Haiming Zhu

List of Publications by Year
in descending order

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158	18,552	22153	12597
papers	citations	59 h-index	132 g-index

164	164	164	15542
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Lead halide perovskite nanowire lasers with low lasing thresholds and high quality factors. Nature Materials, 2015, 14, 636-642.	27.5	2,392
2	Single-junction organic solar cells with over 19% efficiency enabled by a refined double-fibril network morphology. Nature Materials, 2022, 21, 656-663.	27.5	1,214
3	Trap States in Lead Iodide Perovskites. Journal of the American Chemical Society, 2015, 137, 2089-2096.	13.7	813
4	Screening in crystalline liquids protects energetic carriers in hybrid perovskites. Science, 2016, 353, 1409-1413.	12.6	655
5	Metal halide perovskite nanostructures for optoelectronic applications and the study of physical properties. Nature Reviews Materials, 2019, 4, 169-188.	48.7	598
6	Molecular helices as electron acceptors in high-performance bulk heterojunction solar cells. Nature Communications, 2015, 6, 8242.	12.8	525
7	Single-layered organic photovoltaics with double cascading charge transport pathways: 18% efficiencies. Nature Communications, 2021, 12, 309.	12.8	509
8	Broad Wavelength Tunable Robust Lasing from Single-Crystal Nanowires of Cesium Lead Halide Perovskites (CsPbX₃, X = Cl, Br, I). ACS Nano, 2016, 10, 7963-7972.	14.6	507
9	Efficient blue light-emitting diodes based on quantum-confined bromide perovskite nanostructures. Nature Photonics, 2019, 13, 760-764.	31.4	483
10	Efficient Organic Solar Cell with 16.88% Efficiency Enabled by Refined Acceptor Crystallization and Morphology with Improved Charge Transfer and Transport Properties. Advanced Energy Materials, 2020, 10, 1904234.	19.5	402
11	Nanowire Lasers of Formamidinium Lead Halide Perovskites and Their Stabilized Alloys with Improved Stability. Nano Letters, 2016, 16, 1000-1008.	9.1	391
12	Highly sensitive X-ray detector made of layered perovskite-like (NH4)3Bi2I9 single crystal with anisotropic response. Nature Photonics, 2019, 13, 602-608.	31.4	391
13	Controlling Charge Separation and Recombination Rates in CdSe/ZnS Type I Coreâ^'Shell Quantum Dots by Shell Thicknesses. Journal of the American Chemical Society, 2010, 132, 15038-15045.	13.7	379
14	Singleâ€Junction Organic Solar Cells with 19.17% Efficiency Enabled by Introducing One Asymmetric Guest Acceptor. Advanced Materials, 2022, 34, e2110147.	21.0	377
15	Highly Efficient Fullerene-Free Organic Solar Cells Operate at Near Zero Highest Occupied Molecular Orbital Offsets. Journal of the American Chemical Society, 2019, 141, 3073-3082.	13.7	362
16	Subtle Molecular Tailoring Induces Significant Morphology Optimization Enabling over 16% Efficiency Organic Solar Cells with Efficient Charge Generation. Advanced Materials, 2020, 32, e1906324.	21.0	312
17	Low-dose real-time X-ray imaging with nontoxic double perovskite scintillators. Light: Science and Applications, 2020, 9, 112.	16.6	272
18	Charge Transfer Excitons at van der Waals Interfaces. Journal of the American Chemical Society, 2015, 137, 8313-8320.	13.7	252

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19	Asymmetric Electron Acceptors for Highâ€Efficiency and Lowâ€Energyâ€Loss Organic Photovoltaics. Advanced Materials, 2020, 32, e2001160.	21.0	246
