# Thomas Burdyny

## List of Publications by Year in Descending Order



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| 498 papers | 63,759 citations | 123 h-index | 244 g-index |
| 537 ext. papers | 79,757 ext. citations | 19.5 avg, IF | 8.31 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 498 | All-perovskite tandem solar cells with improved grain surface passivation.. *Nature*, **2022**, | 50.4 | 112 |
| 497 | Efficient recovery of potent tumour-infiltrating lymphocytes through quantitative immunomagnetic cell sorting.. *Nature Biomedical Engineering*, **2022**, | 19 | 2 |
| 496 | 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 |
| 495 | Concentrated Ethanol Electrosynthesis from CO via a Porous Hydrophobic Adlayer.. *ACS Applied Materials & Interfaces*, **2022**, 14, 4155-4162 | 9.5 | 3 |
| 494 | Electrochemical CO2 reduction in membrane-electrode assemblies. *CheM*, **2022**, | 16.2 | 11 |
| 493 | Efficient Tandem Quantum-Dot LEDs Enabled by An Inorganic Semiconductor-Metal-Dielectric Interconnecting Layer Stack (Adv. Mater. 4/2022). *Advanced Materials*, **2022**, 34, 2270034 | 24 | |
| 492 | Editorial for the Special Issue: Dimensionality of Emerging Materials and Energy. *Advanced Energy Materials*, **2022**, 12, 2103816 | 21.8 | |
| 491 | A metal-supported single-atom catalytic site enables carbon dioxide hydrogenation.. *Nature Communications*, **2022**, 13, 819 | 17.4 | 15 |
| 490 | Immobilization strategies for porphyrin-based molecular catalysts for the electroreduction of CO.. *Journal of Materials Chemistry A*, **2022**, 10, 7626-7636 | 13 | 3 |
| 489 | Redox-mediated electrosynthesis of ethylene oxide from CO2 and water. *Nature Catalysis*, **2022**, 5, 185-192 | 36.5 | 2 |
| 488 | Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO2 electrolysers. *Nature Energy*, **2022**, 7, 130-143 | 62.3 | 33 |
| 487 | Wide-Bandgap Perovskite Quantum Dots in Perovskite Matrix for Sky-Blue Light-Emitting Diodes.. *Journal of the American Chemical Society*, **2022**, | 16.4 | 22 |
| 486 | Controlled Crystal Plane Orientations in ZnO Transport Layer enables High Responsivity, Low Dark Current Infrared Photodetectors.. *Advanced Materials*, **2022**, e2200321 | 24 | 4 |
| 485 | In-situ inorganic ligand replenishment enables bandgap stability in mixed-halide perovskite quantum dot solids.. *Advanced Materials*, **2022**, e2200854 | 24 | 11 |
| 484 | Rapid On-Cell Selection of High-Performance Human Antibodies.. *ACS Central Science*, **2022**, 8, 102-109 | 16.8 | 1 |
| 483 | Spatial reactant distribution in CO electrolysis: balancing CO utilization and faradaic efficiency.. *Sustainable Energy and Fuels*, **2021**, 5, 6040-6048 | 5.8 | 4 |
| 482 | 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 |

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| 481 | Cation-Driven Increases of CO Utilization in a Bipolar Membrane Electrode Assembly for CO Electrolysis.. *ACS Energy Letters*, **2021**, 6, 4291-4298 | 20.1 | 20 |
| 480 | 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 |
| 479 | Distribution control enables efficient reduced-dimensional perovskite LEDs. *Nature*, **2021**, 599, 594-598 | 50.4 | 81 |
| 478 | 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 |
| 477 | Efficient Tandem Quantum-Dot LEDs Enabled by An Inorganic Semiconductor-Metal-Dielectric Interconnecting Layer Stack. *Advanced Materials*, **2021**, e2108150 | 24 | 10 |
| 476 | A microfluidic platform enables comprehensive gene expression profiling of mouse retinal stem cells. *Lab on A Chip*, **2021**, 21, 4464-4476 | 7.2 | 0 |
| 475 | Thiophene- and selenophene-based conjugated polymeric mixed ionic/electronic conductors. *Journal of Chemical Physics*, **2021**, 155, 134704 | 3.9 | 0 |
| 474 | 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 |
| 473 | Boride-derived oxygen-evolution catalysts. *Nature Communications*, **2021**, 12, 6089 | 17.4 | 11 |
| 472 | Solvent-Assisted Kinetic Trapping in Quaternary Perovskites. *Advanced Materials*, **2021**, 33, e2008690 | 24 | 1 |
| 471 | Reagentless biomolecular analysis using a molecular pendulum. *Nature Chemistry*, **2021**, 13, 428-434 | 17.6 | 20 |
| 470 | Cascade CO2 electroreduction enables efficient carbonate-free production of ethylene. *Joule*, **2021**, 5, 706-719 | 27.8 | 31 |
| 469 | 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 |
| 468 | 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 |
| 467 | Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. *Nature Communications*, **2021**, 12, 2191 | 17.4 | 26 |
| 466 | 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 |
| 465 | Electro-Optic Modulation Using Metal-Free Perovskites. *ACS Applied Materials & Interfaces*, **2021**, 13, 19042-19047 | 9.5 | 3 |
| 464 | Microbial Electrosynthesis: Where Do We Go from Here?. *Trends in Biotechnology*, **2021**, 39, 359-369 | 15.1 | 28 |

