

# High Charge Carrier Mobilities and Lifetimes in Organo

Advanced Materials

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Citation Report

#	ARTICLE	IF	CITATIONS
17	band gap of the hybrid organic-inorganic perovskite Effect of spin-orbit interaction, semicore electrons, an. Physical Review B, 2014, 90, .	3.2	126
18	Steric engineering of metal-halide perovskites with tunable optical band gaps. Nature Communications, 2014, 5, 5757.	12.8	787
19	Origin and elimination of photocurrent hysteresis by fullerene passivation in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> planar heterojunction solar cells. Nature Communications, 2014, 5, 5784.	12.8	2,531
20	Lasing behaviors upon phase transition in solution-processed perovskite thin films. Applied Physics Letters, 2014, 105, .	3.3	59
21	Efficient methylammonium lead iodide perovskite solar cells with active layers from 300 to 900 nm. APL Materials, 2014, 2, .	5.1	118
22	Hole-transport material variation in fully vacuum deposited perovskite solar cells. APL Materials, 2014, 2, .	5.1	163
23	Perovskite-based low-cost and high-efficiency hybrid halide solar cells. Photonics Research, 2014, 2, 111.	7.0	89
24	Fully crystalline perovskite-erylene hybrid photovoltaic cell capable of 1.2 V output with a minimized voltage loss. APL Materials, 2014, 2, .	5.1	37
25	Chloride in Lead Chloride-Derived Organo-Metal Halides for Perovskite-Absorber Solar Cells. Chemistry of Materials, 2014, 26, 7158-7165.	6.7	256
26	An easy-to-fabricate low-temperature TiO <sub>2</sub> electron collection layer for high efficiency planar heterojunction perovskite solar cells. APL Materials, 2014, 2, .	5.1	99
27	Low-temperature solution-processed wavelength-tunable perovskites for lasing. Nature Materials, 2014, 13, 476-480.	27.5	2,725
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29	High Photoluminescence Efficiency and Optically Pumped Lasing in Solution-Processed Mixed Halide Perovskite Semiconductors. Journal of Physical Chemistry Letters, 2014, 5, 1421-1426.	4.6	1,490
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31	Lead-free organo-inorganic tin halide perovskites for photovoltaic applications. Energy and Environmental Science, 2014, 7, 3061-3068.	30.8	2,086
32	Organohalide lead perovskites for photovoltaic applications. Energy and Environmental Science, 2014, 7, 2448-2463.	30.8	1,220
33	Recombination Study of Combined Halides (Cl, Br, I) Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2014, 5, 1628-1635.	4.6	384
34	Advancements in perovskite solar cells: photophysics behind the photovoltaics. Energy and Environmental Science, 2014, 7, 2518-2534.	30.8	694

