Bin Sun

List of Publications by Year
in descending order

43 papers	4,224 citations	126858 33 h-index	265120 42 g-index
44 all docs	44 docs citations	44 times ranked	4651 citing authors

#	Article	IF	Citations
1	Bipolar-shell resurfacing for blue LEDs based on strongly confined perovskite quantum dots. Nature Nanotechnology, 2020, 15, 668-674.	15.6	541
2	Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. Nature Energy, 2020, 5, 478-486.	19.8	363
3	Regulating strain in perovskite thin films through charge-transport layers. Nature Communications, 2020, 11, 1514.	5.8	346
4	2D matrix engineering for homogeneous quantum dot coupling in photovoltaic solids. Nature Nanotechnology, 2018, 13, 456-462.	15.6	252
5	Dipolar cations confer defect tolerance in wide-bandgap metal halide perovskites. Nature Communications, 2018, 9, 3100.	5.8	237
6	Lattice anchoring stabilizes solution-processed semiconductors. Nature, 2019, 570, 96-101.	13.7	208
7	Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. Nature Communications, 2020, 11, 103.	5.8	181
8	Mixed-quantum-dot solar cells. Nature Communications, 2017, 8, 1325.	5.8	148
9	Monolayer Perovskite Bridges Enable Strong Quantum Dot Coupling for Efficient Solar Cells. Joule, 2020, 4, 1542-1556.	11.7	143
10	Chloride Passivation of ZnO Electrodes Improves Charge Extraction in Colloidal Quantum Dot Photovoltaics. Advanced Materials, 2017, 29, 1702350.	11.1	126
11	Chloride Insertionâ€"Immobilization Enables Bright, Narrowband, and Stable Blue-Emitting Perovskite Diodes. Journal of the American Chemical Society, 2020, 142, 5126-5134.	6.6	116
12	Chelating-agent-assisted control of CsPbBr3 quantum well growth enables stable blue perovskite emitters. Nature Communications, 2020, 11, 3674.	5.8	112
13	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
14	Colloidal quantum dot photodetectors with 10-ns response time and 80% quantum efficiency at 1,550Ânm. Matter, 2021, 4, 1042-1053.	5.0	88
15	A Facetâ€Specific Quantum Dot Passivation Strategy for Colloid Management and Efficient Infrared Photovoltaics. Advanced Materials, 2019, 31, e1805580.	11.1	87
16	Mixed Lead Halide Passivation of Quantum Dots. Advanced Materials, 2019, 31, e1904304.	11.1	81
17	Pseudohalideâ€Exchanged Quantum Dot Solids Achieve Record Quantum Efficiency in Infrared Photovoltaics. Advanced Materials, 2017, 29, 1700749.	11.1	79
18	Overcoming the Ambient Manufacturabilityâ€Scalabilityâ€Performance Bottleneck in Colloidal Quantum Dot Photovoltaics. Advanced Materials, 2018, 30, e1801661.	11.1	79

