Mathew Beard

List of Publications by Year
in descending order

209 papers	27,719 citations	6613 79 h-index	5393 164 g-index
214 all docs	214 docs citations	214 times ranked	21964 citing authors

#	Article	IF	Citations
1	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2022, 375, 71-76.	12.6	216
2	Pickering Emulsions of Self-Assembled Lead Sulfide Quantum Dots with Janus-Ligand Shells as Nanoreactors for Photocatalytic Reactions. ACS Applied Nano Materials, 2022, 5, 3183-3187.	5.0	6
3	Gradient Doping in Snâ€“Pb Perovskites by Barium Ions for Efficient Singleâ€Junction and Tandem Solar Cells. Advanced Materials, 2022, 34, e2110351.	21.0	62
4	The Structural Origin of Chiroptical Properties in Perovskite Nanocrystals with Chiral Organic Ligands. Advanced Functional Materials, 2022, 32, .	14.9	43
5	Understanding the Effect of Lead Iodide Excess on the Performance of Methylammonium Lead Iodide Perovskite Solar Cells. ACS Energy Letters, 2022, 7, 1912-1919.	17.4	14
6	Triplet Energy Transfer from Lead Halide Perovskite for Highly Selective Photocatalytic 2 + 2 Cycloaddition. ACS Applied Materials & Interfaces, 2022, 14, 25357-25365.	8.0	20
7	Carrier control in Snâ€“Pb perovskites via 2D cation engineering for all-perovskite tandem solar cells with improved efficiency and stability. Nature Energy, 2022, 7, 642-651.	39.5	121
8	Control of light, spin and charge with chiral metal halide semiconductors. Nature Reviews Chemistry, 2022, 6, 470-485.	30.2	58
9	Giant spin-selective bandgap renormalization in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">CsPbBr</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math> colloidal nanocrystals. Physical Review B, 2022, 106, .	3.2	3
10	Spin-Dependent Photovoltaic and Photogalvanic Responses of Optoelectronic Devices Based on Chiral Two-Dimensional Hybrid Organicâ€“Inorganic Perovskites. ACS Nano, 2021, 15, 588-595.	14.6	85
11	SMART Perovskite Growth: Enabling a Larger Range of Process Conditions. ACS Energy Letters, 2021, 6, 650-658.	17.4	14
12	Suppressing Auger Recombination in Multiply Excited Colloidal Silicon Nanocrystals with Ligand-Induced Hole Traps. Journal of Physical Chemistry C, 2021, 125, 2565-2574.	3.1	7
13	Reconfiguring the band-edge states of photovoltaic perovskites by conjugated organic cations. Science, 2021, 371, 636-640.	12.6	184
14	A Multi-Dimensional Perspective on Electronic Doping in Metal Halide Perovskites. ACS Energy Letters, 2021, 6, 1104-1123.	17.4	38
15	In-situ observation of trapped carriers in organic metal halide perovskite films with ultra-fast temporal and ultra-high energetic resolutions. Nature Communications, 2021, 12, 1636.	12.8	11
16	Chiral-induced spin selectivity enables a room-temperature spin light-emitting diode. Science, 2021, 371, 1129-1133.	12.6	340
17	Surface lattice engineering through three-dimensional lead iodide perovskitoid for high-performance perovskite solar cells. CheM, 2021, 7, 774-785.	11.7	37
18	Direct Detection of Circularly Polarized Light Using Chiral Copper Chlorideâ€“Carbon Nanotube Heterostructures. ACS Nano, 2021, 15, 7608-7617.	14.6	69

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19	A Nanocrystal Catalyst Incorporating a Surface Bound Transition Metal to Induce Photocatalytic Sequential Electron Transfer Events. Journal of the American Chemical Society, 2021, 143, 11361-11369.	13.7	47
