Edward H Sargent

List of Publications by Year in Descending Order

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	All-perovskite tandem solar cells with improved grain surface passivation.. *Nature*, **2022**,	50.4	112
673	Efficient recovery of potent tumour-infiltrating lymphocytes through quantitative immunomagnetic cell sorting.. *Nature Biomedical Engineering*, **2022**,	19	2
672	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
671	Concentrated Ethanol Electrosynthesis from CO via a Porous Hydrophobic Adlayer.. *ACS Applied Materials & Interfaces*, **2022**, 14, 4155-4162	9.5	3
670	A metal-supported single-atom catalytic site enables carbon dioxide hydrogenation.. *Nature Communications*, **2022**, 13, 819	17.4	15
669	Redox-mediated electrosynthesis of ethylene oxide from CO2 and water. *Nature Catalysis*, **2022**, 5, 185-192	36.5	2
668	Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO2 electrolysers. *Nature Energy*, **2022**, 7, 130-143	62.3	33
667	Wide-Bandgap Perovskite Quantum Dots in Perovskite Matrix for Sky-Blue Light-Emitting Diodes.. *Journal of the American Chemical Society*, **2022**,	16.4	22
666	Controlled Crystal Plane Orientations in ZnO Transport Layer enables High Responsivity, Low Dark Current Infrared Photodetectors.. *Advanced Materials*, **2022**, e2200321	24	4
665	In-situ inorganic ligand replenishment enables bandgap stability in mixed-halide perovskite quantum dot solids.. *Advanced Materials*, **2022**, e2200854	24	11
664	Rapid On-Cell Selection of High-Performance Human Antibodies.. *ACS Central Science*, **2022**, 8, 102-109	16.8	1
663	Au/TiO 2 2D-Photonic Crystals as UV Visible Photocatalysts for H 2 Production. *Advanced Energy Materials*, **2022**, 12, 2103733	21.8	2
662	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
661	Monitoring of Cardiac Disease with Reagent-free Molecular Pendulum Aptasensors. *ECS Meeting Abstracts*, **2021**, MA2021-02, 1563-1563	0	
660	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
659	Distribution control enables efficient reduced-dimensional perovskite LEDs. *Nature*, **2021**, 599, 594-598	50.4	81
658	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

657	A microfluidic platform enables comprehensive gene expression profiling of mouse retinal stem cells. *Lab on A Chip*, **2021**, 21, 4464-4476	7.2	0
656	Thiophene- and selenophene-based conjugated polymeric mixed ionic/electronic conductors. *Journal of Chemical Physics*, **2021**, 155, 134704	3.9	0
655	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
654	Boride-derived oxygen-evolution catalysts. *Nature Communications*, **2021**, 12, 6089	17.4	11
653	Solvent-Assisted Kinetic Trapping in Quaternary Perovskites. *Advanced Materials*, **2021**, 33, e2008690	24	1
652	Reagentless biomolecular analysis using a molecular pendulum. *Nature Chemistry*, **2021**, 13, 428-434	17.6	20
651	Cascade CO2 electroreduction enables efficient carbonate-free production of ethylene. *Joule*, **2021**, 5, 706-719	27.8	31
650	Colloidal quantum dot photodetectors with 10-ns response time and 80% quantum efficiency at 1,550□hm. *Matter*, **2021**, 4, 1042-1053	12.7	25
649	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
648	Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. *Nature Communications*, **2021**, 12, 2191	17.4	26
647	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
646	Electro-Optic Modulation Using Metal-Free Perovskites. *ACS Applied Materials & Interfaces*, **2021**, 13, 19042-19047	9.5	3
645	Silica-copper catalyst interfaces enable carbon-carbon coupling towards ethylene electrosynthesis. *Nature Communications*, **2021**, 12, 2808	17.4	19
644	Low coordination number copper catalysts for electrochemical CO methanation in a membrane electrode assembly. *Nature Communications*, **2021**, 12, 2932	17.4	27
643	Nanocrystal Quantum Dot Devices: How the Lead Sulfide (PbS) System Teaches Us the Importance of Surfaces. *Chimia*, **2021**, 75, 398-413	1.3	5
642	Gold-in-copper at low *CO coverage enables efficient electromethanation of CO. *Nature Communications*, **2021**, 12, 3387	17.4	20
641	All-Inorganic Quantum-Dot LEDs Based on a Phase-Stabilized □CsPbI3 Perovskite. *Angewandte Chemie*, **2021**, 133, 16300-16306	3.6	1
640	CO electrolysis to multicarbon products in strong acid. *Science*, **2021**, 372, 1074-1078	33.3	115

