Shaik Mohammed Zakeeruddin

List of Publications by Citations

240 papers	46,256 citations	87 h-index	214 g-index
250 ext. papers	52,392 ext. citations	14.7 avg, IF	7.63 L-index

#	Paper	IF	Citations
240	Porphyrin-sensitized solar cells with cobalt (II/III)-based redox electrolyte exceed 12 percent efficiency. *Science*, **2011**, 334, 629-34	33.3	5284
239	Cesium-containing triple cation perovskite solar cells: improved stability, reproducibility and high efficiency. *Energy and Environmental Science*, **2016**, 9, 1989-1997	35.4	3740
238	Incorporation of rubidium cations into perovskite solar cells improves photovoltaic performance. *Science*, **2016**, 354, 206-209	33.3	2628
237	Engineering of efficient panchromatic sensitizers for nanocrystalline TiO(2)-based solar cells. *Journal of the American Chemical Society*, **2001**, 123, 1613-24	16.4	2308
236	Efficient luminescent solar cells based on tailored mixed-cation perovskites. *Science Advances*, **2016** , 2, e1501170	14.3	1498
235	Polymer-templated nucleation and crystal growth of perovskite films for solar cells with efficiency greater than 21%. *Nature Energy*, **2016**, 1,	62.3	1422
234	A vacuum flash-assisted solution process for high-efficiency large-area perovskite solar cells. *Science*, **2016**, 353, 58-62	33.3	1406
233	A stable quasi-solid-state dye-sensitized solar cell with an amphiphilic ruthenium sensitizer and polymer gel electrolyte. *Nature Materials*, **2003**, 2, 402-7	27	1387
232	Highly efficient light-harvesting ruthenium sensitizer for thin-film dye-sensitized solar cells. *ACS Nano*, **2009**, 3, 3103-9	16.7	1111
231	Perovskite solar cells with CuSCN hole extraction layers yield stabilized efficiencies greater than 20. *Science*, **2017**, 358, 768-771	33.3	1030
230	Highly efficient planar perovskite solar cells through band alignment engineering. *Energy and Environmental Science*, **2015**, 8, 2928-2934	35.4	949
229	Improved performance and stability of perovskite solar cells by crystal crosslinking with alkylphosphonic acid ω-ammonium chlorides. *Nature Chemistry*, **2015**, 7, 703-11	17.6	898
228	Entropic stabilization of mixed A-cation ABX3 metal halide perovskites for high performance perovskite solar cells. *Energy and Environmental Science*, **2016**, 9, 656-662	35.4	882
227	Pseudo-halide anion engineering for α-FAPbI perovskite solar cells. *Nature*, **2021**, 592, 381-385	50.4	814
226	Dye-sensitized solar cells for efficient power generation under ambient lighting. *Nature Photonics*, **2017**, 11, 372-378	33.9	653
225	Enhanced electronic properties in mesoporous TiO2 via lithium doping for high-efficiency perovskite solar cells. *Nature Communications*, **2016**, 7, 10379	17.4	626
224	High-performance dye-sensitized solar cells based on solvent-free electrolytes produced from eutectic melts. *Nature Materials*, **2008**, 7, 626-30	27	581

223	Control of dark current in photoelectrochemical (TiO2/I--I3-)) and dye-sensitized solar cells. *Chemical Communications*, **2005**, 4351-3	5.8	538
222	High molar extinction coefficient heteroleptic ruthenium complexes for thin film dye-sensitized solar cells. *Journal of the American Chemical Society*, **2006**, 128, 4146-54	16.4	512
221	Ionic polarization-induced current-voltage hysteresis in CH3NH3PbX3 perovskite solar cells. *Nature Communications*, **2016**, 7, 10334	17.4	500
220	A high molar extinction coefficient sensitizer for stable dye-sensitized solar cells. *Journal of the American Chemical Society*, **2005**, 127, 808-9	16.4	482
219	An organic redox electrolyte to rival triiodide/iodide in dye-sensitized solar cells. *Nature Chemistry*, **2010**, 2, 385-9	17.6	474
218	Solvent-Free Ionic Liquid Electrolytes for Mesoscopic Dye-Sensitized Solar Cells. *Advanced Functional Materials*, **2009**, 19, 2187-2202	15.6	401
217	CoII(dbbip)22+ Complex Rivals Tri-iodide/Iodide Redox Mediator in Dye-Sensitized Photovoltaic Cells. *Journal of Physical Chemistry B*, **2001**, 105, 10461-10464	3.4	376
216	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. *Nature Energy*, **2020**, 5, 35-49	62.3	369
215	Molecular engineering of push-pull porphyrin dyes for highly efficient dye-sensitized solar cells: the role of benzene spacers. *Angewandte Chemie - International Edition*, **2014**, 53, 2973-7	16.4	369
214	Organic dye-sensitized ionic liquid based solar cells: remarkable enhancement in performance through molecular design of indoline sensitizers. *Angewandte Chemie - International Edition*, **2008**, 47, 1923-7	16.4	368
213	Significant Improvement of Dye-Sensitized Solar Cell Performance by Small Structural Modification in π-Conjugated Donor–Acceptor Dyes. *Advanced Functional Materials*, **2012**, 22, 1291-1302	15.6	366
212	Ultrahydrophobic 3D/2D fluoroarene bilayer-based water-resistant perovskite solar cells with efficiencies exceeding 22. *Science Advances*, **2019**, 5, eaaw2543	14.3	362
211	Predicting the Open-Circuit Voltage of CH3NH3PbI3 Perovskite Solar Cells Using Electroluminescence and Photovoltaic Quantum Efficiency Spectra: the Role of Radiative and Non-Radiative Recombination. *Advanced Energy Materials*, **2015**, 5, 1400812	21.8	358
210	A solvent-free, SeCN-/(SeCN)3- based ionic liquid electrolyte for high-efficiency dye-sensitized nanocrystalline solar cells. *Journal of the American Chemical Society*, **2004**, 126, 7164-5	16.4	336
209	Cyclopentadithiophene bridged donor-acceptor dyes achieve high power conversion efficiencies in dye-sensitized solar cells based on the tris-cobalt bipyridine redox couple. *ChemSusChem*, **2011**, 4, 591-4	8.3	307
208	Isomer-Pure Bis-PCBM-Assisted Crystal Engineering of Perovskite Solar Cells Showing Excellent Efficiency and Stability. *Advanced Materials*, **2017**, 29, 1606806	24	276
207	Phase Segregation in Cs-, Rb- and K-Doped Mixed-Cation (MA)(FA)PbI Hybrid Perovskites from Solid-State NMR. *Journal of the American Chemical Society*, **2017**, 139, 14173-14180	16.4	260
206	Vapor-assisted deposition of highly efficient, stable black-phase FAPbI perovskite solar cells. *Science*, **2020**, 370,	33.3	257

