Tuo Wang

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7115101/publications.pdf

Version: 2024-02-01

121 papers	13,294 citations	24978 57 h-index	22102 113 g-index
132 all docs	132 docs citations	132 times ranked	14394 citing authors

#	Article	IF	Citations
1	CO₂ photo-reduction: insights into CO₂ activation and reaction on surfaces of photocatalysts. Energy and Environmental Science, 2016, 9, 2177-2196.	15.6	1,488
2	Enhanced Surface Reaction Kinetics and Charge Separation of pâ€“n Heterojunction Co₃O₄/BiVO₄ Photoanodes. Journal of the American Chemical Society, 2015, 137, 8356-8359.	6.6	767
3	Sub-10â€‰nm rutile titanium dioxide nanoparticles for efficient visible-light-driven photocatalytic hydrogen production. Nature Communications, 2015, 6, 5881.	5.8	653
4	Tungsten Oxide Single Crystal Nanosheets for Enhanced Multichannel Solar Light Harvesting. Advanced Materials, 2015, 27, 1580-1586.	11.1	436
5	Mechanistic Understanding of the Plasmonic Enhancement for Solar Water Splitting. Advanced Materials, 2015, 27, 5328-5342.	11.1	373
6	Promoted Fixation of Molecular Nitrogen with Surface Oxygen Vacancies on Plasmonâ€Enhanced TiO₂ Photoelectrodes. Angewandte Chemie - International Edition, 2018, 57, 5278-5282.	7.2	365
7	Grain-Boundary-Rich Copper for Efficient Solar-Driven Electrochemical CO₂ Reduction to Ethylene and Ethanol. Journal of the American Chemical Society, 2020, 142, 6878-6883.	6.6	270
8	Effective Charge Carrier Utilization in Photocatalytic Conversions. Accounts of Chemical Research, 2016, 49, 911-921.	7.6	266
9	Controllable synthesis of nanotube-type graphitic C3N4 and their visible-light photocatalytic and fluorescent properties. Journal of Materials Chemistry A, 2014, 2, 2885.	5.2	265
10	Rational design of yolkâ€“shell nanostructures for photocatalysis. Chemical Society Reviews, 2019, 48, 1874-1907.	18.7	254
11	Surface, Bulk, and Interface: Rational Design of Hematite Architecture toward Efficient Photoâ€Electrochemical Water Splitting. Advanced Materials, 2018, 30, e1707502.	11.1	248
12	Dendritic Au/TiO2 nanorod arrays for visible-light driven photoelectrochemical water splitting. Nanoscale, 2013, 5, 9001.	2.8	243
13	Gradient doping of phosphorus in Fe₂O₃ nanoarray photoanodes for enhanced charge separation. Chemical Science, 2017, 8, 91-100.	3.7	231
14	Crucial Role of Surface Hydroxyls on the Activity and Stability in Electrochemical CO₂ Reduction. Journal of the American Chemical Society, 2019, 141, 2911-2915.	6.6	217
15	Selective Deposition of Ag₃PO₄ on Monoclinic BiVO₄(040) for Highly Efficient Photocatalysis. Small, 2013, 9, 3951-3956.	5.2	215
16	Monoclinic Porous BiVO₄ Networks Decorated by Discrete gâ€‘C₃N₄ Nanoâ€islands with Tunable Coverage for Highly Efficient Photocatalysis. Small, 2014, 10, 2783-2790.	5.2	209
17	Controllable fabrication of nanostructured materials for photoelectrochemical water splitting via atomic layer deposition. Chemical Society Reviews, 2014, 43, 7469-7484.	18.7	206
18	The Development of Cocatalysts for Photoelectrochemical CO₂ Reduction. Advanced Materials, 2019, 31, e1804710.	11.1	202

#	Article	IF	Citations
19	Propane dehydrogenation over Ptâ€“Cu bimetallic catalysts: the nature of coke deposition and the role of copper. Nanoscale, 2014, 6, 10000-10008.	2.8	191
20	Synergistic Cocatalytic Effect of Carbon Nanodots and Co₃O₄ Nanoclusters for the Photoelectrochemical Water Oxidation on Hematite. Angewandte Chemie - International Edition, 2016, 55, 5851-5855.	7.2	187
