

# Lei Zhang

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

81 papers	7,916 citations	44 h-index	82 g-index
82 ext. papers	9,305 ext. citations	14.8 avg, IF	6.61 L-index

#	Paper	IF	Citations
81	Oxygen Reduction Reaction Electrocatalysts <b>2022</b> , 1-34		0
80	Single atom surface engineering: A new strategy to boost electrochemical activities of Pt catalysts. <i>Nano Energy</i> , <b>2022</b> , 93, 106813	17.1	3
79	Characterization of Supported Metal Single-Atom Catalysts <b>2022</b> , 169-198		2
78	Recent Development of Electrocatalytic CO Reduction Application to Energy Conversion. <i>Small</i> , <b>2021</b> , 17, e2100323	11	12
77	Atomic/molecular layer deposition for energy storage and conversion. <i>Chemical Society Reviews</i> , <b>2021</b> , 50, 3889-3956	58.5	39
76	Non-noble Metal Electrocatalysts for the Hydrogen Evolution Reaction in Water Electrolysis. <i>Electrochemical Energy Reviews</i> , <b>2021</b> , 4, 473-507	29.3	38
75	Do polymer ligands block the catalysis of metal nanoparticles? Unexpected importance of binding motifs in improving catalytic activity. <i>Journal of Materials Chemistry A</i> , <b>2020</b> , 8, 15900-15908	13	10
74	Active and Stable Pt <sub>3</sub> Ni Alloy Octahedra Catalyst for Oxygen Reduction via Near-Surface Atomical Engineering. <i>ACS Catalysis</i> , <b>2020</b> , 10, 4205-4214	13.1	47
73	Hierarchically porous Cu/Zn bimetallic catalysts for highly selective CO <sub>2</sub> electroreduction to liquid C <sub>2</sub> products. <i>Applied Catalysis B: Environmental</i> , <b>2020</b> , 269, 118800	21.8	53
72	Tuning Oxygen Vacancies of Oxides to Promote Electrocatalytic Reduction of Carbon Dioxide. <i>ACS Energy Letters</i> , <b>2020</b> , 5, 552-558	20.1	19
71	Concentrating and activating carbon dioxide over AuCu aerogel grain boundaries. <i>Journal of Chemical Physics</i> , <b>2020</b> , 152, 204703	3.9	6
70	Three-Dimensional Cathodes for Electrochemical Reduction of CO: From Macro- to Nano-Engineering. <i>Nanomaterials</i> , <b>2020</b> , 10,	5.4	13
69	Pt/Pd Single-Atom Alloys as Highly Active Electrochemical Catalysts and the Origin of Enhanced Activity. <i>ACS Catalysis</i> , <b>2019</b> , 9, 9350-9358	13.1	61
68	Highly stable one-dimensional Pt nanowires with modulated structural disorder towards the oxygen reduction reaction. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 24830-24836	13	14
67	Pt-Based electrocatalysts with high atom utilization efficiency: from nanostructures to single atoms. <i>Energy and Environmental Science</i> , <b>2019</b> , 12, 492-517	35.4	275
66	Recent progress made in the mechanism comprehension and design of electrocatalysts for alkaline water splitting. <i>Energy and Environmental Science</i> , <b>2019</b> , 12, 2620-2645	35.4	532
65	Fabrication of bilayer Pd-Pt nanocages with sub-nanometer thin shells for enhanced hydrogen evolution reaction. <i>Nano Research</i> , <b>2019</b> , 12, 2268-2274	10	23

