

Bin Sun

List of Publications by Year in descending order

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Version: 2024-02-01

43
papers

4,224
citations

126858

33
h-index

265120

42
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44
all docs

44
docs citations

44
times ranked

4651
citing authors

#	ARTICLE	IF	CITATIONS
1	In-situ-derived self-selective electrocatalysts for solar formate production from simultaneous CO ₂ reduction and methanol oxidation. <i>Cell Reports Physical Science</i> , 2022, 3, 100972.	2.8	12
2	Fast Near-Infrared Photodetection Using InAs Colloidal Quantum Dots. <i>Advanced Materials</i> , 2022, 34, .	11.1	34
3	Colloidal quantum dot photodetectors with 10-ns response time and 80% quantum efficiency at 1,550Ånm. <i>Matter</i> , 2021, 4, 1042-1053.	5.0	88
4	Dopant-Assisted Matrix Stabilization Enables Thermoelectric Performance Enhancement in n-Type Quantum Dot Films. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 18999-19007.	4.0	3
5	Facet-Oriented Coupling Enables Fast and Sensitive Colloidal Quantum Dot Photodetectors. <i>Advanced Materials</i> , 2021, 33, e2101056.	11.1	42
6	Ligand Exchange at a Covalent Surface Enables Balanced Stoichiometry in InAs Colloidal Quantum Dots. <i>Nano Letters</i> , 2021, 21, 6057-6063.	4.5	34
7	Bright and Stable Light-Emitting Diodes Based on Perovskite Quantum Dots in Perovskite Matrix. <i>Journal of the American Chemical Society</i> , 2021, 143, 15606-15615.	6.6	94
8	Stabilizing Surface Passivation Enables Stable Operation of Colloidal Quantum Dot Photovoltaic Devices at Maximum Power Point in an Air Ambient. <i>Advanced Materials</i> , 2020, 32, e1906497.	11.1	47
9	Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. <i>Nature Communications</i> , 2020, 11, 103.	5.8	181
10	Chelating-agent-assisted control of CsPbBr ₃ quantum well growth enables stable blue perovskite emitters. <i>Nature Communications</i> , 2020, 11, 3674.	5.8	112
11	Colloidal Quantum Dot Solar Cell Band Alignment using Two-Step Ionic Doping. , 2020, 2, 1583-1589.		15
12	Efficient electrically powered CO ₂ -to-ethanol via suppression of deoxygenation. <i>Nature Energy</i> , 2020, 5, 478-486.	19.8	363
13	Monolayer Perovskite Bridges Enable Strong Quantum Dot Coupling for Efficient Solar Cells. <i>Joule</i> , 2020, 4, 1542-1556.	11.7	143
14	A Chemically Orthogonal Hole Transport Layer for Efficient Colloidal Quantum Dot Solar Cells. <i>Advanced Materials</i> , 2020, 32, e1906199.	11.1	59
15	Chloride Insertion-Immobilization Enables Bright, Narrowband, and Stable Blue-Emitting Perovskite Diodes. <i>Journal of the American Chemical Society</i> , 2020, 142, 5126-5134.	6.6	116
16	Regulating strain in perovskite thin films through charge-transport layers. <i>Nature Communications</i> , 2020, 11, 1514.	5.8	346
17	Bipolar-shell resurfacing for blue LEDs based on strongly confined perovskite quantum dots. <i>Nature Nanotechnology</i> , 2020, 15, 668-674.	15.6	541
18	Ligand-Assisted Reconstruction of Colloidal Quantum Dots Decreases Trap State Density. <i>Nano Letters</i> , 2020, 20, 3694-3702.	4.5	46