21	Nano-designed semiconductors for electro- and photoelectro-catalytic conversion of carbon dioxide. Chemical Society Reviews, 2018, 47, 5423-5443.	18.7	181
22	Tuning Cu/Cu₂O Interfaces for the Reduction of Carbon Dioxide to Methanol in Aqueous Solutions. Angewandte Chemie - International Edition, 2018, 57, 15415-15419.	7.2	175
23	The nature of active sites for carbon dioxide electroreduction over oxide-derived copper catalysts. Nature Communications, 2021, 12, 395.	5.8	170
24	Enriched Surface Oxygen Vacancies of Photoanodes by Photoetching with Enhanced Charge Separation. Angewandte Chemie - International Edition, 2020, 59, 2044-2048.	7.2	169
25	Controllable Cu⁰â€Cu⁺ Sites for Electrocatalytic Reduction of Carbon Dioxide. Angewandte Chemie - International Edition, 2021, 60, 15344-15347.	7.2	167
26	Hydrogen Production via Glycerol Steam Reforming over Ni/Al₂O₃: Influence of Nickel Precursors. ACS Sustainable Chemistry and Engineering, 2013, 1, 1052-1062.	3.2	164
27	Monoclinic WO3 nanomultilayers with preferentially exposed (002) facets for photoelectrochemical water splitting. Nano Energy, 2015, 11, 189-195.	8.2	162
28	Stable Aqueous Photoelectrochemical CO₂ Reduction by a Cu₂O Dark Cathode with Improved Selectivity for Carbonaceous Products. Angewandte Chemie - International Edition, 2016, 55, 8840-8845.	7.2	161
29	Single-crystal silicon-based electrodes for unbiased solar water splitting: current status and prospects. Chemical Society Reviews, 2019, 48, 2158-2181.	18.7	161
30	Reduced Graphene Oxide (rGO)/BiVO₄ Composites with Maximized Interfacial Coupling for Visible Lght Photocatalysis. ACS Sustainable Chemistry and Engineering, 2014, 2, 2253-2258.	3.2	159
31	Thin Heterojunctions and Spatially Separated Cocatalysts To Simultaneously Reduce Bulk and Surface Recombination in Photocatalysts. Angewandte Chemie - International Edition, 2016, 55, 13734-13738.	7.2	149
32	Dendritic Hematite Nanoarray Photoanode Modified with a Conformal Titanium Dioxide Interlayer for Effective Charge Collection. Angewandte Chemie - International Edition, 2017, 56, 12878-12882.	7.2	143
33	Glycerol steam reforming over perovskite-derived nickel-based catalysts. Applied Catalysis B: Environmental, 2014, 144, 277-285.	10.8	141
34	Surviving Highâ€Temperature Calcination: ZrO₂â€Induced Hematite Nanotubes for Photoelectrochemical Water Oxidation. Angewandte Chemie - International Edition, 2017, 56, 4150-4155.	7.2	132
35	Au nanoparticle sensitized ZnO nanopencil arrays for photoelectrochemical water splitting. Nanoscale, 2015, 7, 77-81.	2.8	131
36	Spatial separation of oxidation and reduction co-catalysts for efficient charge separation: Pt@TiO₂@MnO_x hollow spheres for photocatalytic reactions. Chemical Science, 2016, 7, 890-895.	3.7	130

#	Article	IF	Citations
37	Adjusting the Reduction Potential of Electrons by Quantum Confinement for Selective Photoreduction of CO₂ to Methanol. Angewandte Chemie - International Edition, 2019, 58, 3804-3808.	7.2	126
38	Enhanced Charge Separation through ALDâ€Modified Fe₂O₃/Fe₂TiO₅ Nanorod Heterojunction for Photoelectrochemical Water Oxidation. Small, 2016, 12, 3415-3422.	5.2	124
39	Singleâ€Crystal Semiconductors with Narrow Band Gaps for Solar Water Splitting. Angewandte Chemie - International Edition, 2015, 54, 10718-10732.	7.2	123