64	Cu@Pt catalysts prepared by galvanic replacement of polyhedral copper nanoparticles for polymer electrolyte membrane fuel cells. <i>Electrochimica Acta</i> , <b>2019</b> , 306, 167-174	6.7	17
63	Ultrathin Pd-Au Shells with Controllable Alloying Degree on Pd Nanocubes toward Carbon Dioxide Reduction. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 4791-4794	16.4	85
62	Rational design of porous structures via molecular layer deposition as an effective stabilizer for enhancing Pt ORR performance. <i>Nano Energy</i> , <b>2019</b> , 60, 111-118	17.1	41
61	Abundant Ce Ions in Au-CeO Nanosheets to Enhance CO Electroreduction Performance. <i>Small</i> , <b>2019</b> , 15, e1900289	11	25
60	Trimetallic PtPdNi octahedral nanocages with subnanometer thick-wall towards high oxygen reduction reaction. <i>Nano Energy</i> , <b>2019</b> , 64, 103890	17.1	25
59	Facet-evolution growth of Mn <sub>3</sub> O <sub>4</sub> @Co <sub>x</sub> Mn <sub>3-x</sub> O <sub>4</sub> electrocatalysts on Ni foam towards efficient oxygen evolution reaction. <i>Journal of Catalysis</i> , <b>2019</b> , 369, 105-110	7.3	22
58	Facet design promotes electroreduction of carbon dioxide to carbon monoxide on palladium nanocrystals. <i>Chemical Engineering Science</i> , <b>2019</b> , 194, 29-35	4.4	26
57	A Facile and Environmentally Friendly One-Pot Synthesis of Pt Surface-Enriched Pt-Pd(x)/C Catalyst for Oxygen Reduction. <i>Electrocatalysis</i> , <b>2018</b> , 9, 495-504	2.7	12
56	Designing a reductive hybrid membrane to selectively capture noble metallic ions during oil/water emulsion separation with further function enhancement. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 10217-10225	13.1	20
55	Synthesis of ultrathin wrinkle-free PdCu alloy nanosheets for modulating d-band electrons for efficient methanol oxidation. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 8531-8536	13	44
54	Synergism of Geometric Construction and Electronic Regulation: 3D Se-(NiCo)S/(OH) Nanosheets for Highly Efficient Overall Water Splitting. <i>Advanced Materials</i> , <b>2018</b> , 30, e1705538	24	193
53	Morphological and Compositional Design of Pd-Cu Bimetallic Nanocatalysts with Controllable Product Selectivity toward CO Electroreduction. <i>Small</i> , <b>2018</b> , 14, 1703314	11	65
52	Achieving convenient CO electroreduction and photovoltage in tandem using potential-insensitive disordered Ag nanoparticles. <i>Chemical Science</i> , <b>2018</b> , 9, 6599-6604	9.4	22
51	Formation of Enriched Vacancies for Enhanced CO <sub>2</sub> Electrocatalytic Reduction over AuCu Alloys. <i>ACS Energy Letters</i> , <b>2018</b> , 3, 2144-2149	20.1	64
50	Robust synthesis of ultrathin AuAg nanowires as a high-surface-area, synergistic substrate for constructing efficient Pt-based catalysts. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 22161-22169	13	12
49	A review of core-shell nanostructured electrocatalysts for oxygen reduction reaction. <i>Energy Storage Materials</i> , <b>2018</b> , 12, 260-276	19.4	70
48	Nano-designed semiconductors for electro- and photoelectro-catalytic conversion of carbon dioxide. <i>Chemical Society Reviews</i> , <b>2018</b> , 47, 5423-5443	58.5	119
47	Low-Coordinated Edge Sites on Ultrathin Palladium Nanosheets Boost Carbon Dioxide Electroreduction Performance. <i>Angewandte Chemie - International Edition</i> , <b>2018</b> , 57, 11544-11548	16.4	90

