S David Tilley

List of Publications by Year
in descending order

68 papers	9,714 citations	81900 39 h-index	106344 65 g-index
86 all docs	86 docs citations	86 times ranked	11665 citing authors

#	Article	IF	Citations
1	Water photolysis at 12.3% efficiency via perovskite photovoltaics and Earth-abundant catalysts. Science, 2014, 345, 1593-1596.	12.6	2,260
2	Lightâ€Induced Water Splitting with Hematite: Improved Nanostructure and Iridium Oxide Catalysis. Angewandte Chemie - International Edition, 2010, 49, 6405-6408.	13.8	966
3	Strategies for enhancing the photocurrent, photovoltage, and stability of photoelectrodes for photoelectrochemical water splitting. Chemical Society Reviews, 2019, 48, 4979-5015.	38.1	429
4	Hydrogen evolution from a copper(I) oxide photocathode coated with an amorphous molybdenum sulphide catalyst. Nature Communications, 2014, 5, 3059.	12.8	418
5	Ultrathin films on copper(i) oxide water splitting photocathodes: a study on performance and stability. Energy and Environmental Science, 2012, 5, 8673.	30.8	401
6	Back Electronâ€“Hole Recombination in Hematite Photoanodes for Water Splitting. Journal of the American Chemical Society, 2014, 136, 2564-2574.	13.7	393
7	Understanding the Role of Underlayers and Overlayers in Thin Film Hematite Photoanodes. Advanced Functional Materials, 2014, 24, 7681-7688.	14.9	289
8	Rate Law Analysis of Water Oxidation on a Hematite Surface. Journal of the American Chemical Society, 2015, 137, 6629-6637.	13.7	273
9	Tyrosine-Selective Protein Alkylation Using Ï€-Allylpalladium Complexes. Journal of the American Chemical Society, 2006, 128, 1080-1081.	13.7	270
10	Ruthenium Oxide Hydrogen Evolution Catalysis on Composite Cuprous Oxide Waterâ€Splitting Photocathodes. Advanced Functional Materials, 2014, 24, 303-311.	14.9	253
11	An Optically Transparent Iron Nickel Oxide Catalyst for Solar Water Splitting. Journal of the American Chemical Society, 2015, 137, 9927-9936.	13.7	247
12	Ultrafast Charge Carrier Recombination and Trapping in Hematite Photoanodes under Applied Bias. Journal of the American Chemical Society, 2014, 136, 9854-9857.	13.7	238
13	A Bismuth Vanadateâ€“Cuprous Oxide Tandem Cell for Overall Solar Water Splitting. Journal of Physical Chemistry C, 2014, 118, 16959-16966.	3.1	226
14	Recent Advances and Emerging Trends in Photoâ€Electrochemical Solar Energy Conversion. Advanced Energy Materials, 2019, 9, 1802877.	19.5	220
15	Gradient Self-Doped CuBi₂O₄ with Highly Improved Charge Separation Efficiency. Journal of the American Chemical Society, 2017, 139, 15094-15103.	13.7	187
16	Photovoltaic and Photoelectrochemical Solar Energy Conversion with Cu₂O. Journal of Physical Chemistry C, 2015, 119, 26243-26257.	3.1	160
17	Transparent Cuprous Oxide Photocathode Enabling a Stacked Tandem Cell for Unbiased Water Splitting. Advanced Energy Materials, 2015, 5, 1501537.	19.5	149
18	Optimization and Stabilization of Electrodeposited Cu₂ZnSnS₄ Photocathodes for Solar Water Reduction. ACS Applied Materials & Interfaces, 2013, 5, 8018-8024.	8.0	144