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19	Accelerated solution-phase exchanges minimize defects in colloidal quantum dot solids. <i>Nano Energy</i> , 2019, 63, 103876.	8.2	12
20	Mixed Lead Halide Passivation of Quantum Dots. <i>Advanced Materials</i> , 2019, 31, e1904304.	11.1	81
21	Highly Passivated n-Type Colloidal Quantum Dots for Solution-Processed Thermoelectric Generators with Large Output Voltage. <i>Advanced Energy Materials</i> , 2019, 9, 1901244.	10.2	12
22	Lattice anchoring stabilizes solution-processed semiconductors. <i>Nature</i> , 2019, 570, 96-101.	13.7	208
23	Controlled Steric Hindrance Enables Efficient Ligand Exchange for Stable, Infrared-Bandgap Quantum Dot Inks. <i>ACS Energy Letters</i> , 2019, 4, 1225-1230.	8.8	54
24	A Facet-Specific Quantum Dot Passivation Strategy for Colloid Management and Efficient Infrared Photovoltaics. <i>Advanced Materials</i> , 2019, 31, e1805580.	11.1	87
25	Electro-Optic Modulation in Hybrid Metal Halide Perovskites. <i>Advanced Materials</i> , 2019, 31, e1808336.	11.1	42
26	Low-Temperature-Processed Colloidal Quantum Dots as Building Blocks for Thermoelectrics. <i>Advanced Energy Materials</i> , 2019, 9, 1803049.	10.2	19
27	2D matrix engineering for homogeneous quantum dot coupling in photovoltaic solids. <i>Nature Nanotechnology</i> , 2018, 13, 456-462.	15.6	252
28	Infrared Cavity-Enhanced Colloidal Quantum Dot Photovoltaics Employing Asymmetric Multilayer Electrodes. <i>ACS Energy Letters</i> , 2018, 3, 2908-2913.	8.8	20
29	Multibandgap quantum dot ensembles for solar-matched infrared energy harvesting. <i>Nature Communications</i> , 2018, 9, 4003.	5.8	56
30	Butylamine-Catalyzed Synthesis of Nanocrystal Inks Enables Efficient Infrared CQD Solar Cells. <i>Advanced Materials</i> , 2018, 30, e1803830.	11.1	67
31	Picosecond Charge Transfer and Long Carrier Diffusion Lengths in Colloidal Quantum Dot Solids. <i>Nano Letters</i> , 2018, 18, 7052-7059.	4.5	51
32	Solar Cells: Overcoming the Ambient Manufacturability-Scalability-Performance Bottleneck in Colloidal Quantum Dot Photovoltaics (<i>Adv. Mater.</i> 35/2018). <i>Advanced Materials</i> , 2018, 30, 1870260.	11.1	3
33	Activated Electron-Transport Layers for Infrared Quantum Dot Optoelectronics. <i>Advanced Materials</i> , 2018, 30, e1801720.	11.1	57
34	Efficient Photon Recycling and Radiation Trapping in Cesium Lead Halide Perovskite Waveguides. <i>ACS Energy Letters</i> , 2018, 3, 1492-1498.	8.8	70
35	Overcoming the Ambient Manufacturability-Scalability-Performance Bottleneck in Colloidal Quantum Dot Photovoltaics. <i>Advanced Materials</i> , 2018, 30, e1801661.	11.1	79
36	Dipolar cations confer defect tolerance in wide-bandgap metal halide perovskites. <i>Nature Communications</i> , 2018, 9, 3100.	5.8	237

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37	Acid-Assisted Ligand Exchange Enhances Coupling in Colloidal Quantum Dot Solids. Nano Letters, 2018, 18, 4417-4423.	4.5	57
38	Pseudohalide-Exchanged Quantum Dot Solids Achieve Record Quantum Efficiency in Infrared Photovoltaics. Advanced Materials, 2017, 29, 1700749.	11.1	79
39	Nanoimprint-Transfer-Patterned Solids Enhance Light Absorption in Colloidal Quantum Dot Solar Cells. Nano Letters, 2017, 17, 2349-2353.	4.5	46
40	Enhanced Open-Circuit Voltage in Colloidal Quantum Dot Photovoltaics via Reactivity-Controlled Solution-Phase Ligand Exchange. Advanced Materials, 2017, 29, 1703627.	11.1	49
41	Halide Re-Shelled Quantum Dot Inks for Infrared Photovoltaics. ACS Applied Materials & Interfaces, 2017, 9, 37536-37541.	4.0	35
42	Chloride Passivation of ZnO Electrodes Improves Charge Extraction in Colloidal Quantum Dot Photovoltaics. Advanced Materials, 2017, 29, 1702350.	11.1	126
43	Mixed-quantum-dot solar cells. Nature Communications, 2017, 8, 1325.	5.8	148