20	Unraveling the surface state of photovoltaic perovskite thin film. Matter, 2021, 4, 2417-2428.	10.0	22
21	Pyroelectricity of Lead Sulfide (PbS) Quantum Dot Films Induced by Janus-Ligand Shells. ACS Nano, 2021, 15, 14965-14971.	14.6	8
22	Influence of Ligand Structure on Excited State Surface Chemistry of Lead Sulfide Quantum Dots. Journal of the American Chemical Society, 2021, 143, 13824-13834.	13.7	17
23	Size-Dependent Janus-Ligand Shell Formation on PbS Quantum Dots. Journal of Physical Chemistry C, 2021, 125, 21729-21739.	3.1	3
24	Hot carrier redistribution, electron-phonon interaction, and their role in carrier relaxation in thin film metal-halide perovskites. Physical Review Materials, 2021, 5, .	2.4	8
25	Nanotechnology for catalysis and solar energy conversion. Nanotechnology, 2021, 32, 042003.	2.6	44
26	Excitonâ€"Phonon Coupling and Carrier Relaxation in PbS Quantum Dots: The Case of Carboxylate Ligands. Journal of Physical Chemistry C, 2021, 125, 22622-22629.	3.1	3
27	Interlayer Triplet-Sensitized Luminescence in Layered Two-Dimensional Hybrid Metal-Halide Perovskites. ACS Energy Letters, 2021, 6, 4079-4096.	17.4	22
28	Tuning Spin-Polarized Lifetime in Two-Dimensional Metalâ€"Halide Perovskite through Exciton Binding Energy. Journal of the American Chemical Society, 2021, 143, 19438-19445.	13.7	42
29	Atomlike interaction and optically tunable giant band-gap renormalization in large-area atomically thin MoS2. Physical Review B, 2021, 104, .	3.2	15
30	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2021, , eabj2637.	12.6	2
31	Cationâ€Exchange Synthesis of Highly Monodisperse PbS Quantum Dots from ZnS Nanorods for Efficient Infrared Solar Cells. Advanced Functional Materials, 2020, 30, 1907379.	14.9	80
32	Origin of Broad-Band Emission and Impact of Structural Dimensionality in Tin-Alloyed Ruddlesdenâ€"Popper Hybrid Lead Iodide Perovskites. ACS Energy Letters, 2020, 5, 347-352.	17.4	55
33	Individual Electron and Hole Mobilities in Lead-Halide Perovskites Revealed by Noncontact Methods. ACS Energy Letters, 2020, 5, 47-55.	17.4	37
34	Polaron and Spin Dynamics in Organicâ€"Inorganic Lead Halide Perovskite Nanocrystals. Advanced Optical Materials, 2020, 8, 2001016.	7.3	23
35	Embedding PbS Quantum Dots (QDs) in Pb-Halide Perovskite Matrices: QD Surface Chemistry and Antisolvent Effects on QD Dispersion and Confinement Properties. , 2020, 2, 1464-1472.		18
36	Transient Evolution of the Built-in Field at Junctions of GaAs. ACS Applied Materials & Interfaces, 2020, 12, 40339-40346.	8.0	10

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37	Dynamic Ligand Surface Chemistry of Excited PbS Quantum Dots. Journal of Physical Chemistry Letters, 2020, 11, 2291-2297.	4.6	22
38	Role of Exciton Binding Energy on LO Phonon Broadening and Polaron Formation in (BA)2PbI4 Ruddlesdenâ€“Popper Films. Journal of Physical Chemistry C, 2020, 124, 9496-9505.	3.1	18
39	Transforming energy using quantum dots. Energy and Environmental Science, 2020, 13, 1347-1376.	30.8	76
40	Highly Distorted Chiral Two-Dimensional Tin Iodide Perovskites for Spin Polarized Charge Transport. Journal of the American Chemical Society, 2020, 142, 13030-13040.	13.7	198
