Chang Hyuck Choi

List of Publications by Year
in descending order

70 papers	6,960 citations	87843 38 h-index	95218 68 g-index
75 all docs	75 docs citations	75 times ranked	8314 citing authors

#	Article	IF	Citations
1	Binary and Ternary Doping of Nitrogen, Boron, and Phosphorus into Carbon for Enhancing Electrochemical Oxygen Reduction Activity. ACS Nano, 2012, 6, 7084-7091.	7.3	812
2	Tuning selectivity of electrochemical reactions by atomically dispersed platinum catalyst. Nature Communications, 2016, 7, 10922.	5.8	683
3	B, N- and P, N-doped graphene as highly active catalysts for oxygen reduction reactions in acidic media. Journal of Materials Chemistry A, 2013, 1, 3694.	5.2	398
4	The Achilles' heel of iron-based catalysts during oxygen reduction in an acidic medium. Energy and Environmental Science, 2018, 11, 3176-3182.	15.6	332
5	Stability of Feâ€Nâ€C Catalysts in Acidic Medium Studied by Operando Spectroscopy. Angewandte Chemie - International Edition, 2015, 54, 12753-12757.	7.2	321
6	Long-Range Electron Transfer over Graphene-Based Catalyst for High-Performing Oxygen Reduction Reactions: Importance of Size, N-doping, and Metallic Impurities. Journal of the American Chemical Society, 2014, 136, 9070-9077.	6.6	288
7	Hydrogen Peroxide Synthesis via Enhanced Two-Electron Oxygen Reduction Pathway on Carbon-Coated Pt Surface. Journal of Physical Chemistry C, 2014, 118, 30063-30070.	1.5	248
8	Rational Design of a Hierarchical Tin Dendrite Electrode for Efficient Electrochemical Reduction of CO₂. ChemSusChem, 2015, 8, 3092-3098.	3.6	244
9	Phosphorusâ€"nitrogen dual doped carbon as an effective catalyst for oxygen reduction reaction in acidic media: effects of the amount of P-doping on the physical and electrochemical properties of carbon. Journal of Materials Chemistry, 2012, 22, 12107.	6.7	210
10	Minimizing Operando Demetallation of Fe-N-C Electrocatalysts in Acidic Medium. ACS Catalysis, 2016, 6, 3136-3146.	5.5	201
11	Heteroatom doped carbons prepared by the pyrolysis of bio-derived amino acids as highly active catalysts for oxygen electro-reduction reactions. Green Chemistry, 2011, 13, 406-412.	4.6	188
12	Unraveling the Nature of Sites Active toward Hydrogen Peroxide Reduction in Feâ€Nâ€C Catalysts. Angewandte Chemie - International Edition, 2017, 56, 8809-8812.	7.2	176
13	Pyrolyzed Mâ€"N_x catalysts for oxygen reduction reaction: progress and prospects. Energy and Environmental Science, 2021, 14, 2158-2185.	15.6	170
14	Additional doping of phosphorus and/or sulfur into nitrogen-doped carbon for efficient oxygen reduction reaction in acidic media. Physical Chemistry Chemical Physics, 2013, 15, 1802-1805.	1.3	166
15	Electrocatalytic synthesis of hydrogen peroxide on Au-Pd nanoparticles: From fundamentals to continuous production. Chemical Physics Letters, 2017, 683, 436-442.	1.2	112
16	Identification of Single-Atom Ni Site Active toward Electrochemical CO₂ Conversion to CO. Journal of the American Chemical Society, 2021, 143, 925-933.	6.6	107
17	Selective electrochemical reduction of nitric oxide to hydroxylamine by atomically dispersed iron catalyst. Nature Communications, 2021, 12, 1856.	5.8	106
18	Nitrogen-doped graphene/carbon nanotube self-assembly for efficient oxygen reduction reaction in acid media. Applied Catalysis B: Environmental, 2014, 144, 760-766.	10.8	94