20	Near Unity Quantum Yield of Light-Driven Redox Mediator Reduction and Efficient H₂ Generation Using Colloidal Nanorod Heterostructures. Journal of the American Chemical Society, 2012, 134, 11701-11708.	13.7	237
21	Wave Function Engineering for Ultrafast Charge Separation and Slow Charge Recombination in Type II Core/Shell Quantum Dots. Journal of the American Chemical Society, 2011, 133, 8762-8771.	13.7	213
22	Desired open-circuit voltage increase enables efficiencies approaching 19% in symmetric-asymmetric molecule ternary organic photovoltaics. Joule, 2022, 6, 662-675.	24.0	212
23	Wave Function Engineering for Efficient Extraction of up to Nineteen Electrons from One CdSe/CdS Quasi-Type II Quantum Dot. Journal of the American Chemical Society, 2012, 134, 4250-4257.	13.7	205
24	Auger-Assisted Electron Transfer from Photoexcited Semiconductor Quantum Dots. Nano Letters, 2014, 14, 1263-1269.	9.1	197
25	Interfacial Charge Transfer Circumventing Momentum Mismatch at Two-Dimensional van der Waals Heterojunctions. Nano Letters, 2017, 17, 3591-3598.	9.1	172
26	Simple Nonâ€Fused Electron Acceptors Leading to Efficient Organic Photovoltaics. Angewandte Chemie - International Edition, 2021, 60, 12964-12970.	13.8	172
27	High-performance and eco-friendly semitransparent organic solar cells for greenhouse applications. Joule, 2021, 5, 945-957.	24.0	171
28	Ultrafast Exciton Dynamics and Light-Driven H₂ Evolution in Colloidal Semiconductor Nanorods and Pt-Tipped Nanorods. Accounts of Chemical Research, 2015, 48, 851-859.	15.6	169
29	Organic Cations Might Not Be Essential to the Remarkable Properties of Band Edge Carriers in Lead Halide Perovskites. Advanced Materials, 2017, 29, 1603072.	21.0	166
30	Highly Efficient Allâ€Smallâ€Molecule Organic Solar Cells with Appropriate Active Layer Morphology by Side Chain Engineering of Donor Molecules and Thermal Annealing. Advanced Materials, 2020, 32, e1908373.	21.0	162
31	Charge Transfer Dynamics from Photoexcited Semiconductor Quantum Dots. Annual Review of Physical Chemistry, 2016, 67, 259-281.	10.8	156
32	Thermally activated delayed fluorescence (TADF) organic molecules for efficient X-ray scintillation and imaging. Nature Materials, 2022, 21, 210-216.	27.5	146
33	Highâ€Performance Semitransparent Organic Solar Cells with Excellent Infrared Reflection and Seeâ€Through Functions. Advanced Materials, 2020, 32, e2001621.	21.0	140
34	Enhanced Multiple Exciton Dissociation from CdSe Quantum Rods: The Effect of Nanocrystal Shape. Journal of the American Chemical Society, 2012, 134, 11289-11297.	13.7	134
35	Highly Resolved and Robust Dynamic Xâ€Ray Imaging Using Perovskite Glassâ€Ceramic Scintillator with Reduced Light Scattering. Advanced Science, 2021, 8, e2003728.	11.2	128
36	Wavefunction engineering in quantum confined semiconductor nanoheterostructures for efficient charge separation and solar energy conversion. Energy and Environmental Science, 2012, 5, 9406.	30.8	120

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37	Ultrafast self-trapping of photoexcited carriers sets the upper limit on antimony trisulfide photovoltaic devices. Nature Communications, 2019, 10, 4540.	12.8	117
38	Efficient and Reproducible Monolithic Perovskite/Organic Tandem Solar Cells with Low-Loss Interconnecting Layers. Joule, 2020, 4, 1594-1606.	24.0	116
39	Asymmetric electron acceptor enables highly luminescent organic solar cells with certified efficiency over 18%. Nature Communications, 2022, 13, 2598.	12.8	113
