

# CITATION REPORT

List of articles citing

Hybrid organo-inorganic perovskites: low-cost semiconductors with intriguing charge-transport properties

DOI: 10.1038/natrevmats.2015.7  
Nature Reviews Materials, 2016, 1, .

**Source:** <https://exaly.com/paper-pdf/64778159/citation-report.pdf>

**Version:** 2024-04-24

This report has been generated based on the citations recorded by exaly.com for the above article. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

#	Paper	IF	Citations
1054	Valence and Conduction Band Densities of States of Metal Halide Perovskites: A Combined Experimental-Theoretical Study. <b>2016</b> , 7, 2722-9		264
1053	Terahertz Conductivity within Colloidal CsPbBr <sub>3</sub> Perovskite Nanocrystals: Remarkably High Carrier Mobilities and Large Diffusion Lengths. <b>2016</b> , 16, 4838-48		370
1052	Air-Stable, Efficient Mixed-Cation Perovskite Solar Cells with Cu Electrode by Scalable Fabrication of Active Layer. <b>2016</b> , 6, 1600372		235
1051	Performance Improvement of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Solar Cell by CH <sub>3</sub> SH Doping. <b>2016</b> , 6, 24		6
1050	Band Gap Insensitivity to Large Chemical Pressures in Ternary Bismuth Iodides for Photovoltaic Applications. <b>2016</b> , 120, 28924-28932		37
1049	CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> is not pyroelectric, excluding ferroelectric-enhanced photovoltaic performance. <b>2016</b> , 4, 051101		35
1048	Experimental evidence of the anti-parallel arrangement of methylammonium ions in perovskites. <b>2016</b> , 109, 213504		12
1047	Two-Dimensional (CHNH)PbBr Perovskite Crystals for High-Performance Photodetector. <b>2016</b> , 138, 16612-16615		3
1046	Electrical and Optical Properties of La <sub>1-x</sub> AxFe <sub>1-y</sub> ByO <sub>3</sub> Perovskite Films (with A = Sr and Ca, and B= Co, Ga, Ti): Toward Interlayers for Optoelectronic Applications. <b>2016</b> , 120, 28583-28590		8
1045	Mobility-Lifetime Products in MAPbI <sub>3</sub> Films. <b>2016</b> , 7, 5219-5226		51
1044	Beneficial effect of post-deposition treatment in high-efficiency Cu(In,Ga)Se <sub>2</sub> solar cells through reduced potential fluctuations. <b>2016</b> , 120, 063106		57
1043	Modeling of Thermal Effect on the Electronic Properties of Photovoltaic Perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : The Case of Tetragonal Phase. <b>2016</b> , 120, 7976-7986		20
1042	Polaron Stabilization by Cooperative Lattice Distortion and Cation Rotations in Hybrid Perovskite Materials. <b>2016</b> , 16, 3809-16		203
1041	Low electron-polar optical phonon scattering as a fundamental aspect of carrier mobility in methylammonium lead halide CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> perovskites. <b>2016</b> , 18, 15352-62		68
1040	Multilayered Perovskite Materials Based on Polymeric-Ammonium Cations for Stable Large-Area Solar Cell. <b>2016</b> , 28, 3131-3138		154
1039	Two-Dimensional Halide Perovskites: Tuning Electronic Activities of Defects. <b>2016</b> , 16, 3335-40		80
1038	High Chloride Doping Levels Stabilize the Perovskite Phase of Cesium Lead Iodide. <b>2016</b> , 16, 3563-70		208

1037	Mapping the Photoresponse of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Hybrid Perovskite Thin Films at the Nanoscale. <b>2016</b> , 16, 3434-41	101
1036	All vapor-deposited lead-free doped CsSnBr <sub>3</sub> planar solar cells. <b>2016</b> , 28, 469-474	108
1035	Optical phonons in methylammonium lead halide perovskites and implications for charge transport. <b>2016</b> , 3, 613-620	228
1034	Efficient n-type dopants with extremely low doping ratios for high performance inverted perovskite solar cells. <b>2016</b> , 9, 3424-3428	75
1033	Progress of interface engineering in perovskite solar cells. <b>2016</b> , 59, 728-742	36
1032	The Additive Coordination Effect on Hybrids Perovskite Crystallization and High-Performance Solar Cell. <b>2016</b> , 28, 9862-9868	235
1031	Distinctive excitonic recombination in solution-processed layered organic/inorganic hybrid two-dimensional perovskites. <b>2016</b> , 4, 10198-10204	18
1030	Modulating Hysteresis of Perovskite Solar Cells by a Poling Voltage. <b>2016</b> , 120, 22784-22792	25
1029	Anomalous Growth and Coalescence Dynamics of Hybrid Perovskite Nanoparticles Observed by Liquid-Cell Transmission Electron Microscopy. <b>2016</b> , 10, 9787-9793	32
1028	Screening in crystalline liquids protects energetic carriers in hybrid perovskites. <b>2016</b> , 353, 1409-1413	518
1027	Rashba Effect and Carrier Mobility in Hybrid Organic-Inorganic Perovskites. <b>2016</b> , 7, 3078-83	57
1026	Engineering of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Crystals by Alloying Large Organic Cations for Enhanced Thermal Stability and Transport Properties. <b>2016</b> , 128, 10844-10848	15
1025	Engineering of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Crystals by Alloying Large Organic Cations for Enhanced Thermal Stability and Transport Properties. <b>2016</b> , 55, 10686-90	121
1024	Conversion of Single Crystalline PbI <sub>2</sub> to CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : Structural Relations and Transformation Dynamics. <b>2016</b> , 28, 6501-6510	58
1023	Ternary Halide Perovskites for Highly Efficient Solution-Processed Hybrid Solar Cells. <b>2016</b> , 1, 712-718	16
1022	Revisiting photocarrier lifetimes in photovoltaics. <b>2016</b> , 10, 562-562	16
1021	Near infrared photodetectors based on sub-gap absorption in organohalide perovskite single crystals. <b>2016</b> , 10, 1047-1053	46
1020	Efficient Colorful Perovskite Solar Cells Using a Top Polymer Electrode Simultaneously as Spectrally Selective Antireflection Coating. <b>2016</b> , 16, 7829-7835	100

1019	Preferential Facet Growth of Methylammonium Lead Halide Single Crystals Promoted by Halide Coordination. <b>2016</b> , 45, 1030-1032	30
1018	Strontium Insertion in Methylammonium Lead Iodide: Long Charge Carrier Lifetime and High Fill-Factor Solar Cells. <b>2016</b> , 28, 9839-9845	127
1017	Exceptional elastic anisotropy of hybrid organic-inorganic perovskite CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> measured by laser ultrasonic technique. <b>2016</b> , 10, 606-612	24
1016	High quality perovskite films fabricated from Lewis acid-base adduct through molecular exchange. <b>2016</b> , 6, 70925-70931	39
1015	Photostriction in Ferroelectrics from Density Functional Theory. <b>2016</b> , 116, 247401	36
1014	Simultaneous band-gap narrowing and carrier-lifetime prolongation of organic-inorganic trihalide perovskites. <b>2016</b> , 113, 8910-5	199
1013	Effects of molecular dipole orientation on the exciton binding energy of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <b>2016</b> , 94,	6
1012	Can Pb-Free Halide Double Perovskites Support High-Efficiency Solar Cells?. <b>2016</b> , 1, 949-955	301
1011	Sub-10 fs Time-Resolved Vibronic Optical Microscopy. <b>2016</b> , 7, 4854-4859	39
1010	Morphology Evolution of High Efficiency Perovskite Solar Cells via Vapor Induced Intermediate Phases. <b>2016</b> , 138, 15710-15716	91
1009	Ultrafast Charge Transfer and Enhanced Absorption in MoS <sub>2</sub> -Organic van der Waals Heterojunctions Using Plasmonic Metasurfaces. <b>2016</b> , 10, 9899-9908	55
1008	High brightness formamidinium lead bromide perovskite nanocrystal light emitting devices. <b>2016</b> , 6, 36733	103
1007	Evidence of band bending induced by hole trapping at MAPbI <sub>3</sub> perovskite/metal interface. <b>2016</b> , 4, 17529-17536	12
1006	Surface and Interface Aspects of Organometal Halide Perovskite Materials and Solar Cells. <b>2016</b> , 7, 4764-4794	147
1005	High-performance perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> thin films for solar cells prepared by single-source physical vapour deposition. <b>2016</b> , 6, 29910	103
1004	A discussion on the origin and solutions of hysteresis in perovskite hybrid solar cells. <b>2016</b> , 49, 473001	28
1003	Carrier Transport Improvement of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Film by Methylamine Gas Treatment. <b>2016</b> , 8, 31413-31418	37
1002	Frontier Orbital Engineering of Metal-Organic Frameworks with Extended Inorganic Connectivity: Porous Alkaline-Earth Oxides. <b>2016</b> , 55, 7265-9	11

1001	Intriguing Optoelectronic Properties of Metal Halide Perovskites. <b>2016</b> , 116, 12956-13008	987
1000	Optoelectronic Properties of (CH <sub>3</sub> NH <sub>3</sub> ) <sub>3</sub> Sb <sub>2</sub> I <sub>9</sub> Thin Films for Photovoltaic Applications. <b>2016</b> , 1, 309-314	249
999	Hybrid Organic-Inorganic Perovskites on the Move. <b>2016</b> , 49, 573-81	176
998	Perovskites at the nanoscale: from fundamentals to applications. <b>2016</b> , 8, 6206-8	16
997	AgBiI <sub>4</sub> as a Lead-Free Solar Absorber with Potential Application in Photovoltaics. <b>2017</b> , 29, 1538-1549	69
996	Solution-processed semiconductors for next-generation photodetectors. <i>Nature Reviews Materials</i> , <b>2017</b> , 2,	73-3 674
995	Vacuum deposited perovskite solar cells employing dopant-free triazatruxene as the hole transport material. <b>2017</b> , 163, 237-241	48
994	Ferroelectric Alignment of Organic Cations Inhibits Nonradiative Electron-Hole Recombination in Hybrid Perovskites: Ab Initio Nonadiabatic Molecular Dynamics. <b>2017</b> , 8, 812-818	48
993	Lead-Free Organic-Inorganic Hybrid Perovskites for Photovoltaic Applications: Recent Advances and Perspectives. <b>2017</b> , 29, 1605005	437
992	Piezoelectric scattering limited mobility of hybrid organic-inorganic perovskites CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <b>2017</b> , 7, 41860	25
991	Improving Perovskite Solar Cells: Insights From a Validated Device Model. <b>2017</b> , 7, 1602432	101
990	Structural, electronic and optical properties of CsPbX <sub>3</sub> (X=Cl, Br, I) for energy storage and hybrid solar cell applications. <b>2017</b> , 705, 828-839	119
989	Real-Time Nanoscale Open-Circuit Voltage Dynamics of Perovskite Solar Cells. <b>2017</b> , 17, 2554-2560	89
988	High Detectivity and Rapid Response in Perovskite CsPbBr <sub>3</sub> Single-Crystal Photodetector. <b>2017</b> , 121, 4917-4923	173
987	Charge Transfer from Methylammonium Lead Iodide Perovskite to Organic Transport Materials: Efficiencies, Transfer Rates, and Interfacial Recombination. <b>2017</b> , 7, 1602349	81
986	Inorganic Rubidium Cation as an Enhancer for Photovoltaic Performance and Moisture Stability of HC(NH <sub>2</sub> ) <sub>2</sub> PbI <sub>3</sub> Perovskite Solar Cells. <b>2017</b> , 27, 1605988	148
985	Giant Two-Photon Absorption and Its Saturation in 2D Organic-Inorganic Perovskite. <b>2017</b> , 5, 1601045	116
984	Organic Cation Rotation and Immobilization in Pure and Mixed Methylammonium Lead-Halide Perovskites. <b>2017</b> , 139, 4068-4074	87

983	Enhanced Photovoltaic Performance of Mesoscopic Perovskite Solar Cells by Controlling the Interaction between CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Films and CsPbX <sub>3</sub> Perovskite Nanoparticles. <b>2017</b> , 121, 4239-4245	42
982	Chemically diverse and multifunctional hybrid organic/inorganic perovskites. <i>Nature Reviews Materials</i> , <b>2017</b> , 2,	73-3 608
981	Electron Transfer from Triplet State of TIPS-Pentacene Generated by Singlet Fission Processes to CH <sub>3</sub> NH <sub>3</sub> PbI Perovskite. <b>2017</b> , 8, 884-888	20
980	Brief review of emerging photovoltaic absorbers. <b>2017</b> , 4, 8-15	45
979	Progress in Tandem Solar Cells Based on Hybrid Organic/Inorganic Perovskites. <b>2017</b> , 7, 1602400	101
978	Decreasing Radiative Recombination Coefficients via an Indirect Band Gap in Lead Halide Perovskites. <b>2017</b> , 8, 1265-1271	47
977	Electron-acoustic phonon coupling in single crystal CH <sub>3</sub> NH <sub>3</sub> PbI perovskites revealed by coherent acoustic phonons. <b>2017</b> , 8, 14398	80
976	Bandgap Narrowing of Lead-Free Perovskite-Type Hybrids for Visible-Light-Absorbing Ferroelectric Semiconductors. <b>2017</b> , 8, 2012-2018	56
975	It Takes Two to Tango-Double-Layer Selective Contacts in Perovskite Solar Cells for Improved Device Performance and Reduced Hysteresis. <b>2017</b> , 9, 17245-17255	99
974	Ultrafast pulse generation from erbium-doped fiber laser modulated by hybrid organic/inorganic halide perovskites. <b>2017</b> , 110, 161111	23
973	Chemical Reduction of Intrinsic Defects in Thicker Heterojunction Planar Perovskite Solar Cells. <b>2017</b> , 29, 1606774	267
972	Multistep Photoluminescence Decay Reveals Dissociation of Geminate Charge Pairs in Organolead Trihalide Perovskites. <b>2017</b> , 7, 1700405	8
971	Pyridine-Induced Dimensionality Change in Hybrid Perovskite Nanocrystals. <b>2017</b> , 29, 4393-4400	68
970	Lasing characteristics of single-crystalline CsPbCl <sub>3</sub> perovskite microcavities under multiphoton excitation. <b>2017</b> , 50, 225101	16
969	Stable and conductive lead halide perovskites facilitated by X-type ligands. <b>2017</b> , 9, 7252-7259	55
968	Quantification of light-enhanced ionic transport in lead iodide perovskite thin films and its solar cell applications. <b>2017</b> , 6, e16243	257
967	Influence of Schottky contact on the C-V and J-V characteristics of HTM-free perovskite solar cells. <b>2017</b> , 8, 85501	16
966	A new formation strategy of hybrid perovskites via room temperature reactive polyiodide melts. <b>2017</b> , 4, 625-632	42

965	Embedding lead halide perovskite quantum dots in carboxybenzene microcrystals improves stability. <b>2017</b> , 10, 2692-2698	27
964	Considerations for Upscaling of Organohalide Perovskite Solar Cells. <b>2017</b> , 5, 1600819	14
963	Material Parameters and Perspectives for Efficiency Improvements in Perovskite Solar Cells Obtained by Analytical Modeling. <b>2017</b> , 7, 206-213	18
962	Pressure-Induced Bandgap Optimization in Lead-Based Perovskites with Prolonged Carrier Lifetime and Ambient Retainability. <b>2017</b> , 27, 1604208	115
961	New Insight into the Formation of Hybrid Perovskite Nanowires via Structure Directing Adducts. <b>2017</b> , 29, 587-594	60
960	Effect of water on the effective Goldschmidt tolerance factor and photoelectric conversion efficiency of organic-inorganic perovskite: insights from first-principles calculations. <b>2017</b> , 19, 14955-14960	6
959	Fully-Inorganic Trihalide Perovskite Nanocrystals: A New Research Frontier of Optoelectronic Materials. <b>2017</b> , 29, 1700775	183
958	Tetragonal CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> is ferroelectric. <b>2017</b> , 114, E5504-E5512	187
957	The Rashba effect and indirect electron-hole recombination in hybrid organic-inorganic perovskites. <b>2017</b> , 19, 14907-14912	25
956	Pressure-Induced Effects in Organic-Inorganic Hybrid Perovskites. <b>2017</b> , 8, 2613-2622	72
955	Compound Quantum Dot-Perovskite Optical Absorbers on Graphene Enhancing Short-Wave Infrared Photodetection. <b>2017</b> , 11, 5547-5557	73
954	Exploration of organic-inorganic hybrid perovskites for surface-enhanced infrared spectroscopy of small molecules. <b>2017</b> , 53, 6949-6952	9
953	Exploring the PbS <sub>2</sub> Bi <sub>2</sub> S <sub>3</sub> Series for Next Generation Energy Conversion Materials. <b>2017</b> , 29, 5156-5167	24
952	Quantum Dynamics of Photogenerated Charge Carriers in Hybrid Perovskites: Dopants, Grain Boundaries, Electric Order, and Other Realistic Aspects. <b>2017</b> , 2, 1588-1597	25
951	Charge-Carrier Mobilities in Metal Halide Perovskites: Fundamental Mechanisms and Limits. <b>2017</b> , 2, 1539-1548	621
950	Preferential CH <sub>3</sub> NH <sub>3</sub> <sup>+</sup> Alignment and Octahedral Tilting Affect Charge Localization in Cubic Phase CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <b>2017</b> , 121, 8319-8326	22
949	Structure formation and evolution in semiconductor films for perovskite and organic photovoltaics. <b>2017</b> , 32, 1798-1824	14
948	Long-range hot-carrier transport in hybrid perovskites visualized by ultrafast microscopy. <b>2017</b> , 356, 59-62	315

947	Organic-Inorganic Copper(II)-Based Material: A Low-Toxic, Highly Stable Light Absorber for Photovoltaic Application. <b>2017</b> , 8, 1804-1809	79
946	FAPb <sub>1-x</sub> SnxI <sub>3</sub> mixed metal halide perovskites with improved light harvesting and stability for efficient planar heterojunction solar cells. <b>2017</b> , 5, 9097-9106	44
945	Universal rules for visible-light absorption in hybrid perovskite materials. <b>2017</b> , 121, 115501	61
944	Addressing Toxicity of Lead: Progress and Applications of Low-Toxic Metal Halide Perovskites and Their Derivatives. <b>2017</b> , 7, 1602512	217
943	Inorganic Surface Engineering to Enhance Perovskite Solar Cell Efficiency. <b>2017</b> , 9, 13181-13187	39
942	Ions Matter: Description of the Anomalous Electronic Behavior in Methylammonium Lead Halide Perovskite Devices. <b>2017</b> , 27, 1606584	49
941	Anomalous photovoltaic effect in organic-inorganic hybrid perovskite solar cells. <b>2017</b> , 3, e1602164	133
940	Trends in Perovskite Solar Cells and Optoelectronics: Status of Research and Applications from the PSCO Conference. <b>2017</b> , 2, 857-861	21
939	Crystal structure, thermochromic and magnetic properties of organic-inorganic hybrid compound: (C <sub>7</sub> H <sub>7</sub> N <sub>2</sub> S) <sub>2</sub> CuCl <sub>4</sub> . <b>2017</b> , 1141, 93-98	8
938	Self-Repairing Energy Materials: Sine Qua Non for a Sustainable Future. <b>2017</b> , 50, 573-576	15
937	Understanding the Role of the Electron-Transport Layer in Highly Efficient Planar Perovskite Solar Cells. <b>2017</b> , 18, 617-625	35
936	Gate-Induced Insulator to Band-Like Transport Transition in Organolead Halide Perovskite. <b>2017</b> , 8, 429-434	20
935	Vapor-Phase Epitaxial Growth of Aligned Nanowire Networks of Cesium Lead Halide Perovskites (CsPbX <sub>3</sub> , X = Cl, Br, I). <b>2017</b> , 17, 460-466	199
934	The renaissance of hydrides as energy materials. <i>Nature Reviews Materials</i> , <b>2017</b> , 2, 73-83	240
933	Enhancement of the Performance of Perovskite Solar Cells, LEDs, and Optical Amplifiers by Anti-Solvent Additive Deposition. <b>2017</b> , 29, 1604056	53
932	Scaling behavior of moisture-induced grain degradation in polycrystalline hybrid perovskite thin films. <b>2017</b> , 10, 516-522	525
931	Geometry and materials considerations for thin film micro-concentrator solar cells. <b>2017</b> , 158, 186-191	4
930	Temperature Dependent Charge Carrier Dynamics in Formamidinium Lead Iodide Perovskite. <b>2017</b> , 121, 23392-23397	37

