

Christoph J Brabec

List of Publications by Year in descending order

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Version: 2024-02-01

741
papers

72,883
citations

529
127
h-index

767
249
g-index

792
all docs

792
docs citations

792
times ranked

34855
citing authors

#	ARTICLE	IF	CITATIONS
1	Molecular Oligothiophene–Fullerene Dyad Reaching Over 5% Efficiency in Single–Material Organic Solar Cells. <i>Advanced Materials</i> , 2022, 34, e2103573.	21.0	34
2	Rare-Earth Ion-Based Photon Up-Conversion for Transmission-Loss Reduction in Solar Cells. , 2022, , 241-267.		1
3	Reducing energy barrier of Γ -to- Γ phase transition for printed formamidinium lead iodide photovoltaic devices. <i>Nano Energy</i> , 2022, 91, 106658.	16.0	15
4	Comparison of the sputtered TiO_2 anatase and rutile thin films as electron transporting layers in perovskite solar cells. <i>Nano Select</i> , 2022, 3, 990-997.	3.7	2
5	Highly Reflective and Low Resistive Top Electrode for Organic Solar Cells and Modules by Low Temperature Silver Nanoparticle Ink. <i>Solar Rrl</i> , 2022, 6, 2100887.	5.8	12
6	Distinguishing between different types of multi-layered PET-based backsheets of PV modules with near-infrared spectroscopy. <i>Progress in Photovoltaics: Research and Applications</i> , 2022, 30, 859-868.	8.1	8
7	Accelerated lifetime testing of thin-film solar cells at high irradiances and controlled temperatures. <i>Progress in Photovoltaics: Research and Applications</i> , 2022, 30, 518-527.	8.1	7
8	Intercalating-Organic-Cation-Induced Stability Bowing in Quasi-2D Metal-Halide Perovskites. <i>ACS Energy Letters</i> , 2022, 7, 70-77.	17.4	26
9	Layer-by-layer processed binary all-polymer solar cells with efficiency over 16% enabled by finely optimized morphology. <i>Nano Energy</i> , 2022, 93, 106858.	16.0	71
10	Consensus statement: Standardized reporting of power-producing luminescent solar concentrator performance. <i>Joule</i> , 2022, 6, 8-15.	24.0	66
11	Luminescence Analysis of PV-Module Soiling in Germany. <i>IEEE Journal of Photovoltaics</i> , 2022, 12, 81-87.	2.5	7
12	Molecular Doping of a Hole-Transporting Material for Efficient and Stable Perovskite Solar Cells. <i>Chemistry of Materials</i> , 2022, 34, 1499-1508.	6.7	16
13	Revealing the strain-associated physical mechanisms impacting the performance and stability of perovskite solar cells. <i>Joule</i> , 2022, 6, 458-475.	24.0	64
14	Overcoming Temperature-Induced Degradation of Silver Nanowire Electrodes by an Ag@SnO_x Core–Shell Approach. <i>Advanced Electronic Materials</i> , 2022, 8, .	5.1	7
15	Managing Phase Orientation and Crystallinity of Printed Dion–Jacobson 2D Perovskite Layers via Controlling Crystallization Kinetics. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	33
16	A bilayer conducting polymer structure for planar perovskite solar cells with over 1,400–hours operational stability at elevated temperatures. <i>Nature Energy</i> , 2022, 7, 144-152.	39.5	123
17	Oligomer-Assisted Photoactive Layers Enable >18–Efficiency of Organic Solar Cells. <i>Angewandte Chemie</i> , 2022, 134, .	2.0	12
18	Anomaly detection in IR images of PV modules using supervised contrastive learning. <i>Progress in Photovoltaics: Research and Applications</i> , 2022, 30, 597-614.	8.1	13