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19	pH Effect on the H₂O₂-Induced Deactivation of Fe-N-C Catalysts. ACS Catalysis, 2020, 10, 8485-8495.	5.5	92
20	On the importance of the electric double layer structure in aqueous electrocatalysis. Nature Communications, 2022, 13, 174.	5.8	92
21	Photoelectrochemical production of formic acid and methanol from carbon dioxide on metal-decorated CuO/Cu2O-layered thin films under visible light irradiation. Applied Catalysis B: Environmental, 2014, 158-159, 217-223.	10.8	91
22	Theoretical and Experimental Understanding of Hydrogen Evolution Reaction Kinetics in Alkaline Electrolytes with Pt-Based Coreâ€"Shell Nanocrystals. Journal of the American Chemical Society, 2019, 141, 18256-18263.	6.6	91
23	Highly active N-doped-CNTs grafted on Fe/C prepared by pyrolysis of dicyandiamide on Fe2O3/C for electrochemical oxygen reduction reaction. Applied Catalysis B: Environmental, 2011, 103, 362-368.	10.8	90
24	Designed Synthesis of Wellâ€Defined Pd@Pt Coreâ€"Shell Nanoparticles with Controlled Shell Thickness as Efficient Oxygen Reduction Electrocatalysts. Chemistry - A European Journal, 2013, 19, 8190-8198.	1.7	89
25	Accurate Evaluation of Active-Site Density (SD) and Turnover Frequency (TOF) of PGM-Free Metalâ€"Nitrogen-Doped Carbon (MNC) Electrocatalysts using CO Cryo Adsorption. ACS Catalysis, 2019, 9, 4841-4852.	5.5	79
26	Atomistic Insights into the Stability of Pt Single-Atom Electrocatalysts. Journal of the American Chemical Society, 2020, 142, 15496-15504.	6.6	75
27	High crystallinity design of Ir-based catalysts drives catalytic reversibility for water electrolysis and fuel cells. Nature Communications, 2021, 12, 4271.	5.8	75
28	Carbon Monoxide as a Promoter of Atomically Dispersed Platinum Catalyst in Electrochemical Hydrogen Evolution Reaction. Journal of the American Chemical Society, 2018, 140, 16198-16205.	6.6	74
29	Highly selective and scalable CO2 to CO - Electrolysis using coral-nanostructured Ag catalysts in zero-gap configuration. Nano Energy, 2020, 76, 105030.	8.2	73
30	N-doped carbon prepared by pyrolysis of dicyandiamide with various MeCl2Â·xH2O (Me=Co, Fe, and Ni) composites: Effect of type and amount of metal seed on oxygen reduction reactions. Applied Catalysis B: Environmental, 2012, 119-120, 123-131.	10.8	71
31	Doping of chalcogens (sulfur and/or selenium) in nitrogen-doped grapheneâ€"CNT self-assembly for enhanced oxygen reduction activity in acid media. RSC Advances, 2013, 3, 12417.	1.7	56
32	Carbon-Supported IrCoO nanoparticles as an efficient and stable OER electrocatalyst for practicable CO2 electrolysis. Applied Catalysis B: Environmental, 2020, 269, 118820.	10.8	54
33	Enhanced hydrogen generation from methanol aqueous solutions over Pt/MoO3/TiO2 under ultraviolet light. International Journal of Hydrogen Energy, 2013, 38, 3582-3587.	3.8	53
34	Quantification of Active Site Density and Turnover Frequency: From Single-Atom Metal to Nanoparticle Electrocatalysts. Jacs Au, 2021, 1, 586-597.	3.6	53
35	Single-Atom Catalysts: A Perspective toward Application in Electrochemical Energy Conversion. Jacs Au, 2021, 1, 1086-1100.	3.6	43
36	A sulfur selfâ€doped multifunctional biochar catalyst for overall water splitting and a supercapacitor from Camellia japonica flowers. , 2022, 4, 491-505.		43

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37	Selective H2O2 production on surface-oxidized metal-nitrogen-carbon electrocatalysts. Catalysis Today, 2021, 359, 99-105.	2.2	42
38	Easy and controlled synthesis of nitrogen-doped carbon. Carbon, 2013, 55, 98-107.	5.4	41
39	Effect of Pt introduced on Ru-based electrocatalyst for oxygen evolution activity and stability. Electrochemistry Communications, 2019, 104, 106469.	2.3	40
40	Graphene-derived Fe/Co-N-C catalyst in direct methanol fuel cells: Effects of the methanol concentration and ionomer content on cell performance. Journal of Power Sources, 2017, 358, 76-84.	4.0	38
41	Synergism between CdTe semiconductor and pyridine â€“ photoenhanced electrocatalysis for CO₂reduction to formic acid. RSC Advances, 2014, 4, 3016-3019.	1.7	36
42	<i>Operando</i> Stability of Platinum Electrocatalysts in Ammonia Oxidation Reactions. ACS Catalysis, 2020, 10, 11674-11684.	5.5	36
43	Highly selective and stackable electrode design for gaseous CO2 electroreduction to ethylene in a zero-gap configuration. Nano Energy, 2021, 84, 105859.	8.2	36
44	Combinatorial High-Throughput Screening for Highly Active Pdâ€“Irâ€“Ce Based Ternary Catalysts in Electrochemical Oxygen Reduction Reaction. ACS Combinatorial Science, 2013, 15, 572-579.	3.8	35
45	Facile growth of N-doped CNTs on Vulcan carbon and the effects of iron content on electrochemical activity for oxygen reduction reaction. International Journal of Hydrogen Energy, 2012, 37, 4563-4570.	3.8	32
46	Oxygen Vacancies Induced NiFe-Hydroxide as a Scalable, Efficient, and Stable Electrode for Alkaline Overall Water Splitting. ACS Sustainable Chemistry and Engineering, 2020, 8, 14071-14081.	3.2	32
47	Oxygen reduction activity of Pdâ€“Mn3O4 nanoparticles and performance enhancement by voltammetrically accelerated degradation. Physical Chemistry Chemical Physics, 2012, 14, 6842.	1.3	31
48	Enhanced electrochemical oxygen reduction reaction by restacking of N-doped single graphene layers. RSC Advances, 2013, 3, 4246.	1.7	30
49	Real-time monitoring of electrochemical carbon corrosion in alkaline media. Journal of Materials Chemistry A, 2021, 9, 19834-19839.	5.2	29
50	Catalytic Surface Specificity of Ni(OH) 2 â€Decorated Pt Nanocubes for the Hydrogen Evolution Reaction in an Alkaline Electrolyte. ChemSusChem, 2019, 12, 4021-4028.	3.6	28
51	Boosting the Role of Ir in Mitigating Corrosion of Carbon Support by Alloying with Pt. ACS Catalysis, 2020, 10, 12300-12309.	5.5	26
52	Underestimation of Platinum Electrocatalysis Induced by Carbon Monoxide Evolved from Graphite Counter Electrodes. ACS Catalysis, 2020, 10, 10773-10783.	5.5	26
53	Electrochemical Evidence for Two Subâ€families of FeN_{<i>x</i>}C_{<i>y</i>} Moieties with Concentrationâ€Dependent Cyanide Poisoning. ChemElectroChem, 2018, 5, 1880-1885.	1.7	24
54	Turning Harmful Deposition of Metal Impurities into Activation of Nitrogen-Doped Carbon Catalyst toward Durable Electrochemical CO₂ Reduction. ACS Energy Letters, 2019, 4, 2343-2350.	8.8	23