639	Reply to: Perovskite decomposition and missing crystal planes in HRTEM. *Nature*, **2021**, 594, E8-E9	50.4	
638	Multication perovskite 2D/3D interfaces form via progressive dimensional reduction. *Nature Communications*, **2021**, 12, 3472	17.4	24
637	All-Inorganic Quantum-Dot LEDs Based on a Phase-Stabilized □CsPbI Perovskite. *Angewandte Chemie - International Edition*, **2021**, 60, 16164-16170	16.4	59
636	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
635	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
634	Solvent Engineering of Colloidal Quantum Dot Inks for Scalable Fabrication of Photovoltaics. *ACS Applied Materials & Interfaces*, **2021**, 13, 36992-37003	9.5	4
633	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
632	CO2 Electroreduction to Formate at a Partial Current Density of 930 mA cm□ with InP Colloidal Quantum Dot Derived Catalysts. *ACS Energy Letters*, **2021**, 6, 79-84	20.1	39
631	Electrochemical upgrade of CO2 from amine capture solution. *Nature Energy*, **2021**, 6, 46-53	62.3	36
630	Deep-Blue Perovskite Single-Mode Lasing through Efficient Vapor-Assisted Chlorination. *Advanced Materials*, **2021**, 33, e2006697	24	17
629	Linear Electro-Optic Modulation in Highly Polarizable Organic Perovskites. *Advanced Materials*, **2021**, 33, e2006368	24	8
628	3D-Printable Fluoropolymer Gas Diffusion Layers for CO Electroreduction. *Advanced Materials*, **2021**, 33, e2003855	24	24
627	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
626	Accurate and Affordable Explicit Solvent Quantum Mechanics for Electrocatalysis Investigations. *Matter*, **2021**, 4, 12-14	12.7	1
625	An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. *Nature Communications*, **2021**, 12, 670	17.4	16
624	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. *Nature Energy*, **2021**, 6, 167-175	62.3	76
623	Suppressing the liquid product crossover in electrochemical CO2 reduction. *SmartMat*, **2021**, 2, 12-16	22.8	38
622	Ethylene Electrosynthesis: A Comparative Techno-economic Analysis of Alkaline vs Membrane Electrode Assembly vs CO2□CO□2H4 Tandems. *ACS Energy Letters*, **2021**, 6, 997-1002	20.1	33

621	Band Engineering via Gradient Molecular Dopants for CsFA Perovskite Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2010572	15.6	3
620	Self-Cleaning CO2 Reduction Systems: Unsteady Electrochemical Forcing Enables Stability. *ACS Energy Letters*, **2021**, 6, 809-815	20.1	56
619	Designing anion exchange membranes for CO2 electrolysers. *Nature Energy*, **2021**, 6, 339-348	62.3	56
618	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
617	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
616	Facet-Oriented Coupling Enables Fast and Sensitive Colloidal Quantum Dot Photodetectors. *Advanced Materials*, **2021**, 33, e2101056	24	13
615	Boosting photoelectrochemical efficiency by near-infrared-active lattice-matched morphological heterojunctions. *Nature Communications*, **2021**, 12, 4296	17.4	4
614	Ligand Exchange at a Covalent Surface Enables Balanced Stoichiometry in III-V Colloidal Quantum Dots. *Nano Letters*, **2021**, 21, 6057-6063	11.5	7
613	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
612	Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. *Advanced Materials*, **2021**, 33, e2103394	24	25
611	Reducing the crossover of carbonate and liquid products during carbon dioxide electroreduction. *Cell Reports Physical Science*, **2021**, 2, 100522	6.1	8
610	Advances in solution-processed near-infrared light-emitting diodes. *Nature Photonics*, **2021**, 15, 656-669	33.9	25
609	Quantum Dot Self-Assembly Enables Low-Threshold Lasing. *Advanced Science*, **2021**, 8, e2101125	13.6	12
608	Semiconductor quantum dots: Technological progress and future challenges. *Science*, **2021**, 373,	33.3	138
607	Colloidal quantum dot electronics. *Nature Electronics*, **2021**, 4, 548-558	28.4	49
606	Abnormal Phase Transition and Band Renormalization of Guanidinium-Based Organic-Inorganic Hybrid Perovskite. *ACS Applied Materials & Interfaces*, **2021**, 13, 44964-44971	9.5	2
605	In Situ Formation of Nano Ni-Co Oxyhydroxide Enables Water Oxidation Electrocatalysts Durable at High Current Densities. *Advanced Materials*, **2021**, 33, e2103812	24	20
604	Electroosmotic flow steers neutral products and enables concentrated ethanol electroproduction from CO2. *Joule*, **2021**,	27.8	5