40	Highâ€Efficiency Organic Photovoltaics using Eutectic Acceptor Fibrils to Achieve Current Amplification. Advanced Materials, 2021, 33, e2007177.	21.0	111
41	Persistent Energetic Electrons in Methylammonium Lead Iodide Perovskite Thin Films. Journal of the American Chemical Society, 2016, 138, 15717-15726.	13.7	107
42	Triplet exciton formation for non-radiative voltage loss in high-efficiency nonfullerene organic solar cells. Joule, 2021, 5, 1832-1844.	24.0	98
43	Unveiling structure-performance relationships from multi-scales in non-fullerene organic photovoltaics. Nature Communications, 2021, 12, 4627.	12.8	98
44	Molecular insights of exceptionally photostable electron acceptors for organic photovoltaics. Nature Communications, 2021, 12, 3049.	12.8	97
45	Multiexciton Annihilation and Dissociation in Quantum Confined Semiconductor Nanocrystals. Accounts of Chemical Research, 2013, 46, 1270-1279.	15.6	96
46	Photoexcitation-controlled self-recoverable molecular aggregation for flicker phosphorescence. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4816-4821.	7.1	95
47	Ultrafast Hole Transfer and Carrier Transport Controlled by Nanoscale-Phase Morphology in Nonfullerene Organic Solar Cells. Journal of Physical Chemistry Letters, 2020, 11, 3226-3233.	4.6	94
48	Accurate Determination of the Minimum HOMO Offset for Efficient Charge Generation using Organic Semiconducting Alloys. Advanced Energy Materials, 2020, 10, 1903298.	19.5	92
49	Highâ€Performance Organic Solar Cells from Nonâ€Halogenated Solvents. Advanced Functional Materials, 2022, 32, 2107827.	14.9	92
50	Tuning terminal aromatics of electron acceptors to achieve high-efficiency organic solar cells. Journal of Materials Chemistry A, 2019, 7, 27632-27639.	10.3	86
51	Submillimeter and lead-free Cs₃Sb₂Br₉perovskite nanoflakes: inverse temperature crystallization growth and application for ultrasensitive photodetectors. Nanoscale Horizons, 2019, 4, 1372-1379.	8.0	85
52	Highly efficient hot electron harvesting from graphene before electron-hole thermalization. Science Advances, 2019, 5, eaax9958.	10.3	79
53	A conjugated donor-acceptor block copolymer enables over 11% efficiency for single-component polymer solar cells. Joule, 2021, 5, 1800-1815.	24.0	77
54	Power Conversion Efficiency Enhancement of Low-Bandgap Mixed Pbâ€“Sn Perovskite Solar Cells by Improved Interfacial Charge Transfer. ACS Energy Letters, 2019, 4, 1784-1790.	17.4	76

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55	Supramolecular Solid-State Microlaser Constructed from Pillar[5]arene-Based Hostâ€“Guest Complex Microcrystals. Journal of the American Chemical Society, 2018, 140, 15651-15654.	13.7	71
56	High-Efficiency Red Light-Emitting Diodes Based on Multiple Quantum Wells of Phenylbutylammonium-Cesium Lead Iodide Perovskites. ACS Photonics, 2019, 6, 587-594.	6.6	69
57	Revealing the Critical Role of the HOMO Alignment on Maximizing Current Extraction and Suppressing Energy Loss in Organic Solar Cells. IScience, 2019, 19, 883-893.	4.1	68
58	Shelfâ€Stable Quantumâ€Dot Lightâ€Emitting Diodes with High Operational Performance. Advanced Materials, 2020, 32, e2006178.	21.0	68
59	Realizing High Efficiency over 20% of Lowâ€Bandgap Pbâ€“Snâ€Alloyed Perovskite Solar Cells by In Situ Reduction of Sn⁴⁺. Solar Rrl, 2020, 4, 1900467.	5.8	65