41	Strategies to Achieve High Circularly Polarized Luminescence from Colloidal Organicâ€“Inorganic Hybrid Perovskite Nanocrystals. ACS Nano, 2020, 14, 8816-8825.	14.6	94
42	Advances in two-dimensional organicâ€“inorganic hybrid perovskites. Energy and Environmental Science, 2020, 13, 1154-1186.	30.8	420
43	Ultrafast Reaction Mechanisms in Perovskite Based Photocatalytic Câ€“C Coupling. ACS Energy Letters, 2020, 5, 566-571.	17.4	61
44	Hot-carrier transfer at photocatalytic silicon/platinum interfaces. Journal of Chemical Physics, 2020, 152, 144705.	3.0	8
45	Introduction to special issue: Colloidal quantum dots. Journal of Chemical Physics, 2020, 153, 240401.	3.0	5
46	Polaron protected long-lived hot carriers in mixed cation and anion perovskite nanocrystals. , 2020, , .		1
47	Both Free and Trapped Carriers Contribute to Photocurrent of Sb₂Se₃ Solar Cells. Journal of Physical Chemistry Letters, 2019, 10, 4881-4887.	4.6	47
48	Monitoring Electronâ€“Phonon Interactions in Lead Halide Perovskites Using Time-Resolved THz Spectroscopy. ACS Nano, 2019, 13, 8826-8835.	14.6	52
49	High efficiency perovskite quantum dot solar cells with charge separating heterostructure. Nature Communications, 2019, 10, 2842.	12.8	308
50	Ultrafast probes at the interfaces of solar energy conversion materials. Physical Chemistry Chemical Physics, 2019, 21, 16399-16407.	2.8	31
51	Interfacial engineering of gallium indium phosphide photoelectrodes for hydrogen evolution with precious metal and non-precious metal based catalysts. Journal of Materials Chemistry A, 2019, 7, 16821-16832.	10.3	24
52	Atomically Thin Metal Sulfides. Journal of the American Chemical Society, 2019, 141, 12121-12127.	13.7	13
53	Theoretical limits of multiple exciton generation and singlet fission tandem devices for solar water splitting. Journal of Chemical Physics, 2019, 151, 114111.	3.0	13
54	Enhancing electron diffusion length in narrow-bandgap perovskites for efficient monolithic perovskite tandem solar cells. Nature Communications, 2019, 10, 4498.	12.8	234

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55	Thin-Film Colloidal Quantum Dot Solar Cells. , 2019, , 35-52.		1
56	Carrier lifetimes of >1 Î¼s in Sn-Pb perovskites enable efficient all-perovskite tandem solar cells. Science, 2019, 364, 475-479.	12.6	781
57	Enhanced Charge Transport in 2D Perovskites via Fluorination of Organic Cation. Journal of the American Chemical Society, 2019, 141, 5972-5979.	13.7	274
58	Designing Janus Ligand Shells on PbS Quantum Dots using Ligandâ€"Ligand Cooperativity. ACS Nano, 2019, 13, 3839-3846.	14.6	23
59	Influence of One Specific Carbonâ€"Carbon Bond on the Quality, Stability, and Photovoltaic Performance of Hybrid Organicâ€"Inorganic Bismuth Iodide Materials. ACS Applied Energy Materials, 2019, 2, 1579-1587.	5.1	6
60	Sensitizing Singlet Fission with Perovskite Nanocrystals. Journal of the American Chemical Society, 2019, 141, 4919-4927.	13.7	83
61	Enhanced photoredox activity of CsPbBr3 nanocrystals by quantitative colloidal ligand exchange. Journal of Chemical Physics, 2019, 151, 204305.	3.0	52
62	Spin-dependent charge transport through 2D chiral hybrid lead-iodide perovskites. Science Advances, 2019, 5, eaay0571.	10.3	275
63	Lead-Halide Perovskites for Photocatalytic Î±-Alkylation of Aldehydes. Journal of the American Chemical Society, 2019, 141, 733-738.	13.7	263
