Lu Wang

List of Publications by Year
in descending order

68 papers	5,156 citations	87888 38 h-index	91884 69 g-index
71 all docs	71 docs citations	71 times ranked	6634 citing authors

#	ARTICLE	IF	CITATIONS
1	Greening Ammonia toward the Solar Ammonia Refinery. Joule, 2018, 2, 1055-1074.	24.0	603
2	â€œMetalâ€Freeâ€•Catalytic Oxygen Reduction Reaction on Heteroatomâ€Doped Graphene is Caused by Trace Metal Impurities. Angewandte Chemie - International Edition, 2013, 52, 13818-13821.	13.8	331
3	Efficient Electrocatalytic Reduction of CO₂ by Nitrogenâ€Doped Nanoporous Carbon/Carbon Nanotube Membranes: A Step Towards the Electrochemical CO₂ Refinery. Angewandte Chemie - International Edition, 2017, 56, 7847-7852.	13.8	252
4	Cu2O nanocubes with mixed oxidation-state facets for (photo)catalytic hydrogenation of carbon dioxide. Nature Catalysis, 2019, 2, 889-898.	34.4	234
5	Greenhouse-inspired supra-photothermal CO2 catalysis. Nature Energy, 2021, 6, 807-814.	39.5	198
6	Black indium oxide a photothermal CO2 hydrogenation catalyst. Nature Communications, 2020, 11, 2432.	12.8	192
7	Ambient Electrosynthesis of Ammonia: Electrode Porosity and Composition Engineering. Angewandte Chemie - International Edition, 2018, 57, 12360-12364.	13.8	160
8	Will Any Crap We Put into Graphene Increase Its Electrocatalytic Effect?. ACS Nano, 2020, 14, 21-25.	14.6	158
9	Photocatalytic Hydrogenation of Carbon Dioxide with High Selectivity to Methanol at Atmospheric Pressure. Joule, 2018, 2, 1369-1381.	24.0	148
10	Bismuth atom tailoring of indium oxide surface frustrated Lewis pairs boosts heterogeneous CO2 photocatalytic hydrogenation. Nature Communications, 2020, 11, 6095.	12.8	129
11	Catalytic CO2 reduction by palladium-decorated siliconâ€“hydride nanosheets. Nature Catalysis, 2019, 2, 46-54.	34.4	116
12	Cobalt Plasmonic Superstructures Enable Almost 100% Broadband Photon Efficient CO₂ Photocatalysis. Advanced Materials, 2020, 32, e2000014.	21.0	109
13	Boron-Doped Graphene: Scalable and Tunable p-Type Carrier Concentration Doping. Journal of Physical Chemistry C, 2013, 117, 23251-23257.	3.1	108
14	Nickel@Siloxene catalytic nanosheets for high-performance CO2 methanation. Nature Communications, 2019, 10, 2608.	12.8	104
15	Polymorph selection towards photocatalytic gaseous CO2 hydrogenation. Nature Communications, 2019, 10, 2521.	12.8	102
16	Voltammetry of Layered Black Phosphorus: Electrochemistry of Multilayer Phosphorene. ChemElectroChem, 2015, 2, 324-327.	3.4	97
17	Photothermal Catalyst Engineering: Hydrogenation of Gaseous CO₂ with High Activity and Tailored Selectivity. Advanced Science, 2017, 4, 1700252.	11.2	97
18	Tailoring Surface Frustrated Lewis Pairs of In₂O_{3âˆ’}<i>_x</i>(OH)_y for Gasâ€Phase Heterogeneous Photocatalytic Reduction of CO₂ by Isomorphous Substitution of In³⁺ with Bi³⁺. Advanced Science, 2018, 5, 1700732.	11.2	91

