Zhenmeng Peng

List of Publications by Year
in descending order

96 papers	9,878 citations	53794 45 h-index	39675 94 g-index
101 all docs	101 docs citations	101 times ranked	12760 citing authors

#	Article	IF	Citations
1	Nitrogen-inserted nickel nanosheets with controlled orbital hybridization and strain fields for boosted hydrogen oxidation in alkaline electrolytes. Energy and Environmental Science, 2022, 15, 1234-1242.	30.8	42
2	Non-thermal plasma-assisted rapid hydrogenolysis of polystyrene to high yield ethylene. Nature Communications, 2022, 13, 885.	12.8	23
3	Ambient Synthesis of Pt-Reactive Metal Alloy and High-Entropy Alloy Nanocatalysts Utilizing Hydrogen Cold Plasma. Chemistry of Materials, 2022, 34, 266-272.	6.7	11
4	Balancing CO chemisorption with hydrogen electrochemical adsorption on Pt alloy catalyst for improving direct CO reduction to formaldehyde. Chemical Engineering Journal, 2022, 446, 137131.	12.7	0
5	Approaching full-range selectivity control in CO₂ hydrogenation to methanol and carbon monoxide with catalyst composition regulation. Inorganic Chemistry Frontiers, 2021, 8, 2433-2441.	6.0	5
6	Non-thermal plasma-assisted hydrogenolysis of polyethylene to light hydrocarbons. Catalysis Communications, 2021, 150, 106274.	3.3	29
7	Fingerprinting the Ammonia Synthesis Pathway Using Spatiotemporal Electrostatic Potential Distribution of Intermediates. ACS Omega, 2021, 6, 6292-6296.	3.5	1
8	An Electrochemical Ethylamine/Acetonitrile Redox Method for Ambient Hydrogen Storage. ACS Applied Materials & Interfaces, 2021, 13, 55292-55298.	8.0	8
9	Platinum Alloy Catalysts for Oxygen Reduction Reaction: Advances, Challenges and Perspectives. ChemNanoMat, 2020, 6, 32-41.	2.8	71
10	Oscillation of Work Function during Reducible Metal Oxide Catalysis and Correlation with the Activity Property. ChemCatChem, 2020, 12, 85-89.	3.7	3
11	A vacuum impregnation method for synthesizing octahedral Pt2CuNi nanoparticles on mesoporous carbon support and the oxygen reduction reaction electrocatalytic properties. Journal of Colloid and Interface Science, 2020, 564, 245-253.	9.4	15
12	Two-Dimensional Metal Organic Framework Nanosheets as Bifunctional Catalyst for Electrochemical and Photoelectrochemical Water Oxidation. Frontiers in Chemistry, 2020, 8, 604239.	3.6	12
13	Designing Champion Nanostructures of Tungsten Dichalcogenides for Electrocatalytic Hydrogen Evolution. Advanced Materials, 2020, 32, e2002584.	21.0	82
14	Unravelling Proximity-Driven Synergetic Effect within CIZOâ€“SAPO Bifunctional Catalyst for CO₂ Hydrogenation to DME. Energy & Fuels, 2020, 34, 8635-8643.	5.1	25
15	Properties of amorphous iron phosphate in pseudocapacitive sodium ion removal for water desalination. RSC Advances, 2020, 10, 16875-16880.	3.6	10
16	Utilizing hydrogen underpotential deposition in CO reduction for highly selective formaldehyde production under ambient conditions. Green Chemistry, 2020, 22, 5639-5647.	9.0	14
17	Distribution and Valence State of Ru Species on CeO₂ Supports: Support Shape Effect and Its Influence on CO Oxidation. ACS Catalysis, 2019, 9, 11088-11103.	11.2	159
18	Tuning Electronic Structure and Lattice Diffusion Barrier of Ternary Ptâ€“Inâ€“Ni for Both Improved Activity and Stability Properties in Oxygen Reduction Electrocatalysis. ACS Catalysis, 2019, 9, 11431-11437.	11.2	36

