nitrogen-Doped Graphene-Based Photocatalyst. **2021**, 33, e2003521 114
- 409 Rh particles in N-doped porous carbon materials derived from ZIF-8 as an efficient bifunctional electrocatalyst for the ORR and HER.. **2021**, 11, 13906-13911 4

408	Biomass-derived functional carbon nanomaterials for the development of futuristic energy devices. 2021 , 317-341	0
407	Nanoporous nitrogen-doped graphitic carbon hollow spheres with enhanced electrochemical properties.	0
406	Carbocatalytic ozonation toward advanced water purification. 2021 , 9, 18994-19024	7
405	A nitrogen and sulfur co-doped iron-based electrocatalyst derived from iron and biomass ligand towards the oxygen reduction reaction in alkaline media. 2021 , 50, 13943-13950	0
404	Ionic liquids as precursors for Fe-N doped carbon nanotube electrocatalysts for the oxygen reduction reaction. 2021 , 13, 15804-15811	4
403	Heteroatom-doped carbon-based oxygen reduction electrocatalysts with tailored four-electron and two-electron selectivity. 2021 , 57, 7350-7361	6
402	Effect of secondary heteroatom (S, P) in N-doped reduced graphene oxide catalysts to oxygen reduction reaction. 2021 , 502, 111372	4
401	One-step synthesis of carbon-encapsulated nickel phosphide nanoparticles with efficient bifunctional catalysis on oxygen evolution and reduction. 2021 , 46, 8519-8530	10
400	Honeycomb-like Self-Supported Co ₉ N ₄ Catalysts with an Ultrastable Structure: Highly Efficient Electrocatalysts toward Oxygen Reduction Reaction in Alkaline and Acidic Solutions. 2021 , 4, 2522-2530	4
399	Kelp-derived N-doped biochar activated peroxymonosulfate for ofloxacin degradation. 2021 , 754, 141999	21
398	An ultra-dispersive, nonprecious metal MOF@Zn catalyst with good oxygen reduction activity and favorable stability in acid. 2021 , 56, 8600-8612	2
397	Co/N-doped carbon nanotube arrays grown on 2D MOFs-derived matrix for boosting the oxygen reduction reaction in alkaline and acidic media. 2021 , 32, 816-821	19
396	An overview of non-noble metal electrocatalysts and their associated air cathodes for Mg-air batteries. 2021 , 1, 100002	4
395	Biomass-derived Graphene-like Catalyst Material for Oxygen Reduction Reaction. 2021 , 7, 307-313	7
394	Metal-free nitrogen-doped graphenic materials as cathode catalysts for the oxygen reduction reaction in polymer electrolyte membrane fuel cells. 2021 , 51, 727-738	1
393	Effects of nitrogen-containing functional groups of reduced graphene oxide as a support for Pd in selective hydrogenation of cinnamaldehyde. 2021 , 47, 1429-1446	0
392	Synergies of Fe Single Atoms and Clusters on N-Doped Carbon Electrocatalyst for pH-Universal Oxygen Reduction.. 2021 , 5, e2001165	24
391	Recent trends in Nitrogen doped polymer composites: a review. 2021 , 28, 1	2

390	Efficient Water Splitting System Enabled by Multifunctional Platinum-Free Electrocatalysts. 2021 , 31, 2009853	14
389	Docking MOF crystals on graphene support for highly selective electrocatalytic peroxide production. 2021 , 1-8	2
388	Highly Nitrogen-Doped Carbon Nanotube Nanoarrays as Self-supported Bifunctional Electrocatalysts for Rechargeable and Flexible Zinc-Air Batteries. 2021 , 9, 4498-4508	11
387	Hydrothermal-Induced Formation of Well-Defined Hollow Carbons with Curvature-Activated N-C Sites for Zn-Air Batteries. 2021 , 27, 6247-6253	0
386	Zn-doped CaFeO ₃ perovskite-derived high performed catalyst on oxygen reduction reaction in microbial fuel cells. 2021 , 489, 229498	11
385	Effect of Functionalization of Reduced Graphene Oxide Coatings with Nitrogen and Sulfur Groups on Their Anti-Corrosion Properties. 2021 , 14,	3
384	Doping of graphene with polyethylenimine and its effects on graphene-based supercapacitors. 2021 , 129, 094904	0
383	Superior stability and methanol tolerance of a metal-free nitrogen-doped hierarchical porous carbon electrocatalyst derived from textile waste. 2021 , 11, 1834-1846	3
382	Optimization of active sites by sulfurization of the core-shell ZIF 67@ZIF 8 for rapid oxygen reduction kinetics in acidic media. 2021 , 46, 10739-10748	9
381	The preparation and use of Graphdiyne, a superb new photoelectrocatalyst. 2021 , 36, 304-321	1
380	Silicon carbide-derived carbon electrocatalysts dual doped with nitrogen and phosphorus for the oxygen reduction reaction in an alkaline medium. 2021 , 125, 106976	11
379	Activated biochar derived from peanut shells as the electrode materials with excellent performance in Zinc-air battery and supercapacitance. 2021 , 125, 257-267	6
378	Nitrogen-Coordinated CoS@NC Yolk-Shell Polyhedrons Catalysts Derived from a Metal-Organic Framework for a Highly Reversible Li-O Battery. 2021 , 13, 17658-17667	13
377	Ultra dispersed Co supported on nitrogen-doped carbon: An efficient electrocatalyst for oxygen reduction reaction and Zn-air battery. 2021 , 234, 116442	7
376	Effect of Outer Carbon Layer Thickness of Carbon-covered N-doped Hollow Carbon Nanospheres on Its Electrocatalytic Performance. 2021 , 36, 166-173	0
375	Highly active sites of Pt/Er dispersed N-doped hierarchical porous carbon for trifunctional electrocatalyst. 2021 , 409, 128205	59
374	Excited electron dynamics in the interface of 2H-1T hetero-phases of monolayer MoS ₂ : time-dependent density functional theory study. 2021 , 78, 1203-1207	
373	Simultaneous fabrication of cobalt-based graphene with rich N dopant for hydrogen evolution reaction in basic medium. 2021 , 45, 14010-14020	0

372	Oxygen Reduction Reaction on N-Doped Graphene: Effect of Positions and Scaling Relations of Adsorption Energies. 2021 , 125, 8551-8561	2
371	Review Current Progress of Non-Precious Metal for ORR Based Electrocatalysts Used for Fuel Cells. 2021 , 168, 044521	3
370	Pyridinic-Type N-Doped Graphene on Cobalt Substrate as Efficient Electrocatalyst for Oxygen Reduction Reaction in Acidic Solution in Fuel Cell. 2021 , 12, 3552-3559	11
369	One step electrochemical exfoliation of natural graphite flakes into graphene oxide for polybenzimidazole composite membranes giving enhanced performance in high temperature fuel cells. 2021 , 491, 229550	10
368	Theoretical Insights into Enhanced Electrocatalytic Activity of Oxygen Reduction Reactions on N/S-Codoped Graphene Quantum Dots. 2021 , 125, 9747-9755	5
367	Cu-MOF derived Cu/Cu ₂ O/C nanocomposites for the efficient thermal decomposition of ammonium perchlorate. 2021 , 297, 122060	16
366	Ion-Induced Formation of Hierarchical Porous Nitrogen-Doped Carbon Materials with Enhanced Oxygen Reduction. 2021 , 13, 3112-3118	0
365	Recent Progress of Electrochemical Production of Hydrogen Peroxide by Two-Electron Oxygen Reduction Reaction. 2021 , 8, e2100076	38
364	Inside-out dual-doping effects on tubular catalysts: Structural and chemical variation for advanced oxygen reduction performance. 2022 , 15, 361	1
363	Optimizing Surface N-Doping of Fe-N-C Catalysts Derived from Fe/Melamine-Decorated Polyaniline for Oxygen Reduction Electrocatalysis. 2021 , 8, 2100197	3
362	Beyond Nitrogen in the Oxygen Reduction Reaction on Nitrogen-Doped Carbons: A NEXAFS Investigation. 2021 , 11,	3
361	Bimetallic ZIFs derived nitrogen-doped hollow carbon with carbon nanotube bridges as a superior oxygen reduction reaction electrocatalyst. 2021 , 97, 466-475	5
360	Controlled Synthesis of Porous Hollow Fe ₃ N/C Nanoshells as High-Performance Oxygen Reduction Reaction Electrocatalysts for Zn _{air} Battery. 2021 , 9, 2100142	1
359	Electronically coupled layered double hydroxide/MXene quantum dot metallic hybrids for high-performance flexible zinc _{air} batteries. 2021 , 3, 1134	22
358	Eco-Friendly Nitrogen-Doped Graphene Preparation and Design for the Oxygen Reduction Reaction. 2021 , 26,	2
357	Synthesis of Heteroatom (B, N, and O)-Doped Carbons via Chlorination of a Carbonitride-Boride Mixture: Influence of Boron Addition on Structure and Electrochemical Properties of Carbon. 2021 , 125, 13850-13861	0
356	Efficient ORR activity of N-doped porous carbon encapsulated cobalt electrocatalyst derived from a novel bimetal-organic framework. 2021 , 138, 111237	7
355	Chemical Vapor Deposition for N/S-Doped Single Fe Site Catalysts for the Oxygen Reduction in Direct Methanol Fuel Cells. 2021 , 11, 7450-7459	37

