# Thomas Burdyny

List of Publications by Year
in descending order



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|---|---|---|---|
| 520 papers | 98,316 citations | 209 147 h-index | 265 298 g-index |
| 537 all docs | 537 docs citations | 537 times ranked | 47435 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Synthesis, Applications, and Prospects of Quantumâ€Dotâ€inâ€Perovskite Solids. Advanced Energy Materials, 2022, 12, 2100774. | 10.2 | 39 |
| 2 | The Impact of Ion Migration on the Electroâ€Optic Effect in Hybrid Organicâ€"Inorganic Perovskites. Advanced Functional Materials, 2022, 32, 2107939. | 7.8 | 7 |
| 3 | Efficient Tandem Quantumâ€Dot LEDs Enabled by An Inorganic Semiconductorâ€Metalâ€Dielectric Interconnecting Layer Stack. Advanced Materials, 2022, 34, e2108150. | 11.1 | 53 |
| 4 | Guanidinium-Pseudohalide Perovskite Interfaces Enable Surface Reconstruction of Colloidal Quantum Dots for Efficient and Stable Photovoltaics. ACS Nano, 2022, 16, 1649-1660. | 7.3 | 18 |
| 5 | Precursor Tailoring Enables Alkylammonium Tin Halide Perovskite Phosphors for Solidâ€State Lighting. Advanced Functional Materials, 2022, 32, . | 7.8 | 17 |
| 6 | All-perovskite tandem solar cells with improved grain surface passivation. Nature, 2022, 603, 73-78. | 13.7 | 544 |
| 7 | Efficient recovery of potent tumour-infiltrating lymphocytes through quantitative immunomagnetic cell sorting. Nature Biomedical Engineering, 2022, 6, 108-117. | 11.6 | 31 |
| 8 | 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. | 5.2 | 6 |
| 9 | Concentrated Ethanol Electrosynthesis from CO<sub>2</sub> via a Porous Hydrophobic Adlayer. ACS Applied Materials & Interfaces, 2022, 14, 4155-4162. | 4.0 | 15 |
| 10 | Electrochemical CO2 reduction in membrane-electrode assemblies. CheM, 2022, 8, 663-692. | 5.8 | 86 |
| 11 | Efficient Tandem Quantumâ€Dot LEDs Enabled by An Inorganic Semiconductorâ€Metalâ€Dielectric Interconnecting Layer Stack (Adv. Mater. 4/2022). Advanced Materials, 2022, 34, . | 11.1 | 0 |
| 12 | Editorial for the Special Issue: Dimensionality of Emerging Materials and Energy. Advanced Energy Materials, 2022, 12, . | 10.2 | 0 |
| 13 | A metal-supported single-atom catalytic site enables carbon dioxide hydrogenation. Nature Communications, 2022, 13, 819. | 5.8 | 83 |
| 14 | Efficient electrosynthesis of n-propanol from carbon monoxide using a Agâ€"Ruâ€"Cu catalyst. Nature Energy, 2022, 7, 170-176. | 19.8 | 96 |
| 15 | Immobilization strategies for porphyrin-based molecular catalysts for the electroreduction of CO<sub>2</sub>. Journal of Materials Chemistry A, 2022, 10, 7626-7636. | 5.2 | 22 |
| 16 | Redox-mediated electrosynthesis of ethylene oxide from CO2 and water. Nature Catalysis, 2022, 5, 185-192. | 16.1 | 40 |
| 17 | Gas diffusion electrodes, reactor designs and key metrics of low-temperature CO2 electrolysers. Nature Energy, 2022, 7, 130-143. | 19.8 | 237 |
| 18 | Wide-Bandgap Perovskite Quantum Dots in Perovskite Matrix for Sky-Blue Light-Emitting Diodes. Journal of the American Chemical Society, 2022, 144, 4009-4016. | 6.6 | 92 |

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|---|---|---|---|
| 19 | Controlled Crystal Plane Orientations in the ZnO Transport Layer Enable Highâ€Responsivity, Lowâ€Darkâ€Current Infrared Photodetectors. Advanced Materials, 2022, 34, e2200321. | 11.1 | 21 |
| 20 | Dualâ€Phase Regulation for Highâ€Efficiency Perovskite Lightâ€Emitting Diodes. Advanced Functional Materials, 2022, 32, . | 7.8 | 33 |