60	Momentarily trapped exciton polaron in two-dimensional lead halide perovskites. Nature Communications, 2021, 12, 1400.	12.8	63
61	Exploring the Charge Dynamics and Energy Loss in Ternary Organic Solar Cells with a Fill Factor Exceeding 80%. Advanced Energy Materials, 2021, 11, 2101338.	19.5	62
62	Inhibiting excessive molecular aggregation to achieve highly efficient and stabilized organic solar cells by introducing a star-shaped nitrogen heterocyclic-ring acceptor. Energy and Environmental Science, 2022, 15, 384-394.	30.8	62
63	Mechanism study on organic ternary photovoltaics with 18.3% certified efficiency: from molecule to device. Energy and Environmental Science, 2022, 15, 855-865.	30.8	62
64	Compromising Charge Generation and Recombination with Asymmetric Molecule for Highâ€Performance Binary Organic Photovoltaics with Over 18% Certified Efficiency. Advanced Functional Materials, 2022, 32, .	14.9	62
65	Charging of Quantum Dots by Sulfide Redox Electrolytes Reduces Electron Injection Efficiency in Quantum Dot Sensitized Solar Cells. Journal of the American Chemical Society, 2013, 135, 11461-11464.	13.7	59
66	Allâ€Green Solventâ€Processed Planar Heterojunction Organic Solar Cells with Outstanding Power Conversion Efficiency of 16%. Advanced Functional Materials, 2022, 32, 2107567.	14.9	58
67	A New End Group on Nonfullerene Acceptors Endows Efficient Organic Solar Cells with Low Energy Losses. Advanced Functional Materials, 2022, 32, 2108614.	14.9	56
68	Stable Quasiâ€2D Perovskite Solar Cells with Efficiency over 18% Enabled by Heatâ€“Light Coâ€Treatment. Advanced Functional Materials, 2020, 30, 2004188.	14.9	54
69	Pillar[5]arene-Based Solid-State Supramolecular Polymers with Suppressed Aggregation-Caused Quenching Effects and Two-Photon Excited Emission. Journal of the American Chemical Society, 2020, 142, 16557-16561.	13.7	54
70	Unraveling the Crystallization Kinetics of 2D Perovskites with Sandwichâ€Type Structure for Highâ€Performance Photovoltaics. Advanced Materials, 2020, 32, e2002784.	21.0	52
71	Versatile Sequential Casting Processing for Highly Efficient and Stable Binary Organic Photovoltaics. Advanced Materials, 2022, 34, .	21.0	52
72	Pushing the Efficiency of High Openâ€Circuit Voltage Binary Organic Solar Cells by Vertical Morphology Tuning. Advanced Science, 2022, 9, e2200578.	11.2	51

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73	High-performance see-through power windows. Energy and Environmental Science, 2022, 15, 2629-2637.	30.8	51
74	Near infrared electron acceptors with a photoresponse beyond 1000 nm for highly efficient organic solar cells. Journal of Materials Chemistry A, 2020, 8, 18154-18161.	10.3	49
75	Regulating Favorable Morphology Evolution by a Simple Liquid-Crystalline Small Molecule Enables Organic Solar Cells with over 17% Efficiency and a Remarkable J_{sc} of 26.56 mA/cm². Chemistry of Materials, 2021, 33, 430-440.	6.7	49
76	Light-Driven, Quantum Dot-Mediated Regeneration of FMN To Drive Reduction of Ketoisophorone by Old Yellow Enzyme. ACS Catalysis, 2012, 2, 667-670.	11.2	47
77	Dynamic polaronic screening for anomalous exciton spin relaxation in two-dimensional lead halide perovskites. Science Advances, 2020, 6, .	10.3	47
78	18.02% Efficiency ternary organic solar cells with a small-molecular donor third component. Chemical Engineering Journal, 2021, 424, 130397.	12.7	46