354	Enhancing the Oxidase-like Performances of $\text{Co}_x\text{Mn}_{3-x}\text{O}_4$ Nanoparticles by Tuning the Mn Content and Decorating Reduced Graphene Oxide. 2021 , 2021, 2486-2492	0
353	Enhanced oxygen reduction performance of nitrogen and sulfur Co-doped graphene oxide by immobilized ionic liquid. 2021 , 236, 116544	5
352	Effects of surface functional groups of coal-tar-pitch-derived nanoporous carbon anodes on microbial fuel cell performance. 2021 , 171, 87-94	4
351	Petal-like N, O-codoped carbon nanosheets as Mott-Schottky nanoreactors in electrodes of Zn-Air batteries and supercapacitors. 2021 , 178, 581-593	10
350	Sulfate Ions Induced Concave Porous S-N Co-Doped Carbon Confined FeC Nanoclusters with Fe-N Sites for Efficient Oxygen Reduction in Alkaline and Acid Media. 2021 , 17, e2101001	13
349	FeNi-functionalized 3D N, P doped graphene foam as a noble metal-free bifunctional electrocatalyst for direct methanol fuel cells. 2021 , 867, 158732	12
348	Hollow hierarchical zinc cobalt sulfides derived from bimetallic-organic-framework as a non-precious electrocatalyst for oxygen reduction reaction. 2021 , 509, 111614	3
347	Co/WC@NC electrocatalysts derived from polyoxometalates (POM) for efficient hydrogen evolution. 2021 , 32,	3
346	Advances in Zeolite Imidazolate Frameworks (ZIFs) Derived Bifunctional Oxygen Electrocatalysts and Their Application in Zinc-Air Batteries. 2021 , 11, 2100514	24
345	Super-assembled carbon nanofibers decorated with dual catalytically active sites as bifunctional oxygen catalysts for rechargeable Zn-air batteries. 2021 , 20, 100682	4
344	Preparation and application of magnetic chitosan in environmental remediation and other fields: A review. 2021 , 138, 51241	5
343	Dual Inorganic Sacrificial Template Synthesis of Hierarchically Porous Carbon with Specific N Sites for Efficient Oxygen Reduction. 2021 , 13, 28140-28149	1
342	A DFT study of graphene- FeN_x ($x=4, 3, 2, 1$) catalysts for acetylene hydrochlorination. 2021 , 618, 126495	1
341	Capacitive deionization and methyl orange removal of holey graphene hydrogels. 2021 , 618, 126463	4
340	Recent progress in cobalt-based carbon materials as oxygen electrocatalysts for zinc-air battery applications. 2021 , 20, 100659	16
339	Hierarchically Assembled Cobalt Oxynitride Nanorods and N-Doped Carbon Nanofibers for Efficient Bifunctional Oxygen Electrocatalysis with Exceptional Regenerative Efficiency. 2021 ,	15
338	Highly-active, metal-free, carbon-based ORR cathode for efficient organics removal and electricity generation in a PFC system. 2021 , 32, 2212-2216	18
337	Plasma-Assisted Synthesis of Defect-Rich O and N Codoped Carbon Nanofibers Loaded with Manganese Oxides as an Efficient Oxygen Reduction Electrocatalyst for Aluminum-Air Batteries. 2021 , 13, 37123-37132	3

336	Iridium-Doped N-Rich Mesoporous Carbon Electrocatalyst with Synthetic Macrocycles as Carbon Source for Hydrogen Evolution Reaction. 2021 , 31, 2105562	6
335	Recent Advances on Heteroatom-Doped Porous Carbon/Metal Materials: Fascinating Heterogeneous Catalysts for Organic Transformations. 2021 , 21, 1985-2073	7
334	Ab initio study of graphitic-N and pyridinic-N doped graphene for catalytic oxygen reduction reactions. 2021 , 1201, 113292	3
333	Ionic liquid-derived Fe, N, S, F multiple heteroatom-doped carbon materials for enhanced oxygen reduction reaction. 2021 , 32,	2
332	Nitrogen-enriched carbon powder prepared by ball-milling of graphene oxide with melamine: an efficient electrocatalyst for oxygen reduction reaction. 2021 , 31, 529-531	0
331	Influence of doping level on the electrocatalytic properties for oxygen reduction reaction of N-doped reduced graphene oxide. 2021 , 46, 26040-26052	4
330	A structured catalyst support combining electrochemically exfoliated graphene oxide and carbon black for enhanced performance and durability in low-temperature hydrogen fuel cells. 2021 , 226, 120318	9
329	Engineering Carbon Materials for Electrochemical Oxygen Reduction Reactions. 2021 , 11, 2100695	13
328	Ab-Initio Spectroscopic Characterization of Melem-Based Graphitic Carbon Nitride Polymorphs. 2021 , 11,	4
327	MnOx anchored on N and O co-doped carbon nanotubes encapsulated with FeCo alloy as highly efficient bifunctional electrocatalyst for rechargeable ZincAir batteries. 2021 , 895, 115513	5
326	Nitrogen doping derived bridging of graphene and carbon nanotube composite for oxygen electroreduction.	0
325	Co/N-doped carbon nanotubes-grafted porous carbon sheets architecture as efficient electrocatalyst for oxygen reduction reaction. 2021 , 871, 159566	9
324	Highly dispersed MnO nanoparticles supported on N-doped rGO as an efficient oxygen reduction electrocatalyst via high-temperature pyrolysis. 2021 , 46, 28011-28020	1
323	A hierarchical architecture of Fe/Co/Ni-doped carbon nanotubes/nanospheres grafted on graphene as advanced bifunctional electrocatalyst for Zn-Air batteries. 2021 , 873, 159833	5
322	Phosphate-Assisted Dispersion of Iron Phosphide in Carbon Nanosheets towards Efficient and Durable ORR Catalysts in Acidic and Alkaline Media. 2021 , 13, 4431	1
321	Doping engineering on carbons as electrocatalysts for oxygen reduction reaction. 2021 , 1, 807-807	1
320	Activated Graphene Nanoplatelets Decorated with Carbon Nitrides for Efficient Electrocatalytic Oxygen Reduction Reaction. 2100104	2
319	Wood and Black Liquor-Based N-Doped Activated Carbon for Energy Application. 2021 , 13, 9237	1

3 ¹⁸	Improved the specificity of peroxidase-like carbonized polydopamine nanotubes with high nitrogen doping for glutathione detection. 2021 , 341, 129987	2
3 ¹⁷	Constructing Graphitic-Nitrogen-Bonded Pentagons in Interlayer-Expanded Graphene Matrix toward Carbon-Based Electrocatalysts for Acidic Oxygen Reduction Reaction. 2021 , 33, e2103133	8
3 ¹⁶	In situ growing N and O co-doped helical carbon nanotubes encapsulated with CoFe alloy as tri-functional electrocatalyst applied in Zn/Air Batteries driving Water Splitting. 2021 , 388, 138587	7
3 ¹⁵	N,P-Codoped Graphdiyne as Efficient Metal-free Catalysts for Oxygen Reduction Reaction. 1	4
3 ¹⁴	Preparation of N-TiO ₂ /RGO nanocomposites through sol-gel method. 2021 , 38, 1913-1922	0
3 ¹³	Super-Dispersed Fe-N Sites Embedded into Porous Graphitic Carbon for ORR: Size, Composition and Activity Control. 2021 , 11,	0
3 ¹²	A Review on Experimental Identification of Active Sites in Model Bifunctional Electrocatalytic Systems for Oxygen Reduction and Evolution Reactions. 2021 , 8, 3433-3456	4
3 ¹¹	Advanced Engineering for Cathode in Lithium/Oxygen Batteries: Flexible 3D Hierarchical Porous Architecture Design and Its Functional Modification. 2105664	3
3 ¹⁰	Density functional theory study of active sites on nitrogen-doped graphene for oxygen reduction reaction. 2021 , 8, 210272	3
3 ⁰⁹	Investigation on Electron Transfer Process of Oxygen Reduction Reactions Catalyzed by Nitrogen-doped Graphitic Carbon in Acidic and Alkaline Media. 2021 , 168, 096508	1
3 ⁰⁸	Template-assisted polymerization-pyrolysis derived mesoporous carbon anchored with Fe/Fe ₃ C and Fe ₂ X species as efficient oxygen reduction catalysts for Zn-air battery. 2021 , 46, 37895-37895	1
3 ⁰⁷	Effect of Pyrolysis Conditions on the Performance of CoDoped MOFDerived Carbon Catalysts for Oxygen Reduction Reaction. 2021 , 11, 1163	2
3 ⁰⁶	Geometric model of 3D curved graphene with chemical dopants. 2021 , 182, 223-232	3
3 ⁰⁵	Research progress of carbon nanofiber-based precious-metal-free oxygen reaction catalysts synthesized by electrospinning for Zn-Air batteries. 2021 , 507, 230280	7
3 ⁰⁴	Atomically dispersed Co atoms in nitrogen-doped carbon aerogel for efficient and durable oxygen reduction reaction. 2021 , 46, 36836-36836	1
3 ⁰³	Core-shell catalyst with synergistic hydroxyl and nitrogen active sites for CO ₂ cycloaddition. 2021 , 9, 106452	0
3 ⁰²	Plasma-Engineered Organic Dyes as Efficient Polysulfide-Mediating Layers for High Performance Lithium-Sulfur Batteries. 2021 , 132679	1
3 ⁰¹	Importance of Doping Sequence in Multiple Heteroatom-Doped Reduced Graphene Oxide as Efficient Oxygen Reduction Reaction Electrocatalysts. 2021 , 2, 267-277	