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19	Oligomer-Assisted Photoactive Layers Enable >18% Efficiency of Organic Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	13.8	43
20	Highly Stable Lasing from Solution-Epitaxially Grown Formamidinium-Lead-Bromide Micro-Resonators. <i>Advanced Optical Materials</i> , 2022, 10, .	7.3	3
21	Fully printed organic solar modules with bottom and top silver nanowire electrodes. <i>Progress in Photovoltaics: Research and Applications</i> , 2022, 30, 528-542.	8.1	10
22	Unraveling the Charge-Carrier Dynamics from the Femtosecond to the Microsecond Time Scale in Double-Cable Polymer-Based Single-Component Organic Solar Cells. <i>Advanced Energy Materials</i> , 2022, 12, 2103406.	19.5	15
23	Improved Air Processability of Organic Photovoltaics Using a Stabilizing Antioxidant to Prevent Thermal Oxidation. <i>Journal of Physical Chemistry C</i> , 2022, 126, 22-29.	3.1	0
24	Understanding the Limitations of Charge Transporting Layers in Mixed Lead-Tin Halide Perovskite Solar Cells. <i>Advanced Energy and Sustainability Research</i> , 2022, 3, .	5.8	13
25	An alcohol-dispersed conducting polymer complex for fully printable organic solar cells with improved stability. <i>Nature Energy</i> , 2022, 7, 352-359.	39.5	155
26	Tailoring the Nature of Interface States in Efficient and Stable Bilayer Organic Solar Cells by a Transfer-Printing Technique. <i>Advanced Materials Interfaces</i> , 2022, 9, .	3.7	4
27	Steric Engineering Enables Efficient and Photostable Wide-Bandgap Perovskites for All-Perovskite Tandem Solar Cells. <i>Advanced Materials</i> , 2022, 34, e2110356.	21.0	48
28	Georeferencing of photovoltaic modules from aerial infrared videos using structure-from-motion. <i>Progress in Photovoltaics: Research and Applications</i> , 2022, 30, 1122-1135.	8.1	4
29	Fully solution-processed, light-weight, and ultraflexible organic solar cells. <i>Flexible and Printed Electronics</i> , 2022, 7, 025003.	2.7	10
30	Surface versus Bulk Currents and Ionic Space-Charge Effects in CsPbBr ₃ Single Crystals. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 3824-3830.	4.6	11
31	An Innovative Anode Interface Combination for Perovskite Solar Cells with Improved Efficiency, Stability, and Reproducibility. <i>Solar Rrl</i> , 2022, 6, .	5.8	3
32	Micropowder Ca ₂ YMgScSi ₃ O ₁₂ :Ce Silicate Garnet as an Efficient Light Converter for White LEDs. <i>Materials</i> , 2022, 15, 3942.	2.9	6
33	Industrial viability of single-component organic solar cells. <i>Joule</i> , 2022, 6, 1160-1171.	24.0	40
34	Green-synthesis of highly luminescent lead-free Cs ₂ Ag _x Na _{1-x} Bi _y In _{1-y} Cl ₃ perovskites. <i>Journal of Materials Chemistry C</i> , 2022, 10, 9938-9944.	5.5	13
35	Understanding and Controlling the Evolution of Nanomorphology and Crystallinity of Organic Bulk-Heterojunction Blends with Solvent Vapor Annealing. <i>Solar Rrl</i> , 2022, 6, .	5.8	8
36	Melting and Crystallization Features of CsPbBr ₃ Perovskite. <i>Crystal Growth and Design</i> , 2022, 22, 4115-4121.	3.0	5