40	Homogeneous Cu2O p-n junction photocathodes for solar water splitting. Applied Catalysis B: Environmental, 2018, 226, 31-37.	10.8	121
41	Spatial control of cocatalysts and elimination of interfacial defects towards efficient and robust CIGS photocathodes for solar water splitting. Energy and Environmental Science, 2018, 11, 2025-2034.	15.6	114
42	Photoelectrochemical CO₂ reduction to adjustable syngas on grain-boundary-mediated a-Si/TiO₂/Au photocathodes with low onset potentials. Energy and Environmental Science, 2019, 12, 923-928.	15.6	114
43	Gold Nanorod@TiO₂ Yolkâ€Shell Nanostructures for Visibleâ€Lightâ€Driven Photocatalytic Oxidation of Benzyl Alcohol. Small, 2015, 11, 1892-1899.	5.2	109
44	Efficient CO2 electroreduction on facet-selective copper films with high conversion rate. Nature Communications, 2021, 12, 5745.	5.8	108
45	WO₃ photoanodes with controllable bulk and surface oxygen vacancies for photoelectrochemical water oxidation. Journal of Materials Chemistry A, 2018, 6, 3350-3354.	5.2	100
46	Mesoporous anatase TiO2 nanocups with plasmonic metal decoration for highly active visible-light photocatalysis. Chemical Communications, 2013, 49, 5817.	2.2	99
47	Understanding electronic and optical properties of anatase TiO2 photocatalysts co-doped with nitrogen and transition metals. Physical Chemistry Chemical Physics, 2013, 15, 9549.	1.3	93
48	Tunable syngas production from photocatalytic CO₂ reduction with mitigated charge recombination driven by spatially separated cocatalysts. Chemical Science, 2018, 9, 5334-5340.	3.7	89
49	Current Mechanistic Understanding of Surface Reactions over Water-Splitting Photocatalysts. CheM, 2018, 4, 223-245.	5.8	87
50	Two-dimensional gersiloxenes with tunable bandgap for photocatalytic H2 evolution and CO2 photoreduction to CO. Nature Communications, 2020, 11, 1443.	5.8	84
51	Facile synthesis of ZnO nanopencil arrays for photoelectrochemical water splitting. Nano Energy, 2014, 7, 143-150.	8.2	79
52	Effects of Ga doping on Pt/CeO₂â€Al₂O₃ catalysts for propane dehydrogenation. AlCHE Journal, 2016, 62, 4365-4376.	1.8	79
53	Bifacial passivation of n-silicon metalâ€“insulatorâ€“semiconductor photoelectrodes for efficient oxygen and hydrogen evolution reactions. Energy and Environmental Science, 2020, 13, 221-228.	15.6	70
54	CeO₂-modified Au@SBA-15 nanocatalysts for liquid-phase selective oxidation of benzyl alcohol. Nanoscale, 2015, 7, 7593-7602.	2.8	67

#	Article	IF	Citations
55	Fabrication of porous nanoflake BiMO_x (M = W, V, and Mo) photoanodes via hydrothermal anion exchange. Chemical Science, 2016, 7, 6381-6386.	3.7	65
56	Highly-oriented Fe₂O₃/ZnFe₂O₄ nanocolumnar heterojunction with improved charge separation for photoelectrochemical water oxidation. Chemical Communications, 2016, 52, 9013-9015.	2.2	61
57	Multifunctional TiO2 overlayer for p-Si/n-CdS heterojunction photocathode with improved efficiency and stability. Nano Energy, 2018, 53, 125-129.	8.2	60
58	Selective oxidation of methanol to dimethoxymethane on V2O5â€“MoO3/Î³-Al2O3 catalysts. Applied Catalysis B: Environmental, 2014, 160-161, 161-172.	10.8	59
59	Transparent ALD-grown Ta₂O₅ protective layer for highly stable ZnO photoelectrode in solar water splitting. Chemical Communications, 2015, 51, 7290-7293.	2.2	54
60	Highly loaded Ni-based catalysts for low temperature ethanol steam reforming. Nanoscale, 2016, 8, 10177-10187.	2.8	54