| 21 | In Situ Inorganic Ligand Replenishment Enables Bandgap Stability in Mixedâ€Halide Perovskite Quantum Dot Solids. Advanced Materials, 2022, 34, e2200854. | 11.1 | 82 |
| 22 | Polymer Modification of Surface Electronic Properties of Electrocatalysts. ACS Energy Letters, 2022, 7, 1586-1593. | 8.8 | 13 |
| 23 | Quantum-size-tuned heterostructures enable efficient and stable inverted perovskite solar cells. Nature Photonics, 2022, 16, 352-358. | 15.6 | 233 |
| 24 | Rapid On-Cell Selection of High-Performance Human Antibodies. ACS Central Science, 2022, 8, 102-109. | 5.3 | 6 |
| 25 | Ga doping disrupts C-C coupling and promotes methane electroproduction on CuAl catalysts. Chem Catalysis, 2022, 2, 908-916. | 2.9 | 24 |
| 26 | Energy Transfer between Size-Controlled CsPbI<sub>3</sub> Quantum Dots for Light-Emitting Diode Application. ACS Applied Materials & Interfaces, 2022, 14, 17691-17697. | 4.0 | 9 |
| 27 | Overcoming Nitrogen Reduction to Ammonia Detection Challenges: The Case for Leapfrogging to Gas Diffusion Electrode Platforms. ACS Catalysis, 2022, 12, 5726-5735. | 5.5 | 24 |
| 28 | Modeling the Local Environment within Porous Electrode during Electrochemical Reduction of Bicarbonate. Industrial & Engineering Chemistry Research, 2022, 61, 10461-10473. | 1.8 | 25 |
| 29 | Carbon-efficient carbon dioxide electrolysers. Nature Sustainability, 2022, 5, 563-573. | 11.5 | 95 |
| 30 | Characterizing CO<sub>2</sub> Reduction Catalysts on Gas Diffusion Electrodes: Comparing Activity, Selectivity, and Stability of Transition Metal Catalysts. ACS Applied Energy Materials, 2022, 5, 5983-5994. | 2.5 | 23 |
| 31 | High-Throughput Evaluation of Emission and Structure in Reduced-Dimensional Perovskites. ACS Central Science, 2022, 8, 571-580. | 5.3 | 6 |
| 32 | Organicâ€“inorganic hybrid perovskite scintillators for mixed field radiation detection. InformaÄnÃ- MateriÃ¡ly, 2022, 4, . | 8.5 | 25 |
| 33 | Nanoparticle Amplification Labeling for High-Performance Magnetic Cell Sorting. Nano Letters, 2022, 22, 4774-4783. | 4.5 | 13 |
| 34 | Singleâ€Layer Sheets of Alkylammonium Lead Iodide Perovskites with Tunable and Stable Green Emission for White Lightâ€Emitting Devices. Advanced Optical Materials, 2022, 10, . | 3.6 | 2 |
| 35 | A microchanneled solid electrolyte for carbon-efficient CO2 electrolysis. Joule, 2022, 6, 1333-1343. | 11.7 | 51 |
| 36 | Eliminating the need for anodic gas separation in CO2 electroreduction systems via liquid-to-liquid anodic upgrading. Nature Communications, 2022, 13, . | 5.8 | 37 |

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| 37 | CO<sub>2</sub> Electrolysis via Surface-Engineering Electrografted Pyridines on Silver Catalysts. ACS Catalysis, 2022, 12, 7862-7876. | 5.5 | 21 |
| 38 | Bipolar membrane electrolyzers enable high single-pass CO2 electroreduction to multicarbon products. Nature Communications, 2022, 13, . | 5.8 | 81 |
| 39 | High carbon utilization in CO2 reduction to multi-carbon products in acidic media. Nature Catalysis, 2022, 5, 564-570. | 16.1 | 197 |
| 40 | Mapping Spatial and Temporal Electrochemical Activity of Water and CO<sub>2</sub> Electrolysis on Gas-Diffusion Electrodes Using Infrared Thermography. ACS Energy Letters, 2022, 7, 2410-2419. | 8.8 | 14 |
| 41 | Space-Resolved Mapping of Catalytic Activity in Electrolysers By Infrared Imaging. ECS Meeting Abstracts, 2022, MA2022-01, 1581-1581. | 0.0 | 0 |