205	Efficient photosynthesis of carbon monoxide from CO2 using perovskite photovoltaics. *Nature Communications*, **2015**, 6, 7326	17.4	245
204	Origin of unusual bandgap shift and dual emission in organic-inorganic lead halide perovskites. *Science Advances*, **2016**, 2, e1601156	14.3	238
203	Optimization of distyryl-Bodipy chromophores for efficient panchromatic sensitization in dye sensitized solar cells. *Chemical Science*, **2011**, 2, 949	9.4	233
202	Enhancing Efficiency of Perovskite Solar Cells via N-doped Graphene: Crystal Modification and Surface Passivation. *Advanced Materials*, **2016**, 28, 8681-8686	24	228
201	Efficient screen printed perovskite solar cells based on mesoscopic TiO2/Al2O3/NiO/carbon architecture. *Nano Energy*, **2015**, 17, 171-179	17.1	225
200	A Stable Blue Photosensitizer for Color Palette of Dye-Sensitized Solar Cells Reaching 12.6% Efficiency. *Journal of the American Chemical Society*, **2018**, 140, 2405-2408	16.4	221
199	Suppressing defects through the synergistic effect of a Lewis base and a Lewis acid for highly efficient and stable perovskite solar cells. *Energy and Environmental Science*, **2018**, 11, 3480-3490	35.4	202
198	Over 20% PCE perovskite solar cells with superior stability achieved by novel and low-cost hole-transporting materials. *Nano Energy*, **2017**, 41, 469-475	17.1	191
197	Direct Contact of Selective Charge Extraction Layers Enables High-Efficiency Molecular Photovoltaics. *Joule*, **2018**, 2, 1108-1117	27.8	189
196	Multifunctional molecular modulators for perovskite solar cells with over 20% efficiency and high operational stability. *Nature Communications*, **2018**, 9, 4482	17.4	189
195	Formation of Stable Mixed Guanidinium-Methylammonium Phases with Exceptionally Long Carrier Lifetimes for High-Efficiency Lead Iodide-Based Perovskite Photovoltaics. *Journal of the American Chemical Society*, **2018**, 140, 3345-3351	16.4	183
194	Stable, high-efficiency ionic-liquid-based mesoscopic dye-sensitized solar cells. *Small*, **2007**, 3, 2094-102	11	182
193	11% efficiency solid-state dye-sensitized solar cells with copper(II/I) hole transport materials. *Nature Communications*, **2017**, 8, 15390	17.4	181
192	Conformal quantum dot-SnO layers as electron transporters for efficient perovskite solar cells.. *Science*, **2022**, 375, 302-306	33.3	181
191	Atomic-level passivation mechanism of ammonium salts enabling highly efficient perovskite solar cells. *Nature Communications*, **2019**, 10, 3008	17.4	178
190	Tailored Amphiphilic Molecular Mitigators for Stable Perovskite Solar Cells with 23.5% Efficiency. *Advanced Materials*, **2020**, 32, e1907757	24	178
189	Copper Bipyridyl Redox Mediators for Dye-Sensitized Solar Cells with High Photovoltage. *Journal of the American Chemical Society*, **2016**, 138, 15087-15096	16.4	174
188	Impact of Monovalent Cation Halide Additives on the Structural and Optoelectronic Properties of CH3NH3PbI3 Perovskite. *Advanced Energy Materials*, **2016**, 6, 1502472	21.8	171

