Edward H Sargent

List of Publications by Citations

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674 papers	83,242 citations	147 h-index	271 g-index
735 ext. papers	100,470 ext. citations	17.8 avg, IF	8.49 L-index

#	Paper	IF	Citations
674	Solar cells. Low trap-state density and long carrier diffusion in organolead trihalide perovskite single crystals. *Science*, **2015**, 347, 519-22	33.3	3307
673	Perovskite light-emitting diodes with external quantum efficiency exceeding 20 per cent. *Nature*, **2018**, 562, 245-248	50.4	1802
672	Efficient and stable solution-processed planar perovskite solar cells via contact passivation. *Science*, **2017**, 355, 722-726	33.3	1667
671	Solution-processed PbS quantum dot infrared photodetectors and photovoltaics. *Nature Materials*, **2005**, 4, 138-42	27	1620
670	Perovskite energy funnels for efficient light-emitting diodes. *Nature Nanotechnology*, **2016**, 11, 872-877	28.7	1484
669	Homogeneously dispersed multimetal oxygen-evolving catalysts. *Science*, **2016**, 352, 333-7	33.3	1459
668	Ultrasensitive solution-cast quantum dot photodetectors. *Nature*, **2006**, 442, 180-3	50.4	1442
667	Colloidal-quantum-dot photovoltaics using atomic-ligand passivation. *Nature Materials*, **2011**, 10, 765-71	27	1206
666	Perovskite photonic sources. *Nature Photonics*, **2016**, 10, 295-302	33.9	1079
665	Nanostructured materials for photon detection. *Nature Nanotechnology*, **2010**, 5, 391-400	28.7	1036
664	Enhanced electrocatalytic CO reduction via field-induced reagent concentration. *Nature*, **2016**, 537, 382-386	50.4	997
663	Hybrid passivated colloidal quantum dot solids. *Nature Nanotechnology*, **2012**, 7, 577-82	28.7	993
662	CO electroreduction to ethylene via hydroxide-mediated copper catalysis at an abrupt interface. *Science*, **2018**, 360, 783-787	33.3	980
661	Materials interface engineering for solution-processed photovoltaics. *Nature*, **2012**, 488, 304-12	50.4	905
660	Ligand-Stabilized Reduced-Dimensionality Perovskites. *Journal of the American Chemical Society*, **2016**, 138, 2649-55	16.4	889
659	Challenges for commercializing perovskite solar cells. *Science*, **2018**, 361,	33.3	853
658	Efficient and stable emission of warm-white light from lead-free halide double perovskites. *Nature*, **2018**, 563, 541-545	50.4	835

657	Perovskite-fullerene hybrid materials suppress hysteresis in planar diodes. *Nature Communications*, **2015**, 6, 7081	17.4	815
656	Colloidal Quantum Dot Solar Cells. *Chemical Reviews*, **2015**, 115, 12732-63	68.1	812
655	What would it take for renewably powered electrosynthesis to displace petrochemical processes?. *Science*, **2019**, 364,	33.3	749
654	Building devices from colloidal quantum dots. *Science*, **2016**, 353,	33.3	718
653	Depleted-heterojunction colloidal quantum dot solar cells. *ACS Nano*, **2010**, 4, 3374-80	16.7	707
652	Highly Efficient Perovskite-Quantum-Dot Light-Emitting Diodes by Surface Engineering. *Advanced Materials*, **2016**, 28, 8718-8725	24	700
651	Solution-processed semiconductors for next-generation photodetectors. *Nature Reviews Materials*, **2017**, 2,	73.3	674
650	Materials processing routes to trap-free halide perovskites. *Nano Letters*, **2014**, 14, 6281-6	11.5	567
649	Highly Oriented Low-Dimensional Tin Halide Perovskites with Enhanced Stability and Photovoltaic Performance. *Journal of the American Chemical Society*, **2017**, 139, 6693-6699	16.4	558
648	Ultra-bright and highly efficient inorganic based perovskite light-emitting diodes. *Nature Communications*, **2017**, 8, 15640	17.4	557
647	Managing grains and interfaces via ligand anchoring enables 22.3%-efficiency inverted perovskite solar cells. *Nature Energy*, **2020**, 5, 131-140	62.3	552
646	Thin-film Sb2Se3 photovoltaics with oriented one-dimensional ribbons and benign grain boundaries. *Nature Photonics*, **2015**, 9, 409-415	33.9	548
645	What Should We Make with CO2 and How Can We Make It?. *Joule*, **2018**, 2, 825-832	27.8	546
644	Electrochemical Methods for the Analysis of Clinically Relevant Biomolecules. *Chemical Reviews*, **2016**, 116, 9001-90	68.1	510
643	Planar-integrated single-crystalline perovskite photodetectors. *Nature Communications*, **2015**, 6, 8724	17.4	497
642	Colloidal quantum-dot photodetectors exploiting multiexciton generation. *Science*, **2009**, 324, 1542-4	33.3	486
641	Catalyst electro-redeposition controls morphology and oxidation state for selective carbon dioxide reduction. *Nature Catalysis*, **2018**, 1, 103-110	36.5	479
640	Air-stable n-type colloidal quantum dot solids. *Nature Materials*, **2014**, 13, 822-8	27	466

639	Monolithic all-perovskite tandem solar cells with 24.8% efficiency exploiting comproportionation to suppress Sn(ii) oxidation in precursor ink. *Nature Energy*, **2019**, 4, 864-873	62.3	463
638	Infrared Quantum Dots. *Advanced Materials*, **2005**, 17, 515-522	24	452
637	Designing materials for electrochemical carbon dioxide recycling. *Nature Catalysis*, **2019**, 2, 648-658	36.5	442
636	Dopant-induced electron localization drives CO reduction to C hydrocarbons. *Nature Chemistry*, **2018**, 10, 974-980	17.6	435
635	Hybrid organic-inorganic inks flatten the energy landscape in colloidal quantum dotsolids. *Nature Materials*, **2017**, 16, 258-263	27	432
634	CO electrolysis to multicarbon products at activities greater than 1 A cm. *Science*, **2020**, 367, 661-666	33.3	403
633	Efficient Luminescence from Perovskite Quantum Dot Solids. *ACS Applied Materials & Interfaces*, **2015**, 7, 25007-13	9.5	401
632	Electrochemical CO Reduction into Chemical Feedstocks: From Mechanistic Electrocatalysis Models to System Design. *Advanced Materials*, **2019**, 31, e1807166	24	396
631	Fast, sensitive and spectrally tuneable colloidal-quantum-dot photodetectors. *Nature Nanotechnology*, **2009**, 4, 40-4	28.7	395
630	Perovskites for Next-Generation Optical Sources. *Chemical Reviews*, **2019**, 119, 7444-7477	68.1	391
629	Efficient, stable infrared photovoltaics based on solution-cast colloidal quantum dots. *ACS Nano*, **2008**, 2, 833-40	16.7	389
628	The architecture of colloidal quantum dot solar cells: materials to devices. *Chemical Reviews*, **2014**, 114, 863-82	68.1	387
627	Quantum-dot-in-perovskite solids. *Nature*, **2015**, 523, 324-8	50.4	382
626	Color-stable highly luminescent sky-blue perovskite light-emitting diodes. *Nature Communications*, **2018**, 9, 3541	17.4	370
625	25th anniversary article: Colloidal quantum dot materials and devices: a quarter-century of advances. *Advanced Materials*, **2013**, 25, 4986-5010	24	369
624	Infrared colloidal quantum dots for photovoltaics: fundamentals and recent progress. *Advanced Materials*, **2011**, 23, 12-29	24	368
623	Suppression of atomic vacancies via incorporation of isovalent small ions to increase the stability of halide perovskite solar cells in ambient air. *Nature Energy*, **2018**, 3, 648-654	62.3	355
622	Steering post-CC coupling selectivity enables high efficiency electroreduction of carbon dioxide to multi-carbon alcohols. *Nature Catalysis*, **2018**, 1, 421-428	36.5	348

621	Sensitive solution-processed visible-wavelength photodetectors. *Nature Photonics*, **2007**, 1, 531-534	33.9	342
620	Tandem colloidal quantum dot solar cells employing a graded recombination layer. *Nature Photonics*, **2011**, 5, 480-484	33.9	336
619	Accelerated discovery of CO electrocatalysts using active machine learning. *Nature*, **2020**, 581, 178-183	50.4	328
618	Theory-driven design of high-valence metal sites for water oxidation confirmed using in situ soft X-ray absorption. *Nature Chemistry*, **2018**, 10, 149-154	17.6	328
617	Molecular tuning of CO-to-ethylene conversion. *Nature*, **2020**, 577, 509-513	50.4	321
616	Programming the detection limits of biosensors through controlled nanostructuring. *Nature Nanotechnology*, **2009**, 4, 844-8	28.7	320
615	A general phase-transfer protocol for metal ions and its application in nanocrystal synthesis. *Nature Materials*, **2009**, 8, 683-9	27	318
614	Quantum dot photovoltaics in the extreme quantum confinement regime: the surface-chemical origins of exceptional air- and light-stability. *ACS Nano*, **2010**, 4, 869-78	16.7	312
613	Size-tunable infrared (1000□1600 nm) electroluminescence from PbS quantum-dot nanocrystals in a semiconducting polymer. *Applied Physics Letters*, **2003**, 82, 2895-2897	3.4	312
612	Electron-phonon interaction in efficient perovskite blue emitters. *Nature Materials*, **2018**, 17, 550-556	27	310
611	Tailoring the Energy Landscape in Quasi-2D Halide Perovskites Enables Efficient Green-Light Emission. *Nano Letters*, **2017**, 17, 3701-3709	11.5	309
610	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140	33.3	298
609	Highly efficient quantum dot near-infrared light-emitting diodes. *Nature Photonics*, **2016**, 10, 253-257	33.9	295
608	Colloidal quantum dot photovoltaics: a path forward. *ACS Nano*, **2011**, 5, 8506-14	16.7	294
607	Infrared photovoltaics made by solution processing. *Nature Photonics*, **2009**, 3, 325-331	33.9	294
606	Conformal organohalide perovskites enable lasing on spherical resonators. *ACS Nano*, **2014**, 8, 10947-52	16.7	290
605	Advancing the speed, sensitivity and accuracy of biomolecular detection using multi-length-scale engineering. *Nature Nanotechnology*, **2014**, 9, 969-80	28.7	284
604	Bipolar-shell resurfacing for blue LEDs based on strongly confined perovskite quantum dots. *Nature Nanotechnology*, **2020**, 15, 668-674	28.7	281

603	Passivation Using Molecular Halides Increases Quantum Dot Solar Cell Performance. *Advanced Materials*, **2016**, 28, 299-304	24	279
602	Synthesis of Colloidal CuGaSe2, CuInSe2, and Cu(InGa)Se2 Nanoparticles. *Chemistry of Materials*, **2008**, 20, 6906-6910	9.6	278
601	10.6% Certified Colloidal Quantum Dot Solar Cells via Solvent-Polarity-Engineered Halide Passivation. *Nano Letters*, **2016**, 16, 4630-4	11.5	275
600	Thermal unequilibrium of strained black CsPbI thin films. *Science*, **2019**, 365, 679-684	33.3	272
599	Perovskites for Light Emission. *Advanced Materials*, **2018**, 30, e1801996	24	270
598	Heterovalent Dopant Incorporation for Bandgap and Type Engineering of Perovskite Crystals. *Journal of Physical Chemistry Letters*, **2016**, 7, 295-301	6.4	268
597	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
596	Multi-site electrocatalysts for hydrogen evolution in neutral media by destabilization of water molecules. *Nature Energy*, **2019**, 4, 107-114	62.3	264
595	Sulfur-Modulated Tin Sites Enable Highly Selective Electrochemical Reduction of CO2 to Formate. *Joule*, **2017**, 1, 794-805	27.8	263
594	Highly Emissive Green Perovskite Nanocrystals in a Solid State Crystalline Matrix. *Advanced Materials*, **2017**, 29, 1605945	24	252
593	Charge-extraction strategies for colloidal quantum dot photovoltaics. *Nature Materials*, **2014**, 13, 233-40	27	252
592	Compositional and orientational control in metal halide perovskites of reduced dimensionality. *Nature Materials*, **2018**, 17, 900-907	27	252
591	Halide-Dependent Electronic Structure of Organolead Perovskite Materials. *Chemistry of Materials*, **2015**, 27, 4405-4412	9.6	251
590	Sensitive, Fast, and Stable Perovskite Photodetectors Exploiting Interface Engineering. *ACS Photonics*, **2015**, 2, 1117-1123	6.3	247
589	Sensitive solution-processed Bi2S3 nanocrystalline photodetectors. *Nano Letters*, **2008**, 8, 4002-6	11.5	239
588	Physically flexible, rapid-response gas sensor based on colloidal quantum dot solids. *Advanced Materials*, **2014**, 26, 2718-24, 2617	24	237
587	Colloidal quantum dot ligand engineering for high performance solar cells. *Energy and Environmental Science*, **2016**, 9, 1130-1143	35.4	235
586	All-perovskite tandem solar cells with 24.2% certified efficiency and area over 1 cm2 using surface-anchoring zwitterionic antioxidant. *Nature Energy*, **2020**, 5, 870-880	62.3	233