79	Fast Photoelectric Conversion in the Nearâ€Infrared Enabled by Plasmonâ€Induced Hotâ€Electron Transfer. Advanced Materials, 2019, 31, e1903829.	21.0	44
80	Ultrafast Energy Transfer of Both Bright and Dark Excitons in 2D van der Waals Heterostructures Beyond Dipolar Coupling. ACS Nano, 2019, 13, 2341-2348.	14.6	44
81	Controlling Exciton and Valley Dynamics in Two-Dimensional Heterostructures with Atomically Precise Interlayer Proximity. ACS Nano, 2020, 14, 4618-4625.	14.6	44
82	Edge activation of an inert polymeric carbon nitride matrix with boosted absorption kinetics and near-infrared response for efficient photocatalytic CO₂ reduction. Journal of Materials Chemistry A, 2020, 8, 11761-11772.	10.3	42
83	Structural distortion and electron redistribution in dual-emitting gold nanoclusters. Nature Communications, 2020, 11, 2897.	12.8	42
84	Efficient Charge Transport Enables High Efficiency in Dilute Donor Organic Solar Cells. Journal of Physical Chemistry Letters, 2021, 12, 5039-5044.	4.6	41
85	Marcus Hole Transfer Governs Charge Generation and Device Operation in Nonfullerene Organic Solar Cells. ACS Energy Letters, 2021, 6, 2971-2981.	17.4	41
86	Dielectric Environment-Robust Ultrafast Charge Transfer Between Two Atomic Layers. Journal of Physical Chemistry Letters, 2019, 10, 150-155.	4.6	40
87	Highâ€Performance Organic Solar Modules via Bilayerâ€Mergedâ€Annealing Assisted Blade Coating. Advanced Materials, 2022, 34, e2110569.	21.0	38
88	Dynamic Exciton Polaron in Two-Dimensional Lead Halide Perovskites and Implications for Optoelectronic Applications. Accounts of Chemical Research, 2022, 55, 345-353.	15.6	36
89	Infrared driven hot electron generation and transfer from non-noble metal plasmonic nanocrystals. Nature Communications, 2020, 11, 2944.	12.8	33
90	Bidirectional mid-infrared communications between two identical macroscopic graphene fibres. Nature Communications, 2020, 11, 6368.	12.8	32

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91	Enhanced Charge Transport and Broad Absorption Enabling Record 18.13% Efficiency of PM6:Y6 Based Ternary Organic Photovoltaics with a High Fill Factor Over 80%. Advanced Functional Materials, 2022, 32, .	14.9	30
92	n-Doping of photoactive layer in binary organic solar cells realizes over 18.3% efficiency. Nano Energy, 2022, 96, 107133.	16.0	28
93	Photoinduced Charge Transfer and Recombination Dynamics in Star Nonfullerene Organic Solar Cells. Journal of Physical Chemistry Letters, 2022, 13, 1123-1130.	4.6	27
94	Wavelength dependent efficient photoreduction of redox mediators using type II ZnSe/CdS nanorod heterostructures. Chemical Science, 2014, 5, 3905-3914.	7.4	26
95	Narrowband Nearâ€Infrared Photodetector Enabled by Dual Functional Internalâ€Filterâ€Induced Selective Charge Collection. Advanced Optical Materials, 2021, 9, 2100288.	7.3	26
96	Quantum Confinement-Tunable Ultrafast Charge Transfer in a PbS Quantum Dots/WSe₂ 0Dâ€“2D Hybrid Structure: Transition from the Weak to Strong Coupling Regime. Journal of Physical Chemistry Letters, 2019, 10, 7665-7671.	4.6	25
97	High-efficiency organic solar cells with low voltage-loss of 0.46 V. Chinese Chemical Letters, 2020, 31, 1991-1996.	9.0	24
98	Macroscopic assembled graphene nanofilms based room temperature ultrafast midâ€infrared photodetectors. InformaĂnÂ-MateriÃ¡ly, 2022, 4, .	17.3	24
99	Boosting photoelectrochemical efficiency by near-infrared-active lattice-matched morphological heterojunctions. Nature Communications, 2021, 12, 4296.	12.8	23