187	Light Harvesting and Charge Recombination in CH3NH3PbI3 Perovskite Solar Cells Studied by Hole Transport Layer Thickness Variation. *ACS Nano*, **2015**, 9, 4200-9	16.7	167
186	Ionic Liquid Control Crystal Growth to Enhance Planar Perovskite Solar Cells Efficiency. *Advanced Energy Materials*, **2016**, 6, 1600767	21.8	165
185	Cation Dynamics in Mixed-Cation (MA)(FA)PbI Hybrid Perovskites from Solid-State NMR. *Journal of the American Chemical Society*, **2017**, 139, 10055-10061	16.4	160
184	A Novel Dopant-Free Triphenylamine Based Molecular Butterfly Hole-Transport Material for Highly Efficient and Stable Perovskite Solar Cells. *Advanced Energy Materials*, **2016**, 6, 1600401	21.8	152
183	New Strategies for Defect Passivation in High-Efficiency Perovskite Solar Cells. *Advanced Energy Materials*, **2020**, 10, 1903090	21.8	152
182	Novel p-dopant toward highly efficient and stable perovskite solar cells. *Energy and Environmental Science*, **2018**, 11, 2985-2992	35.4	149
181	High-Efficiency Polycrystalline Thin Film Tandem Solar Cells. *Journal of Physical Chemistry Letters*, **2015**, 6, 2676-81	6.4	147
180	Silolothiophene-linked triphenylamines as stable hole transporting materials for high efficiency perovskite solar cells. *Energy and Environmental Science*, **2015**, 8, 2946-2953	35.4	145
179	Perovskite Photovoltaics with Outstanding Performance Produced by Chemical Conversion of Bilayer Mesostructured Lead Halide/TiO2 Films. *Advanced Materials*, **2016**, 28, 2964-70	24	140
178	Enhanced Charge Collection with Passivation Layers in Perovskite Solar Cells. *Advanced Materials*, **2016**, 28, 3966-72	24	140
177	Bifunctional Organic Spacers for Formamidinium-Based Hybrid Dion-Jacobson Two-Dimensional Perovskite Solar Cells. *Nano Letters*, **2019**, 19, 150-157	11.5	140
176	Cobalt Redox Mediators for Ruthenium-Based Dye-Sensitized Solar Cells: A Combined Impedance Spectroscopy and Near-IR Transmittance Study. *Journal of Physical Chemistry C*, **2011**, 115, 18847-18855	3.8	130
175	An efficient organogelator for ionic liquids to prepare stable quasi-solid-state dye-sensitized solar cells. *Journal of Materials Chemistry*, **2006**, 16, 2978-2983		125
174	Low band gap S,N-heteroacene-based oligothiophenes as hole-transporting and light absorbing materials for efficient perovskite-based solar cells. *Energy and Environmental Science*, **2014**, 7, 2981	35.4	119
173	A dopant-free spirobi[cyclopenta[2,1-b:3,4-b?]dithiophene] based hole-transport material for efficient perovskite solar cells. *Materials Horizons*, **2015**, 2, 613-618	14.4	116
172	Stabilization of Highly Efficient and Stable Phase-Pure FAPbI Perovskite Solar Cells by Molecularly Tailored 2D-Overlayers. *Angewandte Chemie - International Edition*, **2020**, 59, 15688-15694	16.4	115
171	Dye-Sensitized Solar Cells with Solvent-Free Ionic Liquid Electrolytes. *Journal of Physical Chemistry C*, **2008**, 112, 13775-13781	3.8	115
170	Selective C-C Coupling in Carbon Dioxide Electroreduction via Efficient Spillover of Intermediates As Supported by Operando Raman Spectroscopy. *Journal of the American Chemical Society*, **2019**, 141, 18704-18714	16.4	113

169	Comprehensive control of voltage loss enables 11.7% efficient solid-state dye-sensitized solar cells. *Energy and Environmental Science*, **2018**, 11, 1779-1787	35.4	112
168	Air Processed Inkjet Infiltrated Carbon Based Printed Perovskite Solar Cells with High Stability and Reproducibility. *Advanced Materials Technologies*, **2017**, 2, 1600183	6.8	109
167	Room-Temperature Formation of Highly Crystalline Multication Perovskites for Efficient, Low-Cost Solar Cells. *Advanced Materials*, **2017**, 29, 1606258	24	106
166	Phase Segregation in Potassium-Doped Lead Halide Perovskites from K Solid-State NMR at 21.1 T. *Journal of the American Chemical Society*, **2018**, 140, 7232-7238	16.4	106
165	Identifying Fundamental Limitations in Halide Perovskite Solar Cells. *Advanced Materials*, **2016**, 28, 2439-45	24	103
164	The Role of Rubidium in Multiple-Cation-Based High-Efficiency Perovskite Solar Cells. *Advanced Materials*, **2017**, 29, 1701077	24	102
163	Molecular Engineering of Potent Sensitizers for Very Efficient Light Harvesting in Thin-Film Solid-State Dye-Sensitized Solar Cells. *Journal of the American Chemical Society*, **2016**, 138, 10742-5	16.4	100
162	Mesoscopic Oxide Double Layer as Electron Specific Contact for Highly Efficient and UV Stable Perovskite Photovoltaics. *Nano Letters*, **2018**, 18, 2428-2434	11.5	96
161	Strong Photocurrent Amplification in Perovskite Solar Cells with a Porous TiO2 Blocking Layer under Reverse Bias. *Journal of Physical Chemistry Letters*, **2014**, 5, 3931-6	6.4	96
160	Molecular Engineering of Push–Pull Porphyrin Dyes for Highly Efficient Dye-Sensitized Solar Cells: The Role of Benzene Spacers. *Angewandte Chemie*, **2014**, 126, 3017-3021	3.6	95
159	A–D–A-type S,N-heteropentacene-based hole transport materials for dopant-free perovskite solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 17738-17746	13	94
158	Impact of Peripheral Groups on Phenothiazine-Based Hole-Transporting Materials for Perovskite Solar Cells. *ACS Energy Letters*, **2018**, 3, 1145-1152	20.1	94
157	Boosting the Efficiency of Perovskite Solar Cells with CsBr-Modified Mesoporous TiO2 Beads as Electron-Selective Contact. *Advanced Functional Materials*, **2018**, 28, 1705763	15.6	93
156	New pyrido[3,4-b]pyrazine-based sensitizers for efficient and stable dye-sensitized solar cells. *Chemical Science*, **2014**, 5, 206-214	9.4	93
155	Application of ionic liquids containing tricyanomethanide [C(CN)3]- or tetracyanoborate [B(CN)4]-anions in dye-sensitized solar cells. *Inorganic Chemistry*, **2011**, 50, 11561-7	5.1	88
154	Intrinsic and Extrinsic Stability of Formamidinium Lead Bromide Perovskite Solar Cells Yielding High Photovoltage. *Nano Letters*, **2016**, 16, 7155-7162	11.5	87
153	Adamantanes Enhance the Photovoltaic Performance and Operational Stability of Perovskite Solar Cells by Effective Mitigation of Interfacial Defect States. *Advanced Energy Materials*, **2018**, 8, 1800275	21.8	86
152	A novel one-step synthesized and dopant-free hole transport material for efficient and stable perovskite solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 16330-16334	13	78