603	Stable, active CO reduction to formate via redox-modulated stabilization of active sites. *Nature Communications*, **2021**, 12, 5223	17.4	25
602	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
601	Single-step-fabricated disordered metasurfaces for enhanced light extraction from LEDs. *Light: Science and Applications*, **2021**, 10, 180	16.7	8
600	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
599	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
598	Can sustainable ammonia synthesis pathways compete with fossil-fuel based HaberBosch processes?. *Energy and Environmental Science*, **2021**, 14, 2535-2548	35.4	36
597	Intermediate Binding Control Using Metal-Organic Frameworks Enhances Electrochemical CO Reduction. *Journal of the American Chemical Society*, **2020**, 142, 21513-21521	16.4	50
596	InP-Quantum-Dot-in-ZnS-Matrix Solids for Thermal and Air Stability. *Chemistry of Materials*, **2020**, 32, 9584-9590	9.6	2
595	Nanostructured Architectures Promote the Mesenchymal-Epithelial Transition for Invasive Cells. *ACS Nano*, **2020**, 14, 5324-5336	16.7	7
594	Metal-Free Hydrogen-Bonded Polymers Mimic Noble Metal Electrocatalysts. *Advanced Materials*, **2020**, 32, e1902177	24	10
593	Crystal Site Feature Embedding Enables Exploration of Large Chemical Spaces. *Matter*, **2020**, 3, 433-448	12.7	17
592	Mechanisms of LiF Interlayer Enhancements of Perovskite Light-Emitting Diodes. *Journal of Physical Chemistry Letters*, **2020**, 11, 4213-4220	6.4	5
591	Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie - International Edition*, **2020**, 59, 13977-13983	16.4	16
590	Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. *Nature Energy*, **2020**, 5, 478-486	62.3	163
589	Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie*, **2020**, 132, 14081-14087	3.6	5
588	Ultrasensitive and rapid quantification of rare tumorigenic stem cells in hPSC-derived cardiomyocyte populations. *Science Advances*, **2020**, 6, eaay7629	14.3	14
587	Accelerated discovery of CO electrocatalysts using active machine learning. *Nature*, **2020**, 581, 178-183	50.4	328
586	Multiple Self-Trapped Emissions in the Lead-Free Halide CsCuI. *Journal of Physical Chemistry Letters*, **2020**, 11, 4326-4330	6.4	40

585	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
584	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
583	Chloride-mediated selective electrosynthesis of ethylene and propylene oxides at high current density. *Science*, **2020**, 368, 1228-1233	33.3	78
582	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
581	Micron Thick Colloidal Quantum Dot Solids. *Nano Letters*, **2020**, 20, 5284-5291	11.5	23
580	Stable, Bromine-Free, Tetragonal Perovskites with 1.7 eV Bandgaps via A-Site Cation Substitution **2020**, 2, 869-872		9
579	Colloidal Quantum Dot Bulk Heterojunction Solids with Near-Unity Charge Extraction Efficiency. *Advanced Science*, **2020**, 7, 2000894	13.6	10
578	Dimensional Mixing Increases the Efficiency of 2D/3D Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 5115-5119	6.4	22
577	Monolayer Perovskite Bridges Enable Strong Quantum Dot Coupling for Efficient Solar Cells. *Joule*, **2020**, 4, 1542-1556	27.8	85
576	A Chemically Orthogonal Hole Transport Layer for Efficient Colloidal Quantum Dot Solar Cells. *Advanced Materials*, **2020**, 32, e1906199	24	38
575	Single-Precursor Intermediate Shelling Enables Bright, Narrow Line Width InAs/InZnP-Based QD Emitters. *Chemistry of Materials*, **2020**, 32, 2919-2925	9.6	6
574	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
573	Chiral-perovskite optoelectronics. *Nature Reviews Materials*, **2020**, 5, 423-439	73.3	191
572	Machine-Learning-Accelerated Perovskite Crystallization. *Matter*, **2020**, 2, 938-947	12.7	45
571	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140	33.3	298
570	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. *Nature Communications*, **2020**, 11, 1257	17.4	114
569	Conventional Solvent Oxidizes Sn(II) in Perovskite Inks. *ACS Energy Letters*, **2020**, 5, 1153-1155	20.1	57
568	Regulating strain in perovskite thin films through charge-transport layers. *Nature Communications*, **2020**, 11, 1514	17.4	165

