Zhenmeng Peng

List of Publications by Year
in descending order

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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	Metallic Nickel Nitride Nanosheets Realizing Enhanced Electrochemical Water Oxidation. Journal of the American Chemical Society, 2015, 137, 4119-4125.	13.7	1,004
2	Designer platinum nanoparticles: Control of shape, composition in alloy, nanostructure and electrocatalytic property. Nano Today, 2009, 4, 143-164.	11.9	1,001
3	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
4	Truncated Octahedral Pt₃Ni Oxygen Reduction Reaction Electrocatalysts. Journal of the American Chemical Society, 2010, 132, 4984-4985.	13.7	500
5	High-Performance Transition Metal Phosphide Alloy Catalyst for Oxygen Evolution Reaction. ACS Nano, 2018, 12, 158-167.	14.6	321
6	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
7	Elemental two-dimensional nanosheets beyond graphene. Chemical Society Reviews, 2017, 46, 2127-2157.	38.1	285
8	Free-Standing Two-Dimensional Ru Nanosheets with High Activity toward Water Splitting. ACS Catalysis, 2016, 6, 1487-1492.	11.2	276
9	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
10	Engineering the Electronic State of a Perovskite Electrocatalyst for Synergistically Enhanced Oxygen Evolution Reaction. Advanced Materials, 2015, 27, 5989-5994.	21.0	236
11	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
12	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
13	Growing Pt Nanowires as a Densely Packed Array on Metal Gauze. Journal of the American Chemical Society, 2007, 129, 10634-10635.	13.7	181
14	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
15	Synthesis and Characterization of Ordered Intermetallic PtPb Nanorods. Journal of the American Chemical Society, 2007, 129, 8684-8685.	13.7	160
16	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
17	A review of Pt-based electrocatalysts for oxygen reduction reaction. Frontiers in Energy, 2017, 11, 268-285.	2.3	155
18	Synthesis and Oxygen Reduction Electrocatalytic Property of Platinum Hollow and Platinum-on-Silver Nanoparticles. Chemistry of Materials, 2010, 22, 1098-1106.	6.7	149

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19	Composition-Dependent Formation of Platinum Silver Nanowires. ACS Nano, 2010, 4, 1501-1510.	14.6	141
20	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
21	Effects of Surface Chemistry on the Generation of Reactive Oxygen Species by Copper Nanoparticles. ACS Nano, 2012, 6, 2157-2164.	14.6	138
22	Electrochemical Synthesis and Catalytic Property of Sub-10 nm Platinum Cubic Nanoboxes. Nano Letters, 2010, 10, 1492-1496.	9.1	129
23	PtAu bimetallic heteronanostructures made by post-synthesis modification of Pt-on-Au nanoparticles. Nano Research, 2009, 2, 406-415.	10.4	128
24	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
25	Electrocatalytic Properties of Pt Nanowires Supported on Pt and W Gauzes. ACS Nano, 2008, 2, 2167-2173.	14.6	110
26	An Electrochemical Approach to PtAg Alloy Nanostructures Rich in Pt at the Surface. Advanced Functional Materials, 2010, 20, 3734-3741.	14.9	110
27	Effects of composition and metal particle size on ethane dehydrogenation over PtxSn100â^'x/Mg(Al)O (70â©½xâ©½100). Journal of Catalysis, 2014, 311, 161-168.	6.2	109
28	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
29	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
30	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
31	Freeâ€Standing Holey Ni(OH)₂ Nanosheets with Enhanced Activity for Water Oxidation. Small, 2017, 13, 1700334.	10.0	97
32	Agâ€“Pt alloy nanoparticles with the compositions in the miscibility gap. Journal of Solid State Chemistry, 2008, 181, 1546-1551.	2.9	83
33	Designing Champion Nanostructures of Tungsten Dichalcogenides for Electrocatalytic Hydrogen Evolution. Advanced Materials, 2020, 32, e2002584.	21.0	82
34	Synthesis and magnetic properties of Zn1â^'xMnxFe2O4 nanoparticles. Physica B: Condensed Matter, 2004, 349, 124-128.	2.7	81
35	Growth of magnetite nanorods along its easy-magnetization axis of [110]. Journal of Crystal Growth, 2004, 263, 616-619.	1.5	79
36	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

