Zhenyu Yang

List of Publications by Year in Descending Order

66 papers	7,435 citations	33 h-index	73 g-index
73 ext. papers	8,495 ext. citations	13.8 avg, IF	5.68 L-index

#	Paper	IF	Citations
66	Electrochemical synthesis of colloidal lead- and bismuth-based perovskite nanocrystals. *Chemical Communications*, **2021**, 57, 11553-11556	5.8	0
65	Structural characterization of cystathionine β-lyase smCSE enables aqueous metal quantum dot biosynthesis. *International Journal of Biological Macromolecules*, **2021**, 174, 42-51	7.9	1
64	Low-Cost Synthesis of Silicon Quantum Dots with Near-Unity Internal Quantum Efficiency. *Journal of Physical Chemistry Letters*, **2021**, 12, 8909-8916	6.4	2
63	Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie - International Edition*, **2020**, 59, 13977-13983	16.4	16
62	Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie*, **2020**, 132, 14081-14087	3.6	5
61	Light-Driven Halide Exchange Facilitates Complete Crystal Transformation in Nanostructured Perovskites. *Langmuir*, **2020**, 36, 3064-3071	4	4
60	Combining Efficiency and Stability in Mixed Tin-Lead Perovskite Solar Cells by Capping Grains with an Ultrathin 2D Layer. *Advanced Materials*, **2020**, 32, e1907058	24	92
59	Efficient near-infrared light-emitting diodes based on quantum dots in layered perovskite. *Nature Photonics*, **2020**, 14, 227-233	33.9	91
58	Low-dimensionality perovskites yield high electroluminescence. *Science Bulletin*, **2020**, 65, 1057-1060	10.6	8
57	Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer. *Journal of Physical Chemistry C*, **2020**, 124, 24379-24390	3.8	9
56	Ligand passivation yields long-life perovskite light-emitting diodes. *Science Bulletin*, **2020**, 65, 1691-1693	10.6	2
55	Ultrafast narrowband exciton routing within layered perovskite nanoplatelets enables low-loss luminescent solar concentrators. *Nature Energy*, **2019**, 4, 197-205	62.3	87
54	Ligand cleavage enables formation of 1,2-ethanedithiol capped colloidal quantum dot solids. *Nanoscale*, **2019**, 11, 10774-10781	7.7	12
53	Anchored Ligands Facilitate Efficient B-Site Doping in Metal Halide Perovskites. *Journal of the American Chemical Society*, **2019**, 141, 8296-8305	16.4	32
52	pH and Thermo Dual-Responsive Fluorescent Hydrogel Actuator. *Macromolecular Rapid Communications*, **2019**, 40, e1800648	4.8	39
51	Bright colloidal quantum dot light-emitting diodes enabled by efficient chlorination. *Nature Photonics*, **2018**, 12, 159-164	33.9	206
50	Perovskite seeding growth of formamidinium-lead-iodide-based perovskites for efficient and stable solar cells. *Nature Communications*, **2018**, 9, 1607	17.4	218