#	Article	IF	Citations
19	Efficient and selective carbon dioxide reduction on low cost protected Cu₂O photocathodes using a molecular catalyst. Energy and Environmental Science, 2015, 8, 855-861.	30.8	142
20	Stabilized Solar Hydrogen Production with CuO/CdS Heterojunction Thin Film Photocathodes. Chemistry of Materials, 2017, 29, 1735-1743.	6.7	140
21	Photoelectrochemical Hydrogen Production in Alkaline Solutions Using Cu₂O Coated with Earthâ€Abundant Hydrogen Evolution Catalysts. Angewandte Chemie - International Edition, 2015, 54, 664-667.	13.8	134
22	On the stability enhancement of cuprous oxide water splitting photocathodes by low temperature steam annealing. Energy and Environmental Science, 2014, 7, 4044-4052.	30.8	121
23	Targeting Ideal Dualâ€Absorber Tandem Water Splitting Using Perovskite Photovoltaics and CuIn<i>_x</i>Ga_{1â€‹<i>x</i>}Se₂ Photocathodes. Advanced Energy Materials, 2015, 5, 1501520.	19.5	109
24	Solution Transformation of Cu₂O into CuInS₂ for Solar Water Splitting. Nano Letters, 2015, 15, 1395-1402.	9.1	108
25	Silicon protected with atomic layer deposited TiO2: durability studies of photocathodic H2 evolution. RSC Advances, 2013, 3, 25902.	3.6	104
26	Band Alignment Engineering at Cu₂O/ZnO Heterointerfaces. ACS Applied Materials & Interfaces, 2016, 8, 21824-21831.	8.0	101
27	Bond formations by intermolecular and intramolecular trappings of acylketenes and their applications in natural product synthesis. Chemical Society Reviews, 2009, 38, 3022.	38.1	95
28	Extended Light Harvesting with Dual Cu₂Oâ€Based Photocathodes for High Efficiency Water Splitting. Advanced Energy Materials, 2018, 8, 1702323.	19.5	93
29	Tin oxide as stable protective layer for composite cuprous oxide water-splitting photocathodes. Nano Energy, 2016, 24, 10-16.	16.0	84
30	Investigation of (Leaky) ALD TiO₂ Protection Layers for Water-Splitting Photoelectrodes. ACS Applied Materials & Interfaces, 2017, 9, 43614-43622.	8.0	84
31	Spectroelectrochemical analysis of the mechanism of (photo)electrochemical hydrogen evolution at a catalytic interface. Nature Communications, 2017, 8, 14280.	12.8	83
32	Photocorrosion-resistant Sb₂Se₃photocathodes with earth abundant MoS_xhydrogen evolution catalyst. Journal of Materials Chemistry A, 2017, 5, 23139-23145.	10.3	83
33	Calculation of the Energy Band Diagram of a Photoelectrochemical Water Splitting Cell. Journal of Physical Chemistry C, 2014, 118, 29599-29607.	3.1	56
34	Silicon protected with atomic layer deposited TiO2: conducting versus tunnelling through TiO2. Journal of Materials Chemistry A, 2013, 1, 15089.	10.3	51
35	A Rapid, Asymmetric Synthesis of the Decahydrofluorene Core of the Hirsutellones. Organic Letters, 2009, 11, 701-703.	4.6	50
36	Immobilization of molecular catalysts on electrode surfaces using hostâ€“guest interactions. Nature Chemistry, 2021, 13, 523-529.	13.6	49