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37	Design of Highly Efficient Semitransparent Perovskite/Organic Tandem Solar Cells. Solar Rrl, 2022, 6, .	5.8	6
38	Targeted Adjusting Molecular Arrangement in Organic Solar Cells via a Universal Solid Additive. Advanced Functional Materials, 2022, 32, .	14.9	11
39	Doubleâ€Cable Conjugated Polymers with Pendent Nearâ€Cinfrared Electron Acceptors for Singleâ€CComponent Organic Solar Cells. Angewandte Chemie - International Edition, 2022, 61, .	13.8	28
40	Traps and transport resistance are the next frontiers for stable non-fullerene acceptor solar cells. Nature Communications, 2022, 13, .	12.8	23
41	Molecular Donorâ€CAcceptor Dyads for Efficient Singleâ€CMaterial Organic Solar Cells. Solar Rrl, 2021, 5, 2000653.	5.8	30
42	Solution-coated barriers for organic electronics. , 2021, , 249-303.		3
43	Microscopic Deformation Modes and Impact of Network Anisotropy on the Mechanical and Electrical Performance of Five-fold Twinned Silver Nanowire Electrodes. ACS Nano, 2021, 15, 362-376.	14.6	23
44	Device Performance of Emerging Photovoltaic Materials (Version 1). Advanced Energy Materials, 2021, 11, 2002774.	19.5	93
45	Inkjet printed organic and perovskite photovoltaicsâ€Creview and perspectives. , 2021, , 305-333.		4
46	Organic photovoltaic modules with new world record efficiencies. Progress in Photovoltaics: Research and Applications, 2021, 29, 24-31.	8.1	75
47	Overcoming photovoltage deficit<i>via</i>natural amino acid passivation for efficient perovskite solar cells and modules. Journal of Materials Chemistry A, 2021, 9, 5857-5865.	10.3	43
48	High performance tandem organic solar cells via a strongly infrared-absorbing narrow bandgap acceptor. Nature Communications, 2021, 12, 178.	12.8	122
49	A History and Perspective of Nonâ€CFullerene Electron Acceptors for Organic Solar Cells. Advanced Energy Materials, 2021, 11, 2003570.	19.5	323
50	Elucidating the Full Potential of OPV Materials Utilizing a High-Throughput Robot-Based Platform and Machine Learning. Joule, 2021, 5, 495-506.	24.0	86
51	Aerosol jet printed AgNW electrode and PEDOT:PSS layers for organic light-emitting diode devices fabrication. , 2021, , .		0
52	Quantifying the Absorption Onset in the Quantum Efficiency of Emerging Photovoltaic Devices. Advanced Energy Materials, 2021, 11, 2100022.	19.5	61
53	Adjusting the energy of interfacial states in organic photovoltaics for maximum efficiency. Nature Communications, 2021, 12, 1772.	12.8	27
54	Recent progress in thickâ€Cfilm organic photovoltaic devices: Materials, devices, and processing. SusMat, 2021, 1, 4-23.	14.9	59

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55	Degradation through Directional Self-Doping and Homogeneous Density of Recombination Centers Hindered by 1,8-Diiodooctane Additive in Non-Fullerene Organic Solar Cells. Solar Rrl, 2021, 5, 2100024.	5.8	4
56	A data fusion approach to optimize compositional stability of halide perovskites. Matter, 2021, 4, 1305-1322.	10.0	75
57	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. Nature Communications, 2021, 12, 2191.	12.8	77
58	Single-Component Organic Solar Cells with Competitive Performance. Organic Materials, 2021, 03, 228-244.	2.0	36
59	Deep-Learning-based pipeline for module power prediction from electroluminescence measurements. Progress in Photovoltaics: Research and Applications, 2021, 29, 920-935.	8.1	11
60	The 2021 flexible and printed electronics roadmap. Flexible and Printed Electronics, 2021, 6, 023001.	2.7	100
61	Balancing the efficiency, stability, and cost potential for organic solar cells via a new figure of merit. Joule, 2021, 5, 1209-1230.	24.0	138
62	Low Temperature Processed Fully Printed Efficient Planar Structure Carbon Electrode Perovskite Solar Cells and Modules. Advanced Energy Materials, 2021, 11, 2101219.	19.5	52
63	Building process design rules for microstructure control in wide-bandgap mixed halide perovskite solar cells by a high-throughput approach. Applied Physics Letters, 2021, 118, .	3.3	8
64	Advances in Lead-Free Perovskite Single Crystals: Fundamentals and Applications. , 2021, 3, 1025-1080.		70
65	Module-Power Prediction from PL Measurements using Deep Learning. , 2021, , .		0
66	Solution processed oxygen and moisture barrier based on glass flakes for encapsulation of organic (opto-) electronic devices. Flexible and Printed Electronics, 2021, 6, 025006.	2.7	12
67	Transparent and Low-Loss Luminescent Solar Concentrators Based on Self-Trapped Exciton Emission in Lead-Free Double Perovskite Nanocrystals. ACS Applied Energy Materials, 2021, 4, 6445-6453.	5.1	27
68	High-Throughput Time-Resolved Photoluminescence Study of Composition- and Size-Selected Aqueous Ag-In-S Quantum Dots. Journal of Physical Chemistry C, 2021, 125, 12185-12197.	3.1	13
69	Parasitic emission in inkjet-printed InP-based quantum dot light-emitting diodes. Organic Electronics, 2021, 93, 106156.	2.6	1
70	Branched side chains improve molecular packing of non-fullerene acceptors. Science China Chemistry, 2021, 64, 1435-1436.	8.2	1
71	Achieving over 17% efficiency of ternary all-polymer solar cells with two well-compatible polymer acceptors. Joule, 2021, 5, 1548-1565.	24.0	281
72	Joint Superresolution and Rectification for Solar Cell Inspection. IEEE Journal of Photovoltaics, 2021, 11, 1051-1058.	2.5	0