151	Engineering of Perovskite Materials Based on Formamidinium and Cesium Hybridization for High-Efficiency Solar Cells. *Chemistry of Materials*, **2019**, 31, 1620-1627	9.6	77
150	Impact of a Mesoporous Titania-Perovskite Interface on the Performance of Hybrid Organic-Inorganic Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2016**, 7, 3264-9	6.4	75
149	Dopant-Free Donor (D)-Ð-Ð Conjugated Hole-Transport Materials for Efficient and Stable Perovskite Solar Cells. *ChemSusChem*, **2016**, 9, 2578-2585	8.3	75
148	High performance carbon-based printed perovskite solar cells with humidity assisted thermal treatment. *Journal of Materials Chemistry A*, **2017**, 5, 12060-12067	13	74
147	Atomic Layer Deposition of ZnO on CuO Enables Selective and Efficient Electroreduction of Carbon Dioxide to Liquid Fuels. *Angewandte Chemie - International Edition*, **2019**, 58, 15036-15040	16.4	73
146	Synergistic Effect of Fluorinated Passivator and Hole Transport Dopant Enables Stable Perovskite Solar Cells with an Efficiency Near 24. *Journal of the American Chemical Society*, **2021**, 143, 3231-3237	16.4	73
145	Crown Ether Modulation Enables over 23% Efficient Formamidinium-Based Perovskite Solar Cells. *Journal of the American Chemical Society*, **2020**, 142, 19980-19991	16.4	72
144	Supramolecular Engineering for Formamidinium-Based Layered 2D Perovskite Solar Cells: Structural Complexity and Dynamics Revealed by Solid-State NMR Spectroscopy. *Advanced Energy Materials*, **2019**, 9, 1900284	21.8	71
143	High efficiency solid-state sensitized heterojunction photovoltaic device. *Nano Today*, **2010**, 5, 169-174	17.9	69
142	Long term stability of air processed inkjet infiltrated carbon-based printed perovskite solar cells under intense ultra-violet light soaking. *Journal of Materials Chemistry A*, **2017**, 5, 4797-4802	13	67
141	Enhanced-Light-Harvesting Amphiphilic Ruthenium Dye for Efficient Solid-State Dye-Sensitized Solar Cells. *Advanced Functional Materials*, **2010**, 20, 1821-1826	15.6	67
140	A molecular photosensitizer achieves a V of 1.24 V enabling highly efficient and stable dye-sensitized solar cells with copper(II/I)-based electrolyte. *Nature Communications*, **2021**, 12, 1777	17.4	67
139	Guanidinium-Assisted Surface Matrix Engineering for Highly Efficient Perovskite Quantum Dot Photovoltaics. *Advanced Materials*, **2020**, 32, e2001906	24	67
138	Efficient stable graphene-based perovskite solar cells with high flexibility in device assembling via modular architecture design. *Energy and Environmental Science*, **2019**, 12, 3585-3594	35.4	65
137	Direct light-induced polymerization of cobalt-based redox shuttles: an ultrafast way towards stable dye-sensitized solar cells. *Chemical Communications*, **2015**, 51, 16308-11	5.8	63
136	Atomic-Level Microstructure of Efficient Formamidinium-Based Perovskite Solar Cells Stabilized by 5-Ammonium Valeric Acid Iodide Revealed by Multinuclear and Two-Dimensional Solid-State NMR. *Journal of the American Chemical Society*, **2019**, 141, 17659-17669	16.4	63
135	Stable and Efficient Organic Dye-Sensitized Solar Cell Based on Ionic Liquid Electrolyte. *Joule*, **2018**, 2, 2145-2153	27.8	63
134	New Insight into the Formation of Hybrid Perovskite Nanowires via Structure Directing Adducts. *Chemistry of Materials*, **2017**, 29, 587-594	9.6	60

133	High-Performance Lead-Free Solar Cells Based on Tin-Halide Perovskite Thin Films Functionalized by a Divalent Organic Cation. *ACS Energy Letters*, **2020**, 5, 2223-2230	20.1	60
132	High performance dye-sensitized solar cells with inkjet printed ionic liquid electrolyte. *Nano Energy*, **2015**, 17, 206-215	17.1	58
131	Novel Blue Organic Dye for Dye-Sensitized Solar Cells Achieving High Efficiency in Cobalt-Based Electrolytes and by Co-Sensitization. *ACS Applied Materials & Interfaces*, **2016**, 8, 32797-32804	9.5	56
130	Reduction in the Interfacial Trap Density of Mechanochemically Synthesized MAPbI. *ACS Applied Materials & Interfaces*, **2017**, 9, 28418-28425	9.5	55
129	Hydrothermally processed CuCrO2 nanoparticles as an inorganic hole transporting material for low-cost perovskite solar cells with superior stability. *Journal of Materials Chemistry A*, **2018**, 6, 20327-20337	13	55
128	Efficient and stable inverted perovskite solar cells with very high fill factors via incorporation of star-shaped polymer. *Science Advances*, **2021**, 7,	14.3	54
127	Metal Coordination Complexes as Redox Mediators in Regenerative Dye-Sensitized Solar Cells. *Inorganics*, **2019**, 7, 30	2.9	53
126	Low-Cost and Highly Efficient Carbon-Based Perovskite Solar Cells Exhibiting Excellent Long-Term Operational and UV Stability. *Small*, **2019**, 15, e1904746	11	53
125	High-Efficiency Perovskite Solar Cells Employing a S,N-Heteropentacene-based D-A Hole-Transport Material. *ChemSusChem*, **2016**, 9, 433-8	8.3	53
124	A durable SWCNT/PET polymer foil based metal free counter electrode for flexible dye-sensitized solar cells. *Journal of Materials Chemistry A*, **2014**, 2, 19609-19615	13	52
123	Porphyrin Sensitizers Bearing a Pyridine-Type Anchoring Group for Dye-Sensitized Solar Cells. *ACS Applied Materials & Interfaces*, **2015**, 7, 14975-82	9.5	51
122	Dye-sensitized solar cells with inkjet-printed dyes. *Energy and Environmental Science*, **2016**, 9, 2453-2462	35.4	51
121	Compositional and Interface Engineering of Organic-Inorganic Lead Halide Perovskite Solar Cells. *IScience*, **2020**, 23, 101359	6.1	50
120	Tridentate cobalt complexes as alternative redox couples for high-efficiency dye-sensitized solar cells. *Chemical Science*, **2013**, 4, 454-459	9.4	50
119	Black phosphorus quantum dots in inorganic perovskite thin films for efficient photovoltaic application. *Science Advances*, **2020**, 6, eaay5661	14.3	49
118	Photoinduced Interfacial Electron Injection Dynamics in Dye-Sensitized Solar Cells under Photovoltaic Operating Conditions. *Journal of Physical Chemistry Letters*, **2012**, 3, 3786-90	6.4	49
117	Elucidation of Charge Recombination and Accumulation Mechanism in Mixed Perovskite Solar Cells. *Journal of Physical Chemistry C*, **2018**, 122, 15149-15154	3.8	49
116	Passivation Mechanism Exploiting Surface Dipoles Affords High-Performance Perovskite Solar Cells. *Journal of the American Chemical Society*, **2020**, 142, 11428-11433	16.4	48

