Shengzhong Frank Liu

List of Publications by Citations

450 papers	23,856 citations	81 h-index	137 g-index
481 ext. papers	29,790 ext. citations	11.6 avg, IF	7.71 L-index

#	Paper	IF	Citations
450	Two-Inch-Sized Perovskite CH3 NH3 PbX3 (X = Cl, Br, I) Crystals: Growth and Characterization. *Advanced Materials*, **2015**, 27, 5176-83	24	746
449	High efficiency planar-type perovskite solar cells with negligible hysteresis using EDTA-complexed SnO. *Nature Communications*, **2018**, 9, 3239	17.4	721
448	Surface optimization to eliminate hysteresis for record efficiency planar perovskite solar cells. *Energy and Environmental Science*, **2016**, 9, 3071-3078	35.4	691
447	Stable High-Performance Perovskite Solar Cells via Grain Boundary Passivation. *Advanced Materials*, **2018**, 30, e1706576	24	505
446	Stable high efficiency two-dimensional perovskite solar cells via cesium doping. *Energy and Environmental Science*, **2017**, 10, 2095-2102	35.4	496
445	High efficiency flexible perovskite solar cells using superior low temperature TiO2. *Energy and Environmental Science*, **2015**, 8, 3208-3214	35.4	457
444	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. *Nature Energy*, **2020**, 5, 35-49	62.3	369
443	Hysteresis-Suppressed High-Efficiency Flexible Perovskite Solar Cells Using Solid-State Ionic-Liquids for Effective Electron Transport. *Advanced Materials*, **2016**, 28, 5206-13	24	326
442	All-inorganic cesium lead iodide perovskite solar cells with stabilized efficiency beyond 15. *Nature Communications*, **2018**, 9, 4544	17.4	296
441	Fabrication of TiO2/C3N4 heterostructure for enhanced photocatalytic Z-scheme overall water splitting. *Applied Catalysis B: Environmental*, **2016**, 191, 130-137	21.8	287
440	Record Efficiency Stable Flexible Perovskite Solar Cell Using Effective Additive Assistant Strategy. *Advanced Materials*, **2018**, 30, e1801418	24	286
439	Interstitial Mn2+-Driven High-Aspect-Ratio Grain Growth for Low-Trap-Density Microcrystalline Films for Record Efficiency CsPbI2Br Solar Cells. *ACS Energy Letters*, **2018**, 3, 970-978	20.1	285
438	All-Inorganic CsPbX Perovskite Solar Cells: Progress and Prospects. *Angewandte Chemie - International Edition*, **2019**, 58, 15596-15618	16.4	272
437	One-step hydrothermal synthesis of monolayer MoS2 quantum dots for highly efficient electrocatalytic hydrogen evolution. *Journal of Materials Chemistry A*, **2015**, 3, 10693-10697	13	260
436	3D□D□D Interface Profiling for Record Efficiency All-Inorganic CsPbBrI2 Perovskite Solar Cells with Superior Stability. *Advanced Energy Materials*, **2018**, 8, 1703246	21.8	256
435	Graded Bandgap CsPbI2+Br1□Perovskite Solar Cells with a Stabilized Efficiency of 14.4%. *Joule*, **2018**, 2, 1500-1510	27.8	249
434	Solution-Processed Nb:SnO Electron Transport Layer for Efficient Planar Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2017**, 9, 2421-2429	9.5	240

433	Polymer Doping for High-Efficiency Perovskite Solar Cells with Improved Moisture Stability. *Advanced Energy Materials*, **2018**, 8, 1701757	21.8	233
432	Thinness- and Shape-Controlled Growth for Ultrathin Single-Crystalline Perovskite Wafers for Mass Production of Superior Photoelectronic Devices. *Advanced Materials*, **2016**, 28, 9204-9209	24	233
431	20-mm-Large Single-Crystalline Formamidinium-Perovskite Wafer for Mass Production of Integrated Photodetectors. *Advanced Optical Materials*, **2016**, 4, 1829-1837	8.1	233