585	Continuous-wave lasing in colloidal quantum dot solids enabled by facet-selective epitaxy. *Nature*, **2017**, 544, 75-79	50.4	225
584	Perovskite seeding growth of formamidinium-lead-iodide-based perovskites for efficient and stable solar cells. *Nature Communications*, **2018**, 9, 1607	17.4	218
583	Enhanced mobility-lifetime products in PbS colloidal quantum dot photovoltaics. *ACS Nano*, **2012**, 6, 89-99	16.7	214
582	Rational Design of Efficient Palladium Catalysts for Electroreduction of Carbon Dioxide to Formate. *ACS Catalysis*, **2016**, 6, 8115-8120	13.1	212
581	Synthetic Control over Quantum Well Width Distribution and Carrier Migration in Low-Dimensional Perovskite Photovoltaics. *Journal of the American Chemical Society*, **2018**, 140, 2890-2896	16.4	211
580	Colloidal quantum dot solids for solution-processed solar cells. *Nature Energy*, **2016**, 1,	62.3	210
579	Two-Photon Absorption in Organometallic Bromide Perovskites. *ACS Nano*, **2015**, 9, 9340-6	16.7	208
578	Bright colloidal quantum dot light-emitting diodes enabled by efficient chlorination. *Nature Photonics*, **2018**, 12, 159-164	33.9	206
577	Spin control in reduced-dimensional chiral perovskites. *Nature Photonics*, **2018**, 12, 528-533	33.9	205
576	Copper nanocavities confine intermediates for efficient electrosynthesis of C3 alcohol fuels from carbon monoxide. *Nature Catalysis*, **2018**, 1, 946-951	36.5	205
575	DNA-based programming of quantum dot valency, self-assembly and luminescence. *Nature Nanotechnology*, **2011**, 6, 485-90	28.7	204
574	Ultralow Self-Doping in Two-dimensional Hybrid Perovskite Single Crystals. *Nano Letters*, **2017**, 17, 4759-4767	11.5	202
573	An electrochemical clamp assay for direct, rapid analysis of circulating nucleic acids in serum. *Nature Chemistry*, **2015**, 7, 569-75	17.6	198
572	Schottky-quantum dot photovoltaics for efficient infrared power conversion. *Applied Physics Letters* , **2008**, 92, 151115	3.4	197
571	2D matrix engineering for homogeneous quantum dot coupling in photovoltaic solids. *Nature Nanotechnology*, **2018**, 13, 456-462	28.7	196
570	Molecular enhancement of heterogeneous CO reduction. *Nature Materials*, **2020**, 19, 266-276	27	195
569	Enhanced Nitrate-to-Ammonia Activity on Copper-Nickel Alloys via Tuning of Intermediate Adsorption. *Journal of the American Chemical Society*, **2020**, 142, 5702-5708	16.4	192
568	Depleted bulk heterojunction colloidal quantum dot photovoltaics. *Advanced Materials*, **2011**, 23, 3134-8	24	192

567	Engineering the temporal response of photoconductive photodetectors via selective introduction of surface trap states. *Nano Letters*, **2008**, 8, 1446-50	11.5	192
566	Fast and Sensitive Solution-Processed Visible-Blind Perovskite UV Photodetectors. *Advanced Materials*, **2016**, 28, 7264-8	24	192
565	Photovoltaic concepts inspired by coherence effects in photosynthetic systems. *Nature Materials*, **2016**, 16, 35-44	27	191
564	Chiral-perovskite optoelectronics. *Nature Reviews Materials*, **2020**, 5, 423-439	73.3	191
563	Thiols passivate recombination centers in colloidal quantum dots leading to enhanced photovoltaic device efficiency. *ACS Nano*, **2008**, 2, 2356-62	16.7	191
562	Metal-Organic Frameworks Mediate Cu Coordination for Selective CO Electroreduction. *Journal of the American Chemical Society*, **2018**, 140, 11378-11386	16.4	188
561	Engineering colloidal quantum dot solids within and beyond the mobility-invariant regime. *Nature Communications*, **2014**, 5, 3803	17.4	188
560	N-heterocyclic carbene-functionalized magic-number gold nanoclusters. *Nature Chemistry*, **2019**, 11, 419-425	17.6	185
559	One-step DNA-programmed growth of luminescent and biofunctionalized nanocrystals. *Nature Nanotechnology*, **2009**, 4, 121-5	28.7	184
558	Tunable Cu Enrichment Enables Designer Syngas Electrosynthesis from CO. *Journal of the American Chemical Society*, **2017**, 139, 9359-9363	16.4	183
557	A charge-orbital balance picture of doping in colloidal quantum dot solids. *ACS Nano*, **2012**, 6, 8448-55	16.7	183
556	Impact of dithiol treatment and air annealing on the conductivity, mobility, and hole density in PbS colloidal quantum dot solids. *Applied Physics Letters*, **2008**, 92, 212105	3.4	183
555	All-inorganic colloidal quantum dot photovoltaics employing solution-phase halide passivation. *Advanced Materials*, **2012**, 24, 6295-9	24	179
554	Binding Site Diversity Promotes CO Electroreduction to Ethanol. *Journal of the American Chemical Society*, **2019**, 141, 8584-8591	16.4	178
553	Photonic crystal heterostructures and interfaces. *Reviews of Modern Physics*, **2006**, 78, 455-481	40.5	176
552	High-Efficiency Colloidal Quantum Dot Photovoltaics via Robust Self-Assembled Monolayers. *Nano Letters*, **2015**, 15, 7691-6	11.5	175
551	Perovskite thin films via atomic layer deposition. *Advanced Materials*, **2015**, 27, 53-8	24	171
550	Dipolar cations confer defect tolerance in wide-bandgap metal halide perovskites. *Nature Communications*, **2018**, 9, 3100	17.4	171

549	Quantum junction solar cells. *Nano Letters*, **2012**, 12, 4889-94	11.5	169
548	Regulating strain in perovskite thin films through charge-transport layers. *Nature Communications*, **2020**, 11, 1514	17.4	165
547	N-type colloidal-quantum-dot solids for photovoltaics. *Advanced Materials*, **2012**, 24, 6181-5	24	165
546	Cooperative CO2-to-ethanol conversion via enriched intermediates at molecule-metal catalyst interfaces. *Nature Catalysis*, **2020**, 3, 75-82	36.5	164
545	Copper-on-nitride enhances the stable electrosynthesis of multi-carbon products from CO. *Nature Communications*, **2018**, 9, 3828	17.4	164
544	Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. *Nature Energy*, **2020**, 5, 478-486	62.3	163
543	Measuring charge carrier diffusion in coupled colloidal quantum dot solids. *ACS Nano*, **2013**, 7, 5282-90	16.7	163
542	Gold Nanoparticle Plasmonic Superlattices as Surface-Enhanced Raman Spectroscopy Substrates. *ACS Nano*, **2018**, 12, 8531-8539	16.7	162
541	An ultrasensitive universal detector based on neutralizer displacement. *Nature Chemistry*, **2012**, 4, 642-8	17.6	161
540	Highly Efficient Visible Colloidal Lead-Halide Perovskite Nanocrystal Light-Emitting Diodes. *Nano Letters*, **2018**, 18, 3157-3164	11.5	160
539	Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. *Nature Catalysis*, **2020**, 3, 98-106	36.5	158
538	Pure Cubic-Phase Hybrid Iodobismuthates AgBi2 I7 for Thin-Film Photovoltaics. *Angewandte Chemie - International Edition*, **2016**, 55, 9586-90	16.4	156
537	Continuous Carbon Dioxide Electroreduction to Concentrated Multi-carbon Products Using a Membrane Electrode Assembly. *Joule*, **2019**, 3, 2777-2791	27.8	155
536	Colloidal Quantum Dot Photovoltaics Enhanced by Perovskite Shelling. *Nano Letters*, **2015**, 15, 7539-43	11.5	155
535	Quantum Dots Supply Bulk- and Surface-Passivation Agents for Efficient and Stable Perovskite Solar Cells. *Joule*, **2019**, 3, 1963-1976	27.8	154
534	Schottky quantum dot solar cells stable in air under solar illumination. *Advanced Materials*, **2010**, 22, 1398-402	24	152
533	The In-Gap Electronic State Spectrum of Methylammonium Lead Iodide Single-Crystal Perovskites. *Advanced Materials*, **2016**, 28, 3406-10	24	151
532	Graded doping for enhanced colloidal quantum dot photovoltaics. *Advanced Materials*, **2013**, 25, 1719-23	24	150

531	Lattice anchoring stabilizes solution-processed semiconductors. *Nature*, **2019**, 570, 96-101	50.4	149
530	Tracking the dynamics of circulating tumour cell phenotypes using nanoparticle-mediated magnetic ranking. *Nature Nanotechnology*, **2017**, 12, 274-281	28.7	149
529	High-valence metals improve oxygen evolution reaction performance by modulating 3d metal oxidation cycle energetics. *Nature Catalysis*, **2020**, 3, 985-992	36.5	149
528	Combined high alkalinity and pressurization enable efficient CO2 electroreduction to CO. *Energy and Environmental Science*, **2018**, 11, 2531-2539	35.4	147
527	Photovoltage field-effect transistors. *Nature*, **2017**, 542, 324-327	50.4	144
526	Bright high-colour-purity deep-blue carbon dot light-emitting diodes via efficient edge amination. *Nature Photonics*, **2020**, 14, 171-176	33.9	144
525	Efficient Schottky-quantum-dot photovoltaics: The roles of depletion, drift, and diffusion. *Applied Physics Letters*, **2008**, 92, 122111	3.4	143
524	PbS colloidal quantum dot photoconductive photodetectors: Transport, traps, and gain. *Applied Physics Letters*, **2007**, 91, 173505	3.4	143
523	Efficient Biexciton Interaction in Perovskite Quantum Dots Under Weak and Strong Confinement. *ACS Nano*, **2016**, 10, 8603-9	16.7	142
522	Photon management for augmented photosynthesis. *Nature Communications*, **2016**, 7, 12699	17.4	142
521	Solar cells based on inks of n-type colloidal quantum dots. *ACS Nano*, **2014**, 8, 10321-7	16.7	141
520	Graphdiyne: An Efficient Hole Transporter for Stable High-Performance Colloidal Quantum Dot Solar Cells. *Advanced Functional Materials*, **2016**, 26, 5284-5289	15.6	140
519	Semiconductor quantum dots: Technological progress and future challenges. *Science*, **2021**, 373,	33.3	138
518	High Rate, Selective, and Stable Electroreduction of CO2 to CO in Basic and Neutral Media. *ACS Energy Letters*, **2018**, 3, 2835-2840	20.1	136
517	A Surface Reconstruction Route to High Productivity and Selectivity in CO Electroreduction toward C Hydrocarbons. *Advanced Materials*, **2018**, 30, e1804867	24	131
516	Structural, optical, and electronic studies of wide-bandgap lead halide perovskites. *Journal of Materials Chemistry C*, **2015**, 3, 8839-8843	7.1	129
515	Profiling circulating tumour cells and other biomarkers of invasive cancers. *Nature Biomedical Engineering*, **2018**, 2, 72-84	19	128
514	DNA Clutch Probes for Circulating Tumor DNA Analysis. *Journal of the American Chemical Society*, **2016**, 138, 11009-16	16.4	128

513	Colloidal quantum dot solar cells exploiting hierarchical structuring. *Nano Letters*, **2015**, 15, 1101-8	11.5	127
512	Direct, electronic microRNA detection for the rapid determination of differential expression profiles. *Angewandte Chemie - International Edition*, **2009**, 48, 8461-4	16.4	127
511	High-Density Nanosharp Microstructures Enable Efficient CO Electroreduction. *Nano Letters*, **2016**, 16, 7224-7228	11.5	126
510	Photoconductivity from PbS-nanocrystal□emiconducting polymer composites for solution-processible, quantum-size tunableinfrared photodetectors. *Applied Physics Letters*, **2004**, 85, 2089-2091	3.4	125
509	Efficient spray-coated colloidal quantum dot solar cells. *Advanced Materials*, **2015**, 27, 116-21	24	123
508	2D Metal Oxyhalide-Derived Catalysts for Efficient CO Electroreduction. *Advanced Materials*, **2018**, 30, e1802858	24	123
507	Reducing Defects in Halide Perovskite Nanocrystals for Light-Emitting Applications. *Journal of Physical Chemistry Letters*, **2019**, 10, 2629-2640	6.4	122
506	Engineering of CH3 NH3 PbI3 Perovskite Crystals by Alloying Large Organic Cations for Enhanced Thermal Stability and Transport Properties. *Angewandte Chemie - International Edition*, **2016**, 55, 10686-90	16.4	121
505	Ambient-processed colloidal quantum dot solar cells via individual pre-encapsulation of nanoparticles. *Journal of the American Chemical Society*, **2010**, 132, 5952-3	16.4	120
504	Efficient solution-processed infrared photovoltaic cells: Planarized all-inorganic bulk heterojunction devices via inter-quantum-dot bridging during growth from solution. *Applied Physics Letters*, **2007**, 90, 183113	3.4	115
503	CO electrolysis to multicarbon products in strong acid. *Science*, **2021**, 372, 1074-1078	33.3	115
502	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. *Nature Communications*, **2020**, 11, 1257	17.4	114
501	Mixed-quantum-dot solar cells. *Nature Communications*, **2017**, 8, 1325	17.4	113
500	In Situ Back-Contact Passivation Improves Photovoltage and Fill Factor in Perovskite Solar Cells. *Advanced Materials*, **2019**, 31, e1807435	24	112
499	Ordered nanopillar structured electrodes for depleted bulk heterojunction colloidal quantum dot solar cells. *Advanced Materials*, **2012**, 24, 2315-9	24	112
498	All-perovskite tandem solar cells with improved grain surface passivation.. *Nature*, **2022**,	50.4	112
497	Efficient electrocatalytic conversion of carbon monoxide to propanol using fragmented copper. *Nature Catalysis*, **2019**, 2, 251-258	36.5	111
496	Schottky barriers to colloidal quantum dot films. *Applied Physics Letters*, **2007**, 91, 253117	3.4	111