300	Nitrogen-doped graphene based triboelectric nanogenerators. 2021 , 87, 106173	11
299	Iron and boron-doped carbonized zeolitic imidazolate frameworks as efficient oxygen reduction electrocatalysts for Al-Air batteries. 2021 ,	2
298	Preparation of Modified Fluorographene Oxide with Interlayer Supporting Structure. 2021 , 13,	
297	Fe/Co-Loaded Hollow Carbon Sphere Nanocomposites as Excellent Cathodic Catalysts of Zn-Air Battery. 2021 , 168, 090512	1
296	Tailoring active sites of iron-nitrogen-carbon catalysts for oxygen reduction in alkaline environment: Effect of nitrogen-based organic precursor and pyrolysis atmosphere. 2021 , 391, 138899	4
295	Laser-Irradiated Holey Graphene-Supported Single-Atom Catalyst towards Hydrogen Evolution and Oxygen Reduction. 2021 , 11, 2101619	14
294	Engineering Pt Nanoparticles onto Resin-Derived Iron and Nitrogen Co-Doped Porous Carbon Nanostructure Boosts Oxygen Reduction Catalysis.	0
293	New insight of tailor-made graphene oxide for the formation of atomic Co-N sites toward hydrogen evolution reaction. 2021 , 563, 150254	6
292	Graphene-reinforced metal-organic frameworks derived cobalt sulfide/carbon nanocomposites as efficient multifunctional electrocatalysts. 1	6
291	Electrospun cobalt Prussian blue analogue-derived nanofibers for oxygen reduction reaction and lithium-ion batteries. 2021 , 599, 280-290	5
290	Single-precursor design and solvent-free nanocasting synthesis of N/S/O-doped ordered mesoporous carbons with trimodal pores for excellent oxygen reduction. 2021 , 183, 390-403	5
289	Hollow and Porous Fe ₃ C-NC Nanoballoons Nanozymes for Cancer Cell H ₂ O ₂ Detection. 2021 , 347, 130597	3
288	Self-assembly strategy for Co/N-doped meso/microporous carbon toward superior oxygen reduction catalysts. 2021 , 629, 127395	1
287	Removal and surface photocatalytic degradation of methylene blue on carbon nanostructures. 2021 , 119, 108544	5
286	Rational construction of Au@Co ₂ N _{0.67} nanodots-interspersed 3D interconnected N-graphene hollow sphere network for efficient water splitting and Zn-air battery. 2021 , 89, 106420	5
285	Fe ₃ C/CoFe ₂ O ₄ nanoparticles wrapped in one-dimensional MIL-53(Fe)-derived carbon nanofibers as efficient dual-function oxygen catalysts. 2021 , 424, 130460	6
284	CoO/Co/N-C nanoparticles embedded in carbon as mediate for oxygen reduction electrocatalysts. 2021 , 885, 161174	4
283	Electrocatalytic generation of hydrogen peroxide on cobalt nanoparticles embedded in nitrogen-doped carbon. 2021 , 42, 2296-2305	2

282	Improved electrocatalytic activity of hexagonal prisms Fe ₃ O ₄ derived from metal-organic framework by covering dendritic-shaped carbon layer in LiD ₂ battery. 2021 , 226, 109354	2
281	Dimensional engineering of carbon dots derived sulfur and nitrogen co-doped carbon as efficient oxygen reduction reaction electrocatalysts for aluminum-air batteries. 2021 , 425, 130603	10
280	Engineering intermetallic-metal oxide interface with low platinum loading for efficient methanol electrooxidation. 2021 , 604, 52-60	2
279	CoNi nanoalloys embedded in N-doped carbon nanofibers derived from layered bimetal-organic framework and as efficient oxygen electrocatalyst. 2021 , 888, 161588	3
278	Magnetized manganese-doped watermelon rind biochar as a novel low-cost catalyst for improving oxygen reduction reaction in microbial fuel cells. 2022 , 802, 149989	3
277	Core-shell S-doped g-C ₃ N ₄ @P123 derived N and S co-doped carbon as metal-free electrocatalysts highly efficient for oxygen reduction reaction. 2022 , 429, 132469	0
276	The use of polymer-graphene composites in catalysis. 2022 , 537-556	
275	Heteroatom doping in metal-free carbonaceous materials for the enhancement of persulfate activation. 2022 , 427, 131655	19
274	CoP-decorated N,P-doped necklace-like carbon for highly efficient oxygen reduction and Al-air batteries. 2022 , 428, 131326	1
273	Construction and Application of 3D Graphene Materials Based on Templated Polymerization. 2021 , 57-88	
272	Introduction. 2021 , 1-34	
271	Hybrid Carbon Film Electrodes for Electroanalysis. 2021 , 37, 37-47	6
270	sp-Hybridized nitrogen doped graphdiyne for high-performance Zn air batteries.	3
269	Enhanced electrocatalytic performance in dye-sensitized solar cell via coupling CoSe ₂ @N-doped carbon and carbon nanotubes. 2021 , 9, 7046-7056	2
268	CHAPTER 6:3D GBM-supported Transition Metal Oxide Nanocatalysts and Heteroatom-doped 3D Graphene Electrocatalysts for Potential Application in Fuel Cells. 2021 , 139-178	1
267	Tuning the Intermolecular Electron Transfer of Low-Dimensional and Metal-Free BCN/C Electrocatalysts via Interfacial Defects for Efficient Hydrogen and Oxygen Electrochemistry. 2021 , 143, 1203-1215	54
266	Investigation of Nitrogen-Doping Influence on the Electrocatalytic Activity of Graphene in Alkaline Oxygen Reduction Reaction. 2021 , 24,	1
265	Synthesis of catalysts with fine platinum particles supported by high-surface-area activated carbons and optimization of their catalytic activities for polymer electrolyte fuel cells.. 2021 , 11, 20601-20611	2

