

Correlations between Mass Activity and Physicochemical  
for the ORR in PEM Fuel Cell via <sup>57</sup>Fe Mössbauer  
Techniques

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Citation Report

#	ARTICLE	IF	CITATIONS
3	A New Catalytic Site for the Electroreduction of Oxygen?. ChemCatChem, 2014, 6, 1866-1867.	1.8	48
4	Analyzing Structural Changes of Fe-N-C Cathode Catalysts in PEM Fuel Cell by Mössbauer Spectroscopy of Complete Membrane Electrode Assemblies. Journal of Physical Chemistry Letters, 2014, 5, 3750-3756.	2.1	85
5	Degradation of Fe/N/C catalysts upon high polarization in acid medium. Physical Chemistry Chemical Physics, 2014, 16, 18454-18462.	1.3	182
6	Nitrogen-doped hierarchically porous carbon as efficient oxygen reduction electrocatalysts in acid electrolyte. Journal of Materials Chemistry A, 2014, 2, 17047-17057.	5.2	62
7	An animal liver derived non-precious metal catalyst for oxygen reduction with high activity and stability. RSC Advances, 2014, 4, 32811.	1.7	37
8	Effect of iron-carbide formation on the number of active sites in Fe-N-C catalysts for the oxygen reduction reaction in acidic media. Journal of Materials Chemistry A, 2014, 2, 2663-2670.	5.2	108
9	Use of H <sub>2</sub> S to Probe the Active Sites in FeNC Catalysts for the Oxygen Reduction Reaction (ORR) in Acidic Media. ACS Catalysis, 2014, 4, 3454-3462.	5.5	81
10	Influence of the electrolyte for the oxygen reduction reaction with Fe/N/C and Fe/N/CNT electrocatalysts. Journal of Power Sources, 2014, 271, 87-96.	4.0	40
11	Facile synthesis of hollow Fe-N-C hybrid nanostructures for oxygen reduction reactions. Inorganica Chimica Acta, 2014, 422, 3-7.	1.2	9
13	Nitrogen-Doped Carbon Electrocatalysts Decorated with Transition Metals for the Oxygen Reduction Reaction. ChemCatChem, 2015, 7, 3808-3817.	1.8	69
15	Metal-Doped Nitrogenated Carbon as an Efficient Catalyst for Direct CO <sub>2</sub> Electroreduction to CO and Hydrocarbons. Angewandte Chemie - International Edition, 2015, 54, 10758-10762.	7.2	504
16	Recent Progress on Fe/N/C Electrocatalysts for the Oxygen Reduction Reaction in Fuel Cells. Catalysts, 2015, 5, 1167-1192.	1.6	68
17	Effect of ZIF-8 Crystal Size on the O <sub>2</sub> Electro-Reduction Performance of Pyrolyzed Fe-N-C Catalysts. Catalysts, 2015, 5, 1333-1351.	1.6	42
19	Enhancement in Kinetics of the Oxygen Reduction Reaction on a Nitrogen-Doped Carbon Catalyst by Introduction of Iron via Electrochemical Methods. Langmuir, 2015, 31, 5529-5536.	1.6	37
20	Experimental Observation of Redox-Induced Fe-N Switching Behavior as a Determinant Role for Oxygen Reduction Activity. ACS Nano, 2015, 9, 12496-12505.	7.3	499
21	N-doped hierarchically macro/mesoporous carbon with excellent electrocatalytic activity and durability for oxygen reduction reaction. Carbon, 2015, 86, 108-117.	5.4	145
22	Activity, Performance, and Durability for the Reduction of Oxygen in PEM Fuel Cells, of Fe/N/C Electrocatalysts Obtained from the Pyrolysis of Metal-Organic-Framework and Iron Porphyrin Precursors. Electrochimica Acta, 2015, 159, 184-197.	2.6	129
23	3-Dimensional porous N-doped graphene foam as a non-precious catalyst for the oxygen reduction reaction. Journal of Materials Chemistry A, 2015, 3, 3343-3350.	5.2	163

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24	Properties of Pyrolyzed Carbon-Supported Cobalt-Polypyrrole as Electrocatalyst toward Oxygen Reduction Reaction in Alkaline Media. <i>Journal of the Electrochemical Society</i> , 2015, 162, F359-F365.	1.3	11
25	Controlling the Nitrogen Content of Metal-Nitrogen-Carbon Based Non-Precious-Metal Electrocatalysts via Selenium Addition. <i>Journal of the Electrochemical Society</i> , 2015, 162, F475-F482.	1.3	28
26	Non-PGM membrane electrode assemblies: Optimization for performance. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 14676-14682.	3.8	29
27	Bottom-up synthesis of high-performance nitrogen-enriched transition metal/graphene oxygen reduction electrocatalysts both in alkaline and acidic solution. <i>Nanoscale</i> , 2015, 7, 14707-14714.	2.8	29
28	Synthesis and Characterization of Iron-Nitrogen-Doped Graphene/Core-Shell Catalysts: Efficient Oxidative Dehydrogenation of <i>N</i> -Heterocycles. <i>Journal of the American Chemical Society</i> , 2015, 137, 10652-10658.	6.6	265