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37	Platinum Alloy Catalysts for Oxygen Reduction Reaction: Advances, Challenges and Perspectives. ChemNanoMat, 2020, 6, 32-41.	2.8	71
38	Dual-Site Cascade Oxygen Reduction Mechanism on SnO_x/Ptâ€“Cuâ€“Ni for Promoting Reaction Kinetics. Journal of the American Chemical Society, 2019, 141, 9463-9467.	13.7	70
39	Synthesis and Magnetic Properties of Single-Crystals of MnFe2O4 Nanorods. European Journal of Inorganic Chemistry, 2004, 2004, 1165-1168.	2.0	69
40	Size-dependent oxygen reduction property of octahedral Ptâ€“Ni nanoparticle electrocatalysts. Journal of Materials Chemistry A, 2014, 2, 19778-19787.	10.3	62
41	Active Sites in Heterogeneous Catalytic Reaction on Metal and Metal Oxide: Theory and Practice. Catalysts, 2018, 8, 478.	3.5	59
42	Hydrothermal Synthesis and Characterization of Bi2Fe4O9Nanoparticles. Chemistry Letters, 2004, 33, 502-503.	1.3	57
43	Gold atom-decorated CoSe₂nanobelts with engineered active sites for enhanced oxygen evolution. Journal of Materials Chemistry A, 2017, 5, 20202-20207.	10.3	57
44	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
45	Platinum Lead Nanostructures: Formation, Phase Behavior, and Electrocatalytic Properties. Advanced Functional Materials, 2008, 18, 2745-2753.	14.9	45
46	Surfactant-free preparation of supported cubic platinum nanoparticles. Chemical Communications, 2012, 48, 1854.	4.1	45
47	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
48	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
49	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
50	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
51	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
52	Porous amorphous NiFeOx/NiFeP framework with dual electrocatalytic functions for water electrolysis. Journal of Power Sources, 2019, 428, 76-81.	7.8	40
53	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
54	Growth of encapsulating carbon on supported Pt nanoparticles studied by in situ TEM. Journal of Catalysis, 2016, 338, 295-304.	6.2	39

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55	n-Butane dehydrogenation over Pt/Mg(In)(Al)O. Applied Catalysis A: General, 2014, 470, 208-214.	4.3	38
56	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
57	Deconvolution of octahedral Pt3Ni nanoparticle growth pathway from in situ characterizations. Nature Communications, 2018, 9, 4485.	12.8	37
58	Phase engineering of cobalt hydroxides using magnetic fields for enhanced supercapacitor performance. Journal of Materials Chemistry A, 2017, 5, 19203-19209.	10.3	36
59	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
60	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
61	Lattice contracted AgPt nanoparticles. Chemical Communications, 2011, 47, 12595.	4.1	33
62	Property of Ptâ€“Ag Alloy Nanoparticle Catalysts in Carbon Monoxide Oxidation. Journal of Physical Chemistry C, 2014, 118, 28739-28745.	3.1	33
63	Synthesis of Magnetite Nanorods through Reduction of Î²-FeOOH. Chemistry Letters, 2005, 34, 636-637.	1.3	31
64	Oxidation-Induced Atom Diffusion and Surface Restructuring in Faceted Ternary Ptâ€“Cuâ€“Ni Nanoparticles. Chemistry of Materials, 2019, 31, 1720-1728.	6.7	30
65	Non-thermal plasma-assisted hydrogenolysis of polyethylene to light hydrocarbons. Catalysis Communications, 2021, 150, 106274.	3.3	29
66	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
67	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
68	Unravelling Proximity-Driven Synergetic Effect within CIZOâ€“SAPO Bifunctional Catalyst for CO₂ Hydrogenation to DME. Energy & Fuels, 2020, 34, 8635-8643.	5.1	25
69	Non-thermal plasma-assisted rapid hydrogenolysis of polystyrene to high yield ethylene. Nature Communications, 2022, 13, 885.	12.8	23
70	Carbon monoxide in controlling the surface formation of Group VIII metal nanoparticles. Chemical Communications, 2014, 50, 14013-14016.	4.1	22
71	Engineering active sites of two-dimensional MoS₂ nanosheets for improving hydrogen evolution. Inorganic Chemistry Frontiers, 2016, 3, 1376-1380.	6.0	22
72	Computation-Guided Development of Platinum Alloy Catalyst for Carbon Monoxide Preferential Oxidation. ACS Catalysis, 2018, 8, 5777-5786.	11.2	22