929	Perovskite Nanowire Extrusion. <b>2017</b> , 17, 6557-6563	33
928	Role of Dielectric Drag in Polaron Mobility in Lead Halide Perovskites. <b>2017</b> , 2, 2555-2562	70
927	Solution-Processed Ultrathin TiO Compact Layer Hybridized with Mesoporous TiO for High-Performance Perovskite Solar Cells. <b>2017</b> , 9, 36865-36874	34
926	Chemistry at high pressure: Tuning functional materials properties. <b>2017</b> , 42, 718-723	6
925	Metal-Halide Perovskite Transistors for Printed Electronics: Challenges and Opportunities. <b>2017</b> , 29, 1702838	92
924	Organometal Trihalide Perovskites with Intriguing Ferroelectric and Piezoelectric Properties. <b>2017</b> , 27, 1702207	25
923	Direct observation of mode-specific phonon-band gap coupling in methylammonium lead halide perovskites. <b>2017</b> , 8, 687	37
922	Strong Carrier-Phonon Coupling in Lead Halide Perovskite Nanocrystals. <b>2017</b> , 11, 11024-11030	87
921	Laplace current deep level transient spectroscopy measurements of defect states in methylammonium lead bromide single crystals. <b>2017</b> , 122, 145701	39
920	Lead halide perovskites: Crystal-liquid duality, phonon glass electron crystals, and large polaron formation. <b>2017</b> , 3, e1701469	234
919	Ultrasensitive flexible broadband photodetectors achieving pA scale dark current. <b>2017</b> , 1,	27
918	Incident-angle-controlled semitransparent colored perovskite solar cells with improved efficiency exploiting a multilayer dielectric mirror. <b>2017</b> , 9, 13983-13989	33
917	High-Q plasmonic infrared absorber for sensing of molecular resonances in hybrid lead halide perovskites. <b>2017</b> , 122, 073101	14
916	Light-induced picosecond rotational disordering of the inorganic sublattice in hybrid perovskites. <b>2017</b> , 3, e1602388	109
915	New insights into the electronic structures and optical properties in the orthorhombic perovskite MAPbI <sub>3</sub> : a mixture of Pb and Ge/Sn. <b>2017</b> , 41, 11413-11421	23
914	Energetically favored formation of SnO <sub>2</sub> nanocrystals as electron transfer layer in perovskite solar cells with high efficiency exceeding 19%. <b>2017</b> , 40, 336-344	124
913	Reduction of intrinsic defects in hybrid perovskite films via precursor purification. <b>2017</b> , 53, 10548-10551	24
912	Stabilizing the $\beta$ phase of CsPbI <sub>3</sub> Perovskite by Sulfobetaine Zwitterions in One-Step Spin-Coating Films. <b>2017</b> , 1, 371-382	344

911	Effects of different small molecule hole transporters on the performance and charge transfer dynamics of perovskite solar cells. <b>2017</b> , 232, 181-187	8
910	Consolidation of the optoelectronic properties of CH <sub>3</sub> NH <sub>3</sub> PbBr perovskite single crystals. <b>2017</b> , 8, 590	164
909	Effect of disorder on transport properties in a tight-binding model for lead halide perovskites. <b>2017</b> , 7, 8902	18
908	Large carrier-capture rate of Pbl antisite in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> induced by heavy atoms and soft phonon modes. <b>2017</b> , 96,	11
907	Luminescent and Photoconductive Layered Lead Halide Perovskite Compounds Comprising Mixtures of Cesium and Guanidinium Cations. <b>2017</b> , 56, 11552-11564	96
906	A Review on Organic-Inorganic Halide Perovskite Photodetectors: Device Engineering and Fundamental Physics. <b>2017</b> , 29, 1605242	400
905	Zero-Dimensional Methylammonium Bismuth Iodide-Based Lead-Free Perovskite Capacitor. <b>2017</b> , 2, 5798-5802	38
904	Imaging the Spatial Evolution of Degradation in Perovskite/Si Tandem Solar Cells After Exposure to Humid Air. <b>2017</b> , 7, 1563-1568	13
903	Impact of H <sub>2</sub> O on organic/inorganic hybrid perovskite solar cells. <b>2017</b> , 10, 2284-2311	248
902	Metal to Halide Perovskite (HaP): An Alternative Route to HaP Coating, Directly from Pb(0) or Sn(0) Films. <b>2017</b> , 29, 8620-8629	9
901	Tightly bound indirect exciton in single-layer hybrid organic-inorganic perovskite semiconductor. <b>2017</b> , 110, 108-113	
900	Enhanced optical absorption via cation doping hybrid lead iodine perovskites. <b>2017</b> , 7, 7843	39
899	Highly stable, phase pure Cs <sub>2</sub> AgBiBr <sub>6</sub> double perovskite thin films for optoelectronic applications. <b>2017</b> , 5, 19972-19981	350
898	Metal Halide Perovskite Polycrystalline Films Exhibiting Properties of Single Crystals. <b>2017</b> , 1, 155-167	222
897	Fundamental Resolution of Difficulties in the Theory of Charged Point Defects in Semiconductors. <b>2017</b> , 119, 105501	20
896	Asymmetrical Photodetection Response of Methylammonium Lead Bromide Perovskite Single Crystal. <b>2017</b> , 52, 1700115	13
895	Enhanced Moisture Stability of Cesium-Containing Compositional Perovskites by a Feasible Interfacial Engineering. <b>2017</b> , 4, 1700598	49
894	Laser-Induced Localized Growth of Methylammonium Lead Halide Perovskite Nano- and Microcrystals on Substrates. <b>2017</b> , 27, 1701613	21

893	Tailored Engineering of an Unusual $(\text{C}_4\text{H}_9\text{NH}_3)_2(\text{CH}_3\text{NH}_3)_2\text{Pb}_3\text{Br}_{10}$ Two-Dimensional Multilayered Perovskite Ferroelectric for a High-Performance Photodetector. <b>2017</b> , 129, 12318-12322	52
892	Dual functions of interface passivation and n-doping using 2,6-dimethoxypyridine for enhanced reproducibility and performance of planar perovskite solar cells. <b>2017</b> , 5, 17632-17639	22
891	Silicon-Based Inorganic/Organic Hybrid Nanocomposites for Optoelectronic Applications. <b>2017</b> , 5, 1795-1799	7
890	Tailored Engineering of an Unusual $(\text{C}_4\text{H}_9\text{NH}_3)_2(\text{CH}_3\text{NH}_3)_2\text{Pb}_3\text{Br}_{10}$ Two-Dimensional Multilayered Perovskite Ferroelectric for a High-Performance Photodetector. <b>2017</b> , 56, 12150-12154	182
889	Highly Efficient Perovskite-Perovskite Tandem Solar Cells Reaching 80% of the Theoretical Limit in Photovoltage. <b>2017</b> , 29, 1702140	210
888	Temperature-Induced Large Broadening and Blue Shift in the Electronic Band Structure and Optical Absorption of Methylammonium Lead Iodide Perovskite. <b>2017</b> , 8, 3720-3725	22
887	Vapour-Deposited Cesium Lead Iodide Perovskites: Microsecond Charge Carrier Lifetimes and Enhanced Photovoltaic Performance. <b>2017</b> , 2, 1901-1908	104
886	A copper-doped nickel oxide bilayer for enhancing efficiency and stability of hysteresis-free inverted mesoporous perovskite solar cells. <b>2017</b> , 40, 155-162	112
885	Shallow trapping vs. deep polarons in a hybrid lead halide perovskite, $\text{CH}_3\text{NH}_3\text{PbI}_3$ . <b>2017</b> , 19, 27184-27190	15
884	Light-Independent Ionic Transport in Inorganic Perovskite and Ultrastable Cs-Based Perovskite Solar Cells. <b>2017</b> , 8, 4122-4128	186
883	Large polarons in lead halide perovskites. <b>2017</b> , 3, e1701217	374
882	Exploring the effects of interfacial carrier transport layers on device performance and optoelectronic properties of planar perovskite solar cells. <b>2017</b> , 5, 8819-8827	67
881	Locking of Methylammonium by Pressure-Enhanced H-Bonding in $(\text{CH}_3\text{NH}_3)\text{PbBr}_3$ Hybrid Perovskite. <b>2017</b> , 121, 28125-28131	29
880	Hybrid Organic/Inorganic Perovskite-Polymer Nanocomposites: Toward the Enhancement of Structural and Electrical Properties. <b>2017</b> , 8, 5981-5986	15
879	Theoretical Study on Rotational Controllability of Organic Cations in Organic/Inorganic Hybrid Perovskites: Hydrogen Bonds and Halogen Substitution. <b>2017</b> , 121, 26188-26195	14
878	Photoluminescence, optical gain, and lasing threshold in $\text{CH}_3\text{NH}_3\text{PbI}_3$ methylammonium lead-halide perovskites obtained by ab initio calculations. <b>2017</b> , 5, 12758-12768	4
877	Enhancing moisture-tolerance and photovoltaic performances of $\text{FAPbI}_3$ by bismuth incorporation. <b>2017</b> , 5, 25258-25265	37
876	Migration of Constituent Protons in Hybrid Organic-Inorganic Perovskite Triggers Intrinsic Doping. <b>2017</b> , 139, 16462-16465	20

875	DFT Study of Mechanical Properties and Stability of Cubic Methylammonium Lead Halide Perovskites (CH <sub>3</sub> NH <sub>3</sub> PbX <sub>3</sub> , X = I, Br, Cl). <b>2017</b> , 121, 27059-27070	50
874	A generic interface to reduce the efficiency-stability-cost gap of perovskite solar cells. <b>2017</b> , 358, 1192-1197	418
873	Interconversion between Free Charges and Bound Excitons in 2D Hybrid Lead Halide Perovskites. <b>2017</b> , 121, 26566-26574	101
872	Defect passivation in hybrid perovskite solar cells using quaternary ammonium halide anions and cations. <b>2017</b> , 2,	1241
871	Defect-induced local variation of crystal phase transition temperature in metal-halide perovskites. <b>2017</b> , 8, 34	71
870	Iodine Vacancy Redistribution in Organic-Inorganic Halide Perovskite Films and Resistive Switching Effects. <b>2017</b> , 29, 1700527	185
869	Mechanisms of Lithium Intercalation and Conversion Processes in Organic-Inorganic Halide Perovskites. <b>2017</b> , 2, 1818-1824	83
868	Understanding the physical properties of hybrid perovskites for photovoltaic applications. <i>Nature Reviews Materials</i> , <b>2017</b> , 2,	73-3 673
867	Separating Bulk and Surface Contributions to Electronic Excited-State Processes in Hybrid Mixed Perovskite Thin Films via Multimodal All-Optical Imaging. <b>2017</b> , 8, 3299-3305	19
866	Mobile-Ion-Induced Degradation of Organic Hole-Selective Layers in Perovskite Solar Cells. <b>2017</b> , 121, 14517-14523	83
865	Origin of long lifetime of band-edge charge carriers in organic-inorganic lead iodide perovskites. <b>2017</b> , 114, 7519-7524	105
864	How to Avoid Artifacts in Surface Photovoltage Measurements: A Case Study with Halide Perovskites. <b>2017</b> , 8, 2941-2943	8
863	Progress on Perovskite Materials and Solar Cells with Mixed Cations and Halide Anions. <b>2017</b> , 9, 30197-30246	339
862	Dependence of the Electronic and Optical Properties of Methylammonium Lead Triiodide on Ferroelectric Polarization Directions and Domains: A First Principles Computational Study. <b>2017</b> , 121, 15375-15383	9
861	Rashba Effect in a Single Colloidal CsPbBr Perovskite Nanocrystal Detected by Magneto-Optical Measurements. <b>2017</b> , 17, 5020-5026	143
860	2D halide perovskite-based van der Waals heterostructures: contact evaluation and performance modulation. <b>2017</b> , 4, 035009	18
859	The central role of ligands in electron transfer from perovskite nanocrystals. <b>2017</b> , 2, 2327-2335	4
858	Polar rotor scattering as atomic-level origin of low mobility and thermal conductivity of perovskite CH <sub>3</sub> NH <sub>3</sub> PbI. <b>2017</b> , 8, 16086	67

857	Easy synthesis and electric, magneto-transport and magnetic properties of double perovskite La <sub>2</sub> CoMnO <sub>6</sub> compound. <b>2017</b> , 28, 2970-2975	5
856	Organic Cations Might Not Be Essential to the Remarkable Properties of Band Edge Carriers in Lead Halide Perovskites. <b>2017</b> , 29, 1603072	138
855	Crystal Engineering of a Two-Dimensional Lead-Free Perovskite with Functional Organic Cations by Second-Sphere Coordination. <b>2017</b> , 82, 681-685	26
854	Determination and interpretation of the optical constants for solar cell materials. <b>2017</b> , 421, 276-282	17
853	Direct-indirect character of the bandgap in methylammonium lead iodide perovskite. <b>2017</b> , 16, 115-120	298
852	Beyond methylammonium lead iodide: prospects for the emergent field of ns containing solar absorbers. <b>2016</b> , 53, 20-44	280
851	Modeling hybrid perovskites by molecular dynamics. <b>2017</b> , 29, 043001	45
850	Main-Group Halide Semiconductors Derived from Perovskite: Distinguishing Chemical, Structural, and Electronic Aspects. <b>2017</b> , 56, 11-25	36
849	Third-order nonlinear optical response of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> perovskite in the mid-infrared regime. <b>2017</b> , 7, 3894	44
848	Nanosecond Time-Resolved Microscopic Gate-Modulation Imaging of Polycrystalline Organic Thin-Film Transistors. <b>2018</b> , 9,	3
847	Enhanced performance of perovskite solar cells via anti-solvent nonfullerene Lewis base IT-4F induced trap-passivation. <b>2018</b> , 6, 5919-5925	91
846	Local Observation of Phase Segregation in Mixed-Halide Perovskite. <b>2018</b> , 18, 2172-2178	124
845	Synchronized-pressing fabrication of cost-efficient crystalline perovskite solar cells via intermediate engineering. <b>2018</b> , 10, 9628-9633	7
844	Perovskite seeding growth of formamidinium-lead-iodide-based perovskites for efficient and stable solar cells. <b>2018</b> , 9, 1607	218
843	Searching for Photoactive Polymorphs of CsNbQ <sub>3</sub> (Q = O, S, Se, Te) with Enhanced Optical Properties and Intrinsic Thermodynamic Stabilities. <b>2018</b> , 122, 8814-8821	8
842	Organic/organic hybrid perovskite quantum dots for light-emitting diodes. <b>2018</b> , 6, 4831-4841	49
841	Oxygen- and Water-Induced Energetics Degradation in Organometal Halide Perovskites. <b>2018</b> , 10, 16225-16230	8
840	Lead Halide Perovskites in Thin Film Photovoltaics: Background and Perspectives. <b>2018</b> , 91, 1058-1068	73

- 839 First-principles study of electronic and optical properties of lead-free double perovskites Cs<sub>2</sub>NaBX<sub>6</sub> (B = Sb, Bi; X = Cl, Br, I). **2018**, 117, 117-121 62
- 838 Imaging Heterogeneously Distributed Photo-Active Traps in Perovskite Single Crystals. **2018**, 30, e1705494 22
- 837 Solution-processed nickel oxide hole transport layer for highly efficient perovskite-based photovoltaics. **2018**, 44, 9347-9352 13
- 836 Charge Carrier Dynamics in CsAgBiBr Double Perovskite. **2018**, 122, 4809-4816 88
- 835 Preventing Hysteresis in Perovskite Solar Cells by Undoped Charge Blocking Layers. **2018**, 1, 676-683 28
- 834 Effects of Spin-Orbit Coupling on Nonequilibrium Quantum Transport Properties of Hybrid Halide Perovskites. **2018**, 122, 4150-4155 7
- 833 Interfacial Modification for High-Efficiency Vapor-Phase-Deposited Perovskite Solar Cells Based on a Metal Oxide Buffer Layer. **2018**, 9, 1041-1046 76
- 832 Deposition routes of Cs<sub>2</sub>AgBiBr<sub>6</sub> double perovskites for photovoltaic applications. **2018**, 3, 1819-1823 13
- 831 Comparative study of perovskite-type scintillator materials CsCaI<sub>3</sub> and KCaI<sub>3</sub> via first-principles calculations. **2018**, 51, 065303 12
- 830 Hybrid Perovskites: Prospects for Concentrator Solar Cells. **2018**, 5, 1700792 54
- 829 Investigating the Role of the Organic Cation in Formamidinium Lead Iodide Perovskite Using Ultrafast Spectroscopy. **2018**, 9, 895-901 54
- 828 Research progress on organic-inorganic halide perovskite materials and solar cells. **2018**, 51, 093001 46
- 827 Stable Organic Radicals as Hole Injection Dopants for Efficient Optoelectronics. **2018**, 10, 4882-4886 12
- 826 Impact of Small Phonon Energies on the Charge-Carrier Lifetimes in Metal-Halide Perovskites. **2018**, 9, 939-946 66
- 825 Design Principles for the Atomic and Electronic Structure of Halide Perovskite Photovoltaic Materials: Insights from Computation. **2018**, 24, 8708-8716 18
- 824 Competition Between Hot-Electron Cooling and Large Polaron Screening in CsPbBr<sub>3</sub> Perovskite Single Crystals. **2018**, 122, 13724-13730 40
- 823 Optical Characteristics and Operational Principles of Hybrid Perovskite Solar Cells. **2018**, 215, 1700730 31
- 822 Metal Oxides in Photovoltaics: All-Oxide, Ferroic, and Perovskite Solar Cells. **2018**, 267-356 22

821	Environment versus sustainable energy: The case of lead halide perovskite-based solar cells. <b>2018</b> , 5, 1	46
820	Exploring Anomalous Polarization Dynamics in Organometallic Halide Perovskites. <b>2018</b> , 30, 1705298	38
819	Terahertz Emission from Hybrid Perovskites Driven by Ultrafast Charge Separation and Strong Electron-Phonon Coupling. <b>2018</b> , 30, 1704737	69
818	Screening of point defects in methylammonium lead halides: a Monte Carlo study. <b>2018</b> , 6, 1487-1494	6
817	Room-Temperature Vapor Deposition of Cobalt Nitride Nanofilms for Mesoscopic and Perovskite Solar Cells. <b>2018</b> , 8, 1703114	23
816	ErNaYF <sub>4</sub> :Yb <sup>3+</sup> , Tm <sup>3+</sup> @TiO <sub>2</sub> core-shell nanoparticles incorporated into the mesoporous layer for high efficiency perovskite solar cells. <b>2018</b> , 261, 14-22	25
815	Forming Intermediate Phase on the Surface of PbI Precursor Films by Short-Time DMSO Treatment for High-Efficiency Planar Perovskite Solar Cells via Vapor-Assisted Solution Process. <b>2018</b> , 10, 1781-1791	25
814	Electron-Phonon Coupling and Polaron Mobility in Hybrid Perovskites from First Principles. <b>2018</b> , 122, 1361-1366	18
813	Synthesis, crystal and electronic structures and optical properties of (HIm) <sub>2</sub> Hg <sub>3</sub> Cl <sub>8</sub> and (HIm)HgI <sub>3</sub> (HIm = imidazolium). <b>2018</b> , 258, 551-558	4
812	Origin of low electron-hole recombination rate in metal halide perovskites. <b>2018</b> , 11, 101-105	86
811	Spinel CoO nanomaterials for efficient and stable large area carbon-based printed perovskite solar cells. <b>2018</b> , 10, 2341-2350	70
810	High Quality Perovskite Crystals for Efficient Film Photodetectors Induced by Hydrolytic Insulating Oxide Substrates. <b>2018</b> , 28, 1705220	29
809	Anisotropic ionic transportation performances of (100) and (112) planes in MAPbI <sub>3</sub> single crystal. <b>2018</b> , 99, 466-470	9
808	Copper Iodide Based Hybrid Phosphors for Energy-Efficient General Lighting Technologies. <b>2018</b> , 28, 1705593	123
807	Low-dimensional catalysts for hydrogen evolution and CO <sub>2</sub> reduction. <b>2018</b> , 2,	441
806	Fabrication of single phase 2D homologous perovskite microplates by mechanical exfoliation. <b>2018</b> , 5, 021001	50
805	Field Performance versus Standard Test Condition Efficiency of Tandem Solar Cells and the Singular Case of Perovskites/Silicon Devices. <b>2018</b> , 9, 446-458	49
804	High-Performance Photodetectors Based on Solution-Processed Epitaxial Grown Hybrid Halide Perovskites. <b>2018</b> , 18, 994-1000	77