567	Solution-processed upconversion photodetectors based on quantum dots. *Nature Electronics*, **2020**, 3, 251-258	28.4	59
566	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
565	Bipolar-shell resurfacing for blue LEDs based on strongly confined perovskite quantum dots. *Nature Nanotechnology*, **2020**, 15, 668-674	28.7	281
564	Template-basierte Herstellung von 2D-photonischen Superkristallen mit verstärkter spontaner Emission aus CsPbBr3-Perowskit-Nanokristallen. *Angewandte Chemie*, **2020**, 132, 17903-17909	3.6	4
563	CO electrolysis to multicarbon products at activities greater than 1 A cm. *Science*, **2020**, 367, 661-666	33.3	403
562	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
561	Multi-cation perovskites prevent carrier reflection from grain surfaces. *Nature Materials*, **2020**, 19, 412-418	27	52
560	Molecular enhancement of heterogeneous CO reduction. *Nature Materials*, **2020**, 19, 266-276	27	195
559	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
558	Solvent-Solute Coordination Engineering for Efficient Perovskite Luminescent Solar Concentrators. *Joule*, **2020**, 4, 631-643	27.8	28
557	High Color Purity Lead-Free Perovskite Light-Emitting Diodes via Sn Stabilization. *Advanced Science*, **2020**, 7, 1903213	13.6	85
556	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
555	Heterogeneous Supersaturation in Mixed Perovskites. *Advanced Science*, **2020**, 7, 1903166	13.6	8
554	Quantum Dot-Plasmon Lasing with Controlled Polarization Patterns. *ACS Nano*, **2020**, 14, 3426-3433	16.7	26
553	Molecular tuning of CO-to-ethylene conversion. *Nature*, **2020**, 577, 509-513	50.4	321
552	Permanent Lattice Compression of Lead-Halide Perovskite for Persistently Enhanced Optoelectronic Properties. *ACS Energy Letters*, **2020**, 5, 642-649	20.1	21
551	Hydration-Effect-Promoting Ni-Fe Oxyhydroxide Catalysts for Neutral Water Oxidation. *Advanced Materials*, **2020**, 32, e1906806	24	33
550	Efficient Methane Electrosynthesis Enabled by Tuning Local CO Availability. *Journal of the American Chemical Society*, **2020**, 142, 3525-3531	16.4	65

549	Engineering Directionality in Quantum Dot Shell Lasing Using Plasmonic Lattices. *Nano Letters*, **2020**, 20, 1468-1474	11.5	21
548	Regioselective magnetization in semiconducting nanorods. *Nature Nanotechnology*, **2020**, 15, 192-197	28.7	25
547	Managing grains and interfaces via ligand anchoring enables 22.3%-efficiency inverted perovskite solar cells. *Nature Energy*, **2020**, 5, 131-140	62.3	552
546	Efficient near-infrared light-emitting diodes based on quantum dots in layered perovskite. *Nature Photonics*, **2020**, 14, 227-233	33.9	91
545	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
544	Ligand-Assisted Reconstruction of Colloidal Quantum Dots Decreases Trap State Density. *Nano Letters*, **2020**, 20, 3694-3702	11.5	27
543	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
542	Large area metasurfaces made with spherical silicon resonators. *Nanophotonics*, **2020**, 9, 943-951	6.3	6
541	Cooperative CO2-to-ethanol conversion via enriched intermediates at molecule–metal catalyst interfaces. *Nature Catalysis*, **2020**, 3, 75-82	36.5	164
540	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
539	Edge stabilization in reduced-dimensional perovskites. *Nature Communications*, **2020**, 11, 170	17.4	79
538	Oxygen-tolerant electroproduction of C2 products from simulated flue gas. *Energy and Environmental Science*, **2020**, 13, 554-561	35.4	45
537	Efficient electrocatalytic conversion of carbon dioxide in a low-resistance pressurized alkaline electrolyzer. *Applied Energy*, **2020**, 261, 114305	10.7	30
536	Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. *Nature Catalysis*, **2020**, 3, 98-106	36.5	158
535	Spatial Collection in Colloidal Quantum Dot Solar Cells. *Advanced Functional Materials*, **2020**, 30, 1908200	15.6	14
534	Tuning OH binding energy enables selective electrochemical oxidation of ethylene to ethylene glycol. *Nature Catalysis*, **2020**, 3, 14-22	36.5	41
533	Bright high-colour-purity deep-blue carbon dot light-emitting diodes via efficient edge amination. *Nature Photonics*, **2020**, 14, 171-176	33.9	144
532	Nanostructured Architectures for Biomolecular Detection inside and outside the Cell. *Advanced Functional Materials*, **2020**, 30, 1907701	15.6	12