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| 463 | Silica-copper catalyst interfaces enable carbon-carbon coupling towards ethylene electrosynthesis. *Nature Communications*, **2021**, 12, 2808 | 17.4 | 19 |
| 462 | Low coordination number copper catalysts for electrochemical CO methanation in a membrane electrode assembly. *Nature Communications*, **2021**, 12, 2932 | 17.4 | 27 |
| 461 | Gold-in-copper at low *CO coverage enables efficient electromethanation of CO. *Nature Communications*, **2021**, 12, 3387 | 17.4 | 20 |
| 460 | All-Inorganic Quantum-Dot LEDs Based on a Phase-Stabilized CsPbI3 Perovskite. *Angewandte Chemie*, **2021**, 133, 16300-16306 | 3.6 | 1 |
| 459 | CO electrolysis to multicarbon products in strong acid. *Science*, **2021**, 372, 1074-1078 | 33.3 | 115 |
| 458 | Reply to: Perovskite decomposition and missing crystal planes in HRTEM. *Nature*, **2021**, 594, E8-E9 | 50.4 | |
| 457 | Multication perovskite 2D/3D interfaces form via progressive dimensional reduction. *Nature Communications*, **2021**, 12, 3472 | 17.4 | 24 |
| 456 | All-Inorganic Quantum-Dot LEDs Based on a Phase-Stabilized CsPbI Perovskite. *Angewandte Chemie - International Edition*, **2021**, 60, 16164-16170 | 16.4 | 59 |
| 455 | 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 |
| 454 | 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 |
| 453 | Solvent Engineering of Colloidal Quantum Dot Inks for Scalable Fabrication of Photovoltaics. *ACS Applied Materials & Interfaces*, **2021**, 13, 36992-37003 | 9.5 | 4 |
| 452 | 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 |
| 451 | Role of the Carbon-Based Gas Diffusion Layer on Flooding in a Gas Diffusion Electrode Cell for Electrochemical CO2 Reduction. *ACS Energy Letters*, **2021**, 6, 33-40 | 20.1 | 69 |
| 450 | 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 |
| 449 | Electrochemical upgrade of CO2 from amine capture solution. *Nature Energy*, **2021**, 6, 46-53 | 62.3 | 36 |
| 448 | Deep-Blue Perovskite Single-Mode Lasing through Efficient Vapor-Assisted Chlorination. *Advanced Materials*, **2021**, 33, e2006697 | 24 | 17 |
| 447 | Linear Electro-Optic Modulation in Highly Polarizable Organic Perovskites. *Advanced Materials*, **2021**, 33, e2006368 | 24 | 8 |
| 446 | 3D-Printable Fluoropolymer Gas Diffusion Layers for CO Electroreduction. *Advanced Materials*, **2021**, 33, e2003855 | 24 | 24 |

