Andrew H Proppe

List of Publications by Year
in descending order

58 papers	7,290 citations	53660 45 h-index	155451 55 g-index
59 all docs	59 docs citations	59 times ranked	8092 citing authors

#	Article	IF	Citations
1	Quantum-size-tuned heterostructures enable efficient and stable inverted perovskite solar cells. Nature Photonics, 2022, 16, 352-358.	15.6	233
2	An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. Nature Communications, 2021, 12, 670.	5.8	58
3	Multication perovskite 2D/3D interfaces form via progressive dimensional reduction. Nature Communications, 2021, 12, 3472.	5.8	89
4	Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. Advanced Materials, 2021, 33, e2103394.	11.1	99
5	Bright and Stable Light-Emitting Diodes Based on Perovskite Quantum Dots in Perovskite Matrix. Journal of the American Chemical Society, 2021, 143, 15606-15615.	6.6	94
6	Distribution control enables efficient reduced-dimensional perovskite LEDs. Nature, 2021, 599, 594-598.	13.7	358
7	Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. Nature Catalysis, 2020, 3, 98-106.	16.1	325
8	Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. Nature Communications, 2020, 11, 103.	5.8	181
9	Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer. Journal of Physical Chemistry C, 2020, 124, 24379-24390.	1.5	17
10	Bioinspiration in light harvesting and catalysis. Nature Reviews Materials, 2020, 5, 828-846.	23.3	136
11	Bifunctional Surface Engineering on SnO₂ Reduces Energy Loss in Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 2796-2801.	8.8	239
12	Thiophene Cation Intercalation to Improve Bandâ€Edge Integrity in Reducedâ€Dimensional Perovskites. Angewandte Chemie - International Edition, 2020, 59, 13977-13983.	7.2	36
13	Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. Nature Energy, 2020, 5, 478-486.	19.8	363
14	Thiophene Cation Intercalation to Improve Bandâ€Edge Integrity in Reducedâ€Dimensional Perovskites. Angewandte Chemie, 2020, 132, 14081-14087.	1.6	16
15	High-Throughput Screening of Antisolvents for the Deposition of High-Quality Perovskite Thin Films. ACS Applied Materials & Interfaces, 2020, 12, 26026-26032.	4.0	11
16	Micron Thick Colloidal Quantum Dot Solids. Nano Letters, 2020, 20, 5284-5291.	4.5	47
17	Stable, Bromine-Free, Tetragonal Perovskites with 1.7 eV Bandgaps via A-Site Cation Substitution. , 2020, 2, 869-872.		18
18	Dimensional Mixing Increases the Efficiency of 2D/3D Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2020, 11, 5115-5119.	2.1	34

#	Article	IF	Citations
19	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. Nature Communications, 2020, 11, 1257.	5.8	180
20	Regulating strain in perovskite thin films through charge-transport layers. Nature Communications, 2020, 11, 1514.	5.8	346
21	Combining Efficiency and Stability in Mixed Tinâ€“Lead Perovskite Solar Cells by Capping Grains with an Ultrathin 2D Layer. Advanced Materials, 2020, 32, e1907058.	11.1	148
22	Multi-cation perovskites prevent carrier reflection from grain surfaces. Nature Materials, 2020, 19, 412-418.	13.3	100
23	Efficient near-infrared light-emitting diodes based on quantum dots in layered perovskite. Nature Photonics, 2020, 14, 227-233.	15.6	136
24	Transition Dipole Moments of n = 1, 2, and 3 Perovskite Quantum Wells from the Optical Stark Effect and Many-Body Perturbation Theory. Journal of Physical Chemistry Letters, 2020, 11, 716-723.	2.1	24
25	Ligand-Assisted Reconstruction of Colloidal Quantum Dots Decreases Trap State Density. Nano Letters, 2020, 20, 3694-3702.	4.5	46
26	Energy Level Tuning at the MAPbI₃ Perovskite/Contact Interface Using Chemical Treatment. ACS Energy Letters, 2019, 4, 2181-2184.	8.8	45
27	Photochemically Cross-Linked Quantum Well Ligands for 2D/3D Perovskite Photovoltaics with Improved Photovoltage and Stability. Journal of the American Chemical Society, 2019, 141, 14180-14189.	6.6	107
28	Ligand-Induced Surface Charge Density Modulation Generates Local Type-II Band Alignment in Reduced-Dimensional Perovskites. Journal of the American Chemical Society, 2019, 141, 13459-13467.	6.6	62
29	Suppressed Ion Migration in Reduced-Dimensional Perovskites Improves Operating Stability. ACS Energy Letters, 2019, 4, 1521-1527.	8.8	130
30	Lattice anchoring stabilizes solution-processed semiconductors. Nature, 2019, 570, 96-101.	13.7	208
31	Controlled Steric Hindrance Enables Efficient Ligand Exchange for Stable, Infrared-Bandgap Quantum Dot Inks. ACS Energy Letters, 2019, 4, 1225-1230.	8.8	54
32	Anchored Ligands Facilitate Efficient B-Site Doping in Metal Halide Perovskites. Journal of the American Chemical Society, 2019, 141, 8296-8305.	6.6	53
33	A Facetâ€Specific Quantum Dot Passivation Strategy for Colloid Management and Efficient Infrared Photovoltaics. Advanced Materials, 2019, 31, e1805580.	11.1	87
34	Contactless measurements of photocarrier transport properties in perovskite single crystals. Nature Communications, 2019, 10, 1591.	5.8	55
35	Efficient upgrading of CO to C3 fuel using asymmetric C-C coupling active sites. Nature Communications, 2019, 10, 5186.	5.8	127
36	Efficient hybrid colloidal quantum dot/organic solar cells mediated by near-infrared sensitizing small molecules. Nature Energy, 2019, 4, 969-976.	19.8	120