100	Uncovering the out-of-plane nanomorphology of organic photovoltaic bulk heterojunction by GTSAXS. Nature Communications, 2021, 12, 6226.	12.8	23
101	Spontaneous carrier generation and low recombination in high-efficiency non-fullerene solar cells. Energy and Environmental Science, 2022, 15, 3483-3493.	30.8	23
102	Pulsed axial epitaxy of colloidal quantum dots in nanowires enables facet-selective passivation. Nature Communications, 2018, 9, 4947.	12.8	22
103	Ultrafast and broadband optical nonlinearity in aluminum doped zinc oxide colloidal nanocrystals. Nanoscale, 2019, 11, 13988-13995.	5.6	22
104	Intrinsically Chemo- and Thermostable Electron Acceptors for Efficient Organic Solar Cells. Bulletin of the Chemical Society of Japan, 2021, 94, 183-190.	3.2	22
105	Non-fused medium bandgap electron acceptors for efficient organic photovoltaics. Journal of Energy Chemistry, 2022, 70, 576-582.	12.9	22
106	Photophysics, morphology and device performances correlation on non-fullerene acceptor based binary and ternary solar cells. Journal of Energy Chemistry, 2020, 47, 180-187.	12.9	21
107	Enhancement of MoTe2 near-infrared absorption with gold hollow nanorods for photodetection. Nano Research, 2020, 13, 1636-1643.	10.4	21
108	Healing the degradable organicâ€“inorganic heterointerface for highly efficient and stable organic solar cells. InformaĂnÂ-MateriÃ¡ly, 2022, 4, .	17.3	21

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109	Strain-Induced Stereoselective Formation of Blue-Emitting Cyclostilbenes. Journal of the American Chemical Society, 2015, 137, 12282-12288.	13.7	20
110	19.34â€‰â€‰cm² large-area quaternary organic photovoltaic module with 12.36% certified efficiency. Photonics Research, 2021, 9, 324.	7.0	20
111	Ultrafast Electron Transfer with Long-Lived Charge Separation and Spin Polarization in WSe₂/C₆₀ Heterojunction. Journal of Physical Chemistry Letters, 2021, 12, 3691-3697.	4.6	18
112	Simple Nonâ€Fused Electron Acceptors Leading to Efficient Organic Photovoltaics. Angewandte Chemie, 2021, 133, 13074-13080.	2.0	18
113	Realizing high-performance organic solar cells through precise control of HOMO driving force based on ternary alloy strategy. Journal of Energy Chemistry, 2022, 65, 133-140.	12.9	18
114	A Benzobis(thiazole)-Based Wide Bandgap Polymer Donor Enables over 15% Efficiency Organic Photovoltaics with a Flat Energetic Offset. Macromolecules, 2021, 54, 7862-7869.	4.8	17
115	Lattice-Mismatched PbTe/ZnTe Heterostructure with High-Speed Midinfrared Photoresponses. ACS Applied Materials & Interfaces, 2019, 11, 39342-39350.	8.0	16
116	Highâ€Efficiency Ternary Organic Solar Cells Based on the Synergized Polymeric and Smallâ€Molecule Donors. Solar Rrl, 2020, 4, 2000537.	5.8	16
117	Manipulating Crystallization Kinetics of Conjugated Polymers in Nonfullerene Photovoltaic Blends toward Refined Morphologies and Higher Performances. Macromolecules, 2021, 54, 4030-4041.	4.8	16
118	One-Dimensional Superlattice Heterostructure Library. Journal of the American Chemical Society, 2021, 143, 7013-7020.	13.7	16
119	Deciphering asymmetric charge transfer at transition metal dichalcogenideâ€“graphene interface by helicity-resolved ultrafast spectroscopy. Science Advances, 2021, 7, .	10.3	16
