Jay B Patel

List of Publications by Year in descending order

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42 papers	6,673 citations	136950 32 h-index	289244 40 g-index
42 all docs	42 docs citations	42 times ranked	8633 citing authors

#	Article	IF	Citations
1	Solvent-Free Method for Defect Reduction and Improved Performance of p-i-n Vapor-Deposited Perovskite Solar Cells. ACS Energy Letters, 2022, 7, 1903-1911.	17.4	33
2	Incorporating Electrochemical Halide Oxidation into Driftâ€Diffusion Models to Explain Performance Losses in Perovskite Solar Cells under Prolonged Reverse Bias. Advanced Energy Materials, 2021, 11, 2002614.	19.5	34
3	Halide Segregation in Mixed-Halide Perovskites: Influence of A-Site Cations. ACS Energy Letters, 2021, 6, 799-808.	17.4	129
4	Limits to Electrical Mobility in Lead-Halide Perovskite Semiconductors. Journal of Physical Chemistry Letters, 2021, 12, 3607-3617.	4.6	45
5	Temperature Coefficients of Perovskite Photovoltaics for Energy Yield Calculations. ACS Energy Letters, 2021, 6, 2038-2047.	17.4	43
6	In-Operando Characterization of P-I-N Perovskite Solar Cells Under Reverse Bias. , 2021, , .		3
7	Ultrafast photo-induced phonon hardening due to Pauli blocking in MAPbI₃ single-crystal and polycrystalline perovskites. JPhys Materials, 2021, 4, 044017.	4.2	4
8	Phase segregation in mixed-halide perovskites affects charge-carrier dynamics while preserving mobility. Nature Communications, 2021, 12, 6955.	12.8	72
9	Elucidating the Role of a Tetrafluoroborateâ€Based Ionic Liquid at the nâ€Type Oxide/Perovskite Interface. Advanced Energy Materials, 2020, 10, 1903231.	19.5	81
10	Control over Crystal Size in Vapor Deposited Metal-Halide Perovskite Films. ACS Energy Letters, 2020, 5, 710-717.	17.4	72
11	Efficient energy transfer mitigates parasitic light absorption in molecular charge-extraction layers for perovskite solar cells. Nature Communications, 2020, 11, 5525.	12.8	15
12	CsPbBr₃ Nanocrystal Films: Deviations from Bulk Vibrational and Optoelectronic Properties. Advanced Functional Materials, 2020, 30, 1909904.	14.9	29
13	Trap States, Electric Fields, and Phase Segregation in Mixedâ€Halide Perovskite Photovoltaic Devices. Advanced Energy Materials, 2020, 10, 1903488.	19.5	79
14	Metal composition influences optoelectronic quality in mixed-metal leadâ€“tin triiodide perovskite solar absorbers. Energy and Environmental Science, 2020, 13, 1776-1787.	30.8	87
15	Light Absorption and Recycling in Hybrid Metal Halide Perovskite Photovoltaic Devices. Advanced Energy Materials, 2020, 10, 1903653.	19.5	28
16	Growth modes and quantum confinement in ultrathin vapour-deposited MAPbI₃ films. Nanoscale, 2019, 11, 14276-14284.	5.6	51
17	Dual-Source Coevaporation of Low-Bandgap FA_{1â€“x}Cs_xSn_{1â€“y}Pb_yI₃ Perovskites for Photovoltaics. ACS Energy Letters, 2019, 4, 2748-2756.	17.4	43
18	Elucidating the long-range charge carrier mobility in metal halide perovskite thin films. Energy and Environmental Science, 2019, 12, 169-176.	30.8	115