495	Enhanced infrared photovoltaic efficiency in PbS nanocrystal/semiconducting polymer composites: 600-fold increase in maximum power output via control of the ligand barrier. *Applied Physics Letters* , **2005**, 87, 233101	3.4	111
494	Solar cells using quantum funnels. *Nano Letters*, **2011**, 11, 3701-6	11.5	110
493	Nanostructuring of sensors determines the efficiency of biomolecular capture. *Analytical Chemistry*, **2010**, 82, 5928-31	7.8	110
492	Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. *Nature Communications*, **2020**, 11, 103	17.4	110
491	Aluminum doped zinc oxide for organic photovoltaics. *Applied Physics Letters*, **2009**, 94, 213301	3.4	109
490	Interrogating Circulating Microsomes and Exosomes Using Metal Nanoparticles. *Small*, **2016**, 12, 727-32	11	107
489	Nanoparticle-mediated binning and profiling of heterogeneous circulating tumor cell subpopulations. *Angewandte Chemie - International Edition*, **2015**, 54, 139-43	16.4	106
488	Chemically Addressable Perovskite Nanocrystals for Light-Emitting Applications. *Advanced Materials*, **2017**, 29, 1701153	24	106
487	The donor-supply electrode enhances performance in colloidal quantum dot solar cells. *ACS Nano*, **2013**, 7, 6111-6	16.7	105
486	Solution-Processed Quantum Dot Photodetectors. *Proceedings of the IEEE*, **2009**, 97, 1666-1683	14.3	105
485	Bifunctional Surface Engineering on SnO2 Reduces Energy Loss in Perovskite Solar Cells. *ACS Energy Letters*, **2020**, 5, 2796-2801	20.1	104
484	Record Charge Carrier Diffusion Length in Colloidal Quantum Dot Solids via Mutual Dot-To-Dot Surface Passivation. *Advanced Materials*, **2015**, 27, 3325-30	24	103
483	A solution-processed 1.53 mum quantum dot laser with temperature-invariant emission wavelength. *Optics Express*, **2006**, 14, 3273-81	3.3	103
482	Aptamer and Antisense-Mediated Two-Dimensional Isolation of Specific Cancer Cell Subpopulations. *Journal of the American Chemical Society*, **2016**, 138, 2476-9	16.4	102
481	The Electrical and Optical Properties of Organometal Halide Perovskites Relevant to Optoelectronic Performance. *Advanced Materials*, **2018**, 30, 1700764	24	101
480	Self-assembled, nanowire network electrodes for depleted bulk heterojunction solar cells. *Advanced Materials*, **2013**, 25, 1769-73	24	101
479	Hierarchical nanotextured microelectrodes overcome the molecular transport barrier to achieve rapid, direct bacterial detection. *ACS Nano*, **2011**, 5, 3360-6	16.7	101
478	Chlorine Vacancy Passivation in Mixed Halide Perovskite Quantum Dots by Organic Pseudohalides Enables Efficient Rec. 2020 Blue Light-Emitting Diodes. *ACS Energy Letters*, **2020**, 5, 793-798	20.1	100

477	Hydronium-Induced Switching between CO Electroreduction Pathways. *Journal of the American Chemical Society*, **2018**, 140, 3833-3837	16.4	100
476	Double-Sided Junctions Enable High-Performance Colloidal-Quantum-Dot Photovoltaics. *Advanced Materials*, **2016**, 28, 4142-8	24	100
475	Colloidal CdSe(1-x)S(x) Nanoplatelets with Narrow and Continuously-Tunable Electroluminescence. *Nano Letters*, **2015**, 15, 4611-5	11.5	100
474	Ultrasensitive electrochemical biomolecular detection using nanostructured microelectrodes. *Accounts of Chemical Research*, **2014**, 47, 2417-25	24.3	97
473	Chloride Passivation of ZnO Electrodes Improves Charge Extraction in Colloidal Quantum Dot Photovoltaics. *Advanced Materials*, **2017**, 29, 1702350	24	97
472	Interface Recombination in Depleted Heterojunction Photovoltaics based on Colloidal Quantum Dots. *Advanced Energy Materials*, **2013**, 3, 917-922	21.8	97
471	Dynamic Trap Formation and Elimination in Colloidal Quantum Dots. *Journal of Physical Chemistry Letters*, **2013**, 4, 987-92	6.4	95
470	Colloidal quantum dot photovoltaics: the effect of polydispersity. *Nano Letters*, **2012**, 12, 1007-12	11.5	95
469	Hydroxide promotes carbon dioxide electroreduction to ethanol on copper via tuning of adsorbed hydrogen. *Nature Communications*, **2019**, 10, 5814	17.4	95
468	Crosslinked Remote-Doped Hole-Extracting Contacts Enhance Stability under Accelerated Lifetime Testing in Perovskite Solar Cells. *Advanced Materials*, **2016**, 28, 2807-15	24	94
467	Efficient Infrared Electroluminescent Devices Using Solution-Processed Colloidal Quantum Dots. *Advanced Functional Materials*, **2005**, 15, 1865-1869	15.6	93
466	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
465	Photonic pseudo-gap-based modification of photoluminescence from CdS nanocrystal satellites around polymer microspheres in a photonic crystal. *Applied Physics Letters*, **2002**, 81, 3134-3136	3.4	92
464	Microsecond-sustained lasing from colloidal quantum dot solids. *Nature Communications*, **2015**, 6, 8694	17.4	91
463	Efficient near-infrared light-emitting diodes based on quantum dots in layered perovskite. *Nature Photonics*, **2020**, 14, 227-233	33.9	91
462	Colloidal quantum dot photodetectors. *Infrared Physics and Technology*, **2011**, 54, 278-282	2.7	91
461	Electron acceptor materials engineering in colloidal quantum dot solar cells. *Advanced Materials*, **2011**, 23, 3832-7	24	90
460	Suppressed Ion Migration in Reduced-Dimensional Perovskites Improves Operating Stability. *ACS Energy Letters*, **2019**, 4, 1521-1527	20.1	89

459	Jointly tuned plasmonic-excitonic photovoltaics using nanoshells. *Nano Letters*, **2013**, 13, 1502-8	11.5	89
458	Highly specific electrochemical analysis of cancer cells using multi-nanoparticle labeling. *Angewandte Chemie - International Edition*, **2014**, 53, 13145-9	16.4	89
457	Solution-based circuits enable rapid and multiplexed pathogen detection. *Nature Communications*, **2013**, 4, 2001	17.4	89
456	Constraining CO coverage on copper promotes high-efficiency ethylene electroproduction. *Nature Catalysis*, **2019**, 2, 1124-1131	36.5	89
455	One-Step Synthesis of SnI▯(DMSO) Adducts for High-Performance Tin Perovskite Solar Cells. *Journal of the American Chemical Society*, **2021**, 143, 10970-10976	16.4	89
454	Light emission efficiency and dynamics in silicon-rich silicon nitride films. *Applied Physics Letters*, **2006**, 88, 233109	3.4	88
453	High-Throughput Screening of Lead-Free Perovskite-like Materials for Optoelectronic Applications. *Journal of Physical Chemistry C*, **2017**, 121, 7183-7187	3.8	87
452	Ultrafast narrowband exciton routing within layered perovskite nanoplatelets enables low-loss luminescent solar concentrators. *Nature Energy*, **2019**, 4, 197-205	62.3	87
451	Directly deposited quantum dot solids using a colloidally stable nanoparticle ink. *Advanced Materials*, **2013**, 25, 5742-9	24	87
450	Highly luminescent lead sulfide nanocrystals in organic solvents and water through ligand exchange with poly(acrylic acid). *Langmuir*, **2008**, 24, 8215-9	4	87
449	Synthesis and optical properties of thiol-stabilized PbS nanocrystals. *Langmuir*, **2005**, 21, 1086-90	4	87
448	Copper adparticle enabled selective electrosynthesis of n-propanol. *Nature Communications*, **2018**, 9, 4614	17.4	86
447	Monolayer Perovskite Bridges Enable Strong Quantum Dot Coupling for Efficient Solar Cells. *Joule*, **2020**, 4, 1542-1556	27.8	85
446	High Color Purity Lead-Free Perovskite Light-Emitting Diodes via Sn Stabilization. *Advanced Science*, **2020**, 7, 1903213	13.6	85
445	Efficient and Stable Inverted Perovskite Solar Cells Incorporating Secondary Amines. *Advanced Materials*, **2019**, 31, e1903559	24	85
444	Engineering charge transport by heterostructuring solution-processed semiconductors. *Nature Reviews Materials*, **2017**, 2,	73.3	84
443	Nanomorphology-Enhanced Gas-Evolution Intensifies CO2 Reduction Electrochemistry. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 4031-4040	8.3	84
442	Mobile-Ion-Induced Degradation of Organic Hole-Selective Layers in Perovskite Solar Cells. *Journal of Physical Chemistry C*, **2017**, 121, 14517-14523	3.8	83

441	Nanostructuring of patterned microelectrodes to enhance the sensitivity of electrochemical nucleic acids detection. *Angewandte Chemie - International Edition*, **2009**, 48, 8457-60	16.4	83
440	NIR-emitting colloidal quantum dots having 26% luminescence quantum yield in buffer solution. *Journal of the American Chemical Society*, **2007**, 129, 7218-9	16.4	82
439	Distribution control enables efficient reduced-dimensional perovskite LEDs. *Nature*, **2021**, 599, 594-598	50.4	81
438	Multifunctional quantum dot DNA hydrogels. *Nature Communications*, **2017**, 8, 381	17.4	80
437	Crystal symmetry breaking and vacancies in colloidal lead chalcogenide quantum dots. *Nature Materials*, **2016**, 15, 987-94	27	80
436	Nucleotide-directed growth of semiconductor nanocrystals. *Journal of the American Chemical Society*, **2006**, 128, 64-5	16.4	80
435	Edge stabilization in reduced-dimensional perovskites. *Nature Communications*, **2020**, 11, 170	17.4	79
434	Chloride-mediated selective electrosynthesis of ethylene and propylene oxides at high current density. *Science*, **2020**, 368, 1228-1233	33.3	78
433	Quantum-Dot-Derived Catalysts for CO2 Reduction Reaction. *Joule*, **2019**, 3, 1703-1718	27.8	78
432	Efficient excitation transfer from polymer to nanocrystals. *Applied Physics Letters*, **2004**, 84, 4295-4297	3.4	78
431	Efficient hybrid colloidal quantum dot/organic solar cells mediated by near-infrared sensitizing small molecules. *Nature Energy*, **2019**, 4, 969-976	62.3	78
430	Automated synthesis of photovoltaic-quality colloidal quantum dots using separate nucleation and growth stages. *ACS Nano*, **2013**, 7, 10158-66	16.7	77
429	Azobenzenes for photonic network applications: Third-order nonlinear optical properties. *Journal of Materials Science: Materials in Electronics*, **2001**, 12, 483-489	2.1	76
428	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. *Nature Energy*, **2021**, 6, 167-175	62.3	76
427	Effect of solvent environment on colloidal-quantum-dot solar-cell manufacturability and performance. *Advanced Materials*, **2014**, 26, 4717-23	24	75
426	Solution-processed colloidal quantum dot photovoltaics: A perspective. *Energy and Environmental Science*, **2011**, 4, 4870	35.4	75
425	A two-step route to planar perovskite cells exhibiting reduced hysteresis. *Applied Physics Letters*, **2015**, 106, 143902	3.4	74
424	0D-2D Quantum Dot: Metal Dichalcogenide Nanocomposite Photocatalyst Achieves Efficient Hydrogen Generation. *Advanced Materials*, **2017**, 29, 1605646	24	73

423	Infrared Colloidal Quantum Dot Photovoltaics via Coupling Enhancement and Agglomeration Suppression. *ACS Nano*, **2015**, 9, 8833-42	16.7	73
422	Direct profiling of cancer biomarkers in tumor tissue using a multiplexed nanostructured microelectrode integrated circuit. *ACS Nano*, **2009**, 3, 3207-13	16.7	71
421	Solution-processed infrared photovoltaic devices with >10% monochromatic internal quantum efficiency. *Applied Physics Letters*, **2005**, 87, 213112	3.4	71
420	A Multi-functional Molecular Modifier Enabling Efficient Large-Area Perovskite Light-Emitting Diodes. *Joule*, **2020**, 4, 1977-1987	27.8	70
419	Detection of SARS-CoV-2 Viral Particles Using Direct, Reagent-Free Electrochemical Sensing. *Journal of the American Chemical Society*, **2021**, 143, 1722-1727	16.4	70
418	Profiling Functional and Biochemical Phenotypes of Circulating Tumor Cells Using a Two-Dimensional Sorting Device. *Angewandte Chemie - International Edition*, **2017**, 56, 163-168	16.4	69
417	Field-emission from quantum-dot-in-perovskite solids. *Nature Communications*, **2017**, 8, 14757	17.4	68
416	Heavy-metal-free solution-processed nanoparticle-based photodetectors: doping of intrinsic vacancies enables engineering of sensitivity and speed. *ACS Nano*, **2009**, 3, 331-8	16.7	68
415	Biotemplated nanostructures: directed assembly of electronic and optical materials using nanoscale complementarity. *Journal of Materials Chemistry*, **2008**, 18, 954-964		68
414	Room-temperature amplified spontaneous emission at 1300 nm in solution-processed PbS quantum-dot films. *Optics Letters*, **2005**, 30, 171-3	3	68
413	[60]Fullerene-containing polyurethane films with large ultrafast nonresonant third-order nonlinearity at telecommunication wavelengths. *Journal of the American Chemical Society*, **2003**, 125, 13648-9	16.4	68
412	Photochemically Cross-Linked Quantum Well Ligands for 2D/3D Perovskite Photovoltaics with Improved Photovoltage and Stability. *Journal of the American Chemical Society*, **2019**, 141, 14180-14189	16.4	67
411	Direct genetic analysis of ten cancer cells: tuning sensor structure and molecular probe design for efficient mRNA capture. *Angewandte Chemie - International Edition*, **2011**, 50, 4137-41	16.4	67
410	CO2 Electroreduction from Carbonate Electrolyte. *ACS Energy Letters*, **2019**, 4, 1427-1431	20.1	66
409	Rapid electrochemical phenotypic profiling of antibiotic-resistant bacteria. *Lab on A Chip*, **2015**, 15, 2799-807	7.2	66
408	Increasing Polymer Solar Cell Fill Factor by Trap-Filling with F4-TCNQ at Parts Per Thousand Concentration. *Advanced Materials*, **2016**, 28, 6491-6	24	66
407	Synergistic doping of fullerene electron transport layer and colloidal quantum dot solids enhances solar cell performance. *Advanced Materials*, **2015**, 27, 917-21	24	65
406	Efficient Methane Electrosynthesis Enabled by Tuning Local CO Availability. *Journal of the American Chemical Society*, **2020**, 142, 3525-3531	16.4	65