115	Light scattering enhancement from sub-micrometer cavities in the photoanode for dye-sensitized solar cells. *Journal of Materials Chemistry*, **2012**, 22, 16201		48
114	Doping and phase segregation in Mn2+- and Co2+-doped lead halide perovskites from 133Cs and 1H NMR relaxation enhancement. *Journal of Materials Chemistry A*, **2019**, 7, 2326-2333	13	48
113	Effect of Extended □Conjugation of the Donor Structure of Organic D□A□A Dyes on the Photovoltaic Performance of Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2014**, 118, 16486-16493	3.8	47
112	Influence of the Nature of A Cation on Dynamics of Charge Transfer Processes in Perovskite Solar Cells. *Advanced Functional Materials*, **2018**, 28, 1706073	15.6	46
111	Flexible perovskite solar cells with simultaneously improved efficiency, operational stability, and mechanical reliability. *Joule*, **2021**, 5, 1587-1601	27.8	45
110	Utilization of Direct and Diffuse Sunlight in a Dye-Sensitized Solar Cell□Silicon Photovoltaic Hybrid Concentrator System. *Journal of Physical Chemistry Letters*, **2011**, 2, 581-585	6.4	44
109	Poly(ethylene glycol)-[60]Fullerene-Based Materials for Perovskite Solar Cells with Improved Moisture Resistance and Reduced Hysteresis. *ChemSusChem*, **2018**, 11, 1032-1039	8.3	43
108	Supramolecular Modulation of Hybrid Perovskite Solar Cells via Bifunctional Halogen Bonding Revealed by Two-Dimensional F Solid-State NMR Spectroscopy. *Journal of the American Chemical Society*, **2020**, 142, 1645-1654	16.4	43
107	Electron-Affinity-Triggered Variations on the Optical and Electrical Properties of Dye Molecules Enabling Highly Efficient Dye-Sensitized Solar Cells. *Angewandte Chemie - International Edition*, **2018**, 57, 14125-14128	16.4	42
106	Guanine-Stabilized Formamidinium Lead Iodide Perovskites. *Angewandte Chemie - International Edition*, **2020**, 59, 4691-4697	16.4	40
105	Modulation of perovskite crystallization processes towards highly efficient and stable perovskite solar cells with MXene quantum dot-modified SnO2. *Energy and Environmental Science*, **2021**, 14, 3447-3454	35.4	38
104	Ionic Liquid□Sulfolane Composite Electrolytes for High-Performance and Stable Dye-Sensitized Solar Cells. *Advanced Energy Materials*, **2014**, 4, 1301235	21.8	37
103	Heteroleptic ruthenium complex containing substituted triphenylamine hole-transport unit as sensitizer for stable dye-sensitized solar cell. *Nano Energy*, **2012**, 1, 6-12	17.1	36
102	Influence of structural variations in push-pull zinc porphyrins on photovoltaic performance of dye-sensitized solar cells. *ChemSusChem*, **2014**, 7, 1107-13	8.3	35
101	Interfacial Passivation Engineering of Perovskite Solar Cells with Fill Factor over 82% and Outstanding Operational Stability on n-i-p Architecture. *ACS Energy Letters*, **2021**, 6, 3916-3923	20.1	35
100	Effect of Coordination Sphere Geometry of Copper Redox Mediators on Regeneration and Recombination Behavior in Dye-Sensitized Solar Cell Applications. *ACS Applied Energy Materials*, **2018**, 1, 4950-4962	6.1	34
99	Effect of Cs-Incorporated NiO on the Performance of Perovskite Solar Cells. *ACS Omega*, **2017**, 2, 9074-9079	3.7	34
98	Formamidinium-Based Dion-Jacobson Layered Hybrid Perovskites: Structural Complexity and Optoelectronic Properties. *Advanced Functional Materials*, **2020**, 30, 2003428	15.6	34