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73	The evolution of Materials Acceleration Platforms: toward the laboratory of the future with AMANDA. <i>Journal of Materials Science</i> , 2021, 56, 16422-16446.	3.7	31
74	Correlative relationship between nanomorphology, crystallinity, texture and device efficiency of organic BHJ solar cells studied by energy-filtered TEM. <i>Microscopy and Microanalysis</i> , 2021, 27, 390-392.	0.4	0
75	Computer vision tool for detection, mapping, and fault classification of photovoltaics modules in aerial IR videos. <i>Progress in Photovoltaics: Research and Applications</i> , 2021, 29, 1236-1251.	8.1	39
76	Long-term power degradation analysis of crystalline silicon PV modules using indoor and outdoor measurement techniques. <i>Renewable and Sustainable Energy Reviews</i> , 2021, 144, 111005.	16.4	18
77	Understanding the Microstructure Formation of Polymer Films by Spontaneous Solution Spreading Coating with a High-Throughput Engineering Platform. <i>ChemSusChem</i> , 2021, 14, 3590-3598.	6.8	14
78	Preface to the Special Issue of ChemSusChem on Advanced Organic Solar Cells. <i>ChemSusChem</i> , 2021, 14, 3426-3427.	6.8	1
79	Self-Healing Cs ₃ Bi ₂ Br ₃ I ₆ Perovskite Wafers for X-Ray Detection. <i>Advanced Functional Materials</i> , 2021, 31, 2102713.	14.9	29
80	High-Throughput Robotic Synthesis and Photoluminescence Characterization of Aqueous Multinary Copper-Silver Indium Chalcogenide Quantum Dots. <i>Particle and Particle Systems Characterization</i> , 2021, 38, 2100169.	2.3	12
81	PEDOT:PSS-Free Polymer Non-Fullerene Polymer Solar Cells with Efficiency up to 18.60% Employing a Binary-Solvent-Chlorinated ITO Anode. <i>Advanced Functional Materials</i> , 2021, 31, 2106846.	14.9	40
82	Utilizing the unique charge extraction properties of antimony tin oxide nanoparticles for efficient and stable organic photovoltaics. <i>Nano Energy</i> , 2021, 89, 106373.	16.0	8
83	Spontaneous alloying of ultrasmall non-stoichiometric Ag ⁺ In ³⁺ and Cu ⁺ In ³⁺ quantum dots in aqueous colloidal solutions. <i>RSC Advances</i> , 2021, 11, 21145-21152.	3.6	5
84	Characterization of Aerosol Deposited Cesium Lead Tribromide Perovskite Films on Interdigitated ITO Electrodes. <i>Advanced Electronic Materials</i> , 2021, 7, 2001165.	5.1	5
85	Photoluminescence for Defect Detection on Full-Sized Photovoltaic Modules. <i>IEEE Journal of Photovoltaics</i> , 2021, 11, 1419-1429.	2.5	27
86	Upscaling Solution-Processed Perovskite Photovoltaics. <i>Advanced Energy Materials</i> , 2021, 11, 2101973.	19.5	46
87	Phase-Field Simulation of Liquid-Vapor Equilibrium and Evaporation of Fluid Mixtures. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 55988-56003.	8.0	7
88	Last Generation Solar Cells in Outer Space: A STEM Outreach Project with Middle and High School Students in Colombia. <i>European Journal of STEM Education</i> , 2021, 6, 12.	1.5	0
89	Device Performance of Emerging Photovoltaic Materials (Version 2). <i>Advanced Energy Materials</i> , 2021, 11, .	19.5	66
90	Perspectives of solution epitaxially grown defect tolerant lead-halide-perovskites and lead-chalcogenides. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	2