- 264 Space-confined construction of two-dimensional nitrogen-doped carbon with encapsulated bimetallic nanoparticles as oxygen electrocatalysts. **2021**, 57, 8190-8193 4
- 263 Electrolyte accessibility of non-precious-metal catalysts with different spherical particle sizes under alkaline conditions for oxygen reduction reaction. **2021**, 52, 326-331 1
- 262 Template-free synthesis of polyacrylonitrile-derived porous carbon nanoballs on graphene for efficient oxygen reduction in zinc-air batteries. **2021**, 9, 9644-9654 10
- 261 One-step and controllable synthesis of active N-rich graphene nanoclusters-CNT composite via an ultrafast deflagration reaction for oxygen reduction electrocatalysis. **2021**, 56, 6349-6360 5
- 260 Defect-rich N/S-co-doped porous hollow carbon nanospheres derived from fullerenes as efficient electrocatalysts for the oxygen-reduction reaction and Zn-air batteries. 2
- 259 Three-Dimensional Hierarchical Architectures Derived from Surface-Mounted Metal-Organic Framework Membranes for Enhanced Electrocatalysis. **2017**, 129, 13969-13973 31
- 258 Thermal Annealing Effect of Co-Ni/Carbon Nanotube on the Electrochemical Oxygen Reduction Reaction. **2018**, 6, 2394-2398 7
- 257 Role of Nitrogen Precursor on the Activity Descriptor towards Oxygen Reduction Reaction in Iron-Based Catalysts. **2018**, 3, 6542-6550 8
- 256 Electrochemical Exfoliation Synthesis of Graphene. **2017**, 39-50 6
- 255 Synergistic effects of microstructures and active nitrogen content on the oxygen reduction reaction performance of nitrogen-doped carbon nanofibers via KOH activation heat treatment. **2020**, 55, 10725-10739 6
- 254 Single-phase Ru_{1-x}Mn_xCo_yO₂ nanoparticles as highly effective oxygen reduction electrocatalysts in alkaline media with enhanced stability and fuel-tolerance. **2020**, 277, 119149 9
- 253 Site specific nitrogen incorporation in reduced graphene oxide using imidazole as a novel reducing agent for efficient oxygen reduction reaction and improved supercapacitive performance. **2020**, 166, 361-373 9
- 252 Persistent free radicals on N-doped hydrochar for degradation of endocrine disrupting compounds. **2020**, 398, 125538 24
- 251 Duckweed derived nitrogen self-doped porous carbon materials as cost-effective electrocatalysts for oxygen reduction reaction in microbial fuel cells. **2020**, 45, 15336-15345 19
- 250 B, N Co-Doped ordered mesoporous carbon with enhanced electrocatalytic activity for the oxygen reduction reaction. **2020**, 824, 153908 19
- 249 A General Method for Constructing Two-Dimensional Layered Mesoporous Mono- and Binary-Transition-Metal Nitride/Graphene as an Ultra-Efficient Support to Enhance Its Catalytic Activity and Durability for Electrocatalytic Application. **2016**, 8, 18770-87 20
- 248 Biomass chitin-derived honeycomb-like nitrogen-doped carbon/graphene nanosheet networks for applications in efficient oxygen reduction and robust lithium storage. **2016**, 4, 11789-11799 62
- 247 MOFs-Derived Co@CN bi-functional catalysts for selective transfer hydrogenation of α -unsaturated aldehydes without use of base additives. **2017**, 1, 2005-2012 41

246	Bamboo-like nitrogen-doped porous carbon nanofibers encapsulated nickel-cobalt alloy nanoparticles composite material derived from the electrospun fiber of a bimetal-organic framework as efficient bifunctional oxygen electrocatalysts. 2020 , 12, 5942-5952	35
245	Synthesis of Porous N-Rich Carbon/MXene from MXene@Polypyrrole Hybrid Nanosheets as Oxygen Reduction Reaction Electrocatalysts. 2020 , 167, 116503	9
244	A Unique Synthesis of Macroporous N-Doped Carbon Composite Catalyst for Oxygen Reduction Reaction. 2020 , 11,	0
243	Synthesis of Nitrogen Doped Protein Based Carbon as Pt Catalysts Supports for Oxygen Reduction Reaction. 2018 , 28, 182-188	8
242	Recent Trends of Oxygen Reduction Catalysts in Microbial Fuel Cells: A Review. 2019 , 41, 657-675	8
241	Template Synthesis of Nitrogen-Doped Short Tubular Carbons with Big Inner Diameter and their Application in Electrochemical Sensing. 2014 , 35, 2423-2430	2
240	Doped graphene/carbon black hybrid catalyst giving enhanced oxygen reduction reaction activity with high resistance to corrosion in proton exchange membrane fuel cells. 2021 ,	1
239	Cobalt nanoparticle decorated N-doped carbons derived from a cobalt covalent organic framework for oxygen electrochemistry.	2
238	The effect of cobalt on morphology, structure, and ORR activity of electrospun carbon fibre mats in aqueous alkaline environments. 2021 , 12, 1173-1186	
237	Synergistic effect of isolated Co and Fe dual active sites boosting the photocatalytic hydrogen evolution reaction. 2021 , 162290	2
236	Rational Synthesis of Polymeric Nitrogen N8 with Ultraviolet Irradiation and Its Oxygen Reduction Reaction Mechanism Study with In Situ Shell-Isolated Nanoparticle-Enhanced Raman Spectroscopy. 13034-13040	1
235	Boosting the HER electrocatalytic activity over RuCu-supported carbon nanosheets as efficient pH-independent catalysts. 2021 , 30, 100302	1
234	Dual heteroatom-doped reduced graphene oxide and its application in dye-sensitized solar cells. 2021 , 122, 111689	4
233	Research Progress on Surface Modification of Graphene. 2019 , 09, 379-391	
232	Fluorine enhanced pyridinic-N configuration as an ultra-active site for oxygen reduction reaction in both alkaline and acidic electrolytes. 2021 , 187, 67-67	3
231	Durable and Selective Electrochemical H ₂ O ₂ Synthesis under a Large Current Enabled by the Cathode with Highly Hydrophobic Three-Phase Architecture. 13797-13808	8
230	Accelerating Triple Transport in Zinc-Air Batteries and Water Electrolysis by Spatially Confining Co Nanoparticles in Breathable Honeycomb-Like Macroporous N-Doped Carbon. 2021 , 17, e2103517	7
229	Strong coordination ability of sulfur with cobalt for facilitating scale-up synthesis of CoS encapsulated S, N co-doped carbon as a trifunctional electrocatalyst for oxygen reduction reaction, oxygen and hydrogen evolution reaction. 2021 ,	7

228	Carbon Based Electrocatalysts. 2020 , 301-309	
227	Electrocatalytic oxygen reduction to hydrogen peroxide through a biomass-derived nitrogen and oxygen self-doped porous carbon metal-free catalyst.	3
226	Graphynes: Electronic Properties, Synthesis, and Applications in Catalysis. 14122-14147	3
225	Synthesis of nitrogen and sulfur-nitrogen co-doped carbon-based oxygen reduction reaction catalyst from rice straw and reeling waste of muga silk (<i>Anthraea assamensis</i>). 2021 ,	
224	MOF-driven ultrafine Co ₉ S ₈ Nanocrystals embedded in N, S-Codoped Multilayer-Assembled Carbon Nanoplates for Efficient Bifunctional Oxygen Electrocatalysis. 2021 , 133385	2
223	A Ferrocene Metal-Organic Framework Solid for Fe-Loaded Carbon Matrices and Nanotubes: High-Yield Synthesis and Oxygen Reduction Electrocatalysis. 2021 , 60, 17315-17324	0
222	Fe, N-Doped Metal Organic Framework Prepared by the Calcination of Iron Chelated Polyimines as the Cathode-Catalyst of Proton Exchange Membrane Fuel Cells. 2021 , 13,	0
221	Iron and nitrogen-doped double gyroid mesoporous carbons for oxygen reduction in acidic environments. 2021 , 3, 015001	0
220	CoNi nano-alloy anchored on biomass-derived N-doped carbon frameworks for enhanced oxygen reduction and evolution reactions. 2022 , 402, 139555	5
219	Bandage based energy generators activated by sweat in wireless skin electronics for continuous physiological monitoring. 2022 , 92, 106755	6
218	Structure and Electrochemical Properties of Nitrogen Containing Nanocarbon Films and Their Electroanalytical Application. 2021 , 70, 511-520	
217	Spatially dispersed one-dimensional carbon architecture on oxide framework for oxygen electrochemistry. 2021 , 133649	2
216	Recent Advances in Flexible Zn-Air Batteries: Materials for Electrodes and Electrolytes.. 2022 , 6, e2101116	3
215	In Situ Activation/Dedoping-Induced Defective Carbon Sponge for Enhanced Oxygen Reduction Electrocatalysis. 2021 , 8, 4781	
214	Novel Two-Step Surface Boron Decoration of Graphitic Carbon Nitride Photoelectrodes for Efficient Charge Transport and Separation. 2021 , 125, 25207-25216	2
213	In-Situ Synergistic 2D/2D MXene/BCN Heterostructure for Superlative Energy Density Supercapacitor with Super-Long Life. 2021 , e2106051	5
212	Molten-Salt-Assisted Synthesis of Nitrogen-Doped Carbon Nanosheets Derived from Biomass Waste of Gingko Shells as Efficient Catalyst for Oxygen Reduction Reaction. 2021 , 9, 2124	0
211	Influence of Chemical Activation Temperatures on Nitrogen-Doped Carbon Material Structure, Pore Size Distribution and Oxygen Reduction Reaction Activity. 2021 , 11, 1460	1