| 42 | Catalyst Regeneration via Chemical Oxidation Enables Long-Term Electrochemical Carbon Dioxide Reduction. Journal of the American Chemical Society, 2022, 144, 13254-13265. | 6.6 | 30 |
| 43 | 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. | 11.6 | 40 |
| 44 | Role of the Carbon-Based Gas Diffusion Layer on Flooding in a Gas Diffusion Electrode Cell for Electrochemical CO<sub>2</sub> Reduction. ACS Energy Letters, 2021, 6, 33-40. | 8.8 | 221 |
| 45 | CO<sub>2</sub> Electroreduction to Formate at a Partial Current Density of 930 mA cm<sup>â€“2</sup> with InP Colloidal Quantum Dot Derived Catalysts. ACS Energy Letters, 2021, 6, 79-84. | 8.8 | 100 |
| 46 | Electrochemical upgrade of CO2 from amine capture solution. Nature Energy, 2021, 6, 46-53. | 19.8 | 129 |
| 47 | Deepâ€Blue Perovskite Singleâ€Mode Lasing through Efficient Vaporâ€Assisted Chlorination. Advanced Materials, 2021, 33, e2006697. | 11.1 | 30 |
| 48 | Linear Electroâ€Optic Modulation in Highly Polarizable Organic Perovskites. Advanced Materials, 2021, 33, e2006368. | 11.1 | 20 |
| 49 | 3Dâ€Printable Fluoropolymer Gas Diffusion Layers for CO<sub>2</sub> Electroreduction. Advanced Materials, 2021, 33, e2003855. | 11.1 | 65 |
| 50 | Detection of SARS-CoV-2 Viral Particles Using Direct, Reagent-Free Electrochemical Sensing. Journal of the American Chemical Society, 2021, 143, 1722-1727. | 6.6 | 156 |
| 51 | The role of electrode wettability in electrochemical reduction of carbon dioxide. Journal of Materials Chemistry A, 2021, 9, 19369-19409. | 5.2 | 95 |
| 52 | An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. Nature Communications, 2021, 12, 670. | 5.8 | 58 |
| 53 | Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. Nature Energy, 2021, 6, 167-175. | 19.8 | 164 |
| 54 | Suppressing the liquid product crossover in electrochemical CO<sub>2</sub> reduction. SmartMat, 2021, 2, 12-16. | 6.4 | 90 |

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| 55 | Ethylene Electrosynthesis: A Comparative Techno-economic Analysis of Alkaline vs Membrane Electrode Assembly vs CO<sub>2</sub>â€“COâ€“C<sub>2</sub>H<sub>4</sub> Tandems. ACS Energy Letters, 2021, 6, 997-1002. | 8.8 | 129 |
| 56 | Self-Cleaning CO<sub>2</sub> Reduction Systems: Unsteady Electrochemical Forcing Enables Stability. ACS Energy Letters, 2021, 6, 809-815. | 8.8 | 159 |
| 57 | Designing anion exchange membranes for CO2 electrolysers. Nature Energy, 2021, 6, 339-348. | 19.8 | 209 |
| 58 | Grain Transformation and Degradation Mechanism of Formamidinium and Cesium Lead Iodide Perovskite under Humidity and Light. ACS Energy Letters, 2021, 6, 934-940. | 8.8 | 90 |
| 59 | Accelerated Discovery of Optoelectronic Materials. ACS Photonics, 2021, 8, 699-701. | 3.2 | 1 |
| 60 | Solventâ€Assisted Kinetic Trapping in Quaternary Perovskites. Advanced Materials, 2021, 33, e2008690. | 11.1 | 6 |
| 61 | Inside Front Cover: Volume 2 Issue 1. SmartMat, 2021, 2, iii. | 6.4 | 1 |
| 62 | Reagentless biomolecular analysis using a molecular pendulum. Nature Chemistry, 2021, 13, 428-434. | 6.6 | 70 |
| 63 | Cascade CO2 electroreduction enables efficient carbonate-free production of ethylene. Joule, 2021, 5, 706-719. | 11.7 | 158 |
| 64 | Colloidal quantum dot photodetectors with 10-ns response time and 80% quantum efficiency at 1,550Ânm. Matter, 2021, 4, 1042-1053. | 5.0 | 88 |