430	Single atom tungsten doped ultrathin □Ni(OH) for enhanced electrocatalytic water oxidation. *Nature Communications*, **2019**, 10, 2149	17.4	210
429	High-Performance Planar Perovskite Solar Cells Using Low Temperature, Solution□Combustion-Based Nickel Oxide Hole Transporting Layer with Efficiency Exceeding 20%. *Advanced Energy Materials*, **2018**, 8, 1703432	21.8	209
428	Precursor Engineering for All-Inorganic CsPbI2Br Perovskite Solar Cells with 14.78% Efficiency. *Advanced Functional Materials*, **2018**, 28, 1803269	15.6	206
427	g-C3N4 Loading Black Phosphorus Quantum Dot for Efficient and Stable Photocatalytic H2 Generation under Visible Light. *Advanced Functional Materials*, **2018**, 28, 1800668	15.6	192
426	Phase Transition Control for High Performance Ruddlesden-Popper Perovskite Solar Cells. *Advanced Materials*, **2018**, 30, e1707166	24	192
425	Recent Advances in Flexible Perovskite Solar Cells: Fabrication and Applications. *Angewandte Chemie - International Edition*, **2019**, 58, 4466-4483	16.4	183
424	Energy-Down-Shift CsPbCl3:Mn Quantum Dots for Boosting the Efficiency and Stability of Perovskite Solar Cells. *ACS Energy Letters*, **2017**, 2, 1479-1486	20.1	178
423	Controlled n-Doping in Air-Stable CsPbI2Br Perovskite Solar Cells with a Record Efficiency of 16.79%. *Advanced Functional Materials*, **2020**, 30, 1909972	15.6	173
422	Reducing Detrimental Defects for High-Performance Metal Halide Perovskite Solar Cells. *Angewandte Chemie - International Edition*, **2020**, 59, 6676-6698	16.4	171
421	E-beam evaporated Nb2O5 as an effective electron transport layer for large flexible perovskite solar cells. *Nano Energy*, **2017**, 36, 1-8	17.1	170
420	□-Graphene Crosslinked CsPbI3 Quantum Dots for High Efficiency Solar Cells with Much Improved Stability. *Advanced Energy Materials*, **2018**, 8, 1800007	21.8	167
419	Alkali Metal Doping for Improved CHNHPbI Perovskite Solar Cells. *Advanced Science*, **2018**, 5, 1700131	13.6	160
418	Recent Progress in Single-Crystalline Perovskite Research Including Crystal Preparation, Property Evaluation, and Applications. *Advanced Science*, **2018**, 5, 1700471	13.6	158
417	A 1300 mm Ultrahigh-Performance Digital Imaging Assembly using High-Quality Perovskite Single Crystals. *Advanced Materials*, **2018**, 30, e1707314	24	156
416	High performance ambient-air-stable FAPbI3 perovskite solar cells with molecule-passivated Ruddlesden□Popper/3D heterostructured film. *Energy and Environmental Science*, **2018**, 11, 3358-3366	35.4	154

415	Enhancing Efficiency and Stability of Perovskite Solar Cells through Nb-Doping of TiO at Low Temperature. *ACS Applied Materials & Interfaces*, **2017**, 9, 10752-10758	9.5	150
414	Temperature-assisted crystallization for inorganic CsPbI2Br perovskite solar cells to attain high stabilized efficiency 14.81%. *Nano Energy*, **2018**, 52, 408-415	17.1	148
413	Modulating crystal grain size and optoelectronic properties of perovskite films for solar cells by reaction temperature. *Nanoscale*, **2016**, 8, 3816-22	7.7	145
412	A Se-doped MoS2 nanosheet for improved hydrogen evolution reaction. *Chemical Communications*, **2015**, 51, 15997-6000	5.8	142
411	Nucleation-controlled growth of superior lead-free perovskite CsBiI single-crystals for high-performance X-ray detection. *Nature Communications*, **2020**, 11, 2304	17.4	139
