

Zachary D Hood

List of Publications by Year in descending order

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Version: 2024-02-01

101
papers

5,922
citations

66343

42
h-index

76900

74
g-index

110
all docs

110
docs citations

110
times ranked

7753
citing authors

#	ARTICLE	IF	CITATIONS
19	Text mining for processing conditions of solid-state battery electrolytes. <i>Electrochemistry Communications</i> , 2020, 121, 106860.	4.7	43
20	Scalable neutral H ₂ O ₂ electrosynthesis by platinum diphosphide nanocrystals by regulating oxygen reduction reaction pathways. <i>Nature Communications</i> , 2020, 11, 3928.	12.8	101
21	Solvent-Mediated Synthesis of Amorphous Li ₃ PS ₄ /Polyethylene Oxide Composite Solid Electrolytes with High Li ⁺ Conductivity. <i>Chemistry of Materials</i> , 2020, 32, 8789-8797.	6.7	21
22	Toward Controlling Filament Size and Location for Resistive Switches via Nanoparticle Exsolution at Oxide Interfaces. <i>Small</i> , 2020, 16, e2003224.	10.0	27
23	Construction of 2D BiVO ₄ ~CdS~Ti ₃ C ₂ T _x Heterostructures for Enhanced Photo~redox Activities. <i>ChemCatChem</i> , 2020, 12, 3496-3503.	3.7	25
24	Career progression through professional engagement: The impact of MRS student-led activities. <i>MRS Bulletin</i> , 2020, 45, 306-307.	3.5	0
25	PdPt-TiO ₂ nanowires: correlating composition, electronic effects and O-vacancies with activities towards water splitting and oxygen reduction. <i>Applied Catalysis B: Environmental</i> , 2020, 277, 119177.	20.2	36
26	Oxygen Exchange in Dual-Phase La _{0.65} Sr _{0.35} MnO ₃ ~CeO ₂ Composites for Solar Thermochemical Fuel Production. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 32622-32632.	8.0	20
27	The interplay between surface facet and reconstruction on isopropanol conversion over SrTiO ₃ nanocrystals. <i>Journal of Catalysis</i> , 2020, 384, 49-60.	6.2	19
28	Atomic defects in ultra-thin mesoporous TiO ₂ enhance photocatalytic hydrogen evolution from water splitting. <i>Applied Surface Science</i> , 2020, 513, 145723.	6.1	37
29	Lithium~Battery Anode Gains Additional Functionality for Neuromorphic Computing through Metal~Insulator Phase Separation. <i>Advanced Materials</i> , 2020, 32, e1907465.	21.0	43
30	Pd~Ru Alloy Nanocages with a Face~Centered Cubic Structure and Their Enhanced Activity toward the Oxidation of Ethylene Glycol and Glycerol. <i>Small Methods</i> , 2020, 4, 1900843.	8.6	46
31	Abnormally Low Activation Energy in Cubic Na ₃ SbS ₄ Superionic Conductors. <i>Chemistry of Materials</i> , 2020, 32, 2264-2271.	6.7	35
32	La _{0.6} Sr _{0.4} Cr _{0.8} Co _{0.2} O ₃ Perovskite Decorated with Exsolved Co Nanoparticles for Stable CO ₂ Splitting and Syngas Production. <i>ACS Applied Energy Materials</i> , 2020, 3, 4569-4579.	5.1	41
33	Effects of Surface Terminations of 2D Bi ₂ WO ₆ on Photocatalytic Hydrogen Evolution from Water Splitting. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 20067-20074.	8.0	78
34	Biofuel Production With Sulfonated High Surface Area Carbons Derived From Glucose. <i>ChemistrySelect</i> , 2020, 5, 1534-1538.	1.5	5
35	Computational and experimental (re)investigation of the structural and electrolyte properties of $\text{Li}_4\text{P}_2\text{S}_6$. <i>Physical Review Materials</i> , 2020, 4, .	2.4	4
36	Probing the Origin of Microcracks in Layered Oxide Cathodes via Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2019, 25, 2058-2059.	0.4	3