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35	Analysis of Multivalley and Multibandgap Absorption and Enhancement of Free Carriers Related to Exciton Screening in Hybrid Perovskites. Journal of Physical Chemistry C, 2014, 118, 11566-11572.	3.1	463
36	Solution Deposition→Conversion for Planar Heterojunction Mixed Halide Perovskite Solar Cells. Advanced Energy Materials, 2014, 4, 1400355.	19.5	325
37	Homogeneous Emission Line Broadening in the Organo Lead Halide Perovskite $\text{CH}_3\text{NH}_3\text{PbI}_3$ . Journal of Physical Chemistry Letters, 2014, 5, 1300-1306.	4.6	319
38	Qualifying composition dependent $p$ and $n$ self-doping in $\text{CH}_3\text{NH}_3\text{PbI}_3$ . Applied Physics Letters, 2014, 105, .	3.3	518
39	Effect of $\text{CH}_3\text{NH}_3\text{PbI}_3$ thickness on device efficiency in planar heterojunction perovskite solar cells. Journal of Materials Chemistry A, 2014, 2, 19873-19881.	10.3	314
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46	Femtosecond Excitonic Relaxation Dynamics of Perovskite on Mesoporous Films of $\text{Al}_2\text{O}_3$ and $\text{NiO}$ Nanoparticles. Angewandte Chemie, 2014, 126, 9493-9496.	2.0	31
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55	Charge carrier recombination channels in the low-temperature phase of organic-inorganic lead halide perovskite thin films. APL Materials, 2014, 2, .	5.1	194
56	Termination Dependence of Tetragonal $\text{CH}_3\text{NH}_3\text{PbI}_3$ Surfaces for Perovskite Solar Cells. Journal of Physical Chemistry Letters, 2014, 5, 2903-2909.	4.6	320
57	Band filling with free charge carriers in organometal halide perovskites. Nature Photonics, 2014, 8, 737-743.	31.4	943
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68	Charge-carrier dynamics in vapour-deposited films of the organolead halide perovskite $\text{CH}_3\text{NH}_3\text{Pb}_{1-\text{x}}\text{Cl}_\text{x}$ . Energy and Environmental Science, 2014, 7, 2269-2275.	30.8	427
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93	16.1% Efficient Hysteresis-Free Mesoporous Perovskite Solar Cells Based on Synergistically Improved ZnO Nanorod Arrays. Advanced Energy Materials, 2015, 5, 1500568.	19.5	222
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101	Improving efficiency of planar hybrid CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> x Cl x perovskite solar cells by isopropanol solvent treatment. Organic Electronics, 2015, 24, 205-211.	2.6	41
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131	Characterization of Planar Lead Halide Perovskite Solar Cells by Impedance Spectroscopy, Open-Circuit Photovoltage Decay, and Intensity-Modulated Photovoltage/Photocurrent Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2015, 119, 3456-3465.	3.1	361
132	Air-Stable and Solution-Processable Perovskite Photodetectors for Solar-Blind UV and Visible Light. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 535-539.	4.6	265
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150	Elucidation of Perovskite Film Micro-Orientations Using Two-Photon Total Internal Reflectance Fluorescence Microscopy. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 3283-3288.	4.6	24
151	Charge carrier mobility in hybrid halide perovskites. <i>Scientific Reports</i> , 2015, 5, 12746.	3.3	294
152	Controllable Grain Morphology of Perovskite Absorber Film by Molecular Self-Assembly toward Efficient Solar Cell Exceeding 17%. <i>Journal of the American Chemical Society</i> , 2015, 137, 10399-10405.	13.7	347
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157	Hole-transport-material-free perovskite solar cells based on nanoporous gold back electrode. <i>RSC Advances</i> , 2015, 5, 58543-58548.	3.6	20
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163	Spatial Localization of Excitons and Charge Carriers in Hybrid Perovskite Thin Films. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 3041-3047.	4.6	59
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1039	Design of High-Efficiency and Environmentally Stable Mixed-Dimensional Perovskite Solar Cells Based on Cesium-Formamidinium Lead Halide Component. <i>Chemistry of Materials</i> , 2018, 30, 7691-7698.	6.7	25
1040	Analysis of Photocarrier Dynamics at Interfaces in Perovskite Solar Cells by Time-Resolved Photoluminescence. <i>Journal of Physical Chemistry C</i> , 2018, 122, 26805-26815.	3.1	79
1041	New Tin(II) Fluoride Derivative as a Precursor for Enhancing the Efficiency of Inverted Planar Tin/Lead Perovskite Solar Cells. <i>Journal of Physical Chemistry C</i> , 2018, 122, 27284-27291.	3.1	26
1042	Highly efficient MoO <sub>x</sub> -free semitransparent perovskite cell for 4-sun tandem application improving the efficiency of commercially-available Al-BSF silicon. <i>Scientific Reports</i> , 2018, 8, 16139.	3.3	30
1043	Room-Temperature Continuous-Wave Operation of Organometal Halide Perovskite Lasers. <i>ACS Nano</i> , 2018, 12, 10968-10976.	14.6	140
1044	Novel Physical Vapor Deposition Approach to Hybrid Perovskites: Growth of MAPbI <sub>3</sub> Thin Films by RF-Magnetron Sputtering. <i>Scientific Reports</i> , 2018, 8, 15388.	3.3	30
1045	Atomic-layer-deposited ultra-thin VO <sub>x</sub> film as a hole transport layer for perovskite solar cells. <i>Semiconductor Science and Technology</i> , 2018, 33, 115016.	2.0	22
1046	Hamiltonians and order parameters for crystals of orientable molecules. <i>Physical Review B</i> , 2018, 98, .	3.2	9
1047	Raman Spectrum of the Organic-Inorganic Halide Perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> from First Principles and High-Resolution Low-Temperature Raman Measurements. <i>Journal of Physical Chemistry C</i> , 2018, 122, 21703-21717.	3.1	87
1048	First-Principles Analysis of Radiative Recombination in Lead-Halide Perovskites. <i>ACS Energy Letters</i> , 2018, 3, 2329-2334.	17.4	81
1049	Novel efficient C60-based inverted perovskite solar cells with negligible hysteresis. <i>Electrochimica Acta</i> , 2018, 288, 115-125.	5.2	40
1050	Ultra-stable 2D layered methylammonium cadmium trihalide perovskite photoelectrodes. <i>Journal of Materials Chemistry C</i> , 2018, 6, 11552-11560.	5.5	20
1051	Unexpectedly Strong Auger Recombination in Halide Perovskites. <i>Advanced Energy Materials</i> , 2018, 8, 1801027.	19.5	64
1052	Surface Ligand Management for Stable FAPbI <sub>3</sub> Perovskite Quantum Dot Solar Cells. <i>Joule</i> , 2018, 2, 1866-1878.	24.0	187
1053	Spiro-linked organic small molecules as hole-transport materials for perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2018, 6, 18750-18765.	10.3	87
1054	Chemical interaction dictated energy level alignment at the N,N'-dipentyl-3,4,9,10-perylenedicarboximide/CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> interface. <i>Applied Physics Letters</i> , 2018, 113, .	3.3	11
1055	Can we use time-resolved measurements to get steady-state transport data for halide perovskites?. <i>Journal of Applied Physics</i> , 2018, 124, .	2.5	39