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37	Solar water splitting exceeding 10% efficiency<i>via</i>low-cost Sb₂Se₃photocathodes coupled with semitransparent perovskite photovoltaics. Energy and Environmental Science, 2020, 13, 4362-4370.	30.8	47
38	Stable and tunable phosphonic acid dipole layer for band edge engineering of photoelectrochemical and photovoltaic heterojunction devices. Energy and Environmental Science, 2019, 12, 1901-1909.	30.8	41
39	Operando Analysis of Semiconductor Junctions in Multiâ€Layered Photocathodes for Solar Water Splitting by Impedance Spectroscopy. Advanced Energy Materials, 2021, 11, 2003569.	19.5	36
40	Sb₂S₃/TiO₂ Heterojunction Photocathodes: Band Alignment and Water Splitting Properties. Chemistry of Materials, 2020, 32, 7247-7253.	6.7	34
41	Emerging Binary Chalcogenide Light Absorbers: Material Specific Promises and Challenges. Chemistry of Materials, 2021, 33, 3467-3489.	6.7	30
42	Tandem Cuprous Oxide/Silicon Microwire Hydrogen-Evolving Photocathode with Photovoltage Exceeding 1.3 V. ACS Energy Letters, 2019, 4, 2287-2294.	17.4	25
43	Toward a Synthesis of Hirsutellone B by the Concept of Double Cyclization. Journal of Organic Chemistry, 2013, 78, 9584-9607.	3.2	24
44	<i>Operando</i> deconvolution of photovoltaic and electrocatalytic performance in ALD TiO₂ protected water splitting photocathodes. Chemical Science, 2018, 9, 6062-6067.	7.4	22
45	Tuning the selectivity of biomass oxidation over oxygen evolution on NiOâ€"OH electrodes. Green Chemistry, 2021, 23, 8061-8068.	9.0	20
46	Crystal orientation-dependent etching and trapping in thermally-oxidised Cu₂O photocathodes for water splitting. Energy and Environmental Science, 2022, 15, 2002-2010.	30.8	20
47	Sulfur Treatment Passivates Bulk Defects in Sb₂Se₃ Photocathodes for Water Splitting. Advanced Functional Materials, 2022, 32, .	14.9	18
48	Emerging Earth-abundant materials for scalable solar water splitting. Current Opinion in Electrochemistry, 2017, 2, 120-127.	4.8	17
49	Resistance-based analysis of limiting interfaces in multilayer water splitting photocathodes by impedance spectroscopy. Sustainable Energy and Fuels, 2019, 3, 2067-2075.	4.9	12
50	A combinatorial guide to phase formation and surface passivation of tungsten titanium oxide prepared by thermal oxidation. Acta Materialia, 2020, 186, 95-104.	7.9	12
51	Plasmonic Substrates Do Not Promote Vibrational Energy Transfer at Solidâ€"Liquid Interfaces. Journal of Physical Chemistry Letters, 2018, 9, 49-56.	4.6	11
52	<i>Operando</i>electrochemical study of charge carrier processes in water splitting photoanodes protected by atomic layer deposited TiO₂. Sustainable Energy and Fuels, 2019, 3, 3085-3092.	4.9	11
53	Photovoltaic powered solar hydrogen production coupled with waste SO2 valorization enabled by MoP electrocatalysts. Applied Catalysis B: Environmental, 2022, 305, 121045.	20.2	11
54	Interfacial Dipole Layer Enables High-Performance Heterojunctions for Photoelectrochemical Water Splitting. ACS Energy Letters, 2022, 7, 1392-1402.	17.4	11

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55	Thiolâ€Amineâ€Based Solution Processing of Cu₂S Thin Films for Photoelectrochemical Water Splitting. ChemSusChem, 2021, 14, 3967-3974.	6.8	10
56	Design of Molecular Water Oxidation Catalysts Stabilized by Ultrathin Inorganic Overlayersâ€"Is Active Site Protection Necessary?. Inorganics, 2018, 6, 105.	2.7	9
57	Anodizing of Self-Passivating W_{<i>x</i>}Ti_{1â€"<i>x</i>} Precursors for W_{<i>x</i>}Ti_{1â€"<i>x</i>}O_{<i>n</i>} Oxide Alloys with Tailored Stability. ACS Applied Materials & Interfaces, 2019, 11, 9510-9518.	8.0	8
58	Preface to Special Issue of <i>ChemSusChem</i>â€"Water Splitting: From Theory to Practice. ChemSusChem, 2019, 12, 1771-1774.	6.8	7
59	Mechanistic insights into photocatalysis and over two days of stable H₂ generation in electrocatalysis by a molecular cobalt catalyst immobilized on TiO₂. Catalysis Science and Technology, 2020, 10, 2549-2560.	4.1	7
60	Flexible to rigid: IR spectroscopic investigation of a rhenium-tricarbonyl-complex at a buried interface. Physical Chemistry Chemical Physics, 2021, 23, 4311-4316.	2.8	5
61	Electrochemical ruthenium-catalysed Câ€"H activation in water through heterogenization of a molecular catalyst. Catalysis Science and Technology, 2022, 12, 1512-1519.	4.1	4
62	Great Expectations for Photoelectrochemical Water Splitting. Energy Procedia, 2012, 22, 1-2.	1.8	2
63	Metal-like molecules. Nature Catalysis, 2022, 5, 359-360.	34.4	2
64	Improved water oxidation with metal oxide catalysts via a regenerable and redox-inactive ZnOxHy overlayer. Chemical Communications, 2021, 57, 10230-10233.	4.1	1
65	Tin Sulfide/Gallium Oxide Heterojunctions for Solar Water Splitting. Energy Technology, 0, , 2100461.	3.8	0
66	Earth-Abundant Materials for Solar Water Splitting. , 0, , .		0
67	Operando Methods for a Deeper Understanding of Photoelectrochemical Water Splitting Systems. , 0, , .		0
68	Operando Methods for a Deeper Understanding of Photoelectrochemical Water Splitting Systems. , 0, , .		0