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91	Engineering of the Electron Transport Layer/Perovskite Interface in Solar Cells Designed on TiO_2 Rutile Nanorods. <i>Advanced Functional Materials</i> , 2020, 30, 1909738.	14.9	46
92	Real-Time Study on Structure Formation and the Intercalation Process of Polymer: Fullerene Bulk Heterojunction Thin Films. <i>Solar Rrl</i> , 2020, 4, 1900508.	5.8	1
93	Visualizing and Suppressing Nonradiative Losses in High Open-Circuit Voltage n-i-p-Type CsPbI_3 Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 271-279.	17.4	39
94	Effect of water vapor content during the solid state synthesis of manganese-doped magnesium fluoro-germanate phosphor on its chemistry and photoluminescent properties. <i>Optical Materials</i> , 2020, 99, 109572.	3.6	2
95	Afterglow Effects as a Tool to Screen Emissive Nongeminate Charge Recombination Processes in Organic Photovoltaic Composites. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 2695-2707.	8.0	5
96	Analytical model for light modulating impedance spectroscopy (LIMIS) in all-solid-state p-n junction solar cells at open-circuit. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	13
97	Organic Photovoltaics: A Cost-Effective, Aqueous-Solution-Processed Cathode Interlayer Based on Organosilica Nanodots for Highly Efficient and Stable Organic Solar Cells (<i>Adv. Mater.</i> 38/2020). <i>Advanced Materials</i> , 2020, 32, 2070284.	21.0	1
98	Fully Solution Processed Pure $\text{H}_2\text{N}^+\text{C}(\text{NH}_2)_2\text{I}^-$ Phase Formamidinium Lead Iodide Perovskite Solar Cells for Scalable Production in Ambient Condition. <i>Advanced Energy Materials</i> , 2020, 10, 2001869.	19.5	46
99	Controlling the crystallization dynamics of photovoltaic perovskite layers on larger-area coatings. <i>Energy and Environmental Science</i> , 2020, 13, 4666-4690.	30.8	79
100	Graphene Oxide Thin Films: Synthesis and Optical Characterization. <i>ChemistrySelect</i> , 2020, 5, 11737-11744.	1.5	15
101	Material Strategies to Accelerate OPV Technology Toward a GW Technology. <i>Advanced Energy Materials</i> , 2020, 10, 2001864.	19.5	93
102	Robot-Based High-Throughput Screening of Antisolvents for Lead Halide Perovskites. <i>Joule</i> , 2020, 4, 1806-1822.	24.0	65
103	Unraveling the influence of non-fullerene acceptor molecular packing on photovoltaic performance of organic solar cells. <i>Nature Communications</i> , 2020, 11, 6005.	12.8	112
104	Effects on Photovoltaic Characteristics by Organic Bilayer- and Bulk-Heterojunctions: Energy Losses, Carrier Recombination and Generation. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 55945-55953.	8.0	14
105	Delocalization of exciton and electron wavefunction in non-fullerene acceptor molecules enables efficient organic solar cells. <i>Nature Communications</i> , 2020, 11, 3943.	12.8	458
106	Nondestructive characterization of polymeric components of silicon solar modules by near-infrared absorption spectroscopy (NIRA). <i>Solar Energy Materials and Solar Cells</i> , 2020, 216, 110702.	6.2	14
107	Deciphering the Origins of P1-Induced Power Losses in $\text{Cu}(\text{In Ga})\text{Se}_2$ (CIGS) Modules Through Hyperspectral Luminescence. <i>Engineering</i> , 2020, 6, 1395-1402.	6.7	5
108	A Cost-Effective, Aqueous-Solution-Processed Cathode Interlayer Based on Organosilica Nanodots for Highly Efficient and Stable Organic Solar Cells. <i>Advanced Materials</i> , 2020, 32, e2002973.	21.0	60

