Joshua J Choi

List of Publications by Year
in descending order

47 papers	5,234 citations	172386 29 h-index	243529 44 g-index
47 all docs	47 docs citations	47 times ranked	8553 citing authors

#	Article	IF	Citations
1	Ligand Exchange and the Stoichiometry of Metal Chalcogenide Nanocrystals: Spectroscopic Observation of Facile Metal-Carboxylate Displacement and Binding. Journal of the American Chemical Society, 2013, 135, 18536-18548.	6.6	714
2	Bright infrared quantum-dot light-emitting diodes through inter-dot spacing control. Nature Nanotechnology, 2012, 7, 369-373.	15.6	429
3	PbSe Nanocrystal Excitonic Solar Cells. Nano Letters, 2009, 9, 3749-3755.	4.5	360
4	Origin of vertical orientation in two-dimensional metal halide perovskites and its effect on photovoltaic performance. Nature Communications, 2018, 9, 1336.	5.8	323
5	Structure of Methylammonium Lead Iodide Within Mesoporous Titanium Dioxide: Active Material in High-Performance Perovskite Solar Cells. Nano Letters, 2014, 14, 127-133.	4.5	282
6	SnSe Nanocrystals: Synthesis, Structure, Optical Properties, and Surface Chemistry. Journal of the American Chemical Society, 2010, 132, 9519-9521.	6.6	271
7	Predicting Nanocrystal Shape through Consideration of Surface-Ligand Interactions. ACS Nano, 2012, 6, 2118-2127.	7.3	236
8	Rotational dynamics of organic cations in the CH₃NH₃PbI₃perovskite. Physical Chemistry Chemical Physics, 2015, 17, 31278-31286.	1.3	212
9	Entropy-driven structural transition and kinetic trapping in formamidinium lead iodide perovskite. Science Advances, 2016, 2, e1601650.	4.7	203
10	Controlling Nanocrystal Superlattice Symmetry and Shape-Anisotropic Interactions through Variable Ligand Surface Coverage. Journal of the American Chemical Society, 2011, 133, 3131-3138.	6.6	198
11	Photogenerated Exciton Dissociation in Highly Coupled Lead Salt Nanocrystal Assemblies. Nano Letters, 2010, 10, 1805-1811.	4.5	194
12	Shape-Anisotropy Driven Symmetry Transformations in Nanocrystal Superlattice Polymorphs. ACS Nano, 2011, 5, 2815-2823.	7.3	188
13	Temperature dependent energy levels of methylammonium lead iodide perovskite. Applied Physics Letters, 2015, 106, .	1.5	159
14	Origin of long lifetime of band-edge charge carriers in organicâ€“inorganic lead iodide perovskites. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 7519-7524.	3.3	137
15	Solutionâ€Processed Nanocrystal Quantum Dot Tandem Solar Cells. Advanced Materials, 2011, 23, 3144-3148.	11.1	128
16	Controlling nucleation, growth, and orientation of metal halide perovskite thin films with rationally selected additives. Journal of Materials Chemistry A, 2017, 5, 113-123.	5.2	115
17	Improved Charge Collection in Highly Efficient CsPbBrI₂ Solar Cells with Light-Induced Dealloying. ACS Energy Letters, 2017, 2, 1043-1049.	8.8	103
18	Understanding the Formation of Vertical Orientation in Two-dimensional Metal Halide Perovskite Thin Films. Chemistry of Materials, 2019, 31, 1336-1343.	3.2	93