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| 445 | 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 |
| 444 | The role of electrode wettability in electrochemical reduction of carbon dioxide. *Journal of Materials Chemistry A*, **2021**, 9, 19369-19409 | 13 | 19 |
| 443 | An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. *Nature Communications*, **2021**, 12, 670 | 17.4 | 16 |
| 442 | Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. *Nature Energy*, **2021**, 6, 167-175 | 62.3 | 76 |
| 441 | Suppressing the liquid product crossover in electrochemical CO2 reduction. *SmartMat*, **2021**, 2, 12-16 | 22.8 | 38 |
| 440 | Ethylene Electrosynthesis: A Comparative Techno-economic Analysis of Alkaline vs Membrane Electrode Assembly vs CO2□OC2H4 Tandems. *ACS Energy Letters*, **2021**, 6, 997-1002 | 20.1 | 33 |
| 439 | Self-Cleaning CO2 Reduction Systems: Unsteady Electrochemical Forcing Enables Stability. *ACS Energy Letters*, **2021**, 6, 809-815 | 20.1 | 56 |
| 438 | Designing anion exchange membranes for CO2 electrolysers. *Nature Energy*, **2021**, 6, 339-348 | 62.3 | 56 |
| 437 | 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 |
| 436 | 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 |
| 435 | Facet-Oriented Coupling Enables Fast and Sensitive Colloidal Quantum Dot Photodetectors. *Advanced Materials*, **2021**, 33, e2101056 | 24 | 13 |
| 434 | Boosting photoelectrochemical efficiency by near-infrared-active lattice-matched morphological heterojunctions. *Nature Communications*, **2021**, 12, 4296 | 17.4 | 4 |
| 433 | Ligand Exchange at a Covalent Surface Enables Balanced Stoichiometry in III-V Colloidal Quantum Dots. *Nano Letters*, **2021**, 21, 6057-6063 | 11.5 | 7 |
| 432 | 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 |
| 431 | Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. *Advanced Materials*, **2021**, 33, e2103394 | 24 | 25 |
| 430 | Reducing the crossover of carbonate and liquid products during carbon dioxide electroreduction. *Cell Reports Physical Science*, **2021**, 2, 100522 | 6.1 | 8 |
| 429 | Advances in solution-processed near-infrared light-emitting diodes. *Nature Photonics*, **2021**, 15, 656-669 | 33.9 | 25 |
| 428 | Quantum Dot Self-Assembly Enables Low-Threshold Lasing. *Advanced Science*, **2021**, 8, e2101125 | 13.6 | 12 |

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| 427 | Semiconductor quantum dots: Technological progress and future challenges. *Science*, **2021**, 373, | 33.3 | 138 |
| 426 | Colloidal quantum dot electronics. *Nature Electronics*, **2021**, 4, 548-558 | 28.4 | 49 |
| 425 | Abnormal Phase Transition and Band Renormalization of Guanidinium-Based Organic-Inorganic Hybrid Perovskite. *ACS Applied Materials & Interfaces*, **2021**, 13, 44964-44971 | 9.5 | 2 |
| 424 | In Situ Formation of Nano Ni-Co Oxyhydroxide Enables Water Oxidation Electrocatalysts Durable at High Current Densities. *Advanced Materials*, **2021**, 33, e2103812 | 24 | 20 |
| 423 | Electroosmotic flow steers neutral products and enables concentrated ethanol electroproduction from CO2. *Joule*, **2021**, | 27.8 | 5 |
| 422 | Stable, active CO reduction to formate via redox-modulated stabilization of active sites. *Nature Communications*, **2021**, 12, 5223 | 17.4 | 25 |
| 421 | 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 |
| 420 | Single-step-fabricated disordered metasurfaces for enhanced light extraction from LEDs. *Light: Science and Applications*, **2021**, 10, 180 | 16.7 | 8 |
| 419 | 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 |
| 418 | 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 |
| 417 | Can sustainable ammonia synthesis pathways compete with fossil-fuel based Haber-Bosch processes?. *Energy and Environmental Science*, **2021**, 14, 2535-2548 | 35.4 | 36 |
| 416 | Intermediate Binding Control Using Metal-Organic Frameworks Enhances Electrochemical CO Reduction. *Journal of the American Chemical Society*, **2020**, 142, 21513-21521 | 16.4 | 50 |
| 415 | InP-Quantum-Dot-in-ZnS-Matrix Solids for Thermal and Air Stability. *Chemistry of Materials*, **2020**, 32, 9584-9590 | 9.6 | 2 |
| 414 | Nanostructured Architectures Promote the Mesenchymal-Epithelial Transition for Invasive Cells. *ACS Nano*, **2020**, 14, 5324-5336 | 16.7 | 7 |
| 413 | Metal-Free Hydrogen-Bonded Polymers Mimic Noble Metal Electrocatalysts. *Advanced Materials*, **2020**, 32, e1902177 | 24 | 10 |
| 412 | Mechanisms of LiF Interlayer Enhancements of Perovskite Light-Emitting Diodes. *Journal of Physical Chemistry Letters*, **2020**, 11, 4213-4220 | 6.4 | 5 |
| 411 | Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie - International Edition*, **2020**, 59, 13977-13983 | 16.4 | 16 |
| 410 | Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. *Nature Energy*, **2020**, 5, 478-486 | 62.3 | 163 |

