Thomas W Hamann

List of Publications by Year
in descending order

91 papers	9,219 citations	50244 46 h-index	56687 83 g-index
94 all docs	94 docs citations	94 times ranked	9292 citing authors

#	Article	IF	Citations
1	Crystallographic Effects of GaN Nanostructures in Photoelectrochemical Reaction. Nano Letters, 2022, 22, 2236-2243.	4.5	12
2	Understanding Mass Transport in Copper Electrolyte-Based Dye-Sensitized Solar Cells. ACS Applied Energy Materials, 2022, 5, 2647-2654.	2.5	10
3	Ammonia eurefstics: Electrolytes for liquid energy storage and conversion at room temperature and ambient pressure. Joule, 2022, , .	11.7	0
4	An Efficient Copper-Based Redox Shuttle Bearing a Hexadentate Polypyridyl Ligand for DSCs under Low-Light Conditions. ACS Applied Energy Materials, 2022, 5, 5964-5973.	2.5	2
5	Interfacial Engineering at Quantum Dot-Sensitized TiO₂ Photoelectrodes for Ultrahigh Photocurrent Generation. ACS Applied Materials & Interfaces, 2021, 13, 6208-6218.	4.0	7
6	InGaN/Si Double-Junction Photocathode for Unassisted Solar Water Splitting. ACS Energy Letters, 2020, 5, 3741-3751.	8.8	49
7	Photochemical Charge Separation and Dye Self-Oxidation Control Performance of Fluorescein, Rose Bengal, and Triphenylamine Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2020, 124, 26174-26183.	1.5	4
8	Charge-Carrier Dynamics at the CuWO₄/Electrocatalyst Interface for Photoelectrochemical Water Oxidation. ACS Applied Materials & Interfaces, 2020, 12, 50592-50599.	4.0	10
9	Recent Advances and Challenges of Electrocatalytic N₂Reduction to Ammonia. Chemical Reviews, 2020, 120, 5437-5516.	23.0	718
10	Low-spin cobalt(<scp>ii</scp>) redox shuttle by isocyanide coordination. Sustainable Energy and Fuels, 2020, 4, 2497-2507.	2.5	2
11	Real-Time Observation of the Diffusion Mechanism Progression from Liquid to Solid State of Transition Metal Complexes. ACS Energy Letters, 2020, 5, 583-588.	8.8	3
12	Interface passivation to overcome shunting in semiconductorâ€“catalyst junctions. Chemical Communications, 2020, 56, 2570-2573.	2.2	10
13	Charge Transport and Transfer Mechanisms for Solid State Metal Complex Systems. ECS Meeting Abstracts, 2020, MA2020-01, 878-878.	0.0	0
14	(Invited) Electrocatalytic Ammonia Oxidation. ECS Meeting Abstracts, 2020, MA2020-01, 1733-1733.	0.0	0
15	Modulating cellular cytotoxicity and phototoxicity of fluorescent organic salts through counterion pairing. Scientific Reports, 2019, 9, 15288.	1.6	29
16	Thin film photoelectrodes for solar water splitting. Chemical Society Reviews, 2019, 48, 2182-2215.	18.7	221
17	Dependence of interface energetics and kinetics on catalyst loading in a photoelectrochemical system. Nano Research, 2019, 12, 2378-2384.	5.8	15
18	Direct Deposition of Crystalline Ta₃N₅ Thin Films on FTO for PEC Water Splitting. ACS Applied Materials & Interfaces, 2019, 11, 15457-15466.	4.0	47