410	Design of an Inorganic Mesoporous Hole-Transporting Layer for Highly Efficient and Stable Inverted Perovskite Solar Cells. *Advanced Materials*, **2018**, 30, e1805660	24	139
409	Interface-Modification-Induced Gradient Energy Band for Highly Efficient CsPbIBr2 Perovskite Solar Cells. *Advanced Energy Materials*, **2019**, 9, 1803785	21.8	138
408	Tellurium-Assisted Epitaxial Growth of Large-Area, Highly Crystalline ReS2 Atomic Layers on Mica Substrate. *Advanced Materials*, **2016**, 28, 5019-24	24	138
407	Multi-inch single-crystalline perovskite membrane for high-detectivity flexible photosensors. *Nature Communications*, **2018**, 9, 5302	17.4	136
406	Superior stability for perovskite solar cells with 20% efficiency using vacuum co-evaporation. *Nanoscale*, **2017**, 9, 12316-12323	7.7	135
405	Dynamical Transformation of Two-Dimensional Perovskites with Alternating Cations in the Interlayer Space for High-Performance Photovoltaics. *Journal of the American Chemical Society*, **2019**, 141, 2684-2694	16.4	135
404	Surface-Tension-Controlled Crystallization for High-Quality 2D Perovskite Single Crystals for Ultrahigh Photodetection. *Matter*, **2019**, 1, 465-480	12.7	134
403	All-Ambient Processed Binary CsPbBr-CsPbBr Perovskites with Synergistic Enhancement for High-Efficiency Cs-Pb-Br-Based Solar Cells. *ACS Applied Materials & Interfaces*, **2018**, 10, 7145-7154	9.5	134
402	Progress toward Stable Lead Halide Perovskite Solar Cells. *Joule*, **2018**, 2, 1961-1990	27.8	132
401	Phase Transition Control for High-Performance Blade-Coated Perovskite Solar Cells. *Joule*, **2018**, 2, 1313-1330	27.8	125
400	Chlorine doping for black □CsPbI3 solar cells with stabilized efficiency beyond 16%. *Nano Energy*, **2019**, 58, 175-182	17.1	124
399	Alternating precursor layer deposition for highly stable perovskite films towards efficient solar cells using vacuum deposition. *Journal of Materials Chemistry A*, **2015**, 3, 9401-9405	13	121
398	Low-temperature-gradient crystallization for multi-inch high-quality perovskite single crystals for record performance photodetectors. *Materials Today*, **2019**, 22, 67-75	21.8	121

397	2D-MoO3 nanosheets for superior gas sensors. *Nanoscale*, **2016**, 8, 8696-703	7.7	116
396	Compositional Control in 2D Perovskites with Alternating Cations in the Interlayer Space for Photovoltaics with Efficiency over 18. *Advanced Materials*, **2019**, 31, e1903848	24	112
395	Stable Efficiency Exceeding 20.6% for Inverted Perovskite Solar Cells through Polymer-Optimized PCBM Electron-Transport Layers. *Nano Letters*, **2019**, 19, 3313-3320	11.5	111
394	Multifunctional Enhancement for Highly Stable and Efficient Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2005776	15.6	111
393	Interfacial Engineering at the 2D/3D Heterojunction for High-Performance Perovskite Solar Cells. *Nano Letters*, **2019**, 19, 7181-7190	11.5	110
392	Scalable Fabrication of Metal Halide Perovskite Solar Cells and Modules. *ACS Energy Letters*, **2019**, 4, 2147-2167	20.1	110
391	Interface engineering of low temperature processed all-inorganic CsPbI2Br perovskite solar cells toward PCE exceeding 14%. *Nano Energy*, **2019**, 60, 583-590	17.1	109
390	Efficient planar CsPbBr3 perovskite solar cells by dual-source vacuum evaporation. *Solar Energy Materials and Solar Cells*, **2018**, 187, 1-8	6.4	107