61	A Lowâ€Cost NiO Hole Transfer Layer for Ohmic Back Contact to Cu₂O for Photoelectrochemical Water Splitting. Small, 2017, 13, 1702007.	5.2	53
62	Alternative Strategies Toward Sustainable Ammonia Synthesis. Transactions of Tianjin University, 2020, 26, 67-91.	3.3	51
63	Enhancement of photoelectrochemical oxidation by an amorphous nickel boride catalyst on porous BiVO₄. Nanoscale, 2017, 9, 16133-16137.	2.8	50
64	Stable Aqueous Photoelectrochemical CO₂ Reduction by a Cu₂O Dark Cathode with Improved Selectivity for Carbonaceous Products. Angewandte Chemie, 2016, 128, 8986-8991.	1.6	48
65	Surviving Highâ€Temperature Calcination: ZrO₂â€Induced Hematite Nanotubes for Photoelectrochemical Water Oxidation. Angewandte Chemie, 2017, 129, 4214-4219.	1.6	48
66	Passivation of surface states by ALD-grown TiO₂ overlayers on Ta₃N₅ anodes for photoelectrochemical water oxidation. Chemical Communications, 2016, 52, 8806-8809.	2.2	45
67	Promoted Fixation of Molecular Nitrogen with Surface Oxygen Vacancies on Plasmonâ€Enhanced TiO₂ Photoelectrodes. Angewandte Chemie, 2018, 130, 5376-5380.	1.6	45
68	Bridging the transport pathway of charge carriers in a Ta₃N₅nanotube array photoanode for solar water splitting. Nanoscale, 2015, 7, 13153-13158.	2.8	44
69	Improved Oxygen Evolution Kinetics and Surface States Passivation of Ni-B i Co-Catalyst for a Hematite Photoanode. Engineering, 2017, 3, 285-289.	3.2	44
70	Synergistic Cocatalytic Effect of Carbon Nanodots and Co₃O₄ Nanoclusters for the Photoelectrochemical Water Oxidation on Hematite. Angewandte Chemie, 2016, 128, 5945-5949.	1.6	42
71	A highly efficient photoelectrochemical H₂O₂ production reaction with Co₃O₄ as a co-catalyst. Chemical Communications, 2018, 54, 7026-7029.	2.2	42
72	Enriched Surface Oxygen Vacancies of Photoanodes by Photoetching with Enhanced Charge Separation. Angewandte Chemie, 2020, 132, 2060-2064.	1.6	41

#	Article	IF	Citations
73	Atomic Layer Deposition of Lanthanum Stabilized Amorphous Hafnium Oxide Thin Films. Chemistry of Materials, 2009, 21, 3096-3101.	3.2	39
74	Steam reforming of ethanol over skeletal Niâ€based catalysts: A temperature programmed desorption and kinetic study. AICHE Journal, 2014, 60, 635-644.	1.8	38
75	Multifunctional Nickel Film Protected nâ€Type Silicon Photoanode with High Photovoltage for Efficient and Stable Oxygen Evolution Reaction. Small Methods, 2019, 3, 1900212.	4.6	38
76	Hafnia: Energetics of thin films and nanoparticles. Journal of Applied Physics, 2010, 107, .	1.1	36
77	Achieving convenient CO₂ electroreduction and photovoltage in tandem using potential-insensitive disordered Ag nanoparticles. Chemical Science, 2018, 9, 6599-6604.	3.7	34
78	Controllable Cu⁰â€Cu⁺ Sites for Electrocatalytic Reduction of Carbon Dioxide. Angewandte Chemie, 2021, 133, 15472-15475.	1.6	33
79	Tuning Cu/Cu 2 O Interfaces for the Reduction of Carbon Dioxide to Methanol in Aqueous Solutions. Angewandte Chemie, 2018, 130, 15641-15645.	1.6	32
80	Pt-based coreâ€“shell nanocatalysts with enhanced activity and stability for CO oxidation. Chemical Communications, 2013, 49, 10647.	2.2	30
81	A Transparent, Highâ€Performance, and Stable Sb₂S₃ Photoanode Enabled by Heterojunction Engineering with Conjugated Polycarbazole Frameworks for Unbiased Photoelectrochemical Overall Water Splitting Devices. Advanced Materials, 2022, 34, e2200723.	11.1	30
