

# Zhiheng Lyu

## List of Publications by Year in descending order

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Version: 2024-02-01

46  
papers

2,165  
citations

279701

23  
h-index

233338

45  
g-index

48  
all docs

48  
docs citations

48  
times ranked

2251  
citing authors

#	ARTICLE	IF	CITATIONS
1	Noble-Metal Nanocrystals with Controlled Shapes for Catalytic and Electrocatalytic Applications. <i>Chemical Reviews</i> , 2021, 121, 649-735.	23.0	388
2	One-Dimensional Metal Nanostructures: From Colloidal Syntheses to Applications. <i>Chemical Reviews</i> , 2019, 119, 8972-9073.	23.0	240
3	Pt@Co@Pt Octahedral Nanocrystals: Enhancing Their Activity and Durability toward Oxygen Reduction with an Intermetallic Core and an Ultrathin Shell. <i>Journal of the American Chemical Society</i> , 2021, 143, 8509-8518.	6.6	128
4	Ru Octahedral Nanocrystals with a Face-Centered Cubic Structure, {111} Facets, Thermal Stability up to 400 Å°C, and Enhanced Catalytic Activity. <i>Journal of the American Chemical Society</i> , 2019, 141, 7028-7036.	6.6	122
5	Controlling the Surface Oxidation of Cu Nanowires Improves Their Catalytic Selectivity and Stability toward C <sub>2+</sub> Products in CO <sub>2</sub> Reduction. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 1909-1915.	7.2	122
6	Pt@Pd Trimetallic Nanocages as a Dual Catalyst for Efficient Oxygen Reduction and Evolution Reactions in Acidic Media. <i>Advanced Energy Materials</i> , 2020, 10, 1904114.	10.2	100
7	Iridium-Based Cubic Nanocages with 1.1-nm-Thick Walls: A Highly Efficient and Durable Electrocatalyst for Water Oxidation in an Acidic Medium. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 7244-7248.	7.2	89
8	Kinetically Controlled Synthesis of Pd@Cu Janus Nanocrystals with Enriched Surface Structures and Enhanced Catalytic Activities toward CO <sub>2</sub> Reduction. <i>Journal of the American Chemical Society</i> , 2021, 143, 149-162.	6.6	77
9	Catalytic System Based on Sub-2 nm Pt Particles and Its Extraordinary Activity and Durability for Oxygen Reduction. <i>Nano Letters</i> , 2019, 19, 4997-5002.	4.5	68
10	Facile Synthesis and Characterization of Pd@Ir <sub>n</sub> (n = 1-4) Core-Shell Nanocubes for Highly Efficient Oxygen Evolution in Acidic Media. <i>Chemistry of Materials</i> , 2019, 31, 5867-5875.	3.2	65
11	Synthesis of Pt nanocrystals with different shapes using the same protocol to optimize their catalytic activity toward oxygen reduction. <i>Materials Today</i> , 2018, 21, 834-844.	8.3	58
12	Bimetallic Janus Nanocrystals: Syntheses and Applications. <i>Advanced Materials</i> , 2022, 34, e2102591.	11.1	55
13	Enabling Complete Ligand Exchange on the Surface of Gold Nanocrystals through the Deposition and Then Etching of Silver. <i>Journal of the American Chemical Society</i> , 2018, 140, 11898-11901.	6.6	53
14	General Approach to the Synthesis of Heterodimers of Metal Nanoparticles through Site-Selected Protection and Growth. <i>Nano Letters</i> , 2019, 19, 6703-6708.	4.5	51
15	Pd@Ru Alloy Nanocages with a Face-Centered Cubic Structure and Their Enhanced Activity toward the Oxidation of Ethylene Glycol and Glycerol. <i>Small Methods</i> , 2020, 4, 1900843.	4.6	46
16	Facet-controlled Pt@Ir nanocrystals with substantially enhanced activity and durability towards oxygen reduction. <i>Materials Today</i> , 2020, 35, 69-77.	8.3	45
17	Maximizing the Catalytic Performance of Pd@Au <sub>x</sub> Pd <sub>1-x</sub> Nanocubes in H <sub>2</sub> O <sub>2</sub> Production by Reducing Shell Thickness to Increase Compositional Stability. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 19643-19647.	7.2	44
18	Near-Infrared-Triggered Release of Ca <sup>2+</sup> Ions for Potential Application in Combination Cancer Therapy. <i>Advanced Healthcare Materials</i> , 2019, 8, e1801113.	3.9	39