210	Nitrogen-Enriched Conjugated Polymer Enabled Metal-Free Carbon Nanozymes with Efficient Oxidase-Like Activity. 2021 , e2104993	15
209	Platinum Crosslinked Carbon Dot@TiO ₂ p-n Junctions for Relapse-Free Sonodynamic Tumor Eradication via High-Yield ROS and GSH Depletion. 2021 , e2103528	7
208	Nickel single-atom catalysts intrinsically promoted by fast pyrolysis for selective electroreduction of CO ₂ into CO. 2022 , 304, 120997	6
207	Architecture of large surface area N-doped mesoporous carbon sheets as sustainable electrocatalyst for oxygen reduction reaction in alkaline electrolyte. 2022 , 149, 111729	1
206	Zr enhanced Fe, N, S co-doped carbon-based catalyst for high-efficiency oxygen reduction reaction. 2022 ,	4
205	Nitrogen-doped graphene aerogels with rational indium hydroxide decoration for highly efficient photocatalytic of p-nitrophenol. 2022 , 10, 107125	0
204	Metal-free honeycomb-like electrocatalyst with high specific mass activity for accelerated oxygen reduction reaction in both alkaline and acidic media. 2022 , 579, 152149	1
203	Enhanced oxygen reduction with carbon-polyhedron-supported discrete cobalt-nitrogen sites for Zn-air batteries. 2022 , 431, 134084	3
202	Aminated lignin chelated metal derived bifunctional electrocatalyst with high catalytic performance. 2022 , 580, 152205	1
201	Coupling nitrogen/oxygen self-doped biomass porous carbon cathode catalyst with CuFeO ₂ /biochar particle catalyst for the heterogeneous visible-light driven photo-electro-Fenton degradation of tetracycline. 2022 , 305, 121024	3
200	Tailoring Ordered Porous Carbon Embedded with Cu Clusters for High-Energy and Long-Lasting Phosphorus Anode.. 2022 , e2106930	3
199	Synthesis and electrocatalytic properties of M (Fe, Co),N co-doped porous carbon frameworks for efficient oxygen reduction reaction. 2022 , 47, 9504-9516	3
198	Nanosheets with High-Performance Electrochemical Oxygen Reduction Reaction Revived from Green Walnut Peel.. 2022 , 27,	2
197	Multiple roles of graphene in electrocatalysts for metal-air batteries. 2022 ,	1
196	Recent progress of carbon-based electrocatalytic materials in Lithium-based batteries. 2022 , e00384	
195	A Facile Synthesis of Noble-Metal-Free Catalyst Based on Nitrogen Doped Graphene Oxide for Oxygen Reduction Reaction.. 2022 , 15,	1
194	High-performance electrospun carbon fiber derived from lignin and metal composite. 2022 , 28, 1119	0
193	Oxygen reduction reactions from boron-doped graphene quantum dot catalyst electrodes in acidic and alkaline electrolytes. 2022 , 104196	1

192	Heteroatom-doped nanomaterials/core-shell nanostructure based electrocatalysts for the oxygen reduction reaction. 2022 , 10, 987-1021	5
191	Defective porous carbon microrods derived from fullerenes (C) as high-performance electrocatalysts for the oxygen reduction reaction.. 2021 ,	1
190	Heteroatom-Anchored Porous Carbon as Efficient Electrocatalyst for Oxygen Reduction Reaction.	1
189	Bamboo-like carbonitride nanotubes with multi-type active sites for oxygen reduction reaction in both alkaline and acid mediums. 2022 , 47, 7949-7960	0
188	Recent insights on iron based nanostructured electrocatalyst and current status of proton exchange membrane fuel cell for sustainable transport. 2022 ,	2
187	Self-nitrogen-doped carbon materials derived from microalgae by lipid extraction pretreatment: Highly efficient catalyst for the oxygen reduction reaction.. 2022 , 821, 153155	0
186	High electrocatalytic performance of Fe ₃ C-encapsulated N-doped carbon nanotubes and nanosheets for oxygen reduction reaction. 2022 , 149, 111719	0
185	Transition metal and nitrogen-doped mesoporous carbons as cathode catalysts for anion-exchange membrane fuel cells. 2022 , 306, 121113	6
184	Dissolution of the Heteroatom Dopants and Formation of Ortho-Quinone Moieties in the Doped Carbon Materials during Water Electrooxidation.. 2022 ,	4
183	Electrocatalysis in Alkaline Media and Alkaline Membrane-Based Energy Technologies.. 2022 ,	25
182	Hierarchical Porous Nitrogen-Doped Spray-Dried Graphene for High Performance Capacitive Deionization. 2100190	0
181	Highly Porous Iron-Doped Nitrogen-Carbon Framework on Reduced Graphene Oxide as an Excellent Oxygen Reduction Catalyst for Proton-Exchange Membrane Fuel Cells.	1
180	Microwave-assisted synthesis of well-defined nitrogen doping configuration with high centrality in carbon to identify the active sites for electrochemical hydrogen peroxide production. 2022 , 191, 340-349	0
179	Highly graphitized carbon-wrapped PtFeCo alloy with enhanced durability and activity toward methanol electro-oxidation. 2022 , 24, 100788	0
178	Balance of N-Doping Engineering and Carbon Chemistry to Expose Edge Graphitic N Sites for Enhanced Oxygen Reduction Electrocatalysis.. 2021 , 13, 61129-61138	2
177	Surface Diels-Alder adducts on multilayer graphene for the generation of edge-enriched single-atom FeN ₄ sites for ORR and OER electrocatalysis. 2022 , 6, 1603-1615	0
176	Rational Design of graphitic Carbon Nitride Catalytic-Biocatalytic As a Photocatalytic Platform for Solar Fine Chemical Production From CO ₂ .	2
175	S-doped AuPd aerogels as high efficiency catalysts for the oxygen reduction reaction by balancing the ratio between bridging S ₂ and apical S ligands. 2022 , 10, 7800-7810	2

- 174 Heteroepitaxially Grown Two-Dimensional Metal-Organic Framework and Its Derivative for Electrocatalytic Oxygen Reduction Reaction. 2
- 173 Sulfur-Doped Fe_{Ni}C Nanomaterials as Catalysts for the Oxygen Reduction Reaction in Acidic Medium. **2022**, 5, 4397-4405 1
- 172 Nitrogen and Phosphorus Dual-Doped Silicon Carbide-Derived Carbon/Carbon Nanotube Composite for the Anion-Exchange Membrane Fuel Cell Cathode. **2022**, 5, 2949-2958 2
- 171 Theoretical Investigation of the Active Sites in N-Doped Graphene Bilayer for the Oxygen Reduction Reaction in Alkaline Media in PEMFCs. **2022**, 126, 5863-5872 1
- 170 Chloride-Tolerant, Inexpensive Fe/N/C Catalysts for Desalination Fuel Cell Cathodes. **2022**, 5, 1743-1754 0
- 169 Influence of Defects and Heteroatoms on the Chemical Properties of Supported Graphene Layers. **2022**, 12, 397 1
- 168 Porous Hierarchical Iron/Nitrogen co-doped Carbon Etched by g-C₃N₄ Pyrolysis as Efficient Non-noble Metal Catalysts for PEM Fuel Cells. **2022**, 9, 1
- 167 Favorable pore size distribution of biomass-derived N, S dual-doped carbon materials for advanced oxygen reduction reaction. **2022**, 47, 12964-12974 1
- 166 Tuning active sites of N-doped porous carbon catalysts derived from vinasse for high-performance electrochemical sensing. 1-12 0
- 165 Successful Manufacturing Protocols of N-Rich Carbon Electrodes Ensuring High ORR Activity: A Review. **2022**, 10, 643 1
- 164 Bimetallic ZIF-derived cobalt nanoparticles anchored on N- and S-codoped porous carbon nanofibers as cathode catalyst for Li-O₂ batteries. **2022**, 140279 1
- 163 A Facile Strategy to Boost the Active Sites of Fe_{Ni}C Electrocatalyst for the Oxygen Reduction Reaction. **2022**, 169, 034506 0
- 162 Adsorption of Transition-Metal Clusters on Graphene and N-Doped Graphene: A DFT Study.. **2022**, 3
- 161 Self-supported metal (Fe, Co, Ni)-embedded nitrogen-doping carbon nanorod framework as trifunctional electrode for flexible Zn-air batteries and switchable water electrolysis. **2022**, 1
- 160 Doubling Micropore of Carbon Skeleton via Regulating Molecular Structure of Carbohydrate for Oxygen Reduction Reaction. 1
- 159 Metagenomics uncovers the effect of nitrogen-doped graphene on anammox consortia and microbial function.. **2022**, 351, 126998 1
- 158 Defect-enriched heterointerfaces NiMoO₂/Mo₂C supported Pd nanocomposite as a novel multifunctional electrocatalyst for oxygen reduction reaction and overall water splitting. **2022**, 24, 100799 1
- 157 Self-supporting nitrogen-doped reduced graphene oxide@carbon nanofiber hybrid membranes as high-performance integrated air cathodes in microbial fuel cells. **2022**, 193, 242-257 1