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37	Spectrally Resolved Ultrafast Exciton Transfer in Mixed Perovskite Quantum Wells. Journal of Physical Chemistry Letters, 2019, 10, 419-426.	2.1	74
38	Ultrafast photophysics of metal halide perovskite multiple quantum wells: device implications and reconciling band alignment. , 2019, , .		0
39	2D matrix engineering for homogeneous quantum dot coupling in photovoltaic solids. Nature Nanotechnology, 2018, 13, 456-462.	15.6	252
40	Synthetic Control over Quantum Well Width Distribution and Carrier Migration in Low-Dimensional Perovskite Photovoltaics. Journal of the American Chemical Society, 2018, 140, 2890-2896.	6.6	288
41	Multibandgap quantum dot ensembles for solar-matched infrared energy harvesting. Nature Communications, 2018, 9, 4003.	5.8	56
42	Picosecond Charge Transfer and Long Carrier Diffusion Lengths in Colloidal Quantum Dot Solids. Nano Letters, 2018, 18, 7052-7059.	4.5	51
43	Copper nanocavities confine intermediates for efficient electrosynthesis of C3 alcohol fuels from carbon monoxide. Nature Catalysis, 2018, 1, 946-951.	16.1	354
44	Examining Structureâ€“Propertyâ€“Function Relationships in Thiophene, Selenophene, and Tellurophene Homopolymers. ACS Applied Energy Materials, 2018, 1, 5033-5042.	2.5	24
45	Compositional and orientational control in metal halide perovskites of reduced dimensionality. Nature Materials, 2018, 17, 900-907.	13.3	351
46	Activated Electronâ€Transport Layers for Infrared Quantum Dot Optoelectronics. Advanced Materials, 2018, 30, e1801720.	11.1	57
47	Metalâ€“Organic Frameworks Mediate Cu Coordination for Selective CO₂ Electroreduction. Journal of the American Chemical Society, 2018, 140, 11378-11386.	6.6	326
48	2D Metal Oxyhalideâ€Derived Catalysts for Efficient CO₂ Electroreduction. Advanced Materials, 2018, 30, e1802858.	11.1	200
49	Metalâ€“Organic Framework Thin Films on High-Curvature Nanostructures Toward Tandem Electrocatalysis. ACS Applied Materials & Interfaces, 2018, 10, 31225-31232.	4.0	57
50	Acid-Assisted Ligand Exchange Enhances Coupling in Colloidal Quantum Dot Solids. Nano Letters, 2018, 18, 4417-4423.	4.5	57
51	Pseudohalideâ€Exchanged Quantum Dot Solids Achieve Record Quantum Efficiency in Infrared Photovoltaics. Advanced Materials, 2017, 29, 1700749.	11.1	79
52	Origins of Stokes Shift in PbS Nanocrystals. Nano Letters, 2017, 17, 7191-7195.	4.5	72
53	Enhanced Openâ€Circuit Voltage in Colloidal Quantum Dot Photovoltaics via Reactivityâ€Controlled Solutionâ€Phase Ligand Exchange. Advanced Materials, 2017, 29, 1703627.	11.1	49
54	Biexciton Resonances Reveal Exciton Localization in Stacked Perovskite Quantum Wells. Journal of Physical Chemistry Letters, 2017, 8, 3895-3901.	2.1	41

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55	Mixed-quantum-dot solar cells. Nature Communications, 2017, 8, 1325.	5.8	148
56	Single-step colloidal quantum dot films for infrared solar harvesting. Applied Physics Letters, 2016, 109, .	1.5	52
57	10.6% Certified Colloidal Quantum Dot Solar Cells via Solvent-Polarity-Engineered Halide Passivation. Nano Letters, 2016, 16, 4630-4634.	4.5	312
58	Ligand-induced symmetry breaking, size and morphology in colloidal lead sulfide QDs: from classic to thiourea precursors. , 0, 2, 1.		8