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19	Twin-Directed Deposition of Pt on Pd Icosahedral Nanocrystals for Catalysts with Enhanced Activity and Durability toward Oxygen Reduction. <i>Nano Letters</i> , 2021, 21, 2248-2254.	4.5	36
20	Janus Nanocages of Platinum-Group Metals and Their Use as Effective Dual-Electrocatalysts. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 10384-10392.	7.2	33
21	A Rationally Designed Route to the One-Pot Synthesis of Right Bipyramidal Nanocrystals of Copper. <i>Chemistry of Materials</i> , 2018, 30, 6469-6477.	3.2	28
22	Kinetically Controlled Synthesis of Rhodium Nanocrystals with Different Shapes and a Comparison Study of Their Thermal and Catalytic Properties. <i>Journal of the American Chemical Society</i> , 2021, 143, 6293-6302.	6.6	26
23	How to Remove the Capping Agent from Pd Nanocubes without Destructing Their Surface Structure for the Maximization of Catalytic Activity?. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 19129-19135.	7.2	24
24	Bifunctional Janus Particles as Multivalent Synthetic Nanoparticle Antibodies (SNABs) for Selective Depletion of Target Cells. <i>Nano Letters</i> , 2021, 21, 875-886.	4.5	24
25	Physical Transformations of Noble-Metal Nanocrystals upon Thermal Activation. <i>Accounts of Chemical Research</i> , 2021, 54, 1-10.	7.6	23
26	Au@Cu Core-Shell Nanocubes with Controllable Sizes in the Range of 20-30 nm for Applications in Catalysis and Plasmonics. <i>ACS Applied Nano Materials</i> , 2019, 2, 1533-1540.	2.4	22
27	Size-Dependent Reaction Mechanism of $\text{MnO}_2$ Particles as Cathodes in Aqueous Zinc-Ion Batteries. <i>Energy Material Advances</i> , 2022, 2022, .	4.7	20
28	Pt-Co truncated octahedral nanocrystals: a class of highly active and durable catalysts toward oxygen reduction. <i>Nanoscale</i> , 2020, 12, 11718-11727.	2.8	13
29	Controlling the Surface Oxidation of Cu Nanowires Improves Their Catalytic Selectivity and Stability toward $\text{C}_2^+$ Products in $\text{CO}_2$ Reduction. <i>Angewandte Chemie</i> , 2021, 133, 1937-1943.	1.6	13
30	Iridium-Based Cubic Nanocages with 1.1-nm-Thick Walls: A Highly Efficient and Durable Electrocatalyst for Water Oxidation in an Acidic Medium. <i>Angewandte Chemie</i> , 2019, 131, 7322-7326.	1.6	12
31	A Quantitative Analysis of the Reduction Kinetics Involved in the Synthesis of Au@Pd Concave Nanocubes. <i>Chemistry - A European Journal</i> , 2019, 25, 16397-16404.	1.7	11
32	Maximizing the Catalytic Performance of Pd@Au Nanocubes in $\text{H}_2\text{O}_2$ Production by Reducing Shell Thickness to Increase Compositional Stability. <i>Angewandte Chemie</i> , 2021, 133, 19795-19799.	1.6	11
33	Using Reduction Kinetics to Control and Predict the Outcome of a Colloidal Synthesis of Noble-Metal Nanocrystals. <i>Inorganic Chemistry</i> , 2021, 60, 4182-4197.	1.9	10
34	A Mechanistic Study of the Multiple Roles of Oleic Acid in the Oil-Phase Synthesis of Pt Nanocrystals. <i>Chemistry - A European Journal</i> , 2020, 26, 15636-15642.	1.7	9
35	Pd-Au Asymmetric Nanopyramids: Lateral vs Vertical Growth of Au on Pd Decahedral Seeds. <i>Chemistry of Materials</i> , 2021, 33, 5391-5400.	3.2	9
36	Continuous and Scalable Synthesis of Pt Multipods with Enhanced Electrocatalytic Activity toward the Oxygen Reduction Reaction. <i>ChemNanoMat</i> , 2019, 5, 599-605.	1.5	8

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37	Facile Synthesis of Ag@Pd <sub>n</sub> Icosahedral Nanocrystals as a Class of Cost-Effective Electrocatalysts toward Formic Acid Oxidation. <i>ChemCatChem</i> , 2020, 12, 5156-5163.	1.8	8
38	Pencil-like Ag Nanorods Asymmetrically Capped by Pd. <i>Chemistry of Materials</i> , 2020, 32, 5361-5367.	3.2	8
39	Phase-Controlled Synthesis of Ru Nanocrystals via Template-Directed Growth: Surface Energy versus Bulk Energy. <i>Nano Letters</i> , 2022, 22, 3591-3597.	4.5	7
40	Improving the Purity and Uniformity of Pd and Pt Nanocrystals by Decoupling Growth from Nucleation in a Flow Reactor. <i>Chemistry of Materials</i> , 2021, 33, 3791-3801.	3.2	5
41	Janus Nanocages of Platinum-Group Metals and Their Use as Effective Dual-Electrocatalysts. <i>Angewandte Chemie</i> , 2021, 133, 10472-10480.	1.6	4
42	Facile Synthesis of Pd <sup>2+</sup> /Cu Bimetallic Twin Nanocubes and a Mechanistic Understanding of the Shape Evolution. <i>ChemNanoMat</i> , 2020, 6, 386-391.	1.5	3
43	A New Catalytic System with Balanced Activity and Durability toward Oxygen Reduction. <i>ChemCatChem</i> , 2020, 12, 4817-4824.	1.8	3
44	How to Remove the Capping Agent from Pd Nanocubes without Destructing Their Surface Structure for the Maximization of Catalytic Activity?. <i>Angewandte Chemie</i> , 2020, 132, 19291-19297.	1.6	2
45	Synthesis and Characterization of Pt@Ag Icosahedral Nanocages with Enhanced Catalytic Activity toward Oxygen Reduction. <i>ChemNanoMat</i> , 0, , .	1.5	1
46	Äktitelbild: Iridium-Based Cubic Nanocages with 1.1-nm-Thick Walls: A Highly Efficient and Durable Electrocatalyst for Water Oxidation in an Acidic Medium ( <i>Angew. Chem.</i> 22/2019). <i>Angewandte Chemie</i> , 2019, 131, 7576-7576.	1.6	0