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37	Synthesis of CaO ₂ Nanocrystals and Their Spherical Aggregates with Uniform Sizes for Use as a Biodegradable Bacteriostatic Agent. <i>Small</i> , 2019, 15, e1902118.	10.0	77
38	Continuous Production of Water-Soluble Nanocrystals through Anti-Solvent Precipitation in a Fluidic Device. <i>ChemNanoMat</i> , 2019, 5, 1131-1136.	2.8	3
39	Photothermal transformation of Au-Ag nanocages under pulsed laser irradiation. <i>Nanoscale</i> , 2019, 11, 3013-3020.	5.6	29
40	Facile One-Pot Synthesis of Pd@Pt _{1L} Octahedra with Enhanced Activity and Durability toward Oxygen Reduction. <i>Chemistry of Materials</i> , 2019, 31, 1370-1380.	6.7	41
41	Modifying La _{0.6} Sr _{0.4} MnO ₃ Perovskites with Cr Incorporation for Fast Isothermal CO ₂ -Splitting Kinetics in Solar-Driven Thermochemical Cycles. <i>Advanced Energy Materials</i> , 2019, 9, 1803886.	19.5	55
42	Ruthenium Nanoframes in the Face-Centered Cubic Phase: Facile Synthesis and Their Enhanced Catalytic Performance. <i>ACS Nano</i> , 2019, 13, 7241-7251.	14.6	47
43	Mechanochemically Assisted Synthesis of Ruthenium Clusters Embedded in Mesoporous Carbon for an Efficient Hydrogen Evolution Reaction. <i>ChemElectroChem</i> , 2019, 6, 2719-2725.	3.4	15
44	Monolayer Ti ₃ C ₂ Tx as an Effective Co-catalyst for Enhanced Photocatalytic Hydrogen Production over TiO ₂ . <i>ACS Applied Energy Materials</i> , 2019, 2, 4640-4651.	5.1	177
45	Mechanistic understanding and strategies to design interfaces of solid electrolytes: insights gained from transmission electron microscopy. <i>Journal of Materials Science</i> , 2019, 54, 10571-10594.	3.7	14
46	Reversibly tuning the surface state of Ag via the assistance of photocatalysis in Ag/BiOCl. <i>Nanotechnology</i> , 2019, 30, 305601.	2.6	16
47	Carbon polyaniline capacitive deionization electrodes with stable cycle life. <i>Desalination</i> , 2019, 464, 25-32.	8.2	32
48	Ru Octahedral Nanocrystals with a Face-Centered Cubic Structure, {111} Facets, Thermal Stability up to 400 Å°C, and Enhanced Catalytic Activity. <i>Journal of the American Chemical Society</i> , 2019, 141, 7028-7036.	13.7	122
49	Elucidating the mobility of H ⁺ and Li ⁺ ions in (Li _{0.625} xH _x Al _{0.25})La ₃ Zr ₂ O ₁₂ via ⁷ Li and ¹ H neutron and electron spectroscopy. <i>Energy and Environmental Science</i> , 2019, 12, 945-951.	10.8	48
50	2D/2D heterojunction of Ti ₃ C ₂ g-C ₃ N ₄ nanosheets for enhanced photocatalytic hydrogen evolution. <i>Nanoscale</i> , 2019, 11, 8138-8149.	5.6	289
51	Optimizing the structural configuration of FePt-FeOx nanoparticles at the atomic scale by tuning the post-synthetic conditions. <i>Nano Energy</i> , 2019, 55, 441-446.	16.0	10
52	A facile, robust and scalable method for the synthesis of Pd nanoplates with hydroxylamine as a reducing agent and mechanistic insights from kinetic analysis. <i>Journal of Materials Chemistry C</i> , 2018, 6, 4677-4682.	5.5	22
53	One-Step Synthesis of Nb ₂ O ₅ /C/Nb ₂ C (MXene) Composites and Their Use as Photocatalysts for Hydrogen Evolution. <i>ChemSusChem</i> , 2018, 11, 688-699.	6.8	315
54	Vacuum-Assisted Low-Temperature Synthesis of Reduced Graphene Oxide Thin-Film Electrodes for High-Performance Transparent and Flexible All-Solid-State Supercapacitors. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 11008-11017.	8.0	57