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55	Understanding the Grain Boundary Behavior of Bimetallic Platinumâ€“Cobalt Alloy Nanowires toward Oxygen Electro-Reduction. ACS Catalysis, 2022, 12, 3516-3523.	5.5	23
56	Dimensionality-dependent oxygen reduction activity on doped graphene: Is graphene a promising substrate for electrocatalysis?. Nano Energy, 2015, 11, 526-532.	8.2	22
57	Overestimation of Photoelectrochemical Hydrogen Evolution Reactivity Induced by Noble Metal Impurities Dissolved from Counter/Reference Electrodes. ACS Catalysis, 2020, 10, 3381-3389.	5.5	20
58	Does the Encapsulation Strategy of Pt Nanoparticles with Carbon Layers Really Ensure Both Highly Active and Durable Electrocatalysis in Fuel Cells?. ACS Catalysis, 2022, 12, 7317-7325.	5.5	20
59	Optimization of catalyst layer composition for PEMFC using graphene-based oxygen reduction reaction catalysts. Journal of Power Sources, 2015, 286, 166-174.	4.0	19
60	Carbon nanofibers as parent materials for a graphene-based Fe-N-C catalyst for the oxygen reduction reaction. Catalysis Today, 2017, 295, 125-131.	2.2	19
61	NO -induced deactivation of Pt electrocatalysis towards the ammonia oxidation reaction. Electrochemistry Communications, 2018, 94, 31-35.	2.3	19
62	Unraveling the Nature of Sites Active toward Hydrogen Peroxide Reduction in Feâ€Nâ€C Catalysts. Angewandte Chemie, 2017, 129, 8935-8938.	1.6	16
63	Deactivation of Fe-N-C catalysts during catalyst ink preparation process. Catalysis Today, 2021, 359, 9-15.	2.2	9
64	Dimensional tailoring of nitrogen-doped graphene for high performance supercapacitors. RSC Advances, 2016, 6, 55577-55583.	1.7	7
65	Aerosol-Assisted Controlled Packing of Silica Nanocolloids: Templateless Synthesis of Mesoporous Silicates with Structural Tunability and Complexity. Langmuir, 2015, 31, 542-550.	1.6	4
66	Bendable BiVO₄-Based Photoanodes on a Metal Substrate Realized through Template Engineering for Photoelectrochemical Water Splitting. ACS Applied Materials & Interfaces, 2021, 13, 16478-16484.	4.0	3
67	Fluorophore Metalâ€“Organic Complexes: High-Throughput Optical Screening for Aprotic Electrochemical Systems. ACS Combinatorial Science, 2017, 19, 81-84.	3.8	1
68	Unraveling the role of introduced W in oxidation tolerance for Pt-based catalysts via on-line inductive coupled plasma-mass spectrometry. Electrochemistry Communications, 2022, 139, 107301.	2.3	1
69	The basics of electrode material evaluation in (photo)electrochemical system. Ceramist, 2020, 23, 339-349.	0.0	0
70	Cover Image, Volume 4, Number 4, June 2022. , 2022, 4, .		0