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1056	Flexible Linearly Polarized Photodetectors Based on All-Inorganic Perovskite CsPbI <sub>3</sub> Nanowires. <i>Advanced Optical Materials</i> , 2018, 6, 1800679.	7.3	85
1057	Impact of Crystallographic Orientation Disorders on Electronic Heterogeneities in Metal Halide Perovskite Thin Films. <i>Nano Letters</i> , 2018, 18, 6271-6278.	9.1	22
1059	Compositional and orientational control in metal halide perovskites of reduced dimensionality. <i>Nature Materials</i> , 2018, 17, 900-907.	27.5	351
1060	Real-Time In Situ Observation of Microstructural Change in Organometal Halide Perovskite Induced by Thermal Degradation. <i>Advanced Functional Materials</i> , 2018, 28, 1804039.	14.9	45
1061	Interface Engineering in n-i-p Metal Halide Perovskite Solar Cells. <i>Solar Rrl</i> , 2018, 2, 1800177.	5.8	53
1062	Structural fluctuations cause spin-split states in tetragonal (CH <sub>3</sub> NH <sub>3</sub> )PbI <sub>3</sub> as evidenced by the circular photogalvanic effect. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 9509-9514.	7.1	106
1063	Improved Charge Carrier Dynamics of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Films Synthesized by Means of Laser-Assisted Crystallization. <i>ACS Applied Energy Materials</i> , 2018, 1, 5101-5111.	5.1	31
1064	Improving the Power Conversion Efficiency and Stability of Planar Perovskite Solar Cells via Small Molecule Doping. <i>Journal of Electronic Materials</i> , 2018, 47, 6894-6900.	2.2	8
1065	A facile route to grain morphology controllable perovskite thin films towards highly efficient perovskite solar cells. <i>Nano Energy</i> , 2018, 53, 405-414.	16.0	60
1066	Long-Term Stability of Perovskite Solar Cells under Different Growth Conditions: A Defect-Controlled Water Diffusion Mechanism. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 5386-5391.	4.6	17
1067	Long-lived polarization memory in the electronic states of lead-halide perovskites from local structural dynamics. <i>Nature Communications</i> , 2018, 9, 3531.	12.8	29
1068	Tuning spontaneous polarization and optical absorption by intercalating SrCl <sub>2</sub> layers in organo-inorganic halide perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> thin films. <i>Journal of Materials Chemistry A</i> , 2018, 6, 17800-17806.	10.3	6
1069	Ultra-thin Cadmium Sulfide Electron-transporting Layer for Planar Perovskite Solar Cell. <i>Chemistry Letters</i> , 2018, 47, 1350-1353.	1.3	3
1070	Diffusion Enhancement in Highly Excited MAPbI <sub>3</sub> Perovskite Layers with Additives. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 3167-3172.	4.6	46
1071	A Sandwich-Like Organolead Halide Perovskite Photocathode for Efficient and Durable Photoelectrochemical Hydrogen Evolution in Water. <i>Advanced Energy Materials</i> , 2018, 8, 1800795.	19.5	106
1072	Spectroscopic Limited Practical Efficiency (SLPE) model for organometal halide perovskites solar cells evaluation. <i>Organic Electronics</i> , 2018, 59, 389-398.	2.6	6
1073	n-type Rashba spin splitting in a bilayer inorganic halide perovskite with external electric field. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 265501.	1.8	6
1074	17.46% efficient and highly stable carbon-based planar perovskite solar cells employing Ni-doped rutile TiO <sub>2</sub> as electron transport layer. <i>Nano Energy</i> , 2018, 50, 201-211.	16.0	148