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19	New Electrolytic Devices Produce Ammonia with Exceptional Selectivity. Joule, 2019, 3, 634-636.	11.7	8
20	Homogeneous electrocatalytic oxidation of ammonia to N ₂ under mild conditions. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2849-2853.	3.3	87
21	(Invited) Electron Dynamics at the CuWO4/Electrocatalyst Interface for Photoelectrochemical Water Oxidationâ€‹. ECS Meeting Abstracts, 2019, , .	0.0	1
22	Real-Time Observation of the Diffusion Mechanism Progression from Liquid to Solid-State of Transition Metal Complexes. ECS Meeting Abstracts, 2019, , .	0.0	0
23	Chapter 4. Unravelling the Charge Transfer Mechanism in Water Splitting Hematite Photoanodes. RSC Energy and Environment Series, 2018, , 100-127.	0.2	5
24	Impact of Ultrathin C₆₀ on Perovskite Photovoltaic Devices. ACS Nano, 2018, 12, 876-883.	7.3	80
25	Elucidating the Impact of Thin Film Texture on Charge Transport and Collection in Perovskite Solar Cells. ACS Omega, 2018, 3, 3522-3529.	1.6	8
26	Overcoming Bulk Recombination Limits of Layered Perovskite Solar Cells with Mesoporous Substrates. Journal of Physical Chemistry C, 2018, 122, 14177-14185.	1.5	20
27	Catalyst Deposition on Photoanodes: The Roles of Intrinsic Catalytic Activity, Catalyst Electrical Conductivity, and Semiconductor Morphology. ACS Energy Letters, 2018, 3, 961-969.	8.8	47
28	Potential-sensing electrochemical atomic force microscopy for in operando analysis of water-splitting catalysts and interfaces. Nature Energy, 2018, 3, 46-52.	19.8	159
29	Improved performance induced by <i>in situ</i> ligand exchange reactions of copper bipyridyl redox couples in dye-sensitized solar cells. Chemical Communications, 2018, 54, 12361-12364.	2.2	33
30	Spin-Doctoring Cobalt Redox Shuttles for Dye-Sensitized Solar Cells. Inorganic Chemistry, 2018, 57, 11633-11645.	1.9	6
31	Ultrathin Hole Extraction Layer for Efficient Inverted Perovskite Solar Cells. ACS Omega, 2018, 3, 6339-6345.	1.6	5
32	Noble-Metal-Free Catalysts for Hydrogen Production from Electrolysis of Ammonia. ECS Meeting Abstracts, 2018, , .	0.0	0
33	(Invited)ÂElectrocatalytic Ammonia Oxidation. ECS Meeting Abstracts, 2018, MA2018-01, 1848-1848.	0.0	0
34	Quantitative hole collection for photoelectrochemical water oxidation with CuWO₄. Chemical Communications, 2017, 53, 1285-1288.	2.2	54
35	As Precious as Platinum: Iron Nitride for Electrocatalytic Oxidation of Liquid Ammonia. ACS Applied Materials & Interfaces, 2017, 9, 16228-16235.	4.0	33
36	Elucidation of CuWO₄ Surface States During Photoelectrochemical Water Oxidation. Journal of Physical Chemistry Letters, 2017, 8, 2700-2704.	2.1	49