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| 409 | Thiophene Cation Intercalation to Improve Band-Edge Integrity in Reduced-Dimensional Perovskites. *Angewandte Chemie*, **2020**, 132, 14081-14087 | 3.6 | 5 |
| 408 | Ultrasensitive and rapid quantification of rare tumorigenic stem cells in hPSC-derived cardiomyocyte populations. *Science Advances*, **2020**, 6, eaay7629 | 14.3 | 14 |
| 407 | Accelerated discovery of CO electrocatalysts using active machine learning. *Nature*, **2020**, 581, 178-183 | 50.4 | 328 |
| 406 | Multiple Self-Trapped Emissions in the Lead-Free Halide CsCuI. *Journal of Physical Chemistry Letters*, **2020**, 11, 4326-4330 | 6.4 | 40 |
| 405 | 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 |
| 404 | 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 |
| 403 | Chloride-mediated selective electrosynthesis of ethylene and propylene oxides at high current density. *Science*, **2020**, 368, 1228-1233 | 33.3 | 78 |
| 402 | Micron Thick Colloidal Quantum Dot Solids. *Nano Letters*, **2020**, 20, 5284-5291 | 11.5 | 23 |
| 401 | Stable, Bromine-Free, Tetragonal Perovskites with 1.7 eV Bandgaps via A-Site Cation Substitution **2020**, 2, 869-872 | | 9 |
| 400 | Dimensional Mixing Increases the Efficiency of 2D/3D Perovskite Solar Cells. *Journal of Physical Chemistry Letters*, **2020**, 11, 5115-5119 | 6.4 | 22 |
| 399 | Monolayer Perovskite Bridges Enable Strong Quantum Dot Coupling for Efficient Solar Cells. *Joule*, **2020**, 4, 1542-1556 | 27.8 | 85 |
| 398 | A Chemically Orthogonal Hole Transport Layer for Efficient Colloidal Quantum Dot Solar Cells. *Advanced Materials*, **2020**, 32, e1906199 | 24 | 38 |
| 397 | Single-Precursor Intermediate Shelling Enables Bright, Narrow Line Width InAs/InZnP-Based QD Emitters. *Chemistry of Materials*, **2020**, 32, 2919-2925 | 9.6 | 6 |
| 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 | Chiral-perovskite optoelectronics. *Nature Reviews Materials*, **2020**, 5, 423-439 | 73.3 | 191 |
| 394 | Machine-Learning-Accelerated Perovskite Crystallization. *Matter*, **2020**, 2, 938-947 | 12.7 | 45 |
| 393 | Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140 | 33.3 | 298 |
| 392 | Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. *Nature Communications*, **2020**, 11, 1257 | 17.4 | 114 |