46	Low-Coordinated Edge Sites on Ultrathin Palladium Nanosheets Boost Carbon Dioxide Electroreduction Performance. <i>Angewandte Chemie</i> , <b>2018</b> , 130, 11718-11722	3.6	32
45	Nanostructured Materials for Heterogeneous Electrocatalytic CO Reduction and their Related Reaction Mechanisms. <i>Angewandte Chemie - International Edition</i> , <b>2017</b> , 56, 11326-11353	16.4	588
44	Nanostrukturierte Materialien für die elektrokatalytische CO <sub>2</sub> -Reduktion und ihre Reaktionsmechanismen. <i>Angewandte Chemie</i> , <b>2017</b> , 129, 11482-11511	3.6	86
43	Facile synthesis of Pd@Pt octahedra supported on carbon for electrocatalytic applications. <i>AIChE Journal</i> , <b>2017</b> , 63, 2528-2534	3.6	12
42	Engineering Pt/Pd Interfacial Electronic Structures for Highly Efficient Hydrogen Evolution and Alcohol Oxidation. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 18008-18014	9.5	80
41	Self-assembly of noble metal nanoparticles into sub-100 nm colloidosomes with collective optical and catalytic properties. <i>Chemical Science</i> , <b>2017</b> , 8, 6103-6110	9.4	33
40	A Ligand-Exchange Route to Noble Metal Nanocrystals with a Clean Surface for Enhanced Optical and Catalytic Properties. <i>Particle and Particle Systems Characterization</i> , <b>2017</b> , 34, 1700075	3.1	21
39	Gold nanoshurikens with uniform sharp tips for chemical sensing by the localized surface plasmon resonance. <i>Nanoscale</i> , <b>2017</b> , 9, 17037-17043	7.7	17
38	One-Pot Synthesis of Penta-twinned Palladium Nanowires and Their Enhanced Electrocatalytic Properties. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 31203-31212	9.5	50
37	Edge Sites with Unsaturated Coordination on Core-Shell Mn O @Mn Co O Nanostructures for Electrocatalytic Water Oxidation. <i>Advanced Materials</i> , <b>2017</b> , 29, 1701820	24	97
36	Structural evolution of concave trimetallic nanocubes with tunable ultra-thin shells for oxygen reduction reaction. <i>Nanoscale</i> , <b>2016</b> , 8, 16640-16649	7.7	31
35	Thin Heterojunctions and Spatially Separated Cocatalysts To Simultaneously Reduce Bulk and Surface Recombination in Photocatalysts. <i>Angewandte Chemie - International Edition</i> , <b>2016</b> , 55, 13734-13738	16.4	124
34	Formation of Second-Generation Nanoclusters on Metal Nanoparticles Driven by Reactant Gases. <i>Nano Letters</i> , <b>2016</b> , 16, 5001-9	11.5	27
33	Au-Doped PdCu@Au Tripods: A Multifunctional Nanomaterial for Positron Emission Tomography and Image-Guided Photothermal Cancer Treatment. <i>ACS Nano</i> , <b>2016</b> , 10, 3121-31	16.7	85
32	Porous single-crystalline AuPt@Pt bimetallic nanocrystals with high mass electrocatalytic activities. <i>Chemical Science</i> , <b>2016</b> , 7, 3500-3505	9.4	53
31	Nucleation-mediated synthesis and enhanced catalytic properties of Au-Pd bimetallic tripods and bipyramids with twinned structures and high-energy facets. <i>Nanoscale</i> , <b>2016</b> , 8, 2819-25	7.7	11
30	Controlling the Growth of Au on Icosahedral Seeds of Pd by Manipulating the Reduction Kinetics. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 20768-20774	3.8	22
29	Synthesis of Platinum Nanotubes and Nanorings via Simultaneous Metal Alloying and Etching. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 6332-5	16.4	44