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55	Shape Effect Undermined by Surface Reconstruction: Ethanol Dehydrogenation over Shape-Controlled SrTiO ₃ Nanocrystals. ACS Catalysis, 2018, 8, 555-565.	11.2	59
56	Enhancing the photoresponse and photocatalytic properties of TiO ₂ by controllably tuning defects across {101} facets. Applied Surface Science, 2018, 434, 711-716.	6.1	23
57	Rhodium Decahedral Nanocrystals: Facile Synthesis, Mechanistic Insights, and Experimental Controls. ChemNanoMat, 2018, 4, 66-70.	2.8	15
58	Conversion of Waste Tire Rubber into High-Value-Added Carbon Supports for Electrocatalysis. Journal of the Electrochemical Society, 2018, 165, H881-H888.	2.9	16
59	Semiconductor Heterojunctions for Enhanced Visible Light Photocatalytic H ₂ Production. MRS Advances, 2018, 3, 3263-3270.	0.9	1
60	Understanding the Impact of Surface Reconstruction of Perovskite Catalysts on CH ₄ Activation and Combustion. ACS Catalysis, 2018, 8, 10306-10315.	11.2	50
61	Direct in Situ Observation and Analysis of the Formation of Palladium Nanocrystals with High-Index Facets. Nano Letters, 2018, 18, 7004-7013.	9.1	42
62	Electrospun metal and metal alloy decorated TiO ₂ nanofiber photocatalysts for hydrogen generation. RSC Advances, 2018, 8, 32865-32876.	3.6	15
63	Facile synthesis of Pt@Ag octahedral and tetrahedral nanocrystals with enhanced activity and durability toward methanol oxidation. Journal of Materials Research, 2018, 33, 3891-3897.	2.6	3
64	Revealing the Structural Stability and Na-Ion Mobility of 3D Superionic Conductor Na ₃ SbS ₄ at Extremely Low Temperatures. ACS Applied Energy Materials, 2018, 1, 7028-7034.	5.1	20
65	A Rationally Designed Route to the One-Pot Synthesis of Right Bipyramidal Nanocrystals of Copper. Chemistry of Materials, 2018, 30, 6469-6477.	6.7	28
66	Synthesis of Pt nanocrystals with different shapes using the same protocol to optimize their catalytic activity toward oxygen reduction. Materials Today, 2018, 21, 834-844.	14.2	58
67	Enabling Complete Ligand Exchange on the Surface of Gold Nanocrystals through the Deposition and Then Etching of Silver. Journal of the American Chemical Society, 2018, 140, 11898-11901.	13.7	53
68	Visible-light-active g-C ₃ N ₄ /N-doped Sr ₂ Nb ₂ O ₇ heterojunctions as photocatalysts for the hydrogen evolution reaction. Sustainable Energy and Fuels, 2018, 2, 2507-2515.	4.9	46
69	Synthesis of Ru Icosahedral Nanocages with a Face-Centered-Cubic Structure and Evaluation of Their Catalytic Properties. ACS Catalysis, 2018, 8, 6948-6960.	11.2	66
70	Facile Synthesis of Silver Icosahedral Nanocrystals with Uniform and Controllable Sizes. ChemNanoMat, 2018, 4, 1071-1077.	2.8	9
71	Surface Reorganization Leads to Enhanced Photocatalytic Activity in Defective BiOCl. Chemistry of Materials, 2018, 30, 5128-5136.	6.7	55
72	Fabrication of Submicrometer-Thick Solid Electrolyte Membranes of Li ₃ PS ₄ via Tiled Assembly of Nanoscale, Plate-Like Building Blocks. Advanced Energy Materials, 2018, 8, 1800014.	19.5	47