| 65 | Stabilizing Highly Active Ru Sites by Suppressing Lattice Oxygen Participation in Acidic Water Oxidation. Journal of the American Chemical Society, 2021, 143, 6482-6490. | 6.6 | 204 |
| 66 | Discovery of temperature-induced stability reversal in perovskites using high-throughput robotic learning. Nature Communications, 2021, 12, 2191. | 5.8 | 77 |
| 67 | Dopant-Assisted Matrix Stabilization Enables Thermoelectric Performance Enhancement in n-Type Quantum Dot Films. ACS Applied Materials & Interfaces, 2021, 13, 18999-19007. | 4.0 | 3 |
| 68 | Electro-Optic Modulation Using Metal-Free Perovskites. ACS Applied Materials & Interfaces, 2021, 13, 19042-19047. | 4.0 | 12 |
| 69 | Microbial Electrosynthesis: Where Do We Go from Here?. Trends in Biotechnology, 2021, 39, 359-369. | 4.9 | 100 |
| 70 | Silica-copper catalyst interfaces enable carbon-carbon coupling towards ethylene electrosynthesis. Nature Communications, 2021, 12, 2808. | 5.8 | 91 |
| 71 | Low coordination number copper catalysts for electrochemical CO2 methanation in a membrane electrode assembly. Nature Communications, 2021, 12, 2932. | 5.8 | 97 |
| 72 | Gold-in-copper at low *CO coverage enables efficient electromethanation of CO2. Nature Communications, 2021, 12, 3387. | 5.8 | 70 |

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| 73 | Allâ€Inorganic Quantumâ€Dot LEDs Based on a Phaseâ€Stabilized Î±â€CsPbI 3 Perovskite. Angewandte Chemie, 2021, 133, 16300-16306. | 1.6 | 1 |
| 74 | CO <sub>2</sub> electrolysis to multicarbon products in strong acid. Science, 2021, 372, 1074-1078. | 6.0 | 541 |
| 75 | Reply to: Perovskite decomposition and missing crystal planes in HRTEM. Nature, 2021, 594, E8-E9. | 13.7 | 2 |
| 76 | Multication perovskite 2D/3D interfaces form via progressive dimensional reduction. Nature Communications, 2021, 12, 3472. | 5.8 | 89 |
| 77 | Allâ€Inorganic Quantumâ€Dot LEDs Based on a Phaseâ€Stabilized Î±â€CsPbI<sub>3</sub> Perovskite. Angewandte Chemie - International Edition, 2021, 60, 16164-16170. | 7.2 | 210 |
| 78 | 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. | 8.8 | 42 |
| 79 | Single Pass CO<sub>2</sub> Conversion Exceeding 85% in the Electrosynthesis of Multicarbon Products via Local CO<sub>2</sub> Regeneration. ACS Energy Letters, 2021, 6, 2952-2959. | 8.8 | 155 |
| 80 | Solvent Engineering of Colloidal Quantum Dot Inks for Scalable Fabrication of Photovoltaics. ACS Applied Materials & Interfaces, 2021, 13, 36992-37003. | 4.0 | 17 |
| 81 | Gold Adparticles on Silver Combine Low Overpotential and High Selectivity in Electrochemical CO<sub>2</sub> Conversion. ACS Applied Energy Materials, 2021, 4, 7504-7512. | 2.5 | 18 |
| 82 | Facetâ€Oriented Coupling Enables Fast and Sensitive Colloidal Quantum Dot Photodetectors. Advanced Materials, 2021, 33, e2101056. | 11.1 | 42 |
| 83 | Boosting photoelectrochemical efficiency by near-infrared-active lattice-matched morphological heterojunctions. Nature Communications, 2021, 12, 4296. | 5.8 | 23 |
| 84 | Ligand Exchange at a Covalent Surface Enables Balanced Stoichiometry in IIIâ€“V Colloidal Quantum Dots. Nano Letters, 2021, 21, 6057-6063. | 4.5 | 34 |
| 85 | One-Step Synthesis of SnI<sub>2</sub>Â·(DMSO)<sub><i>x</i></sub> Adducts for High-Performance Tin Perovskite Solar Cells. Journal of the American Chemical Society, 2021, 143, 10970-10976. | 6.6 | 280 |
| 86 | Passivation of the Buried Interface via Preferential Crystallization of 2D Perovskite on Metal Oxide Transport Layers. Advanced Materials, 2021, 33, e2103394. | 11.1 | 99 |