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73	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
74	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
75	Low-dimensional materials for alkaline oxygen evolution electrocatalysis. Materials Today Chemistry, 2019, 11, 119-132.	3.5	17
76	Lowâ€Temperature Preferential Oxidation of Carbon Monoxide on Pt₃Ni Alloy Nanoparticle Catalyst with Engineered Surface. ChemCatChem, 2016, 8, 97-101.	3.7	16
77	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
78	Utilizing hydrogen underpotential deposition in CO reduction for highly selective formaldehyde production under ambient conditions. Green Chemistry, 2020, 22, 5639-5647.	9.0	14
79	The enhanced coercivity for the magnetite/silica nanocomposite at room temperature. Materials Research Bulletin, 2004, 39, 1875-1880.	5.2	13
80	Size and Composition Control of Ptâ€“In Nanoparticles Prepared by Seed-Mediated Growth Using Bimetallic Seeds. Langmuir, 2012, 28, 3345-3349.	3.5	12
81	Two-Dimensional Metal Organic Framework Nanosheets as Bifunctional Catalyst for Electrochemical and Photoelectrochemical Water Oxidation. Frontiers in Chemistry, 2020, 8, 604239.	3.6	12
82	Supportless oxygen reduction electrocatalysts of CoCuPt hollow nanoparticles. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4261-4274.	3.4	11
83	Proximity to Graphene Dramatically Alters Polymer Dynamics. Macromolecules, 2019, 52, 5074-5085.	4.8	11
84	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
85	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
86	Properties of amorphous iron phosphate in pseudocapacitive sodium ion removal for water desalination. RSC Advances, 2020, 10, 16875-16880.	3.6	10
87	An Electrochemical Ethylamine/Acetonitrile Redox Method for Ambient Hydrogen Storage. ACS Applied Materials & Interfaces, 2021, 13, 55292-55298.	8.0	8
88	Synthesis and property of a Helwingia-structured nickel nitride/ nickel hydroxide nanocatalyst in hydrazine decomposition. RSC Advances, 2016, 6, 38494-38498.	3.6	6
89	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
90	Competitive Transient Electrostatic Adsorption for In Situ Regeneration of Poisoned Catalyst. ChemCatChem, 2019, 11, 1179-1184.	3.7	3

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91	Oscillation of Work Function during Reducible Metal Oxide Catalysis and Correlation with the Activity Property. ChemCatChem, 2020, 12, 85-89.	3.7	3
92	Low-Temperature Preferential Oxidation of Carbon Monoxide on Pt3 Ni Alloy Nanoparticle Catalyst with Engineered Surface. ChemCatChem, 2016, 8, 3-3.	3.7	1
93	Fingerprinting the Ammonia Synthesis Pathway Using Spatiotemporal Electrostatic Potential Distribution of Intermediates. ACS Omega, 2021, 6, 6292-6296.	3.5	1
94	Synthesis and Magnetic Properties of Single-Crystals of MnFe2O4 Nanorods.. ChemInform, 2004, 35, no.	0.0	0
95	Metallic Nanostructures for Electrocatalysis. , 2015, , 205-241.		0
96	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