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19	Unconventional pâ€“d Hybridization Interaction in PtGa Ultrathin Nanowires Boosts Oxygen Reduction Electrocatalysis. Journal of the American Chemical Society, 2019, 141, 18083-18090.	13.7	216
20	Proximity to Graphene Dramatically Alters Polymer Dynamics. Macromolecules, 2019, 52, 5074-5085.	4.8	11
21	Designing Highly Efficient and Longâ€Term Durable Electrocatalyst for Oxygen Evolution by Coupling B and P into Amorphous Porous NiFeâ€Based Material. Small, 2019, 15, e1901020.	10.0	71
22	Dual-Site Cascade Oxygen Reduction Mechanism on SnO_{<i>x</i>}/Ptâ€“Cuâ€“Ni for Promoting Reaction Kinetics. Journal of the American Chemical Society, 2019, 141, 9463-9467.	13.7	70
23	Porous amorphous NiFeOx/NiFeP framework with dual electrocatalytic functions for water electrolysis. Journal of Power Sources, 2019, 428, 76-81.	7.8	40
24	Synergy between active sites of Cu-In-Zr-O catalyst in CO2 hydrogenation to methanol. Journal of Catalysis, 2019, 372, 74-85.	6.2	104
25	Oxidation-Induced Atom Diffusion and Surface Restructuring in Faceted Ternary Ptâ€“Cuâ€“Ni Nanoparticles. Chemistry of Materials, 2019, 31, 1720-1728.	6.7	30
26	Low-dimensional materials for alkaline oxygen evolution electrocatalysis. Materials Today Chemistry, 2019, 11, 119-132.	3.5	17
27	Competitive Transient Electrostatic Adsorption for In Situ Regeneration of Poisoned Catalyst. ChemCatChem, 2019, 11, 1179-1184.	3.7	3
28	Synthesis of freestanding amorphous giant carbon tubes with outstanding oil sorption and water oxidation properties. Journal of Materials Chemistry A, 2018, 6, 3996-4002.	10.3	19
29	High-Performance Transition Metal Phosphide Alloy Catalyst for Oxygen Evolution Reaction. ACS Nano, 2018, 12, 158-167.	14.6	321
30	Deconvolution of octahedral Pt3Ni nanoparticle growth pathway from in situ characterizations. Nature Communications, 2018, 9, 4485.	12.8	37
31	Active Sites in Heterogeneous Catalytic Reaction on Metal and Metal Oxide: Theory and Practice. Catalysts, 2018, 8, 478.	3.5	59
32	Computation-Guided Development of Platinum Alloy Catalyst for Carbon Monoxide Preferential Oxidation. ACS Catalysis, 2018, 8, 5777-5786.	11.2	22
33	A review of Pt-based electrocatalysts for oxygen reduction reaction. Frontiers in Energy, 2017, 11, 268-285.	2.3	155
34	In Situ Atomic-Scale Observation of the Two-Dimensional Co(OH)₂ Transition at Atmospheric Pressure. Chemistry of Materials, 2017, 29, 4572-4579.	6.7	26
35	Engineering the Electrical Conductivity of Lamellar Silverâ€Doped Cobalt(II) Selenide Nanobelts for Enhanced Oxygen Evolution. Angewandte Chemie, 2017, 129, 334-338.	2.0	38
36	Engineering the Electrical Conductivity of Lamellar Silverâ€Doped Cobalt(II) Selenide Nanobelts for Enhanced Oxygen Evolution. Angewandte Chemie - International Edition, 2017, 56, 328-332.	13.8	172

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37	Freeâ€Standing Holey Ni(OH)₂ Nanosheets with Enhanced Activity for Water Oxidation. Small, 2017, 13, 1700334.	10.0	97
38	Achieving Remarkable Activity and Durability toward Oxygen Reduction Reaction Based on Ultrathin Rh-Doped Pt Nanowires. Journal of the American Chemical Society, 2017, 139, 8152-8159.	13.7	265
39	More accurate depiction of adsorption energy on transition metals using work function as one additional descriptor. Physical Chemistry Chemical Physics, 2017, 19, 12628-12632.	2.8	44
40	Elemental two-dimensional nanosheets beyond graphene. Chemical Society Reviews, 2017, 46, 2127-2157.	38.1	285
41	Gold atom-decorated CoSe₂nanobelts with engineered active sites for enhanced oxygen evolution. Journal of Materials Chemistry A, 2017, 5, 20202-20207.	10.3	57
42	Phase engineering of cobalt hydroxides using magnetic fields for enhanced supercapacitor performance. Journal of Materials Chemistry A, 2017, 5, 19203-19209.	10.3	36
43	Growth of encapsulating carbon on supported Pt nanoparticles studied by in situ TEM. Journal of Catalysis, 2016, 338, 295-304.	6.2	39
44	Lowâ€Temperature Preferential Oxidation of Carbon Monoxide on Pt₃Ni Alloy Nanoparticle Catalyst with Engineered Surface. ChemCatChem, 2016, 8, 97-101.	3.7	16
45	Low-Temperature Preferential Oxidation of Carbon Monoxide on Pt3 Ni Alloy Nanoparticle Catalyst with Engineered Surface. ChemCatChem, 2016, 8, 3-3.	3.7	1
46	Hydrogen Production via Hydrazine Decomposition on Model Platinumâ€“Nickel Nanocatalyst with a Single (111) Facet. Journal of Physical Chemistry C, 2016, 120, 9764-9772.	3.1	40
47	Synthesis and property of a Helwingia-structured nickel nitride/ nickel hydroxide nanocatalyst in hydrazine decomposition. RSC Advances, 2016, 6, 38494-38498.	3.6	6
48	Engineering active sites of two-dimensional MoS₂ nanosheets for improving hydrogen evolution. Inorganic Chemistry Frontiers, 2016, 3, 1376-1380.	6.0	22
49	A nitrogen-doped ordered mesoporous carbon/graphene framework as bifunctional electrocatalyst for oxygen reduction and evolution reactions. Nano Energy, 2016, 30, 503-510.	16.0	140
50	Free-Standing Two-Dimensional Ru Nanosheets with High Activity toward Water Splitting. ACS Catalysis, 2016, 6, 1487-1492.	11.2	276
51	A Generic Wet Impregnation Method for Preparing Substrate-Supported Platinum Group Metal and Alloy Nanoparticles with Controlled Particle Morphology. Nano Letters, 2016, 16, 164-169.	9.1	54
52	Engineering the Electronic State of a Perovskite Electrocatalyst for Synergistically Enhanced Oxygen Evolution Reaction. Advanced Materials, 2015, 27, 5989-5994.	21.0	236
53	Octahedral Pd@Pt_{1.8}Ni Coreâ€“Shell Nanocrystals with Ultrathin PtNi Alloy Shells as Active Catalysts for Oxygen Reduction Reaction. Journal of the American Chemical Society, 2015, 137, 2804-2807.	13.7	310
54	Metallic Nickel Nitride Nanosheets Realizing Enhanced Electrochemical Water Oxidation. Journal of the American Chemical Society, 2015, 137, 4119-4125.	13.7	1,004