803	Impedance Analysis of Thin Films of Organic-Inorganic Perovskites CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> with Control of Microstructure. <b>2018</b> , 13, 98	7
802	Reflectivity Effects on Pump-Probe Spectra of Lead Halide Perovskites: Comparing Thin Films versus Nanocrystals. <b>2018</b> , 12, 5719-5725	25
801	Copper-Substituted Lead Perovskite Materials Constructed with Different Halides for Working (CH <sub>3</sub> NH <sub>3</sub> )CuX-Based Perovskite Solar Cells from Experimental and Theoretical View. <b>2018</b> , 10, 11699-11707	107
800	Ultrafast Terahertz Probes of Charge Transfer and Recombination Pathway of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskites. <b>2018</b> , 35, 028401	3
799	Highly Efficient and Stable Solar Cells with 2D MA <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> /3D MAPbI <sub>3</sub> Heterostructured Perovskites. <b>2018</b> , 8, 1703620	77
798	Effect of pressure on the remixing process in CH <sub>3</sub> NH <sub>3</sub> Pb(I <sub>1-x</sub> Br <sub>x</sub> ) <sub>3</sub> perovskite thin films. <b>2018</b> , 199, 348-351	4
797	What Remains Unexplained about the Properties of Halide Perovskites?. <b>2018</b> , 30, e1800691	174
796	Exciton-Dominated Core-Level Absorption Spectra of Hybrid Organic-Inorganic Lead Halide Perovskites. <b>2018</b> , 9, 1852-1858	16
795	Minimizing performance degradation induced by interfacial recombination in perovskite solar cells through tailoring of the transport layer electronic properties. <b>2018</b> , 6, 036104	11
794	Large tunable photoeffect on ion conduction in halide perovskites and implications for photodecomposition. <b>2018</b> , 17, 445-449	301
793	The effect of ionic composition on acoustic phonon speeds in hybrid perovskites from Brillouin spectroscopy and density functional theory. <b>2018</b> , 6, 3861-3868	17
792	Recent Advances in Spiro-MeOTAD Hole Transport Material and Its Applications in Organic-Inorganic Halide Perovskite Solar Cells. <b>2018</b> , 5, 1700623	229
791	High-performance colorful semitransparent perovskite solar cells with phase-compensated microcavities. <b>2018</b> , 11, 2553-2561	28
790	Effect of doping of NaI monovalent cation halide on the structural, morphological, optical and optoelectronic properties of MAPbI <sub>3</sub> perovskite. <b>2018</b> , 29, 205-210	24
789	Effect of Rb doping on modulating grain shape and semiconductor properties of MAPbI <sub>3</sub> perovskite layer. <b>2018</b> , 211, 328-330	18
788	Achieving High Open-Circuit Voltages up to 1.57 V in Hole-Transport-Material-Free MAPbBr <sub>3</sub> Solar Cells with Carbon Electrodes. <b>2018</b> , 8, 1701159	42
787	On the Use of Luminescence Intensity Images for Quantified Characterization of Perovskite Solar Cells: Spatial Distribution of Series Resistance. <b>2018</b> , 8, 1701522	22
786	Pseudohalide-Induced Recrystallization Engineering for CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Film and Its Application in Highly Efficient Inverted Planar Heterojunction Perovskite Solar Cells. <b>2018</b> , 28, 1704836	92

785	Toward High Uniformity of Photoresponse Broadband Hybrid Organic-Inorganic Photodiode Based on PVP-Modified Perovskite. <b>2018</b> , 6, 1700509	17
784	Enhancing Ferroelectric Dipole Ordering in Organic-Inorganic Hybrid Perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : Strain and Doping Engineering. <b>2018</b> , 122, 177-184	24
783	Heterojunction Engineering for High Efficiency Cesium Formamidinium Double-Cation Lead Halide Perovskite Solar Cells. <b>2018</b> , 11, 837-842	55
782	Solution Processed CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Based Self-Powered Ozone Sensing Element Operated at Room Temperature. <b>2018</b> , 3, 135-142	66
781	Highly Efficient and Stable Perovskite Solar Cells Enabled by All-Crosslinked Charge-Transporting Layers. <b>2018</b> , 2, 168-183	84
780	Insights Into the Microscopic and Degradation Processes in Hybrid Perovskite Solar Cells Using Noise Spectroscopy. <b>2018</b> , 2, 1700173	10
779	Surface-Guided CsPbBr <sub>3</sub> Perovskite Nanowires on Flat and Faceted Sapphire with Size-Dependent Photoluminescence and Fast Photoconductive Response. <b>2018</b> , 18, 424-433	76
778	Cation engineering on lead iodide perovskites for stable and high-performance photovoltaic applications. <b>2018</b> , 27, 1017-1039	27
777	Elucidating the Impact of Chalcogen Content on the Photovoltaic Properties of Oxychalcogenide Perovskites: NaMO <sub>3</sub> Q (M=Nb, Ta; Q=S, Se, Te). <b>2018</b> , 19, 703-714	12
776	Microstructural and optical properties of HC(NH <sub>2</sub> ) <sub>2</sub> PbI <sub>3</sub> thin films prepared by single source thermal evaporation. <b>2018</b> , 29, 2267-2274	5
775	The 3 D Structure of Twisted Benzo[ghi]perylene-Triimide Dimer as a Non-Fullerene Acceptor for Inverted Perovskite Solar Cells. <b>2018</b> , 11, 415-423	19
774	Formation of quasi-2D layered crystallite using long chain halide to form hybrid perovskite film. <b>2018</b> ,	1
773	Exploring the Recombination Mechanism Induced by Carrier Transport Layers in Perovskite Solar Cells. <b>2018</b> ,	0
772	Incorporation of potassium halides in the mechanosynthesis of inorganic perovskites: feasibility and limitations of ion-replacement and trap passivation.. <b>2018</b> , 8, 41548-41551	19
771	Recent advances in one-dimensional halide perovskites for optoelectronic applications. <b>2018</b> , 10, 20963-20989	31
770	High-efficiency perovskite-polymer bulk heterostructure light-emitting diodes. <b>2018</b> , 12, 783-789	511
769	Increased luminescent efficiency of perovskite light emitting diodes based on modified two-step deposition method providing gradient concentration. <b>2018</b> , 6, 111101	3
768	Organic-Inorganic Hybrid Perovskite Solar Cells. <b>2018</b> , 463-507	1

767	Introduction. <b>2018</b> , 1-26	
766	Polymer morphology and interfacial charge transfer dominate over energy-dependent scattering in organic-inorganic thermoelectrics. <b>2018</b> , 9, 5347	41
765	Broadband Extrinsic Self-Trapped Exciton Emission in Sn-Doped 2D Lead-Halide Perovskites. <b>2019</b> , 31, e1806385	94
764	Tailoring properties of hybrid perovskites by domain-width engineering with charged walls. <b>2018</b> , 4,	12
763	Novel Spin Physics in Organic-Inorganic Perovskites. <b>2018</b> , 249-271	1
762	Ultrafast THz photophysics of solvent engineered triple-cation halide perovskites. <b>2018</b> , 124, 215106	4
761	Interfacial Engineering of TiO <sub>2</sub> by Graphene Nanoplatelets for High-Efficiency Hysteresis-free Perovskite Solar Cells. <b>2018</b> , 6, 15391-15401	12
760	Light-Induced Electroluminescence Patterning: Interface Energetics Modification at Semiconducting Polymer and Metal-Oxide Heterojunction in a Photodiode. <b>2018</b> , 122, 23506-23514	3
759	Formamidinium-Based Quasi-2D Perovskite Nanoplates With Dimensionally Tuned Optical Properties. <b>2018</b> , 17, 1165-1170	4
758	Design of an Inorganic Mesoporous Hole-Transporting Layer for Highly Efficient and Stable Inverted Perovskite Solar Cells. <b>2018</b> , 30, e1805660	139
757	How Lattice and Charge Fluctuations Control Carrier Dynamics in Halide Perovskites. <b>2018</b> , 18, 8041-8046	51
756	Modulating Surface Morphology Related to Crystallization Speed of Perovskite Grain and Optical Semiconductor and Crystallization Properties of the Absorber Layer Under Controlled Doping of Potassium Ions for Solar Cells. <b>2018</b> , 11,	7
755	Pressures Tuning the Band Gap of Organic-Inorganic Trihalide Perovskites (MAPbBr <sub>3</sub> ): A First-Principles Study. <b>2018</b> , 47, 7204-7211	9
754	Semi-transparent perovskite solar cells: unveiling the trade-off between transparency and efficiency. <b>2018</b> , 6, 19696-19702	58
753	Enhanced Charge Transport in Hybrid Perovskite Field-Effect Transistors via Microstructure Control. <b>2018</b> , 4, 1800316	41
752	Effective hopping strength between supercells in a disordered tight-binding model. <b>2018</b> , 155, 534-540	
751	Multifunctional RbCl dopants for efficient inverted planar perovskite solar cell with ultra-high fill factor, negligible hysteresis and improved stability. <b>2018</b> , 53, 567-578	47
750	Trap state passivation and photoactivation in wide band gap inorganic perovskite semiconductors. <b>2018</b> , 20, 25476-25481	11

749	Controllable growth of two-dimensional perovskite microstructures. <b>2018</b> , 20, 6538-6545	12
748	Efficient search of compositional space for hybrid organic/inorganic perovskites via Bayesian optimization. <b>2018</b> , 4,	49
747	Variations in the Composition of the Phases Lead to the Differences in the Optoelectronic Properties of MAPbBr <sub>3</sub> Thin Films and Crystals. <b>2018</b> , 122, 21817-21823	10
746	The crucial role of density functional nonlocality and on-axis CHNH rotation induced I formation in hybrid organic-inorganic CHNHPbI cubic perovskite. <b>2018</b> , 8, 13161	11
745	Study of transport and recombination mechanism in hole transporter free perovskite solar cell. <b>2018</b> , 5, 105508	1
744	Elucidating Surface and Bulk Emission in 3D Hybrid Organic/Inorganic Lead Bromide Perovskites. <b>2018</b> , 6, 1800470	18
743	Ultrafast Imaging of Carrier Transport across Grain Boundaries in Hybrid Perovskite Thin Films. <b>2018</b> , 3, 1402-1408	42
742	Nitrogen doped cuprous oxide as low cost hole-transporting material for perovskite solar cells. <b>2018</b> , 153, 104-108	13
741	The performance enhancement of HTM-free ZnO nanowire-based perovskite solar cells via low-temperature TiCl <sub>4</sub> treatment. <b>2018</b> , 170, 158-163	10
740	(C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> NH <sub>3</sub> ) <sub>2</sub> CuBr <sub>4</sub> : A Lead-Free, Highly Stable Two-Dimensional Perovskite for Solar Cell Applications. <b>2018</b> , 1, 2709-2716	49
739	Band Dispersion and Hole Effective Mass of Methylammonium Lead Iodide Perovskite. <b>2018</b> , 2, 1800132	30
738	Recent Advances in Perovskite Micro- and Nanolasers. <b>2018</b> , 6, 1800278	112
737	Photonics and Optoelectronics of 2D Metal-Halide Perovskites. <b>2018</b> , 14, e1800682	128
736	Hybrid Inorganic Organic Perovskites: A Low-Cost-Efficient Optoelectronic Material. <b>2018</b> , 123-162	3
735	Bistable Amphoteric Native Defect Model of Perovskite Photovoltaics. <b>2018</b> , 9, 3878-3885	11
734	Self-Adhesive Macroporous Carbon Electrodes for Efficient and Stable Perovskite Solar Cells. <b>2018</b> , 28, 1802985	98
733	Enhanced perovskite phototransistor by multi-step slow annealing strategy. <b>2018</b> , 84, 498-503	13
732	Intermediate Bands in Zero-Dimensional Antimony Halide Perovskites. <b>2018</b> , 9, 4652-4656	22

731	Defect Engineering toward Highly Efficient and Stable Perovskite Solar Cells. <b>2018</b> , 5, 1800326	29
730	Metal Halide Perovskites: Synthesis, Ion Migration, and Application in Field-Effect Transistors. <b>2018</b> , 14, e1801460	69
729	Organic/Inorganic Composites Based on Gel-Type Sulfonic Resin KU-2-8 and Zirconia: Acid and Catalytic Properties in the Etherification Reaction of iso-Butylene with Ethanol. <b>2018</b> , 57, 10859-10865	1
728	Formamidinium lead iodide perovskite: Structure, shape and optical tuning via hydrothermal method. <b>2018</b> , 231, 16-19	8
727	Metal Halide Perovskite Single Crystals: From Growth Process to Application. <b>2018</b> , 8, 220	24
726	Perovskites-Based Solar Cells: A Review of Recent Progress, Materials and Processing Methods. <b>2018</b> , 11,	138
725	Optimal Bandgap in a 2D Ruddlesden-Popper Perovskite Chalcogenide for Single-Junction Solar Cells. <b>2018</b> , 30, 4882-4886	35
724	High speed solution-processed hybrid perovskite photodetectors with low dark current enabled by a low temperature metal oxide interlayer. <b>2018</b> , 33, 094004	12
723	Phonon Coupling with Excitons and Free Carriers in Formamidinium Lead Bromide Perovskite Nanocrystals. <b>2018</b> , 9, 4245-4250	45
722	Perovskite nanowires find an edge. <b>2018</b> , 1, 380-381	4
721	Aligned and Graded Type-II Ruddlesden-Popper Perovskite Films for Efficient Solar Cells. <b>2018</b> , 8, 1800185	184
720	Inorganic CsPb <sub>1-x</sub> Sn <sub>x</sub> I <sub>3</sub> Br <sub>2</sub> for Efficient Wide-Bandgap Perovskite Solar Cells. <b>2018</b> , 8, 1800525	154
719	Highly Stable All-Inorganic Perovskite Solar Cells Processed at Low Temperature. <b>2018</b> , 2, 1800075	58
718	Synthesis, characterization and use of highly stable trimethyl sulfonium tin(IV) halide defect perovskites in dye sensitized solar cells. <b>2018</b> , 150, 83-91	19
717	Giant Phonon Tuning Effect via Pressure-Manipulated Polar Rotation in Perovskite MAPbI <sub>3</sub> . <b>2018</b> , 9, 3029-3034	13
716	Pressure dependence of excited-state charge-carrier dynamics in organolead tribromide perovskites. <b>2018</b> , 112, 191903	13
715	Mechanism suppressing charge recombination at iodine defects in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> by polaron formation. <b>2018</b> , 6, 16863-16867	23
714	Dynamic symmetry breaking and spin splitting in metal halide perovskites. <b>2018</b> , 98,	38

713	Elucidating the Failure Mechanisms of Perovskite Solar Cells in Humid Environments Using In Situ Grazing-Incidence Wide-Angle X-ray Scattering. <b>2018</b> , 3, 2127-2133	22
712	Design and exploration of semiconductors from first principles: A review of recent advances. <b>2018</b> , 11, 060101	70
711	Energy Harvesting Research: The Road from Single Source to Multisource. <b>2018</b> , 30, e1707271	125
710	Aqueous Synthesis of Methylammonium Lead Halide Perovskite Nanocrystals. <b>2018</b> , 130, 9798-9802	8
709	Aqueous Synthesis of Methylammonium Lead Halide Perovskite Nanocrystals. <b>2018</b> , 57, 9650-9654	58
708	Oxide Layer Enhances Photocurrent Gain of the Planar MAPbI <sub>3</sub> Photodetector. <b>2018</b> , 4, 1800114	5
707	Influence of Bulky Organo-Ammonium Halide Additive Choice on the Flexibility and Efficiency of Perovskite Light-Emitting Devices. <b>2018</b> , 28, 1802060	53
706	Ferroelectric and Piezoelectric Effects on the Optical Process in Advanced Materials and Devices. <b>2018</b> , 30, e1707007	107
705	Revealing the structural, electronic and optical properties of lead-free perovskite derivatives of Rb <sub>2</sub> SnX <sub>6</sub> (X = Cl, Br and I): A theory calculation. <b>2019</b> , 190, 272-277	17
704	Quantifying the Composition of Methylammonium Lead Iodide Perovskite Thin Films with Infrared Spectroscopy. <b>2019</b> , 123, 22083-22088	4
703	Influence of Solution Deposition Process on Modulating Majority Charge Carrier Type and Quality of Perovskite Thin Films for Solar Cells. <b>2019</b> , 12,	7
702	Mutual Insight on Ferroelectrics and Hybrid Halide Perovskites: A Platform for Future Multifunctional Energy Conversion. <b>2019</b> , 31, e1807376	48
701	Unravelling the Effects of Pressure-Induced Suppressed Electron-Hole Recombination in CsPbBr Perovskite: Time-Domain ab Initio Analysis. <b>2019</b> , 10, 4354-4361	11
700	Dynamic shortening of disorder potentials in anharmonic halide perovskites. <b>2019</b> , 10, 3141	35
699	Comparison of mesoporous materials based on mixed-organic-cation hole-conductor-free perovskite solar cells. <b>2019</b> , 493, 975-981	8
698	The Role of Back Buffer Layers and Absorber Properties for >25% Efficient CdTe Solar Cells. <b>2019</b> , 2, 5419-5426	30
697	Ligand-Size Related Dimensionality Control in Metal Halide Perovskites. <b>2019</b> , 4, 1830-1838	23
696	Heterogeneity at multiple length scales in halide perovskite semiconductors. <i>Nature Reviews Materials</i> , <b>2019</b> , 4, 573-587	73-3 136

695	Recent progress in fundamental understanding of halide perovskite semiconductors. <b>2019</b> , 106, 100580	69
694	Controlling Solvate Intermediate Growth for Phase-Pure Organic Lead Iodide Ruddlesden-Popper (C <sub>4</sub> H <sub>9</sub> NH <sub>3</sub> ) <sub>2</sub> (CH <sub>3</sub> NH <sub>3</sub> ) <sub>n</sub> PbI <sub>3n+1</sub> Perovskite Thin Films. <b>2019</b> , 31, 5832-5844	28
693	Carrier Recombination and Diffusion in Wet-Cast Tin Iodide Perovskite Layers Under High Intensity Photoexcitation. <b>2019</b> , 123, 19275-19281	5
692	Breakdown of the Static Picture of Defect Energetics in Halide Perovskites: The Case of the Br Vacancy in CsPbBr <sub>3</sub> . <b>2019</b> , 10, 4490-4498	25
691	Charge Localization, Stabilization, and Hopping in Lead Halide Perovskites: Competition between Polaron Stabilization and Cation Disorder. <b>2019</b> , 4, 2013-2020	32
690	Spatial Phase Distributions in Solution-Based and Evaporated CsPbBr <sub>3</sub> Thin Films. <b>2019</b> , 123, 17666-17677	8
689	Effect of Halide Ion Migration on the Electrical Properties of Methylammonium Lead Tri-Iodide Perovskite Solar Cells. <b>2019</b> , 123, 17728-17734	27
688	Sensitive electrochemical platform based on nano-cylindrical strontium titanate/N-doped graphene hybrid composite for simultaneous detection of diphenhydramine and bromhexine. <b>2019</b> , 319, 727-739	9
687	Hybrid benzidinium lead iodide perovskites with a 1D structure as photoinduced electron transfer photocatalysts. <b>2019</b> , 3, 2356-2360	4
686	Melt Spin Coating for X-Ray-Sensitive Hybrid Organic-Inorganic Layers of Small Carbazolyl-Containing Molecules Blended with Tungsten. <b>2019</b> , 216, 1900635	4
685	Conjugated Organic Cations Enable Efficient Self-Healing FASnI <sub>3</sub> Solar Cells. <b>2019</b> , 3, 3072-3087	115
684	Band structure engineering in metal halide perovskite nanostructures for optoelectronic applications. <b>2019</b> , 1, 268-287	65
683	Applied Trace Alkali Metal Elements for Semiconductor Property Modulation of Perovskite Thin Films. <b>2019</b> , 24,	4
682	Vacuum-Deposited 2D/3D Perovskite Heterojunctions. <b>2019</b> , 4, 2893-2901	38
681	The investigation of the unseen interrelationship of grain size, ionic defects, device physics and performance of perovskite solar cells. <b>2019</b> , 52, 125501	27
680	2D Ruddlesden-Popper Perovskite Photodetector Based on Excitonic Absorption. <b>2019</b> ,	0
679	Engineering of perovskite light-emitting diodes based on quasi-2D perovskites formed by diamine cations. <b>2019</b> , 75, 105400	12
678	Ultrafast Charge Carrier Relaxation in Inorganic Halide Perovskite Single Crystals Probed by Two-Dimensional Electronic Spectroscopy. <b>2019</b> , 10, 5414-5421	7

