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	Bandgapâ€Tunable Cesium Lead Halide Perovskites with High Thermal Stability for Efficient Solar Cells. Advanced Energy Materials, 2016, 6, 1502458.	19.5	1,265
2	Perovskite-perovskite tandem photovoltaics with optimized band gaps. Science, 2016, 354, 861-865.	12.6	1,107
3	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
4	Efficient perovskite solar cells by metal ion doping. Energy and Environmental Science, 2016, 9, 2892-2901.	30.8	372
5	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
6	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
7	Structured Organicâ€“Inorganic Perovskite toward a Distributed Feedback Laser. Advanced Materials, 2016, 28, 923-929.	21.0	257
8	Bimolecular recombination in methylammonium lead triiodide perovskite is an inverse absorption process. Nature Communications, 2018, 9, 293.	12.8	243
9	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
10	Electronic Traps and Phase Segregation in Lead Mixed-Halide Perovskite. ACS Energy Letters, 2019, 4, 75-84.	17.4	212
11	Unveiling the Influence of pH on the Crystallization of Hybrid Perovskites, Delivering Low Voltage Loss Photovoltaics. Joule, 2017, 1, 328-343.	24.0	148
12	Photon Reabsorption Masks Intrinsic Bimolecular Charge-Carrier Recombination in CH₃NH₃PbI₃ Perovskite. Nano Letters, 2017, 17, 5782-5789.	9.1	147
13	Halide Segregation in Mixed-Halide Perovskites: Influence of A-Site Cations. ACS Energy Letters, 2021, 6, 799-808.	17.4	129
14	Enhanced Amplified Spontaneous Emission in Perovskites Using a Flexible Cholesteric Liquid Crystal Reflector. Nano Letters, 2015, 15, 4935-4941.	9.1	117
15	Large-Area, Highly Uniform Evaporated Formamidinium Lead Triiodide Thin Films for Solar Cells. ACS Energy Letters, 2017, 2, 2799-2804.	17.4	116
16	Elucidating the long-range charge carrier mobility in metal halide perovskite thin films. Energy and Environmental Science, 2019, 12, 169-176.	30.8	115
17	Formation Dynamics of CH₃NH₃PbI₃ Perovskite Following Two-Step Layer Deposition. Journal of Physical Chemistry Letters, 2016, 7, 96-102.	4.6	100
18	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

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19	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
20	Trap States, Electric Fields, and Phase Segregation in Mixedâ€Halide Perovskite Photovoltaic Devices. Advanced Energy Materials, 2020, 10, 1903488.	19.5	79
21	Temperature-Dependent Refractive Index of Quartz at Terahertz Frequencies. Journal of Infrared, Millimeter, and Terahertz Waves, 2018, 39, 1236-1248.	2.2	75
22	Control over Crystal Size in Vapor Deposited Metal-Halide Perovskite Films. ACS Energy Letters, 2020, 5, 710-717.	17.4	72
23	Phase segregation in mixed-halide perovskites affects charge-carrier dynamics while preserving mobility. Nature Communications, 2021, 12, 6955.	12.8	72
24	Influence of Interface Morphology on Hysteresis in Vaporâ€Deposited Perovskite Solar Cells. Advanced Electronic Materials, 2017, 3, 1600470.	5.1	63
25	Nearâ€Infrared and Shortâ€Wavelength Infrared Photodiodes Based on Dyeâ€“Perovskite Composites. Advanced Functional Materials, 2017, 27, 1702485.	14.9	59
26	Highly Crystalline Methylammonium Lead Tribromide Perovskite Films for Efficient Photovoltaic Devices. ACS Energy Letters, 2018, 3, 1233-1240.	17.4	54
27	Growth modes and quantum confinement in ultrathin vapour-deposited MAPbI₃ films. Nanoscale, 2019, 11, 14276-14284.	5.6	51
28	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
29	Limits to Electrical Mobility in Lead-Halide Perovskite Semiconductors. Journal of Physical Chemistry Letters, 2021, 12, 3607-3617.	4.6	45
30	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
31	Temperature Coefficients of Perovskite Photovoltaics for Energy Yield Calculations. ACS Energy Letters, 2021, 6, 2038-2047.	17.4	43
32	Effect of Ultraviolet Radiation on Organic Photovoltaic Materials and Devices. ACS Applied Materials & Interfaces, 2019, 11, 21543-21551.	8.0	37
33	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
34	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
35	CsPbBr₃ Nanocrystal Films: Deviations from Bulk Vibrational and Optoelectronic Properties. Advanced Functional Materials, 2020, 30, 1909904.	14.9	29
36	Light Absorption and Recycling in Hybrid Metal Halide Perovskite Photovoltaic Devices. Advanced Energy Materials, 2020, 10, 1903653.	19.5	28

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37	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
38	Efficient energy transfer mitigates parasitic light absorption in molecular charge-extraction layers for perovskite solar cells. Nature Communications, 2020, 11, 5525.	12.8	15
39	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
40	Ultrafast photo-induced phonon hardening due to Pauli blocking in MAPbI₃ single-crystal and polycrystalline perovskites. JPhys Materials, 2021, 4, 044017.	4.2	4
41	Time-resolved THz spectroscopy of metal-halide perovskite single crystals and polycrystalline thin films. , 2019, , .		3
42	In-Operando Characterization of P-I-N Perovskite Solar Cells Under Reverse Bias. , 2021, , .		3