405	Atomistic model of fluorescence intermittency of colloidal quantum dots. *Physical Review Letters*, **2014**, 112, 157401	7.4	65
404	High-Performance Perovskite Single-Junction and Textured Perovskite/Silicon Tandem Solar Cells via Slot-Die-Coating. *ACS Energy Letters*, **2020**, 5, 3034-3040	20.1	65
403	Use machine learning to find energy materials. *Nature*, **2017**, 552, 23-27	50.4	63
402	Broadband solar absorption enhancement via periodic nanostructuring of electrodes. *Scientific Reports*, **2013**, 3, 2928	4.9	63
401	Amide-Catalyzed Phase-Selective Crystallization Reduces Defect Density in Wide-Bandgap Perovskites. *Advanced Materials*, **2018**, 30, e1706275	24	62
400	Role of bond adaptability in the passivation of colloidal quantum dot solids. *ACS Nano*, **2013**, 7, 7680-8	16.7	62
399	Optimization of band structure and quantum-size-effect tuning for two-photon absorption enhancement in quantum dots. *Nano Letters*, **2011**, 11, 1227-31	11.5	62
398	Solution Processed Photovoltaic Devices with 2% Infrared Monochromatic Power Conversion Efficiency: Performance Optimization and Oxide Formation. *Advanced Materials*, **2008**, 20, 3433-3439	24	62
397	Pseudohalide-Exchanged Quantum Dot Solids Achieve Record Quantum Efficiency in Infrared Photovoltaics. *Advanced Materials*, **2017**, 29, 1700749	24	61
396	Chloride Insertion-Immobilization Enables Bright, Narrowband, and Stable Blue-Emitting Perovskite Diodes. *Journal of the American Chemical Society*, **2020**, 142, 5126-5134	16.4	61
395	Biofunctionalized conductive polymers enable efficient CO electroreduction. *Science Advances*, **2017**, 3, e1700686	14.3	61
394	Solution-processed upconversion photodetectors based on quantum dots. *Nature Electronics*, **2020**, 3, 251-258	28.4	59
393	Polymerase chain reaction-free, sample-to-answer bacterial detection in 30 minutes with integrated cell lysis. *Analytical Chemistry*, **2012**, 84, 21-5	7.8	59
392	Heterogeneous deposition of noble metals on semiconductor nanoparticles in organic or aqueous solvents. *Journal of Materials Chemistry*, **2006**, 16, 4025		59
391	All-Inorganic Quantum-Dot LEDs Based on a Phase-Stabilized CsPbI Perovskite. *Angewandte Chemie - International Edition*, **2021**, 60, 16164-16170	16.4	59
390	Overcoming the Ambient Manufacturability-Scalability-Performance Bottleneck in Colloidal Quantum Dot Photovoltaics. *Advanced Materials*, **2018**, 30, e1801661	24	58
389	Photojunction field-effect transistor based on a colloidal quantum dot absorber channel layer. *ACS Nano*, **2015**, 9, 356-62	16.7	57
388	Single-step fabrication of quantum funnels via centrifugal colloidal casting of nanoparticle films. *Nature Communications*, **2015**, 6, 7772	17.4	57

387	Conventional Solvent Oxidizes Sn(II) in Perovskite Inks. *ACS Energy Letters*, **2020**, 5, 1153-1155	20.1	57
386	Inverted colloidal quantum dot solar cells. *Advanced Materials*, **2014**, 26, 3321-7	24	57
385	Colloidal quantum dot solar cells on curved and flexible substrates. *Applied Physics Letters*, **2014**, 105, 163902	3.4	57
384	Self-Cleaning CO2 Reduction Systems: Unsteady Electrochemical Forcing Enables Stability. *ACS Energy Letters*, **2021**, 6, 809-815	20.1	56
383	Designing anion exchange membranes for CO2 electrolysers. *Nature Energy*, **2021**, 6, 339-348	62.3	56
382	Efficient Photon Recycling and Radiation Trapping in Cesium Lead Halide Perovskite Waveguides. *ACS Energy Letters*, **2018**, 3, 1492-1498	20.1	56
381	Stable Colloidal Quantum Dot Inks Enable Inkjet-Printed High-Sensitivity Infrared Photodetectors. *ACS Nano*, **2019**, 13, 11988-11995	16.7	55
380	A Facet-Specific Quantum Dot Passivation Strategy for Colloid Management and Efficient Infrared Photovoltaics. *Advanced Materials*, **2019**, 31, e1805580	24	55
379	Doping control via molecularly engineered surface ligand coordination. *Advanced Materials*, **2013**, 25, 5586-92	24	55
378	Efficient upgrading of CO to C fuel using asymmetric C-C coupling active sites. *Nature Communications*, **2019**, 10, 5186	17.4	55
377	Bioinspiration in light harvesting and catalysis. *Nature Reviews Materials*, **2020**, 5, 828-846	73.3	54
376	Spectrally Resolved Ultrafast Exciton Transfer in Mixed Perovskite Quantum Wells. *Journal of Physical Chemistry Letters*, **2019**, 10, 419-426	6.4	53
375	Machine Learning Accelerates Discovery of Optimal Colloidal Quantum Dot Synthesis. *ACS Nano*, **2019**, 13, 11122-11128	16.7	52
374	Multi-cation perovskites prevent carrier reflection from grain surfaces. *Nature Materials*, **2020**, 19, 412-418	17	52
373	Single-cell mRNA cytometry via sequence-specific nanoparticle clustering and trapping. *Nature Chemistry*, **2018**, 10, 489-495	17.6	52
372	Color-pure red light-emitting diodes based on two-dimensional lead-free perovskites. *Science Advances*, **2020**, 6,	14.3	52
371	The complete in-gap electronic structure of colloidal quantum dot solids and its correlation with electronic transport and photovoltaic performance. *Advanced Materials*, **2014**, 26, 937-42	24	51
370	Intermediate Binding Control Using Metal-Organic Frameworks Enhances Electrochemical CO Reduction. *Journal of the American Chemical Society*, **2020**, 142, 21513-21521	16.4	50

369	ZnFe2 O4 Leaves Grown on TiO2 Trees Enhance Photoelectrochemical Water Splitting. *Small*, **2016**, 12, 3181-8	11	50
368	High-Curvature Nanostructuring Enhances Probe Display for Biomolecular Detection. *Nano Letters*, **2017**, 17, 1289-1295	11.5	49
367	Selective contacts drive charge extraction in quantum dot solids via asymmetry in carrier transfer kinetics. *Nature Communications*, **2013**, 4, 2272	17.4	49
366	PbS quantum dot electroabsorption modulation across the extended communications band 1200▯1700nm. *Applied Physics Letters*, **2005**, 87, 053101	3.4	49
365	Colloidal quantum dot electronics. *Nature Electronics*, **2021**, 4, 548-558	28.4	49
364	All-Quantum-Dot Infrared Light-Emitting Diodes. *ACS Nano*, **2015**, 9, 12327-33	16.7	48
363	Size dependence of carrier dynamics and carrier multiplication in PbS quantum dots. *Physical Review B*, **2011**, 83,	3.3	48
362	Systematic optimization of quantum junction colloidal quantum dot solar cells. *Applied Physics Letters*, **2012**, 101, 151112	3.4	48
361	Butylamine-Catalyzed Synthesis of Nanocrystal Inks Enables Efficient Infrared CQD Solar Cells. *Advanced Materials*, **2018**, 30, e1803830	24	48
360	Giant Alloyed Hot Injection Shells Enable Ultralow Optical Gain Threshold in Colloidal Quantum Wells. *ACS Nano*, **2019**, 13, 10662-10670	16.7	46
359	Smooth-Morphology Ultrasensitive Solution-Processed Photodetectors. *Advanced Materials*, **2008**, 20, 4398-4402	24	46
358	Ultrafast nonresonant third-order optical nonlinearity of fullerene-containing polyurethane films at telecommunication wavelengths. *Applied Physics Letters*, **2003**, 83, 2115-2117	3.4	46
357	Origins of Stokes Shift in PbS Nanocrystals. *Nano Letters*, **2017**, 17, 7191-7195	11.5	45
356	Machine-Learning-Accelerated Perovskite Crystallization. *Matter*, **2020**, 2, 938-947	12.7	45
355	Chip-based nanostructured sensors enable accurate identification and classification of circulating tumor cells in prostate cancer patient blood samples. *Analytical Chemistry*, **2013**, 85, 398-403	7.8	45
354	Oxygen-tolerant electroproduction of C2 products from simulated flue gas. *Energy and Environmental Science*, **2020**, 13, 554-561	35.4	45
353	Chelating-agent-assisted control of CsPbBr quantum well growth enables stable blue perovskite emitters. *Nature Communications*, **2020**, 11, 3674	17.4	45
352	In Situ Electrochemical ELISA for Specific Identification of Captured Cancer Cells. *ACS Applied Materials & Interfaces*, **2015**, 7, 14165-9	9.5	44

351	Templated-Assembly of CsPbBr Perovskite Nanocrystals into 2D Photonic Supercrystals with Amplified Spontaneous Emission. *Angewandte Chemie - International Edition*, **2020**, 59, 17750-17756	16.4	44
350	Flexible Filter-Free Narrowband Photodetector with High Gain and Customized Responsive Spectrum. *Advanced Functional Materials*, **2017**, 27, 1702360	15.6	44
349	Autonomous atmospheric water seeping MOF matrix. *Science Advances*, **2020**, 6,	14.3	44
348	Enhanced Electrochemical Reduction of CO2 Catalyzed by Cobalt and Iron Amino Porphyrin Complexes. *ACS Applied Energy Materials*, **2019**, 2, 1330-1335	6.1	43
347	Enhanced electrocatalytic performance of palladium nanoparticles with high energy surfaces in formic acid oxidation. *Journal of Materials Chemistry A*, **2017**, 5, 11582-11585	13	42
346	Enhanced Open-Circuit Voltage in Colloidal Quantum Dot Photovoltaics via Reactivity-Controlled Solution-Phase Ligand Exchange. *Advanced Materials*, **2017**, 29, 1703627	24	42
345	Mixed Lead Halide Passivation of Quantum Dots. *Advanced Materials*, **2019**, 31, e1904304	24	42
344	Role of symmetry breaking on the optical transitions in lead-salt quantum dots. *Nano Letters*, **2010**, 10, 3577-82	11.5	42
343	Behavior of light at photonic crystal interfaces. *Physical Review B*, **2005**, 71,	3.3	42
342	Luminescence from processible quantum dot-polymer light emitters 1100–1600 nm: Tailoring spectral width and shape. *Applied Physics Letters*, **2004**, 84, 3459-3461	3.4	42
341	Single-step colloidal quantum dot films for infrared solar harvesting. *Applied Physics Letters*, **2016**, 109, 183105	3.4	42
340	Picosecond Charge Transfer and Long Carrier Diffusion Lengths in Colloidal Quantum Dot Solids. *Nano Letters*, **2018**, 18, 7052-7059	11.5	42
339	Combinatorial Probes for High-Throughput Electrochemical Analysis of Circulating Nucleic Acids in Clinical Samples. *Angewandte Chemie - International Edition*, **2018**, 57, 3711-3716	16.4	41
338	Ligand-Induced Surface Charge Density Modulation Generates Local Type-II Band Alignment in Reduced-Dimensional Perovskites. *Journal of the American Chemical Society*, **2019**, 141, 13459-13467	16.4	41
337	Nanostructured CMOS Wireless Ultra-Wideband Label-Free PCR-Free DNA Analysis SoC. *IEEE Journal of Solid-State Circuits*, **2014**, 49, 1223-1241	5.5	41
336	Tuning OH binding energy enables selective electrochemical oxidation of ethylene to ethylene glycol. *Nature Catalysis*, **2020**, 3, 14-22	36.5	41
335	Multiple Self-Trapped Emissions in the Lead-Free Halide CsCuI. *Journal of Physical Chemistry Letters*, **2020**, 11, 4326-4330	6.4	40
334	The Silicon:Colloidal Quantum Dot Heterojunction. *Advanced Materials*, **2015**, 27, 7445-50	24	40

