Saif A Haque

List of Publications by Year
in descending order

119 papers	13,312 citations	31902 53 h-index	21474 114 g-index
121 all docs	121 docs citations	121 times ranked	13317 citing authors

#	Article	IF	Citations
1	Control of Charge Recombination Dynamics in Dye Sensitized Solar Cells by the Use of Conformally Deposited Metal Oxide Blocking Layers. Journal of the American Chemical Society, 2003, 125, 475-482.	6.6	1,020
2	Fast oxygen diffusion and iodide defects mediate oxygen-induced degradation of perovskite solar cells. Nature Communications, 2017, 8, 15218.	5.8	917
3	Light and oxygen induced degradation limits the operational stability of methylammonium lead triiodide perovskite solar cells. Energy and Environmental Science, 2016, 9, 1655-1660.	15.6	783
4	The Role of Oxygen in the Degradation of Methylammonium Lead Trihalide Perovskite Photoactive Layers. Angewandte Chemie - International Edition, 2015, 54, 8208-8212.	7.2	749
5	Parameters Influencing Charge Recombination Kinetics in Dye-Sensitized Nanocrystalline Titanium Dioxide Films. Journal of Physical Chemistry B, 2000, 104, 538-547.	1.2	613
6	Charge Separation versus Recombination in Dye-Sensitized Nanocrystalline Solar Cells:Â the Minimization of Kinetic Redundancy. Journal of the American Chemical Society, 2005, 127, 3456-3462.	6.6	477
7	PbS and CdS Quantum Dotâ€Sensitized Solidâ€State Solar Cells: â€œOld Concepts, New Resultsâ€. Advanced Functional Materials, 2009, 19, 2735-2742.	7.8	458
8	Electron Injection and Recombination in Dye Sensitized Nanocrystalline Titanium Dioxide Films:â€‰ A Comparison of Ruthenium Bipyridyl and Porphyrin Sensitizer Dyes. Journal of Physical Chemistry B, 2000, 104, 1198-1205.	1.2	433
9	Trap-limited recombination in dye-sensitized nanocrystalline metal oxide electrodes. Physical Review B, 2001, 63, .	1.1	378
10	Charge Transport versus Recombination in Dye-Sensitized Solar Cells Employing Nanocrystalline TiO2 and SnO2 Films. Journal of Physical Chemistry B, 2005, 109, 12525-12533.	1.2	377
11	CdSe Quantum Dot-Sensitized Solar Cells Exceeding Efficiency 1% at Full-Sun Intensity. Journal of Physical Chemistry C, 2008, 112, 11600-11608.	1.5	339
12	Charge Recombination Kinetics in Dye-Sensitized Nanocrystalline Titanium Dioxide Films under Externally Applied Bias. Journal of Physical Chemistry B, 1998, 102, 1745-1749.	1.2	334
13	Towards optimisation of electron transfer processes in dye sensitised solar cells. Coordination Chemistry Reviews, 2004, 248, 1247-1257.	9.5	255
14	Lessons learned from spiro-OMeTAD and PTAA in perovskite solar cells. Energy and Environmental Science, 2021, 14, 5161-5190.	15.6	255
15	Degradation mechanism of hybrid tin-based perovskite solar cells and the critical role of tin (IV) iodide. Nature Communications, 2021, 12, 2853.	5.8	236
16	Supermolecular Control of Charge Transfer in Dye-Sensitized Nanocrystalline TiO2 Films: Towards a Quantitative Structure-Function Relationship. Angewandte Chemie - International Edition, 2005, 44, 5740-5744.	7.2	228
17	Nanostructured Hybrid Polymerâ˘'Inorganic Solar Cell Active Layers Formed by Controllable in Situ Growth of Semiconducting Sulfide Networks. Nano Letters, 2010, 10, 1253-1258.	4.5	220
18	Two-Dimensional Organic Tin Halide Perovskites with Tunable Visible Emission and Their Use in Light-Emitting Devices. ACS Energy Letters, 2017, 2, 1662-1668.	8.8	204