64	Infrared Quantum Dots: Progress, Challenges, and Opportunities. ACS Nano, 2019, 13, 939-953.	14.6	153
65	Curtailing Perovskite Processing Limitations via Lamination at the Perovskite/Perovskite Interface. ACS Energy Letters, 2018, 3, 1192-1197.	17.4	33
66	Control of Energy Flow Dynamics between Tetracene Ligands and PbS Quantum Dots by Size Tuning and Ligand Coverage. Nano Letters, 2018, 18, 865-873.	9.1	62
67	Efficient Steplike Carrier Multiplication in Percolative Networks of Epitaxially Connected PbSe Nanocrystals. ACS Nano, 2018, 12, 378-384.	14.6	19
68	Excitonic Effects in Methylammonium Lead Halide Perovskites. Journal of Physical Chemistry Letters, 2018, 9, 2595-2603.	4.6	107
69	<i>n</i>-Type PbSe Quantum Dots via Post-Synthetic Indium Doping. Journal of the American Chemical Society, 2018, 140, 13753-13763.	13.7	28
70	Enhanced Multiple Exciton Generation in PbS|CdS Janus-like Heterostructured Nanocrystals. ACS Nano, 2018, 12, 10084-10094.	14.6	56
71	Ultrafast exciton many-body interactions and hot-phonon bottleneck in colloidal cesium lead halide perovskite nanocrystals. Physical Review B, 2018, 98, .	3.2	89
72	Electronâ€"Phonon Coupling and Resonant Relaxation from 1D and 1P States in PbS Quantum Dots. ACS Nano, 2018, 12, 6263-6272.	14.6	22

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73	Stable Formamidiniumâ€Based Perovskite Solar Cells via In Situ Grain Encapsulation. Advanced Energy Materials, 2018, 8, 1800232.	19.5	78
74	Optical Absorbance Enhancement in PbS QD/Cinnamate Ligand Complexes. Journal of Physical Chemistry Letters, 2018, 9, 3425-3433.	4.6	36
75	Feature issue introduction: light, energy and the environment, 2017. Optics Express, 2018, 26, A636.	3.4	3
76	Perovskite Solar Cells: Stable Formamidinium-Based Perovskite Solar Cells via In Situ Grain Encapsulation (Adv. Energy Mater. 22/2018). Advanced Energy Materials, 2018, 8, 1870101.	19.5	1
77	Impact of Layer Thickness on the Charge Carrier and Spin Coherence Lifetime in Two-Dimensional Layered Perovskite Single Crystals. ACS Energy Letters, 2018, 3, 2273-2279.	17.4	126
78	Top and bottom surfaces limit carrier lifetime in lead iodide perovskite films. Nature Energy, 2017, 2, .	39.5	376
79	Tandem Solar Cells from Solution-Processed CdTe and PbS Quantum Dots Using a ZnTeâ€“ZnO Tunnel Junction. Nano Letters, 2017, 17, 1020-1027.	9.1	71
80	Characterization of basic physical properties of Sb2Se3 and its relevance for photovoltaics. Frontiers of Optoelectronics, 2017, 10, 18-30.	3.7	301
81	Extrinsic ion migration in perovskite solar cells. Energy and Environmental Science, 2017, 10, 1234-1242.	30.8	458
82	Tuning colloidal quantum dot band edge positions through solution-phase surface chemistry modification. Nature Communications, 2017, 8, 15257.	12.8	230
83	Enhanced Sb₂Se₃solar cell performance through theory-guided defect control. Progress in Photovoltaics: Research and Applications, 2017, 25, 861-870.	8.1	154
84	Multiple exciton generation for photoelectrochemical hydrogen evolution reactions with quantum yields exceeding 100%. Nature Energy, 2017, 2, .	39.5	172
85	Combination of Cation Exchange and Quantized Ostwald Ripening for Controlling Size Distribution of Lead Chalcogenide Quantum Dots. Chemistry of Materials, 2017, 29, 3615-3622.	6.7	44