333	Atomistic description of thiostannate-capped CdSe nanocrystals: retention of four-coordinate SnS4 motif and preservation of Cd-rich stoichiometry. *Journal of the American Chemical Society*, **2015**, 137, 1862-74	16.4	40
332	Electrocatalytic Rate Alignment Enhances Syngas Generation. *Joule*, **2019**, 3, 257-264	27.8	40
331	Nanoimprint-Transfer-Patterned Solids Enhance Light Absorption in Colloidal Quantum Dot Solar Cells. *Nano Letters*, **2017**, 17, 2349-2353	11.5	39
330	Molecular Doping of the Hole-Transporting Layer for Efficient, Single-Step-Deposited Colloidal Quantum Dot Photovoltaics. *ACS Energy Letters*, **2017**, 2, 1952-1959	20.1	39
329	High-Rate and Efficient Ethylene Electrosynthesis Using a Catalyst/Promoter/Transport Layer. *ACS Energy Letters*, **2020**, 5, 2811-2818	20.1	39
328	Atomistic Design of CdSe/CdS Core-Shell Quantum Dots with Suppressed Auger Recombination. *Nano Letters*, **2016**, 16, 6491-6496	11.5	39
327	CO2 Electroreduction to Formate at a Partial Current Density of 930 mA cm^{-2} with InP Colloidal Quantum Dot Derived Catalysts. *ACS Energy Letters*, **2021**, 6, 79-84	20.1	39
326	Multibandgap quantum dot ensembles for solar-matched infrared energy harvesting. *Nature Communications*, **2018**, 9, 4003	17.4	39
325	A Chemically Orthogonal Hole Transport Layer for Efficient Colloidal Quantum Dot Solar Cells. *Advanced Materials*, **2020**, 32, e1906199	24	38
324	Stabilizing Highly Active Ru Sites by Suppressing Lattice Oxygen Participation in Acidic Water Oxidation. *Journal of the American Chemical Society*, **2021**, 143, 6482-6490	16.4	38
323	Suppressing the liquid product crossover in electrochemical CO2 reduction. *SmartMat*, **2021**, 2, 12-16	22.8	38
322	Acid-Assisted Ligand Exchange Enhances Coupling in Colloidal Quantum Dot Solids. *Nano Letters*, **2018**, 18, 4417-4423	11.5	37
321	Imprinted electrodes for enhanced light trapping in solution processed solar cells. *Advanced Materials*, **2014**, 26, 443-8	24	37
320	Carrier relaxation dynamics in lead sulfide colloidal quantum dots. *Journal of Physical Chemistry B*, **2008**, 112, 2757-60	3.4	37
319	Photooxidation and Photoconductivity of Polyferrocenylsilane Thin Films. *Macromolecular Chemistry and Physics*, **2003**, 204, 915-921	2.6	37
318	Stable all-optical limiting in nonlinear periodic structures I Analysis. *Journal of the Optical Society of America B: Optical Physics*, **2002**, 19, 43	1.7	37
317	Nanostructured Back Reflectors for Efficient Colloidal Quantum-Dot Infrared Optoelectronics. *Advanced Materials*, **2019**, 31, e1901745	24	36
316	Depleted-heterojunction colloidal quantum dot photovoltaics employing low-cost electrical contacts. *Applied Physics Letters*, **2010**, 97, 023109	3.4	36

315	Impact of polydispersity on light propagation in colloidal photonic crystals. *Applied Physics Letters*, **2004**, 85, 5887-5889	3.4	36
314	Electrochemical upgrade of CO2 from amine capture solution. *Nature Energy*, **2021**, 6, 46-53	62.3	36
313	Can sustainable ammonia synthesis pathways compete with fossil-fuel based HaberBosch processes?. *Energy and Environmental Science*, **2021**, 14, 2535-2548	35.4	36
312	Contactless measurements of photocarrier transport properties in perovskite single crystals. *Nature Communications*, **2019**, 10, 1591	17.4	35
311	High-performance quantum-dot solids via elemental sulfur synthesis. *Advanced Materials*, **2014**, 26, 3513-9	24	35
310	High near-infrared photoluminescence quantum efficiency from PbS nanocrystals in polymer films. *Synthetic Metals*, **2005**, 148, 257-261	3.6	35
309	Ultrafast nonresonant third-order optical nonlinearity of a conjugated 3,3?-bipyridine derivative from 1150 to 1600 nm. *Applied Physics Letters*, **2003**, 82, 4420-4422	3.4	35
308	The quantum-confined Stark effect in layered hybrid perovskites mediated by orientational polarizability of confined dipoles. *Nature Communications*, **2018**, 9, 4214	17.4	35
307	Quantum-size-tuned heterostructures enable efficient and stable inverted perovskite solar cells. *Nature Photonics*,	33.9	35
306	Hybrid tandem solar cells with depleted-heterojunction quantum dot and polymer bulk heterojunction subcells. *Nano Energy*, **2015**, 17, 196-205	17.1	34
305	Lattice dynamics and the nature of structural transitions in organolead halide perovskites. *Physical Review B*, **2016**, 94,	3.3	34
304	Remote Molecular Doping of Colloidal Quantum Dot Photovoltaics. *ACS Energy Letters*, **2016**, 1, 922-930	20.1	34
303	Activated Electron-Transport Layers for Infrared Quantum Dot Optoelectronics. *Advanced Materials* , **2018**, 30, e1801720	24	34
302	Hydration-Effect-Promoting Ni-Fe Oxyhydroxide Catalysts for Neutral Water Oxidation. *Advanced Materials*, **2020**, 32, e1906806	24	33
301	Mechanistic Control of the Growth of Three-Dimensional Gold Sensors. *Journal of Physical Chemistry C*, **2016**, 120, 21123-21132	3.8	33
300	Cellulose Nanocrystal:Polymer Hybrid Optical Diffusers for Index-Matching-Free Light Management in Optoelectronic Devices. *Advanced Optical Materials*, **2017**, 5, 1700430	8.1	33
299	Cross-linked C60 Polymer Breaches the Quantum Gap. *Nano Letters*, **2004**, 4, 1673-1675	11.5	33
298	Design of Phosphor White Light Systems for High-Power Applications. *ACS Photonics*, **2016**, 3, 2243-2248	6.3	33

297	Ethylene Electrosynthesis: A Comparative Techno-economic Analysis of Alkaline vs Membrane Electrode Assembly vs CO_2□CO□2H4 Tandems. *ACS Energy Letters*, **2021**, 6, 997-1002	20.1	33
296	Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO_2 electrolysers. *Nature Energy*, **2022**, 7, 130-143	62.3	33
295	High-throughput genome-wide phenotypic screening via immunomagnetic cell sorting. *Nature Biomedical Engineering*, **2019**, 3, 796-805	19	32
294	Anchored Ligands Facilitate Efficient B-Site Doping in Metal Halide Perovskites. *Journal of the American Chemical Society*, **2019**, 141, 8296-8305	16.4	32
293	Chemical-to-Electricity Carbon: Water Device. *Advanced Materials*, **2018**, 30, e1707635	24	32
292	Solution-Processed In_2O_3/ZnO Heterojunction Electron Transport Layers for Efficient Organic Bulk Heterojunction and Inorganic Colloidal Quantum-Dot Solar Cells. *Solar Rrl*, **2018**, 2, 1800076	7.1	32
291	Halogen Vacancies Enable Ligand-Assisted Self-Assembly of Perovskite Quantum Dots into Nanowires. *Angewandte Chemie - International Edition*, **2019**, 58, 16077-16081	16.4	32
290	Theory of photonic crystal heterostructures. *Physical Review B*, **2002**, 66,	3.3	32
289	Imbalanced charge carrier mobility and Schottky junction induced anomalous current-voltage characteristics of excitonic PbS colloidal quantum dot solar cells. *Solar Energy Materials and Solar Cells*, **2016**, 155, 155-165	6.4	31
288	Energy Level Tuning at the $MAPbI_3$ Perovskite/Contact Interface Using Chemical Treatment. *ACS Energy Letters*, **2019**, 4, 2181-2184	20.1	31
287	Spectrally Tunable and Stable Electroluminescence Enabled by Rubidium Doping of $CsPbBr_3$ Nanocrystals. *Advanced Optical Materials*, **2019**, 7, 1901440	8.1	31
286	Joint tuning of nanostructured Cu-oxide morphology and local electrolyte programs high-rate CO_2 reduction to C_2H_4. *Green Chemistry*, **2017**, 19, 4023-4030	10	31
285	Sample-to-Answer Isolation and mRNA Profiling of Circulating Tumor Cells. *Analytical Chemistry*, **2015**, 87, 6258-64	7.8	31
284	Enhanced open-circuit voltage in visible quantum dot photovoltaics by engineering of carrier-collecting electrodes. *ACS Applied Materials & Interfaces*, **2011**, 3, 3792-5	9.5	31
283	Photonic crystal heterostructures: Waveguiding phenomena and methods of solution in an envelope function picture. *Physical Review B*, **2002**, 65,	3.3	31
282	Nonlinear distributed-feedback structures as passive optical limiters. *Journal of the Optical Society of America B: Optical Physics*, **2000**, 17, 1360	1.7	31
281	Cascade CO_2 electroreduction enables efficient carbonate-free production of ethylene. *Joule*, **2021** , 5, 706-719	27.8	31
280	Controlled Steric Hindrance Enables Efficient Ligand Exchange for Stable, Infrared-Bandgap Quantum Dot Inks. *ACS Energy Letters*, **2019**, 4, 1225-1230	20.1	30

279	Metal-Organic Framework Thin Films on High-Curvature Nanostructures Toward Tandem Electrocatalysis. *ACS Applied Materials & Interfaces*, **2018**, 10, 31225-31232	9.5	30
278	Electronically active impurities in colloidal quantum dot solids. *ACS Nano*, **2014**, 8, 11763-9	16.7	30
277	Proximal bacterial lysis and detection in nanoliter wells using electrochemistry. *ACS Nano*, **2013**, 7, 8183-9	16.7	30
276	Biexciton Resonances Reveal Exciton Localization in Stacked Perovskite Quantum Wells. *Journal of Physical Chemistry Letters*, **2017**, 8, 3895-3901	6.4	30
275	Materials processing strategies for colloidal quantum dot solar cells: advances, present-day limitations, and pathways to improvement. *MRS Communications*, **2013**, 3, 83-90	2.7	30
274	Efficient electrocatalytic conversion of carbon dioxide in a low-resistance pressurized alkaline electrolyzer. *Applied Energy*, **2020**, 261, 114305	10.7	30
273	Promoting CO methanation via ligand-stabilized metal oxide clusters as hydrogen-donating motifs. *Nature Communications*, **2020**, 11, 6190	17.4	30
272	Solution-processed perovskite-colloidal quantum dot tandem solar cells for photon collection beyond 1000 nm. *Journal of Materials Chemistry A*, **2019**, 7, 26020-26028	13	30
271	Enhanced Solar-to-Hydrogen Generation with Broadband Epsilon-Near-Zero Nanostructured Photocatalysts. *Advanced Materials*, **2017**, 29, 1701165	24	29
270	Velocity valleys enable efficient capture and spatial sorting of nanoparticle-bound cancer cells. *Nanoscale*, **2015**, 7, 6278-85	7.7	29
269	Photonic crystal heterostructures resonant tunnelling, waveguides and filters. *Journal of Optics*, **2002**, 4, S242-S246		29
268	Large-Scale Synthesis of Metal Nanocrystals in Aqueous Suspensions. *Chemistry of Materials*, **2016**, 28, 3196-3202	9.6	29
267	Quantum Dots in Two-Dimensional Perovskite Matrices for Efficient Near-Infrared Light Emission. *ACS Photonics*, **2017**, 4, 830-836	6.3	28
266	Solvent-Solute Coordination Engineering for Efficient Perovskite Luminescent Solar Concentrators. *Joule*, **2020**, 4, 631-643	27.8	28
265	Two-dimensional profiling of carriers in a buried heterostructure multi-quantum-well laser: Calibrated scanning spreading resistance microscopy and scanning capacitance microscopy. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2002**, 20, 2126		28
264	All-Perovskite Tandem Solar Cells: A Roadmap to Uniting High Efficiency with High Stability. *Accounts of Materials Research*, **2020**, 1, 63-76	7.5	28
263	Enhanced multi-carbon alcohol electroproduction from CO via modulated hydrogen adsorption. *Nature Communications*, **2020**, 11, 3685	17.4	28
262	Computational Study of Magic-Size CdSe Clusters with Complementary Passivation by Carboxylic and Amine Ligands. *Journal of Physical Chemistry C*, **2016**, 120, 10015-10019	3.8	28

261	Grain Transformation and Degradation Mechanism of Formamidinium and Cesium Lead Iodide Perovskite under Humidity and Light. *ACS Energy Letters*, **2021**, 6, 934-940	20.1	28
260	Ligand-Assisted Reconstruction of Colloidal Quantum Dots Decreases Trap State Density. *Nano Letters*, **2020**, 20, 3694-3702	11.5	27
259	Exciton Lifetime Broadening and Distribution Profiles of PbS Colloidal Quantum Dot Thin Films Using Frequency- and Temperature-Scanned Photocarrier Radiometry. *Journal of Physical Chemistry C*, **2013**, 117, 23333-23348	3.8	27
258	Measurement of the phase shift upon reflection from photonic crystals. *Applied Physics Letters*, **2005**, 86, 151112	3.4	27
257	Low coordination number copper catalysts for electrochemical CO methanation in a membrane electrode assembly. *Nature Communications*, **2021**, 12, 2932	17.4	27
256	Single Pass CO2 Conversion Exceeding 85% in the Electrosynthesis of Multicarbon Products via Local CO2 Regeneration. *ACS Energy Letters*, **2021**, 6, 2952-2959	20.1	27
255	Halide Re-Shelled Quantum Dot Inks for Infrared Photovoltaics. *ACS Applied Materials & Interfaces*, **2017**, 9, 37536-37541	9.5	26
254	Electro-Optic Modulation in Hybrid Metal Halide Perovskites. *Advanced Materials*, **2019**, 31, e1808336	24	26
253	Quantum Dot-Plasmon Lasing with Controlled Polarization Patterns. *ACS Nano*, **2020**, 14, 3426-3433	16.7	26
252	Hybrid Tandem Quantum Dot/Organic Solar Cells with Enhanced Photocurrent and Efficiency via Ink and Interlayer Engineering. *ACS Energy Letters*, **2018**, 3, 1307-1314	20.1	26
251	Joint mapping of mobility and trap density in colloidal quantum dot solids. *ACS Nano*, **2013**, 7, 5757-62	16.7	26
250	Quantum dots in a metallopolymer host: studies of composites of polyferrocenes and CdSe nanocrystals. *Journal of Materials Chemistry*, **2003**, 13, 2213		26
249	Luminescent properties and electronic structure of conjugated polymer-dielectric nanocrystal composites. *Journal of Applied Physics*, **2002**, 91, 6679	2.5	26
248	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. *Nature Communications*, **2021**, 12, 2191	17.4	26
247	Boosting the Single-Pass Conversion for Renewable Chemical Electrosynthesis. *Joule*, **2019**, 3, 13-15	27.8	26
246	Precise Control of Thermal and Redox Properties of Organic Hole-Transport Materials. *Angewandte Chemie - International Edition*, **2018**, 57, 15529-15533	16.4	26
245	Programmable Metal/Semiconductor Nanostructures for mRNA-Modulated Molecular Delivery. *Nano Letters*, **2018**, 18, 6222-6228	11.5	26
244	Ligand-bridged charge extraction and enhanced quantum efficiency enable efficient n perovskite/silicon tandem solar cells. *Energy and Environmental Science*,	35.4	26