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19	Charge Separation in Solid-State Dye-Sensitized Heterojunction Solar Cells. Journal of the American Chemical Society, 1999, 121, 7445-7446.	6.6	195
20	The origin of slow electron recombination processes in dye-sensitized solar cells with alumina barrier coatings. Journal of Applied Physics, 2004, 96, 6903-6907.	1.1	190
21	Light-driven oxygen scavenging by titania/polymer nanocomposite films. Journal of Photochemistry and Photobiology A: Chemistry, 2004, 162, 253-259.	2.0	174
22	Modulation of the Rate of Electron Injection in Dye-Sensitized Nanocrystalline TiO2Films by Externally Applied Bias. Journal of Physical Chemistry B, 2001, 105, 7424-7431.	1.2	171
23	A Hybrid Inorganicâ€“Organic Semiconductor Lightâ€Emitting Diode Using ZrO₂ as an Electronâ€Injection Layer. Advanced Materials, 2009, 21, 3475-3478.	11.1	162
24	Kinetic competition in liquid electrolyte and solid-state cyanine dye sensitized solar cells. Journal of Materials Chemistry, 2007, 17, 3037-3044.	6.7	156
25	The Role of Oxygen in the Degradation of Methylammonium Lead Trihalide Perovskite Photoactive Layers. Angewandte Chemie, 2015, 127, 8326-8330.	1.6	154
26	Flexible dye sensitised nanocrystalline semiconductor solar cells. Chemical Communications, 2003, , 3008.	2.2	137
27	Direct Growth of Metal Sulfide Nanoparticle Networks in Solidâ€State Polymer Films for Hybrid Inorganicâ€“Organic Solar Cells. Advanced Materials, 2011, 23, 2739-2744.	11.1	128
28	DFT-INDO/S Modeling of New High Molar Extinction Coefficient Charge-Transfer Sensitizers for Solar Cell Applications. Inorganic Chemistry, 2006, 45, 787-797.	1.9	126
29	Improved environmental stability of organic lead trihalide perovskite-based photoactive-layers in the presence of mesoporous TiO₂. Journal of Materials Chemistry A, 2015, 3, 7219-7223.	5.2	112
30	Transient Optical Studies of Interfacial Charge Transfer at Nanostructured Metal Oxide/PbS Quantum Dot/Organic Hole Conductor Heterojunctions. Journal of the American Chemical Society, 2010, 132, 2743-2750.	6.6	110
31	A Direct Route Towards Polymer/Copper Indium Sulfide Nanocomposite Solar Cells. Advanced Energy Materials, 2011, 1, 1046-1050.	10.2	102
32	Large-scale synthesis of nanocrystals in a multichannel droplet reactor. Journal of Materials Chemistry A, 2013, 1, 4067.	5.2	102
33	Exploring the validity and limitations of the Mottâ€“Gurney law for charge-carrier mobility determination of semiconducting thin-films. Journal of Physics Condensed Matter, 2018, 30, 105901.	0.7	102
34	Two-dimensional spatial coherence of excitons in semicrystalline polymeric semiconductors: Effect of molecular weight. Physical Review B, 2013, 88, .	1.1	96
35	Transient Absorption Studies and Numerical Modeling of Iodine Photoreduction by Nanocrystalline TiO2Films. Journal of Physical Chemistry B, 2005, 109, 142-150.	1.2	87
36	Toward Antimony Selenide Sensitized Solar Cells: Efficient Charge Photogeneration at <i>spiro</i>-OMeTAD/Sb₂Se₃/Metal Oxide Heterojunctions. Journal of Physical Chemistry Letters, 2012, 3, 1351-1356.	2.1	85

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37	Influence of Crystallinity and Energetics on Charge Separation in Polymerâ€“Inorganic Nanocomposite Films for Solar Cells. Scientific Reports, 2013, 3, 1531.	1.6	84
38	Stability of Lead and Tin Halide Perovskites: The Link between Defects and Degradation. Journal of Physical Chemistry Letters, 2020, 11, 574-585.	2.1	84