| 87 | Reducing the crossover of carbonate and liquid products during carbon dioxide electroreduction. Cell Reports Physical Science, 2021, 2, 100522. | 2.8 | 38 |
| 88 | Advances in solution-processed near-infrared light-emitting diodes. Nature Photonics, 2021, 15, 656-669. | 15.6 | 136 |
| 89 | Quantum Dot Selfâ€Assembly Enables Lowâ€Threshold Lasing. Advanced Science, 2021, 8, e2101125. | 5.6 | 28 |
| 90 | Semiconductor quantum dots: Technological progress and future challenges. Science, 2021, 373, . | 6.0 | 600 |

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| 91 | Colloidal quantum dot electronics. Nature Electronics, 2021, 4, 548-558. | 13.1 | 192 |
| 92 | Abnormal Phase Transition and Band Renormalization of Guanidinium-Based Organicâ€“Inorganic Hybrid Perovskite. ACS Applied Materials & Interfaces, 2021, 13, 44964-44971. | 4.0 | 8 |
| 93 | In Situ Formation of Nano Niâ€“Co Oxyhydroxide Enables Water Oxidation Electrocatalysts Durable at High Current Densities. Advanced Materials, 2021, 33, e2103812. | 11.1 | 78 |
| 94 | Glycerol Oxidation Pairs with Carbon Monoxide Reduction for Low-Voltage Generation of C<sub>2</sub> and C<sub>3</sub> Product Streams. ACS Energy Letters, 2021, 6, 3538-3544. | 8.8 | 36 |
| 95 | Electroosmotic flow steers neutral products and enables concentrated ethanol electroproduction from CO2. Joule, 2021, 5, 2742-2753. | 11.7 | 37 |
| 96 | Stable, active CO2 reduction to formate via redox-modulated stabilization of active sites. Nature Communications, 2021, 12, 5223. | 5.8 | 145 |
| 97 | Bright and Stable Light-Emitting Diodes Based on Perovskite Quantum Dots in Perovskite Matrix. Journal of the American Chemical Society, 2021, 143, 15606-15615. | 6.6 | 94 |
| 98 | Single-step-fabricated disordered metasurfaces for enhanced light extraction from LEDs. Light: Science and Applications, 2021, 10, 180. | 7.7 | 23 |
| 99 | Ultrasensitive Detection and Depletion of Rare Leukemic B Cells in T Cell Populations via Immunomagnetic Cell Ranking. Analytical Chemistry, 2021, 93, 2327-2335. | 3.2 | 10 |
| 100 | Control Over Ligand Exchange Reactivity in Hole Transport Layer Enables High-Efficiency Colloidal Quantum Dot Solar Cells. ACS Energy Letters, 2021, 6, 468-476. | 8.8 | 32 |
| 101 | Ligand-bridged charge extraction and enhanced quantum efficiency enable efficient nâ€“iâ€“p perovskite/silicon tandem solar cells. Energy and Environmental Science, 2021, 14, 4377-4390. | 15.6 | 79 |
| 102 | Can sustainable ammonia synthesis pathways compete with fossil-fuel based Haberâ€“Bosch processes?. Energy and Environmental Science, 2021, 14, 2535-2548. | 15.6 | 162 |
| 103 | A microfluidic platform enables comprehensive gene expression profiling of mouse retinal stem cells. Lab on A Chip, 2021, 21, 4464-4476. | 3.1 | 3 |
| 104 | Thiophene- and selenophene-based conjugated polymeric mixed ionic/electronic conductors. Journal of Chemical Physics, 2021, 155, 134704. | 1.2 | 2 |
| 105 | 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. | 6.6 | 43 |
| 106 | Boride-derived oxygen-evolution catalysts. Nature Communications, 2021, 12, 6089. | 5.8 | 51 |
| 107 | Recombination Dynamics in PbS Nanocrystal Quantum Dot Solar Cells Studied through Driftâ€“Diffusion Simulations. ACS Applied Electronic Materials, 2021, 3, 4977-4989. | 2.0 | 8 |
| 108 | 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. | 4.0 | 22 |