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30	Nano-structured non-platinum catalysts for automotive fuel cell application. <i>Nano Energy</i> , 2015, 16, 293-300.	8.2	190
31	Shape Fixing via Salt Recrystallization: A Morphology-Controlled Approach To Convert Nanostructured Polymer to Carbon Nanomaterial as a Highly Active Catalyst for Oxygen Reduction Reaction. <i>Journal of the American Chemical Society</i> , 2015, 137, 5414-5420.	6.6	364
32	Gelatin-derived sustainable carbon-based functional materials for energy conversion and storage with controllability of structure and component. <i>Science Advances</i> , 2015, 1, e1400035.	4.7	144
33	A highly active and durable Co-N-C electrocatalyst synthesized using exfoliated graphitic carbon nitride nanosheets. <i>Nanoscale</i> , 2015, 7, 10334-10339.	2.8	61
34	Structure-activity relationship in high-performance iron-based electrocatalysts for oxygen reduction reaction. <i>Journal of Power Sources</i> , 2015, 300, 279-284.	4.0	68
35	Effect of pyrolysis pressure on activity of Fe-N-C catalysts for oxygen reduction. <i>Journal of Materials Chemistry A</i> , 2015, 3, 21494-21500.	5.2	27
36	Hydrophilic non-precious metal nitrogen-doped carbon electrocatalysts for enhanced efficiency in oxygen reduction reaction. <i>Chemical Communications</i> , 2015, 51, 17285-17288.	2.2	56
37	Chemistry of Multitudinous Active Sites for Oxygen Reduction Reaction in Transition Metal-Nitrogen-Carbon Electrocatalysts. <i>Journal of Physical Chemistry C</i> , 2015, 119, 25917-25928.	1.5	433
38	Quantifying the density and utilization of active sites in non-precious metal oxygen electroreduction catalysts. <i>Nature Communications</i> , 2015, 6, 8618.	5.8	461
39	Identification of catalytic sites for oxygen reduction in iron- and nitrogen-doped graphene materials. <i>Nature Materials</i> , 2015, 14, 937-942.	13.3	1,714
40	Bimetallic porous porphyrin polymer-derived non-precious metal electrocatalysts for oxygen reduction reactions. <i>Journal of Materials Chemistry A</i> , 2015, 3, 23799-23808.	5.2	93
41	Fe <sub>3</sub> C-based oxygen reduction catalysts: synthesis, hollow spherical structures and applications in fuel cells. <i>Journal of Materials Chemistry A</i> , 2015, 3, 1752-1760.	5.2	116

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43	On the relationship between N content, textural properties and catalytic performance for the oxygen reduction reaction of N/CNT. <i>Applied Catalysis B: Environmental</i> , 2015, 162, 420-429.	10.8	44
44	Synthesis highly active and durable non-precious-metal catalyst with 2,2-pyridylbenzimidazole as novel nitrogen coordination compound for oxygen reduction reaction. <i>Catalysis Communications</i> , 2015, 58, 112-116.	1.6	8
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48	Cumulative effect of transition metals on nitrogen and fluorine co-doped graphite nanofibers: an efficient and highly durable non-precious metal catalyst for the oxygen reduction reaction. <i>Nanoscale</i> , 2016, 8, 14650-14664.	2.8	61
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50	Hybrid polymer matrix composite containing polyaniline and Nafion as novel precursor of the enhanced catalyst for oxygen reduction reaction. <i>RSC Advances</i> , 2016, 6, 59961-59969.	1.7	3
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52	Synthesis and study of catalysts of electrochemical oxygen reduction reaction based on polymer complexes of nickel and cobalt with Schiff bases. <i>Russian Journal of Electrochemistry</i> , 2016, 52, 1183-1190.	0.3	12
53	Enhanced oxygen reduction reaction activity of nitrogen-doped graphene/multi-walled carbon nanotube catalysts in alkaline media. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 22510-22519.	3.8	74
54	Noble Metal-Free Oxygen Reduction Reaction Catalysts Derived from Prussian Blue Nanocrystals Dispersed in Polyaniline. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 8436-8444.	4.0	76
55	Spectroscopic insights into the nature of active sites in iron@nitrogen@carbon electrocatalysts for oxygen reduction in acid. <i>Nano Energy</i> , 2016, 29, 65-82.	8.2	269