243	Conformal fabrication of colloidal quantum dot solids for optically enhanced photovoltaics. *ACS Nano*, **2015**, 9, 5447-53	16.7	25
242	Regioselective magnetization in semiconducting nanorods. *Nature Nanotechnology*, **2020**, 15, 192-197	28.7	25
241	Perovskite Quantum Dots Modeled Using ab Initio and Replica Exchange Molecular Dynamics. *Journal of Physical Chemistry C*, **2015**, 119, 13965-13971	3.8	25
240	Direct measurements of large near-band edge nonlinear index change from 1.48 to 1.55 μm in InGaAs/InAlGaAs multiquantum wells. *Applied Physics Letters*, **2003**, 82, 4429-4431	3.4	25
239	Direct imaging of the depletion region of an InP p–n junction under bias using scanning voltage microscopy. *Applied Physics Letters*, **2002**, 81, 5057-5059	3.4	25
238	A Tuned Alternating D-A Copolymer Hole-Transport Layer Enables Colloidal Quantum Dot Solar Cells with Superior Fill Factor and Efficiency. *Advanced Materials*, **2020**, 32, e2004985	24	25
237	Colloidal quantum dot photodetectors with 10-ns response time and 80% quantum efficiency at 1,550 nm. *Matter*, **2021**, 4, 1042-1053	12.7	25
236	Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. *Advanced Materials*, **2021**, 33, e2103394	24	25
235	Advances in solution-processed near-infrared light-emitting diodes. *Nature Photonics*, **2021**, 15, 656-669	33.9	25
234	Stable, active CO reduction to formate via redox-modulated stabilization of active sites. *Nature Communications*, **2021**, 12, 5223	17.4	25
233	Electro-optic Response in Germanium Halide Perovskites. *Journal of Physical Chemistry Letters*, **2018**, 9, 1018-1027	6.4	24
232	Ultrathin Semiconductor Superabsorbers from the Visible to the Near-Infrared. *Advanced Materials*, **2018**, 30, 1705876	24	24
231	Fractal circuit sensors enable rapid quantification of biomarkers for donor lung assessment for transplantation. *Science Advances*, **2015**, 1, e1500417	14.3	24
230	Third-order optical nonlinearity and figure of merit of CdS nanocrystals chemically stabilized in spin-processable polymeric films. *Journal of Materials Science*, **2004**, 39, 993-996	4.3	24
229	Electrical Scanning Probe Microscopy: Investigating the Inner Workings of Electronic and Optoelectronic Devices. *Critical Reviews in Solid State and Materials Sciences*, **2005**, 30, 71-124	10.1	24
228	Electronic properties of semiconducting poly(ferrocenylsilane) thin films with vapor-phase iodine diffusion doping. *Journal of Materials Science: Materials in Electronics*, **2001**, 12, 21-25	2.1	24
227	Multication perovskite 2D/3D interfaces form via progressive dimensional reduction. *Nature Communications*, **2021**, 12, 3472	17.4	24
226	3D-Printable Fluoropolymer Gas Diffusion Layers for CO Electroreduction. *Advanced Materials*, **2021**, 33, e2003855	24	24

225	Micron Thick Colloidal Quantum Dot Solids. *Nano Letters*, **2020**, 20, 5284-5291	11.5	23
224	Potential-Responsive Surfaces for Manipulation of Cell Adhesion, Release, and Differentiation. *Angewandte Chemie - International Edition*, **2019**, 58, 14519-14523	16.4	23
223	A donor-supply electrode (DSE) for colloidal quantum dot photovoltaics. *Nano Letters*, **2011**, 11, 5173-8	11.5	23
222	Wavelength dependence and figures of merit of ultrafast third-order optical nonlinearity of a conjugated 3,3⊡bipyridine derivative. *Applied Optics*, **2003**, 42, 7235-41	1.7	23
221	Stabilizing Surface Passivation Enables Stable Operation of Colloidal Quantum Dot Photovoltaic Devices at Maximum Power Point in an Air Ambient. *Advanced Materials*, **2020**, 32, e1906497	24	23
220	Light dilution via wavelength management for efficient high-density photobioreactors. *Biotechnology and Bioengineering*, **2017**, 114, 1160-1169	4.9	22
219	Dimensional Mixing Increases the Efficiency of 2D/3D Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 5115-5119	6.4	22
218	Imaging Heterogeneously Distributed Photo-Active Traps in Perovskite Single Crystals. *Advanced Materials*, **2018**, 30, e1705494	24	22
217	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
216	Three-dimensional, sharp-tipped electrodes concentrate applied fields to enable direct electrical release of intact biomarkers from cells. *Lab on A Chip*, **2014**, 14, 1785-90	7.2	22
215	Dead zones in colloidal quantum dot photovoltaics: evidence and implications. *Optics Express*, **2010**, 18 Suppl 3, A451-7	3.3	22
214	Photoconductivity in Donor⊡Acceptor Polyferrocenylsilane⊡Fullerene Composite Films. *Chemistry of Materials*, **2005**, 17, 5770-5773	9.6	22
213	Stable all-optical limiting in nonlinear periodic structures II Computations. *Journal of the Optical Society of America B: Optical Physics*, **2002**, 19, 1873	1.7	22
212	Nonlinear optical figures of merit of processible composite of poly(2-methoxy,5-(2?-(ethyl)hexyloxy)-p-phenylene vinylene) and poly(methyl methacrylate). *Journal of Applied Physics*, **2002**, 91, 522	2.5	22
211	Renewables need a grand-challenge strategy. *Nature*, **2016**, 538, 27-29	50.4	22
210	Bright and Stable Light-Emitting Diodes Based on Perovskite Quantum Dots in Perovskite Matrix. *Journal of the American Chemical Society*, **2021**, 143, 15606-15615	16.4	22
209	Wide-Bandgap Perovskite Quantum Dots in Perovskite Matrix for Sky-Blue Light-Emitting Diodes.. *Journal of the American Chemical Society*, **2022**,	16.4	22
208	Compound Homojunction:Heterojunction Reduces Bulk and Interface Recombination in ZnO Photoanodes for Water Splitting. *Small*, **2017**, 13, 1603527	11	21

207	Permanent Lattice Compression of Lead-Halide Perovskite for Persistently Enhanced Optoelectronic Properties. *ACS Energy Letters*, **2020**, 5, 642-649	20.1	21
206	Engineering Directionality in Quantum Dot Shell Lasing Using Plasmonic Lattices. *Nano Letters*, **2020**, 20, 1468-1474	11.5	21
205	Optimizing Solid-State Ligand Exchange for Colloidal Quantum Dot Optoelectronics: How Much Is Enough?. *ACS Applied Energy Materials*, **2020**, 3, 5385-5392	6.1	21
204	Ultrasensitive visual read-out of nucleic acids using electrocatalytic fluid displacement. *Nature Communications*, **2015**, 6, 6978	17.4	21
203	Transmission regimes of periodic nonlinear optical structures. *Physical Review E*, **2000**, 62, R4536-9	2.4	21
202	Tuning Solute-Redistribution Dynamics for Scalable Fabrication of Colloidal Quantum-Dot Optoelectronics. *Advanced Materials*, **2019**, 31, e1805886	24	20
201	Highly Specific Electrochemical Analysis of Cancer Cells using Multi-Nanoparticle Labeling. *Angewandte Chemie*, **2014**, 126, 13361-13365	3.6	20
200	Folded-light-path colloidal quantum dot solar cells. *Scientific Reports*, **2013**, 3, 2166	4.9	20
199	Small-Band-Offset Perovskite Shells Increase Auger Lifetime in Quantum Dot Solids. *ACS Nano*, **2017**, 11, 12378-12384	16.7	20
198	Efficient, air-stable colloidal quantum dot solar cells encapsulated using atomic layer deposition of a nanolaminate barrier. *Applied Physics Letters*, **2013**, 103, 263905	3.4	20
197	Quantum beats due to excitonic ground-state splitting in colloidal quantum dots. *Physical Review B*, **2012**, 86,	3.3	20
196	Solution-Processed Infrared Optoelectronics: Photovoltaics, Sensors, and Sources. *IEEE Journal of Selected Topics in Quantum Electronics*, **2008**, 14, 1223-1229	3.8	20
195	Reagentless biomolecular analysis using a molecular pendulum. *Nature Chemistry*, **2021**, 13, 428-434	17.6	20
194	Gold-in-copper at low *CO coverage enables efficient electromethanation of CO. *Nature Communications*, **2021**, 12, 3387	17.4	20
193	In Situ Formation of Nano Ni-Co Oxyhydroxide Enables Water Oxidation Electrocatalysts Durable at High Current Densities. *Advanced Materials*, **2021**, 33, e2103812	24	20
192	Orthogonal colloidal quantum dot inks enable efficient multilayer optoelectronic devices. *Nature Communications*, **2020**, 11, 4814	17.4	19
191	Silica-copper catalyst interfaces enable carbon-carbon coupling towards ethylene electrosynthesis. *Nature Communications*, **2021**, 12, 2808	17.4	19
190	Synthesis, Applications, and Prospects of Quantum-Dot-in-Perovskite Solids. *Advanced Energy Materials*,2100774	21.8	19

189	Optical Resonance Engineering for Infrared Colloidal Quantum Dot Photovoltaics. *ACS Energy Letters*, **2016**, 1, 852-857	20.1	19
188	Broadband Epsilon-near-Zero Reflectors Enhance the Quantum Efficiency of Thin Solar Cells at Visible and Infrared Wavelengths. *ACS Applied Materials & Interfaces*, **2017**, 9, 5556-5565	9.5	18
187	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
186	Self-assembled nanoparticle-stabilized photocatalytic reactors. *Nanoscale*, **2016**, 8, 2107-15	7.7	18
185	Effect of disorder on transport properties in a tight-binding model for lead halide perovskites. *Scientific Reports*, **2017**, 7, 8902	4.9	18
184	Photocurrent extraction efficiency in colloidal quantum dot photovoltaics. *Applied Physics Letters*, **2013**, 103, 211101	3.4	18
183	Donor–Acceptor C60-Containing Polyferrocenylsilanes: Synthesis, Characterization, and Applications in Photodiode Devices. *Advanced Functional Materials*, **2008**, 18, 470-477	15.6	18
182	Characterization of internal order of colloidal crystals by optical diffraction. *Optical and Quantum Electronics*, **2002**, 34, 27-36	2.4	18
181	Two-dimensional transverse cross-section nanopotentiometry of actively driven buried-heterostructure multiple-quantum-well lasers. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2002**, 20, 2401		18
180	Hybrid tandem quantum dot/organic photovoltaic cells with complementary near infrared absorption. *Applied Physics Letters*, **2017**, 110, 223903	3.4	17
179	Learning-in-Templates Enables Accelerated Discovery and Synthesis of New Stable Double Perovskites. *Journal of the American Chemical Society*, **2019**, 141, 3682-3690	16.4	17
178	Programmable definition of nanogap electronic devices using self-inhibited reagent depletion. *Nature Communications*, **2015**, 6, 6940	17.4	17
177	Crystal Site Feature Embedding Enables Exploration of Large Chemical Spaces. *Matter*, **2020**, 3, 433-448	12.7	17
176	Optimized templates for bottom-up growth of high-performance integrated biomolecular detectors. *Lab on A Chip*, **2013**, 13, 2569-75	7.2	17
175	Tracking the expression of therapeutic protein targets in rare cells by antibody-mediated nanoparticle labelling and magnetic sorting. *Nature Biomedical Engineering*, **2021**, 5, 41-52	19	17
174	Deep-Blue Perovskite Single-Mode Lasing through Efficient Vapor-Assisted Chlorination. *Advanced Materials*, **2021**, 33, e2006697	24	17
173	Examining Structure–Property–Function Relationships in Thiophene, Selenophene, and Tellurophene Homopolymers. *ACS Applied Energy Materials*, **2018**, 1, 5033-5042	6.1	17
172	Graphene Oxide Shells on Plasmonic Nanostructures Lead to High-Performance Photovoltaics: A Model Study Based on Dye-Sensitized Solar Cells. *ACS Energy Letters*, **2017**, 2, 117-123	20.1	16