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19	Role of Solvent Dielectric Properties on Charge Transfer from PbS Nanocrystals to Molecules. Nano Letters, 2010, 10, 318-323.	4.5	79
20	Interface-Induced Nucleation, Orientational Alignment and Symmetry Transformations in Nanocube Superlattices. Nano Letters, 2012, 12, 4791-4798.	4.5	76
21	Structure/Processing Relationships of Highly Ordered Lead Salt Nanocrystal Superlattices. ACS Nano, 2009, 3, 2975-2988.	7.3	75
22	PbSe Nanocrystal Network Formation during Pyridine Ligand Displacement. ACS Applied Materials & Interfaces, 2009, 1, 244-250.	4.0	64
23	Ultralow Thermal Conductivity of Two-Dimensional Metal Halide Perovskites. Nano Letters, 2020, 20, 3331-3337.	4.5	64
24	Facile Synthesis of Colloidal CuO Nanocrystals for Light-Harvesting Applications. Journal of Nanomaterials, 2012, 2012, 1-6.	1.5	61
25	Crystallographic orientation propagation in metal halide perovskite thin films. Journal of Materials Chemistry A, 2017, 5, 7796-7800.	5.2	57
26	Nature of the cubic to tetragonal phase transition in methylammonium lead iodide perovskite. Journal of Chemical Physics, 2016, 145, 144702.	1.2	53
27	A Hot Electronâ€“Hole Pair Breaks the Symmetry of a Semiconductor Quantum Dot. Nano Letters, 2013, 13, 6091-6097.	4.5	51
28	Room-Temperature Processing of TiO_x Electron Transporting Layer for Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2017, 8, 3206-3210.	2.1	36
29	Heterojunction PbS Nanocrystal Solar Cells with Oxide Charge-Transport Layers. ACS Nano, 2013, 7, 10938-10947.	7.3	34
30	Pulsed Laser Annealing of Thin Films of Self-Assembled Nanocrystals. ACS Nano, 2011, 5, 7010-7019.	7.3	26
31	Charge transport in bulk CH3NH3PbI3 perovskite. Journal of Applied Physics, 2016, 119, .	1.1	25
32	Impact of Crystallographic Orientation Disorders on Electronic Heterogeneities in Metal Halide Perovskite Thin Films. Nano Letters, 2018, 18, 6271-6278.	4.5	22
33	Perovskites at the nanoscale: from fundamentals to applications. Nanoscale, 2016, 8, 6206-6208.	2.8	21
34	Laser Annealing of TiO₂ Electron-Transporting Layer in Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 41312-41317.	4.0	20
35	Colloidal Nanocrystals as a Platform for Rapid Screening of Charge Trap Passivating Molecules for Metal Halide Perovskite Thin Films. Chemistry of Materials, 2018, 30, 4515-4526.	3.2	19
36	Crystallographic orientation and layer impurities in two-dimensional metal halide perovskite thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 010801.	0.9	19

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37	Ytterbium-Doped Cesium Lead Chloride Perovskite as an X-ray Scintillator with High Light Yield. ACS Omega, 2022, 7, 20968-20974.	1.6	17
38	Crystallization of high aspect ratio HKUST-1 thin films in nanoconfined channels for selective small molecule uptake. Nanoscale Advances, 2019, 1, 2946-2952.	2.2	15
39	Organic molecular dynamics and charge-carrier lifetime in lead iodide perovskite MAPbI ₃. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	14
40	Relationship between the Nature of Monovalent Cations and Charge Recombination in Metal Halide Perovskites. ACS Applied Energy Materials, 2020, 3, 1298-1304.	2.5	11
41	A new metric to control nucleation and grain size distribution in hybrid organicâ€“inorganic perovskites by tuning the dielectric constant of the antisolvent. Journal of Materials Chemistry A, 2021, 9, 3668-3676.	5.2	10
42	Crystal structures and rotational dynamics of a two-dimensional metal halide perovskite (OA)2PbI4. Journal of Chemical Physics, 2020, 152, 014703.	1.2	7
43	Temporally decoherent and spatially coherent vibrations in metal halide perovskites. Physical Review B, 2020, 102, .	1.1	7
44	Silicon Surface Passivation by Laser Processing a Solâ€“Gel TiO_x Thin Film. ACS Applied Energy Materials, 0, , .	2.5	4
45	Exciton dissociation in quantum dots connected with photochromic molecule bridges. Journal of Materials Chemistry C, 2021, 9, 16006-16013.	2.7	2
46	Bright infrared LEDs based on colloidal quantum-dots. Materials Research Society Symposia Proceedings, 2013, 1509, 1.	0.1	0
47	The impact of cation and anion pairing in ionic salts on surface defect passivation in cesium lead bromide nanocrystals. Journal of Materials Chemistry C, 2021, 9, 991-999.	2.7	0