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19	Effect of Ultraviolet Radiation on Organic Photovoltaic Materials and Devices. ACS Applied Materials & Interfaces, 2019, 11, 21543-21551.	8.0	37
20	Chargeâ€Carrier Dynamics, Mobilities, and Diffusion Lengths of 2Dâ€“3D Hybrid Butylammoniumâ€“Cesiumâ€“Formamidinium Lead Halide Perovskites. Advanced Functional Materials, 2019, 29, 1902656.	14.9	45
21	Time-resolved THz spectroscopy of metal-halide perovskite single crystals and polycrystalline thin films. , 2019, , .		3
22	Electronic Traps and Phase Segregation in Lead Mixed-Halide Perovskite. ACS Energy Letters, 2019, 4, 75-84.	17.4	212
23	Bimolecular recombination in methylammonium lead triiodide perovskite is an inverse absorption process. Nature Communications, 2018, 9, 293.	12.8	243
24	Photocurrent Spectroscopy of Perovskite Solar Cells Over a Wide Temperature Range from 15 to 350 K. Journal of Physical Chemistry Letters, 2018, 9, 263-268.	4.6	23
25	Highly Crystalline Methylammonium Lead Tribromide Perovskite Films for Efficient Photovoltaic Devices. ACS Energy Letters, 2018, 3, 1233-1240.	17.4	54
26	Temperature-Dependent Refractive Index of Quartz at Terahertz Frequencies. Journal of Infrared, Millimeter, and Terahertz Waves, 2018, 39, 1236-1248.	2.2	75
27	Modification of the fluorinated tin oxide/electron-transporting material interface by a strong reductant and its effect on perovskite solar cell efficiency. Molecular Systems Design and Engineering, 2018, 3, 741-747.	3.4	9
28	Efficient and Airâ€Stable Mixedâ€Cation Lead Mixedâ€Halide Perovskite Solar Cells with nâ€Doped Organic Electron Extraction Layers. Advanced Materials, 2017, 29, 1604186.	21.0	237
29	Crystallization Kinetics and Morphology Control of Formamidiniumâ€“Cesium Mixedâ€Cation Lead Mixedâ€Halide Perovskite via Tunability of the Colloidal Precursor Solution. Advanced Materials, 2017, 29, 1607039.	21.0	263
30	Influence of Interface Morphology on Hysteresis in Vaporâ€Deposited Perovskite Solar Cells. Advanced Electronic Materials, 2017, 3, 1600470.	5.1	63
31	Photovoltaic mixed-cation lead mixed-halide perovskites: links between crystallinity, photo-stability and electronic properties. Energy and Environmental Science, 2017, 10, 361-369.	30.8	482
32	Unveiling the Influence of pH on the Crystallization of Hybrid Perovskites, Delivering Low Voltage Loss Photovoltaics. Joule, 2017, 1, 328-343.	24.0	148
33	Nearâ€Infrared and Shortâ€Wavelength Infrared Photodiodes Based on Dyeâ€“Perovskite Composites. Advanced Functional Materials, 2017, 27, 1702485.	14.9	59
34	Photon Reabsorption Masks Intrinsic Bimolecular Charge-Carrier Recombination in CH₃NH₃PbI₃ Perovskite. Nano Letters, 2017, 17, 5782-5789.	9.1	147
35	Large-Area, Highly Uniform Evaporated Formamidinium Lead Triiodide Thin Films for Solar Cells. ACS Energy Letters, 2017, 2, 2799-2804.	17.4	116
36	Bandgapâ€Tunable Cesium Lead Halide Perovskites with High Thermal Stability for Efficient Solar Cells. Advanced Energy Materials, 2016, 6, 1502458.	19.5	1,265

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37	Efficient perovskite solar cells by metal ion doping. Energy and Environmental Science, 2016, 9, 2892-2901.	30.8	372
38	Perovskite-perovskite tandem photovoltaics with optimized band gaps. Science, 2016, 354, 861-865.	12.6	1,107
39	Structured Organicâ€“Inorganic Perovskite toward a Distributed Feedback Laser. Advanced Materials, 2016, 28, 923-929.	21.0	257
40	Formation Dynamics of CH₃NH₃PbI₃ Perovskite Following Two-Step Layer Deposition. Journal of Physical Chemistry Letters, 2016, 7, 96-102.	4.6	100
41	Enhanced Amplified Spontaneous Emission in Perovskites Using a Flexible Cholesteric Liquid Crystal Reflector. Nano Letters, 2015, 15, 4935-4941.	9.1	117
42	Vibrational Properties of the Organicâ€“Inorganic Halide Perovskite CH₃NH₃PbI₃ from Theory and Experiment: Factor Group Analysis, First-Principles Calculations, and Low-Temperature Infrared Spectra. Journal of Physical Chemistry C, 2015, 119, 25703-25718.	3.1	276