677	The Effect of Decomposed Pbl on Microscopic Mechanisms of Scattering in CHNHPbl Films. <b>2019</b> , 14, 208	20
676	Global discovery of stable and non-toxic hybrid organic-inorganic perovskites for photovoltaic systems by combining machine learning method with first principle calculations. <b>2019</b> , 66, 104070	23
675	Interfacial Engineering at the 2D/3D Heterojunction for High-Performance Perovskite Solar Cells. <b>2019</b> , 19, 7181-7190	110
674	Influence of Al <sub>2</sub> O <sub>3</sub> nanoparticles incorporation on the dielectric properties of solution processed PVA films for organic field effect transistor applications. <b>2019</b> , 30, 18384-18390	5
673	A hybrid blue perovskite@metal-organic gel (MOG) nanocomposite: simultaneous improvement of luminescence and stability. <b>2019</b> , 10, 10524-10530	16
672	Oxygen Defects and Surface Chemistry of Reducible Oxides. <b>2019</b> , 6,	27
671	Elucidating the long-range charge carrier mobility in metal halide perovskite thin films. <b>2019</b> , 12, 169-176	76
670	Exploring new approaches towards the formability of mixed-ion perovskites by DFT and machine learning. <b>2019</b> , 21, 1078-1088	29
669	Mixed phononic and non-phononic transport in hybrid lead halide perovskites: glass-crystal duality, dynamical disorder, and anharmonicity. <b>2019</b> , 12, 216-229	31
668	Unraveling the Impacts Induced by Organic and Inorganic Hole Transport Layers in Inverted Halide Perovskite Solar Cells. <b>2019</b> , 11, 7055-7065	34
667	Radiative recombination of large polarons in halide perovskites. <b>2019</b> , 31, 165701	3
666	Dynamic Screening and Slow Cooling of Hot Carriers in Lead Halide Perovskites. <b>2019</b> , 31, e1803054	54
665	Terahertz surface and interface emission spectroscopy for advanced materials. <b>2019</b> , 31, 153001	36
664	Functional polymers for growth and stabilization of CsPbBr perovskite nanoparticles. <b>2019</b> , 55, 1833-1836	18
663	Organic interfacial materials for perovskite-based optoelectronic devices. <b>2019</b> , 12, 1177-1209	125
662	Comprehensive Elucidation of Ion Transport and Its Relation to Hysteresis in Methylammonium Lead Iodide Perovskite Thin Films. <b>2019</b> , 123, 4029-4034	11
661	Assembly-Induced Bright-Light Emission from Solution-Processed Platinum(II) Inorganic Polymers. <b>2019</b> , 4, 10192-10204	5
660	Highly sensitive X-ray detector made of layered perovskite-like (NH <sub>4</sub> ) <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> single crystal with anisotropic response. <b>2019</b> , 13, 602-608	217

659	Organic Molecule Orientations and Rashba-Dresselhaus Effect in $\pi$ -Formamidinium Lead Iodide. <b>2019</b> , 123, 16508-16515	9
658	Metal halide perovskites under compression. <b>2019</b> , 7, 16089-16108	28
657	Room-Temperature Cavity Polaritons with 3D Hybrid Perovskite: Toward Large-Surface Polaritonic Devices. <b>2019</b> , 6, 1804-1811	17
656	Multiple-engineering controlled growth of tunable-bandgap perovskite nanowires for high performance photodetectors.. <b>2019</b> , 9, 19772-19779	4
655	On understanding bandgap bowing and optoelectronic quality in $\text{PbSn}$ alloy hybrid perovskites. <b>2019</b> , 7, 16285-16293	39
654	Could Nanocomposites Continue the Success of Halide Perovskites?. <b>2019</b> , 4, 1446-1454	6
653	Nonvolatile Rewritable Photomemory Arrays Based on Reversible Phase-Change Perovskite for Optical Information Storage. <b>2019</b> , 7, 1900558	27
652	Intermediate Phase Halide Exchange Strategy toward a High-Quality, Thick $\text{CsPbBr}_3$ Film for Optoelectronic Applications. <b>2019</b> , 11, 22543-22549	19
651	Interfacial engineering of front-contact with finely tuned polymer interlayers for high-performance large-area flexible perovskite solar cells. <b>2019</b> , 62, 734-744	29
650	Boosting the Efficiency of $\text{SnO}_2$ -Triple Cation Perovskite System Beyond 20% Using Nonhalogenated Antisolvent. <b>2019</b> , 29, 1903213	47
649	Highly Efficient and Stable Solar Cells Based on Crystalline Oriented 2D/3D Hybrid Perovskite. <b>2019</b> , 31, e1901242	127
648	Large polaron evidence in the ultrafast THz response of Lead-Halide Perovskites. <b>2019</b> , 205, 04019	
647	Plasmon-Enhanced Blue-Light Emission of Stable Perovskite Quantum Dot Membranes. <b>2019</b> , 9,	5
646	Accumulation of Deep Traps at Grain Boundaries in Halide Perovskites. <b>2019</b> , 4, 1321-1327	76
645	Tuning the charge flow between Marcus regimes in an organic thin-film device. <b>2019</b> , 10, 2089	20
644	Properties of Excitons and Photogenerated Charge Carriers in Metal Halide Perovskites. <b>2019</b> , 31, e1806671	85
643	Charge Trap Formation and Passivation in Methylammonium Lead Tribromide. <b>2019</b> , 123, 13812-13817	5
642	Enhanced Stability and Band Gap Tuning of $[\text{HC}(\text{NH})_2]\text{PbI}_3$ Hybrid Perovskite by Large Cation Integration. <b>2019</b> , 11, 20743-20751	35

641	Deep Defect States in Wide-Band-Gap ABX <sub>3</sub> Halide Perovskites. <b>2019</b> , 4, 1150-1157	40
640	Saddle-like, $\pi$ -conjugated, cyclooctatetrathiophene-based, hole-transporting material for perovskite solar cells. <b>2019</b> , 7, 6656-6663	21
639	Photovoltaic Performance of Phase-Pure Orthorhombic BiSI Thin-Films. <b>2019</b> , 2, 3878-3885	26
638	Design of Mixed-Cation Tri-Layered Pb-Free Halide Perovskites for Optoelectronic Applications. <b>2019</b> , 5, 1900234	18
637	Prediction of the Role of Bismuth Dopants in Organic-Inorganic Lead Halide Perovskites on Photoelectric Properties and Photovoltaic Performance. <b>2019</b> ,	19
636	Long-Range Charge Extraction in Back-Contact Perovskite Architectures via Suppressed Recombination. <b>2019</b> , 3, 1301-1313	50
635	Boosting Efficiency in Polycrystalline Metal Halide Perovskite Light-Emitting Diodes. <b>2019</b> , 4, 1134-1149	44
634	A laminar MAPbBr <sub>3</sub> /MAPbBr <sub>3</sub> $\cdot$ x graded heterojunction single crystal for enhancing charge extraction and optoelectronic performance. <b>2019</b> , 7, 5670-5676	15
633	Strategies for Improving the Performance and Application of MOFs Photocatalysts. <b>2019</b> , 11, 2978-2993	25
632	Comprehensive Computational Study of Partial Lead Substitution in Methylammonium Lead Bromide. <b>2019</b> , 31, 3599-3612	20
631	Revisit of amorphous semiconductor InGaZnO <sub>4</sub> : A new electron transport material for perovskite solar cells. <b>2019</b> , 789, 276-281	12
630	Pressure engineering of photovoltaic perovskites. <b>2019</b> , 27, 91-106	50
629	Alkali Chlorides for the Suppression of the Interfacial Recombination in Inverted Planar Perovskite Solar Cells. <b>2019</b> , 9, 1803872	148
628	Sub-sized monovalent alkaline cations enhanced electrical stability for over 17% hysteresis-free planar perovskite solar mini-module. <b>2019</b> , 306, 635-642	9
627	Optimum Luminescent Down-Shifting Properties for High Efficiency and Stable Perovskite Solar Cells. <b>2019</b> , 2, 2930-2938	24
626	20.7% highly reproducible inverted planar perovskite solar cells with enhanced fill factor and eliminated hysteresis. <b>2019</b> , 12, 1622-1633	134
625	Structure and binding in halide perovskites: Analysis of static and dynamic effects from dispersion-corrected density functional theory. <b>2019</b> , 7, 021108	18
624	In situ growth of CsPbI <sub>3</sub> on carbon nanofibers via electrospinning. <b>2019</b> , 723, 11-15	5

623	[CNH][SbI]: A Lead-free Hybrid Halide Semiconductor with Exceptional Dielectric Relaxation. <b>2019</b> , 58, 4337-4343	13
622	Dynamic emission Stokes shift and liquid-like dielectric solvation of band edge carriers in lead-halide perovskites. <b>2019</b> , 10, 1175	68
621	Photoinduced photoluminescence enhancement in self-assembled clusters of formamidinium lead bromide perovskite nanocrystals. <b>2019</b> , 11, 9335-9340	11
620	Highly Photoluminescent and Environmentally Stable Perovskite Nanocrystals Templated in Thin Self-Assembled Block Copolymer Films. <b>2019</b> , 29, 1808193	21
619	Recent progress of the optoelectronic properties of 2D Ruddlesden-Popper perovskites. <b>2019</b> , 40, 041901	11
618	Zero-Dimensional Lead-Free Hybrid Perovskite-like Material with a Quantum-Well Structure. <b>2019</b> , 31, 1941-1945	28
617	Recent Advances in Halide Perovskite Single-Crystal Thin Films: Fabrication Methods and Optoelectronic Applications. <b>2019</b> , 3, 1800294	62
616	Lead-Free Metal Halide Perovskite Nanocrystals: Challenges, Applications, and Future Aspects. <b>2019</b> , 5, 300-312	47
615	Charge Transport in Halide Perovskite Single Crystals: Experimental and Theoretical Perspectives. <b>2019</b> , 5, 290-299	2
614	Defective States in Micro-Crystalline CsPbBr <sub>3</sub> and Their Role on Photoconductivity. <b>2019</b> , 9,	14
613	A 0D Lead-Free Hybrid Crystal with Ultralow Thermal Conductivity. <b>2019</b> , 29, 1809166	23
612	Understanding the Impact of Bismuth Heterovalent Doping on the Structural and Photophysical Properties of CH <sub>3</sub> NH <sub>3</sub> PbBr Halide Perovskite Crystals with Near-IR Photoluminescence. <b>2019</b> , 25, 5480-5488	22
611	Photonic-structured TiO <sub>2</sub> for high-efficiency, flexible and stable Perovskite solar cells. <b>2019</b> , 59, 91-101	68
610	Effect of Grain Boundaries on Charge Transport in Methylammonium Lead Iodide Perovskite Thin Films. <b>2019</b> , 123, 5321-5325	20
609	Donuts and Spin Vortices at the Fermi Surfaces of Hybrid Lead-Iodide CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskites. <b>2019</b> , 123, 6753-6762	2
608	Large polaron formation and its effect on electron transport in hybrid perovskites. <b>2019</b> , 12, 1219-1230	68
607	Theory of Electrochemical Kinetics for Perovskite Solar Cells: Fitting Current/Voltage Curves. <b>2019</b> , 55, 1299-1304	0
606	Synthesis, Structure and Photoluminescence Properties of 2D Organic-Inorganic Hybrid Perovskites. <b>2019</b> , 9, 5211	3

605	Aqueous Solution Processed Copper Iodide as Hole Transport Material For Planar Inverted Perovskite Solar Cells. <b>2019,</b>	0
604	Effect of formamidinium cation on electronic structure of formamidinium lead iodide. <b>2019, 1380, 012080</b>	
603	Pulsed laser deposition of amorphous InGaZnO4 as an electron transport layer for perovskite solar cells. <b>2019, 09, 1950042</b>	3
602	Optical Behaviors of a Microsized Single-Crystal MAPbI3 Plate under High Pressure. <b>2019, 123, 30221-30227</b>	7
601	Amplified Spontaneous Emission Threshold Reduction and Operational Stability Improvement in CsPbBr Nanocrystals Films by Hydrophobic Functionalization of the Substrate. <b>2019, 9, 17964</b>	28
600	Spin-Unrestricted and Spinor Nonradiative Relaxation Dynamics in Functionalized Semiconductors. <b>2019, 1-22</b>	
599	The Physics of Light Emission in Halide Perovskite Devices. <b>2019, 31, e1803336</b>	137
598	Green Solution-Processed Tin-Based Perovskite Films for Lead-Free Planar Photovoltaic Devices. <b>2019, 11, 3053-3060</b>	22
597	Improved Efficiency and Stability of Pb/Sn Binary Perovskite Solar Cells Fabricated by Galvanic Displacement Reaction. <b>2019, 9, 1802774</b>	48
596	Mix and Match: Organic and Inorganic Ions in the Perovskite Lattice. <b>2019, 31, e1802697</b>	23
595	Two-Dimensional Hybrid Halide Perovskites: Principles and Promises. <b>2019, 141, 1171-1190</b>	608
594	Defect Investigation in Perovskite Solar Cells by the Charge Based Deep Level Transient Spectroscopy (Q-DLTS). <b>2019, 204-209</b>	1
593	Controlling the Phase Segregation in Mixed Halide Perovskites through Nanocrystal Size. <b>2019, 4, 54-62</b>	100
592	The external and internal influences on the tuning of the properties of perovskites: An overview. <b>2019, 45, 4152-4166</b>	26
591	Recent Progress in the Design and Synthesis of Nitrides for Mesoscopic and Perovskite Solar Cells. <b>2019, 12, 772-786</b>	2
590	Two-dimensional perovskite materials: From synthesis to energy-related applications. <b>2019, 11, 61-82</b>	93
589	Preparation and characterization of poly (3-hexylthiophene) / carbon nanotubes hybrid material via in-situ click chemistry. <b>2019, 223, 797-804</b>	10
588	Double-Side-Passivated Perovskite Solar Cells with Ultra-low Potential Loss. <b>2019, 3, 1800296</b>	74

587	Rapid crystallization and controllable growth of perovskite thin films via a seeded approach. <b>2019</b> , 37, 021201	2
586	A fluorinated polythiophene hole-transport material for efficient and stable perovskite solar cells. <b>2019</b> , 164, 1-6	20
585	Constructing the Electronic Structure of CHNHPbI and CHNHPbBr Perovskite Thin Films from Single-Crystal Band Structure Measurements. <b>2019</b> , 10, 601-609	55
584	An overview on enhancing the stability of lead halide perovskite quantum dots and their applications in phosphor-converted LEDs. <b>2019</b> , 48, 310-350	545
583	C(sp <sup>3</sup> ) Bond Activation by Perovskite Solar Photocatalyst Cell. <b>2019</b> , 4, 203-208	74
582	First-principles many-body study of the electronic and optical properties of CsKSb, a semiconducting material for ultra-bright electron sources. <b>2019</b> , 31, 014002	11
581	Progress of Surface Science Studies on ABX <sub>3</sub> -Based Metal Halide Perovskite Solar Cells. <b>2020</b> , 10, 1902726	51
580	Recent Progress and Development in Inorganic Halide Perovskite Quantum Dots for Photoelectrochemical Applications. <b>2020</b> , 16, e1903398	69
579	Verringerung schädlicher Defekte für leistungsstarke Metallhalogenid-Perowskit-Solarzellen. <b>2020</b> , 132, 6740-6764	7
578	Preparation and Characterization of (C <sub>6</sub> H <sub>5</sub> C <sub>2</sub> H <sub>4</sub> NH <sub>3</sub> ) <sub>2</sub> PbX <sub>4</sub> Perovskite Materials. <b>2020</b> , 208-215	
577	High-efficiency colorful perovskite solar cells using TiO <sub>2</sub> nanobowl arrays as a structured electron transport layer. <b>2020</b> , 63, 35-46	22
576	Reducing Detrimental Defects for High-Performance Metal Halide Perovskite Solar Cells. <b>2020</b> , 59, 6676-6698	171
575	Large Polaron Self-Trapped States in Three-Dimensional Metal-Halide Perovskites. <b>2020</b> , 2, 20-27	15
574	Modeling Thin Film Solar Cells: From Organic to Perovskite. <b>2020</b> , 7, 1901397	23
573	Preparation and Characterization of Mixed Halide MAPbI <sub>3-x</sub> Cl <sub>x</sub> Perovskite Thin Films by Three-Source Vacuum Deposition. <b>2020</b> , 8, 1900784	5
572	Raman Spectroscopy of Formamidinium-Based Lead Halide Perovskite Single Crystals. <b>2020</b> , 124, 2265-2272	19
571	Understanding of carrier dynamics, heterojunction merits and device physics: towards designing efficient carrier transport layer-free perovskite solar cells. <b>2020</b> , 49, 354-381	78
570	Graphitic carbon nitride and polymers: a mutual combination for advanced properties. <b>2020</b> , 7, 762-786	76

569	The mechanism of universal green antisolvents for intermediate phase controlled high-efficiency formamidinium-based perovskite solar cells. <b>2020</b> , 7, 934-942	32
568	Bypassing Solid-State Intermediates by Solvent Engineering the Crystallization Pathway in Hybrid Organic/Inorganic Perovskites. <b>2020</b> , 20, 1162-1171	6
567	Self-powered, flexible and room temperature operated solution processed hybrid metal halide p-type sensing element for efficient hydrogen detection. <b>2020</b> , 3, 014010	11
566	Single Crystal Perovskite Solar Cells: Development and Perspectives. <b>2020</b> , 30, 1905021	100
565	Hot Polarons with Trapped Excitons and Octahedra-Twist Phonons in CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> Hybrid Perovskite Nanowires. <b>2020</b> , 14, 1900267	4
564	Spatially Resolved Photogenerated Exciton and Charge Transport in Emerging Semiconductors. <b>2020</b> , 71, 1-30	44
563	Exciton-Polariton Properties in Planar Microcavity of Millimeter-Sized Two-Dimensional Perovskite Sheet. <b>2020</b> , 12, 5081-5089	7
562	Interfacial Contact Passivation for Efficient and Stable Cesium-Formamidinium Double-Cation Lead Halide Perovskite Solar Cells. <b>2020</b> , 23, 100762	32
561	Perovskite Quantum Dots Exhibiting Strong Hole Extraction Capability for Efficient Inorganic Thin Film Solar Cells. <b>2020</b> , 1, 100001	18
560	Elucidating the performance limits of perovskite nanocrystal light emitting diodes. <b>2020</b> , 220, 116939	11
559	Rashba Band Splitting in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> : An Insight from Spin-Polarized Scanning Tunneling Spectroscopy. <b>2020</b> , 20, 292-299	11
558	Photobrightening in Lead Halide Perovskites: Observations, Mechanisms, and Future Potential. <b>2020</b> , 10, 1903109	35
557	Examining the uniform strain effect on elastic, electronic and optical properties of CsPbCl <sub>3</sub> through FP-LAPW calculations. <b>2020</b> , 531, 110654	5
556	Enhanced Optical Absorption and Interfacial Carrier Separation of CsPbBr <sub>3</sub> /Graphene Heterostructure: Experimental and Theoretical Insights. <b>2020</b> , 12, 3086-3095	17
555	Polarons in Metal Halide Perovskites. <b>2020</b> , 10, 1902748	47
554	Long-range ballistic propagation of carriers in methylammonium lead iodide perovskite thin films. <b>2020</b> , 16, 171-176	44
553	Functional metal oxide ceramics as electron transport medium in photovoltaics and photo-electrocatalysis. <b>2020</b> , 207-273	2
552	Current-voltage analysis: lessons learned from hysteresis. <b>2020</b> , 81-108	6