171	Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie - International Edition*, **2020**, 59, 13977-13983	16.4	16
170	Ultrahigh resolution and color gamut with scattering-reducing transmissive pixels. *Nature Communications*, **2019**, 10, 4782	17.4	16
169	A tunable colloidal quantum dot photo field-effect transistor. *Applied Physics Letters*, **2011**, 99, 101102	3.4	16
168	Integrated nanostructures for direct detection of DNA at attomolar concentrations. *Applied Physics Letters*, **2009**, 95, 143701	3.4	16
167	Narrow Emission from Rb3Sb2I9 Nanoparticles. *Advanced Optical Materials*, **2020**, 8, 1901606	8.1	16
166	Active Sulfur Sites in Semimetallic Titanium Disulfide Enable CO2 Electroreduction. *ACS Catalysis*, **2020**, 10, 66-72	13.1	16
165	Directional Light Emission from Layered Metal Halide Perovskite Crystals. *Journal of Physical Chemistry Letters*, **2020**, 11, 3458-3465	6.4	16
164	An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. *Nature Communications*, **2021**, 12, 670	17.4	16
163	Ultrafast Carrier Trapping in Thick-Shell Colloidal Quantum Dots. *Journal of Physical Chemistry Letters*, **2017**, 8, 3179-3184	6.4	15
162	Quantum Dot Color-Converting Solids Operating Efficiently in the kW/cm2 Regime. *Chemistry of Materials*, **2017**, 29, 5104-5112	9.6	15
161	Stable all-optical limiting in nonlinear periodic structures III Nonsolitonic pulse propagation. *Journal of the Optical Society of America B: Optical Physics*, **2003**, 20, 695	1.7	15
160	A metal-supported single-atom catalytic site enables carbon dioxide hydrogenation.. *Nature Communications*, **2022**, 13, 819	17.4	15
159	Pulsed axial epitaxy of colloidal quantum dots in nanowires enables facet-selective passivation. *Nature Communications*, **2018**, 9, 4947	17.4	15
158	A fully-integrated and automated testing device for PCR-free viral nucleic acid detection in whole blood. *Lab on A Chip*, **2018**, 18, 1928-1935	7.2	15
157	Synergistic photocurrent addition in hybrid quantum dot: Bulk heterojunction solar cells. *Nano Energy*, **2015**, 13, 491-499	17.1	14
156	Ultrasensitive and rapid quantification of rare tumorigenic stem cells in hPSC-derived cardiomyocyte populations. *Science Advances*, **2020**, 6, eaay7629	14.3	14
155	Transition Dipole Moments of = 1, 2, and 3 Perovskite Quantum Wells from the Optical Stark Effect and Many-Body Perturbation Theory. *Journal of Physical Chemistry Letters*, **2020**, 11, 716-723	6.4	14
154	Megahertz-frequency large-area optical modulators at 1.55 microm based on solution-cast colloidal quantum dots. *Optics Express*, **2008**, 16, 6683-91	3.3	14

153	Direct observation of lateral current spreading in ridge waveguide lasers using scanning voltage microscopy. *Applied Physics Letters*, **2003**, 82, 4166-4168	3.4	14
152	Spatial Collection in Colloidal Quantum Dot Solar Cells. *Advanced Functional Materials*, **2020**, 30, 1908200	15.6	14
151	CO2 Electroreduction to Methane at Production Rates Exceeding 100 mA/cm2. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 14668-14673	8.3	14
150	Colloidal-quantum-dot-in-perovskite nanowires. *Infrared Physics and Technology*, **2019**, 98, 16-22	2.7	14
149	Prismatic Deflection of Live Tumor Cells and Cell Clusters. *ACS Nano*, **2018**, 12, 12692-12700	16.7	14
148	Control Over Ligand Exchange Reactivity in Hole Transport Layer Enables High-Efficiency Colloidal Quantum Dot Solar Cells. *ACS Energy Letters*, **2021**, 6, 468-476	20.1	14
147	Colloidal quantum dot solar cell electrical parameter non-destructive quantitative imaging using high-frequency heterodyne lock-in carrierography and photocarrier radiometry. *Solar Energy Materials and Solar Cells*, **2018**, 174, 405-411	6.4	13
146	Dopant-tuned stabilization of intermediates promotes electrosynthesis of valuable C3 products. *Nature Communications*, **2019**, 10, 4807	17.4	13
145	Halogen Vacancies Enable Ligand-Assisted Self-Assembly of Perovskite Quantum Dots into Nanowires. *Angewandte Chemie*, **2019**, 131, 16223-16227	3.6	13
144	Facet-Oriented Coupling Enables Fast and Sensitive Colloidal Quantum Dot Photodetectors. *Advanced Materials*, **2021**, 33, e2101056	24	13
143	Ligand cleavage enables formation of 1,2-ethanedithiol capped colloidal quantum dot solids. *Nanoscale*, **2019**, 11, 10774-10781	7.7	12
142	Colloidal quantum dot solar cell power conversion efficiency optimization using analysis of current-voltage characteristics and electrode contact imaging by lock-in carrierography. *Progress in Photovoltaics: Research and Applications*, **2017**, 25, 1034-1050	6.8	12
141	Graded recombination layers for multijunction photovoltaics. *Nano Letters*, **2012**, 12, 3043-9	11.5	12
140	Optical control over photoconductivity in polyferrocenylsilane films. *Journal of Chemical Physics*, **2004**, 120, 1990-6	3.9	12
139	Exciton capture by nanocrystals in a polymer matrix. *Journal of Applied Physics*, **2003**, 94, 4066-4069	2.5	12
138	Nanostructured Architectures for Biomolecular Detection inside and outside the Cell. *Advanced Functional Materials*, **2020**, 30, 1907701	15.6	12
137	Infrared Cavity-Enhanced Colloidal Quantum Dot Photovoltaics Employing Asymmetric Multilayer Electrodes. *ACS Energy Letters*, **2018**, 3, 2908-2913	20.1	12
136	Quantum Dot Self-Assembly Enables Low-Threshold Lasing. *Advanced Science*, **2021**, 8, e2101125	13.6	12

135	Steric Hindrance Assay for Secreted Factors in Stem Cell Culture. *ACS Sensors*, **2017**, 2, 495-500	9.2	11
134	Light-emitting silicon-rich nitride systems and photonic structures. *Journal of Experimental Nanoscience*, **2006**, 1, 29-50	1.9	11
133	Carrier transport and luminescence in composite organic–inorganic light-emitting devices. *Solid-State Electronics*, **2002**, 46, 61-68	1.7	11
132	Non-equilibrium carriers and recombination phenomena in type-II quantum dots. *Nanotechnology*, **2001**, 12, 523-528	3.4	11
131	Photoelectric phenomena in polymer-based composites. *Journal of Applied Physics*, **2000**, 88, 3448-3453	2.5	11
130	Boride-derived oxygen-evolution catalysts. *Nature Communications*, **2021**, 12, 6089	17.4	11
129	Dual Coordination of Ti and Pb Using Bilinkable Ligands Improves Perovskite Solar Cell Performance and Stability. *Advanced Functional Materials*, **2020**, 30, 2005155	15.6	11
128	Low-Temperature-Processed Colloidal Quantum Dots as Building Blocks for Thermoelectrics. *Advanced Energy Materials*, **2019**, 9, 1803049	21.8	11
127	A water-processable cellulose-based resist for advanced nanofabrication. *Nanoscale*, **2018**, 10, 17884-17892	7.7	11
126	In-situ inorganic ligand replenishment enables bandgap stability in mixed-halide perovskite quantum dot solids.. *Advanced Materials*, **2022**, e2200854	24	11
125	Metal-Free Hydrogen-Bonded Polymers Mimic Noble Metal Electrocatalysts. *Advanced Materials*, **2020**, 32, e1902177	24	10
124	Colloidal Quantum Dot Bulk Heterojunction Solids with Near-Unity Charge Extraction Efficiency. *Advanced Science*, **2020**, 7, 2000894	13.6	10
123	Amplified Micromagnetic Field Gradients Enable High-Resolution Profiling of Rare Cell Subpopulations. *ACS Applied Materials & Interfaces*, **2017**, 9, 25683-25690	9.5	10
122	Self-Assembled PbSe Nanowire:Perovskite Hybrids. *Journal of the American Chemical Society*, **2015**, 137, 14869-72	16.4	10
121	Electric field engineering using quantum-size-effect-tuned heterojunctions. *Applied Physics Letters*, **2013**, 103, 011106	3.4	10
120	Colloidal Crystallization Accomplished by Electrodeposition on Patterned Substrates. *Journal of Dispersion Science and Technology*, **2005**, 26, 259-265	1.5	10
119	Experimental investigation of physical mechanisms underlying lateral current injection laser operation. *Applied Physics Letters*, **1998**, 73, 285-287	3.4	10
118	Bromine Incorporation and Suppressed Cation Rotation in Mixed-Halide Perovskites. *ACS Nano*, **2020**, 14, 15107-15118	16.7	10

117	Highly Passivated n-Type Colloidal Quantum Dots for Solution-Processed Thermoelectric Generators with Large Output Voltage. *Advanced Energy Materials*, **2019**, 9, 1901244	21.8	9
116	Stable, Bromine-Free, Tetragonal Perovskites with 1.7 eV Bandgaps via A-Site Cation Substitution **2020**, 2, 869-872		9
115	Combinatorial Probes for High-Throughput Electrochemical Analysis of Circulating Nucleic Acids in Clinical Samples. *Angewandte Chemie*, **2018**, 130, 3773-3778	3.6	9
114	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
113	Efficient electrosynthesis of n-propanol from carbon monoxide using a Ag–Ru–Cu catalyst. *Nature Energy*,	62.3	9
112	Defect Tolerance of Mixed B-Site Organic–Inorganic Halide Perovskites. *ACS Energy Letters*,4220-4227	20.1	9
111	Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer. *Journal of Physical Chemistry C*, **2020**, 124, 24379-24390	3.8	9
110	Efficient and Stable Colloidal Quantum Dot Solar Cells with a Green-Solvent Hole-Transport Layer. *Advanced Energy Materials*, **2020**, 10, 2002084	21.8	9
109	Toward Stable Monolithic Perovskite/Silicon Tandem Photovoltaics: A Six-Month Outdoor Performance Study in a Hot and Humid Climate. *ACS Energy Letters*, **2021**, 6, 2944-2951	20.1	9
108	Band-aligned C3N4–S3x/2 stabilizes CdS/CuInGaS2 photocathodes for efficient water reduction. *Journal of Materials Chemistry A*, **2017**, 5, 3167-3171	13	8
107	Freestanding nano-photoelectrode as a highly efficient and visible-light-driven photocatalyst for water-splitting. *Journal of Materials Chemistry A*, **2017**, 5, 10651-10657	13	8
106	Cleavable Ligands Enable Uniform Close Packing in Colloidal Quantum Dot Solids. *ACS Applied Materials & Interfaces*, **2015**, 7, 21995-2000	9.5	8
105	Near infrared organic photodetectors based on enhanced charge transfer state absorption by photonic architectures. *Journal of Materials Chemistry C*, **2020**, 8, 9688-9696	7.1	8
104	Heterogeneous Supersaturation in Mixed Perovskites. *Advanced Science*, **2020**, 7, 1903166	13.6	8
103	Curvature-Mediated Surface Accessibility Enables Ultrasensitive Electrochemical Human Methyltransferase Analysis. *ACS Sensors*, **2018**, 3, 1765-1772	9.2	8
102	Suppressing Interfacial Dipoles to Minimize Open-Circuit Voltage Loss in Quantum Dot Photovoltaics. *Advanced Energy Materials*, **2019**, 9, 1901938	21.8	8
101	Influence of nanocrystals on the energy levels and luminescent properties of the polymer matrix in conjugated polymer–dielectric nanocomposites. *Surface Science*, **2003**, 532-535, 1051-1055	1.8	8
100	High-Throughput Nanofabrication of Metasurfaces with Polarization-Dependent Response. *Advanced Optical Materials*, **2020**, 8, 2000786	8.1	8

99	Linear Electro-Optic Modulation in Highly Polarizable Organic Perovskites. *Advanced Materials*, **2021**, 33, e2006368	24	8
98	Reducing the crossover of carbonate and liquid products during carbon dioxide electroreduction. *Cell Reports Physical Science*, **2021**, 2, 100522	6.1	8
97	Single-step-fabricated disordered metasurfaces for enhanced light extraction from LEDs. *Light: Science and Applications*, **2021**, 10, 180	16.7	8
96	Dual-Phase Regulation for High-Efficiency Perovskite Light-Emitting Diodes. *Advanced Functional Materials*,2200350	15.6	8
95	Nanostructured Architectures Promote the Mesenchymal-Epithelial Transition for Invasive Cells. *ACS Nano*, **2020**, 14, 5324-5336	16.7	7
94	Temperature-Induced Self-Compensating Defect Traps and Gain Thresholds in Colloidal Quantum Dots. *ACS Nano*, **2019**, 13, 8970-8976	16.7	7
93	Nanoscopic electric potential probing: Influence of probe–sample interface on spatial resolution. *Applied Physics Letters*, **2004**, 84, 601-603	3.4	7
92	Control over exciton confinement versus separation in composite films of polyfluorene and CdSe nanocrystals. *Applied Physics Letters*, **2002**, 81, 3446-3448	3.4	7
91	Downstream of the CO2 Electrolyzer: Assessing the Energy Intensity of Product Separation. *ACS Energy Letters*,4405-4412	20.1	7
90	Ternary Alloys Enable Efficient Production of Methoxylated Chemicals via Selective Electrocatalytic Hydrogenation of Lignin Monomers. *Journal of the American Chemical Society*, **2021**, 143, 17226-17235	16.4	7
89	Structural Distortion and Bandgap Increase of Two-Dimensional Perovskites Induced by Trifluoromethyl Substitution on Spacer Cations. *Journal of Physical Chemistry Letters*, **2020**, 11, 10144-10149	6.4	7
88	Monolithic Organic/Colloidal Quantum Dot Hybrid Tandem Solar Cells via Buffer Engineering. *Advanced Materials*, **2020**, 32, e2004657	24	7
87	Gradient-Doped Colloidal Quantum Dot Solids Enable Thermophotovoltaic Harvesting of Waste Heat. *ACS Energy Letters*, **2016**, 1, 740-746	20.1	7
86	Precise Control of Thermal and Redox Properties of Organic Hole-Transport Materials. *Angewandte Chemie*, **2018**, 130, 15755-15759	3.6	7
85	Single-Cell Tumbling Enables High-Resolution Size Profiling of Retinal Stem Cells. *ACS Applied Materials & Interfaces*, **2018**, 10, 34811-34816	9.5	7
84	Ligand Exchange at a Covalent Surface Enables Balanced Stoichiometry in III-V Colloidal Quantum Dots. *Nano Letters*, **2021**, 21, 6057-6063	11.5	7
83	Carbon-efficient carbon dioxide electrolysers. *Nature Sustainability*,	22.1	7
82	Power-free, digital and programmable dispensing of picoliter droplets using a Digit Chip. *Lab on A Chip*, **2017**, 17, 1505-1514	7.2	6