389	Fine Multi-Phase Alignments in 2D Perovskite Solar Cells with Efficiency over 17% via Slow Post-Annealing. *Advanced Materials*, **2019**, 31, e1903889	24	106
388	A Novel Anion Doping for Stable CsPbI2Br Perovskite Solar Cells with an Efficiency of 15.56% and an Open Circuit Voltage of 1.30 V. *Advanced Energy Materials*, **2019**, 9, 1902279	21.8	105
387	Water-Soluble Triazolium Ionic-Liquid-Induced Surface Self-Assembly to Enhance the Stability and Efficiency of Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1900417	15.6	102
386	Room-Temperature Processed NbO as the Electron-Transporting Layer for Efficient Planar Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2017**, 9, 23181-23188	9.5	100
385	Fe(III) doped NiS2 nanosheet: a highly efficient and low-cost hydrogen evolution catalyst. *Journal of Materials Chemistry A*, **2017**, 5, 10173-10181	13	100
384	Highly Efficient Ruddlesden□Popper Halide Perovskite PA2MA4Pb5I16 Solar Cells. *ACS Energy Letters*, **2018**, 3, 1975-1982	20.1	98
383	High-Efficiency Perovskite Solar Cells with Imidazolium-Based Ionic Liquid for Surface Passivation and Charge Transport. *Angewandte Chemie - International Edition*, **2021**, 60, 4238-4244	16.4	98
382	NbF5: A Novel □Phase Stabilizer for FA-Based Perovskite Solar Cells with High Efficiency. *Advanced Functional Materials*, **2019**, 29, 1807850	15.6	97
381	Perovskite CH3NH3Pb(BrxI1□)3 single crystals with controlled composition for fine-tuned bandgap towards optimized optoelectronic applications. *Journal of Materials Chemistry C*, **2016**, 4, 9172-9178	7.1	95
380	Scalable Ambient Fabrication of High-Performance CsPbI2Br Solar Cells. *Joule*, **2019**, 3, 2485-2502	27.8	94

379	Graphdiyne-WS2 2D-Nanohybrid electrocatalysts for high-performance hydrogen evolution reaction. *Carbon*, **2018**, 129, 228-235	10.4	93
378	CsPb(I Br1)3 solar cells. *Science Bulletin*, **2019**, 64, 1532-1539	10.6	92
377	Inch-Size 0D-Structured Lead-Free Perovskite Single Crystals for Highly Sensitive Stable X-Ray Imaging. *Matter*, **2020**, 3, 180-196	12.7	90
376	ITIC surface modification to achieve synergistic electron transport layer enhancement for planar-type perovskite solar cells with efficiency exceeding 20%. *Journal of Materials Chemistry A*, **2017**, 5, 9514-9522	13	88
375	Printable CsPbI Perovskite Solar Cells with PCE of 19% via an Additive Strategy. *Advanced Materials*, **2020**, 32, e2001243	24	88
374	120 mm single-crystalline perovskite and wafers: towards viable applications. *Science China Chemistry*, **2017**, 60, 1367-1376	7.9	86
373	One-pot hydrothermal fabrication of layered Ni(OH) 2 /g-C 3 N 4 nanohybrids for enhanced photocatalytic water splitting. *Applied Catalysis B: Environmental*, **2016**, 194, 74-83	21.8	85
372	Stable ultra-fast broad-bandwidth photodetectors based on CsPbI perovskite and NaYF:Yb,Er quantum dots. *Nanoscale*, **2017**, 9, 6278-6285	7.7	84
371	Color-Tuned Perovskite Films Prepared for Efficient Solar Cell Applications. *Journal of Physical Chemistry C*, **2016**, 120, 42-47	3.8	83
370	Gas-solid reaction based over one-micrometer thick stable perovskite films for efficient solar cells and modules. *Nature Communications*, **2018**, 9, 3880	17.4	82
369	Two-dimensional (PEA)2PbBr4 perovskite single crystals for a high performance UV-detector. *Journal of Materials Chemistry C*, **2019**, 7, 1584-1591	7.1	81
