Yuanyue Liu

List of Publications by Year
in descending order

106 papers	16,227 citations	26610 56 h-index	29127 104 g-index
108 all docs	108 docs citations	108 times ranked	20697 citing authors

#	Article	IF	Citations
1	Clarification of the relative magnitude of exciton binding energies in ZnO and SnO2. Applied Physics Letters, 2022, 120, .	1.5	8
2	Surface Valence State Effect of MoO₂₊<i>_x</i> on Electrochemical Nitrogen Reduction. Advanced Science, 2022, 9, e2104857.	5.6	23
3	Highly Selective Oxygen Reduction to Hydrogen Peroxide on a Carbon-Supported Single-Atom Pd Electrocatalyst. ACS Catalysis, 2022, 12, 4156-4164.	5.5	44
4	Atomic-Level Dynamics of Point Vacancies and the Induced Stretched Defects in 2D Monolayer PtSe₂. Nano Letters, 2022, 22, 3289-3297.	4.5	9
5	CO2/carbonate-mediated electrochemical water oxidation to hydrogen peroxide. Nature Communications, 2022, 13, 2668.	5.8	44
6	Atomistic Understanding of Two-dimensional Electrocatalysts from First Principles. Chemical Reviews, 2022, 122, 10675-10709.	23.0	60
7	Electrochemical oxygen reduction to hydrogen peroxide at practical rates in strong acidic media. Nature Communications, 2022, 13, .	5.8	82
8	Implications of <i>in situ</i> chalcogen substitutions in polysulfides for rechargeable batteries. Energy and Environmental Science, 2021, 14, 5423-5432.	15.6	43
9	Polycrystalline Few-Layer Graphene as a Durable Anticorrosion Film for Copper. Nano Letters, 2021, 21, 1161-1168.	4.5	39
10	Role of flexural phonons in carrier mobility of two-dimensional semiconductors: free standing vs on substrate. Journal of Physics Condensed Matter, 2021, 33, 234003.	0.7	6
11	Origin of Selective Production of Hydrogen Peroxide by Electrochemical Oxygen Reduction. Journal of the American Chemical Society, 2021, 143, 9423-9428.	6.6	169
12	Intrinsic charge carrier mobility of 2D semiconductors. Computational Materials Science, 2021, 194, 110468.	1.4	18
13	Stable Low-Dimensional Boron Chalcogenides from Planar Structural Motifs. Journal of Physical Chemistry A, 2021, 125, 6059-6063.	1.1	2
14	Highly active and selective oxygen reduction to H2O2 on boron-doped carbon for high production rates. Nature Communications, 2021, 12, 4225.	5.8	218
15	Doping-modulated strain control of bifunctional electrocatalysis for rechargeable zincâ€“air batteries. Energy and Environmental Science, 2021, 14, 5035-5043.	15.6	39
16	The Restructuring-Induced CoO_{<i>x</i>} Catalyst for Electrochemical Water Splitting. Jacs Au, 2021, 1, 2216-2223.	3.6	32
17	Hierarchical nanoarchitectured hybrid electrodes based on ultrathin MoSe₂ nanosheets on 3D ordered macroporous carbon frameworks for high-performance sodium-ion batteries. Journal of Materials Chemistry A, 2020, 8, 2843-2850.	5.2	69
18	CO₂ Reduction on Copperâ€™s Twin Boundary. ACS Catalysis, 2020, 10, 2026-2032.	5.5	60

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19	Why Two-Dimensional Semiconductors Generally Have Low Electron Mobility. Physical Review Letters, 2020, 125, 177701.	2.9	58
20	Ultrafine oxygen-defective iridium oxide nanoclusters for efficient and durable water oxidation at high current densities in acidic media. Journal of Materials Chemistry A, 2020, 8, 24743-24751.	5.2	45
21	Understanding Charge Storage in Hydrated Layered Solids MOPO₄ (M = V, Nb) with Tunable Interlayer Chemistry. ACS Nano, 2020, 14, 13824-13833.	7.3	6