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37	Bifurcation of Regeneration and Recombination in Dye-Sensitized Solar Cells via Electronic Manipulation of Tandem Cobalt Redox Shuttles. ACS Applied Materials & Interfaces, 2017, 9, 33544-33548.	4.0	10
38	Selective Electrodeposition of Tantalum(V) Oxide Electrodes. Langmuir, 2017, 33, 10800-10806.	1.6	8
39	Roadmap on solar water splitting: current status and future prospects. Nano Futures, 2017, 1, 022001.	1.0	159
40	Interface Control of Photoelectrochemical Water Oxidation Performance with Ni_{1â€"<i>x</i>}Fe_{<i>x</i>}O_{<i>y</i>} Modified Hematite Photoanodes. Chemistry of Materials, 2017, 29, 6674-6683.	3.2	61
41	Direct in Situ Measurement of Charge Transfer Processes During Photoelectrochemical Water Oxidation on Catalyzed Hematite. ACS Central Science, 2017, 3, 1015-1025.	5.3	61
42	Determination of photoelectrochemical water oxidation intermediates on haematite electrode surfaces using operando infrared spectroscopy. Nature Chemistry, 2016, 8, 778-783.	6.6	347
43	Tantalum nitride films integrated with transparent conductive oxide substrates via atomic layer deposition for photoelectrochemical water splitting. Chemical Science, 2016, 7, 6760-6767.	3.7	57
44	Charge Distribution in Nanostructured TiO₂ Photoanode Determined by Quantitative Analysis of the Band Edge Unpinning. ACS Applied Materials & Interfaces, 2016, 8, 419-424.	4.0	28
45	Enhanced Charge Separation and Collection in High-Performance Electrodeposited Hematite Films. Chemistry of Materials, 2016, 28, 765-771.	3.2	76
46	Atomic layer stack deposition-annealing synthesis of CuWO₄. Journal of Materials Chemistry A, 2016, 4, 2826-2830.	5.2	65
47	Kinetics of Regeneration and Recombination Reactions in Dye-Sensitized Solar Cells Employing Cobalt Redox Shuttles. Journal of Physical Chemistry C, 2015, 119, 28155-28166.	1.5	30
48	Electrolysis of liquid ammonia for hydrogen generation. Energy and Environmental Science, 2015, 8, 2775-2781.	15.6	88
49	The potential versus current state of water splitting with hematite. Physical Chemistry Chemical Physics, 2015, 17, 22485-22503.	1.3	133
50	Competitive Photoelectrochemical Methanol and Water Oxidation with Hematite Electrodes. ACS Applied Materials & Interfaces, 2015, 7, 7653-7660.	4.0	56
51	Band energies of nanoparticle semiconductor electrodes determined by spectroelectrochemical measurements of free electrons. Physical Chemistry Chemical Physics, 2015, 17, 11156-11160.	1.3	16
52	An adaptive junction. Nature Materials, 2014, 13, 3-4.	13.3	41
53	Enhanced photocatalytic water oxidation efficiency with Ni(OH)₂ catalysts deposited on Î±-Fe₂O₃via ALD. Chemical Communications, 2014, 50, 8727-8730.	2.2	96
54	Substrate Dependent Water Splitting with Ultrathin Î±-Fe₂O₃ Electrodes. Journal of Physical Chemistry C, 2014, 118, 16494-16503.	1.5	66

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55	Perovskites take lead in solar hydrogen race. Science, 2014, 345, 1566-1567.	6.0	33
56	Enhanced Water Splitting Efficiency Through Selective Surface State Removal. Journal of Physical Chemistry Letters, 2014, 5, 1522-1526.	2.1	226
57	Water Oxidation on Hematite Photoelectrodes: Insight into the Nature of Surface States through In Situ Spectroelectrochemistry. Journal of Physical Chemistry C, 2014, 118, 10393-10399.	1.5	174
58	Cyclometalated sensitizers for DSSCs employing cobalt redox shuttles. Polyhedron, 2014, 82, 139-147.	1.0	25
59	Fast Low-Spin Cobalt Complex Redox Shuttles for Dye-Sensitized Solar Cells. Journal of Physical Chemistry Letters, 2013, 4, 328-332.	2.1	40
60	Highly photoactive Ti-doped Î±-Fe₂O₃thin film electrodes: resurrection of the dead layer. Energy and Environmental Science, 2013, 6, 634-642.	15.6	208
61	Atomic Layer Deposition of a Submonolayer Catalyst for the Enhanced Photoelectrochemical Performance of Water Oxidation with Hematite. ACS Nano, 2013, 7, 2396-2405.	7.3	243
62	Photocatalytic water oxidation with hematite electrodes. Catalysis Science and Technology, 2013, 3, 1660.	2.1	126
63	Recombination and redox couples in dye-sensitized solar cells. Coordination Chemistry Reviews, 2013, 257, 1533-1543.	9.5	93
64	Conduction band energy determination by variable temperature spectroelectrochemistry. Energy and Environmental Science, 2012, 5, 9476.	15.6	22
65	Electrochemical and photoelectrochemical investigation of water oxidation with hematite electrodes. Energy and Environmental Science, 2012, 5, 7626.	15.6	451
66	Photoelectrochemical and Impedance Spectroscopic Investigation of Water Oxidation with â€œCoâ€“Piâ€•Coated Hematite Electrodes. Journal of the American Chemical Society, 2012, 134, 16693-16700.	6.6	635
67	Water Oxidation at Hematite Photoelectrodes: The Role of Surface States. Journal of the American Chemical Society, 2012, 134, 4294-4302.	6.6	895
68	Splitting water with rust: hematite photoelectrochemistry. Dalton Transactions, 2012, 41, 7830.	1.6	166
69	The end of iodide? Cobalt complex redox shuttles in DSSCs. Dalton Transactions, 2012, 41, 3111.	1.6	137
70	Measurements and Modeling of Recombination from Nanoparticle TiO₂ Electrodes. Journal of the American Chemical Society, 2011, 133, 8264-8271.	6.6	105
71	Dye-sensitized solar cellredox shuttles. Energy and Environmental Science, 2011, 4, 370-381.	15.6	209
72	Current and Voltage Limiting Processes in Thin Film Hematite Electrodes. Journal of Physical Chemistry C, 2011, 115, 8393-8399.	1.5	110