368	Synthesis of Large-Size 1T′ ReS Se Alloy Monolayer with Tunable Bandgap and Carrier Type. *Advanced Materials*, **2017**, 29, 1705015	24	80
367	Ag(x)@WO core-shell nanostructure for LSP enhanced chemical sensors. *Scientific Reports*, **2014**, 4, 6745	4.9	80
366	Pt monolayer coating on complex network substrate with high catalytic activity for the hydrogen evolution reaction. *Science Advances*, **2015**, 1, e1400268	14.3	78
365	Iodine-Optimized Interface for Inorganic CsPbIBr Perovskite Solar Cell to Attain High Stabilized Efficiency Exceeding 14. *Advanced Science*, **2018**, 5, 1801123	13.6	76
364	Photoelectrochemical CO2 reduction to adjustable syngas on grain-boundary-mediated a-Si/TiO2/Au photocathodes with low onset potentials. *Energy and Environmental Science*, **2019**, 12, 923-928	35.4	74
363	Ruddlesden Popper 2D Component to Stabilize CsPbI3 Perovskite Phase for Stable and Efficient Photovoltaics. *Advanced Energy Materials*, **2019**, 9, 1902529	21.8	74
362	Nitrogen-doped graphene quantum dots for 80% photoluminescence quantum yield for inorganic CsPbI3 perovskite solar cells with efficiency beyond 16%. *Journal of Materials Chemistry A*, **2019**, 7, 5740-5747	13	73

361	Ag Nanoparticle-Sensitized WO3 Hollow Nanosphere for Localized Surface Plasmon Enhanced Gas Sensors. *ACS Applied Materials & Interfaces*, **2016**, 8, 18165-72	9.5	71
360	Highly Efficient and Stable Planar Perovskite Solar Cells with Modulated Diffusion Passivation Toward High Power Conversion Efficiency and Ultrahigh Fill Factor. *Solar Rrl*, **2019**, 3, 1900293	7.1	71
359	Low Temperature Fabrication for High Performance Flexible CsPbIBr Perovskite Solar Cells. *Advanced Science*, **2018**, 5, 1801117	13.6	71
358	In Situ Synthesis of Few-Layered g-C N with Vertically Aligned MoS Loading for Boosting Solar-to-Hydrogen Generation. *Small*, **2018**, 14, 1703003	11	71
357	P Doped MoO Nanosheets as Efficient and Stable Electrocatalysts for Hydrogen Evolution. *Small*, **2017**, 13, 1700441	11	70
356	High-Performance, Self-Powered Photodetectors Based on Perovskite and Graphene. *ACS Applied Materials & Interfaces*, **2017**, 9, 42779-42787	9.5	69
355	Improve the oxide/perovskite heterojunction contact for low temperature high efficiency and stable all-inorganic CsPbI2Br perovskite solar cells. *Nano Energy*, **2020**, 67, 104241	17.1	68
354	Precursor Engineering for Ambient-Compatible Antisolvent-Free Fabrication of High-Efficiency CsPbI2Br Perovskite Solar Cells. *Advanced Energy Materials*, **2020**, 10, 2000691	21.8	68
353	Polar rotor scattering as atomic-level origin of low mobility and thermal conductivity of perovskite CHNHPbI. *Nature Communications*, **2017**, 8, 16086	17.4	67
352	An up-scalable approach to CH3NH3PbI3 compact films for high-performance perovskite solar cells. *Nano Energy*, **2015**, 15, 670-678	17.1	67
351	Goldschmidt-rule-deviated perovskite CsPbIBr2by barium substitution for efficient solar cells. *Nano Energy*, **2019**, 61, 165-172	17.1	66
350	WO3-SnO2 nanosheet composites: Hydrothermal synthesis and gas sensing mechanism. *Journal of Alloys and Compounds*, **2018**, 736, 322-331	5.7	66
349	High-Pressure Nitrogen-Extraction and Effective Passivation to Attain Highest Large-Area Perovskite Solar Module Efficiency. *Advanced Materials*, **2020**, 32, e2004979	24	65