#	Article	IF	Citations
19	Efficient Photon Recycling and Radiation Trapping in Cesium Lead Halide Perovskite Waveguides. ACS Energy Letters, 2018, 3, 1492-1498.	8.8	70
20	Butylamineâ€Catalyzed Synthesis of Nanocrystal Inks Enables Efficient Infrared CQD Solar Cells. Advanced Materials, 2018, 30, e1803830.	11.1	67
21	A Chemically Orthogonal Hole Transport Layer for Efficient Colloidal Quantum Dot Solar Cells. Advanced Materials, 2020, 32, e1906199.	11.1	59
22	Activated Electronâ€Transport Layers for Infrared Quantum Dot Optoelectronics. Advanced Materials, 2018, 30, e1801720.	11.1	57
23	Acid-Assisted Ligand Exchange Enhances Coupling in Colloidal Quantum Dot Solids. Nano Letters, 2018, 18, 4417-4423.	4.5	57
24	Multibandgap quantum dot ensembles for solar-matched infrared energy harvesting. Nature Communications, 2018, 9, 4003.	5.8	56
25	Controlled Steric Hindrance Enables Efficient Ligand Exchange for Stable, Infrared-Bandgap Quantum Dot Inks. ACS Energy Letters, 2019, 4, 1225-1230.	8.8	54
26	Picosecond Charge Transfer and Long Carrier Diffusion Lengths in Colloidal Quantum Dot Solids. Nano Letters, 2018, 18, 7052-7059.	4.5	51
27	Enhanced Openâ€Circuit Voltage in Colloidal Quantum Dot Photovoltaics via Reactivityâ€Controlled Solutionâ€Phase Ligand Exchange. Advanced Materials, 2017, 29, 1703627.	11.1	49
28	Stabilizing Surface Passivation Enables Stable Operation of Colloidal Quantum Dot Photovoltaic Devices at Maximum Power Point in an Air Ambient. Advanced Materials, 2020, 32, e1906497.	11.1	47
29	Nanoimprint-Transfer-Patterned Solids Enhance Light Absorption in Colloidal Quantum Dot Solar Cells. Nano Letters, 2017, 17, 2349-2353.	4.5	46
30	Ligand-Assisted Reconstruction of Colloidal Quantum Dots Decreases Trap State Density. Nano Letters, 2020, 20, 3694-3702.	4.5	46
31	Electroâ€Optic Modulation in Hybrid Metal Halide Perovskites. Advanced Materials, 2019, 31, e1808336.	11.1	42
32	Facetâ€Oriented Coupling Enables Fast and Sensitive Colloidal Quantum Dot Photodetectors. Advanced Materials, 2021, 33, e2101056.	11.1	42
33	Halide Re-Shelled Quantum Dot Inks for Infrared Photovoltaics. ACS Applied Materials & Interfaces, 2017, 9, 37536-37541.	4.0	35
34	Ligand Exchange at a Covalent Surface Enables Balanced Stoichiometry in IIIâ€"V Colloidal Quantum Dots. Nano Letters, 2021, 21, 6057-6063.	4.5	34
35	Fast Nearâ€Infrared Photodetection Using IIIâ€"V Colloidal Quantum Dots. Advanced Materials, 2022, 34, .	11.1	34
36	Infrared Cavity-Enhanced Colloidal Quantum Dot Photovoltaics Employing Asymmetric Multilayer Electrodes. ACS Energy Letters, 2018, 3, 2908-2913.	8.8	20

#	Article	IF	Citations
37	Lowâ€Temperatureâ€Processed Colloidal Quantum Dots as Building Blocks for Thermoelectrics. Advanced Energy Materials, 2019, 9, 1803049.	10.2	19
38	Colloidal Quantum Dot Solar Cell Band Alignment using Two-Step Ionic Doping. , 2020, 2, 1583-1589.		15
39	Accelerated solution-phase exchanges minimize defects in colloidal quantum dot solids. Nano Energy, 2019, 63, 103876.	8.2	12
40	Highly Passivated nâ€Type Colloidal Quantum Dots for Solutionâ€Processed Thermoelectric Generators with Large Output Voltage. Advanced Energy Materials, 2019, 9, 1901244.	10.2	12
41	In-situ-derived self-selective electrocatalysts for solar formate production from simultaneous CO2 reduction and methanol oxidation. Cell Reports Physical Science, 2022, 3, 100972.	2.8	12
42	Solar Cells: Overcoming the Ambient Manufacturabilityâ€Scalabilityâ€Performance Bottleneck in Colloidal Quantum Dot Photovoltaics (Adv. Mater. 35/2018). Advanced Materials, 2018, 30, 1870260.	11.1	3
43	Dopant-Assisted Matrix Stabilization Enables Thermoelectric Performance Enhancement in n-Type Quantum Dot Films. ACS Applied Materials & Interfaces, 2021, 13, 18999-19007.	4.0	3