22	Understanding high-field electron transport properties and strain effects of monolayer transition metal dichalcogenides. Physical Review B, 2020, 102, .	1.1	7
23	Multifunctional Activeâ€Centerâ€Transferable Platinum/Lithium Cobalt Oxide Heterostructured Electrocatalysts towards Superior Water Splitting. Angewandte Chemie, 2020, 132, 14641-14648.	1.6	17
24	Multifunctional Activeâ€Centerâ€Transferable Platinum/Lithium Cobalt Oxide Heterostructured Electrocatalysts towards Superior Water Splitting. Angewandte Chemie - International Edition, 2020, 59, 14533-14540.	7.2	152
25	Synergies between electronic and geometric effects of Mo-doped Au nanoparticles for effective CO₂ electrochemical reduction. Journal of Materials Chemistry A, 2020, 8, 12291-12295.	5.2	21
26	O-coordinated W-Mo dual-atom catalyst for pH-universal electrocatalytic hydrogen evolution. Science Advances, 2020, 6, eaba6586.	4.7	263
27	Unveiling the Active Structure of Single Nickel Atom Catalysis: Critical Roles of Charge Capacity and Hydrogen Bonding. Journal of the American Chemical Society, 2020, 142, 5773-5777.	6.6	199
28	Engineering Substrate Interaction To Improve Hydrogen Evolution Catalysis of Monolayer MoS₂ Films beyond Pt. ACS Nano, 2020, 14, 1707-1714.	7.3	97
29	Single vs double atom catalyst for N₂ activation in nitrogen reduction reaction: A DFT perspective. EcoMat, 2020, 2, e12014.	6.8	75
30	Methanol tolerance of atomically dispersed single metal site catalysts: mechanistic understanding and high-performance direct methanol fuel cells. Energy and Environmental Science, 2020, 13, 3544-3555.	15.6	129
31	Mass Transfer and Reaction Kinetic Enhanced Electrode for Highâ€Performance Aqueous Flow Batteries. Advanced Functional Materials, 2019, 29, 1903192.	7.8	50
32	Improving selectivity of CO reduction <i>via</i> reducing the coordination of critical intermediates. Journal of Materials Chemistry A, 2019, 7, 24000-24004.	5.2	14
33	Ultrafast Intercalation Enabled by Strong Solventâ€“Host Interactions: Understanding Solvent Effect at the Atomic Level. Angewandte Chemie - International Edition, 2019, 58, 17205-17209.	7.2	19
34	Aqueous Flow Batteries: Mass Transfer and Reaction Kinetic Enhanced Electrode for Highâ€Performance Aqueous Flow Batteries (Adv. Funct. Mater. 43/2019). Advanced Functional Materials, 2019, 29, 1970297.	7.8	0
35	Ultrafast Intercalation Enabled by Strong Solventâ€“Host Interactions: Understanding Solvent Effect at the Atomic Level. Angewandte Chemie, 2019, 131, 17365-17369.	1.6	3
36	Eliminating Trapâ€States and Functionalizing Vacancies in 2D Semiconductors by Electrochemistry. Small, 2019, 15, e1901899.	5.2	8

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37	High-Performance Flexible Solid-State Asymmetric Supercapacitors Based on Bimetallic Transition Metal Phosphide Nanocrystals. ACS Nano, 2019, 13, 10612-10621.	7.3	214
38	How to resolve a phonon-associated property into contributions of basic phonon modes. JPhys Materials, 2019, 2, 045005.	1.8	6
39	High-performance all-solid-state batteries enabled by salt bonding to perovskite in poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overlock 1 18815-18821.	3.3	213