97	Dopant-Free Hole-Transporting Polymers for Efficient and Stable Perovskite Solar Cells. *Macromolecules*, **2019**, 52, 2243-2254	5.5	33
96	Reduced Graphene Oxide as a Stabilizing Agent in Perovskite Solar Cells. *Advanced Materials Interfaces*, **2018**, 5, 1800416	4.6	33
95	Application of Cu(II) and Zn(II) coproporphyrins as sensitizers for thin film dye sensitized solar cells. *Energy and Environmental Science*, **2010**, 3, 956	35.4	33
94	Power output stabilizing feature in perovskite solar cells at operating condition: Selective contact-dependent charge recombination dynamics. *Nano Energy*, **2019**, 61, 126-131	17.1	32
93	Sequential catalysis enables enhanced C-C coupling towards multi-carbon alkenes and alcohols in carbon dioxide reduction: a study on bifunctional Cu/Au electrocatalysts. *Faraday Discussions*, **2019**, 215, 282-296	3.6	30
92	Phenanthrene-Fused-Quinoxaline as a Key Building Block for Highly Efficient and Stable Sensitizers in Copper-Electrolyte-Based Dye-Sensitized Solar Cells. *Angewandte Chemie - International Edition*, **2020**, 59, 9324-9329	16.4	30
91	Low-Cost Dopant Additive-Free Hole-Transporting Material for a Robust Perovskite Solar Cell with Efficiency Exceeding 21%. *ACS Energy Letters*, **2021**, 6, 208-215	20.1	30
90	Hill climbing hysteresis of perovskite-based solar cells: a maximum power point tracking investigation. *Progress in Photovoltaics: Research and Applications*, **2017**, 25, 942-950	6.8	28
89	Molecular Design of Efficient Organic D-A-□A Dye Featuring Triphenylamine as Donor Fragment for Application in Dye-Sensitized Solar Cells. *ChemSusChem*, **2018**, 11, 494-502	8.3	28
88	Atomic Layer Deposition of ZnO on CuO Enables Selective and Efficient Electroreduction of Carbon Dioxide to Liquid Fuels. *Angewandte Chemie*, **2019**, 131, 15178-15182	3.6	27
87	Donor-Acceptor-Type S,N-Heteroacene-Based Hole-Transporting Materials for Efficient Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2017**, 9, 44423-44428	9.5	27
86	Intrinsic and interfacial kinetics of perovskite solar cells under photo and bias-induced degradation and recovery. *Journal of Materials Chemistry C*, **2017**, 5, 7799-7805	7.1	27
85	PbZrTiO3 ferroelectric oxide as an electron extraction material for stable halide perovskite solar cells. *Sustainable Energy and Fuels*, **2019**, 3, 382-389	5.8	26
84	Site-selective Synthesis of □[70]PCBM-like Fullerenes: Efficient Application in Perovskite Solar Cells. *Chemistry - A European Journal*, **2019**, 25, 3224-3228	4.8	26
83	Nanoscale Phase Segregation in Supramolecular □Templating for Hybrid Perovskite Photovoltaics from NMR Crystallography. *Journal of the American Chemical Society*, **2021**, 143, 1529-1538	16.4	26
82	An Oxa[5]helicene-Based Racemic Semiconducting Glassy Film for Photothermally Stable Perovskite Solar Cells. *IScience*, **2019**, 15, 234-242	6.1	24
81	High Absorption Coefficient Cyclopentadithiophene Donor-Free Dyes for Liquid and Solid-State Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2016**, 120, 15027-15034	3.8	24
80	Function Follows Form: Correlation between the Growth and Local Emission of Perovskite Structures and the Performance of Solar Cells. *Advanced Functional Materials*, **2017**, 27, 1701433	15.6	22

79	Electron-Selective Layers for Dye-Sensitized Solar Cells Based on TiO2 and SnO2. *Journal of Physical Chemistry C*, **2020**, 124, 6512-6521	3.8	22
78	Click-Functionalized Ru(II) Complexes for Dye-Sensitized Solar Cells. *Advanced Energy Materials*, **2012**, 2, 1004-1012	21.8	22
77	Acetylene-bridged dyes with high open circuit potential for dye-sensitized solar cells. *RSC Advances*, **2014**, 4, 35251	3.7	20
76	Thiadiazolo[3,4-c]pyridine Acceptor Based Blue Sensitizers for High Efficiency Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2014**, 118, 17090-17099	3.8	20
75	Interfacial Kinetics of Efficient Perovskite Solar Cells. *Crystals*, **2017**, 7, 252	2.3	20
74	Minimizing the Trade-Off between Photocurrent and Photovoltage in Triple-Cation Mixed-Halide Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 10188-10195	6.4	20
73	Nanoscale interfacial engineering enables highly stable and efficient perovskite photovoltaics. *Energy and Environmental Science*, **2021**, 14, 5552-5562	35.4	20
72	Insights about the Absence of Rb Cation from the 3D Perovskite Lattice: Effect on the Structural, Morphological, and Photophysical Properties and Photovoltaic Performance. *Small*, **2018**, 14, e1802033	11	19
71	The role of the hole-transport layer in perovskite solar cells - reducing recombination and increasing absorption **2014**,		19
70	Kinetics of the Regeneration by Iodide of Dye Sensitizers Adsorbed on Mesoporous Titania. *Journal of Physical Chemistry C*, **2014**, 118, 17108-17115	3.8	19
69	Investigation on the Interface Modification of TiO Surfaces by Functional Co-Adsorbents for High-Efficiency Dye-Sensitized Solar Cells. *ChemPhysChem*, **2017**, 18, 2724-2731	3.2	19
68	Influence of Ionic Liquid Electrolytes on the Photovoltaic Performance of Dye-Sensitized Solar Cells. *Energy Technology*, **2017**, 5, 321-326	3.5	19
67	Transparent and Colorless Dye-Sensitized Solar Cells Exceeding 75% Average Visible Transmittance. *Jacs Au*, **2021**, 1, 409-426		19
66	Charge Accumulation, Recombination, and Their Associated Time Scale in Efficient (GUA) (MA) PbI-Based Perovskite Solar Cells. *ACS Omega*, **2019**, 4, 16840-16846	3.9	18
65	Influence of redox electrolyte on the device performance of phenothiazine based dye sensitized solar cells. *New Journal of Chemistry*, **2018**, 42, 9045-9050	3.6	18
64	An investigation of the roles furan versus thiophene □bridges play in donor-□cceptor porphyrin based DSSCs. *Dalton Transactions*, **2018**, 47, 6549-6556	4.3	18
63	Ultrafast charge separation dynamics in opaque, operational dye-sensitized solar cells revealed by femtosecond diffuse reflectance spectroscopy. *Scientific Reports*, **2016**, 6, 24465	4.9	18
62	SnS Quantum Dots as Hole Transporter of Perovskite Solar Cells. *ACS Applied Energy Materials*, **2019**, 2, 3822-3829	6.1	17