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19	Shining light on CO₂: from materials discovery to photocatalyst, photoreactor and process engineering. Chemical Society Reviews, 2020, 49, 5648-5663.	38.1	91
20	Hydrogen Spillover to Oxygen Vacancy of TiO_{2â€“<i>x</i>}H_{<i>y</i>}/Fe: Breaking the Scaling Relationship of Ammonia Synthesis. Journal of the American Chemical Society, 2020, 142, 17403-17412.	13.7	91
21	High-performance light-driven heterogeneous CO2 catalysis with near-unity selectivity on metal phosphides. Nature Communications, 2020, 11, 5149.	12.8	82
22	Largeâ€Area Vertically Aligned Bismuthene Nanosheet Arrays from Galvanic Replacement Reaction for Efficient Electrochemical CO₂ Conversion. Advanced Materials, 2021, 33, e2100910.	21.0	81
23	Electrochemical catalysis at low dimensional carbons: Graphene, carbon nanotubes and beyond â€“ A review. Applied Materials Today, 2016, 5, 134-141.	4.3	79
24	Efficient Electrocatalytic Reduction of CO₂ by Nitrogenâ€Doped Nanoporous Carbon/Carbon Nanotube Membranes: A Step Towards the Electrochemical CO₂ Refinery. Angewandte Chemie, 2017, 129, 7955-7960.	2.0	78
25	Roomâ€Temperature Activation of H₂ by a Surface Frustrated Lewis Pair. Angewandte Chemie - International Edition, 2019, 58, 9501-9505.	13.8	72
26	Towards Solar Methanol: Past, Present, and Future. Advanced Science, 2019, 6, 1801903.	11.2	63
27	Nitrogen doped graphene: influence of precursors and conditions of the synthesis. Journal of Materials Chemistry C, 2014, 2, 2887-2893.	5.5	61
28	Residual metallic impurities within carbon nanotubes play a dominant role in supposedly â€œmetal-freeâ€• oxygen reduction reactions. Chemical Communications, 2014, 50, 12662-12664.	4.1	60
29	Functional Nanosheet Synthons by Covalent Modification of Transition-Metal Dichalcogenides. Chemistry of Materials, 2017, 29, 2066-2073.	6.7	56
30	High-Performance, Scalable, and Low-Cost Copper Hydroxyapatite for Photothermal CO2 Reduction. ACS Catalysis, 2020, 10, 13668-13681.	11.2	55
31	Layered rhenium sulfide on free-standing three-dimensional electrodes is highly catalytic for the hydrogen evolution reaction: Experimental and theoretical study. Electrochemistry Communications, 2016, 63, 39-43.	4.7	54
32	How to make an efficient gas-phase heterogeneous CO₂ hydrogenation photocatalyst. Energy and Environmental Science, 2020, 13, 3054-3063.	30.8	52
33	Mo<i>_x</i>W_{1â^'<i>x</i>}S₂ Solid Solutions as 3D Electrodes for Hydrogen Evolution Reaction. Advanced Materials Interfaces, 2015, 2, 1500041.	3.7	49
34	Sizeâ€Tunable Photothermal Germanium Nanocrystals. Angewandte Chemie - International Edition, 2017, 56, 6329-6334.	13.8	47
35	New black indium oxideâ€"tandem photothermal CO2-H2 methanol selective catalyst. Nature Communications, 2022, 13, 1512.	12.8	47
36	Capacitance of pâ€•and nâ€Doped Graphenes is Dominated by Structural Defects Regardless of the Dopant Type. ChemSusChem, 2014, 7, 1102-1106.	6.8	45