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61	Electrocatalysis of oxygen reduction on iron- and cobalt-containing nitrogen-doped carbon nanotubes in acid media. Electrochimica Acta, 2016, 218, 303-310.	2.6	42
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70	Performance of Fe-N/C Oxygen Reduction Electrocatalysts toward NO <sub>2</sub> <sup>−</sup> , NO, and NH <sub>2</sub> OH Electroreduction: From Fundamental Insights into the Active Center to a New Method for Environmental Nitrite Destruction. Journal of the American Chemical Society, 2016, 138, 16056-16068.	6.6	111
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79	Highly Active and Durable Non-Precious Metal Catalyst for the Oxygen Reduction Reaction in Acidic Medium. <i>Journal of the Electrochemical Society</i> , 2016, 163, F539-F547.	1.3	32
80	Recent Advances in Electrocatalysts for Oxygen Reduction Reaction. <i>Chemical Reviews</i> , 2016, 116, 3594-3657.	23.0	3,233
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82	Probing active sites in iron-based catalysts for oxygen electro-reduction: A temperature-dependent 57 Fe Mössbauer spectroscopy study. <i>Catalysis Today</i> , 2016, 262, 110-120.	2.2	70
83	On an Easy Way To Prepare Metal-Nitrogen Doped Carbon with Exclusive Presence of MeN <sub>4</sub> -type Sites Active for the ORR. <i>Journal of the American Chemical Society</i> , 2016, 138, 635-640.	6.6	420
84	On the structural composition and stability of Fe-N-C catalysts prepared by an intermediate acid leaching. <i>Journal of Solid State Electrochemistry</i> , 2016, 20, 969-981.	1.2	39
85	Transition metal-nitrogen-carbon nanostructured catalysts for the oxygen reduction reaction: From mechanistic insights to structural optimization. <i>Nano Research</i> , 2017, 10, 1449-1470.	5.8	144
86	Metal-Organic-Framework-Derived Fe-N/C Electrocatalyst with Five-Coordinated Fe-N Sites for Advanced Oxygen Reduction in Acid Media. <i>ACS Catalysis</i> , 2017, 7, 1655-1663.	5.5	483
87	Iron-chelated hydrogel-derived bifunctional oxygen electrocatalyst for high-performance rechargeable Zn-air batteries. <i>Nano Research</i> , 2017, 10, 4436-4447.	5.8	98
88	Fe-N/C catalysts for oxygen reduction reaction supported on different carbonaceous materials. Performance in acidic and alkaline direct alcohol fuel cells. <i>Applied Catalysis B: Environmental</i> , 2017, 205, 637-653.	10.8	115
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98	Is iron nitride or carbide highly active for oxygen reduction reaction in acidic medium?. <i>Catalysis Science and Technology</i> , 2017, 7, 51-55.	2.1	50
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100	Unraveling the Nature of Sites Active toward Hydrogen Peroxide Reduction in Fe-N-C Catalysts. <i>Angewandte Chemie</i> , 2017, 129, 8935-8938.	1.6	16
101	Fe-N-C Catalyst Graphitic Layer Structure and Fuel Cell Performance. <i>ACS Energy Letters</i> , 2017, 2, 1489-1493.	8.8	104
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103	Unraveling the Nature of Sites Active toward Hydrogen Peroxide Reduction in Fe-N-C Catalysts. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 8809-8812.	7.2	176
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105	N-Doped 3D Carbon Aerogel with Trace Fe as an Efficient Catalyst for the Oxygen Reduction Reaction. <i>ChemElectroChem</i> , 2017, 4, 514-520.	1.7	43
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108	Investigation of Chloride Poisoning Resistance for Nitrogen-Doped Carbon Nanostructures as Oxygen Depolarized Cathode Catalysts in Acidic Media. <i>Catalysis Letters</i> , 2017, 147, 2903-2909.	1.4	32
109	Ionically dispersed Fe-N and Zn-N in porous carbon for acidic oxygen reduction reactions. <i>Chemical Communications</i> , 2017, 53, 11453-11456.	2.2	22
110	Fabrication of a mesoporous Ba <sub>0.5</sub> Sr <sub>0.5</sub> Co <sub>0.8</sub> Fe <sub>0.2</sub> O <sub>3-<math>\lambda</math></sub> perovskite as a low-cost and efficient catalyst for oxygen reduction. <i>Dalton Transactions</i> , 2017, 46, 13903-13911.	1.6	18
111	Kinetic isotope effect in the oxygen reduction reaction (ORR) over Fe-N/C catalysts under acidic and alkaline conditions. <i>Electrochemistry Communications</i> , 2017, 83, 67-71.	2.3	43