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1078	Origin of the Enhanced Photoluminescence Quantum Yield in MAPbBr <sub>3</sub> Perovskite with Reduced Crystal Size. ACS Energy Letters, 2018, 3, 1458-1466.	17.4	106
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1081	Control of the Nucleation and Growth of the Lead Acetate Solution Derived CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Films Leads to Enhanced Power Conversion Efficiency. ACS Applied Energy Materials, 2018, 1, 2898-2906.	5.1	4
1082	Recent progressive efforts in perovskite solar cells toward commercialization. Journal of Materials Chemistry A, 2018, 6, 12215-12236.	10.3	56
1083	Fundamental Carrier Lifetime Exceeding 1 Åus in Cs <sub>2</sub> AgBiBr <sub>6</sub> Double Perovskite. Advanced Materials Interfaces, 2018, 5, 1800464.	3.7	173
1084	A CsPbBr <sub>3</sub> /TiO <sub>2</sub> Composite for Visibleâ€Lightâ€Driven Photocatalytic Benzyl Alcohol Oxidation. ChemSusChem, 2018, 11, 2057-2061.	6.8	130
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1092	Hot-Hole Cooling Controls the Initial Ultrafast Relaxation in Methylammonium Lead Iodide Perovskite. Scientific Reports, 2018, 8, 8115.	3.3	32