551	Tetrasubstituted Thieno[3,2-]thiophenes as Hole-Transporting Materials for Perovskite Solar Cells. <b>2020</b> , 85, 224-233	12
550	Processing-Performance Evolution of Perovskite Solar Cells: From Large Grain Polycrystalline Films to Single Crystals. <b>2020</b> , 10, 1902762	28
549	Dry Mechanochemical Synthesis of Highly Luminescent, Blue and Green Hybrid Perovskite Solids. <b>2020</b> , 8, 1901494	9
548	Additives in metal halide perovskite films and their applications in solar cells. <b>2020</b> , 46, 215-228	32
547	First-Principles Simulation of Carrier Recombination Mechanisms in Halide Perovskites. <b>2020</b> , 10, 1902830	31
546	Highly Conductive P-Type MAPbI Films and Crystals via Sodium Doping. <b>2020</b> , 8, 754	10
545	Tuning the Thermoelectric Performance of Hybrid Tin Perovskites by Air Treatment. <b>2020</b> , 1, 2000033	8
544	Growth and photodetection properties of Cs <sub>2</sub> AgBiBr <sub>6</sub> crystals with large flat (1 1 1) plane grown from the solution by adding toluene. <b>2020</b> , 552, 125922	6
543	Revealing Electrical-Poling-Induced Polarization Potential in Hybrid Perovskite Photodetectors. <b>2020</b> , 32, e2005481	12
542	Infrared Spectra of the CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Hybrid Perovskite: Signatures of Phase Transitions and of Organic Cation Dynamics. <b>2020</b> , 124, 23307-23316	0
541	Effects of Bromine Doping on the Structural Properties and Band Gap of CH <sub>3</sub> NH <sub>3</sub> Pb(I Br) Perovskite. <b>2020</b> , 5, 26946-26953	7
540	Investigation of strain behavior and carrier mobility of organic-inorganic hybrid perovskites: (CH <sub>3</sub> NH <sub>3</sub> )GeI <sub>3</sub> and (CH <sub>3</sub> NH <sub>3</sub> )SnI <sub>3</sub> . <b>2020</b> , 12, 22551-22563	3
539	Eppur si Muove: Proton Diffusion in Halide Perovskite Single Crystals. <b>2020</b> , 32, e2002467	20
538	Emerging Chemical Functionalization of g-CN: Covalent/Noncovalent Modifications and Applications. <b>2020</b> , 14, 12390-12469	88
537	Air Stable Organic-Inorganic Perovskite Nanocrystals@Polymer Nanofibers and Waveguide Lasing. <b>2020</b> , 16, e2004409	9
536	Insight into the Origins of Figures of Merit and Design Strategies for Organic/Inorganic Lead-Halide Perovskite Solar Cells. <b>2020</b> , 4, 2000452	6
535	Density functional study on electronic properties of transition metal-based vacancy-ordered halide perovskites. <b>2020</b> , 759, 138053	1
534	Dopant-free hole-transporting polymers for efficient, stable, and hysteresis-less perovskite solar cells. <b>2020</b> , 26, e00226	8

533	Choice of the electronic basis for field-induced surface hopping. <b>2020</b> , 102,	2
532	Formation of Color Centers in Lead Iodide Perovskites: Self-Trapping and Defects in the Bulk and Surfaces. <b>2020</b> , 32, 6916-6924	15
531	Mo5+ doping induced interface polarization for improving performance of planar perovskite solar cells. <b>2020</b> , 41, 052203	0
530	Thermodynamic Stabilization of Mixed-Halide Perovskites against Phase Segregation. <b>2020</b> , 1, 100120	27
529	Direct Spectroscopic Observation of the Hole Polaron in Lead Halide Perovskites. <b>2020</b> , 11, 6256-6261	8
528	Fluorescent methylammonium lead halide perovskite quantum dots as a sensing material for the detection of polar organochlorine pesticide residues. <b>2020</b> , 145, 6683-6690	4
527	Broadband critical dynamics in disordered lead-based perovskites. <b>2020</b> , 32, 374012	2
526	Stannite Quaternary Cu <sub>2</sub> M(M = Ni, Co)SnS <sub>4</sub> as Low Cost Inorganic Hole Transport Materials in Perovskite Solar Cells. <b>2020</b> , 13, 5938	2
525	Overall photocatalytic water splitting by an organolead iodide crystalline material. <b>2020</b> , 3, 1027-1033	38
524	Combined Computational and Experimental Investigation on the Nature of Hydrated Iodoplumbate Complexes: Insights into the Dual Role of Water in Perovskite Precursor Solutions. <b>2020</b> , 124, 11481-11490	12
523	Flash Formation of I-Rich Clusters during Multistage Halide Segregation Studied in MAPbI <sub>1.5</sub> Br <sub>1.5</sub> . <b>2020</b> , 124, 24608-24615	11
522	Structural dynamics of CHNH and PbBr in tetragonal and cubic phases of CHNH <sub>2</sub> PbBr hybrid perovskite by nuclear magnetic resonance. <b>2020</b> , 10, 13140	5
521	Shape Control of Metal Halide Perovskite Single Crystals: From Bulk to Nanoscale. <b>2020</b> , 32, 7602-7617	30
520	Ink-Based Additive Nanomanufacturing of Functional Materials for Human-Integrated Smart Wearables. <b>2020</b> , 2, 2000117	9
519	First principle study on hybrid organic-inorganic perovskite ASnBr <sub>3</sub> (A <sup>+</sup> = Formamidinium, Dimethylammonium and Azetidinium). <b>2020</b> , 207, 1348-1355	3
518	Effect of Structural Defects and Impurities on the Excited State Dynamics of 2D BA <sub>2</sub> PbI <sub>4</sub> Perovskite. <b>2020</b> , 103, e2000121	7
517	Unique phonon modes of a CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> hybrid perovskite film without the influence of defect structures: an attempt toward a novel THz-based application. <b>2020</b> , 12,	5
516	Tunable spin textures in polar antiferromagnetic hybrid organic-inorganic perovskites by electric and magnetic fields. <b>2020</b> , 6,	12

515	Metal Semiconductor Metal Thin-Film X-Ray Detector Based on Halide Perovskites. <b>2020</b> , 217, 2000296	1
514	Two-Dimensional CsPb(SCN)Br-Based Photomemory Devices Showing a Photoinduced Recovery Behavior and an Unusual Fully Optically Driven Memory Behavior. <b>2020</b> , 12, 36398-36408	22
513	Materials and Methods for Interface Engineering toward Stable and Efficient Perovskite Solar Cells. <b>2020</b> , 5, 2742-2786	141
512	Effect of solvent vapour annealing on bismuth triiodide film for photovoltaic applications and its optoelectronic properties. <b>2020</b> , 8, 12173-12180	9
511	Effects of Postdeposition Annealing on the Luminescence of Mixed-Phase CsPb <sub>2</sub> Br <sub>5</sub> /CsPbBr <sub>3</sub> Thin Films. <b>2020</b> , 124, 19514-19521	7
510	Temperature dependence of CIGS and perovskite solar cell performance: an overview. <b>2020</b> , 2, 1	11
509	Contrasting Behaviors of FA and MA Cations in PbBr. <b>2020</b> , 11, 9669-9679	11
508	Defects and Their Passivation in Hybrid Halide Perovskites toward Solar Cell Applications. <b>2020</b> , 4, 2000505	19
507	Visible light driven perovskite-based photocatalysts: A new candidate for green organic synthesis by photochemical protocol. <b>2020</b> , 3, 100031	11
506	Conformational disorder of organic cations tunes the charge carrier mobility in two-dimensional organic-inorganic perovskites. <b>2020</b> , 11, 5481	21
505	Near-Infrared-Transparent Perovskite Solar Cells and Perovskite-Based Tandem Photovoltaics. <b>2020</b> , 4, 2000395	27
504	Preparation and Testing of Anisotropic MAPbI <sub>3</sub> Perovskite Photoelectric Sensors. <b>2020</b> , 12, 44248-44255	10
503	Template-Assisted Electrochemical Synthesis of CdSe Quantum Dots/Polypyrrole Composite Nanorods. <b>2020</b> , 10, 5966	
502	Observation of the polaronic character of excitons in a two-dimensional semiconducting magnet CrI. <b>2020</b> , 11, 4780	12
501	Self-trapped excitons in two-dimensional perovskites. <b>2020</b> , 13, 225-234	25
500	Phenomenological mechanisms of hybrid organic-inorganic perovskite thin film deposition by RIR-MAPLE. <b>2020</b> , 128, 105303	1
499	2D layered all-inorganic halide perovskites: recent trends in their structure, synthesis and properties. <b>2020</b> , 12, 21094-21117	23
498	Unraveling the Photogenerated Electron Localization on the Defect-Free CH <sub>3</sub> NHPbI(001) Surfaces: Understanding and Implications from a First-Principles Study. <b>2020</b> , 11, 8041-8047	4

497	Recent Progress in Metal Halide Perovskite-Based Tandem Solar Cells. <b>2020</b> , 32, e2002228	19
496	Isothermally crystallized perovskites at room-temperature. <b>2020</b> , 13, 3412-3422	71
495	Bioinspired Molecular Bridging in a Hybrid Perovskite Leads to Enhanced Stability and Tunable Properties. <b>2020</b> , 30, 2005136	5
494	Structural Evolution of Layered Hybrid Lead Iodide Perovskites in Colloidal Dispersions. <b>2020</b> , 14, 11294-11308 <sub>10</sub>	
493	Preferred oriented cation configurations in high pressure phases IV and V of methylammonium lead iodide perovskite. <b>2020</b> , 10, 21138	2
492	Temperature-dependent band structure evolution determined by surface geometry in organic halide perovskite single crystals. <b>2020</b> , 102,	2
491	Performance Analysis of Embedded Mechanoluminescence-Perovskite Self-Powered Pressure Sensor for Structural Health Monitoring. <b>2020</b> , 4, 190	3
490	Deep Mining Stable and Nontoxic Hybrid Organic-Inorganic Perovskites for Photovoltaics via Progressive Machine Learning. <b>2020</b> , 12, 57821-57831	7
489	The Bright Side and Dark Side of Hybrid Organic-Inorganic Perovskites. <b>2020</b> , 124, 27340-27355	1
488	Structural Deformation Controls Charge Losses in MAPbI <sub>3</sub> : Unsupervised Machine Learning of Nonadiabatic Molecular Dynamics. <b>2020</b> , 5, 1930-1938	32
487	Emergence of Ferroelectricity in Halide Perovskites. <b>2020</b> , 4, 2000149	37
486	Complexes of BiCl <sub>3</sub> with hydrazone derived ligands: a Möbius-like discrete metal chelate versus a salt-like porous polymeric structure. <b>2020</b> , 44, 9429-9437	4
485	Can Machines Learn Halide Perovskite Crystal Formation without Accurate Physicochemical Features?. <b>2020</b> , 124, 13982-13992	6
484	Optical and electrical optimization of all-perovskite pin type junction tandem solar cells. <b>2020</b> , 53, 315104	5
483	In Situ Investigations of Al/Perovskite Interfacial Structures. <b>2020</b> , 12, 28861-28868	9
482	Perovskite Flash Memory with a Single-Layer Nanofloating Gate. <b>2020</b> , 20, 5081-5089	9
481	Supertetragonal Phases of Perovskite Oxides: Insights from Electronic Structure Calculations. <b>2020</b> , 60, 833-841	4
480	Spin Polarization Dynamics of Free Charge Carriers in CsPbI Nanocrystals. <b>2020</b> , 20, 4724-4730	15

479	Long-Range Exciton Diffusion in Two-Dimensional Assemblies of Cesium Lead Bromide Perovskite Nanocrystals. <b>2020</b> , 14, 6999-7007	26
478	Silver and copper nanowire films as cost-effective and robust transparent electrode in energy harvesting through photovoltaic: A review. <b>2020</b> , 24, 101317	10
477	Electron-beam-induced cracking in organic-inorganic halide perovskite thin films. <b>2020</b> , 187, 88-92	8
476	Computational determination of the physical-thermoelectric parameters of tin-based organometallic halide perovskites (CH <sub>3</sub> NH <sub>3</sub> SnX <sub>3</sub> , X = Br and I): Emerging materials for optoelectronic devices. <b>2020</b> , 253, 123389	8
475	Perovskite semiconductors for direct X-ray detection and imaging. <b>2020</b> , 41, 051204	30
474	Design of wave-optical structured substrates for ultra-thin perovskite solar cells. <b>2020</b> , 20, 100720	21
473	Direct Z-Scheme Heterojunction of Semicoherent FAPbBr/BiWO Interface for Photoredox Reaction with Large Driving Force. <b>2020</b> ,	70
472	Photon recycling in halide perovskite solar cells for higher efficiencies. <b>2020</b> , 45, 439-448	7
471	Defects in halide perovskites: The lattice as a boojum?. <b>2020</b> , 45, 478-484	11
470	Complementary Hybrid Semiconducting Superlattices with Multiple Channels and Mutual Stabilization. <b>2020</b> , 20, 4864-4871	7
469	Micro- and Nanopatterning of Halide Perovskites Where Crystal Engineering for Emerging Photoelectronics Meets Integrated Device Array Technology. <b>2020</b> , 32, e2000597	31
468	Charge localization and trapping at surfaces in lead-iodide perovskites: the role of polarons and defects. <b>2020</b> , 8, 6882-6892	28
467	Coherent band-edge oscillations and dynamic longitudinal-optical phonon mode splitting as evidence for polarons in perovskites. <b>2020</b> , 101,	13
466	Fabrication of nickel oxide composites with carbon nanotubes for enhanced charge transport in planar perovskite solar cells. <b>2020</b> , 516, 146116	13
465	Chiral-perovskite optoelectronics. <i>Nature Reviews Materials</i> , <b>2020</b> , 5, 423-439	733 191
464	A perovskite solar cell owing very high stabilities and power conversion efficiencies. <b>2020</b> , 201, 541-546	7
463	Piezoelectric Energy Harvesting from a Ferroelectric Hybrid Salt [Ph MeP] [Ni(NCS) ] Embedded in a Polymer Matrix. <b>2020</b> , 59, 10368-10373	13
462	Efficient All-Inorganic Perovskite Light-Emitting Diodes with Improved Operation Stability. <b>2020</b> , 12, 18084-18090	33

461	Polarons in Halide Perovskites: A Perspective. <b>2020</b> , 11, 3271-3286		54
460	From bulk to molecularly thin hybrid perovskites. <i>Nature Reviews Materials</i> , <b>2020</b> , 5, 482-500	73.3	80
459	Hybrid Organic-Inorganic Materials and Composites for Photoelectrochemical Water Splitting. <b>2020</b> , 5, 1487-1497		58
458	Macroscopic and Microscopic Structures of Cesium Lead Iodide Perovskite from Atomistic Simulations. <b>2020</b> , 30, 1909496		2
457	All-Photonic Miniature Perovskite Encoder with a Terahertz Bandwidth. <b>2020</b> , 14, 1900398		6
456	A Self-Assembled Small-Molecule-Based Hole-Transporting Material for Inverted Perovskite Solar Cells. <b>2020</b> , 26, 10276-10282		10
455	Solar-Driven Metal Halide Perovskite Photocatalysis: Design, Stability, and Performance. <b>2020</b> , 5, 1107-1123		212
454	Controlled Size Growth of Thermally Stable Organometallic Halide Perovskite Microrods: Synergistic Effect of Dual-Doping, Lattice Strain Engineering, Antisolvent Crystallization, and Band Gap Tuning Properties. <b>2020</b> , 5, 16106-16119		4
453	The effect of a complex A-site cation and mixed halides in the emission properties of perovskite quantum dots. <b>2020</b> , 314, 113674		1
452	Recent Progresses on Metal Halide Perovskite-Based Material as Potential Photocatalyst. <b>2020</b> , 10, 709		36
451	Azatruxene-Based, Dumbbell-Shaped, Donor-Bridge-Donor Hole-Transporting Materials for Perovskite Solar Cells. <b>2020</b> , 26, 11039-11047		4
450	Metal-Free Hybrid Organic-Inorganic Perovskites for Photovoltaics. <b>2020</b> , 11, 5938-5947		6
449	Hybrid Halide Perovskites. <b>2020</b> , 15-78		
448	Perovskite nanogels: synthesis, properties, and applications. <b>2020</b> , 8, 12355-12379		4
447	Defect Energetics in Pseudo-Cubic Mixed Halide Lead Perovskites from First-Principles. <b>2020</b> , 124, 16729-16738		
446	Theoretical pressure-tuning bandgaps of double perovskites A <sub>2</sub> (BB')X <sub>6</sub> for photo-voltaics. <b>2020</b> , 207, 165-172		4
445	Bright magnetic dipole radiation from two-dimensional lead-halide perovskites. <b>2020</b> , 6, eaay4900		15
444	A hysteresis-free perovskite transistor with exceptional stability through molecular cross-linking and amine-based surface passivation. <b>2020</b> , 12, 7641-7650		24

443	Enhancing photoluminescence quantum efficiency of metal halide perovskites by examining luminescence-limiting factors. <b>2020</b> , 8, 020904	13
442	Dynamics of Antisolvent Processed Hybrid Metal Halide Perovskites Studied by In Situ Photoluminescence and Its Influence on Optoelectronic Properties. <b>2020</b> , 3, 2386-2393	15
441	Imaging Carrier Dynamics and Transport in Hybrid Perovskites with Transient Absorption Microscopy. <b>2020</b> , 10, 1903781	4
440	Structural changes and band gap tunability with incorporation of n-butylammonium iodide in perovskite thin film. <b>2020</b> , 6, e03364	1
439	Color-Tunable Photoluminescence and Whispering Gallery Mode Lasing of Alloyed CsPbCl <sub>3</sub> (1-x)Br <sub>3x</sub> Microstructures. <b>2020</b> , 7, 1902126	4
438	Flexible and Wearable Solar Cells and Supercapacitors. <b>2020</b> , 87-129	3
437	Optical Absorption-Based In Situ Characterization of Halide Perovskites. <b>2020</b> , 10, 1903587	20
436	Facile growth and re-crystallization of polymer-based inorganic-organic 2D hybrid composites and their applications. <b>2020</b> , 829, 154550	4
435	Ammoniated aqueous precursor ink processed copper iodide as hole transport layer for inverted planar perovskite solar cells. <b>2020</b> , 210, 110486	15
434	Synthesis and model simulation of the hexagonal to circular transition of perovskite cesium lead halide nanosheets by rapidly changing the temperature.. <b>2020</b> , 10, 4211-4217	1
433	Correlating Hysteresis and Stability with Organic Cation Composition in the Two-Step Solution-Processed Perovskite Solar Cells. <b>2020</b> , 12, 10588-10596	17
432	Relating Defect Luminescence and Nonradiative Charge Recombination in MAPbI Perovskite Films. <b>2020</b> , 11, 1714-1720	12
431	High voltage vacuum-processed perovskite solar cells with organic semiconducting interlayers.. <b>2020</b> , 10, 6640-6646	12
430	Blade-Coated Perovskites on Textured Silicon for 26%-Efficient Monolithic Perovskite/Silicon Tandem Solar Cells. <b>2020</b> , 4, 850-864	154
429	Solution-Processed Transparent Electrodes for Emerging Thin-Film Solar Cells. <b>2020</b> , 120, 2049-2122	76
428	Materials chemistry and engineering in metal halide perovskite lasers. <b>2020</b> , 49, 951-982	143
427	Light-Induced Defect Healing and Strong Many-Body Interactions in Formamidinium Lead Bromide Perovskite Nanocrystals. <b>2020</b> , 11, 1239-1246	12
426	Lead Acetate Assisted Interface Engineering for Highly Efficient and Stable Perovskite Solar Cells. <b>2020</b> , 12, 7186-7197	11

425	Triple cation perovskite doped with the small molecule F4TCNQ for highly efficient stable photodetectors. <b>2020</b> , 8, 2880-2887	13
424	Study of strain effects on electronic and optical properties of CH <sub>3</sub> NH <sub>3</sub> PbX <sub>3</sub> (X= Cl, Br, I) perovskites. <b>2020</b> , 582, 412024	6
423	Synergistic Interface Energy Band Alignment Optimization and Defect Passivation toward Efficient and Simple-Structured Perovskite Solar Cell. <b>2020</b> , 7, 1902656	41
422	Room-Temperature Partial Conversion of FAPbI <sub>3</sub> Perovskite Phase via PbI <sub>2</sub> Solvation Enables High-Performance Solar Cells. <b>2020</b> , 30, 1907442	27
421	Molecular Semiconductors for Logic Operations: Dead-End or Bright Future?. <b>2020</b> , 32, e1905909	75
420	Preferred orientations of organic cations at lead-halide perovskite interfaces revealed using vibrational sum-frequency spectroscopy. <b>2020</b> , 7, 1348-1357	8
419	Effect of chemical nature of atoms on the electronic, dielectric, and dynamical properties of ABX <sub>3</sub> halide perovskite. <b>2020</b> , 120, e26172	6
418	Piezoelectric Energy Harvesting from a Ferroelectric Hybrid Salt [Ph <sub>3</sub> MeP] <sub>4</sub> [Ni(NCS) <sub>6</sub> ] Embedded in a Polymer Matrix. <b>2020</b> , 132, 10454-10459	2
417	Influence of oversized cations on electronic dimensionality of d-MAPbI <sub>3</sub> crystals. <b>2020</b> , 8, 7928-7934	
416	Recent progress in surface modification and interfacial engineering for high-performance perovskite light-emitting diodes. <b>2020</b> , 73, 104752	29
415	Two-step sequential blade-coating of high quality perovskite layers for efficient solar cells and modules. <b>2020</b> , 8, 8447-8454	29
414	Two-dimensional Ruddlesden-Popper layered perovskite for light-emitting diodes. <b>2020</b> , 8, 040901	10
413	NMR study of defect-induced magnetism in methylammonium lead iodide perovskite. <b>2020</b> , 101,	7
412	Origin of Amplified Spontaneous Emission Degradation in MAPbBr <sub>3</sub> Thin Films under Nanosecond-UV Laser Irradiation. <b>2020</b> , 124, 10696-10704	8
411	Core-Twisted Tetrachloroperylene diimides: Low-Cost and Efficient Non-Fullerene Organic Electron-Transporting Materials for Inverted Planar Perovskite Solar Cells. <b>2020</b> , 13, 3686-3695	4
410	Scaling Laws of Exciton Recombination Kinetics in Low Dimensional Halide Perovskite Nanostructures. <b>2020</b> , 142, 8871-8879	12
409	Halide Perovskites: Thermal Transport and Prospects for Thermoelectricity. <b>2020</b> , 7, 1903389	65
408	All-Inorganic Halide Perovskites as Potential Thermoelectric Materials: Dynamic Cation off-Centering Induces Ultralow Thermal Conductivity. <b>2020</b> , 142, 9553-9563	64