156	Nitrogen doped porous carbon polyhedral supported Fe and Ni dual-metal single-atomic catalysts: template-free and metal ligand-free synthesis with microwave-assistance and d-band center modulating for boosted ORR catalysis in zinc-air batteries. 2022 , 437, 135295	1
155	Nitrogen-doping hollow carbon nanospheres derived from conjugated microporous polymers toward oxygen reduction reaction.. 2022 , 617, 11-19	1
154	A template-free I2-assisted pyrolysis strategy to synthesize coral-like nitrogen-doped carbon with a regulated hierarchical porous structure toward efficient oxygen reduction. 2022 , 440, 135852	1
153	Predoped Oxygenated Defects Activate Nitrogen-Doped Graphene for the Oxygen Reduction Reaction.. 2022 , 12, 173-182	5
152	CARBON-BASED CATHODE CATALYSTS USED IN MICROBIAL FUEL CELLS FOR WASTEWATER TREATMENT AND ENERGY RECOVERY. 2021 , 2021, 24-33	
151	Carbon Dots as New Building Blocks for Electrochemical Energy Storage and Electrocatalysis. 2022 , 12, 2103426	13
150	Direct Hydrogen Peroxide Synthesis on a Sn-doped CuWO ₄ /Sn Anode and an Air-Breathing Cathode. 2022 , 34, 63-71	0
149	Microwave-Assisted Synthesis of Nitrogen and Sulphur Doped Graphene Decorated with Antimony Oxide: An Effective Catalyst for Oxygen Reduction Reaction.. 2021 , 15,	1
148	Synthesis of Fe-doped carbon hybrid composed of CNT/flake-like carbon for catalyzing oxygen reduction. 1	0
147	Hard template derived N, S dual heteroatom doped ordered mesoporous carbon as an efficient electrocatalyst for oxygen reduction reaction. 2022 ,	0
146	Highly Efficient Electrochemical Synthesis of Hydrogen Peroxide (H ₂ O ₂) Enabled by Amino Acid Glycine-Derived Metal-Free Nitrogen-Doped Ordered Mesoporous Carbon.	1
145	Enhanced electrochemical performance and long-term durability of composite membranes through a binary interface with sulfonated unzipped graphite nanofibers for polymer electrolyte fuel cells operating under low relative humidity. 2022 , 593, 153407	1
144	Data_Sheet_1.pdf. 2020 ,	
143	Table_1.DOCX. 2019 ,	
142	Table_1.DOCX. 2020 ,	
141	Selection of oxygen reduction catalysts for secondary tri-electrode zinc-air batteries.. 2022 , 12, 6696	0
140	Iron and Nickel Phthalocyanine-Modified Nanocarbon Materials as Cathode Catalysts for Anion-Exchange Membrane Fuel Cells and Zinc-Air Batteries.	
139	Popcorn-like Co ₃ O ₄ nanoparticles confined in a three-dimensional hierarchical N-doped carbon nanotube network as a highly-efficient trifunctional electrocatalyst for zinc-air batteries and water splitting devices.	0

- 138 Heterostructural Co||Cu Coated with Nitrogen-Doped Carbon as a Highly Efficient Electrocatalyst for Oxygen Reduction Reaction and Hydrogen Evolution Reaction. **2022**, 10, 5986-5997 1
- 137 Calcined Co(II)-Chelated Polyazomethine as Cathode Catalyst of Anion Exchange Membrane Fuel Cells.. **2022**, 14, 2
- 136 N and P dual heteroatom doped mesoporous hollow carbon as an efficient oxygen reduction reaction catalyst in alkaline electrolyte. **2022**, 6
- 135 Iron Single Atoms Anchored on Nitrogen-Doped Carbon Matrix/Nanotube Hybrid Supports for Excellent Oxygen Reduction Properties.. **2022**, 12, 0
- 134 Imidazole-Modified Lignin as a Suitable Substrate for Synthesis of N and S Co-Doped Carbon Supported Cobalt Sulfide Dual-Functional Electrocatalyst for Overall Water Splitting. 2200060 0
- 133 In-situ growth of N@MoO₂ microflowers on carbon cloth for high-performance anodes in microbial fuel cells. **2022**, 107869 0
- 132 Dual optimization strategy to construct hierarchical reticulated porous framework with enriched Fe-NX active species for the highly efficient oxygen reduction reaction. **2022**, 47, 16840-16851 0
- 131 Design of efficient ZIF-derived nitrogen and sulfur co-doped nanocarbons toward oxygen reduction through host-guest reactions. 1 0
- 130 Pyrimidine-assisted synthesis of S, N-codoped few-layered graphene for highly efficient hydrogen peroxide production in acid. **2022**, 0
- 129 The ORR activity of nitrogen doped-reduced graphene oxide below decomposition temperature cooperated with cobalt prepared by strong electrostatic adsorption technique. **2022**, 915, 116366 0
- 128 Insight into the effect of clay mineral structure on clay-derived N-doped carbon materials and their efficient electrocatalytic performance. **2022**, 31, 102000 1
- 127 Norbornane derived N-doped sp² carbon framework as an efficient electrocatalyst for oxygen reduction reaction and hydrogen evolution reaction. **2022**, 323, 124420 0
- 126 High-Voltage Redox Mediator of an Organic Electrolyte for Supercapacitors by Lewis Base Electrocatalysis.. **2022**, 1
- 125 Electrocatalysis with metal-free carbon-based catalysts. **2022**, 213-244
- 124 Simultaneous degradation of trace antibiotics in water by adsorption and catalytic oxidation induced by N-doped reduced graphene oxide (N-rGO): synergistic mechanism.
- 123 Directional Introduction of Pyridine Nitrogen Functional Groups in Activated Carbon Catalysts for the Catalytic Production of Hydrogen: An Experimental and Dft Calculation.
- 122 Palladium-Cobalt Bimetallic Nanoparticles Supported on Nitrogen-Doped Graphene as Efficient Electrocatalyst for Oxygen Reduction.
- 121 Edge-Rich Graphene Nanospheres With Ultra-High Nitrogen Loading-Metal-Free Electrocatalysts For Boosted Oxygen Reduction.

- 120 Unzipping MWCNTs for controlled edge- and heteroatom-defects in revealing their roles in gas-phase oxidative dehydrogenation of ethanol to acetaldehyde. **2022**, 446, 137150 1
- 119 N- and B-doped fullerene as peroxidase- and catalase-like metal-free nanozymes with pH-switchable catalytic activity: A first-principles approach. **2022**, 598, 153715 2
- 118 Oxygen reduction reaction by metal-free catalysts. **2022**, 241-275
- 117 The in situ investigation of the polyaniline-derived N-doped carbon with the interdigitated array electrodes towards the oxygen reduction reaction.
- 116 PVP-Assisted Iron-Doped ZIF-8 as an Efficient Fe-N-C Oxygen Reduction Electrocatalyst for Zinc-Air Batteries.
- 115 Probing the Oxygen Reduction Reaction Intermediates and Dynamic Active Site Structures of Molecular and Pyrolyzed Fe_{N/C} Electrocatalysts by In Situ Raman Spectroscopy. 7811-7820 9
- 114 Preparation of Fe/C-Mt Composite Catalyst and Ofloxacin Removal by Peroxymonosulfate Activation. **2022**, 121548 0
- 113 Base-type nitrogen doping in zeolite-templated carbon for enhancement of carbon dioxide sorption. **2022**, 62, 102084 1
- 112 Boron and nitrogen co-doped porous carbon nanospheres for oxidative dehydrogenation of ethane to ethylene. **2022**, 197, 120-128 0
- 111 Co/N Nanoparticles Supported on a C₃N₄/Polydopamine Framework as a Bifunctional Electrocatalyst for Rechargeable Zinc-Air Batteries.
- 110 Freestanding Vanadium Nitride Nanowire/Nitrogen-Doped Graphene Paper with Hierarchical Pore Structure for Asymmetric Supercapacitor Anode.
- 109 Efficient Activation of Peroxymonosulfate by Cobalt and Nitrogen-Doped Porous Carbon for Perfluorooctanoic Acid Degradation: The Synergism Performance and Mechanism of Co and N.
- 108 Boosting bifunctional oxygen electrocatalysis of graphitic C₃N₄ using non-covalently functionalized non-oxidized graphene aerogels as catalyst supports. 0
- 107 Doping of Graphene Films: Open the way to Applications in Electronics and Optoelectronics. 2203179 4
- 106 Non-Precious Metal-Doped Carbon Materials Derived From Porphyrin-Based Porous Organic Polymers for Oxygen Reduction Electrocatalysis. **2022**, 87,
- 105 A Hexagonal Nut-Like Metal-Organic Framework and Its Conformal Transformation. 2203356
- 104 Bimetallic polyoxometalate derived Co/WN composite as electrocatalyst for high-efficiency hydrogen evolution. **2022**, 0
- 103 Graphene-Based Materials for Electrocatalysis. **2022**, 245-273