39	Structural, optical and charge generation properties of chalcostibite and tetrahedrite copper antimony sulfide thin films prepared from metal xanthates. Journal of Materials Chemistry A, 2015, 3, 24155-24162.	5.2	74
40	A solid compromise. Nature Materials, 2003, 2, 362-363.	13.3	73
41	Tuning CH₃NH₃Pb(I_{1âˆ’x}Br_x)₃ perovskite oxygen stability in thin films and solar cells. Journal of Materials Chemistry A, 2017, 5, 9553-9560.	5.2	72
42	Toward Improved Environmental Stability of Polymer:Fullerene and Polymer:Nonfullerene Organic Solar Cells: A Common Energetic Origin of Light- and Oxygen-Induced Degradation. ACS Energy Letters, 2019, 4, 846-852.	8.8	71
43	Additiveâ€Free, Lowâ€Temperature Crystallization of Stable Î±â€FAPbI₃ Perovskite. Advanced Materials, 2022, 34, e2107850.	11.1	71
44	Evidence for surface defect passivation as the origin of the remarkable photostability of unencapsulated perovskite solar cells employing aminovaleric acid as a processing additive. Journal of Materials Chemistry A, 2019, 7, 3006-3011.	5.2	70
45	Solution Processed Polymerâ€“Inorganic Semiconductor Solar Cells Employing Sb₂S₃ as a Light Harvesting and Electron Transporting Material. Advanced Energy Materials, 2013, 3, 986-990.	10.2	69
46	Transient Optical Studies of Interfacial Energetic Disorder at Nanostructured Dye-Sensitised Inorganic/Organic Semiconductor Heterojunctions. ChemPhysChem, 2003, 4, 89-93.	1.0	65
47	Charge photogeneration in hybrid solar cells: A comparison between quantum dots and in situ grown CdS. Nanoscale, 2012, 4, 1561.	2.8	64
48	Sensitization of TiO2 with PbSe Quantum Dots by SILAR: How Mercaptophenol Improves Charge Separation. Journal of Physical Chemistry Letters, 2012, 3, 3367-3372.	2.1	62
49	Impedance spectroscopy study of dye-sensitized solar cells with undoped spiro-OMeTAD as hole conductor. Journal of Applied Physics, 2006, 100, 034510.	1.1	59
50	Effect of Multiple Adduct Fullerenes on Microstructure and Phase Behavior of P3HT:Fullerene Blend Films for Organic Solar Cells. ACS Nano, 2012, 6, 3868-3875.	7.3	58
51	Toward Organic All-Optical Switching. Science, 2010, 327, 1466-1467.	6.0	57
52	Mutual Interplay of Light Harvesting and Triplet Sensitizing in a Perylene Bisimide Antennaâˆ’Fullerene Dyad. Journal of Physical Chemistry B, 2010, 114, 9148-9156.	1.2	56
53	Electron and hole transfer at metal oxide/Sb2S3/spiro-OMeTAD heterojunctions. Energy and Environmental Science, 2012, 5, 9760.	15.6	55
54	Triplet Formation in Fullerene Multiâ€Adduct Blends for Organic Solar Cells and Its Influence on Device Performance. Advanced Functional Materials, 2010, 20, 2701-2708.	7.8	53

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55	Understanding the Enhanced Stability of Bromide Substitution in Lead Iodide Perovskites. Chemistry of Materials, 2020, 32, 400-409.	3.2	53
56	Insights into the increased degradation rate of CH₃NH₃PbI₃ solar cells in combined water and O₂ environments. Journal of Materials Chemistry A, 2017, 5, 25469-25475.	5.2	52
57	TiO 2 thin-film transistors fabricated by spray pyrolysis. Applied Physics Letters, 2010, 96, .	1.5	50
58	Panchromatic response composed of hybrid visible-light absorbing polymers and near-IR absorbing dyes for nanocrystalline TiO2-based solid-state solar cells. Journal of Power Sources, 2011, 196, 596-599.	4.0	47
59	Insight into quinoxaline containing Dâ€“Ï€â€“A dyes for dye-sensitized solar cells with cobalt and iodine based electrolytes: the effect of Ï€-bridge on the HOMO energy level and photovoltaic performance. Journal of Materials Chemistry A, 2015, 3, 21733-21743.	5.2	47