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| 391 | Conventional Solvent Oxidizes Sn(II) in Perovskite Inks. *ACS Energy Letters*, **2020**, 5, 1153-1155 | 20.1 | 57 |
| 390 | Regulating strain in perovskite thin films through charge-transport layers. *Nature Communications*, **2020**, 11, 1514 | 17.4 | 165 |
| 389 | Facet-Dependent Selectivity of Cu Catalysts in Electrochemical CO Reduction at Commercially Viable Current Densities. *ACS Catalysis*, **2020**, 10, 4854-4862 | 13.1 | 164 |
| 388 | Solution-processed upconversion photodetectors based on quantum dots. *Nature Electronics*, **2020**, 3, 251-258 | 28.4 | 59 |
| 387 | Bipolar-shell resurfacing for blue LEDs based on strongly confined perovskite quantum dots. *Nature Nanotechnology*, **2020**, 15, 668-674 | 28.7 | 281 |
| 386 | CO electrolysis to multicarbon products at activities greater than 1 A cm. *Science*, **2020**, 367, 661-666 | 33.3 | 403 |
| 385 | 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 |
| 384 | Multi-cation perovskites prevent carrier reflection from grain surfaces. *Nature Materials*, **2020**, 19, 412-418 | 27 | 52 |
| 383 | Molecular enhancement of heterogeneous CO reduction. *Nature Materials*, **2020**, 19, 266-276 | 27 | 195 |
| 382 | 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 |
| 381 | High Color Purity Lead-Free Perovskite Light-Emitting Diodes via Sn Stabilization. *Advanced Science*, **2020**, 7, 1903213 | 13.6 | 85 |
| 380 | 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 |
| 379 | Quantum Dot-Plasmon Lasing with Controlled Polarization Patterns. *ACS Nano*, **2020**, 14, 3426-3433 | 16.7 | 26 |
| 378 | Molecular tuning of CO-to-ethylene conversion. *Nature*, **2020**, 577, 509-513 | 50.4 | 321 |
| 377 | Permanent Lattice Compression of Lead-Halide Perovskite for Persistently Enhanced Optoelectronic Properties. *ACS Energy Letters*, **2020**, 5, 642-649 | 20.1 | 21 |
| 376 | Electrochemical CO reduction on nanostructured metal electrodes: fact or defect?. *Chemical Science*, **2020**, 11, 1738-1749 | 9.4 | 51 |
| 375 | Hydration-Effect-Promoting Ni-Fe Oxyhydroxide Catalysts for Neutral Water Oxidation. *Advanced Materials*, **2020**, 32, e1906806 | 24 | 33 |
| 374 | Efficient Methane Electrosynthesis Enabled by Tuning Local CO Availability. *Journal of the American Chemical Society*, **2020**, 142, 3525-3531 | 16.4 | 65 |

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| 373 | Engineering Directionality in Quantum Dot Shell Lasing Using Plasmonic Lattices. *Nano Letters*, **2020**, 20, 1468-1474 | 11.5 | 21 |
| 372 | Regioselective magnetization in semiconducting nanorods. *Nature Nanotechnology*, **2020**, 15, 192-197 | 28.7 | 25 |
| 371 | Managing grains and interfaces via ligand anchoring enables 22.3%-efficiency inverted perovskite solar cells. *Nature Energy*, **2020**, 5, 131-140 | 62.3 | 552 |
| 370 | Efficient near-infrared light-emitting diodes based on quantum dots in layered perovskite. *Nature Photonics*, **2020**, 14, 227-233 | 33.9 | 91 |
| 369 | 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 |
| 368 | Ligand-Assisted Reconstruction of Colloidal Quantum Dots Decreases Trap State Density. *Nano Letters*, **2020**, 20, 3694-3702 | 11.5 | 27 |
| 367 | 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 |
| 366 | Cooperative CO2-to-ethanol conversion via enriched intermediates at molecule–metal catalyst interfaces. *Nature Catalysis*, **2020**, 3, 75-82 | 36.5 | 164 |
| 365 | 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 |
| 364 | Edge stabilization in reduced-dimensional perovskites. *Nature Communications*, **2020**, 11, 170 | 17.4 | 79 |
| 363 | Oxygen-tolerant electroproduction of C2 products from simulated flue gas. *Energy and Environmental Science*, **2020**, 13, 554-561 | 35.4 | 45 |
| 362 | Efficient electrocatalytic conversion of carbon dioxide in a low-resistance pressurized alkaline electrolyzer. *Applied Energy*, **2020**, 261, 114305 | 10.7 | 30 |
| 361 | Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. *Nature Catalysis*, **2020**, 3, 98-106 | 36.5 | 158 |
| 360 | Spatial Collection in Colloidal Quantum Dot Solar Cells. *Advanced Functional Materials*, **2020**, 30, 1908200 | 15.6 | 14 |
| 359 | Tuning OH binding energy enables selective electrochemical oxidation of ethylene to ethylene glycol. *Nature Catalysis*, **2020**, 3, 14-22 | 36.5 | 41 |
| 358 | Bright high-colour-purity deep-blue carbon dot light-emitting diodes via efficient edge amination. *Nature Photonics*, **2020**, 14, 171-176 | 33.9 | 144 |
| 357 | Narrow Emission from Rb3Sb2I9 Nanoparticles. *Advanced Optical Materials*, **2020**, 8, 1901606 | 8.1 | 16 |
| 356 | Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. *Nature Communications*, **2020**, 11, 103 | 17.4 | 110 |

