

James F Cahoon

List of Publications by Year in descending order

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citing authors

#	ARTICLE	IF	CITATIONS
1	Coaxial multishell nanowires with high-quality electronic interfaces and tunable optical cavities for ultrathin photovoltaics. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1407-1412.	7.1	238
2	Tuning Light Absorption in Core/Shell Silicon Nanowire Photovoltaic Devices through Morphological Design. Nano Letters, 2012, 12, 4971-4976.	9.1	237
3	Determining Transition-State Geometries in Liquids Using 2D-IR. Science, 2008, 319, 1820-1823.	12.6	154
4	Direct Imaging of Free Carrier and Trap Carrier Motion in Silicon Nanowires by Spatially-Separated Femtosecond Pump-Probe Microscopy. Nano Letters, 2013, 13, 1336-1340.	9.1	120
5	Design Principles for Photovoltaic Devices Based on Si Nanowires with Axial or Radial p-n Junctions. Nano Letters, 2012, 12, 6024-6029.	9.1	119
6	Doubling Absorption in Nanowire Solar Cells with Dielectric Shell Optical Antennas. Nano Letters, 2015, 15, 753-758.	9.1	109
7	Synthetically Encoding 10 nm Morphology in Silicon Nanowires. Nano Letters, 2013, 13, 6281-6286.	9.1	87
8	Synthetically Encoded Ultrashort-Channel Nanowire Transistors for Fast, Pointlike Cellular Signal Detection. Nano Letters, 2012, 12, 2639-2644.	9.1	82
9	Site-Selective Passivation of Defects in NiO Solar Photocathodes by Targeted Atomic Deposition. ACS Applied Materials & Interfaces, 2016, 8, 4754-4761.	8.0	71
10	All-in-One Derivatized Tandem p ⁺ -n-Silicon/SnO ₂ /TiO ₂ Water Splitting Photoelectrochemical Cell. Nano Letters, 2017, 17, 2440-2446.	9.1	53
11	Remote nongenetic optical modulation of neuronal activity using fuzzy graphene. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13339-13349.	7.1	52
12	Ultrafast Carrier Dynamics in Individual Silicon Nanowires: Characterization of Diameter-Dependent Carrier Lifetime and Surface Recombination with Pump-Probe Microscopy. Journal of Physical Chemistry C, 2014, 118, 8634-8640.	3.1	50
13	Hierarchically-Structured NiO Nanoplatelets as Mesoscale p-Type Photocathodes for Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2014, 118, 14177-14184.	3.1	49
14	Imaging Charge Separation and Carrier Recombination in Nanowire p-i-n Junctions Using Ultrafast Microscopy. Nano Letters, 2014, 14, 3079-3087.	9.1	48
15	Encoding Abrupt and Uniform Dopant Profiles in Vapor-Liquid-Solid Nanowires by Suppressing the Reservoir Effect of the Liquid Catalyst. ACS Nano, 2014, 8, 11790-11798.	14.6	46
16	Designing Morphology in Epitaxial Silicon Nanowires: The Role of Gold, Surface Chemistry, and Phosphorus Doping. ACS Nano, 2017, 11, 4453-4462.	14.6	46
17	Mechanism for Iron-Catalyzed Alkene Isomerization in Solution. Organometallics, 2008, 27, 4370-4379.	2.3	44
18	Passivation of Nickel Vacancy Defects in Nickel Oxide Solar Cells by Targeted Atomic Deposition of Boron. Journal of Physical Chemistry C, 2016, 120, 16568-16576.	3.1	44