60	Synthesis, Photophysical, and Device Properties of Novel Dendrimers Based on a Fluoreneâˆ’Hexabenzocoronene (FHBC) Core. Organic Letters, 2009, 11, 975-978.	2.4	46
61	Polymer/Nanocrystal Hybrid Solar Cells: Influence of Molecular Precursor Design on Film Nanomorphology, Charge Generation and Device Performance. Advanced Functional Materials, 2015, 25, 409-420.	7.8	44
62	Phosphorene Nanoribbon-Augmented Optoelectronics for Enhanced Hole Extraction. Journal of the American Chemical Society, 2021, 143, 21549-21559.	6.6	44
63	Controlling the Interaction of Light with Polymer Semiconductors. Advanced Materials, 2013, 25, 4906-4911.	11.1	42
64	Charge Transport in Spiro-OMeTAD Investigated through Space-Charge-Limited Current Measurements. Physical Review Applied, 2018, 9, .	1.5	42
65	Solution Processed Bismuth Sulfide Nanowire Array Core/Silver Sulfide Shell Solar Cells. Chemistry of Materials, 2015, 27, 3700-3706.	3.2	37
66	Lewis Base Passivation Mediates Charge Transfer at Perovskite Heterojunctions. Journal of the American Chemical Society, 2021, 143, 12230-12243.	6.6	36
67	Surface Passivation of Perovskite Films via Iodide Salt Coatings for Enhanced Stability of Organic Lead Halide Perovskite Solar Cells. Solar Rrl, 2019, 3, 1800282.	3.1	34
68	Charge separation and recombination in self-organizing nanostructured donorâ€“acceptor block copolymer films. Journal of Materials Chemistry, 2009, 19, 5436.	6.7	33
69	Effect of Interfacial Energetics on Charge Transfer from Lead Halide Perovskite to Organic Hole Conductors. Journal of Physical Chemistry C, 2018, 122, 1326-1332.	1.5	32
70	A Multifaceted Ferrocene Interlayer for Highly Stable and Efficient Lithium Doped Spiroâ€OMeTADâ€based Perovskite Solar Cells. Advanced Energy Materials, 2022, 12, .	10.2	32
71	Charge Generation Dynamics in CdS:P3HT Blends for Hybrid Solar Cells. Journal of Physical Chemistry Letters, 2013, 4, 4253-4257.	2.1	31
72	Solid Film versus Solution-Phase Charge-Recombination Dynamics of exTTFâ€“Bridgeâ€“C60 Dyads. Chemistry - A European Journal, 2005, 11, 7440-7447.	1.7	30

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73	Solutionâ€Processed Mesoscopic Bi₂S₃:Polymer Photoactive Layers. ChemPhysChem, 2014, 15, 1019-1023.	1.0	30
74	Ultrafast Transient Optical Studies of Charge Pair Generation and Recombination in Poly-3-Hexylthiophene(P3ht):[6,6]Phenyl C61 Butyric Methyl Acid Ester (PCBM) Blend Films. Journal of Physical Chemistry B, 2011, 115, 15174-15180.	1.2	29
75	Poly(thienylenevinylene) prepared by ring-opening metathesis polymerization: Performance as a donor in bulk heterojunction organic photovoltaic devices. Polymer, 2010, 51, 1541-1547.	1.8	28
76	Lowâ€Temperature Solution Processing of Mesoporous Metalâ€“Sulfide Semiconductors as Lightâ€Harvesting Photoanodes. Angewandte Chemie - International Edition, 2013, 52, 12047-12051.	7.2	28
77	Thermal decomposition of solution processable metal xanthates on mesoporous titanium dioxide films: a new route to quantum-dot sensitised heterojunctions. Physical Chemistry Chemical Physics, 2012, 14, 16192.	1.3	27
78	Photoinduced electron and hole transfer in CdS:P3HT nanocomposite films: effect of nanomorphology on charge separation yield and solar cell performance. Journal of Materials Chemistry A, 2013, 1, 13896.	5.2	27