348	Vapor-fumigation for record efficiency two-dimensional perovskite solar cells with superior stability. *Energy and Environmental Science*, **2018**, 11, 3349-3357	35.4	65
347	Synthesis and formation mechanism of flowerlike architectures assembled from ultrathin NiO nanoflakes and their adsorption to malachite green and acid red in water. *Chemical Engineering Journal*, **2014**, 239, 141-148	14.7	64
346	High-performance transparent ultraviolet photodetectors based on inorganic perovskite CsPbCl3 nanocrystals. *RSC Advances*, **2017**, 7, 36722-36727	3.7	64
345	Triple-Cation and Mixed-Halide Perovskite Single Crystal for High-Performance X-ray Imaging. *Advanced Materials*, **2021**, 33, e2006010	24	64
344	Zn-doping for reduced hysteresis and improved performance of methylammonium lead iodide perovskite hybrid solar cells. *Materials Today Energy*, **2017**, 5, 205-213	7	63

343	A review on the stability of inorganic metal halide perovskites: challenges and opportunities for stable solar cells. *Energy and Environmental Science*, **2021**, 14, 2090-2113	35.4	63
342	Graphene-oxide doped PEDOT:PSS as a superior hole transport material for high-efficiency perovskite solar cell. *Organic Electronics*, **2017**, 48, 165-171	3.5	62
341	27%-Efficiency Four-Terminal Perovskite/Silicon Tandem Solar Cells by Sandwiched Gold Nanomesh. *Advanced Functional Materials*, **2020**, 30, 1908298	15.6	62
340	Stable High-Performance Flexible Photodetector Based on Upconversion Nanoparticles/Perovskite Microarrays Composite. *ACS Applied Materials & Interfaces*, **2017**, 9, 19176-19183	9.5	61
339	Thermally stable methylammonium-free inverted perovskite solar cells with Zn2+ doped CuGaO2 as efficient mesoporous hole-transporting layer. *Nano Energy*, **2019**, 61, 148-157	17.1	61
338	Europium and Acetate Co-doping Strategy for Developing Stable and Efficient CsPbI Br Perovskite Solar Cells. *Small*, **2019**, 15, e1904387	11	61
337	Preparation of ZnO hollow spheres with different surface roughness and their enhanced gas sensing property. *Sensors and Actuators B: Chemical*, **2014**, 197, 58-65	8.5	61
336	Polymeric room-temperature molten salt as a multifunctional additive toward highly efficient and stable inverted planar perovskite solar cells. *Energy and Environmental Science*, **2020**, 13, 5068-5079	35.4	61
335	Graphdiyne Quantum Dots for Much Improved Stability and Efficiency of Perovskite Solar Cells. *Advanced Materials Interfaces*, **2018**, 5, 1701117	4.6	61
334	Additive Engineering to Grow Micron-Sized Grains for Stable High Efficiency Perovskite Solar Cells. *Advanced Science*, **2019**, 6, 1901241	13.6	60
333	Centimeter-Sized Single Crystal of Two-Dimensional Halide Perovskites Incorporating Straight-Chain Symmetric Diammonium Ion for X-Ray Detection. *Angewandte Chemie - International Edition*, **2020**, 59, 14896-14902	16.4	58
332	2D Cs2PbI2Cl2 Nanosheets for Holistic Passivation of Inorganic CsPbI2Br Perovskite Solar Cells for Improved Efficiency and Stability. *Advanced Energy Materials*, **2020**, 10, 2002882	21.8	58
331	Recent Advances in Photoelectrochemical Applications of Silicon Materials for Solar-to-Chemicals Conversion. *ChemSusChem*, **2017**, 10, 4324-4341	8.3	57
330	Low-temperature and facile solution-processed two-dimensional TiS2 as an effective electron transport layer for UV-stable planar perovskite solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 9132-9138	13	56