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19	Time-resolved IR Studies on the Mechanism for the Functionalization of Primary C-H Bonds by Photoactivated Cp*W(CO) ₃ (Bpin). <i>Journal of the American Chemical Society</i> , 2010, 132, 1848-1859.	13.7	41
20	Horizontal Silicon Nanowires with Radial p-n Junctions: A Platform for Unconventional Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 2002-2009.	4.6	41
21	Identifying Crystallization- and Incorporation-Limited Regimes during Vapor-Liquid-Solid Growth of Si Nanowires. <i>ACS Nano</i> , 2014, 8, 6081-6088.	14.6	38
22	Self-Catalyzed Vapor-Liquid-Solid Growth of Lead Halide Nanowires and Conversion to Hybrid Perovskites. <i>Nano Letters</i> , 2017, 17, 7561-7568.	9.1	37
23	Optical Bound States in the Continuum with Nanowire Geometric Superlattices. <i>Physical Review Letters</i> , 2019, 122, 187402.	7.8	37
24	Capillarity-Driven Welding of Semiconductor Nanowires for Crystalline and Electrically Ohmic Junctions. <i>Nano Letters</i> , 2016, 16, 5241-5246.	9.1	36
25	Reversible Strain-Induced Electron-Hole Recombination in Silicon Nanowires Observed with Femtosecond Pump-Probe Microscopy. <i>Nano Letters</i> , 2014, 14, 6287-6292.	9.1	34
26	Understanding the vapor-liquid-solid mechanism of Si nanowire growth and doping to synthetically encode precise nanoscale morphology. <i>Journal of Materials Chemistry C</i> , 2016, 4, 3890-3897.	5.5	32
27	Mapping Free-Carriers in Multijunction Silicon Nanowires Using Infrared Near-Field Optical Microscopy. <i>Nano Letters</i> , 2017, 17, 6591-6597.	9.1	29
28	Chemically Engraving Semiconductor Nanowires: Using Three-Dimensional Nanoscale Morphology to Encode Functionality from the Bottom Up. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 685-692.	4.6	28
29	19-Electron Intermediates and Cage-Effects in the Photochemical Disproportionation of [CpW(CO) ₃] ₂ with Lewis Bases. <i>Journal of the American Chemical Society</i> , 2005, 127, 12555-12565.	13.7	26
30	Designing Plasmon-Enhanced Thermochromic Films Using a Vanadium Dioxide Nanoparticle Elastomeric Composite. <i>Advanced Optical Materials</i> , 2016, 4, 578-583.	7.3	26
31	Material informatics driven design and experimental validation of lead titanate as an aqueous solar photocathode. <i>Materials Discovery</i> , 2016, 6, 9-16.	3.3	23
32	Waveguide Scattering Microscopy for Dark-Field Imaging and Spectroscopy of Photonic Nanostructures. <i>ACS Photonics</i> , 2014, 1, 725-731.	6.6	22
33	Ratcheting quasi-ballistic electrons in silicon geometric diodes at room temperature. <i>Science</i> , 2020, 368, 177-180.	12.6	22
34	Mie-coupled bound guided states in nanowire geometric superlattices. <i>Nature Communications</i> , 2018, 9, 2781.	12.8	21
35	Geometric Nanophotonics: Light Management in Single Nanowires through Morphology. <i>Accounts of Chemical Research</i> , 2019, 52, 3511-3520.	15.6	20
36	The Role of Odd-Electron Intermediates and In-Cage Electron Transfer in Ultrafast Photochemical Disproportionation Reactions in Lewis Bases. <i>Journal of the American Chemical Society</i> , 2004, 126, 11414-11415.	13.7	19