86	Supersonically Spray-Coated Colloidal Quantum Dot Ink Solar Cells. Scientific Reports, 2017, 7, 622.	3.3	51
87	Enhanced mobility CsPbI ₃ quantum dot arrays for record-efficiency, high-voltage photovoltaic cells. Science Advances, 2017, 3, eaao4204.	10.3	801
88	Facetâ€Specific Ligand Interactions on Ternary AgSbS₂ Colloidal Quantum Dots. Chemistry - A European Journal, 2017, 23, 17707-17713.	3.3	16
89	Facet-Specific Ligand Interactions on Ternary AgSbS2 Colloidal Quantum Dots.. Chemistry - A European Journal, 2017, 23, 17625-17625.	3.3	0
90	Synthesis and Spectroscopy of Silver-Doped PbSe Quantum Dots. Journal of the American Chemical Society, 2017, 139, 10382-10394.	13.7	58

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91	Quantum Dot Solar Cell Fabrication Protocols. Chemistry of Materials, 2017, 29, 189-198.	6.7	77
92	Surfaces Limit Carrier Lifetimes in Lead Halide Perovskite Films. , 2017, , .		0
93	Status and Prognosis of Future-Generation Photoconversion to Photovoltaics and Solar Fuels. ACS Energy Letters, 2016, 1, 344-347.	17.4	9
94	Direct Observation of Photoexcited Hole Localization in CdSe Nanorods. ACS Energy Letters, 2016, 1, 76-81.	17.4	17
95	Large polarization-dependent exciton optical Stark effect in lead iodide perovskites. Nature Communications, 2016, 7, 12613.	12.8	98
96	Electronâ€“Rotor Interaction in Organicâ€“Inorganic Lead Iodide Perovskites Discovered by Isotope Effects. Journal of Physical Chemistry Letters, 2016, 7, 2879-2887.	4.6	79
97	In situ spectroscopic characterization of a solution-phase X-type ligand exchange at colloidal lead sulphide quantum dot surfaces. Chemical Communications, 2016, 52, 13893-13896.	4.1	36
98	Roadmap on optical energy conversion. Journal of Optics (United Kingdom), 2016, 18, 073004.	2.2	85
99	Nongeminate radiative recombination of free charges in cation-exchanged PbS quantum dot films. Chemical Physics, 2016, 471, 75-80.	1.9	8
100	Size-Dependent Exciton Formation Dynamics in Colloidal Silicon Quantum Dots. ACS Nano, 2016, 10, 2316-2323.	14.6	54
101	Revisiting the Valence and Conduction Band Size Dependence of PbS Quantum Dot Thin Films. ACS Nano, 2016, 10, 3302-3311.	14.6	118
102	Quasi-Direct Optical Transitions in Silicon Nanocrystals with Intensity Exceeding the Bulk. Nano Letters, 2016, 16, 1583-1589.	9.1	62
103	All-Inorganic Germanium Nanocrystal Films by Cationic Ligand Exchange. Nano Letters, 2016, 16, 1949-1954.	9.1	32
104	Synthesis and spectroscopic evaluation of PbS quantum dots emitting at 1300 nm for optimized imaging in optical window II. , 2016, , .		3
105	Observation of a hot-phonon bottleneck in lead-iodide perovskites. Nature Photonics, 2016, 10, 53-59.	31.4	760
106	Multiple exciton generation in quantum dots versus singlet fission in molecular chromophores for solar photon conversion. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140412.	3.4	37
107	Comparison of Recombination Dynamics in CH₃NH₃PbBr₃ and CH₃NH₃PbI₃ Perovskite Films: Influence of Exciton Binding Energy. Journal of Physical Chemistry Letters, 2015, 6, 4688-4692.	4.6	350
108	Quantum Confined Electronâ€“Phonon Interaction in Silicon Nanocrystals. Nano Letters, 2015, 15, 1511-1516.	9.1	50