82	Thin Heterojunctions and Spatially Separated Cocatalysts To Simultaneously Reduce Bulk and Surface Recombination in Photocatalysts. Angewandte Chemie, 2016, 128, 13938-13942.	1.6	29
83	Controllable Distribution of Oxygen Vacancies in Grain Boundaries of pâ€Si/TiO₂ Heterojunction Photocathodes for Solar Water Splitting. Angewandte Chemie - International Edition, 2021, 60, 4034-4037.	7.2	29
84	Construction of uniform buried pn junctions on pyramid Si photocathodes using a facile and safe spin-on method for photoelectrochemical water splitting. Journal of Materials Chemistry A, 2020, 8, 224-230.	5.2	28
85	Transparent Ta2O5 Protective Layer for Stable Silicon Photocathode under Full Solar Spectrum. Industrial & Engineering Chemistry Research, 2019, 58, 5510-5515.	1.8	26
86	Doubleâ€Side Si Photoelectrode Enabled by Chemical Passivation for Photoelectrochemical Hydrogen and Oxygen Evolution Reactions. Advanced Functional Materials, 2021, 31, 2007222.	7.8	26
87	Zeolite growth by synergy between solution-mediated and solid-phase transformations. Journal of Materials Chemistry A, 2014, 2, 14360.	5.2	25
88	Effect of bicarbonate on CO2 electroreduction over cathode catalysts. Fundamental Research, 2021, 1, 432-438.	1.6	25
89	Sacrificing nothing to reduce CO2. Nature Energy, 2020, 5, 642-643.	19.8	22
90	Deep Learning Based Modulation Recognition With Multi-Cue Fusion. IEEE Wireless Communications Letters, 2021, 10, 1757-1760.	3.2	22

#	Article	IF	Citations
91	Spatial decoupling of light absorption and reaction sites in n-Si photocathodes for solar water splitting. National Science Review, 2021, 8, nwaa293.	4.6	21
92	Selective oxidation of methanol to dimethoxymethane over V2O5/TiO2â€“Al2O3 catalysts. Science Bulletin, 2015, 60, 1009-1018.	4.3	20
93	Enhanced localized dipole of Pt-Au single-site catalyst for solar water splitting. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	17
94	Adjusting the Reduction Potential of Electrons by Quantum Confinement for Selective Photoreduction of CO₂ to Methanol. Angewandte Chemie, 2019, 131, 3844-3848.	1.6	16
95	Structure versus Thermal Stability: The Periodic Structure of Atomic Layer Deposition-Grown Al-Incorporated HfO₂ Films and Its Effects on Amorphous Stabilization. Chemistry of Materials, 2011, 23, 1679-1685.	3.2	15
96	Photocatalysis: Selective Deposition of Ag₃PO₄ on Monoclinic BiVO₄(040) for Highly Efficient Photocatalysis (Small 23/2013). Small, 2013, 9, 3950-3950.	5.2	15
97	The effect of specific adsorption of halide ions on electrochemical CO₂ reduction. Chemical Science, 2022, 13, 8117-8123.	3.7	14
98	Subnanoscale Lanthanum Distribution in Lanthanum-Incorporated Hafnium Oxide Thin Films Grown Using Atomic Layer Deposition. Chemistry of Materials, 2010, 22, 3798-3806.	3.2	12
99	Optical properties of La-incorporated HfO2 upon crystallization. Applied Physics Letters, 2011, 98, 122904.	1.5	12
100	Dendritic Hematite Nanoarray Photoanode Modified with a Conformal Titanium Dioxide Interlayer for Effective Charge Collection. Angewandte Chemie, 2017, 129, 13058-13062.	1.6	11
101	Arificial Leaves for Solar Fuels. Chinese Journal of Chemistry, 2021, 39, 1450-1458.	2.6	11
102	Nanosheets: Tungsten Oxide Single Crystal Nanosheets for Enhanced Multichannel Solar Light Harvesting (Adv. Mater. 9/2015). Advanced Materials, 2015, 27, 1579-1579.	11.1	8