40	The Optimal Electronic Structure for High-Mobility 2D Semiconductors: Exceptionally High Hole Mobility in 2D Antimony. Journal of the American Chemical Society, 2019, 141, 16296-16302.	6.6	65
41	Enhancing Interconnect Reliability and Performance by Converting Tantalum to 2D Layered Tantalum Sulfide at Low Temperature. Advanced Materials, 2019, 31, e1902397.	11.1	35
42	The electronic structure underlying electrocatalysis of twoâ€dimensional materials. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2019, 9, e1418.	6.2	17
43	Prediction of Stable and High-Performance Charge Transport in Zigzag Tellurene Nanoribbons. IEEE Transactions on Electron Devices, 2019, 66, 2365-2369.	1.6	8
44	Syntheses of Colloidal F:In₂O₃ Cubes: Fluorine-Induced Faceting and Infrared Plasmonic Response. Chemistry of Materials, 2019, 31, 2661-2676.	3.2	41
45	Two-dimensional copper nanosheets for electrochemical reduction of carbon monoxide to acetate. Nature Catalysis, 2019, 2, 423-430.	16.1	368
46	Healing of Planar Defects in 2D Materials via Grain Boundary Sliding. Advanced Materials, 2019, 31, e1900237.	11.1	38
47	Hybrid Organicâ€“Inorganic Gel Electrocatalyst for Stable Acidic Water Oxidation. ACS Nano, 2019, 13, 14368-14376.	7.3	34
48	Single-Atom Electroplating on Two Dimensional Materials. Chemistry of Materials, 2019, 31, 429-435.	3.2	55
49	Monolayer atomic crystal molecular superlattices. Nature, 2018, 555, 231-236.	13.7	323
50	Field-effect transistors made from solution-grown two-dimensional tellurene. Nature Electronics, 2018, 1, 228-236.	13.1	591
51	Cobalt-Doped Black TiO₂ Nanotube Array as a Stable Anode for Oxygen Evolution and Electrochemical Wastewater Treatment. ACS Catalysis, 2018, 8, 4278-4287.	5.5	151
52	A Membraneless Direct Isopropanol Fuel Cell (DIPAFC) Operated with a Catalyst-Selective Principle. Journal of Physical Chemistry C, 2018, 122, 13558-13563.	1.5	13
53	Tellurium: Fast Electrical and Atomic Transport along the Weak Interaction Direction. Journal of the American Chemical Society, 2018, 140, 550-553.	6.6	101
54	Oxygenâ€Vacancy Abundant Ultrafine Co₃O₄/Graphene Composites for Highâ€Rate Supercapacitor Electrodes. Advanced Science, 2018, 5, 1700659.	5.6	392

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55	Defect-enriched iron fluoride-oxide nanoporous thin films bifunctional catalyst for water splitting. Nature Communications, 2018, 9, 1809.	5.8	188
56	Three-dimensional N- and S-codoped graphene hydrogel with in-plane pores for high performance supercapacitor. Microporous and Mesoporous Materials, 2018, 268, 260-267.	2.2	39
57	Understanding Synergism of Cobalt Metal and Copper Oxide toward Highly Efficient Electrocatalytic Oxygen Evolution. ACS Catalysis, 2018, 8, 12030-12040.	5.5	60
58	Optothermoplasmonic Patterning: Optothermoplasmonic Nanolithography for Onâ€Demand Patterning of 2D Materials (Adv. Funct. Mater. 41/2018). Advanced Functional Materials, 2018, 28, 1870299.	7.8	4
59	What Limits the Intrinsic Mobility of Electrons and Holes in Two Dimensional Metal Dichalcogenides?. Journal of the American Chemical Society, 2018, 140, 17895-17900.	6.6	121
60	Solution-processable 2D semiconductors for high-performance large-area electronics. Nature, 2018, 562, 254-258.	13.7	644
61	Defect Engineering Metalâ€Free Polymeric Carbon Nitride Electrocatalyst for Effective Nitrogen Fixation under Ambient Conditions. Angewandte Chemie, 2018, 130, 10403-10407.	1.6	139