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109	Air-Stable and Efficient PbSe Quantum-Dot Solar Cells Based upon ZnSe to PbSe Cation-Exchanged Quantum Dots. ACS Nano, 2015, 9, 8157-8164.	14.6	103
110	Exploration of Metal Chloride Uptake for Improved Performance Characteristics of PbSe Quantum Dot Solar Cells. Journal of Physical Chemistry Letters, 2015, 6, 2892-2899.	4.6	43
111	Preparation of Cd/Pb Chalcogenide Heterostructured Janus Particles <i>via</i> Controllable Cation Exchange. ACS Nano, 2015, 9, 7151-7163.	14.6	97
112	Metal Halide Solid-State Surface Treatment for High Efficiency PbS and PbSe QD Solar Cells. Scientific Reports, 2015, 5, 9945.	3.3	205
113	Synthetic Conditions for High-Accuracy Size Control of PbS Quantum Dots. Journal of Physical Chemistry Letters, 2015, 6, 1830-1833.	4.6	109
114	Low surface recombination velocity in solution-grown CH3NH3PbBr3 perovskite single crystal. Nature Communications, 2015, 6, 7961.	12.8	406
115	Semiconductor interfacial carrier dynamics via photoinduced electric fields. Science, 2015, 350, 1061-1065.	12.6	118
116	The promise and challenge of nanostructured solar cells. Nature Nanotechnology, 2014, 9, 951-954.	31.5	181
117	Charge Generation in PbS Quantum Dot Solar Cells Characterized by Temperature-Dependent Steady-State Photoluminescence. ACS Nano, 2014, 8, 12814-12825.	14.6	59
118	Synthesis and Spectroscopy of PbSe Fused Quantum-Dot Dimers. Journal of the American Chemical Society, 2014, 136, 4670-4679.	13.7	32
119	Diffusion-Controlled Synthesis of PbS and PbSe Quantum Dots with <i>in Situ</i> Halide Passivation for Quantum Dot Solar Cells. ACS Nano, 2014, 8, 614-622.	14.6	256
120	One-Step Deposition of Photovoltaic Layers Using Iodide Terminated PbS Quantum Dots. Journal of Physical Chemistry Letters, 2014, 5, 4002-4007.	4.6	57
121	Multiple exciton generation solar cells: Effects of nanocrystal shape on quantum efficiency. , 2014, , .		0
122	PbSe Quantum Dot Solar Cells with More than 6% Efficiency Fabricated in Ambient Atmosphere. Nano Letters, 2014, 14, 6010-6015.	9.1	212
123	Carrier Transport in PbS and PbSe QD Films Measured by Photoluminescence Quenching. Journal of Physical Chemistry C, 2014, 118, 16228-16235.	3.1	50
124	Ultrafast Electrical Measurements of Isolated Silicon Nanowires and Nanocrystals. Journal of Physical Chemistry Letters, 2014, 5, 2050-2057.	4.6	23
125	Origin of the temperature dependence of the band gap of PbS and PbSe quantum dots. Solid State Communications, 2013, 165, 49-54.	1.9	81
126	Coherent Exciton Delocalization in Strongly Coupled Quantum Dot Arrays. Nano Letters, 2013, 13, 4862-4869.	9.1	56

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127	Lead Sulfide Nanocrystal Quantum Dot Solar Cells with Trenched ZnO Fabricated via Nanoimprinting. ACS Applied Materials & Interfaces, 2013, 5, 3803-3808.	8.0	21
128	Third Generation Photovoltaics based on Multiple Exciton Generation in Quantum Confined Semiconductors. Accounts of Chemical Research, 2013, 46, 1252-1260.	15.6	340
129	Size and Composition Dependent Multiple Exciton Generation Efficiency in PbS, PbSe, and PbS_{<i>x</i>}Se_{1â€“<i>x</i>} Alloyed Quantum Dots. Nano Letters, 2013, 13, 3078-3085.	9.1	149
130	Electron transfer in hydrogenated nanocrystalline silicon observed by time-resolved terahertz spectroscopy. Physical Review B, 2013, 87, .	3.2	16