79	Influence of morphology and polymer:nanoparticle ratio on device performance of hybrid solar cellsâ€"an approach in experiment and simulation. Nanotechnology, 2013, 24, 484005.	1.3	27
80	Spectroscopic Evaluation of Mixing and Crystallinity of Fullerenes in Bulk Heterojunctions. Advanced Functional Materials, 2014, 24, 6972-6980.	7.8	26
81	Efficient Hybrid Solar Cells Based on Solution Processed Mesoporous TiO₂/Tin(II) Sulfide Heterojunctions. ACS Applied Energy Materials, 2018, 1, 3042-3047.	2.5	26
82	Ultrathin polymethylmethacrylate interlayers boost performance of hybrid tin halide perovskite solar cells. Chemical Communications, 2021, 57, 5047-5050.	2.2	26
83	Benzothiadiazole-Containing Pendant Polymers Prepared by RAFT and Their Electro-Optical Properties. Macromolecules, 2010, 43, 7101-7110.	2.2	25
84	Effect of alkyl chain length on the properties of triphenylamine-based hole transport materials and their performance in perovskite solar cells. Physical Chemistry Chemical Physics, 2018, 20, 1252-1260.	1.3	25
85	Bioinspired scaffolds that sequester lead ions in physically damaged high efficiency perovskite solar cells. Chemical Communications, 2021, 57, 994-997.	2.2	24
86	White light-emitting nanocomposites based on an oxadiazoleâ€“carbazole copolymer (POC) and InP/ZnS quantum dots. Journal of Nanoparticle Research, 2013, 15, 1.	0.8	22
87	Improved Charge Separation and Photovoltaic Performance of BiI₃ Absorber Layers by Use of an In Situ Formed BiSI Interlayer. ACS Applied Energy Materials, 2019, 2, 7056-7061.	2.5	20
88	The Effect of Ionization Potential and Film Morphology on Exciplex Formation and Charge Generation in Blends of Polyfluorene Polymers and Silole Derivatives. Journal of Physical Chemistry C, 2009, 113, 14533-14539.	1.5	19
89	Control of charge recombination at nanostructured quantum-dot sensitized TiO2 interfaces employing a multi-step redox cascade. Energy and Environmental Science, 2009, 2, 1176.	15.6	19
90	Reducing hole transporter use and increasing perovskite solar cell stability with dual-role polystyrene microgel particles. Nanoscale, 2017, 9, 10126-10137.	2.8	19

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91	Connecting the (quantum) dots: towards hybrid photovoltaic devices based on chalcogenide gels. Physical Chemistry Chemical Physics, 2012, 14, 15180.	1.3	16
92	Kinetic insight into bimolecular upconversion: experiment and simulation. RSC Advances, 2014, 4, 8059-8063.	1.7	16
93	CH₃NH₃PbI₃ films prepared by combining 1- and 2-step deposition: how crystal growth conditions affect properties. Physical Chemistry Chemical Physics, 2017, 19, 7204-7214.	1.3	16
94	Energy- and charge-transfer processes in flexible organic donor-acceptor dyads. Journal of Chemical Physics, 2009, 131, 144512.	1.2	13
95	Impact of dithienyl or thienothiophene units on the optoelectronic and photovoltaic properties of benzo[1,2,5]thiadiazole based donorâ€“acceptor copolymers for organic solar cell devices. RSC Advances, 2014, 4, 43142-43149.	1.7	13
96	Evidence for photo-induced charge separation between dye molecules adsorbed to aluminium oxide surfaces. Scientific Reports, 2016, 6, 21276.	1.6	13
97	2D Phase Purity Determines Charge-Transfer Yield at 3D/2D Lead Halide Perovskite Heterojunctions. Journal of Physical Chemistry Letters, 2021, 12, 3312-3320.	2.1	13
98	Functionalized titania nanoparticles for mercury scavenging. Journal of Materials Chemistry, 2007, 17, 2028-2032.	6.7	12