61	Liquid State and Zombie Dye Sensitized Solar Cells with Copper Bipyridine Complexes Functionalized with Alkoxy Groups. *Journal of Physical Chemistry C*, **2020**, 124, 7071-7081	3.8	17
60	Electron-Affinity-Triggered Variations on the Optical and Electrical Properties of Dye Molecules Enabling Highly Efficient Dye-Sensitized Solar Cells. *Angewandte Chemie*, **2018**, 130, 14321-14324	3.6	17
59	Perovskite Solar Cells Yielding Reproducible Photovoltage of 1.20 V. *Research*, **2019**, 2019, 8474698	7.8	17
58	A combined molecular dynamics and experimental study of two-step process enabling low-temperature formation of phase-pure □FAPbI. *Science Advances*, **2021**, 7,	14.3	17
57	Surface Reconstruction Engineering with Synergistic Effect of Mixed-Salt Passivation Treatment toward Efficient and Stable Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2102902	15.6	17
56	Multimodal host-guest complexation for efficient and stable perovskite photovoltaics. *Nature Communications*, **2021**, 12, 3383	17.4	17
55	Interfacial and bulk properties of hole transporting materials in perovskite solar cells: spiro-MeTAD versus spiro-OMeTAD. *Journal of Materials Chemistry A*, **2020**, 8, 8527-8539	13	16
54	A Blue Photosensitizer Realizing Efficient and Stable Green Solar Cells via Color Tuning by the Electrolyte. *Advanced Materials*, **2020**, 32, e2000193	24	16
53	Nanocomposite semi-solid redox ionic liquid electrolytes with enhanced charge-transport capabilities for dye-sensitized solar cells. *ChemSusChem*, **2015**, 8, 2560-8	8.3	16
52	Molecular Engineering of Simple Metal-Free Organic Dyes Derived from Triphenylamine for Dye-Sensitized Solar Cell Applications. *ChemSusChem*, **2020**, 13, 212-220	8.3	16
51	A peri-Xanthenoxanthene Centered Columnar-Stacking Organic Semiconductor for Efficient, Photothermally Stable Perovskite Solar Cells. *Chemistry - A European Journal*, **2019**, 25, 945-948	4.8	16
50	Electrochemical Characterization of CuSCN Hole-Extracting Thin Films for Perovskite Photovoltaics. *ACS Applied Energy Materials*, **2019**, 2, 4264-4273	6.1	15
49	Carboxymethyl cellulose nanocomposite beads as super-efficient catalyst for the reduction of organic and inorganic pollutants. *International Journal of Biological Macromolecules*, **2021**, 167, 101-116	7.9	15
48	Cyclopentadithiophene-Based Hole-Transporting Material for Highly Stable Perovskite Solar Cells with Stabilized Efficiencies Approaching 21%. *ACS Applied Energy Materials*, **2020**, 3, 7456-7463	6.1	14
47	A universal co-solvent dilution strategy enables facile and cost-effective fabrication of perovskite photovoltaics.. *Nature Communications*, **2022**, 13, 89	17.4	14
46	Ti1□raphene single-atom material for improved energy level alignment in perovskite solar cells. *Nature Energy*, **2021**, 6, 1154-1163	62.3	14
45	Formation of High-Performance Multi-Cation Halide Perovskites Photovoltaics by □CsPbI3/□RbPbI3 Seed-Assisted Heterogeneous Nucleation. *Advanced Energy Materials*, **2021**, 11, 2003785	21.8	14
44	Dopant Engineering for Spiro-OMeTAD Hole-Transporting Materials towards Efficient Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2102124	15.6	14

43	Influence of Alkoxy Chain Length on the Properties of Two-Dimensionally Expanded Azulene-Core-Based Hole-Transporting Materials for Efficient Perovskite Solar Cells. *Chemistry - A European Journal*, **2019**, 25, 6741-6752	4.8	13
42	Planar Perovskite Solar Cells with High Open-Circuit Voltage Containing a Supramolecular Iron Complex as Hole Transport Material Dopant. *ChemPhysChem*, **2018**, 19, 1363-1370	3.2	13
41	Molecular Wiring of Olivine LiFePO4 by Ruthenium(II)-Bipyridine Complexes and by Their Assemblies with Single-Walled Carbon Nanotubes. *Journal of Physical Chemistry C*, **2008**, 112, 8708-8714	3.8	13
40	Blue Photosensitizer with Copper(II/I) Redox Mediator for Efficient and Stable Dye-Sensitized Solar Cells. *Advanced Functional Materials*, **2020**, 30, 2004804	15.6	13
39	Reduced Graphene Oxide Improves Moisture and Thermal Stability of Perovskite Solar Cells. *Cell Reports Physical Science*, **2020**, 1, 100053	6.1	11
38	Stabilization of Highly Efficient and Stable Phase-Pure FAPbI3 Perovskite Solar Cells by Molecularly Tailored 2D-Overlayers. *Angewandte Chemie*, **2020**, 132, 15818-15824	3.6	11
37	A new family of substituted triethoxysilyl iodides as organic iodide sources for dye-sensitised solar cells. *Journal of Materials Chemistry*, **2010**, 20, 3694		11
36	Perovskite Solar Cells Based on Oligotriarylamine Hexaarylbenzene as Hole-Transporting Materials. *Organic Letters*, **2019**, 21, 3261-3264	6.2	10
35	Perovskite Solar Cells Yielding Reproducible Photovoltage of 1.20 V. *Research*, **2019**, 2019, 1-9	7.8	10
34	Combined Precursor Engineering and Grain Anchoring Leading to MA-Free, Phase-Pure, and Stable Formamidinium Lead Iodide Perovskites for Efficient Solar Cells. *Angewandte Chemie - International Edition*, **2021**, 60, 27299	16.4	10
33	Benzylammonium-Mediated Formamidinium Lead Iodide Perovskite Phase Stabilization for Photovoltaics. *Advanced Functional Materials*, **2021**, 31, 2101163	15.6	10
32	Halide Versus Nonhalide Salts: The Effects of Guanidinium Salts on the Structural, Morphological, and Photovoltaic Performances of Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 1900234	7.1	10
31	Multistep Photoluminescence Decay Reveals Dissociation of Geminate Charge Pairs in Organolead Trihalide Perovskites. *Advanced Energy Materials*, **2017**, 7, 1700405	21.8	8
30	Toward an alternative approach for the preparation of low-temperature titanium dioxide blocking underlayers for perovskite solar cells. *Journal of Materials Chemistry A*, **2019**, 7, 10729-10738	13	8
29	The Rise of Dye-Sensitized Solar Cells: From Molecular Photovoltaics to Emerging Solid-State Photovoltaic Technologies. *Helvetica Chimica Acta*, **2021**, 104, e2000230	2	8
28	Layered Hybrid Formamidinium Lead Iodide Perovskites: Challenges and Opportunities. *Accounts of Chemical Research*, **2021**, 54, 2729-2740	24.3	8
27	Methylammonium Triiodide for Defect Engineering of High-Efficiency Perovskite Solar Cells. *ACS Energy Letters*,3650-3660	20.1	8
26	Unravelling the structural complexity and photophysical properties of adamantyl-based layered hybrid perovskites. *Journal of Materials Chemistry A*, **2020**, 8, 17732-17740	13	7