131	Improvement in carrier transport properties by mild thermal annealing of PbS quantum dot solar cells. Applied Physics Letters, 2013, 102, .	3.3	48
132	Multiple exciton generation in semiconductor quantum dots and electronically coupled quantum dot arrays for application to thirdgeneration photovoltaic solar cells. , 2013, , 112-147.		2
133	Sharp exponential band tails in highly disordered lead sulfide quantum dot arrays. Physical Review B, 2012, 86, .	3.2	55
134	Quantum beats due to excitonic ground-state splitting in colloidal quantum dots. Physical Review B, 2012, 86, .	3.2	22
135	Effect of Solar Concentration on the Thermodynamic Power Conversion Efficiency of Quantum-Dot Solar Cells Exhibiting Multiple Exciton Generation. Journal of Physical Chemistry Letters, 2012, 3, 2857-2862.	4.6	62
136	Quantum dots for next-generation photovoltaics. Materials Today, 2012, 15, 508-515.	14.2	257
137	Control of PbSe Quantum Dot Surface Chemistry and Photophysics Using an Alkylselenide Ligand. ACS Nano, 2012, 6, 5498-5506.	14.6	99
138	Comparison of Carrier Multiplication Yields in PbS and PbSe Nanocrystals: The Role of Competing Energy-Loss Processes. Nano Letters, 2012, 12, 622-628.	9.1	113
139	Strained Interface Defects in Silicon Nanocrystals. Advanced Functional Materials, 2012, 22, 3223-3232.	14.9	63
140	Comparing the Fundamental Physics and Device Performance of Transparent, Conductive Nanostructured Networks with Conventional Transparent Conducting Oxides. Advanced Energy Materials, 2012, 2, 353-360.	19.5	140
141	The Subtle Chemistry of Colloidal, Quantum-Confined Semiconductor Nanostructures. ACS Nano, 2012, 6, 4573-4579.	14.6	48
142	Annealing effect of PbS quantum dot solar cells. , 2011, , .		1
143	Emission Quenching in PbSe Quantum Dot Arrays by Short-Term Air Exposure. Journal of Physical Chemistry Letters, 2011, 2, 889-893.	4.6	51
144	Multiple Exciton Generation in Semiconductor Quantum Dots. Journal of Physical Chemistry Letters, 2011, 2, 1282-1288.	4.6	373

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145	Single-walled carbon nanotubes as base material for THz photoconductive switching: a theoretical study from input power to output THz emission. Optics Express, 2011, 19, 15077.	3.4	22
146	Quantum Dot Size Dependent <i>J</i>âˆ’<i>V</i> Characteristics in Heterojunction ZnO/PbS Quantum Dot Solar Cells. Nano Letters, 2011, 11, 1002-1008.	9.1	277
147	Peak External Photocurrent Quantum Efficiency Exceeding 100% via MEG in a Quantum Dot Solar Cell. Science, 2011, 334, 1530-1533.	12.6	1,511
148	Anomalous Independence of Multiple Exciton Generation on Different Group IVâˆ’VI Quantum Dot Architectures. Nano Letters, 2011, 11, 1623-1629.	9.1	61
149	n-Type Transition Metal Oxide as a Hole Extraction Layer in PbS Quantum Dot Solar Cells. Nano Letters, 2011, 11, 3263-3266.	9.1	258
150	Tuning the Synthesis of Ternary Lead Chalcogenide Quantum Dots by Balancing Precursor Reactivity. ACS Nano, 2011, 5, 183-190.	14.6	125
151	A <i>p</i>â€Type Quantum Dot/Organic Donor:Acceptor Solarâ€Cell Structure for Extended Spectral Response. Advanced Energy Materials, 2011, 1, 528-533.	19.5	21
152	Absolute Photoluminescence Quantum Yields of IR-26 Dye, PbS, and PbSe Quantum Dots. Journal of Physical Chemistry Letters, 2010, 1, 2445-2450.	4.6	256