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109	Composition-Dependent Optical Band Bowing, Vibrational, and Photochemical Behavior of Aqueous Glutathione-Capped (Cu, Ag)–In–S Quantum Dots. <i>Journal of Physical Chemistry C</i> , 2020, 124, 19375-19388.	3.1	15
110	Epitaxial Metal Halide Perovskites by Inkjet–Printing on Various Substrates. <i>Advanced Functional Materials</i> , 2020, 30, 2004612.	14.9	21
111	The role of exciton lifetime for charge generation in organic solar cells at negligible energy-level offsets. <i>Nature Energy</i> , 2020, 5, 711-719.	39.5	214
112	Ion-mediated hopping electrode polarization model for impedance spectra of CH ₃ NH ₃ PbI ₃ . <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	9
113	Strain-activated light-induced halide segregation in mixed-halide perovskite solids. <i>Nature Communications</i> , 2020, 11, 6328.	12.8	86
114	A General Guideline for Vertically Resolved Imaging of Manufacturing Defects in Organic Tandem Solar Cells. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000336.	3.7	2
115	Axisymmetric and Asymmetric Naphthalene-Bisthienothiophene Based Nonfullerene Acceptors: On Constitutional Isomerization and Photovoltaic Performance. <i>ACS Applied Energy Materials</i> , 2020, 3, 5734-5744.	5.1	14
116	Composition Engineering of All–Inorganic Perovskite Film for Efficient and Operationally Stable Solar Cells. <i>Advanced Functional Materials</i> , 2020, 30, 2001764.	14.9	69
117	Micro-powder Ca ₃ Sc ₂ Si ₃ O ₁₂ :Ce silicate garnets as efficient light converters for WLEDs. <i>Optical Materials</i> , 2020, 107, 109978.	3.6	12
118	Efficient Surface Passivation and Electron Transport Enable Low Temperature-Processed Inverted Perovskite Solar Cells with Efficiency over 20%. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 8848-8856.	6.7	9
119	Light intensity modulated impedance spectroscopy (LIMIS) in all-solid-state solar cells at open-circuit. <i>Nano Energy</i> , 2020, 75, 104982.	16.0	22
120	The Impact of COVID-19-Related Measures on the Solar Resource in Areas with High Levels of Air Pollution. <i>Joule</i> , 2020, 4, 1681-1687.	24.0	17
121	Real–Time Study on Structure Formation and the Intercalation Process of Polymer: Fullerene Bulk Heterojunction Thin Films. <i>Solar Rrl</i> , 2020, 4, 2070035.	5.8	0
122	A phase-field model for the evaporation of thin film mixtures. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 6638-6652.	2.8	17
123	Vertically Aligned 2D/3D Pb–Sn Perovskites with Enhanced Charge Extraction and Suppressed Phase Segregation for Efficient Printable Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 1386-1395.	17.4	111
124	Spontaneously Self–Assembly of a 2D/3D Heterostructure Enhances the Efficiency and Stability in Printed Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2020, 10, 2000173.	19.5	126
125	A pressure process for efficient and stable perovskite solar cells. <i>Nano Energy</i> , 2020, 77, 105063.	16.0	35
126	Rational Interface Design and Morphology Control for Blade–Coating Efficient Flexible Perovskite Solar Cells with a Record Fill Factor of 81%. <i>Advanced Functional Materials</i> , 2020, 30, 2001240.	14.9	77