329	Bifunctional Hydroxylamine Hydrochloride Incorporated Perovskite Films for Efficient and Stable Planar Perovskite Solar Cells. *ACS Applied Energy Materials*, **2018**, 1, 900-909	6.1	55
328	Unveiling the Effects of Hydrolysis-Derived DMAI/DMAPbI Intermediate Compound on the Performance of CsPbI Solar Cells. *Advanced Science*, **2020**, 7, 1902868	13.6	54
327	Improved PEDOT:PSS/c-Si hybrid solar cell using inverted structure and effective passivation. *Scientific Reports*, **2016**, 6, 35091	4.9	53
326	Synergy of Hydrophobic Surface Capping and Lattice Contraction for Stable and High-Efficiency Inorganic CsPbI2Br Perovskite Solar Cells. *Solar Rrl*, **2018**, 2, 1800216	7.1	53

325	Perovskite-a Perfect Top Cell for Tandem Devices to Break the S-Q Limit. *Advanced Science*, **2019**, 6, 1801764	13.6	52
324	Low-Temperature Solution-Processed ZnO Electron Transport Layer for Highly Efficient and Stable Planar Perovskite Solar Cells with Efficiency Over 20%. *Solar Rrl*, **2019**, 3, 1900096	7.1	52
323	Path towards high-efficient kesterite solar cells. *Journal of Energy Chemistry*, **2018**, 27, 1040-1053	12	51
322	Direct growth of ZnO nanodisk networks with an exposed (0001) facet on Au comb-shaped interdigitating electrodes and the enhanced gas-sensing property of polar {0001} surfaces. *Sensors and Actuators B: Chemical*, **2014**, 195, 71-79	8.5	51
321	High-quality perovskite MAPbI3 single crystals for broad-spectrum and rapid response integrate photodetector. *Journal of Energy Chemistry*, **2018**, 27, 722-727	12	51
320	Large and Dense Organic-Inorganic Hybrid Perovskite CHNHPbI Wafer Fabricated by One-Step Reactive Direct Wafer Production with High X-ray Sensitivity. *ACS Applied Materials & Interfaces*, **2020**, 12, 16592-16600	9.5	50
319	Interface engineering of CsPbBr3/TiO2 heterostructure with enhanced optoelectronic properties for all-inorganic perovskite solar cells. *Applied Physics Letters*, **2018**, 112, 093901	3.4	50
318	Heterojunction CuO@ZnO microcubes for superior p-type gas sensor application. *Journal of Alloys and Compounds*, **2016**, 672, 374-379	5.7	50
317	Cesium Lead Mixed-Halide Perovskites for Low-Energy Loss Solar Cells with Efficiency Beyond 17%. *Chemistry of Materials*, **2019**, 31, 6231-6238	9.6	50
316	Simultaneous Cesium and Acetate Coalloying Improves Efficiency and Stability of FA0.85MA0.15PbI3 Perovskite Solar Cell with an Efficiency of 21.95%. *Solar Rrl*, **2019**, 3, 1900220	7.1	50
315	Rational Surface-Defect Control via Designed Passivation for High-Efficiency Inorganic Perovskite Solar Cells. *Angewandte Chemie - International Edition*, **2021**, 60, 23164-23170	16.4	50
314	Air and thermally stable perovskite solar cells with CVD-graphene as the blocking layer. *Nanoscale*, **2017**, 9, 8274-8280	7.7	49
313	Novel Surface Passivation for Stable FA0.85MA0.15PbI3 Perovskite Solar Cells with 21.6% Efficiency. *Solar Rrl*, **2019**, 3, 1900072	7.1	49
312	Fe2O3/C□3N4-Based Tight Heterojunction for Boosting Visible-Light-Driven Photocatalytic Water Oxidation. *ACS Sustainable Chemistry and Engineering*, **2018**, 6, 10436-10444	8.3	49
311	Ambient blade coating of mixed cation, mixed halide perovskites without dripping: in situ investigation and highly efficient solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 1095-1104	13	49