120	Tailoring the electron and hole dimensionality to achieve efficient and stable metal halide perovskite scintillators. Nanophotonics, 2021, 10, 2249-2256.	6.0	16
121	Self-Assembled Donorâ€“Acceptor Dyad Molecules Stabilize the Heterojunction of Inverted Perovskite Solar Cells and Modules. ACS Applied Materials & Interfaces, 2022, 14, 6794-6800.	8.0	16
122	Coupled Electronic and Anharmonic Structural Dynamics for Carrier Selfâ€Trapping in Photovoltaic Antimony Chalcogenides. Advanced Science, 2022, 9, .	11.2	16
123	Efficient hot-electron extraction in two-dimensional semiconductor heterostructures by ultrafast resonant transfer. Journal of Chemical Physics, 2020, 153, 044705.	3.0	15
124	Heavily Doped Semiconductor Colloidal Nanocrystals as Ultra-Broadband Switches for Near-Infrared and Mid-Infrared Pulse Lasers. ACS Applied Materials & Interfaces, 2019, 11, 40416-40423.	8.0	14
125	Understanding of the Nearly Linear Tunable Open-Circuit Voltages in Ternary Organic Solar Cells Based on Two Non-fullerene Acceptors. Journal of Physical Chemistry Letters, 2021, 12, 151-156.	4.6	14
126	Ultrafast Singlet Energy Transfer before Fission in a Tetracene/WSe₂ Type II Hybrid Heterostructure. Journal of Physical Chemistry Letters, 2021, 12, 8440-8446.	4.6	14

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127	Real-Time Observing Ultrafast Carrier and Phonon Dynamics in Colloidal Tin Chalcogenide van der Waals Nanosheets. Journal of Physical Chemistry Letters, 2019, 10, 3750-3755.	4.6	13
128	Highly compact and smooth all-inorganic perovskite films for low threshold amplified spontaneous emission from additive-assisted solution processing. Journal of Materials Chemistry C, 2019, 7, 15350-15356.	5.5	13
129	Efficient quasi-stationary charge transfer from quantum dots to acceptors physically-adsorbed in the ligand monolayer. Nano Research, 2022, 15, 617-626.	10.4	13
130	Controllable Anion Doping of Electron Acceptors for High-Efficiency Organic Solar Cells. ACS Energy Letters, 2022, 7, 1764-1773.	17.4	12
131	Highly Efficient Multiple Exciton Generation and Harvesting in Few-Layer Black Phosphorus and Heterostructure. Nano Letters, 2020, 20, 8212-8219.	9.1	11
132	Ultrafast Electron Transfer Before Singlet Fission and Slow Triplet State Electron Transfer in Pentacene Single Crystal/C60 Heterostructure. Journal of Physical Chemistry A, 2020, 124, 4185-4192.	2.5	11
133	Spatiotemporally Coupled Electronâ€“Hole Dynamics in Two Dimensional Heterostructures. Nano Letters, 2022, 22, 2547-2553.	9.1	11
134	Symmetry Breaking in Monometallic Nanocrystals toward Broadband and Direct Electron Transfer Enhanced Plasmonic Photocatalysis. Advanced Functional Materials, 2021, 31, 2006738.	14.9	10
135	Transient Optical Modulation of Two-Dimensional Materials by Excitons at Ultimate Proximity. ACS Nano, 2021, 15, 5495-5501.	14.6	10
136	Near-Unity-Efficiency Energy Transfer from Perovskite to Monolayer Semiconductor through Long-Range Migration and Asymmetric Interfacial Transfer. ACS Applied Materials & Interfaces, 2021, 13, 41895-41903.	8.0	10
137	Correlating Electronic Structure and Device Physics with Mixing Region Morphology in Highâ€Efficiency Organic SolarÂCells. Advanced Science, 2022, 9, e2104613.	11.2	10
138	Long-range transport and ultrafast interfacial charge transfer in perovskite/monolayer semiconductor heterostructure for enhanced light absorption and photocarrier lifetime. Journal of Chemical Physics, 2022, 156, .	3.0	10