103	Photocatalysts: Monoclinic Porous BiVO4Networks Decorated by Discrete g-C3N4Nano-Islands with Tunable Coverage for Highly Efficient Photocatalysis (Small 14/2014). Small, 2014, 10, 2782-2782.	5.2	7
104	Controllable Distribution of Oxygen Vacancies in Grain Boundaries of pâ€Si/TiO 2 Heterojunction Photocathodes for Solar Water Splitting. Angewandte Chemie, 2021, 133, 4080-4083.	1.6	7
105	Atomic Layer Deposition of Tantalum-Incorporated Hafnium Dioxide: Strategies to Enhance Thermal Stability. Journal of the Electrochemical Society, 2011, 158, G185.	1.3	6
106	SrO-layer insertion in Ruddlesdenâ€“Popper Sn-based perovskite enables efficient CO₂ electroreduction towards formate. Chemical Science, 2022, 13, 8829-8833.	3.7	6
107	Reduction of nonspecific binding for cellular imaging using quantum dots conjugated with vitamin E. AICHE Journal, 2014, 60, 1591-1597.	1.8	5
108	Simple Strategies for Fabrication of a Periodic Mesoporous Aluminosilicate with Crystalline Walls. Small, 2014, 10, 4249-4256.	5.2	5

#	Article	IF	Citations
109	Solar Water Splitting: Mechanistic Understanding of the Plasmonic Enhancement for Solar Water Splitting (Adv. Mater. 36/2015). Advanced Materials, 2015, 27, 5444-5444.	11.1	5
110	Overestimated solar water splitting performance on oxide semiconductor anodes. Science China Materials, 2017, 60, 90-92.	3.5	5
111	Effective Charge Carrier Utilization in Visible-Light-Driven CO 2 Conversion. Semiconductors and Semimetals, 2017, 97, 429-467.	0.4	4
112	Innentitelbild: Thin Heterojunctions and Spatially Separated Cocatalysts To Simultaneously Reduce Bulk and Surface Recombination in Photocatalysts (Angew. Chem. 44/2016). Angewandte Chemie, 2016, 128, 13818-13818.	1.6	2
113	Performance Prediction of Multiple Photoanodes Systems for Unbiased Photoelectrochemical Water Splitting. , 2021, 3, 939-946.		2
114	Frontispiece: Stable Aqueous Photoelectrochemical CO2 Reduction by a Cu2 O Dark Cathode with Improved Selectivity for Carbonaceous Products. Angewandte Chemie - International Edition, 2016, 55, .	7.2	1
115	Titelbild: Tuning Cu/Cu₂O Interfaces for the Reduction of Carbon Dioxide to Methanol in Aqueous Solutions (Angew. Chem. 47/2018). Angewandte Chemie, 2018, 130, 15507-15507.	1.6	1
116	Frontispiz: Stable Aqueous Photoelectrochemical CO2 Reduction by a Cu2 O Dark Cathode with Improved Selectivity for Carbonaceous Products. Angewandte Chemie, 2016, 128, .	1.6	0
117	Innentitelbild: Synergistic Cocatalytic Effect of Carbon Nanodots and Co3O4Nanoclusters for the Photoelectrochemical Water Oxidation on Hematite (Angew. Chem. 19/2016). Angewandte Chemie, 2016, 128, 5704-5704.	1.6	0
118	InnenrÃ¼cktitelbild: Surviving Highâ€Temperature Calcination: ZrO₂â€Induced Hematite Nanotubes for Photoelectrochemical Water Oxidation (Angew. Chem. 15/2017). Angewandte Chemie, 2017, 129, 4427-4427.	1.6	0
119	Titelbild: Dendritic Hematite Nanoarray Photoanode Modified with a Conformal Titanium Dioxide Interlayer for Effective Charge Collection (Angew. Chem. 42/2017). Angewandte Chemie, 2017, 129, 12967-12967.	1.6	0
120	RÃ¼cktitelbild: Promoted Fixation of Molecular Nitrogen with Surface Oxygen Vacancies on Plasmon-Enhanced TiO2 Photoelectrodes (Angew. Chem. 19/2018). Angewandte Chemie, 2018, 130, 5656-5656.	1.6	0
121	The impact of Al2O3 back interface layer on low-temperature growth of ultrathin Cu(In,Ga)Se2 solar cells. Optoelectronics Letters, 2018, 14, 363-366.	0.4	0