531	Narrow Emission from Rb3Sb2I9 Nanoparticles. *Advanced Optical Materials*, **2020**, 8, 1901606	8.1	16
530	Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. *Nature Communications*, **2020**, 11, 103	17.4	110
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	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
527	Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer. *Journal of Physical Chemistry C*, **2020**, 124, 24379-24390	3.8	9
526	Color-pure red light-emitting diodes based on two-dimensional lead-free perovskites. *Science Advances*, **2020**, 6,	14.3	52
525	Autonomous atmospheric water seeping MOF matrix. *Science Advances*, **2020**, 6,	14.3	44
524	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
523	Chelating-agent-assisted control of CsPbBr quantum well growth enables stable blue perovskite emitters. *Nature Communications*, **2020**, 11, 3674	17.4	45
522	Magnetic Ranking Cytometry: Profiling Rare Cells at the Single-Cell Level. *Accounts of Chemical Research*, **2020**, 53, 1445-1457	24.3	5
521	Promoting CO methanation via ligand-stabilized metal oxide clusters as hydrogen-donating motifs. *Nature Communications*, **2020**, 11, 6190	17.4	30
520	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
519	Bioinspiration in light harvesting and catalysis. *Nature Reviews Materials*, **2020**, 5, 828-846	73.3	54
518	Enhanced multi-carbon alcohol electroproduction from CO via modulated hydrogen adsorption. *Nature Communications*, **2020**, 11, 3685	17.4	28
517	High-Throughput Nanofabrication of Metasurfaces with Polarization-Dependent Response. *Advanced Optical Materials*, **2020**, 8, 2000786	8.1	8
516	A Multi-functional Molecular Modifier Enabling Efficient Large-Area Perovskite Light-Emitting Diodes. *Joule*, **2020**, 4, 1977-1987	27.8	70
515	Bifunctional Surface Engineering on SnO2 Reduces Energy Loss in Perovskite Solar Cells. *ACS Energy Letters*, **2020**, 5, 2796-2801	20.1	104
514	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

513	High-Rate and Efficient Ethylene Electrosynthesis Using a Catalyst/Promoter/Transport Layer. *ACS Energy Letters*, **2020**, 5, 2811-2818	20.1	39
512	Bromine Incorporation and Suppressed Cation Rotation in Mixed-Halide Perovskites. *ACS Nano*, **2020**, 14, 15107-15118	16.7	10
511	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
510	Colloidal Quantum Dot Solar Cell Band Alignment using Two-Step Ionic Doping **2020**, 2, 1583-1589		6
509	Efficient and Stable Colloidal Quantum Dot Solar Cells with a Green-Solvent Hole-Transport Layer. *Advanced Energy Materials*, **2020**, 10, 2002084	21.8	9
508	Orthogonal colloidal quantum dot inks enable efficient multilayer optoelectronic devices. *Nature Communications*, **2020**, 11, 4814	17.4	19
507	Monolithic Organic/Colloidal Quantum Dot Hybrid Tandem Solar Cells via Buffer Engineering. *Advanced Materials*, **2020**, 32, e2004657	24	7
506	Perovskite Single-Crystal Thin Film Devices Using Lithography Assisted Epitaxy. *Matter*, **2020**, 3, 619-620	12.7	2
505	CO2 Electroreduction to Methane at Production Rates Exceeding 100 mA/cm2. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 14668-14673	8.3	14
504	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
503	Suppression of Auger Recombination by Gradient Alloying in InAs/CdSe/CdS QDs. *Chemistry of Materials*, **2020**, 32, 7703-7709	9.6	4
502	Active Sulfur Sites in Semimetallic Titanium Disulfide Enable CO2 Electroreduction. *ACS Catalysis*, **2020**, 10, 66-72	13.1	16
501	Directional Light Emission from Layered Metal Halide Perovskite Crystals. *Journal of Physical Chemistry Letters*, **2020**, 11, 3458-3465	6.4	16
500	Mixed Lead Halide Passivation of Quantum Dots. *Advanced Materials*, **2019**, 31, e1904304	24	42
499	Continuous Carbon Dioxide Electroreduction to Concentrated Multi-carbon Products Using a Membrane Electrode Assembly. *Joule*, **2019**, 3, 2777-2791	27.8	155
498	Machine Learning Accelerates Discovery of Optimal Colloidal Quantum Dot Synthesis. *ACS Nano*, **2019**, 13, 11122-11128	16.7	52
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