81	Single-Precursor Intermediate Shelling Enables Bright, Narrow Line Width InAs/InZnP-Based QD Emitters. *Chemistry of Materials*, **2020**, 32, 2919-2925	9.6	6
80	Accelerated solution-phase exchanges minimize defects in colloidal quantum dot solids. *Nano Energy*, **2019**, 63, 103876	17.1	6
79	Study of Exciton Hopping Transport in PbS Colloidal Quantum Dot Thin Films Using Frequency- and Temperature-Scanned Photocarrier Radiometry. *International Journal of Thermophysics*, **2017**, 38, 1	2.1	6
78	Efficient design and optimization of photonic crystal waveguides and couplers: The Interface Diffraction Method. *Optics Express*, **2005**, 13, 7304-18	3.3	6
77	Optical limiting and intensity-dependent diffraction from low-contrast nonlinear periodic media: Coupled-mode analysis. *Physical Review E*, **2004**, 70, 036616	2.4	6
76	In situ resistance measurement of the p-type contact in InP□nGaAsP coolerless ridge waveguide lasers. *Applied Physics Letters*, **2005**, 86, 081111	3.4	6
75	Semiconductor lasers for planar integrated optoelectronics. *Solid-State Electronics*, **2000**, 44, 147-173	1.7	6
74	Large area metasurfaces made with spherical silicon resonators. *Nanophotonics*, **2020**, 9, 943-951	6.3	6
73	Ligand-induced symmetry breaking, size and morphology in colloidal lead sulfide QDs: from classic to thiourea precursors2, 1		6
72	Colloidal Quantum Dot Solar Cell Band Alignment using Two-Step Ionic Doping **2020**, 2, 1583-1589		6
71	Image-Reversal Soft Lithography: Fabrication of Ultrasensitive Biomolecular Detectors. *Advanced Healthcare Materials*, **2016**, 5, 893-9	10.1	6
70	Controlling C60 Organization through Dipole-Induced Band Alignment at Self-Assembled Monolayer Interfaces. *Chemistry of Materials*, **2016**, 28, 8322-8329	9.6	6
69	Glycerol Oxidation Pairs with Carbon Monoxide Reduction for Low-Voltage Generation of C2 and C3 Product Streams. *ACS Energy Letters*,3538-3544	20.1	6
68	Mechanisms of LiF Interlayer Enhancements of Perovskite Light-Emitting Diodes. *Journal of Physical Chemistry Letters*, **2020**, 11, 4213-4220	6.4	5
67	Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie*, **2020**, 132, 14081-14087	3.6	5
66	Colloidal Quantum Dot Photovoltaics Using Ultrathin, Solution-Processed Bilayer In2O3/ZnO Electron Transport Layers with Improved Stability. *ACS Applied Energy Materials*, **2020**, 3, 5135-5141	6.1	5
65	Excitonic Creation of Highly Luminescent Defects In Situ in Working Organic Light-Emitting Diodes. *Advanced Optical Materials*, **2018**, 6, 1700856	8.1	5
64	Peptide-Functionalized Nanostructured Microarchitectures Enable Rapid Mechanotransductive Differentiation. *ACS Applied Materials & Interfaces*, **2019**, 11, 41030-41037	9.5	5

63	Direct Genetic Analysis of Ten Cancer Cells: Tuning Sensor Structure and Molecular Probe Design for Efficient mRNA Capture. *Angewandte Chemie*, **2011**, 123, 4223-4227	3.6	5
62	Fabrication and investigation of nanocomposites of conducting polymers and GaSb nanocrystals. *Surface Science*, **2003**, 532-535, 828-831	1.8	5
61	Longitudinal carrier density profiling in semiconductor lasers via spectral analysis of side spontaneous emission. *Journal of Applied Physics*, **1996**, 80, 1904-1906	2.5	5
60	Rigid Conjugated Diamine Templates for Stable Dion-Jacobson-Type Two-Dimensional Perovskites. *Journal of the American Chemical Society*, **2021**, 143, 19901-19908	16.4	5
59	Magnetic Ranking Cytometry: Profiling Rare Cells at the Single-Cell Level. *Accounts of Chemical Research*, **2020**, 53, 1445-1457	24.3	5
58	Nanocrystal Quantum Dot Devices: How the Lead Sulfide (PbS) System Teaches Us the Importance of Surfaces. *Chimia*, **2021**, 75, 398-413	1.3	5
57	Electroosmotic flow steers neutral products and enables concentrated ethanol electroproduction from CO2. *Joule*, **2021**,	27.8	5
56	Energy Selects. *ACS Energy Letters*, **2019**, 4, 1455-1457	20.1	4
55	Template-basierte Herstellung von 2D-photonischen Superkristallen mit verst�kter spontaner Emission aus CsPbBr3-Perowskit-Nanokristallen. *Angewandte Chemie*, **2020**, 132, 17903-17909	3.6	4
54	Atomic layer deposition of absorbing thin films on nanostructured electrodes for short-wavelength infrared photosensing. *Applied Physics Letters*, **2015**, 107, 153105	3.4	4
53	Spontaneous and Light-Driven Conversion of NOx on Oxide-Modified TiO2 Surfaces. *Industrial & Engineering Chemistry Research*, **2015**, 54, 12750-12756	3.9	4
52	Precursor Tailoring Enables Alkylammonium Tin Halide Perovskite Phosphors for Solid-State Lighting. *Advanced Functional Materials*,2111346	15.6	4
51	The Impact of Ion Migration on the Electro-Optic Effect in Hybrid Organic�norganic Perovskites. *Advanced Functional Materials*,2107939	15.6	4
50	Suppression of Auger Recombination by Gradient Alloying in InAs/CdSe/CdS QDs. *Chemistry of Materials*, **2020**, 32, 7703-7709	9.6	4
49	Solvent Engineering of Colloidal Quantum Dot Inks for Scalable Fabrication of Photovoltaics. *ACS Applied Materials & Interfaces*, **2021**, 13, 36992-37003	9.5	4
48	Gold Adparticles on Silver Combine Low Overpotential and High Selectivity in Electrochemical CO2 Conversion. *ACS Applied Energy Materials*, **2021**, 4, 7504-7512	6.1	4
47	Boosting photoelectrochemical efficiency by near-infrared-active lattice-matched morphological heterojunctions. *Nature Communications*, **2021**, 12, 4296	17.4	4
46	Controlled Crystal Plane Orientations in ZnO Transport Layer enables High Responsivity, Low Dark Current Infrared Photodetectors.. *Advanced Materials*, **2022**, e2200321	24	4

45	High-Throughput Screening of Antisolvents for the Deposition of High-Quality Perovskite Thin Films. *ACS Applied Materials & Interfaces*, **2020**, 12, 26026-26032	9.5	3
44	Connecting the quantum dots. *IEEE Spectrum*, **2010**, 47, 48-52	1.7	3
43	Two-photon absorption and multi-exciton generation in lead salt quantum dots **2010**,		3
42	Longitudinally resolved measurements of carrier concentration and gain in 980-nm InGaAs/GaAs high-power quantum well lasers **1997**,		3
41	The photonic analogue of the graded heterostructure: Analysis using the envelope approximation. *Optical and Quantum Electronics*, **2002**, 34, 217-226	2.4	3
40	Concentrated Ethanol Electrosynthesis from CO via a Porous Hydrophobic Adlayer.. *ACS Applied Materials & Interfaces*, **2022**, 14, 4155-4162	9.5	3
39	Early Transition-Metal-Based Binary Oxide/Nitride for Efficient Electrocatalytic Hydrogen Evolution from Saline Water in Different pH Environments. *ACS Applied Materials & Interfaces*, **2021**, 13, 53702-53716	9.5	3
38	Bound State in the Continuum in Nanoantenna-Coupled Slab Waveguide Enables Low-Threshold Quantum-Dot Lasing. *Nano Letters*, **2021**, 21, 9754-9760	11.5	3
37	Electro-Optic Modulation Using Metal-Free Perovskites. *ACS Applied Materials & Interfaces*, **2021**, 13, 19042-19047	9.5	3
36	Band Engineering via Gradient Molecular Dopants for CsFA Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2010572	15.6	3
35	Solar Cells: Overcoming the Ambient Manufacturability-Scalability-Performance Bottleneck in Colloidal Quantum Dot Photovoltaics (Adv. Mater. 35/2018). *Advanced Materials*, **2018**, 30, 1870260	24	3
34	Self-Aligned Non-Centrosymmetric Conjugated Molecules Enable Electro-Optic Perovskites. *Advanced Optical Materials*,2100730	8.1	3
33	Ultrasensitive Detection and Depletion of Rare Leukemic B Cells in T Cell Populations via Immunomagnetic Cell Ranking. *Analytical Chemistry*, **2021**, 93, 2327-2335	7.8	3
32	Device design for global shutter operation in a 1.1-μm pixel image sensor and its application to near infrared sensing **2017**,		2
31	InP-Quantum-Dot-in-ZnS-Matrix Solids for Thermal and Air Stability. *Chemistry of Materials*, **2020**, 32, 9584-9590	9.6	2
30	Potential-Responsive Surfaces for Manipulation of Cell Adhesion, Release, and Differentiation. *Angewandte Chemie*, **2019**, 131, 14661-14665	3.6	2
29	Solution-Processed Light Sensors and Photovoltaics. *IEEE Photonics Journal*, **2010**, 2, 265-268	1.8	2
28	Efficient recovery of potent tumour-infiltrating lymphocytes through quantitative immunomagnetic cell sorting.. *Nature Biomedical Engineering*, **2022**,	19	2

27	Conjugated polymers with controllable interfacial order and energetics enable tunable heterojunctions in organic and colloidal quantum dot photovoltaics. *Journal of Materials Chemistry A*, **2022**, 10, 1788-1801	13	2
26	Reagentless Biomolecular Analysis Using a Nanoscale Molecular Pendulum		2
25	Perovskite Single-Crystal Thin Film Devices Using Lithography Assisted Epitaxy. *Matter*, **2020**, 3, 619-620	12.7	2
24	Abnormal Phase Transition and Band Renormalization of Guanidinium-Based Organic-Inorganic Hybrid Perovskite. *ACS Applied Materials & Interfaces*, **2021**, 13, 44964-44971	9.5	2
23	Redox-mediated electrosynthesis of ethylene oxide from CO2 and water. *Nature Catalysis*, **2022**, 5, 185-192	36.5	2
22	Au/TiO 2 2D-Photonic Crystals as UV-Visible Photocatalysts for H 2 Production. *Advanced Energy Materials*, **2022**, 12, 2103733	21.8	2
21	Design and characterization of 1.1 micron pixel image sensor with high near infrared quantum efficiency **2017**,		1
20	Nonlinear distributed feedback structures for optical sensor protection **2000**, 4037, 64		1
19	Time-resolved luminescence in conducting polymer/antidot nanocomposites. *Journal of Nanoscience and Nanotechnology*, **2001**, 1, 457-60	1.3	1
18	Recombination Dynamics in PbS Nanocrystal Quantum Dot Solar Cells Studied through Drift-Diffusion Simulations. *ACS Applied Electronic Materials*,	4	1
17	Solvent-Assisted Kinetic Trapping in Quaternary Perovskites. *Advanced Materials*, **2021**, 33, e2008690	24	1
16	All-Inorganic Quantum-Dot LEDs Based on a Phase-Stabilized CsPbI3 Perovskite. *Angewandte Chemie*, **2021**, 133, 16300-16306	3.6	1
15	Accurate and Affordable Explicit Solvent Quantum Mechanics for Electrocatalysis Investigations. *Matter*, **2021**, 4, 12-14	12.7	1
14	Vapor-Phase Deposition of Highly Luminescent Embedded Perovskite Nanocrystals. *Advanced Optical Materials*,2102809	8.1	1
13	Rapid On-Cell Selection of High-Performance Human Antibodies.. *ACS Central Science*, **2022**, 8, 102-109	16.8	1
12	A microfluidic platform enables comprehensive gene expression profiling of mouse retinal stem cells. *Lab on A Chip*, **2021**, 21, 4464-4476	7.2	0
11	Thiophene- and selenophene-based conjugated polymeric mixed ionic/electronic conductors. *Journal of Chemical Physics*, **2021**, 155, 134704	3.9	0
10	Dopant-Assisted Matrix Stabilization Enables Thermoelectric Performance Enhancement in n-Type Quantum Dot Films. *ACS Applied Materials & Interfaces*, **2021**, 13, 18999-19007	9.5	0

9	Nanoparticle Amplification Labeling for High-Performance Magnetic Cell Sorting. *Nano Letters*,	11.5	0
8	Optical CDMA and WDMA in the access network **2003**, 5247, 126		
7	Experimental Studies and Physical Model of Efficient, Tunable Injection Using Tunnel-Transparent Dielectric Contacts on Polymer Light-Emitting Devices. *Materials Research Society Symposia Proceedings*, **2002**, 734, 721		
6	GaSb-based Nanocomposites as IR-Emitters. *Materials Research Society Symposia Proceedings*, **2002**, 737, 116		
5	Analysis of non-quarter-wave grating by a modified Fourier-transform method. *Applied Optics*, **2002** , 41, 6763-7	1.7	
4	Photonic crystals for integrated optical computing **2000**, 4089, 786		
3	Monitoring of Cardiac Disease with Reagent-free Molecular Pendulum Aptasensors. *ECS Meeting Abstracts*, **2021**, MA2021-02, 1563-1563	0	
2	Si-Rich Dielectrics for Active Photonic Devices. *Nanostructure Science and Technology*, **2009**, 1-24	0.9	
1	Reply to: Perovskite decomposition and missing crystal planes in HRTEM. *Nature*, **2021**, 594, E8-E9	50.4	