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55	Octahedral Pt₂CuNi Uniform Alloy Nanoparticle Catalyst with High Activity and Promising Stability for Oxygen Reduction Reaction. ACS Catalysis, 2015, 5, 2296-2300.	11.2	118
56	Metallic Nanostructures for Electrocatalysis. , 2015, , 205-241.		0
57	Effects of composition and metal particle size on ethane dehydrogenation over PtxSn100âˆ’x/Mg(Al)O (70â©½xâ©½100). Journal of Catalysis, 2014, 311, 161-168.	6.2	109
58	n-Butane dehydrogenation over Pt/Mg(In)(Al)O. Applied Catalysis A: General, 2014, 470, 208-214.	4.3	38
59	Property of Ptâ€“Ag Alloy Nanoparticle Catalysts in Carbon Monoxide Oxidation. Journal of Physical Chemistry C, 2014, 118, 28739-28745.	3.1	33
60	Carbon monoxide in controlling the surface formation of Group VIII metal nanoparticles. Chemical Communications, 2014, 50, 14013-14016.	4.1	22
61	Structural and Energetic Insight into the Cross-Seeding Amyloid Assemblies of Human IAPP and Rat IAPP. Journal of Physical Chemistry B, 2014, 118, 7026-7036.	2.6	34
62	Size-dependent oxygen reduction property of octahedral Ptâ€“Ni nanoparticle electrocatalysts. Journal of Materials Chemistry A, 2014, 2, 19778-19787.	10.3	62
63	Solid-State Chemistry-Enabled Scalable Production of Octahedral Ptâ€“Ni Alloy Electrocatalyst for Oxygen Reduction Reaction. Journal of the American Chemical Society, 2014, 136, 7805-7808.	13.7	223
64	Shape-enhanced ammonia electro-oxidation property of a cubic platinum nanocrystal catalyst prepared by surfactant-free synthesis. Journal of Materials Chemistry A, 2013, 1, 14402.	10.3	45
65	Surfactant-free preparation of supported cubic platinum nanoparticles. Chemical Communications, 2012, 48, 1854.	4.1	45
66	Size and Composition Control of Ptâ€“In Nanoparticles Prepared by Seed-Mediated Growth Using Bimetallic Seeds. Langmuir, 2012, 28, 3345-3349.	3.5	12
67	Effects of Surface Chemistry on the Generation of Reactive Oxygen Species by Copper Nanoparticles. ACS Nano, 2012, 6, 2157-2164.	14.6	138
68	High-resolution in situ and ex situ TEM studies on graphene formation and growth on Pt nanoparticles. Journal of Catalysis, 2012, 286, 22-29.	6.2	97
69	Effects of the Synthesis Parameters on the Size and Composition of Ptâ€“Sn Nanoparticles Prepared by the Polyalcohol Reduction Method. Journal of Physical Chemistry C, 2011, 115, 19084-19090.	3.1	27
70	Lattice contracted AgPt nanoparticles. Chemical Communications, 2011, 47, 12595.	4.1	33
71	Supportless oxygen reduction electrocatalysts of CoCuPt hollow nanoparticles. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4261-4274.	3.4	11
72	An Electrochemical Approach to PtAg Alloy Nanostructures Rich in Pt at the Surface. Advanced Functional Materials, 2010, 20, 3734-3741.	14.9	110