25	Hyperbranched self-assembled photoanode for high efficiency dye-sensitized solar cells. *RSC Advances*, **2015**, 5, 93180-93186	3.7	6
24	Phenanthrene-Fused-Quinoxaline as a Key Building Block for Highly Efficient and Stable Sensitizers in Copper-Electrolyte-Based Dye-Sensitized Solar Cells. *Angewandte Chemie*, **2020**, 132, 9410-9415	3.6	6
23	High Open Circuit Voltage for Perovskite Solar Cells with S,Si-Heteropentacene-Based Hole Conductors. *European Journal of Inorganic Chemistry*, **2018**, 2018, 4573-4578	2.3	6
22	Redox Catalysis for Improved Counter-Electrode Kinetics in Dye-Sensitized Solar Cells. *ChemElectroChem*, **2017**, 4, 1356-1361	4.3	5
21	A partially-planarised hole-transporting quart-p-phenylene for perovskite solar cells. *Journal of Materials Chemistry C*, **2019**, 7, 4332-4335	7.1	5
20	A tandem redox system with a cobalt complex and 2-azaadamantane-N-oxyl for fast dye regeneration and open circuit voltages exceeding 1 V. *Journal of Materials Chemistry A*, **2019**, 7, 10998-11006	12	5
19	New Insights into the Interface of Electrochemical Flow Cells for Carbon Dioxide Reduction to Ethylene. *Journal of Physical Chemistry Letters*, **2021**, 12, 7583-7589	6.4	5
18	CNT-based bifacial perovskite solar cells toward highly efficient 4-terminal tandem photovoltaics. *Energy and Environmental Science*,	35.4	4
17	Quantifying Stabilized Phase Purity in Formamidinium-Based Multiple-Cation Hybrid Perovskites. *Chemistry of Materials*, **2021**, 33, 2769-2776	9.6	4
16	Cyclopentadiene-Based Hole-Transport Material for Cost-Reduced Stabilized Perovskite Solar Cells with Power Conversion Efficiencies Over 23%. *Advanced Energy Materials*, **2021**, 11, 2003953	21.8	4
15	Efficient and Stable Large Bandgap MAPbBr3 Perovskite Solar Cell Attaining an Open Circuit Voltage of 1.65 V. *ACS Energy Letters*, **2022**, 7, 1112-1119	20.1	4
14	Additives, Hole Transporting Materials and Spectroscopic Methods to Characterize the Properties of Perovskite Films. *Chimia*, **2017**, 71, 754-761	1.3	3
13	Revisiting the Impact of Morphology and Oxidation State of Cu on CO Reduction Using Electrochemical Flow Cell.. *Journal of Physical Chemistry Letters*, **2022**, 345-351	6.4	3
12	Combined Precursor Engineering and Grain Anchoring Leading to MA-Free, Phase-Pure, and Stable Formamidinium Lead Iodide Perovskites for Efficient Solar Cells. *Angewandte Chemie*,	3.6	3
11	Bimetallic Electrocatalysts for Carbon Dioxide Reduction. *Chimia*, **2019**, 73, 928-935	1.3	2
10	Photovoltaic Performance of Porphyrin-Based Dye-Sensitized Solar Cells with Binary Ionic Liquid Electrolytes. *Energy Technology*, **2020**, 8, 2000092	3.5	2
9	Naphthalenediimide/Formamidinium-Based Low-Dimensional Perovskites. *Chemistry of Materials*, **2021**, 33, 6412-6420	9.6	2
8	Solar Cells: Ionic Liquid Control Crystal Growth to Enhance Planar Perovskite Solar Cells Efficiency (Adv. Energy Mater. 20/2016). *Advanced Energy Materials*, **2016**, 6,	21.8	1

7	A Novel Efficient, Iodide-Free Redox Mediator for Dye-Sensitized Solar Cells. *Materials Research Society Symposia Proceedings*, **2007**, 1013, 1		1
6	Solid-state synthesis of CdFeO binary catalyst for potential application in renewable hydrogen fuel generation.. *Scientific Reports*, **2022**, 12, 1632	4.9	1
5	A Fully Printable Hole-Transporter-Free Semi-Transparent Perovskite Solar Cell. *European Journal of Inorganic Chemistry*, **2021**, 2021, 3752-3760	2.3	1
4	Molecularly Engineered Low-Cost Organic Hole-Transporting Materials for Perovskite Solar Cells: The Substituent Effect on Non-fused Three-Dimensional Systems. *ACS Applied Energy Materials*, **2022**, 5, 3156-3165	6.1	1
3	Thermodynamic stability screening of IR-photonic processed multication halide perovskite thin films. *Journal of Materials Chemistry A*, **2021**, 9, 26885-26895	13	0
2	Inside Cover: Influence of Iodide Concentration on the Efficiency and Stability of Dye-Sensitized Solar Cell Containing Non-Volatile Electrolyte (ChemPhysChem 11/2009). *ChemPhysChem*, **2009**, 10, 1690-1690	3.2	
1	Guanine-Stabilized Formamidinium Lead Iodide Perovskites. *Angewandte Chemie*, **2020**, 132, 4721-4727	3.6	