99	The influence of Ï€â€“Ï€-stacking on the light-harvesting properties of perylene bisimide antennas that are covalently linked to a [60]fullerene. Physical Chemistry Chemical Physics, 2010, 12, 14485.	1.3	12
100	Slow geminateâ€chargeâ€pair recombination dynamics at polymer: Fullerene heterojunctions in efficient organic solar cells. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 1395-1404.	2.4	12
101	Energy level alignment in TiO₂/metal sulfide/polymer interfaces for solar cell applications. Physical Chemistry Chemical Physics, 2014, 16, 17099-17107.	1.3	11
102	Decoupling Structure and Composition of CH₃NH₃PbI_{3â€“<i>x</i>}Br_{<i>x</i>} Films Prepared by Combined One-Step and Two-Step Deposition. ACS Applied Energy Materials, 2018, 1, 5567-5578.	2.5	9
103	Overcoming Nanoscale Inhomogeneities in Thin-Film Perovskites via Exceptional Post-annealing Grain Growth for Enhanced Photodetection. Nano Letters, 2022, 22, 979-988.	4.5	9
104	Asymmetric charge carrier transfer and transport in planar lead halide perovskite solar cells. Cell Reports Physical Science, 2022, 3, 100890.	2.8	9
105	Ligand-free preparation of polymer/CuInS₂ nanocrystal films and the influence of 1,3-benzenedithiol on their photovoltaic performance and charge recombination properties. Journal of Materials Chemistry C, 2019, 7, 943-952.	2.7	8
106	Synthesis and optical characterisation of triphenylamine-based hole extractor materials for CdSe quantum dots. Physical Chemistry Chemical Physics, 2013, 15, 7679.	1.3	7
107	Photophysics and morphology of a polyfluorene donorâ€“acceptor triblock copolymer for solar cells. Journal of Polymer Science, Part B: Polymer Physics, 2013, 51, 1705-1718.	2.4	6
108	In situ formation of organicâ€“inorganic hybrid nanostructures for photovoltaic applications. Faraday Discussions, 2014, 174, 267-79.	1.6	5

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109	Exciton Dynamics in Hybrid Polymer/QD Blends. Energy Procedia, 2014, 44, 167-175.	1.8	5
110	Oxadiazole-carbazole polymer (POC)-Ir(ppy) 3 tunable emitting composites. Optical Materials, 2017, 66, 166-170.	1.7	5
111	Structural, Electronic, and Optical Properties of the Vacancy-Ordered Bismuthâ€“Antimony Perovskites (CH3NH3)3(Bi1â€“xSbx)2I9. Journal of Physical Chemistry C, 2021, 125, 8938-8946.	1.5	5
112	Lowâ€Temperature Solution Processing of Mesoporous Metalâ€“Sulfide Semiconductors as Lightâ€Harvesting Photoanodes. Angewandte Chemie, 2013, 125, 12269-12273.	1.6	4
113	Ruthenium Dyes with Azo Ligands: Light Harvesting, Excited-State Properties and Relevance to Dye-Sensitised Solar Cells. European Journal of Inorganic Chemistry, 2015, 2015, 5864-5873.	1.0	4
114	Polymeric hole-transport materials with side-chain redox-active groups for perovskite solar cells with good reproducibility. Physical Chemistry Chemical Physics, 2018, 20, 25738-25745.	1.3	4
115	The Degradation Mechanism of Tin Perovskite Solar Cells and the Critical Role of Tin (IV) Iodide. , 0, , .		0
116	Illuminating Charge-Transfer at the Absorber/Hole Transport Material Interface in Perovskite Solar Cells. , 0, , .		0
117	Optical and Electronic Property Changes in Lead-free Perovskites by Metal Cation Transmutation. , 0, , .		0
118	Degradation Mechanism of Hybrid Tin Perovskite and the Critical Role of Tin (IV) Iodide. , 0, , .		0
119	High Power Irradiance Dependence of Charge Species Dynamics in Hybrid Perovskites and Kinetic Evidence for Transient Vibrational Stark Effect in Formamidinium. Nanomaterials, 2022, 12, 1616.	1.9	0