139	A mutually stabilized host-guest pair. Science Advances, 2019, 5, eaax6707.	10.3	9
140	Two-dimensional perovskite solar cells with high luminescence and ultra-low open-circuit voltage deficit. Journal of Materials Chemistry A, 2020, 8, 22175-22180.	10.3	9
141	Subâ€3Ânm Aluminum Nanocrystals Exhibiting Clusterâ€Like Optical Properties. Small, 2020, 17, 2002524.	10.0	9
142	Understanding the molecular mechanisms of the differences in the efficiency and stability of all-polymer solar cells. Journal of Materials Chemistry C, 2022, 10, 1850-1861.	5.5	9
143	Revealing the Sole Impact of Acceptor's Molecular Conformation to Energy Loss and Device Performance of Organic Solar Cells through Positional Isomers. Advanced Science, 2022, 9, e2103428.	11.2	9
144	Spectral Narrowing and Enhancement of Directional Emission of Perovskite Light Emitting Diode by Microcavity. Laser and Photonics Reviews, 2022, 16, .	8.7	9

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145	Control of aggregation and dissolution of small molecule hole transport layers via a doping strategy for highly efficient perovskite solar cells. Journal of Materials Chemistry C, 2019, 7, 11932-11942.	5.5	8
146	Slotâ€Dieâ€Coated Organic Solar Cells Optimized through Multistep Crystallization Kinetics. Solar Rrl, 2022, 6, .	5.8	7
147	Characterizations and Understanding of Additives Induced Passivation Effects in Narrow-Bandgap Snâ€“Pb Alloyed Perovskite Solar Cells. Journal of Physical Chemistry C, 2021, 125, 12560-12567.	3.1	6
148	Highly Efficient and Thickness Insensitive Inverted Triple-Cation Perovskite Solar Cells Fabricated by Gas Pumping Method. Journal of Physical Chemistry Letters, 2021, 12, 5580-5586.	4.6	6
149	Controlling Photocarrier Lifetime in Graphene for Enhanced Photocurrent Generation via Cascade Hot Electron Transfer. Journal of Physical Chemistry Letters, 2021, 12, 9989-9994.	4.6	6
150	Interlayer exciton emission in a MoS₂/VOPc inorganic/organic van der Waals heterostructure. Materials Horizons, 2022, 9, 1253-1263.	12.2	6
151	Controlling exciton-exciton annihilation in WSe2 bilayers via interlayer twist. Nano Research, 2022, 15, 4661-4667.	10.4	6
152	Ultrahigh-Speed Mid-Infrared Photodetectors With 2-D Electron Gas in a CdTe/PbTe Heterojunction. IEEE Transactions on Electron Devices, 2020, 67, 2432-2436.	3.0	5
153	Manipulating the Crystalline Morphology in the Nonfullerene Acceptor Mixture to Improve the Carrier Transport and Suppress the Energetic Disorder. Small Science, 2022, 2, 2100092.	9.9	5
154	Spread of in-plane anisotropy in CsPbBr₃/ReS₂ heterostructures by proximity effect. Journal of Materials Chemistry C, 0, , .	5.5	4
155	Nonâ€Fullerene Acceptors: Efficient Organic Solar Cell with 16.88% Efficiency Enabled by Refined Acceptor Crystallization and Morphology with Improved Charge Transfer and Transport Properties (Adv. Energy Mater. 18/2020). Advanced Energy Materials, 2020, 10, 2070083.	19.5	3
156	Graphene/Î±-In₂Se₃ heterostructure for ultrafast nonlinear optical applications. Optical Materials Express, 2020, 10, 2723.	3.0	3
157	Organic Solar Cells: Highâ€Efficiency Organic Photovoltaics using Eutectic Acceptor Fibrils to Achieve Current Amplification (Adv. Mater. 18/2021). Advanced Materials, 2021, 33, 2170142.	21.0	1
158	Geometry strategy for engineering the recombination possibility of excitons in nanowires. Nanoscale, 2016, 8, 7318-7325.	5.6	0