407	Perovskite: Name Puzzle and German-Russian Odyssey of Discovery. <b>2020</b> , 103, e2000061	15
406	Halide Diffusion in MAPbX <sub>3</sub> : Limits to Topotaxy for Halide Exchange in Perovskites. <b>2020</b> , 32, 4223-4231	11
405	Electronic Structure and Trap States of Two-Dimensional Ruddlesden-Popper Perovskites with the Relaxed Goldschmidt Tolerance Factor. <b>2020</b> , 2, 1402-1412	11
404	Microwave Microscopy and Its Applications. <b>2020</b> , 50, 105-130	9
403	Suppressing Ion Migration across Perovskite Grain Boundaries by Polymer Additives. <b>2021</b> , 31, 2006802	33
402	Challenges, recent advances and improvements for enhancing the efficiencies of ABX <sub>3</sub> -based PeLEDs (perovskites light emitting diodes): A review. <b>2021</b> , 850, 156827	4
401	Excellent quinoline additive in perovskite toward to efficient and stable perovskite solar cells. <b>2021</b> , 481, 228857	24
400	Influences of the orientations of CH <sub>3</sub> NH <sub>3</sub> molecules on physical properties of organo-inorganic hybrid perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <b>2021</b> , 26, 101816	0
399	Distinctive Bulk- and Surface-Specific Photoluminescence and Photocarrier Dynamics in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite. <b>2021</b> , 21, 45-51	3
398	2D Hybrid Halide Perovskites: Synthesis, Properties, and Applications. <b>2021</b> , 5, 2000395	7
397	Improving photovoltaic performance of CsPbBr <sub>3</sub> perovskite solar cells by a solvent-assisted rinsing step. <b>2021</b> , 368, 137539	3
396	CsPbBr <sub>3</sub> perovskite detectors with 1.4% energy resolution for high-energy $\gamma$ -rays. <b>2021</b> , 15, 36-42	79
395	Low-Dimensional Metal Halide Perovskite Photodetectors. <b>2021</b> , 33, e2003309	138
394	Carrier Dynamics and Evaluation of Lasing Actions in Halide Perovskites. <b>2021</b> , 3, 34-46	11
393	Fully Vacuum-Processed Perovskite Solar Cells on Pyramidal Microtextures. <b>2021</b> , 5, 2000553	19
392	New Phase Transitions Driven by Soft Phonon Modes for CsPbBr <sub>3</sub> : Density Functional Theory Study. <b>2021</b> , 258, 2000289	1
391	Vacancy defects on optoelectronic properties of double perovskite Cs <sub>2</sub> AgBiBr <sub>6</sub> . <b>2021</b> , 123, 105541	10
390	Amplified spontaneous emission in thin films of quasi-2D BAMAPbBr lead halide perovskites. <b>2021</b> , 13, 8893-8900	4

389	Nanometer-thick [(FPEA) <sub>2</sub> PbX <sub>4</sub> ; X = I and Br] 2D halide perovskite based thin films for pollutant detection and nonconventional photocatalytic degradation. <b>2021</b> , 2, 5712-5722	2
388	Origins of pressure-induced enhancement in thermal conductivity of hybrid inorganic-organic perovskites. <b>2021</b> , 13, 685-691	1
387	Visualization of dynamic polaronic strain fields in hybrid lead halide perovskites. <b>2021</b> , 20, 618-623	29
386	Electronic Structure and Optical Properties of Mixed Iodine/Bromine Lead Perovskites. To Mix or Not to Mix?. 2001832	8
385	Dynamic structural property of organic-inorganic metal halide perovskite. <b>2021</b> , 24, 101959	12
384	Reversible dehydration/hydration process in stable bismuth-based hybrid perovskites. <b>2021</b> , 9, 11358-11367	5
383	Synergistic improvements in the performance and stability of inverted planar MAPbI <sub>3</sub> -based perovskite solar cells incorporating benzylammonium halide salt additives. <b>2021</b> , 5, 3378-3387	5
382	SnO Atomic Layer Deposition on Bare Perovskite-An Investigation of Initial Growth Dynamics, Interface Chemistry, and Solar Cell Performance. <b>2021</b> , 4, 510-522	8
381	Organic/inorganic hybrid and inorganic halide perovskites: structural and chemical engineering, interfaces and optoelectronic properties. <b>2021</b> , 54, 133002	11
380	Dye-Sensitized and Perovskite Solar Cells: Theory and Applications. <b>2021</b> , 558-594	
379	Reality or fantasy? Perovskite semiconductor laser diodes. <b>2021</b> , 3, e12077	8
378	The pursuit of stability in halide perovskites: the monovalent cation and the key for surface and bulk self-healing. <b>2021</b> , 8, 1570-1586	5
377	Halide perovskites for light emission and artificial photosynthesis: Opportunities, challenges, and perspectives. <b>2021</b> , 3, e12074	6
376	Embedded Perovskite-Mechanoluminescent Sensor for Applications in Composite Materials. <b>2021</b> , 603-611	1
375	Back-Contact Perovskite Solar Cells. <b>2021</b> , 219-231	1
374	Dynamic Motion of Organic Spacer Cations in Ruddlesden-Popper Lead Iodide Perovskites Probed by Solid-State NMR Spectroscopy. <b>2021</b> , 33, 642-656	18
373	Metal Halide Perovskites for X-ray Imaging Scintillators and Detectors. <b>2021</b> , 6, 739-768	127
372	Heterogeneities and Emissive Defects in MAPbI <sub>3</sub> Perovskite Revealed by Spectrally Resolved Luminescence Blinking. <b>2021</b> , 9, 2001380	4

371	Metallic surface doping of metal halide perovskites. <b>2021</b> , 12, 7	28
370	Nanowire Waveguides and Lasers: Advances and Opportunities in Photonic Circuits. <b>2020</b> , 8, 613504	5
369	Structural evolution, optical gap and thermoelectric properties of CH <sub>3</sub> NH <sub>3</sub> SnBr <sub>3</sub> hybrid perovskite, prepared by mechanochemistry. <b>2021</b> , 2, 3620-3628	4
368	Nature of the different emissive states and strong exciton-phonon couplings in quasi-two-dimensional perovskites derived from phase-modulated two-photon micro-photoluminescence spectroscopy. <b>2021</b> , 23, 3983-3992	4
367	How to apply metal halide perovskites to photocatalysis: challenges and development. <b>2021</b> , 13, 10281-10304	14
366	Efficient Two-Dimensional Perovskite Solar Cells Realized by Incorporation of TiCT MXene as Nano-Dopants. <b>2021</b> , 13, 68	16
365	High-Pressure Structural Phase Transformation of Ferroelectric Bis-benzylammonium Lead Tetrachloride Studied by Raman Spectroscopy and X-ray Diffraction. <b>2021</b> , 60, 3657-3666	2
364	Ultrasensitive 3D Aerosol-Jet-Printed Perovskite X-ray Photodetector. <b>2021</b> , 15, 4077-4084	17
363	Large-Area Heterojunction Photodetectors Based on Nanometer-Thick CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Films Modified with Poly(methyl methacrylate) Nanofilms. <b>2021</b> , 4, 1682-1691	6
362	Interface Engineering of Perovskite/Hole Transport Layer Using Nano-Network Formation in Small Molecule Polymer Blend for Efficient Inverted Perovskite Solar Cells. <b>2021</b> , 8, 2001891	0
361	Strong self-trapping by deformation potential limits photovoltaic performance in bismuth double perovskite. <b>2021</b> , 7,	30
360	Composition-Dependent Struggle between Iodine and Tin Chemistry at the Surface of Mixed Tin/Lead Perovskites. <b>2021</b> , 6, 969-976	12
359	Carbon Nanoparticles as Versatile Auxiliary Components of Perovskite-Based Optoelectronic Devices. <b>2021</b> , 31, 2010768	13
358	Tunable Rashba Spin Splitting in Two-Dimensional Polar Perovskites. <b>2021</b> , 12, 1932-1939	4
357	Impact of a Spun-Cast MoO <sub>x</sub> Layer on the Enhanced Moisture Stability and Performance-Limiting Behaviors of Perovskite Solar Cells. <b>2021</b> , 4, 3169-3181	2
356	Threshold Size Effects in the Patterned Crystallization of Hybrid Halide Perovskites for Random Lasing. <b>2021</b> , 2, 2000097	3
355	Efficient Wide-Bandgap Mixed-Cation and Mixed-Halide Perovskite Solar Cells by Vacuum Deposition. <b>2021</b> , 6, 827-836	33
354	Recent progress in two-dimensional Ruddlesden-Popper perovskite based heterostructures. <b>2021</b> , 8, 022006	5

353	Recent Advances in Perovskite Photodetectors for Image Sensing. <b>2021</b> , 17, e2005606	34
352	Electrical doping in halide perovskites. <i>Nature Reviews Materials</i> , <b>2021</b> , 6, 531-549	73-3 67
351	Signatures of Coherent Phonon Transport in Ultralow Thermal Conductivity Two-Dimensional Ruddlesden-Popper Phase Perovskites. <b>2021</b> , 15, 4165-4172	7
350	Challenges and Opportunities for CsPbBr <sub>3</sub> Perovskites in Low- and High-Energy Radiation Detection. <b>2021</b> , 6, 1290-1314	24
349	Simulation of carriers spatial distribution and transportation in co-mixing composition perovskite for solar cell. <b>2021</b> , 8, 035006	1
348	Strain-Engineered Formation, Migration, and Electronic Properties of Polaronic Defects in CeO <sub>2</sub> . <b>2021</b> , 258, 2100020	0
347	Suppressing the $\delta$ Phase and Photoinstability through a Hypophosphorous Acid Additive in Carbon-Based Mixed-Cation Perovskite Solar Cells. <b>2021</b> , 125, 6585-6592	3
346	Investigation of Many-Body Exciton Recombination and Optical Anisotropy in Two-Dimensional Perovskites Having Different Layers with Alternating Cations in the Interlayer Space. <b>2021</b> , 125, 7799-7807	6
345	Effect of lattice polarisability in optical properties of methylammonium lead iodide by modified Becke-Johnson functionals and Bethe-Salpeter equation. <b>2021</b> , 189, 110245	
344	Recent developments in carbon nanotubes-based perovskite solar cells with boosted efficiency and stability. <b>2021</b> ,	6
343	First-principles investigation of intrinsic point defects in perovskite CsSnBr <sub>3</sub> . <b>2021</b> , 5,	5
342	Tuning the Interactions of Methylammonium Acetate with Acetonitrile to Create Efficient Perovskite Solar Cells. <b>2021</b> , 125, 6555-6563	3
341	Tin Oxide Electron-Selective Layers for Efficient, Stable, and Scalable Perovskite Solar Cells. <b>2021</b> , 33, e2005504	70
340	Accessing the Conduction Band Dispersion in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Single Crystals. <b>2021</b> , 12, 3773-3778	3
339	Large-Area Blade-Coated Solar Cells: Advances and Perspectives. <b>2021</b> , 11, 2100378	28
338	Layered Arrangement of 1D Wavy Chains in the Lead-Free Hybrid Perovskite (PyrCO <sub>2</sub> H) <sub>2</sub> BiI <sub>5</sub> : Structural Investigations and Properties. <b>2021</b> , 2021, 1452-1458	2
337	General Synthesis of Ultrafine Monodispersed Hybrid Nanoparticles from Highly Stable Monomicelles. <b>2021</b> , 33, e2100820	11
336	Perovskite escape room: Which photons leave the film, and which are trapped inside?. <b>2021</b> , 7, 845-846	

335	Dissipation-induced symmetry breaking: Emphanitic transitions in lead- and tin-containing chalcogenides and halide perovskites. <b>2021</b> , 118, 162111	2
334	Hydrogen freedom linked to perovskite efficiency. <b>2021</b> , 20, 914-915	
333	Perovskite random lasers: a tunable coherent light source for emerging applications. <b>2021</b> , 32,	13
332	The Fascinating Properties of Tin-Alloyed Halide Perovskites. <b>2021</b> , 6, 1803-1810	13
331	Perovskites: Multiphoton Absorption and Applications. 2100292	11
330	Switched-On: Progress, Challenges, and Opportunities in Metal Halide Perovskite Transistors. <b>2021</b> , 31, 2101029	21
329	In Situ Investigation of the Cu/CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Interface in Perovskite Device. <b>2021</b> , 8, 2100120	5
328	Halide Perovskites: A New Era of Solution-Processed Electronics. <b>2021</b> , 33, e2005000	48
327	Mechanism and Timescales of Reversible p-Doping of Methylammonium Lead Triiodide by Oxygen. <b>2021</b> , 33, e2100211	8
326	Electrode-induced impurities in tin halide perovskite solar cell material CsSnBr <sub>3</sub> from first principles. <b>2021</b> , 7,	4
325	The Significance of Polarons and Dynamic Disorder in Halide Perovskites. <b>2021</b> , 6, 2162-2173	17
324	Assessing the Impact of Defects on Lead-Free Perovskite-Inspired Photovoltaics via Photoinduced Current Transient Spectroscopy. <b>2021</b> , 11, 2003968	5
323	Lead halide perovskites for next-generation self-powered photodetectors: a comprehensive review. <b>2021</b> , 9, 968	16
322	Recent advances in perovskite/2D materials based hybrid photodetectors. <b>2021</b> , 4, 032008	3
321	Antisolvent- and Annealing-Free Deposition for Highly Stable Efficient Perovskite Solar Cells via Modified ZnO. <b>2021</b> , 8, 2002860	15
320	Photon-recycling effect in perovskites for photovoltaic applications: a Monte Carlo study. <b>2021</b> , 46, 2988-2991	1
319	Observation of large Rashba spin-orbit coupling at room temperature in compositionally engineered perovskite single crystals and application in high performance photodetectors. <b>2021</b> , 46, 18-27	9
318	Recent Advances in Synthesis, Properties, and Applications of Metal Halide Perovskite Nanocrystals/Polymer Nanocomposites. <b>2021</b> , e2005888	31

317	Toward high-performance p-type, tin-based perovskite thin film transistors. <b>2021</b> , 118, 250501	0
316	Morphological and Optical Tuning of Lead-Free Cs <sub>2</sub> SnX <sub>6</sub> (X = I, Br) Perovskite Nanocrystals by Ligand Engineering. 2,	1
315	Sensitivity reduction mechanisms in organic perovskite X-ray detectors. <b>2021</b> , 32, 16824-16830	1
314	Emerging perovskite monolayers. <b>2021</b> , 20, 1325-1336	31
313	A Physics-Based Analytical Model for Current/Voltage Characteristics of Perovskite Solar Cells Incorporating Bulk Recombination. <b>2021</b> , 14, 3868	
312	Characterizations and Understanding of Additives Induced Passivation Effects in Narrow-Bandgap SnPb Alloyed Perovskite Solar Cells. <b>2021</b> , 125, 12560-12567	5
311	On the Characteristics of Perovskite Structured BiFeO <sub>3</sub> -PbTiO <sub>3</sub> Thin Films: Their Potential to Multifunctional Photovoltaic Applications. <b>2021</b> , 51, 1215-1223	2
310	Current Development toward Commercialization of Metal-Halide Perovskite Photovoltaics. <b>2021</b> , 9, 2100390	9
309	A liquid phase anion-exchange approach to high-quality all-inorganic halide perovskite micro- and nanowires. <b>2021</b> , 56, 16059-16067	
308	Graded interface engineering of 3D/2D halide perovskite solar cells through ultrathin (PEA) <sub>2</sub> PbI <sub>4</sub> nanosheets. <b>2021</b> , 32, 2259-2262	6
307	Water-Repellent Perovskites Induced by a Blend of Organic Halide Salts for Efficient and Stable Solar Cells. <b>2021</b> , 13, 33172-33181	1
306	Selenophene-Based Hole-Transporting Materials for Perovskite Solar Cells. <b>2021</b> , 86, 1006-1013	1
305	Photo-anode surface modification using novel graphene oxide integrated with methylammonium lead iodide in organic-inorganic perovskite solar cells. <b>2021</b> , 154, 110036	
304	Back-contact perovskite solar cells. <b>2021</b> , 36, 083001	0
303	Oriented Halide Perovskite Nanostructures and Thin Films for Optoelectronics. <b>2021</b> , 121, 12112-12180	25
302	Solution Epitaxy of Halide Perovskite Thin Single Crystals for Stable Transistors. <b>2021</b> , 13, 37840-37848	2
301	Nonchemical n- and p-Type Charge Transfer Doping of FAPbI <sub>3</sub> Perovskite. <b>2021</b> , 6, 2817-2824	5
300	Selenium-containing DAD-type dopant-free hole transport materials for perovskite solar cells. <b>2021</b> , 191, 109339	5

299	S-Methylthiuronium Improves the Photostability of Methylammonium Lead Iodide Perovskites. <b>2021</b> , 4, 6466-6473	0
298	Optical Properties on the Ferroelectric Perovskite Materials: a Study for Photovoltaic Applications. <b>2021</b> , 51, 1428-1437	
297	Circularly Polarized Emission from Organic-Inorganic Hybrid Perovskites Chiral Fano Resonances. <b>2021</b> ,	7
296	New Methylamine-Iodine-Mediated Solvent-Free Approach of Hybrid Perovskite Synthesis via the Redox Conversion of Metallic Lead Films. <b>2021</b> , 6, 20249-20253	0
295	Small-Area Perovskite Photodiodes With High Detectivity and Stability. <b>2021</b> , 42, 1200-1203	1
294	Two-Dimensional Antimony-Based Perovskite-Inspired Materials for High-Performance Self-Powered Photodetectors. 2106295	7
293	In Operando, Photovoltaic, and Microscopic Evaluation of Recombination Centers in Halide Perovskite-Based Solar Cells. <b>2021</b> ,	2
292	Ultrafast Responsive and Low-Energy-Consumption Poly(3-hexylthiophene)/Perovskite Quantum Dots Composite Film-Based Photonic Synapse. <b>2021</b> , 31, 2105911	12
291	Room-Temperature Halide Perovskite Field-Effect Transistors by Ion Transport Mitigation. <b>2021</b> , 33, e2100486	16
290	First-principles calculations to investigate structural, elastic, electronic and optical properties of lead-free perovskite derivatives Cs <sub>2</sub> SeX <sub>6</sub> (X=Cl, Br, I). <b>2021</b> , 119, 111316	6
289	X-Ray imager of 26- $\mu$ m resolution achieved by perovskite assembly. 1	10
288	Effects of the doping density of charge-transporting layers on regular and inverted perovskite solar cells: numerical simulations. <b>2021</b> , 4, 1146	2
287	Chiral self-assembly of terminal alkyne and selenium clusters organic-inorganic hybrid. 1	0
286	Stabilization of MAPbI <sub>3</sub> Nanocrystals by Dual Ligands for Photodetectors.	2
285	Recent Progress on Synthesis, Characterization, and Applications of Metal Halide Perovskites@Metal Oxide. 2104634	4
284	Density of gap states in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> single crystals probed with ultrahigh-sensitivity ultraviolet photoelectron spectroscopy. <b>2021</b> , 33,	0
283	Can We Find the Perfect A-Cations for Halide Perovskites?. <b>2021</b> , 6, 3386-3389	2
282	Heterogeneous Integration of Chiral Lead-Chloride Perovskite Crystals with Si Wafer for Boosted Circularly Polarized Light Detection in Solar-Blind Ultraviolet Region. <b>2021</b> , 17, e2102884	11