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37	Valence and oxide impurities in MoS₂ and WS₂ dramatically change their electrocatalytic activity towards proton reduction. Nanoscale, 2016, 8, 16752-16760.	5.6	42
38	Enhanced CO₂ Photocatalysis by Indium Oxide Hydroxide Supported on TiN@TiO₂ Nanotubes. Nano Letters, 2021, 21, 1311-1319.	9.1	35
39	3D-graphene for electrocatalysis of oxygen reduction reaction: Increasing number of layers increases the catalytic effect. Electrochemistry Communications, 2014, 46, 148-151.	4.7	34
40	Promoting Charge Separation in Semiconductor Nanocrystal Superstructures for Enhanced Photocatalytic Activity. Advanced Materials Interfaces, 2018, 5, 1701694.	3.7	33
41	Plasmonic Titanium Nitride Facilitates Indium Oxide CO₂ Photocatalysis. Small, 2020, 16, e2005754.	10.0	32
42	Synergizing Photo-Thermal H2 and Photovoltaics into a Concentrated Sunlight Use. IScience, 2020, 23, 101012.	4.1	32
43	Remarkable electrochemical properties of electrochemically reduced graphene oxide towards oxygen reduction reaction are caused by residual metal-based impurities. Electrochemistry Communications, 2016, 62, 17-20.	4.7	30
44	ZIF-supported AuCu nanoalloy for ammonia electrosynthesis from nitrogen and thin air. Journal of Materials Chemistry A, 2020, 8, 8868-8874.	10.3	30
45	Single Pdâ€"S<i>_x</i> Sites <i>In Situ</i> Coordinated on CdS Surface as Efficient Hydrogen Autotransfer Shuttles for Highly Selective Visible-Light-Driven Câ€"N Coupling. ACS Catalysis, 2022, 12, 4481-4490.	11.2	28
46	High temperature superconducting materials as bi-functional catalysts for hydrogen evolution and oxygen reduction. Journal of Materials Chemistry A, 2015, 3, 8346-8352.	10.3	25
47	Doped Graphene for DNA Analysis: the Electrochemical Signal is Strongly Influenced by the Kind of Dopant and the Nucleobase Structure. Scientific Reports, 2016, 6, 33046.	3.3	25
48	Microwave irradiated N- and B,Cl-doped graphene: Oxidation method has strong influence on capacitive behavior. Applied Materials Today, 2017, 9, 204-211.	4.3	25
49	Construction of New Active Sites: Cu Substitution Enabled Surface Frustrated Lewis Pairs over Calcium Hydroxyapatite for CO₂ Hydrogenation. Advanced Science, 2021, 8, e2101382.	11.2	25
50	Soâ€Called â€œMetalâ€Freeâ€•Oxygen Reduction at Graphene Nanoribbons is in fact Metal Driven. ChemCatChem, 2015, 7, 1650-1654.	3.7	22
51	Phosphorus and Halogen Coâ€Doped Graphene Materials and their Electrochemistry. Chemistry - A European Journal, 2016, 22, 15444-15450.	3.3	22
52	Highly selective uptake of Ba²⁺and Sr²⁺ions by graphene oxide from mixtures of IIA elements. RSC Advances, 2014, 4, 26673-26676.	3.6	21
53	Carbonaceous Impurities in Carbon Nanotubes are Responsible for Accelerated Electrochemistry of Cytochrome c. Analytical Chemistry, 2013, 85, 6195-6197.	6.5	20
54	Heterostructure Engineering of a Reverse Water Gas Shift Photocatalyst. Advanced Science, 2019, 6, 1902170.	11.2	20

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55	Catalytic hydrogen evolution reaction on â€œmetal-freeâ€• graphene: key role of metallic impurities. Nanoscale, 2019, 11, 11083-11085.	5.6	19
56	Could Carbonaceous Impurities in Reduced Graphenes be Responsible for Some of Their Extraordinary Electrocatalytic Activities?. Chemistry - an Asian Journal, 2013, 8, 1200-1204.	3.3	18
57	Roomâ€Temperature Activation of H₂ by a Surface Frustrated Lewis Pair. Angewandte Chemie, 2019, 131, 9601-9605.	2.0	18
58	Mechanochemical synthesis of COx-free hydrogen and methane fuel mixtures at room temperature from light metal hydrides and carbon dioxide. Applied Energy, 2017, 204, 741-748.	10.1	17
59	Solar CO2hydrogenation by photocatalytic foams. Chemical Engineering Journal, 2022, 435, 134864.	12.7	16
60	Extraterrestrial photosynthesis by Changâ€™E-5 lunar soil. Joule, 2022, 6, 1008-1014.	24.0	15
61	Ambient Electrosynthesis of Ammonia: Electrode Porosity and Composition Engineering. Angewandte Chemie, 2018, 130, 12540-12544.	2.0	14
62	Shedding light on <scp>CO₂</scp>: Catalytic synthesis of solar methanol. EcoMat, 2021, 3, e12078.	11.9	13
63	Carbonaceous impurities in carbon nanotubes are responsible for accelerated electrochemistry of acetaminophen. Electrochemistry Communications, 2013, 26, 71-73.	4.7	12
64	Graphane Nanostripes. Angewandte Chemie - International Edition, 2016, 55, 13965-13969.	13.8	10
65	Photocatalytic Hydrogenation of Carbon Dioxide with High Selectivity to Methanol at Atmospheric Pressure. Joule, 2018, 2, 1382.	24.0	9
66	Graphane Nanostripes. Angewandte Chemie, 2016, 128, 14171-14175.	2.0	7
67	A photo-assisted electrochemical-based demonstrator for green ammonia synthesis. Journal of Energy Chemistry, 2022, 68, 826-834.	12.9	7
68	Sizeâ€Tunable Photothermal Germanium Nanocrystals. Angewandte Chemie, 2017, 129, 6426-6431.	2.0	6