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| 355 | High-valence metals improve oxygen evolution reaction performance by modulating 3d metal oxidation cycle energetics. *Nature Catalysis*, **2020**, 3, 985-992 | 36.5 | 149 |
| 354 | 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 |
| 353 | Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer. *Journal of Physical Chemistry C*, **2020**, 124, 24379-24390 | 3.8 | 9 |
| 352 | Color-pure red light-emitting diodes based on two-dimensional lead-free perovskites. *Science Advances*, **2020**, 6, | 14.3 | 52 |
| 351 | Autonomous atmospheric water seeping MOF matrix. *Science Advances*, **2020**, 6, | 14.3 | 44 |
| 350 | 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 |
| 349 | Chelating-agent-assisted control of CsPbBr quantum well growth enables stable blue perovskite emitters. *Nature Communications*, **2020**, 11, 3674 | 17.4 | 45 |
| 348 | Magnetic Ranking Cytometry: Profiling Rare Cells at the Single-Cell Level. *Accounts of Chemical Research*, **2020**, 53, 1445-1457 | 24.3 | 5 |
| 347 | Liquid–Solid Boundaries Dominate Activity of CO2 Reduction on Gas-Diffusion Electrodes. *ACS Catalysis*, **2020**, 10, 14093-14106 | 13.1 | 35 |
| 346 | Promoting CO methanation via ligand-stabilized metal oxide clusters as hydrogen-donating motifs. *Nature Communications*, **2020**, 11, 6190 | 17.4 | 30 |
| 345 | 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 |
| 344 | Bioinspiration in light harvesting and catalysis. *Nature Reviews Materials*, **2020**, 5, 828-846 | 73.3 | 54 |
| 343 | Enhanced multi-carbon alcohol electroproduction from CO via modulated hydrogen adsorption. *Nature Communications*, **2020**, 11, 3685 | 17.4 | 28 |
| 342 | Bifunctional Surface Engineering on SnO2 Reduces Energy Loss in Perovskite Solar Cells. *ACS Energy Letters*, **2020**, 5, 2796-2801 | 20.1 | 104 |
| 341 | Copper and silver gas diffusion electrodes performing CO2 reduction studied through operando X-ray absorption spectroscopy. *Catalysis Science and Technology*, **2020**, 10, 5870-5885 | 5.5 | 7 |
| 340 | 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 |
| 339 | High-Rate and Efficient Ethylene Electrosynthesis Using a Catalyst/Promoter/Transport Layer. *ACS Energy Letters*, **2020**, 5, 2811-2818 | 20.1 | 39 |
| 338 | Bromine Incorporation and Suppressed Cation Rotation in Mixed-Halide Perovskites. *ACS Nano*, **2020**, 14, 15107-15118 | 16.7 | 10 |

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| 337 | 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 |
| 336 | Colloidal Quantum Dot Solar Cell Band Alignment using Two-Step Ionic Doping **2020**, 2, 1583-1589 | | 6 |
| 335 | Efficient and Stable Colloidal Quantum Dot Solar Cells with a Green-Solvent Hole-Transport Layer. *Advanced Energy Materials*, **2020**, 10, 2002084 | 21.8 | 9 |
| 334 | Orthogonal colloidal quantum dot inks enable efficient multilayer optoelectronic devices. *Nature Communications*, **2020**, 11, 4814 | 17.4 | 19 |
| 333 | Monolithic Organic/Colloidal Quantum Dot Hybrid Tandem Solar Cells via Buffer Engineering. *Advanced Materials*, **2020**, 32, e2004657 | 24 | 7 |
| 332 | CO2 Electroreduction to Methane at Production Rates Exceeding 100 mA/cm2. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 14668-14673 | 8.3 | 14 |
| 331 | 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 |
| 330 | Suppression of Auger Recombination by Gradient Alloying in InAs/CdSe/CdS QDs. *Chemistry of Materials*, **2020**, 32, 7703-7709 | 9.6 | 4 |
| 329 | Active Sulfur Sites in Semimetallic Titanium Disulfide Enable CO2 Electroreduction. *ACS Catalysis*, **2020**, 10, 66-72 | 13.1 | 16 |
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