153	Semiconductor Quantum Dots and Quantum Dot Arrays and Applications of Multiple Exciton Generation to Third-Generation Photovoltaic Solar Cells. Chemical Reviews, 2010, 110, 6873-6890.	47.7	1,118
154	Stability Assessment on a 3% Bilayer PbS/ZnO Quantum Dot Heterojunction Solar Cell. Advanced Materials, 2010, 22, 3704-3707.	21.0	351
155	Optical characterization and modeling of the lead chalcogenide quantum dot solar cell: A rational approach to device development and multiple exciton generation. , 2010, , .		0
156	Flowing versus Static Conditions for Measuring Multiple Exciton Generation in PbSe Quantum Dots. Journal of Physical Chemistry C, 2010, 114, 17486-17500.	3.1	95
157	Third generation photovoltaics: Multiple Exciton Generation in colloidal quantum dots, quantum dot arrays, and quantum dot solar cells. , 2010, , .		1
158	Comparing Multiple Exciton Generation in Quantum Dots To Impact Ionization in Bulk Semiconductors: Implications for Enhancement of Solar Energy Conversion. Nano Letters, 2010, 10, 3019-3027.	9.1	329
159	Solar cells based on colloidal quantum dot solids: Seeking enhanced photocurrent. , 2009, , .		4
160	Solar cells from colloidal nanocrystals: Fundamentals, materials, devices, and economics. Current Opinion in Colloid and Interface Science, 2009, 14, 245-259.	7.4	313
161	Variations in the Quantum Efficiency of Multiple Exciton Generation for a Series of Chemically Treated PbSe Nanocrystal Films. Nano Letters, 2009, 9, 836-845.	9.1	219
162	Multiple exciton generation in semiconductor nanocrystals: Toward efficient solar energy conversion. Laser and Photonics Reviews, 2008, 2, 377-399.	8.7	134

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163	Structural, Optical, and Electrical Properties of Self-Assembled Films of PbSe Nanocrystals Treated with 1,2-Ethanedithiol. ACS Nano, 2008, 2, 271-280.	14.6	693
164	Transparent Conductive Single-Walled Carbon Nanotube Networks with Precisely Tunable Ratios of Semiconducting and Metallic Nanotubes. ACS Nano, 2008, 2, 1266-1274.	14.6	297
165	Schottky Solar Cells Based on Colloidal Nanocrystal Films. Nano Letters, 2008, 8, 3488-3492.	9.1	882
166	Determining the Internal Quantum Efficiency of PbSe Nanocrystal Solar Cells with the Aid of an Optical Model. Nano Letters, 2008, 8, 3904-3910.	9.1	166
167	Photogenerated Free Carrier Dynamics in Metal and Semiconductor Single-Walled Carbon Nanotube Films. Nano Letters, 2008, 8, 4238-4242.	9.1	77
168	Multiple Exciton Generation in Films of Electronically Coupled PbSe Quantum Dots. Nano Letters, 2007, 7, 1779-1784.	9.1	230
169	Multiple Exciton Generation in Colloidal Silicon Nanocrystals. Nano Letters, 2007, 7, 2506-2512.	9.1	794
170	Solar Energy Conversion Processes in Nanostructured Materials Studied via Time-Resolved THz Spectroscopy. , 2007, , .		0
171	Multiple Exciton Generation in Silicon Nanocrystals. , 2007, , .		2
172	Photoinduced Charge Carrier Generation in a Poly(3-hexylthiophene) and Methanofullerene Bulk Heterojunction Investigated by Time-Resolved Terahertz Spectroscopyâ€. Journal of Physical Chemistry B, 2006, 110, 25462-25471.	2.6	142
173	Time-Resolved Photoconductivity of PbSe Nanocrystal Arraysâ€. Journal of Physical Chemistry B, 2006, 110, 25455-25461.	2.6	120
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