49	Amide-Catalyzed Phase-Selective Crystallization Reduces Defect Density in Wide-Bandgap Perovskites. *Advanced Materials*, **2018**, 30, e1706275	24	62
48	Dipolar cations confer defect tolerance in wide-bandgap metal halide perovskites. *Nature Communications*, **2018**, 9, 3100	17.4	171
47	Spin control in reduced-dimensional chiral perovskites. *Nature Photonics*, **2018**, 12, 528-533	33.9	205
46	Compositional and orientational control in metal halide perovskites of reduced dimensionality. *Nature Materials*, **2018**, 17, 900-907	27	252
45	Color-stable highly luminescent sky-blue perovskite light-emitting diodes. *Nature Communications*, **2018**, 9, 3541	17.4	370
44	Efficient and stable solution-processed planar perovskite solar cells via contact passivation. *Science*, **2017**, 355, 722-726	33.3	1667
43	Temperature- and ligand-dependent carrier transport dynamics in photovoltaic PbS colloidal quantum dot thin films using diffusion-wave methods. *Solar Energy Materials and Solar Cells*, **2017**, 164, 135-145	6.4	18
42	Highly Emissive Green Perovskite Nanocrystals in a Solid State Crystalline Matrix. *Advanced Materials*, **2017**, 29, 1605945	24	252
41	Quantum Dots in Two-Dimensional Perovskite Matrices for Efficient Near-Infrared Light Emission. *ACS Photonics*, **2017**, 4, 830-836	6.3	28
40	Cellulose Nanocrystal:Polymer Hybrid Optical Diffusers for Index-Matching-Free Light Management in Optoelectronic Devices. *Advanced Optical Materials*, **2017**, 5, 1700430	8.1	33
39	Identification of the physical origin behind disorder, heterogeneity, and reconstruction and their correlation with the photoluminescence lifetime in hybrid perovskite thin films. *Journal of Materials Chemistry A*, **2017**, 5, 21002-21015	13	9
38	Chemically Addressable Perovskite Nanocrystals for Light-Emitting Applications. *Advanced Materials*, **2017**, 29, 1701153	24	106
37	Mixed-quantum-dot solar cells. *Nature Communications*, **2017**, 8, 1325	17.4	113
36	Photostable Polymer/Si Nanocrystal Bulk Hybrids with Tunable Photoluminescence. *ACS Photonics*, **2016**, 3, 1575-1580	6.3	19
35	Highly Efficient Perovskite-Quantum-Dot Light-Emitting Diodes by Surface Engineering. *Advanced Materials*, **2016**, 28, 8718-8725	24	700
34	Pure Cubic-Phase Hybrid Iodobismuthates AgBi2 I7 for Thin-Film Photovoltaics. *Angewandte Chemie - International Edition*, **2016**, 55, 9586-90	16.4	156
33	Pure Cubic-Phase Hybrid Iodobismuthates AgBi2I7 for Thin-Film Photovoltaics. *Angewandte Chemie* , **2016**, 128, 9738-9742	3.6	35
32	Amine-Free Synthesis of Cesium Lead Halide Perovskite Quantum Dots for Efficient Light-Emitting Diodes. *Advanced Functional Materials*, **2016**, 26, 8757-8763	15.6	265

31	Quantitative Analysis of Trap-State-Mediated Exciton Transport in Perovskite-Shelled PbS Quantum Dot Thin Films Using Photocarrier Diffusion-Wave Nondestructive Evaluation and Imaging. *Journal of Physical Chemistry C*, **2016**, 120, 14416-14427	3.8	22
30	10.6% Certified Colloidal Quantum Dot Solar Cells via Solvent-Polarity-Engineered Halide Passivation. *Nano Letters*, **2016**, 16, 4630-4	11.5	275
29	Passivation Using Molecular Halides Increases Quantum Dot Solar Cell Performance. *Advanced Materials*, **2016**, 28, 299-304	24	279
28	Highly efficient quantum dot near-infrared light-emitting diodes. *Nature Photonics*, **2016**, 10, 253-257	33.9	295
27	Near-Unity Internal Quantum Efficiency of Luminescent Silicon Nanocrystals with Ligand Passivation. *ACS Nano*, **2015**, 9, 7097-104	16.7	104
26	Evolution of the Ultrafast Photoluminescence of Colloidal Silicon Nanocrystals with Changing Surface Chemistry. *ACS Photonics*, **2015**, 2, 595-605	6.3	50
25	High-Efficiency Colloidal Quantum Dot Photovoltaics via Robust Self-Assembled Monolayers. *Nano Letters*, **2015**, 15, 7691-6	11.5	175
24	Colloidal Quantum Dot Photovoltaics Enhanced by Perovskite Shelling. *Nano Letters*, **2015**, 15, 7539-43	11.5	155
23	Radical Initiated Hydrosilylation on Silicon Nanocrystal Surfaces: An Evaluation of Functional Group Tolerance and Mechanistic Study. *Langmuir*, **2015**, 31, 10540-8	4	40
22	All-Quantum-Dot Infrared Light-Emitting Diodes. *ACS Nano*, **2015**, 9, 12327-33	16.7	48
21	Self-Assembled PbSe Nanowire:Perovskite Hybrids. *Journal of the American Chemical Society*, **2015**, 137, 14869-72	16.4	10
20	Highly Luminescent Covalently Linked Silicon Nanocrystal/Polystyrene Hybrid Functional Materials: Synthesis, Properties, and Processability. *Advanced Functional Materials*, **2014**, 24, 1345-1353	15.6	47
19	Surfactant-free synthesis of GeO(2) nanocrystals with controlled morphologies. *Chemical Communications*, **2014**, 50, 6101-4	5.8	20
18	Light-Induced Evolution of Silicon Quantum Dot Surface Chemistry Implications for Photoluminescence, Sensing, and Reactivity. *Chemistry of Materials*, **2014**, 26, 5467-5474	9.6	7
17	Ultranarrow Luminescence Linewidth of Silicon Nanocrystals and Influence of Matrix. *ACS Photonics* , **2014**, 1, 998-1005	6.3	57
16	Size-independent organosilane functionalization of silicon nanocrystals using Wilkinson's catalyst. *Canadian Journal of Chemistry*, **2014**, 92, 951-957	0.9	8
15	Thermoresponsive and Photoluminescent Hybrid Silicon Nanoparticles by Surface-Initiated Group Transfer Polymerization of Diethyl Vinylphosphonate. *Angewandte Chemie*, **2014**, 126, 12702-12705	3.6	13
14	Diazonium salts as grafting agents and efficient radical-hydrosilylation initiators for freestanding photoluminescent silicon nanocrystals. *Chemistry - A European Journal*, **2014**, 20, 4212-6	4.8	22