62	Defect Engineering Metalâ€Free Polymeric Carbon Nitride Electrocatalyst for Effective Nitrogen Fixation under Ambient Conditions. Angewandte Chemie - International Edition, 2018, 57, 10246-10250.	7.2	619
63	Substantial Impact of Charge on Electrochemical Reactions of Two-Dimensional Materials. Journal of the American Chemical Society, 2018, 140, 9127-9131.	6.6	170
64	Optothermoplasmonic Nanolithography for Onâ€Demand Patterning of 2D Materials. Advanced Functional Materials, 2018, 28, 1803990.	7.8	35
65	Stable Metal Anode enabled by Porous Lithium Foam with Superior Ion Accessibility. Advanced Materials, 2018, 30, e1802156.	11.1	115
66	High Performance Electrocatalytic Reaction of Hydrogen and Oxygen on Ruthenium Nanoclusters. ACS Applied Materials & Interfaces, 2017, 9, 3785-3791.	4.0	108
67	Regulating Topâ€Surface Multilayer/Singleâ€Crystal Graphene Growth by â€œGetteringâ€• Carbon Diffusion at Backside of the Copper Foil. Advanced Functional Materials, 2017, 27, 1700121.	7.8	35
68	Cu metal embedded in oxidized matrix catalyst to promote CO ₂ activation and CO dimerization for electrochemical reduction of CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6685-6688.	3.3	322
69	Outstanding hydrogen evolution reaction catalyzed by porous nickel diselenide electrocatalysts. Energy and Environmental Science, 2017, 10, 1487-1492.	15.6	176
70	Atomic H-Induced Mo₂C Hybrid as an Active and Stable Bifunctional Electrocatalyst. ACS Nano, 2017, 11, 384-394.	7.3	149
71	Self-optimizing, highly surface-active layeredÂmetal dichalcogenide catalysts for hydrogen evolution. Nature Energy, 2017, 2, .	19.8	336
72	Air Passivation of Chalcogen Vacancies in Twoâ€Dimensional Semiconductors. Angewandte Chemie, 2016, 128, 977-980.	1.6	15

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73	Air Passivation of Chalcogen Vacancies in Twoâ€Dimensional Semiconductors. Angewandte Chemie - International Edition, 2016, 55, 965-968.	7.2	80
74	Suppress carrier recombination by introducing defects: The case of Si solar cell. Applied Physics Letters, 2016, 108, .	1.5	23
75	Origin of low sodium capacity in graphite and generally weak substrate binding of Na and Mg among alkali and alkaline earth metals. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3735-3739.	3.3	462
76	Two-Dimensional Halide Perovskites: Tuning Electronic Activities of Defects. Nano Letters, 2016, 16, 3335-3340.	4.5	94
77	Piezophototronic Effect in Singleâ€Atomicâ€Layer MoS₂ for Strainâ€Gated Flexible Optoelectronics. Advanced Materials, 2016, 28, 8463-8468.	11.1	187
78	Schottky-Barrier-Free Contacts with Two-Dimensional Semiconductors by Surface-Engineered MXenes. Journal of the American Chemical Society, 2016, 138, 15853-15856.	6.6	444
79	Van der Waals metal-semiconductor junction: Weak Fermi level pinning enables effective tuning of Schottky barrier. Science Advances, 2016, 2, e1600069.	4.7	446
80	Direct growth of graphene on dielectric substrates: Epitaxy at incommensurate and reactive interfaces. , 2016, , .		1
81	Highâ€Performance Hydrogen Evolution from MoS_{2(1â€“<i>x</i>)}P<i>_x</i> Solid Solution. Advanced Materials, 2016, 28, 1427-1432.	11.1	309
82	Growth Mechanism and Morphology of Hexagonal Boron Nitride. Nano Letters, 2016, 16, 1398-1403.	4.5	123