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73	Spatially Resolved Sources of Dark Current from TiO₂ Nanoparticle Electrodes. Langmuir, 2011, 27, 13361-13366.	1.6	15
74	Voltage dependent photocurrent of thin film hematite electrodes. Applied Physics Letters, 2011, 99, 063508.	1.5	36
75	Photoelectrochemical Investigation of Ultrathin Film Iron Oxide Solar Cells Prepared by Atomic Layer Deposition. Langmuir, 2011, 27, 461-468.	1.6	183
76	Impedance Investigation of Dye-Sensitized Solar Cells Employing Outer-Sphere Redox Shuttles. Journal of Physical Chemistry C, 2010, 114, 638-645.	1.5	88
77	Performance Enhancement and Limitations of Cobalt Bipyridyl Redox Shuttles in Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2009, 113, 14040-14045.	1.5	212
78	New Architectures for Dyeâ€Sensitized Solar Cells. Chemistry - A European Journal, 2008, 14, 4458-4467.	1.7	253
79	Aerogel Templated ZnO Dyeâ€Sensitized Solar Cells. Advanced Materials, 2008, 20, 1560-1564.	11.1	138
80	Outer-Sphere Redox Couples as Shuttles in Dye-Sensitized Solar Cells. Performance Enhancement Based on Photoelectrode Modification via Atomic Layer Deposition. Journal of Physical Chemistry C, 2008, 112, 19756-19764.	1.5	168
81	Atomic Layer Deposition of TiO₂ on Aerogel Templates: New Photoanodes for Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2008, 112, 10303-10307.	1.5	122
82	Advancing beyond current generation dye-sensitized solar cells. Energy and Environmental Science, 2008, 1, 66.	15.6	663
83	A Comparison between Interfacial Electron-Transfer Rate Constants at Metallic and Graphite Electrodes. Journal of Physical Chemistry B, 2006, 110, 19433-19442.	1.2	67
84	Comparison of the Self-Exchange and Interfacial Charge-Transfer Rate Constants for Methyl-versustert-Butyl-Substituted Os(III) Polypyridyl Complexesâ€. Journal of Physical Chemistry B, 2006, 110, 25514-25520.	1.2	15
85	Control of the Stability, Electron-Transfer Kinetics, and pH-Dependent Energetics of Si/H2O Interfaces through Methyl Termination of Si(111) Surfaces. Journal of Physical Chemistry B, 2006, 110, 22291-22294.	1.2	53
86	Measurement of the driving force dependence of interfacial charge-transfer rate constants in response to pH changes at n-ZnO/H2O interfaces. Chemical Physics, 2006, 326, 15-23.	0.9	46
87	Measurement of the Free-Energy Dependence of Interfacial Charge-Transfer Rate Constants using ZnO/H2O Semiconductor/Liquid Contacts. Journal of the American Chemical Society, 2005, 127, 7815-7824.	6.6	75
88	Time-Resolved EPR Study of the Photophysics and Photochemistry of 1-(3-(Methoxycarbonyl)propyl)-1-phenyl[6.6]C61. Journal of Physical Chemistry A, 2005, 109, 11665-11672.	1.1	1
89	Measurement of the Dependence of Interfacial Charge-Transfer Rate Constants on the Reorganization Energy of Redox Species at n-ZnO/H2O Interfaces. Journal of the American Chemical Society, 2005, 127, 13949-13954.	6.6	54
90	Electron Dynamics at Copper Tungstate / Catalyst Interfaces. , 0, , .		0

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91	Electron Dynamics at Copper Tungstate / Catalyst Interfaces. , 0, , .		0