102	Electric Field Polarized Fe _N Functionalized Graphene Oxide Nanosheet Catalyst for Efficient Oxygen Reduction Reaction. 2022 , 7,	
101	N, S-co-doping of activated biochar from herb residue for enhanced electrocatalytic performance toward oxygen reduction reaction. 2022 , 166, 105606	1
100	Hexamethylenetetramine-derived pyridinic N abundant porous carbon-supported Co/Co-N _x nanoparticles as highly efficient oxygen reduction catalyst and zinc-air battery cathode. 2022 , 19, 100180	1
99	Interfacial electron modulation of Cu ₂ O by Co ₃ O ₄ embedded in hollow carbon cube skeleton for boosting oxygen reduction/revolution reactions. 2022 , 450, 137961	1
98	Electrocatalytic Generation of Cathodic Luminol Electrochemiluminescence with Carbonized Polydopamine Nanotubes at a Low Positive Potential.	0
97	Kinetic Diagnostics and Synthetic Design of Platinum Group Metal-Free Electrocatalysts for the Oxygen Reduction Reaction Using Reactivity Maps and Site Utilization Descriptors. 2022 , 144, 13487-13498	2
96	Promising N, P Co-doped Porous Carbon Materials as Metal-Free Electrocatalyst for Oxygen Reduction Reaction in Alkaline Medium. 2022 , 7,	
95	Co-doped CeO ₂ /Ni nanorods as a bifunctional oxygen electrocatalyst and its application in rechargeable Zn-air batteries. 2022 , 33, 415404	0
94	Modulation of Ligand Fields in a Single-Atom Site by the Molten Salt Strategy for Enhanced Oxygen Bifunctional Activity for Zinc-Air Batteries. 2022 , 16, 11944-11956	3
93	One-step synthesis of nitrogen-doped few-layer graphene structures decorated with Mn _{1.5} Co _{1.5} O ₄ nanoparticles for highly efficient electrocatalysis of oxygen reduction reaction. 2022 , 32, 492-494	
92	State-of-the-art and developmental trends in platinum group metal-free cathode catalyst for anion exchange membrane fuel cell (AEMFC). 2022 , 121733	2
91	Biomass-Derived Advanced Carbon-Based Electrocatalysts for Oxygen Reduction Reaction. 2022 , 2, 155-177	1
90	Review of H ₂ S selective oxidation over carbon-based materials at low temperature: from pollutant to energy storage materials. 2022 , 37, 675-694	1
89	Preparation of nitrogen-doped nZVI/biochar by chemical modification and its activated peroxymonosulfate to degrade Florfenicol.	
88	ZnS-assisted evolution of N,S-doped hierarchical porous carbon nanofiber membrane with highly exposed Fe-N ₄ /C sites for rechargeable Zn-air battery. 2022 ,	0
87	Co/N nanoparticles supported on a C ₃ N ₄ /polydopamine framework as a bifunctional electrocatalyst for rechargeable zinc-air batteries. 2022 , 921, 116702	
86	N-doped carbon nanosheets derived from lignin as a novel bifunctional electrocatalyst for rechargeable zinc-air battery. 2022 , 128, 109291	1
85	N-doped hierarchically porous carbon based on MnO ₂ nanotubes as self-sacrificial reaction templates for supercapacitors and oxygen reduction. 2022 , 926, 166856	0

84	Wood-derived porous carbon supported $\gamma\text{-Fe}_2\text{O}_3$ nanoparticles as efficient catalyst for oxygen reduction reaction. 2022 , 604, 154471	0
83	Tailoring the selectivity and activity of oxygen reduction by regulating the coordination environments of carbon-supported atomically dispersed metal sites. 2022 , 10, 17948-17967	3
82	N-doped graphene for electrocatalytic O ₂ and CO ₂ reduction.	0
81	A Simple Method for Preparation of Highly Conductive Nitrogen/Phosphorus-Doped Carbon Nanofiber Films. 2022 , 15, 5955	1
80	Polydopamine-Derived Iron-Doped Hollow Carbon Nanorods as an Efficient Bifunctional Electrocatalyst for Simultaneous Generation of Hydrogen and Electricity. 2022 , 36, 11245-11260	0
79	Rechargeable Batteries for Grid Scale Energy Storage.	14
78	Surface hydroxy functionalized Pt/g-C ₃ N ₄ -CNS for highly efficient methanol electrocatalytic oxidation. 2022 , 530, 112638	0
77	Iron and Nickel Phthalocyanine-Modified Nanocarbon Materials as Cathode Catalysts for Anion-Exchange Membrane Fuel Cells and Zinc-Air Batteries**.	1
76	Metal-organic frameworks derived Co/N-doped carbon nanonecklaces as high-efficient oxygen reduction reaction electrocatalysts. 2022 ,	2
75	Electrostatic Spinning Strategy to Prepare Cage-like PAN-Fiber Network-Wrapped Co ₃ N ₄ Structures for the Oxygen Reduction Reaction.	0
74	Surface Active-Site Engineering in NiCoSe ₂ /Nitrogen-Doped Carbon Dodecahedrons for Efficient Triiodide Reduction in Photovoltaics. 2022 , 155483	0
73	Okra-Like Multichannel TiO ₂ @NC Fibers Membrane with Spatial and Chemical Restriction on Shuttle-Effect for LithiumSulfur Batteries.	0
72	Highly Strong Interaction between Fe/Fe ₃ C Nanoparticles and N-Doped Carbon toward Enhanced Oxygen Reduction Reaction Performance. 2200141	0
71	Design of Oxygen Reduction Catalysts in Primary ZincAir Batteries. 2022 , 35-67	1
70	Hybrid Carbon Supports Composed of Small Reduced Graphene Oxide and Carbon Nanotubes for Durable Oxygen Reduction Catalysts in Proton Exchange Membrane Fuel Cells. 2022 , 23, 13312	1
69	Freestanding Vanadium Nitride Nanowire/Nitrogen-doped Graphene Paper with Hierarchical Pore Structure for Asymmetric Supercapacitor Anode. 2022 , 167858	0
68	The preparation of bifunctional Co-N co-doped carbon with bamboo-like hollow tubular as an efficient electrocatalyst for oxygen reduction and methanol oxidation reaction. 2022 , 926, 116911	0
67	Tunable active-sites of Co ₂ N ₄ nanoparticles encapsulated in carbon nanofiber as high performance bifunctional OER/ORR electrocatalyst. 2023 , 630, 140-149	0

66	N, S co-doped carbon with embedment of FeNi alloy as bifunctional oxygen electrocatalysts for rechargeable Zinc-air batteries. 2023 , 202, 141-149	1
65	Importance of pyrolysis programs in enhancing the application of microalgae-derived biochar in microbial fuel cells. 2023 , 333, 126244	0
64	Directional introduction of pyridine nitrogen functional groups in activated carbon catalysts for the catalytic production of hydrogen: An experimental and DFT calculation. 2023 , 453, 139744	0
63	Organic ligand-facilitated in situ exsolution of CoFe alloy over Ba _{0.5} Sr _{0.5} Co _{0.8} Fe _{0.2} O ₃ perovskite toward enhanced oxygen electrocatalysis for rechargeable Zn-air batteries.	0
62	Spinel Iron Oxide Nanoparticles Decorated on Pyridinic-N and Carbon Surface: A Highly Efficient Inexpensive Electrocatalyst for Oxygen Reduction and Oxygen Evolution Reactions. 2022 , 7,	1
61	Recent progress in heteroatom doped carbon based electrocatalysts for oxygen reduction reaction in anion exchange membrane fuel cells. 2022 ,	0
60	Preparation of Co-based N-doped Meso-microporous Carbon for Hydrogenation of Nitroarenes. 2022 , 7,	1
59	Facile strategy to synthesize hierarchical porous carbon encapsulated Fe/Fe ₃ C nanocomposites toward efficient oxygen reduction reaction. 2022 , 168069	0
58	General Approach to Synthesize Multilayer Graphitic Carbon-Nanotube-Encapsulated NiCo Alloys as Trifunctional Electrocatalysts: Deciphering the Role of N-Dopants.	0
57	Defects engineered hierarchical porous iron-nitrogen-enriched carbon derived from pyridyl conjugated microporous polytriphenylamine networks for efficient oxygen reduction reaction. 2022 , 224, 111360	0
56	An overview of metal-air batteries, current progress, and future perspectives. 2022 , 56, 106075	0
55	Metal-organic frameworks-derived advanced oxygen electrocatalysts as air-cathodes for Zn-air batteries: Recent trends and future perspectives.	0
54	Recent progress in the development of efficient biomass-based ORR electrocatalysts. 2023 , 203, 237-260	1
53	Molten salt-mediated synthesis of porous N-doped carbon as an efficient ORR electrocatalyst for zinc-air batteries.	1
52	Zn(ii)-MOF derived N-doped carbons achieve marked ORR activity in alkaline and acidic media.	0
51	An electron donor-acceptor-donor strategy to activate ZIF-67 as a cathode material for fuel cell and Zinc Ion Hybrid Supercapacitor.	0
50	The effect of pyrolysis temperature on the N conversion of biochar derived from the residue of <i>Chlorella vulgaris</i> after lipid extraction. 2023 , 169, 105810	0
49	Lignin-derived bimetallic platinum group metal-free oxygen reduction reaction electrocatalysts for acid and alkaline fuel cells. 2023 , 556, 232416	1