83	Solvent-directed sol-gel assembly of 3-dimensional graphene-tented metal oxides and strong synergistic disparities in lithium storage. Journal of Materials Chemistry A, 2016, 4, 4032-4043.	5.2	19
84	Oxygen-activated growth and bandgap tunability of large single-crystal bilayer graphene. Nature Nanotechnology, 2016, 11, 426-431.	15.6	287
85	Understanding the Binding Mechanism for Catalysis and Energy Storage. ECS Meeting Abstracts, 2016, , .	0.0	0
86	Passivating Defects and Tunning the Schottky Barrier for Two-Dimensional Semiconductors. ECS Meeting Abstracts, 2016, , .	0.0	0
87	Universal roles of hydrogen in electrochemical performance of graphene: high rate capacity and atomistic origins. Scientific Reports, 2015, 5, 16190.	1.6	15
88	Laser-induced porous graphene films from commercial polymers. Nature Communications, 2014, 5, 5714.	5.8	1,645
89	First-Principles Studies of Li Nucleation on Graphene. Journal of Physical Chemistry Letters, 2014, 5, 1225-1229.	2.1	82
90	Two-Dimensional Mono-Elemental Semiconductor with Electronically Inactive Defects: The Case of Phosphorus. Nano Letters, 2014, 14, 6782-6786.	4.5	186

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91	Assessing Carbon-Based Anodes for Lithium-Ion Batteries: A Universal Description of Charge-Transfer Binding. Physical Review Letters, 2014, 113, 028304.	2.9	93
92	Large Hexagonal Biâ€•and Trilayer Graphene Single Crystals with Varied Interlayer Rotations. Angewandte Chemie - International Edition, 2014, 53, 1565-1569.	7.2	82
93	Thickness-dependent patterning of MoS2 sheets with well-oriented triangular pits by heating in air. Nano Research, 2013, 6, 703-711.	5.8	118
94	The Role of Surface Oxygen in the Growth of Large Single-Crystal Graphene on Copper. Science, 2013, 342, 720-723.	6.0	977
95	Predicting Dislocations and Grain Boundaries in Two-Dimensional Metal-Disulfides from the First Principles. Nano Letters, 2013, 13, 253-258.	4.5	310
96	Probing the Synthesis of Twoâ€Đimensional Boron by Firstâ€Principles Computations. Angewandte Chemie - International Edition, 2013, 52, 3156-3159.	7.2	274
97	Hexagonal Graphene Onion Rings. Journal of the American Chemical Society, 2013, 135, 10755-10762.	6.6	31
98	Feasibility of Lithium Storage on Graphene and Its Derivatives. Journal of Physical Chemistry Letters, 2013, 4, 1737-1742.	2.1	297
99	Equilibrium at the edge and atomistic mechanisms of graphene growth. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15136-15140.	3.3	236
100	Ripping Graphene: Preferred Directions. Nano Letters, 2012, 12, 293-297.	4.5	200
101	Dislocations and Grain Boundaries in Two-Dimensional Boron Nitride. ACS Nano, 2012, 6, 7053-7058.	7.3	216
102	BN White Graphene with â€œColorfulâ€•Edges: The Energies and Morphology. Nano Letters, 2011, 11, 3113-3116.	4.5	301
103	A new model for the formation of contact angle and contact angle hysteresis. Chinese Physics B, 2010, 19, 106801.	0.7	8
104	Graphene Edge from Armchair to Zigzag: The Origins of Nanotube Chirality?. Physical Review Letters, 2010, 105, 235502.	2.9	174
105	Cones, Pringles, and Grain Boundary Landscapes in Graphene Topology. Nano Letters, 2010, 10, 2178-2183.	4.5	314
106	A reticulate superhydrophobic self-assembly structure prepared by ZnO nanowires. Nanotechnology, 2009, 20, 165602.	1.3	41