310	Metal Cations in Efficient Perovskite Solar Cells: Progress and Perspective. *Advanced Materials*, **2019**, 31, e1902037	24	48
309	Epitaxial growth of large-area and highly crystalline anisotropic ReSe2 atomic layer. *Nano Research*, **2017**, 10, 2732-2742	10	47
308	CsPbCl-Driven Low-Trap-Density Perovskite Grain Growth for >20% Solar Cell Efficiency. *Advanced Science*, **2018**, 5, 1800474	13.6	47

307	Molecular Engineering for Two-Dimensional Perovskites with Photovoltaic Efficiency Exceeding 18%. *Matter*, **2021**, 4, 582-599	12.7	46
306	Superior adsorption performance for triphenylmethane dyes on 3D architectures assembled by ZnO nanosheets as thin as ~1.5nm. *Journal of Hazardous Materials*, **2016**, 318, 732-741	12.8	45
305	Novel inorganic electron transport layers for planar perovskite solar cells: Progress and prospective. *Nano Energy*, **2020**, 68, 104289	17.1	45
304	Flexible perovskite solar cells with simultaneously improved efficiency, operational stability, and mechanical reliability. *Joule*, **2021**, 5, 1587-1601	27.8	45
303	Optical Management with Nanoparticles for a Light Conversion Efficiency Enhancement in Inorganic □CsPbI Solar Cells. *Nano Letters*, **2019**, 19, 1796-1804	11.5	45
302	Facile synthesis of an iron doped rutile TiO2 photocatalyst for enhanced visible-light-driven water oxidation. *Journal of Materials Chemistry A*, **2015**, 3, 21434-21438	13	44
301	High-Efficiency Perovskite Solar Cells Enabled by Anatase TiO Nanopyramid Arrays with an Oriented Electric Field. *Angewandte Chemie - International Edition*, **2020**, 59, 11969-11976	16.4	44
300	High-throughput large-area vacuum deposition for high-performance formamidine-based perovskite solar cells. *Energy and Environmental Science*, **2021**, 14, 3035-3043	35.4	44
299	Organic-Inorganic Hybrid Perovskite with Controlled Dopant Modification and Application in Photovoltaic Device. *Small*, **2017**, 13, 1604153	11	42
298	Synthesis of thickness-controlled cuboid WO3 nanosheets and their exposed facets-dependent acetone sensing properties. *Journal of Alloys and Compounds*, **2017**, 696, 490-497	5.7	42
297	High Density and Unit Activity Integrated in Amorphous Catalysts for Electrochemical Water Splitting. *Small Structures*, **2021**, 2, 2000096	8.7	42
296	Enhancing the Sensing Properties of TiO Nanosheets with Exposed {001} Facets by a Hydrogenation and Sensing Mechanism. *Inorganic Chemistry*, **2017**, 56, 1504-1510	5.1	41
295	Efficient perovskite solar cells via surface passivation by a multifunctional small organic ionic compound. *Journal of Materials Chemistry A*, **2020**, 8, 8313-8322	13	41
294	One-pot fabrication of NiFe 2 O 4 nanoparticles on □Ni(OH) 2 nanosheet for enhanced water oxidation. *Journal of Power Sources*, **2016**, 324, 499-508	8.9	41
293	Development of an alcohol sensor based on ZnO nanorods synthesized using a scalable solvothermal method. *Sensors and Actuators B: Chemical*, **2013**, 185, 735-742	8.5	41
292	Flexible perovskite solar cells based on green, continuous roll-to-roll printing technology. *Journal of Energy Chemistry*, **2018**, 27, 971-989	12	40
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1 Reply to Comment on Zero-thermal-quenching and photoluminescence tuning with the assistance of carriers from defect cluster traps *Journal of Materials Chemistry C*, **2020**, 8, 1153-1156 7.1