- 48 Rational design of boron-nitrogen coordinated active sites towards oxygen reduction reaction in aluminum-air batteries with robust integrated air cathode. **2023**, 556, 232476 ○
- 47 Amino-functionalized graphene oxide membranes for efficient separation of Sr²⁺ ions. **2023**, 51, 103329 ○
- 46 Efficient direct electrocatalysis of nano-dodecahedron for the highly sensitive and selective detection of rutin. **2023**, 186, 108332 ○
- 45 Co-modified polyoxovanadoborates derived Co/BN-CNT/VN based bifunctional electrocatalysts for rechargeable zinc-air batteries. **2023**, 634, 675-683 ○
- 44 Au Nanoparticles on Polydopamine Nanotubes for Enzyme-Like Nanomaterials with Improved Activities. **2022**, 5, 17870-17878 ○
- 43 Autocatalytic formed bamboo-like N-doped carbon nanotubes encapsulated with Co nanoparticles as highly efficient catalyst for activation of peroxymonosulfate toward degradation of tetracycline. **2022**, 105482 ○
- 42 Wet Synthesis of Graphene-Polypyrrole Nanocomposites via Graphite Intercalation Compounds. **2022**, 12, 1793 1
- 41 Efficient adsorption and degradation of dyes from water using magnetic covalent organic frameworks with a pyridinic structure. ○
- 40 Melamine-derived carbon foam-supported graphene₂CoNi nanocomposites as high-performance OER / HER bifunctional electrocatalysts. ○
- 39 Rational design of carbon-based electrocatalysts for enhancing redox reactions in rechargeable metal batteries. 1
- 38 Nitrogen doped carbonaceous materials as platinum free cathode electrocatalysts for oxygen reduction reaction (ORR). ○
- 37 Metal-Free Carbon Nanozyme as Nicotinamide Adenine Dinucleotide Oxidase Mimic over a Broad pH Range for Coenzyme Regeneration. **2022**, 34, 11072-11080 ○
- 36 General outlook of the elaboration of nitrogen doped graphenic materials from the reaction between an amino alcohol and metallic sodium. **2023**, 27, 101343 ○
- 35 Recent progress in heteroatom-doped carbon electrocatalysts for the two-electron oxygen reduction reaction. **2023**, 456, 141042 ○
- 34 Sulfur Mismatch Substitution in Layered Double Hydroxides as Efficient Oxygen Electrocatalysts for Flexible Zinc-Air Batteries. 2212233 ○
- 33 Cathode Materials for Primary Zinc-Air Battery. **2023**, 23-66 ○
- 32 Nano-Co-embedded carbon nanofibers for oxygen reduction reaction in Zn-air batteries. **2023**, 296, 127289 ○
- 31 Heterostructure-induced enhanced oxygen catalysis behavior based on metal cobalt coupled with compound anchored on N-doped carbon nanofiber for microbial fuel cell. **2023**, 636, 305-316 ○

- 30 Ag nanoparticles on mesoporous carbon support as cathode catalyst for anion exchange membrane fuel cell. **2022**, ○
- 29 Oxynitride Amorphous Carbon Layer for Electrically and Thermally Robust Bipolar Resistive Switching. 2201090 ○
- 28 Manipulating the interaction of Pt NPs with N-hollow carbon spheres by F-doping for boosting oxygen reduction/methanol oxidation reactions. ○
- 27 Developing Superior Hydrophobic 3D Hierarchical Electrocatalysts Embedding Abundant Catalytic Species for High Power Density ZnAir Battery. 2206067 ○
- 26 Cr-Doped NiCo-Layered Double Hydroxide/N-Doped Graphene for a Bifunctional Electrocatalyst for Rechargeable Zinc Air Batteries. **2023**, 2023, 1-14 ○
- 25 Facile synthesis of hollow carbon spheres by gas-steamed bifunctional NH₄F for efficient cathodes in microbial fuel cells. **2023**, 207, 86-94 ○
- 24 A simple preparation of N-doped reduced graphene oxide as an electrode material for the detection of hydrogen peroxide and glucose. **2023**, 446, 142113 ○
- 23 Spray pyrolysis facilitated construction of carbon nanotube-embedded hollow CoFe electrocatalysts demonstrating excellent durability and activity for the oxygen reduction reaction. **2023**, 944, 169232 ○
- 22 Iron-doped nickel sulfide nanoparticles grown on N-doped reduced graphene oxide as efficient electrocatalysts for oxygen evolution reaction. **2023**, 936, 117323 ○
- 21 Simply embedding Fe₂O₃/Fe₃O₄ nanoparticles in N-doped graphitic carbon polyhedron layered arrays as excellent electrocatalyst for rechargeable Zn-air battery. **2023**, 312, 123413 ○
- 20 Electrocatalytic reduction of carbon dioxide in confined microspace utilizing single nickel atom decorated nitrogen-doped carbon nanospheres. **2023**, 111, 108384 ○
- 19 Switching the locus of oxygen reduction and evolution reactions between spinel active phase and carbon carrier upon heteroatoms doping. **2023**, 418, 114043 ○
- 18 Steering the oxygen reduction reaction pathways of N-carbon hollow spheres by heteroatom doping. **2023**, 327, 122470 ○
- 17 Thermal behaviors, thermal decomposition mechanism, kinetic model analysis and thermal hazard prediction of 3,6,7-triamino-7H- [1,2,4]triazolo [4,3-b] [1,2,4]triazole (TATOT). **2023**, 179515 ○
- 16 Metal-organic-framework-derived bimetallic carbon-based catalysts as efficient oxygen reduction reaction electrocatalysts. **2023**, 948, 169721 ○
- 15 Preparation of nitrogen-doped nZVI/biochar by chemical modification and its activated peroxymonosulfate to degrade Florfenicol. ○
- 14 Lignin-derived dual-doped carbon nanocomposites as low-cost electrocatalysts. **2023**, 663, 131105 ○
- 13 Insights into Nitrogen-doped Carbon for Oxygen Reduction: The Role of Graphitic and Pyridinic Nitrogen Species. ○

- 12 Efficient oxygen reduction using a polymorphic tungsten catalyst. **2023**, 4, 101288
- 11 Effect of Nitrogen-Containing Carbon Shell-Coated Carbon Support on the Catalytic Performance of Platinum-Cobalt Alloy Catalyst for Oxygen Reduction. **2023**, 37, 3980-3990
- 10 Potent Charge-Trapping for Boosted Electrocatalytic Oxygen Reduction. 2203963
- 9 Giving New Life to Waste Cigarette Butts: Transformation into Platinum Group Metal-Free Electrocatalysts for Oxygen Reduction Reaction in Acid, Neutral and Alkaline Environment. **2023**, 13, 635
- 8 Rational Fabrication of Defect-Rich and Hierarchically Porous Fe-N-C Nanosheets as Highly Efficient Oxygen Reduction Electrocatalysts for Zinc-Air Battery. **2023**, 28, 2879
- 7 Carbon-Based Electrodes for Advanced Zinc-Air Batteries: Oxygen-Catalytic Site Regulation and Nanostructure Design. **2023**, 6,
- 6 Advances and Perspective of Noble-Metal-Free Nitrogen-Doped Carbon for pH-Universal Oxygen Reduction Reaction Catalysts. **2023**, 37, 4858-4877
- 5 N-doped GO cathode catalyst boosting capacity of denitrification for air-cathode microbial fuel cell by shifting microbial community composition in treating marine wastewater. **2023**, 53, 103687
- 4 Synthesis of carbon materials with extremely high pyridinic-nitrogen content and controlled edges from aromatic compounds with highly symmetric skeletons.
- 3 Recent Advances, Properties, Fabrication and Opportunities in Two-Dimensional Materials for their Potential Sustainable Applications. **2023**, 102780
- 2 Reduced graphene oxide supported Fe₂B as robust catalysts for oxygen reduction reaction. **2023**,
- 1 Two-Dimensional Polyphosphazene Nanosheet-Derived N,P Doubly Doped Carbon Nanotubes for Electrocatalytic Oxygen Reduction.