112	Active sites and factors influencing them for efficient oxygen reduction reaction in metal-N coordinated pyrolyzed and non-pyrolyzed catalysts: a review. <i>Journal of Materials Chemistry A</i> , 2017, 5, 20095-20119.	5.2	108
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115	Electrocatalysts Derived from Metal-Organic Frameworks for Oxygen Reduction and Evolution Reactions in Aqueous Media. <i>Small</i> , 2017, 13, 1701143.	5.2	150
116	3D polymer hydrogel for high-performance atomic iron-rich catalysts for oxygen reduction in acidic media. <i>Applied Catalysis B: Environmental</i> , 2017, 219, 629-639.	10.8	111
117	MOF derived Mesoporous Nitrogen doped Carbons with high Activity towards Oxygen Reduction. <i>Electrochimica Acta</i> , 2017, 251, 638-650.	2.6	42
118	Out-of-plane Fe <sup>II</sup> -N <sub>4</sub> moiety modified Fe-N co-doped porous carbons as high-performance electrocatalysts for the oxygen reduction reaction. <i>Catalysis Science and Technology</i> , 2017, 7, 4017-4023.	2.1	32
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120	Fe/N/C Nanotubes with Atomic Fe Sites: A Highly Active Cathode Catalyst for Alkaline Polymer Electrolyte Fuel Cells. <i>ACS Catalysis</i> , 2017, 7, 6485-6492.	5.5	141
121	Recent advances in Fe (or Co)/N/C electrocatalysts for the oxygen reduction reaction in polymer electrolyte membrane fuel cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 18933-18950.	5.2	146
122	Direct atomic-level insight into the active sites of a high-performance PGM-free ORR catalyst. <i>Science</i> , 2017, 357, 479-484.	6.0	1,273
123	Multi-Scaled Porous Fe-N/C Nanofibrous Catalysts for the Cathode Electrodes of Direct Methanol Fuel Cells. <i>Journal of the Electrochemical Society</i> , 2017, 164, F1556-F1565.	1.3	19
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125	A Combined Probe-Molecule, Mössbauer, Nuclear Resonance Vibrational Spectroscopy, and Density Functional Theory Approach for Evaluation of Potential Iron Active Sites in an Oxygen Reduction Reaction Catalyst. <i>Journal of Physical Chemistry C</i> , 2017, 121, 16283-16290.	1.5	75
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129	Modeling Fe/N/C Catalysts in Monolayer Graphene. <i>ACS Catalysis</i> , 2017, 7, 139-145.	5.5	100
130	Effect of Protonated Amine Molecules on the Oxygen Reduction Reaction on Metal-Nitrogen-Carbon-Based Catalysts. <i>Electrocatalysis</i> , 2017, 8, 74-85.	1.5	9
131	Nitrogen-doped cobalt nanoparticles/nitrogen-doped plate-like ordered mesoporous carbons composites as noble-metal free electrocatalysts for oxygen reduction reaction. <i>Journal of Energy Chemistry</i> , 2017, 26, 63-71.	7.1	34



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133	Synthesis of a Square [5]Catenane by Simple Amine-Aldehyde Condensation. <i>ChemistrySelect</i> , 2017, 2, 11977-11980.	0.7	2
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135	Microporous Framework Induced Synthesis of Single-Atom Dispersed Fe-N-C Acidic ORR Catalyst and Its in Situ Reduced Fe-N <sub>4</sub> Active Site Identification Revealed by X-ray Absorption Spectroscopy. <i>ACS Catalysis</i> , 2018, 8, 2824-2832.	5.5	433
136	In Situ Generated Dual-Template Method for Fe/N/S Co-Doped Hierarchically Porous Honeycomb Carbon for High-Performance Oxygen Reduction. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 8721-8729.	4.0	83
137	Engineering phosphorus-doped LaFeO <sub>3</sub> - $\delta$ perovskite oxide as robust bifunctional oxygen electrocatalysts in alkaline solutions. <i>Nano Energy</i> , 2018, 47, 199-209.	8.2	202
138	Structure and activity of metal-centered coordination sites in pyrolyzed metal-nitrogen-carbon catalysts for the electrochemical reduction of O <sub>2</sub> . <i>Current Opinion in Electrochemistry</i> , 2018, 9, 198-206.	2.5	51
139	Crab Shell-Templated Fe and N Co-Doped Mesoporous Carbon Nanofibers as a Highly Efficient Oxygen Reduction Reaction Electrocatalyst. <i>ChemistrySelect</i> , 2018, 3, 3722-3730.	0.7	6
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142	Recent Progress of Carbon-Based Materials in Oxygen Reduction Reaction Catalysis. <i>ChemElectroChem</i> , 2018, 5, 1764-1774.	1.7	66
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