281	Stable Perovskite Solar Cells with Bulk-Mixed Electron Transport Layer by Multifunctional Defect Passivation. <b>2021</b> , 13, 44401-44408	5
280	Resistive Switching by Percolative Conducting Filaments in Organometal Perovskite Unipolar Memory Devices Analyzed Using Current Noise Spectra. 2107727	0
279	Van der Waals organic/inorganic heterostructures in the two-dimensional limit. <b>2021</b> ,	5
278	Two-Dimensional Crystalline Gridding Networks of Hybrid Halide Perovskite for Random Lasing. <b>2021</b> , 11, 1114	2
277	Dependence between Structural and Electronic Properties of CsPbI <sub>3</sub> : Unsupervised Machine Learning of Nonadiabatic Molecular Dynamics. <b>2021</b> , 12, 8672-8678	11
276	Temperature-dependent structural fluctuation and its effect on the electronic structure and charge transport in hybrid perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <b>2021</b> , 42, 2213-2220	1
275	Enhancing the performance of CsPbI <sub>3</sub> Br <sub>2</sub> solar cells through zinc halides doping. <b>2021</b> , 281, 116918	0
274	Stable cyan and white light-emitting diodes enabled by branched cations sterically stabilized 2D/3D perovskites. <b>2021</b> , 423, 130160	6
273	Molecular spectroscopy of hybrid organic/inorganic perovskites and related compounds. <b>2021</b> , 448, 214180	7
272	Large-area and efficient perovskite light-emitting diodes via low-temperature blade-coating. <b>2021</b> , 12, 147	51
271	Effects of Crystal Morphology on the Hot-Carrier Dynamics in Mixed-Cation Hybrid Lead Halide Perovskites. <b>2021</b> , 14, 708	3
270	Data-driven analysis of the rotational energy landscapes of an organic cation in a substituted alloy perovskite. <b>2021</b> , 2, 2366-2372	
269	Environment-Induced Reversible Modulation of Optical and Electronic Properties of Lead Halide Perovskites and Possible Applications to Sensor Development: A Review. <b>2021</b> , 26,	6
268	Fundamentals of tin iodide perovskites: a promising route to highly efficient, lead-free solar cells. <b>2021</b> , 9, 11812-11826	12
267	Lead-Free Perovskite Materials for Solar Cells. <b>2021</b> , 13, 62	42
266	Toward Perovskite Solar Cell Commercialization: A Perspective and Research Roadmap Based on Interfacial Engineering. <b>2018</b> , 30, e1800455	244
265	Energy Barriers Restrict Charge Carrier Motion in MAPbI <sub>3</sub> Perovskite Films. <b>2020</b> , 8, 2000036	7
264	Image and Signal Sensors for Computing and Machine Vision: Developments to Meet Future Needs. <b>2020</b> , 3-32	5

263	Hybrid Glasses: From Metal Organic Frameworks and Co-ordination Polymers to Hybrid Organic Inorganic Perovskites. <b>2019</b> , 719-770	2
262	Titania:Graphdiyne nanocomposites for high-performance deep ultraviolet photodetectors based on mixed-phase MgZnO. <b>2020</b> , 825, 153882	15
261	Defect induced room temperature ferromagnetism in methylammonium lead iodide perovskite. <b>2020</b> , 384, 126278	10
260	Emerging 2D Organic-Inorganic Heterojunctions. <b>2020</b> , 1, 100166	9
259	CHAPTER 4:Solution-processed Solar Cells: Perovskite Solar Cells. <b>2019</b> , 153-192	4
258	CHAPTER 4:Halide Perovskites With Ambipolar Transport Properties for Transistor Applications. <b>2020</b> , 41-82	2
257	Beyond graphene oxide: laser engineering functionalized graphene for flexible electronics. <b>2020</b> , 7, 1030-1041	18
256	Temporally decoherent and spatially coherent vibrations in metal halide perovskites. <b>2020</b> , 102,	3
255	Time-resolved photoemission spectroscopy of electronic cooling and localization in CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> crystals. <b>2017</b> , 1,	8
254	Lifetime-shortened acoustic phonons and static order at the Brillouin zone boundary in the organic-inorganic perovskite CH <sub>3</sub> NH <sub>3</sub> PbCl <sub>3</sub> . <b>2018</b> , 2,	9
253	Decoupled molecular and inorganic framework dynamics in CH <sub>3</sub> NH <sub>3</sub> PbCl. <b>2019</b> , 3,	12
252	Lattice mode symmetry analysis of the orthorhombic phase of methylammonium lead iodide using polarized Raman. <b>2020</b> , 4,	8
251	Elucidating the atomistic origin of anharmonicity in tetragonal CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> with Raman scattering. <b>2020</b> , 4,	18
250	Crystal structures of an imidazo[1,5-]pyridinium-based ligand and its (CH <sub>3</sub> NH <sub>2</sub> )[CdI] hybrid salt. <b>2019</b> , 75, 1209-1214	3
249	Optical studies of semiconductor perovskite nanocrystals for classical optoelectronic applications and quantum information technologies: a review. <b>2020</b> , 2,	17
248	2D organic-inorganic hybrid perovskite materials for nonlinear optics. <b>2020</b> , 9, 1787-1810	35
247	Photon recycling in perovskite solar cells and its impact on device design. <b>2021</b> , 10, 2023-2042	9
246	Back-Contact Perovskite Solar Cells. <b>2019</b> , 1, 1-10	4

245	On the origin of spatially dependent electronic excited-state dynamics in mixed hybrid perovskite thin films. <b>2019</b> , 58,	2
244	Current density in solar fuel technologies.	11
243	Halide Perovskites: Advanced Photovoltaic Materials Empowered by a Unique Bonding Mechanism. 2110166	11
242	Strong Rashba-Dresselhaus Effect in Nonchiral 2D Ruddlesden-Popper Perovskites. 2101232	1
241	Interface Engineering for Perovskite Solar Cells Based on 2D-Materials: A Physics Point of View. <b>2021</b> , 14,	1
240	Insights into Accelerated Degradation of Perovskite Solar Cells under Continuous Illumination Driven by Thermal Stress and Interfacial Junction. <b>2021</b> , 4, 11121-11132	5
239	Halide Ion Migration and its Role at the Interfaces in Perovskite Solar Cells. <b>2021</b> , 2021, 4781	4
238	Improving the Long-Term Stability of Doped Spiro-Type Hole-Transporting Materials in Planar Perovskite Solar Cells. 2100650	1
237	Vacancy-Ordered Double Perovskites. <b>2020</b> , 87-106	
236	Effect of 2D Capping Layer on Optical Properties of 3D Methylammonium Lead Iodide Perovskites. <b>2020</b> ,	
235	Bio-Inspired Molecular Bridging in a Hybrid Perovskite Leads to Enhanced Stability and Tunable Properties.	
234	Photoluminescence properties of hybrid perovskites in solar cells with TiO <sub>2</sub> and Mg <sub>0.2</sub> Zn <sub>0.8</sub> O electron transport layers. <b>2020</b> , 60,	
233	Fabrication of Surface Acoustic Device Based on 2D Ruddlesden Popper Perovskite (RPP). <b>2020</b> ,	1
232	Are Defects in Lead-Halide Perovskites Healed, Tolerated, or Both?. 4108-4114	8
231	From Zero- to One-Dimensional, Opportunities and Caveats of Hybrid Iodobismuthates for Optoelectronic Applications. <b>2021</b> , 60, 17123-17131	5
230	Perovskite <sub>Bi</sub> Tandem Solar Cells. <b>2022</b> , 481-530	
229	Plasmon-induced trap filling at grain boundaries in perovskite solar cells. <b>2021</b> , 10, 219	5
228	Environmental Assessment of Perovskite Solar Cells. <b>2022</b> , 279-289	1

- 227 Review: Perovskite Photovoltaics. **2020**, 53-63
- 226 Local structure determination using total scattering data. **2021**,
- 225 Perovskite Quantum Dots Based Light-Emitting Diodes. **2020**, 107-138
- 224 STED microscopy reveals in-situ photoluminescence properties of single nanostructures in densely perovskite thin films. **2021**, 29, 40051-40060
- 223 Theoretical investigation of the structural, elastic, electronic, and dielectric properties of alkali-metal-based bismuth ternary chalcogenides. **2020**, 4, 4
- 222 On-wire axial perovskite heterostructures for monolithic dual-wavelength laser. **2022**, 92, 106778 3
- 221 Hybrid organic-inorganic acid catalysts: The effect of active sites localization on catalytic characteristics in the processes of alcohols' etherification. A review. 51926
- 220 Perovskites Enabled Highly Sensitive and Fast Photodetectors. **2022**, 383-409
- 219 Light management with quantum nanostructured dots-in-host semiconductors. **2021**, 10, 231 1
- 218 Flexible Photodetectors Based on All-Solution-Processed Cu Electrodes and InSe Nanoflakes with High Stabilities. 2108261 5
- 217 Emerging Transistor Applications Enabled by Halide Perovskites. 3
- 216 Phase-Pure Quasi-2D Perovskite by Protonation of Neutral Amine. **2021**, 12, 11323-11329 1
- 215 Perovskite Light - Emitting Diode Technologies. **2022**, 345-381
- 214 Strain Engineering for Tailored Carrier Transport and Thermoelectric Performance in Mixed Halide Perovskites CsPb(I $\alpha$ Br $\alpha$ )<sub>3</sub>. 4
- 213 Amplified Spontaneous Emission in low dimensional lead halide perovskites: An overview. **2021**, 12, 100115 0
- 212 Developing sustainable, high-performance perovskites in photocatalysis: design strategies and applications. **2021**, 10
- 211 Dynamics of photoconversion processes: the energetic cost of lifetime gain in photosynthetic and photovoltaic systems. **2021**, 50, 13372-13409 1
- 210 Precursor solution-dependent secondary phase defects in CsPbBr<sub>3</sub> single crystal grown by inverse temperature crystallization. **2021**, 9, 27718-27726 2

209	Atomistic origin of lattice softness and its impact on structural and carrier dynamics in three dimensional perovskites.	2
208	Dicyanamide-perovskites at the edge of dense hybrid organic/inorganic materials. <b>2022</b> , 455, 214337	2
207	Exploring the structural, electronic and optical properties of vacancy-ordered double perovskites Cs <sub>2</sub> TlAsX <sub>6</sub> (X = I, Br, Cl) based on first-principles. <b>2022</b> , 427, 127917	4
206	Enhanced field emission properties of CsPbBr <sub>3</sub> films by thermal annealing and surface functionalization with boron nitride. <b>2022</b> , 578, 152116	4
205	A MSM 2D Ruddlesden Popper perovskite photodetector for visible light communication. <b>2020</b> ,	
204	Effect of Iodine Octahedral Rotations on Dipole Ordering in Organic/Inorganic Hybrid Perovskite CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> . <b>2022</b> , 126, 779-785	0
203	The optoelectronic properties improvement of double perovskites CsSnI <sub>2</sub> by anionic doping (F).. <b>2022</b> , 12, 935	0
202	Introduction to compound semiconductor nanocrystals and their applications. <b>2022</b> , 1-46	0
201	Application of carotenoids in sustainable energy and green electronics. <b>2022</b> , 3, 1341-1358	2
200	Top-Seed Solution-Based Growth of Perovskite Cs <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> Single Crystal for High Performance X-ray Detection.	3
199	Tunable engineering of photo- and electro-induced carrier dynamics in perovskite photoelectronic devices. 1	2
198	Development and Prospects of Halide Perovskite Single Crystal Films. 2100980	1
197	Recent Advances of Monolithic All-Perovskite Tandem Solar Cells: From Materials to Devices.	1
196	Organic molecular dynamics and charge-carrier lifetime in lead iodide perovskite MAPbI <sub>3</sub> . <b>2022</b> , 119,	0
195	Study on the halide effect of MA <sub>4</sub> PbX <sub>6</sub> ·2H <sub>2</sub> O hybrid perovskites [From thermochromic properties to practical deployment for smart windows. <b>2022</b> , 23, 100624	1
194	Imidazolium-based ionic liquid for stable and highly efficient black-phase formamidinium-based perovskite solar cell. <b>2022</b> , 434, 134759	1
193	A simple, low-cost modified drop-casting method to develop high-quality CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> perovskite thin films. <b>2022</b> , 630, 413678	2
192	Study of Annihilation Photon Pair Coincidence Time Resolution Using Prompt Photon Emissions in New Perovskite Bulk Crystals. <b>2022</b> , 1-1	0

191	Magnetism in a 2D Hybrid Ruddlesden-Popper Perovskite through Charge Redistribution Driven by an Organic Functional Spacer.. <b>2022</b> , 1406-1415	1
190	Self-trapping in solar cell hybrid inorganic-organic perovskite absorbers. <b>2022</b> , 26, 101380	0
189	The structural complexity of perovskites.. <b>2022</b> ,	0
188	Mechanochemically synthesised dicyanamide hybrid organic-inorganic perovskites, and their melt-quenched glasses.. <b>2022</b> ,	
187	Spray deposited polycrystalline MAPbBr thick films for hole-transport-material free solar cells.. <b>2022</b> ,	
186	Modeling analysis of the growth of a cubic crystal in a finite space.. <b>2022</b> ,	
185	Tantalum Oxide as an Efficient Alternative Electron Transporting Layer for Perovskite Solar Cells.. <b>2022</b> , 12,	0
184	Intermediate phase engineering of halide perovskites for photovoltaics. <b>2022</b> , 6, 315-339	12
183	Colloidal-ALD-Grown Hybrid Shells Nucleate via a Ligand-Precursor Complex.. <b>2022</b> ,	0
182	Structural, Electrical and Optical Properties of Pyrrolo[1,2-][1,7] Phenanthroline-Based Organic Semiconductors.. <b>2022</b> , 15,	0
181	Short Photoluminescence Lifetimes Linked to Crystallite Dimensions, Connectivity, and Perovskite Crystal Phases.. <b>2022</b> , 126, 3466-3474	2
180	Dimensional heterojunction design: The rising star of 2D bismuth-based nanostructured photocatalysts for solar-to-chemical conversion. 1	3
179	High Efficiency Perovskite Solar Cells Employing Quasi-2D Ruddlesden-Popper/Dion-Jacobson Heterojunctions. 2200024	3
178	Polycrystalline Formamidinium Lead Bromide X-ray Detectors. <b>2022</b> , 12, 2013	1
177	Combining Perovskites and Quantum Dots: Synthesis, Characterization, and Applications in Solar Cells, LEDs, and Photodetectors. 2102566	7
176	Reaction Mechanism of Photocatalytic Hydrogen Production at Water/Tin Halide Perovskite Interfaces. <b>2022</b> , 7, 1308-1315	5
175	Accelerated screening of functional atomic impurities in halide perovskites using high-throughput computations and machine learning. 1	1
174	In Situ Growth Mechanism for High-Quality Hybrid Perovskite Single-Crystal Thin Films with High Area to Thickness Ratio: Looking for the Sweet Spot.. <b>2022</b> , e2104788	2

173	Hybrid Organic-Inorganic Perovskite Halide Materials for Photovoltaics towards Their Commercialization.. <b>2022</b> , 14,	1
172	Quadruple-Cation Wide-Bandgap Perovskite Solar Cells with Enhanced Thermal Stability Enabled by Vacuum Deposition.. <b>2022</b> , 7, 1355-1363	7
171	Structural phase transitions and magnetic superexchange in MA <sub>2</sub> F perovskites at high pressure.. <b>2022</b> ,	
170	Hierarchically Ordered Perovskites with High Photo-Electronic and Environmental Stability via Nanoimprinting Guided Block Copolymer Self-Assembly. 2200082	3
169	Transversal Halide Motion Intensifies Band-To-Band Transitions in Halide Perovskites.. <b>2022</b> , e2200706	2
168	Progress and challenges in layered two-dimensional hybrid perovskites.. <b>2022</b> ,	0
167	Revealing structural, elastic, electronic and optical properties of potential perovskites K <sub>2</sub> CuBiX <sub>6</sub> (X=Br, Cl) based on first-principles. <b>2022</b> , 310, 123046	1
166	Unveiling the Nature of Light-Triggered Hole Traps in Lead Halide Perovskites: A Study with Time-Dependent Density Functional Theory.. <b>2021</b> , 12, 12075-12083	1
165	Solar-to-Chemical Fuel Conversion via Metal Halide Perovskite Solar-Driven Electrocatalysis.. <b>2021</b> , 25-41	2
164	Flexible SnO Optoelectronic Memory Based on Light-Dependent Ionic Migration in Ruddlesden-Popper Perovskite.. <b>2021</b> ,	2
163	Nonmonotonic Photostability of BAMAPbI Homologous Layered Perovskites.. <b>2021</b> ,	1
162	Detecting ionizing radiation using halide perovskite semiconductors processed through solution and alternative methods. <b>2022</b> , 16, 14-26	22
161	The first principle study of structural, mechanical, electronic and optical properties of double halide perovskite K <sub>2</sub> Bi <sub>6</sub> (B = Ti, Zr and Hf).	
160	Recent Progress of Critical Interface Engineering for Highly Efficient and Stable Perovskite Solar Cells. <b>2022</b> , 12, 2102730	17
159	Discovery of Lead-Free Perovskites for High-Performance Solar Cells via Machine Learning: Ultrabroadband Absorption, Low Radiative Combination, and Enhanced Thermal Conductivities.. <b>2021</b> , e2103648	8
158	Investigation of Anomalous Photon Management in Organic Nano Particles-coating Photovoltaic Solar Cells. 1	
157	Charge Reservoirs in an Expanded Halide Perovskite Analog: Enhancing High-Pressure Conductivity through Redox-Active Molecules.	
156	Harvesting the Triplet Excitons of Quasi-Two-Dimensional Perovskite toward Highly Efficient White Light-Emitting Diodes.. <b>2022</b> , 3674-3681	

155	Electronic phase transition and enhanced optoelectronic performance of lead-free halide perovskites $AGeI_3$ ( $A = Rb, K$ ) under pressure. <b>2022</b> , 103532	0
154	All-Vacuum-Deposited Perovskite X-ray Detector with a Record-High Self-Powered Sensitivity of 1.2 C Gy $cm^{-2}$ . <b>2022</b> ,	2
153	Temperature effects on surface textures of $CsPbI_2Br_2$ films for perovskite solar cells. <b>2022</b> , 120, 153902	
152	Device Physics of a Metal Halide Perovskite Diode: Decoupling of the Bulk from the Interface. <b>2022</b> , 126, 6892-6903	1
151	Charge Reservoirs in an Expanded Halide Perovskite Analog: Enhancing High-Pressure Conductivity through Redox-Active Molecules.. <b>2022</b> ,	2
150	Surface Passivation and Energetic Modification Suppress Nonradiative Recombination in Perovskite Solar Cells.. <b>2022</b> , 14, 108	5
149	Data_Sheet_1.PDF. <b>2020</b> ,	
148	Probing the Disorder Inside the Cubic Unit Cell of Halide Perovskites from First-Principles.. <b>2022</b> ,	2
147	$CH_3NH_3^+$ and Pb Immobilization Through $PbI_2$ Binding by Organic Molecule Doping for Homogeneous Organometal Halide Perovskite Films.	
146	Performance enhancement of a self-powered imaging $CsPbBr_3$ photodetector by tuning the trap effects of carriers.	2
145	Effect of doping titanium ions on semi-conducting behavior, photovoltaic, and thermoelectric perovskite-type oxides $VSc_1-xTi_xO_3$ : Ab-initio study.	1
144	Rashba and Dresselhaus effects in two-dimensional Pb-I-based perovskites. <b>2022</b> , 105,	0
143	Perovskite Single-Crystal Solar Cells: Advances and Challenges.	3
142	Prospect of $SnO_2$ Electron Transport Layer Deposited by Ultrasonic Spraying. <b>2022</b> , 15, 3211	0
141	Toward Continuous-Wave Pumped Metal Halide Perovskite Lasers: Strategies and Challenges.. <b>2022</b> ,	2
140	Terahertz Kerr effect in a methylammonium lead bromide perovskite crystal. <b>2022</b> , 105,	
139	Basic understanding of perovskite solar cells and passivation mechanism. <b>2022</b> , 12, 055307	1
138	Morphological and functional characterizations of $SnO_2$ electron extraction layer on transparent conductive oxides in lead-halide perovskite solar cells. <b>2022</b> , 120, 191604	