13	Thermoresponsive and photoluminescent hybrid silicon nanoparticles by surface-initiated group transfer polymerization of diethyl vinylphosphonate. *Angewandte Chemie - International Edition*, **2014**, 53, 12494-7	16.4	11
12	Hybrid Materials: Highly Luminescent Covalently Linked Silicon Nanocrystal/Polystyrene Hybrid Functional Materials: Synthesis, Properties, and Processability (Adv. Funct. Mater. 10/2014). *Advanced Functional Materials*, **2014**, 24, 1344-1344	15.6	0
11	Chemical insight into the origin of red and blue photoluminescence arising from freestanding silicon nanocrystals. *ACS Nano*, **2013**, 7, 2676-85	16.7	231
10	Doping and quantum confinement effects in single Si nanocrystals observed by scanning tunneling spectroscopy. *Nano Letters*, **2013**, 13, 2516-21	11.5	86
9	Surface-induced alkene oligomerization: does thermal hydrosilylation really lead to monolayer protected silicon nanocrystals?. *Journal of the American Chemical Society*, **2013**, 135, 17595-601	16.4	69
8	Shape Evolution of Faceted Silicon Nanocrystals upon Thermal Annealing in an Oxide Matrix. *Materials Research Society Symposia Proceedings*, **2013**, 1536, 207-212		1
7	Size-controlled solid state synthesis of luminescent silicon nanocrystals using Stöber silica particles. *CrystEngComm*, **2012**, 14, 7576	3.3	28
6	A convenient method for preparing alkyl-functionalized silicon nanocubes. *Journal of the American Chemical Society*, **2012**, 134, 13958-61	16.4	30
5	Size-controlled template synthesis of metal-free germanium nanowires. *Journal of Materials Chemistry*, **2011**, 21, 16505		17
4	Synthesis of SixGe1−x Nanocrystals Using Hydrogen Silsesquioxane and Soluble Germanium Diiodide Complexes. *Chemistry of Materials*, **2011**, 23, 5096-5103	9.6	20
3	Computational investigation on structural and physical properties of AlN nanosheets and nanoribbons. *Journal of Nanoscience and Nanotechnology*, **2010**, 10, 7200-3	1.3	15
2	Functionalization of BN nanotubes with free radicals: electroaffinity-independent configuration and band structure engineering. *Frontiers of Physics in China*, **2009**, 4, 378-382		5
1	Postsynthetic Crystalline Transformation in Two-Dimensional Perovskites via Organothiol-Based Chemistry. *CCS Chemistry*,1276-1284	7.2	0