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37	19-Electron Intermediates in the Ligand Substitution of CpW(CO) ₃ with a Lewis Base. <i>Journal of the American Chemical Society</i> , 2006, 128, 3152-3153.	13.7	19
38	Direct Observation of Photoinduced Bent Nitrosyl Excited-State Complexes. <i>Journal of Physical Chemistry A</i> , 2008, 112, 8505-8514.	2.5	18
39	Ultrafast Carrier Dynamics of Silicon Nanowire Ensembles: The Impact of Geometrical Heterogeneity on Charge Carrier Lifetime. <i>Journal of Physical Chemistry C</i> , 2014, 118, 8626-8633.	3.1	18
40	Encoding Highly Nonequilibrium Boron Concentrations and Abrupt Morphology in p-Type/n-Type Silicon Nanowire Superlattices. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 37105-37111.	8.0	17
41	Probing Intrawire, Interwire, and Diameter-Dependent Variations in Silicon Nanowire Surface Trap Density with Pump-Probe Microscopy. <i>Nano Letters</i> , 2017, 17, 5956-5961.	9.1	17
42	Enhancement of Light Absorption in Silicon Nanowire Photovoltaic Devices with Dielectric and Metallic Grating Structures. <i>Nano Letters</i> , 2017, 17, 7731-7736.	9.1	17
43	Observation of Phonon Propagation in Germanium Nanowires Using Femtosecond Pump-Probe Microscopy. <i>ACS Photonics</i> , 2019, 6, 2213-2222.	6.6	17
44	Sensitized Zinc-Cobalt-Oxide Spinel p-Type Photoelectrode. <i>Journal of Physical Chemistry C</i> , 2014, 118, 25340-25349.	3.1	16
45	Interplay of Surface Recombination and Diode Geometry for the Performance of Axial Nanowire Solar Cells. <i>ACS Nano</i> , 2018, 12, 10554-10563.	14.6	15
46	Compositionally-tunable mechanochemical synthesis of Zn _x Co _{3-x} O ₄ nanoparticles for mesoporous p-type photocathodes. <i>Journal of Materials Chemistry A</i> , 2015, 3, 21990-21994.	10.3	14
47	Unveiling the complex configurational landscape of the intralayer cavities in a crystalline carbon nitride. <i>Chemical Science</i> , 2022, 13, 3187-3193.	7.4	13
48	Monolithic and Single-Crystalline Aluminum-Silicon Heterostructures. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 26238-26244.	8.0	13
49	Organic Chromophores Designed for Hole Injection into Wide-Band-Gap Metal Oxides for Solar Fuel Applications. <i>Chemistry of Materials</i> , 2020, 32, 8158-8168.	6.7	12
50	Imaging Spatial Variations in the Dissipation and Transport of Thermal Energy within Individual Silicon Nanowires Using Ultrafast Microscopy. <i>Nano Letters</i> , 2016, 16, 434-439.	9.1	11
51	Interfacial electron transfer yields in dye-sensitized NiO photocathodes correlated to excited-state dipole orientation of ruthenium chromophores. <i>Canadian Journal of Chemistry</i> , 2018, 96, 865-874.	1.1	11
52	Cation Effects in p-Type Dye-Sensitized Solar Cells. <i>ACS Applied Energy Materials</i> , 2020, 3, 1496-1505.	5.1	11
53	DFT and time-resolved IR investigation of electron transfer between photogenerated 17- and 19-electron organometallic radicals. <i>Journal of Molecular Structure</i> , 2008, 890, 328-338.	3.6	10
54	Direct Observation of Metal Ketenes Formed by Photoexcitation of a Fischer Carbene using Ultrafast Infrared Spectroscopy. <i>Organometallics</i> , 2014, 33, 6149-6153.	2.3	10

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55	Enabling Aqueous NiO Photocathodes by Passivating Surface Sites That Facilitate Proton-Coupled Charge Transfer. ACS Applied Energy Materials, 2020, 3, 10702-10713.	5.1	10
56	Barrierless Switching between a Liquid and Superheated Solid Catalyst during Nanowire Growth. Journal of Physical Chemistry Letters, 2016, 7, 4236-4242.	4.6	7
57	Electrostatic tip effects in scanning probe microscopy of nanostructures. Nanotechnology, 2021, 32, 195710.	2.6	6
58	Semi-transparent, flexible, and electrically conductive silicon mesh by capillarity-driven welding of vapor-liquid-solid-grown nanowires over large areas. Nano Research, 2020, 13, 1465-1471.	10.4	4
59	Lithographically Patterning Hybrid Perovskite Single Crystals by Surface-Engineered Amino-Deliquescence/Efflorescence. ACS Photonics, 2021, 8, 2329-2336.	6.6	4
60	Letting photons out of the gate. Nature Nanotechnology, 2017, 12, 938-939.	31.5	3
61	Amino-Deliquescence and Amino-Efflorescence of Methylammonium Lead Iodide. Chemistry of Materials, 2021, 33, 3814-3822.	6.7	3
62	Influence of Surface and Structural Variations in Donor-“Acceptor”-Donor Sensitizers on Photoelectrocatalytic Water Splitting. ACS Applied Materials & Interfaces, 2021, 13, 47499-47510.	8.0	3
63	Abrupt degenerately-doped silicon nanowire tunnel junctions. Nanotechnology, 2020, 31, 415708.	2.6	2
64	Solvent-Engineered Stress in Nanoscale Materials. ACS Applied Materials & Interfaces, 2018, 10, 44183-44189.	8.0	1
65	Synthesized Silicon Nanostructures for Optical Switches and THz Electronics. , 2018, , .		0
66	(Invited) Designing Symmetric and Asymmetric Morphology in Silicon Nanowires to Encode Advanced Electronic and Photonic Functionality. ECS Meeting Abstracts, 2017, , .	0.0	0