28	Shape-controlled synthesis of Au-Pd bimetallic nanocrystals for catalytic applications. <i>Chemical Society Reviews</i> , <b>2016</b> , 45, 3916-34	58.5	193
27	NANOCATALYSTS. Platinum-based nanocages with subnanometer-thick walls and well-defined, controllable facets. <i>Science</i> , <b>2015</b> , 349, 412-6	33.3	724
26	Palladium-platinum core-shell icosahedra with substantially enhanced activity and durability towards oxygen reduction. <i>Nature Communications</i> , <b>2015</b> , 6, 7594	17.4	365
25	Cu <sup>2+</sup> underpotential-deposition assisted synthesis of Au and AuPd alloy nanocrystals with systematic shape evolution. <i>CrystEngComm</i> , <b>2015</b> , 17, 5556-5561	3.3	12
24	Toward a quantitative understanding of symmetry reduction involved in the seed-mediated growth of Pd nanocrystals. <i>Journal of the American Chemical Society</i> , <b>2015</b> , 137, 6643-52	16.4	44
23	Hierarchical Flowerlike Gold Nanoparticles Labeled Immunochromatography Test Strip for Highly Sensitive Detection of Escherichia coli O157:H7. <i>Langmuir</i> , <b>2015</b> , 31, 5537-44	4	91
22	Five-Fold Twinned Pd Nanorods and Their Use as Templates for the Synthesis of Bimetallic or Hollow Nanostructures. <i>ChemNanoMat</i> , <b>2015</b> , 1, 246-252	3.5	25
21	Atomic layer-by-layer deposition of platinum on palladium octahedra for enhanced catalysts toward the oxygen reduction reaction. <i>ACS Nano</i> , <b>2015</b> , 9, 2635-47	16.7	180
20	Scaling up the production of colloidal nanocrystals: should we increase or decrease the reaction volume?. <i>Advanced Materials</i> , <b>2014</b> , 26, 2600-6	24	85
19	Atomic layer-by-layer deposition of Pt on Pd nanocubes for catalysts with enhanced activity and durability toward oxygen reduction. <i>Nano Letters</i> , <b>2014</b> , 14, 3570-6	11.5	380
18	Unique excavated rhombic dodecahedral PtCu <sub>3</sub> alloy nanocrystals constructed with ultrathin nanosheets of high-energy {110} facets. <i>Journal of the American Chemical Society</i> , <b>2014</b> , 136, 3748-51	16.4	207
17	Polyol syntheses of palladium decahedra and icosahedra as pure samples by maneuvering the reaction kinetics with additives. <i>ACS Nano</i> , <b>2014</b> , 8, 7041-50	16.7	82
16	PdCu Bimetallic Tripods: A Mechanistic Understanding of the Synthesis and Their Enhanced Electrocatalytic Activity for Formic Acid Oxidation. <i>Advanced Functional Materials</i> , <b>2014</b> , 24, 7520-7529	15.6	118
15	Transformation of Pd nanocubes into octahedra with controlled sizes by maneuvering the rates of etching and regrowth. <i>Journal of the American Chemical Society</i> , <b>2013</b> , 135, 11752-5	16.4	99
14	Controlled synthesis of concave Cu <sub>2</sub> O microcrystals enclosed by {hhl} high-index facets and enhanced catalytic activity. <i>Journal of Materials Chemistry A</i> , <b>2013</b> , 1, 282-287	13	84
13	Surfactant-concentration-dependent shape evolution of Au-Pd alloy nanocrystals from rhombic dodecahedron to trisoctahedron and hexoctahedron. <i>Small</i> , <b>2013</b> , 9, 538-44	11	86
12	Underpotential deposition-induced synthesis of composition-tunable Pt-Cu nanocrystals and their catalytic properties. <i>Chemistry - A European Journal</i> , <b>2013</b> , 19, 3119-24	4.8	58
11	Synthesis of size-controlled monodisperse Pd nanoparticles via a non-aqueous seed-mediated growth. <i>Nanoscale Research Letters</i> , <b>2012</b> , 7, 312	5	26

10	Synthesis of spatially uniform metal alloys nanocrystals via a diffusion controlled growth strategy: The case of Au-Pd alloy trisoctahedral nanocrystals with tunable composition. <i>Nano Research</i> , <b>2012</b> , 5, 618-629	10	31
9	Facile syntheses and enhanced electrocatalytic activities of Pt nanocrystals with {hkk} high-index surfaces. <i>Nano Research</i> , <b>2012</b> , 5, 181-189	10	87
8	Low cytotoxicity porous Nd <sub>2</sub> (SiO <sub>4</sub> ) <sub>3</sub> nanoparticles with near infrared excitation and emission. <i>Nanotechnology</i> , <b>2011</b> , 22, 185703	3.4	1
7	Solid state precursor strategy for synthesizing hollow TiO <sub>2</sub> boxes with a high percentage of reactive {001} facets exposed. <i>Chemical Communications</i> , <b>2011</b> , 47, 6722-4	5.8	87
6	Cu(2+)-assisted synthesis of hexoctahedral Au-Pd alloy nanocrystals with high-index facets. <i>Journal of the American Chemical Society</i> , <b>2011</b> , 133, 17114-7	16.4	214
5	Synthesis and high electrocatalytic performance of hexagram shaped gold particles having an open surface structure with kinks. <i>Nano Research</i> , <b>2011</b> , 4, 612-622	10	46
4	Synthesis of concave palladium nanocubes with high-index surfaces and high electrocatalytic activities. <i>Chemistry - A European Journal</i> , <b>2011</b> , 17, 9915-9	4.8	89
3	Facile syntheses and electrocatalytic properties of porous Pd and its alloy nanospheres. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 9620		59
2	Nanostructured Pt-alloy electrocatalysts for PEM fuel cell oxygen reduction reaction. <i>Chemical Society Reviews</i> , <b>2010</b> , 39, 2184-202	58.5	926
1	Self-assembly of 2,6-naphthalenedicarboxylic acid and 4,4'-biphenyldicarboxylic acid on highly oriented pyrolytic graphite and Au(1 1 1) surfaces. <i>Electrochimica Acta</i> , <b>2010</b> , 55, 8287-8292	6.7	5