- 137 Insights on structural, elastic, electronic and optical properties of double-perovskite halides  $\text{Rb}_2\text{CuBiX}_6$  ( $X=\text{Br}, \text{Cl}$ ). **2022**, 167, 110791 1
- 136 Halogen substitution assisted modification on phase transition point and band gap of (DBU)  $\text{PbX}_3$  ( $X = \text{Cl}, \text{Br}, \text{I}$ ). **2022**, 123198
- 135 Photonic (computational) memories: tunable nanophotonics for data storage and computing. **2022**, 5
- 134 Surface Interactions of Oxygen Suffice to P-Dope the Halide Perovskites. 2200569
- 133 Modeling Radiation Damage in Materials Relevant for Exploration and Settlement on the Moon.
- 132 Solution-processed perovskite crystals for electronics: Moving forward. **2022**, 5, 1700-1733 1
- 131 Modelling Interfaces in Thin-Film Photovoltaic Devices. 10,
- 130 Low-temperature, scalable, reactive deposition of tin oxide for perovskite solar cells..
- 129 Ion Migration in the All-Inorganic Perovskite  $\text{CsPbBr}_3$  and Its Impacts on Photodetection. **2022**, 126, 10007-10013 2
- 128 X - ray Photoconductivity and Typical Large-Area X - ray Photoconductors. **2022**, 613-641 1
- 127 Solar Energy in Space Applications: Review and Technology Perspectives. 2200125 11
- 126 Giant tunable Rashba spin splitting in two-dimensional polar perovskites  $\text{TlSnX}_3$  ( $X = \text{Cl}, \text{Br}, \text{I}$ ).
- 125 Reactive Inhibition Strategy for Triple-cation Mixed-halide Perovskite Ink with Prolonged Shelf-life. 2200650 5
- 124 Design and numerical simulation of highly efficient mixed-organic cation mixed-metal cation perovskite solar cells. 1
- 123 Antiferromagnetic to Ferromagnetic Coupling Crossover in Hybrid Nickel Chain Perovskites. **2022**, 61, 10486-10492 2
- 122 Control of light, spin and charge with chiral metal halide semiconductors. **2022**, 6, 470-485 3
- 121 Photoinduced large polaron transport and dynamics in organic/inorganic hybrid lead halide perovskite with terahertz probes. **2022**, 11, 4
- 120 Metal element doping in  $\text{Cs}(\text{Pb}_{1-x}\text{DE})\text{Br}_3$  for solar cell materials. **2022**, 100364

119	Anisotropic Chalcogenide Perovskite CaZrS <sub>3</sub> : A Promising Thermoelectric Material.	1
118	Advances in Perovskites for Photovoltaic Applications in Space. 2490-2514	3
117	Acetamidinium-Methylammonium-Based Layered Hybrid Halide Perovskite [CH <sub>3</sub> C(NH <sub>2</sub> ) <sub>2</sub> ][CH <sub>3</sub> NH <sub>3</sub> ]PbI <sub>4</sub> : Synthesis, Structure, and Optical Properties. <b>2022</b> , 67, 997-1003	0
116	Growth, structure and optical properties of organic/inorganic hybrid CH <sub>3</sub> NH <sub>3</sub> HgI <sub>3</sub> crystal. <b>2022</b> , 594, 126782	0
115	Recent defect passivation drifts and role of additive engineering in perovskite photovoltaics. <b>2022</b> , 101, 107579	6
114	Data-Driven Analysis of Hole-Transporting Materials for Perovskite Solar Cells Performance. <b>2022</b> , 126, 13053-13061	2
113	Mass Transfer Printing of Metal-Halide Perovskite Films and Nanostructures. 2203529	0
112	Interfacial Passivation Engineering for Highly Efficient Perovskite Solar Cells with a Fill Factor over 83%. <b>2022</b> , 16, 11902-11911	2
111	Metal Oxynitrides for the Electrocatalytic Reduction of Nitrogen to Ammonia. <b>2022</b> , 126, 12980-12993	1
110	Isomeric Dithienothiophene-Based Hole Transport Materials: Role of Sulphur Atoms Positions on Photovoltaic Performance of Inverted Perovskite Solar Cells. 2206311	2
109	Calculating effective carrier lifetimes in semiconductor crystals under realistic conditions.	
108	Effective lifetime of non-equilibrium carriers in semiconductors from non-adiabatic molecular dynamics simulations. <b>2022</b> , 2, 486-493	0
107	Selection of a Suitable Solvent Additive for 2-Methoxyethanol-Based Antisolvent-Free Perovskite Film Fabrication.	0
106	Bright Lead-Free Inorganic CsSnBr <sub>3</sub> Perovskite Light-Emitting Diodes. <b>2022</b> , 7, 2807-2815	2
105	Missed ferroelectricity in methylammonium lead iodide. <b>2022</b> , 8,	1
104	Stability, elastic and electronic properties of the CsSrI <sub>3</sub> halid perovskite. <b>2022</b> , 32, e00724	
103	Analysis of degradation kinetics of halide perovskite solar cells induced by light and heat stress. <b>2022</b> , 246, 111899	0
102	Energy gap - refractive index considerations in perovskites. <b>2022</b> , 11, 1-6	

101	First-principles study on optoelectronic properties of lead-free inorganic iodide double perovskite Cs <sub>2</sub> AgSb <sub>1-x</sub> GaxI <sub>6</sub> . <b>2022</b> , 356, 114936	1
100	Analysis of structural stability and optoelectronic properties of new direct band gap halide double perovskites Cs <sub>2</sub> XRhCl <sub>6</sub> . <b>2022</b> , 355, 114928	0
99	Inducing crystal-oriented growth while inhibiting grain boundary migration with multifunctional ionic liquid for high-efficiency perovskite solar cells. <b>2022</b> , 929, 167051	1
98	Hydrostatic pressure-tuning of photoelectric properties of perovskite Cs <sub>2</sub> SeI <sub>6</sub> through first-principles investigation. <b>2022</b> , 33, 104435	0
97	Study on the structural, electronic and optical properties of double-perovskite halides Cs <sub>2</sub> AgSbX <sub>6</sub> (X=I, Br, Cl) based on first-principles. <b>2022</b> , 152, 107077	0
96	Recent advances in the interfacial engineering of organic/inorganic hybrid perovskite solar cells: a materials perspective. <b>2022</b> , 10, 13611-13645	0
95	The Effect of Caesium Alloying on Ultrafast Structural Dynamics in Hybrid Organic-Inorganic Halide Perovskites.	0
94	Metal-doping of halide perovskite nanocrystals for energy and environmental photocatalysis: Challenges and prospects.	0
93	Ultrafast Charge Carrier Dynamics in Lead-Free Double-Perovskite Microcrystals. <b>2022</b> ,	1
92	Laser-induced Modifiable Dual-wavelength Emissions from Lead Halide Perovskite Alloy Microcrystal. <b>2022</b> , 9, 2200680	0
91	Outstanding cooperation of all-inorganic CsPbI <sub>3</sub> perovskite with TiO <sub>2</sub> forming composites and heterostructures for photodegradation. <b>2022</b> , 57, 17363-17379	0
90	Hybrid Organic/Inorganic Crystals of [Methylhydrazinium]MIIICl <sub>3</sub> (MII = Co, Ni, Mn). <b>2022</b> , 126, 15809-15818	0
89	Real-time observation of the large polaron buildup in FAPbI <sub>3</sub> .	0
88	Enhancement of the photovoltaic performance of perovskite solar cells via sono-synthesis of Al-doped TiO <sub>2</sub> as the electron transport layer.	1
87	Electrical and Optical Properties of CaTi <sub>1-x</sub> FeyO <sub>3</sub> Perovskite Films as Interlayers for Optoelectronic Applications. <b>2022</b> , 15, 6533	0
86	High-Efficiency Tandem White Perovskite Light-Emitting Diodes by Using an Organic/Inorganic Intermediate Connector. <b>2022</b> , 12, 1286	0
85	Scintillation properties of ((CH <sub>3</sub> ) <sub>4</sub> N) <sub>3</sub> BiCl <sub>6</sub> as a novel lead-free perovskite halide crystal. <b>2022</b> , 9, 096202	0
84	Two 3D Rubidium Halide Organic-Inorganic Hybrid Perovskite Ferroelectrics Templated by Quasi-Spherical Organic Amine 1,4-Diazabicyclo[3.2.2]nonane.	1

83	Organic/Inorganic Hybrid Devices/Perovskite-Based Devices. <b>2022</b> , 283-307	0
82	Tailoring the thermal conductivity of two-dimensional metal halide perovskites.	0
81	High-throughput computations and machine learning for halide perovskite discovery.	0
80	Band gaps of halide perovskites from a Wannier-localized optimally tuned screened range-separated hybrid functional. <b>2022</b> , 6,	1
79	Rashba effects in lead-free ferroelectric semiconductor [CH <sub>3</sub> PH <sub>3</sub> ] <sub>2</sub> SnBr <sub>3</sub> . <b>2022</b> , 6,	0
78	Metal Halide Perovskite/Electrode Contacts in Charge-Transporting-Layer-Free Devices. 2203683	0
77	A chiral lead-free tin(IV)-based halide organic-inorganic semiconductor with dielectric switching and phase transition. <b>2022</b> , 107980	3
76	Ion migration and accumulation in halide perovskite solar cells.	0
75	Inter-channel conversion between population-/coherence-channel dictates thermal transport in MAPbI <sub>3</sub> crystals. <b>2022</b> , 28, 100892	1
74	Substructure interaction graph network with node augmentation for hybrid chemical systems of heterogeneous substructures. <b>2023</b> , 216, 111835	0
73	A DFT study on the stability and optoelectronic properties of Pb/Sn/Ge-based MA <sub>2</sub> B(SCN) <sub>2</sub> I <sub>2</sub> perovskites.	0
72	An illustrative understanding on strengthening in stability and efficiency of perovskite solar cells: Utilization of the perovskite-constructed polymer hybrid system of PHQACl-CN inclusion.	0
71	Simultaneous interfacial and bulk defect passivation and interface energy band alignment optimization via In(SCN <sub>2</sub> H <sub>4</sub> ) <sub>3</sub> Cl <sub>3</sub> diffusion doping for inverted perovskite solar cells. <b>2023</b> , 454, 140160	1
70	Illumination-Dependent Photoelectric Anisotropy in Cs <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> Single Crystal Sheets. 2201723	0
69	Multilayered Alternating-Cations-Intercalation Chiral Hybrid Perovskites with High Circular Polarization Sensitivity. 2203571	1
68	Localized Heating Tailors Nucleation for Reproducible Growth of Thin Halide Perovskite Single Crystals.	0
67	Boosting Reactive Oxygen Species Generation Using Inter-Facet Edge Rich WO <sub>3</sub> Arrays for Photoelectrochemical Conversion.	0
66	Boosting Reactive Oxygen Species Generation Using Inter-Facet Edge Rich WO <sub>3</sub> Arrays for Photoelectrochemical Conversion.	0

- 65 Near-Infrared Polarization-Sensitive Photodetection via Interfacial Symmetry Engineering of Si/MAPbI<sub>3</sub> Heterostructural Single Crystal. ○
- 64 Connecting the dots for fundamental understanding of structure-property relationships of COFs, MOFs, and perovskites using a Multiparticle Holstein Formalism. ○
- 63 Tuning of band gap by variation of halide ions in K<sub>2</sub>CuSbX<sub>6</sub> (X = Cl, Br, I) for solar cells and thermoelectric applications. **2023**, 174, 111184 ○
- 62 Thienothiophene-Assisted Property Optimization for Dopant-Free Conjugation Polymeric Hole Transport Material Achieving Over 23% Efficiency in Perovskite Solar Cells. 2202680 ○
- 61 Enhancement in Device Performance of Perovskite Solar Cells via Annealing of PCBM Electron Transport Layer. **2022**, 31, 167-170 1
- 60 Recent Advances in Lead-Free Halide Perovskites for Photocatalysis. 60-78 2
- 59 Impermeable Atomic Layer Deposition for Sputtering Buffer Layer in Efficient Semi-Transparent and Tandem Solar Cells via Activating Unreactive Substrate. 2202447 ○
- 58 Modeling the electronic structure of organic materials: a solid-state physicist's perspective. **2023**, 6, 012001 ○
- 57 Suppressing dark current for high-detectivity perovskite photodetectors via defect passivation. **2022**, 106726 ○
- 56 Fullerene-Liquid-Crystal Induced Micrometer-Scale Charge-Carrier Diffusion in Organic Bulk Heterojunction. 2210463 ○
- 55 High Ionic Conduction and Polarity-Induced Piezoresponse in Layered Bimetallic Rb<sub>4</sub>Ag<sub>2</sub>BiBr<sub>9</sub> Single Crystals. ○
- 54 Go beyond the limit: Rationally designed mixed-dimensional perovskite/semiconductor heterostructures and their applications. **2022**, 100363 ○
- 53 Transient X-ray Diffraction Reveals Nonequilibrium Phase Transition in Thin Films of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> Perovskite. 691-698 ○
- 52 Slowing the hot-carrier cooling by an organic small molecule in perovskite solar cells. ○
- 51 Hybrid perovskites under pressure: Present and future directions. **2022**, 132, 220903 ○
- 50 Molecule Passivation of Grain Boundaries for Ultra-Stable Perovskite Solar Cells. 2201025 ○
- 49 Uncovering Aging Chemistry of Perovskite Precursor Solutions and Anti-aging Mechanism of Additives. ○
- 48 Hybrid Chlorides with Methylhydrazinium Cation: [CH<sub>3</sub>NH<sub>2</sub>NH<sub>2</sub>]<sub>2</sub>CdCl<sub>3</sub> and Jahn-Teller Distorted [CH<sub>3</sub>NH<sub>2</sub>NH<sub>2</sub>]<sub>2</sub>CuCl<sub>3</sub>. **2023**, 28, 473 ○

- 47 Precisely Tailoring a FAPbI<sub>3</sub>-Derived Ferroelectric for Sensitive Self-Driven Broad-Spectrum Polarized Photodetection. ○
- 46 Direct Tracking of Charge Carrier Drift and Extraction from Perovskite Solar Cells by Means of Transient Electroabsorption Spectroscopy. ○
- 45 Uncovering Aging Chemistry of Perovskite Precursor Solutions and Anti-aging Mechanism of Additives. ○
- 44 Suppressing the Ion Migration in Halide Perovskite Wafers for Current-Drift Free X-ray Detectors. ○
- 43 Band gap engineering and optoelectronic properties of all-inorganic Ruddlesden-Popper halide perovskites Cs<sub>2</sub>B(X<sub>1-u</sub>Y<sub>u</sub>)<sub>4</sub> (B = Pb, Sn; X/Y = Cl, Br, I). **2023**, 157, 107308 ○
- 42 Recent Progress in Halide Perovskite Nanocrystals for Photocatalytic Hydrogen Evolution. **2023**, 13, 106 1
- 41 A semiconductive copper iodobismuthate hybrid: Structure, optical property and photocurrent response. ○
- 40 Modeling Monte Carlo simulation on photon regeneration effects of perovskite FAPbI<sub>3</sub> for photovoltaic applications. ○
- 39 Directional Amplified Photoluminescence through Large-Area Perovskite-Based Metasurfaces. ○
- 38 The Role of M<sup>3+</sup> Substitutional Doping (M = In, Sb, Bi) in the Passivation of the CsPbI<sub>3</sub>(100) Surface. **2023**, 127, 1713-1721 ○
- 37 Utilizing Angle-Dependent Photovoltage Effect in a CH<sub>3</sub>NH<sub>3</sub>PbCl<sub>3</sub>/Si Heterojunction toward High-Performance Polarized Light Detection in Ultraviolet Region. 2202383 ○
- 36 Understanding the Potential of Light Absorption in Dots-in-Host Semiconductors. ○
- 35 Lead-free halide perovskites. **2023**, 187-237 ○
- 34 Challenges in the development of metal-halide perovskite single crystal solar cells. ○
- 33 Polaron states of the full-configuration defects in metal halide perovskites. **2023**, 35, 125702 ○
- 32 Insight into structure defects in high-performance perovskite solar cells. **2023**, 570, 233011 ○
- 31 High-mobility electrolyte-gated perovskite transistors on flexible plastic substrate via interface and composition engineering. **2023**, 623, 156984 ○
- 30 Flexible CsPbCl<sub>3</sub> inorganic perovskite thin-film detectors for real-time monitoring in protontherapy. 11, ○

- 29 Enhancement in Power Conversion Efficiency of Perovskite Solar Cells by Reduced Non-Radiative Recombination Using a Brij C10-Mixed PEDOT:PSS Hole Transport Layer. **2023**, 15, 772 ○
- 28 Perovskite Materials for Hydrogen Production. **2023**, 539-573 ○
- 27 Ultrafast photoinduced carrier dynamics in single crystalline perovskite films. **2023**, 11, 3736-3742 ○
- 26 Study on low hydrostatic pressure-dependent optoelectronic, mechanical, and anisotropic properties of heavy thallium perovskites TlPbX<sub>3</sub> (X = Cl, Br). **2023**, 38, 2007-2017 ○
- 25 Review of Defect Passivation for NiO<sub>x</sub>-Based Inverted Perovskite Solar Cells. **2023**, 6, 2098-2121 ○
- 24 Recent developments in lead-free bismuth-based halide perovskite nanomaterials for heterogeneous photocatalysis under visible light. **2023**, 15, 5598-5622 ○
- 23 Real-time observation of the buildup of polaron in FAPbI<sub>3</sub>. **2023**, 14, ○
- 22 High-throughput screening of hybrid quaternary halide perovskites for optoelectronics. **2023**, 11, 6465-6473 ○
- 21 Operational stability study of hole transport-free perovskite solar cells using lithium fluoride in electron transport layer. **2023**, 34, ○
- 20 Cubic or Not Cubic? Combined Experimental and Computational Investigation of the Short-Range Order of Tin Halide Perovskites. **2023**, 14, 2178-2186 ○
- 19 Highly bright and stable single-crystal perovskite light-emitting diodes. ○
- 18 Imaging the Terahertz Nanoscale Conductivity of Polycrystalline CsPbBr<sub>3</sub> Perovskite Thin Films. **2023**, 23, 2074-2080 ○
- 17 Optical waveguide in curved and welded perovskite nanowires. ○
- 16 Precise modulation strategies of 2D/3D perovskite heterojunctions in efficient and stable solar cells. **2023**, 59, 4128-4141 ○
- 15 Rotational Dynamics of Organic Cations in Formamidinium Lead Iodide Perovskites. **2023**, 14, 2784-2791 ○
- 14 Modulation of photoluminescence intensity by surface defects of MAPbBr<sub>3</sub> crystals. **2023**, 138, 113561 ○
- 13 Flux-assisted polytypism in the [Na<sub>2</sub>Cl]GaQ<sub>2</sub> heterolayered salt-inclusion chalcogenide family. **2023**, 25, 2307-2312 ○
- 12 Photoelectrochemically Induced CO<sub>2</sub> Reduction Using Halide-Tunable Lead-Free Perovskites. **2023**, 6, 3566-3578 ○

11	Phase transition, optical, and elastic properties of a new hybrid organic/inorganic perovskite: [(R)-(+)-3-aminoquinuclidine]Kl3. <b>2023</b> , 11, 031110	0
10	Sn-Based Self-Powered Ultrafast Perovskite Photodetectors with Highly Crystalline Order for Flexible Imaging Applications. 2300282	0
9	Pin hole free 2D Ruddlesden-Popper Perovskite layer with closed packed large crystalline grains, suitable for fast response and high sensitive MSM photodetection.	0
8	Toward a Diagnostic Method for Efficient Perovskite Solar Cells Based on Equivalent Circuit Parameters. <b>2023</b> , 127, 5663-5675	1
7	Revealing Ultrafast Carrier Dynamics of Hybrid Perovskites at Various Stages of Nucleation and Growth Kinetics. 2201832	0
6	All-inorganic lead halide perovskite nanocrystals applied in advanced display devices.	0
5	Elucidating the Role of Contact-Induced Gap States and Passivation Molecules at Perovskite/Metal Contacts.	0
4	Br-I ordered CsPbBr2I perovskite single crystal toward extremely high mobility. <b>2023</b> ,	0
3	Single-Crystal Halide Perovskites for Transistor Applications. <b>2023</b> , 265-296	0
2	Buried Interface Dielectric Layer Engineering for Highly Efficient and Stable Inverted Perovskite Solar Cells and Modules.	0
1	Exploring Pyrrolo-Phenanthrolines as Semiconductors for Potential Implementation in Organic Electronics. <b>2023</b> , 16, 3366	0