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1094	Research Direction toward Theoretical Efficiency in Perovskite Solar Cells. ACS Photonics, 2018, 5, 2970-2977.	6.6	129
1095	Semiconducting Metal Oxides for High Performance Perovskite Solar Cells. , 2018, , 241-265.		4
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1098	The computational probing of carrier transport in MAPbI <sub>3</sub> xCl <sub>x</sub> . Computational and Theoretical Chemistry, 2018, 1138, 135-139.	2.5	2
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1101	Designing Efficient Energy Funneling Kinetics in Ruddlesden-Popper Perovskites for High-Performance Light-Emitting Diodes. Advanced Materials, 2018, 30, e1800818.	21.0	85
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1112	Energy Level Alignment at Interfaces in Metal Halide Perovskite Solar Cells. Advanced Materials Interfaces, 2018, 5, 1800260.	3.7	215
1113	Defect Engineering toward Highly Efficient and Stable Perovskite Solar Cells. Advanced Materials Interfaces, 2018, 5, 1800326.	3.7	40
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1123	Improved Performance of Perovskite Light-Emitting Diodes by Quantum Confinement Effect in Perovskite Nanocrystals. Nanomaterials, 2018, 8, 459.	4.1	9
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1125	High-Efficiency Planar Hybrid Perovskite Solar Cells Using Indium Sulfide as Electron Transport Layer. ACS Applied Energy Materials, 2018, 1, 4050-4056.	5.1	30
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1130	All low-temperature processed carbon-based planar heterojunction perovskite solar cells employing Mg-doped rutile TiO <sub>2</sub> as electron transport layer. <i>Electrochimica Acta</i> , 2018, 283, 1115-1124.	5.2	46
1131	1D Organic-Inorganic Hybrid Perovskite Micro/Nanocrystals: Fabrication, Assembly, and Optoelectronic Applications. <i>Small Methods</i> , 2018, 2, 1700340.	8.6	27
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1172	A Highly Stable All-Inorganic CsPbBr <sub>3</sub> Perovskite Solar Cell. <i>European Journal of Inorganic Chemistry</i> , 2019, 2019, 3699-3703.	2.0	31
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1185	Electronic Properties and Photovoltaic Functionality of Zn-Doped Orthorhombic CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : A GGA+vdW Study. <i>Journal of Electronic Materials</i> , 2019, 48, 6327-6334.	2.2	2
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1198	Stable Triple-Cation (Cs <sup>+</sup> MA <sup>+</sup> FA <sup>+</sup> ) Perovskite Powder Formation under Ambient Conditions for Hysteresis-Free High-Efficiency Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 29941-29949.	8.0	50
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1324	In situ Investigation of Water Interaction with Lead-Free All Inorganic Perovskite (Cs <sub>2</sub> SnI <sub>6</sub> Cl <sub>6</sub> ). <i>Journal of Physical Chemistry C</i> , 2019, 123, 9575-9581.	3.1	23
1325	Enhancing surface stabilization of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> perovskite by Cl and Br doping: First-principles study. <i>Journal of Applied Physics</i> , 2019, 125, 115302.	2.5	7
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1329	Ultrafast Dynamic Microscopy of Carrier and Exciton Transport. <i>Annual Review of Physical Chemistry</i> , 2019, 70, 219-244.	10.8	75
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1334	Alkyl chain engineering on tetraphenylethylene-diketopyrrolopyrrole-based interfacial materials for efficient inverted perovskite solar cells. <i>Organic Electronics</i> , 2019, 69, 13-19.	2.6	9
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1337	Highly stable semi-transparent $\text{MAPbI}_3$ perovskite solar cells with operational output for 4000 h. <i>Solar Energy Materials and Solar Cells</i> , 2019, 195, 323-329.	6.2	84
1338	Direct observation of carrier transport in organic-inorganic hybrid perovskite thin film by transient photoluminescence imaging measurement. <i>Japanese Journal of Applied Physics</i> , 2019, 58, SBBG18.	1.5	1
1339	From Large to Small Polarons in Lead, Tin, and Mixed Lead-Tin Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 1790-1798.	4.6	72
1340	Electroluminescence Dynamics in Perovskite Solar Cells Reveals Giant Overshoot Effect. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 1779-1783.	4.6	16
1341	Efficient methylammonium lead trihalide perovskite solar cells with chloroformamidinium chloride (Cl-FACl) as an additive. <i>Journal of Materials Chemistry A</i> , 2019, 7, 8078-8084.	10.3	62
1342	Fast Charge Diffusion in $\text{MAPb(I)}_x\text{Br}_{3-x}$ Films for High-Efficiency Solar Cells Revealed by Ultrafast Time-Resolved Reflectivity. <i>Journal of Physical Chemistry A</i> , 2019, 123, 2674-2678.	2.5	6
1343	Current progress in interfacial engineering of carbon-based perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2019, 7, 8690-8699.	10.3	84
1344	Organolead halide perovskite-based metal-oxide-semiconductor structure photodetectors achieving ultrahigh detectivity. <i>Solar Energy</i> , 2019, 183, 226-233.	6.1	14
1345	Applying $\text{BaTiO}_3$ -coated $\text{TiO}_2$ core-shell nanoparticles films as scaffold layers to optimize interfaces for better-performing perovskite solar cells. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 7733-7742.	2.2	4



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