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73	Truncated Octahedral Pt₃Ni Oxygen Reduction Reaction Electrocatalysts. Journal of the American Chemical Society, 2010, 132, 4984-4985.	13.7	500
74	Synthesis and Oxygen Reduction Electrocatalytic Property of Platinum Hollow and Platinum-on-Silver Nanoparticles. Chemistry of Materials, 2010, 22, 1098-1106.	6.7	149
75	Composition-Dependent Formation of Platinum Silver Nanowires. ACS Nano, 2010, 4, 1501-1510.	14.6	141
76	Electrochemical Synthesis and Catalytic Property of Sub-10 nm Platinum Cubic Nanoboxes. Nano Letters, 2010, 10, 1492-1496.	9.1	129
77	Noble-Metal Nanotubes Prepared via a Galvanic Replacement Reaction Between Cu Nanowires and Aqueous HAuCl₄, H₂PtCl₆, or Na₂PdCl₄. Science of Advanced Materials, 2010, 2, 413-420.	0.7	45
78	PtAu bimetallic heteronanostructures made by post-synthesis modification of Pt-on-Au nanoparticles. Nano Research, 2009, 2, 406-415.	10.4	128
79	Designer platinum nanoparticles: Control of shape, composition in alloy, nanostructure and electrocatalytic property. Nano Today, 2009, 4, 143-164.	11.9	1,001
80	Synthesis and Oxygen Reduction Electrocatalytic Property of Pt-on-Pd Bimetallic Heteronanostructures. Journal of the American Chemical Society, 2009, 131, 7542-7543.	13.7	591
81	Synthesis and application of RuSe₂_{+ Î´}nanotubes as a methanol tolerant electrocatalyst for the oxygen reduction reaction. Journal of Materials Chemistry, 2009, 19, 1024-1030.	6.7	20
82	Platinum Lead Nanostructures: Formation, Phase Behavior, and Electrocatalytic Properties. Advanced Functional Materials, 2008, 18, 2745-2753.	14.9	45
83	Agâ€“Pt alloy nanoparticles with the compositions in the miscibility gap. Journal of Solid State Chemistry, 2008, 181, 1546-1551.	2.9	83
84	Direct Oxidation of Methanol on Pt Nanostructures Supported on Electrospun Nanofibers of Anatase. Journal of Physical Chemistry C, 2008, 112, 9970-9975.	3.1	97
85	Electrocatalytic Properties of Pt Nanowires Supported on Pt and W Gauzes. ACS Nano, 2008, 2, 2167-2173.	14.6	110
86	Synthesis and Characterization of Ordered Intermetallic PtPb Nanorods. Journal of the American Chemical Society, 2007, 129, 8684-8685.	13.7	160
87	Growing Pt Nanowires as a Densely Packed Array on Metal Gauze. Journal of the American Chemical Society, 2007, 129, 10634-10635.	13.7	181
88	Synthesis of Magnetite Nanorods through Reduction of Î²-FeOOH. Chemistry Letters, 2005, 34, 636-637.	1.3	31
89	The enhanced coercivity for the magnetite/silica nanocomposite at room temperature. Materials Research Bulletin, 2004, 39, 1875-1880.	5.2	13
90	Synthesis and magnetic properties of Zn1âˆ’xMnxFe2O4 nanoparticles. Physica B: Condensed Matter, 2004, 349, 124-128.	2.7	81

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91	Synthesis and Magnetic Properties of Single-Crystals of MnFe2O4 Nanorods. European Journal of Inorganic Chemistry, 2004, 2004, 1165-1168.	2.0	69
92	Synthesis and Magnetic Properties of Single-Crystals of MnFe2O4 Nanorods.. ChemInform, 2004, 35, no.	0.0	0
93	Magnetic Field-induced Increasing of the Reaction Rates Controlled by the Diffusion of Paramagnetic Gases. Chemical Engineering and Technology, 2004, 27, 1273-1276.	1.5	10
94	Growth of magnetite nanorods along its easy-magnetization axis of [110]. Journal of Crystal Growth, 2004, 263, 616-619.	1.5	79
95	Disappearing of the Verwey transition in magnetite nanoparticles synthesized under a magnetic field: implications for the origin of charge ordering. Chemical Physics Letters, 2004, 390, 55-58.	2.6	39
96	Hydrothermal Synthesis and Characterization of Bi2Fe4O9Nanoparticles. Chemistry Letters, 2004, 33, 502-503.	1.3	57