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127	High-performance all-polymer solar cells with only 0.47 eV energy loss. Science China Chemistry, 2020, 63, 1449-1460.	8.2	62
128	A Cross-Linked Interconnecting Layer Enabling Reliable and Reproducible Solution-Processing of Organic Tandem Solar Cells. Advanced Energy Materials, 2020, 10, 1903800.	19.5	21
129	Unraveling the Microstructure-Related Device Stability for Polymer Solar Cells Based on Nonfullerene Small-Molecular Acceptors. Advanced Materials, 2020, 32, e1908305.	21.0	161
130	The role of connectivity in significant bandgap narrowing for fused-pyrene based non-fullerene acceptors toward high-efficiency organic solar cells. Journal of Materials Chemistry A, 2020, 8, 5995-6003.	10.3	11
131	Embedding physics domain knowledge into a Bayesian network enables layer-by-layer process innovation for photovoltaics. Npj Computational Materials, 2020, 6, .	8.7	18
132	Beyond Ternary OPV: High-Throughput Experimentation and Self-Driving Laboratories Optimize Multicomponent Systems. Advanced Materials, 2020, 32, e1907801.	21.0	138
133	Sensitive Direct Converting X-Ray Detectors Utilizing Crystalline CsPbBr ₃ Perovskite Films Fabricated via Scalable Melt Processing. Advanced Materials Interfaces, 2020, 7, 1901575.	3.7	83
134	Novel two-dimensional phosphor thermography by decay-time method using a low frame-rate CMOS camera. Optics and Lasers in Engineering, 2020, 128, 106010.	3.8	4
135	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. Nature Energy, 2020, 5, 35-49.	39.5	797
136	Crystal-structure of active layers of small molecule organic photovoltaics before and after solvent vapor annealing. Zeitschrift Fur Kristallographie - Crystalline Materials, 2020, 235, 15-28.	0.8	6
137	Ternary All-Polymer Solar Cells With 8.5% Power Conversion Efficiency and Excellent Thermal Stability. Frontiers in Chemistry, 2020, 8, 302.	3.6	19
138	Film Fabrication Techniques: Beyond Ternary OPV: High-Throughput Experimentation and Self-Driving Laboratories Optimize Multicomponent Systems (Adv. Mater. 14/2020). Advanced Materials, 2020, 32, 2070110.	21.0	2
139	Unraveling the Complex Nanomorphology of Ternary Organic Solar Cells with Multimodal Analytical Transmission Electron Microscopy. Solar Rrl, 2020, 4, 2000114.	5.8	7
140	Looking beyond the Surface: The Band Gap of Bulk Methylammonium Lead Iodide. Nano Letters, 2020, 20, 3090-3097.	9.1	16
141	Quantitative Analysis of the Separate Influences of Material Composition and Local Defects on the Voc of PV Devices: An Exemplary Study on CIGS. IEEE Journal of Photovoltaics, 2020, 10, 898-904.	2.5	0
142	Inorganic Halide Perovskite Solar Cells: Progress and Challenges. Advanced Energy Materials, 2020, 10, 2000183.	19.5	231
143	Efficient Exciton Diffusion in Organic Bilayer Heterojunctions with Nonfullerene Small Molecular Acceptors. ACS Energy Letters, 2020, 5, 1628-1635.	17.4	52
144	Graded 2D/3D Perovskite Heterostructure for Efficient and Operationally Stable MA-Free Perovskite Solar Cells. Advanced Materials, 2020, 32, e2000571.	21.0	166

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145	Phase diagram and stability of mixed-cation lead iodide perovskites: A theory and experiment combined study. <i>Physical Review Materials</i> , 2020, 4, .	2.4	17
146	Does Covid-19 Impact Photovoltaics?. , 2020, , .		1
147	Quantitative Assessment of the Influence of Camera and Parameter Choice for Outdoor Electroluminescence Investigations of Silicon Photovoltaic Panels. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , 2019, 74, 645-653.	1.5	4
148	Quantitative assessment of the power loss of silicon PV modules by IR thermography and its dependence on dataâ€filtering criteria. <i>Progress in Photovoltaics: Research and Applications</i> , 2019, 27, 856-868.	8.1	18
149	Interface Molecular Engineering for Laminated Monolithic Perovskite/Silicon Tandem Solar Cells with 80.4% Fill Factor. <i>Advanced Functional Materials</i> , 2019, 29, 1901476.	14.9	43
150	A multi-objective optimization-based layer-by-layer blade-coating approach for organic solar cells: rational control of vertical stratification for high performance. <i>Energy and Environmental Science</i> , 2019, 12, 3118-3132.	30.8	142
151	Impurity Tracking Enables Enhanced Control and Reproducibility of Hybrid Perovskite Vapor Deposition. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 28851-28857.	8.0	38
152	Influence of Thiazole-Modified Carbon Nitride Nanosheets with Feasible Electronic Properties on Inverted Perovskite Solar Cells. <i>Journal of the American Chemical Society</i> , 2019, 141, 12322-12328.	13.7	61
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