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73	Tire-derived carbon for catalytic preparation of biofuels from feedstocks containing free fatty acids. Carbon Resources Conversion, 2018, 1, 165-173.	5.9	38
74	Facile synthesis of Ag@Au core-shell nanowires with greatly improved stability against oxidation. Chemical Communications, 2017, 53, 1965-1968.	4.1	50
75	Interfaces in Heterogeneous Catalysts: Advancing Mechanistic Understanding through Atomic-Scale Measurements. Accounts of Chemical Research, 2017, 50, 787-795.	15.6	128
76	Understanding the Thermal Stability of Palladium-Platinum Core-Shell Nanocrystals by <i>In Situ</i> Transmission Electron Microscopy and Density Functional Theory. ACS Nano, 2017, 11, 4571-4581.	14.6	53
77	Hydroxyl-Dependent Evolution of Oxygen Vacancies Enables the Regeneration of BiOCl Photocatalyst. ACS Applied Materials & Interfaces, 2017, 9, 16620-16626.	8.0	176
78	Enhanced visible light photocatalytic water reduction from a g-C ₃ N ₄ /SrTa ₂ O ₆ heterojunction. Applied Catalysis B: Environmental, 2017, 217, 448-458.	20.2	58
79	Facile Synthesis of Ru-Based Octahedral Nanocages with Ultrathin Walls in a Face-Centered Cubic Structure. Chemistry of Materials, 2017, 29, 9227-9237.	6.7	55
80	Effect of Surface Structure of TiO ₂ Nanoparticles on CO ₂ Adsorption and SO ₂ Resistance. ACS Sustainable Chemistry and Engineering, 2017, 5, 9295-9306.	6.7	49
81	In situ TEM observation of the electrochemical lithiation of N-doped anatase TiO ₂ nanotubes as anodes for lithium-ion batteries. Journal of Materials Chemistry A, 2017, 5, 20651-20657.	10.3	45
82	Novel Acid Catalysts from Waste-Tire-Derived Carbon: Application in Waste-to-Biofuel Conversion. ChemistrySelect, 2017, 2, 4975-4982.	1.5	17
83	Introducing Ti ³⁺ defects based on lattice distortion for enhanced visible light photoreactivity in TiO ₂ microspheres. RSC Advances, 2017, 7, 32461-32467.	3.6	99
84	Kinetics and Mechanism of Methanol Conversion over Anatase Titania Nanoshapes. ACS Catalysis, 2017, 7, 5345-5356.	11.2	31
85	Self-Assembled Framework Formed During Lithiation of SnS ₂ Nanoplates Revealed by in Situ Electron Microscopy. Accounts of Chemical Research, 2017, 50, 1513-1520.	15.6	29
86	Unraveling the electrolyte properties of Na_2S through computation and experiment. Physical Review Materials, 2017, 1, .	2.3	21
87	Fundamental aspects of the structural and electrolyte properties of Li ₂ OHCl from simulations and experiment. Physical Review Materials, 2017, 1, .	2.4	36
88	A Visible-Light-Active Heterojunction with Enhanced Photocatalytic Hydrogen Generation. ChemSusChem, 2016, 9, 1869-1879.	6.8	42
89	An Air-Stable Na ₃ Sb ₄ Superionic Conductor Prepared by a Rapid and Economic Synthetic Procedure. Angewandte Chemie, 2016, 128, 8693-8697.	2.0	44
90	An Air-Stable Na ₃ Sb ₄ Superionic Conductor Prepared by a Rapid and Economic Synthetic Procedure. Angewandte Chemie - International Edition, 2016, 55, 8551-8555.	13.8	183

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91	Fabrication of ultrathin solid electrolyte membranes of Li_3PS_4 nanoflakes by evaporation-induced self-assembly for all-solid-state batteries. <i>Journal of Materials Chemistry A</i> , 2016, 4, 8091-8096.	10.3	128
92	In-Plane Heterojunctions Enable Multiphase Two-Dimensional (2D) MoS_2 Nanosheets As Efficient Photocatalysts for Hydrogen Evolution from Water Reduction. <i>ACS Catalysis</i> , 2016, 6, 6723-6729.	11.2	116
93	Quantitative Analysis of the Reduction Kinetics Responsible for the One-Pot Synthesis of Pd-Pt Bimetallic Nanocrystals with Different Structures. <i>Journal of the American Chemical Society</i> , 2016, 138, 12263-12270.	13.7	111
94	Synthesis and Characterization of Pt-Ag Alloy Nanocages with Enhanced Activity and Durability toward Oxygen Reduction. <i>Nano Letters</i> , 2016, 16, 6644-6649.	9.1	150
95	Titania Composites with 20% Transition Metal Carbides as Photocatalysts for Hydrogen Production under Visible-Light Irradiation. <i>ChemSusChem</i> , 2016, 9, 1490-1497.	6.8	253
96	Li_2OHCl Crystalline Electrolyte for Stable Metallic Lithium Anodes. <i>Journal of the American Chemical Society</i> , 2016, 138, 1768-1771.	13.7	147
97	Structural and electrolyte properties of $\text{Li}_4\text{P}_2\text{S}_6$. <i>Solid State Ionics</i> , 2016, 284, 61-70.	2.7	59
98	Reduction of charge-transfer resistance at the solid electrolyte-electrode interface by pulsed laser deposition of films from a crystalline $\text{Li}_2\text{PO}_2\text{N}$ source. <i>Journal of Power Sources</i> , 2016, 312, 116-122.	7.8	43
99	Visible light assisted photocatalytic hydrogen generation by $\text{Ta}_2\text{O}_5/\text{Bi}_2\text{O}_3$, $\text{TaON}/\text{Bi}_2\text{O}_3$, and $\text{Ta}_3\text{N}_5/\text{Bi}_2\text{O}_3$ composites. <i>RSC Advances</i> , 2015, 5, 54998-55005.	3.6	47
100	The "filler effect": A study of solid oxide fillers with Li_3PS_4 for lithium conducting electrolytes. <i>Solid State Ionics</i> , 2015, 283, 75-80.	2.7	41
101	Visible-light-driven $\text{Bi}_2\text{O}_3/\text{WO}_3$ composites with enhanced photocatalytic activity. <i>RSC Advances</i> , 2015, 5, 91094-91102.	3.6	54