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| 109 | Defect Tolerance of Mixed B-Site Organicâ€“Inorganic Halide Perovskites. ACS Energy Letters, 2021, 6, 4220-4227. | 8.8 | 30 |
| 110 | Cation-Driven Increases of CO<sub>2</sub> Utilization in a Bipolar Membrane Electrode Assembly for CO<sub>2</sub> Electrolysis. ACS Energy Letters, 2021, 6, 4291-4298. | 8.8 | 88 |
| 111 | Rigid Conjugated Diamine Templates for Stable Dionâ€“Jacobson-Type Two-Dimensional Perovskites. Journal of the American Chemical Society, 2021, 143, 19901-19908. | 6.6 | 39 |
| 112 | Downstream of the CO<sub>2</sub> Electrolyzer: Assessing the Energy Intensity of Product Separation. ACS Energy Letters, 2021, 6, 4405-4412. | 8.8 | 53 |
| 113 | Distribution control enables efficient reduced-dimensional perovskite LEDs. Nature, 2021, 599, 594-598. | 13.7 | 358 |
| 114 | Bound State in the Continuum in Nanoantenna-Coupled Slab Waveguide Enables Low-Threshold Quantum-Dot Lasing. Nano Letters, 2021, 21, 9754-9760. | 4.5 | 30 |
| 115 | Spatial reactant distribution in CO<sub>2</sub> electrolysis: balancing CO<sub>2</sub> utilization and faradaic efficiency. Sustainable Energy and Fuels, 2021, 5, 6040-6048. | 2.5 | 15 |
| 116 | Active Sulfur Sites in Semimetallic Titanium Disulfide Enable CO<sub>2</sub> Electroreduction. ACS Catalysis, 2020, 10, 66-72. | 5.5 | 25 |
| 117 | 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. | 11.1 | 47 |
| 118 | Edge stabilization in reduced-dimensional perovskites. Nature Communications, 2020, 11, 170. | 5.8 | 147 |
| 119 | Oxygen-tolerant electroproduction of C<sub>2</sub> products from simulated flue gas. Energy and Environmental Science, 2020, 13, 554-561. | 15.6 | 113 |
| 120 | Efficient electrocatalytic conversion of carbon dioxide in a low-resistance pressurized alkaline electrolyzer. Applied Energy, 2020, 261, 114305. | 5.1 | 65 |
| 121 | Catalyst synthesis under CO2 electroreduction favours faceting and promotes renewable fuels electrosynthesis. Nature Catalysis, 2020, 3, 98-106. | 16.1 | 325 |
| 122 | Spatial Collection in Colloidal Quantum Dot Solar Cells. Advanced Functional Materials, 2020, 30, 1908200. | 7.8 | 24 |
| 123 | Tuning OH binding energy enables selective electrochemical oxidation of ethylene to ethylene glycol. Nature Catalysis, 2020, 3, 14-22. | 16.1 | 120 |
| 124 | Bright high-colour-purity deep-blue carbon dot light-emitting diodes via efficient edge amination. Nature Photonics, 2020, 14, 171-176. | 15.6 | 303 |
| 125 | Narrow Emission from Rb<sub>3</sub>Sb<sub>2</sub>I<sub>9</sub> Nanoparticles. Advanced Optical Materials, 2020, 8, 1901606. | 3.6 | 18 |
| 126 | Cascade surface modification of colloidal quantum dot inks enables efficient bulk homojunction photovoltaics. Nature Communications, 2020, 11, 103. | 5.8 | 181 |

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| 127 | High-valence metals improve oxygen evolution reaction performance by modulating 3d metal oxidation cycle energetics. Nature Catalysis, 2020, 3, 985-992. | 16.1 | 390 |
| 128 | All-Perovskite Tandem Solar Cells: A Roadmap to Uniting High Efficiency with High Stability. Accounts of Materials Research, 2020, 1, 63-76. | 5.9 | 57 |
| 129 | Naphthalenediimide Cations Inhibit 2D Perovskite Formation and Facilitate Subpicosecond Electron Transfer. Journal of Physical Chemistry C, 2020, 124, 24379-24390. | 1.5 | 17 |
| 130 | Color-pure red light-emitting diodes based on two-dimensional lead-free perovskites. Science Advances, 2020, 6, . | 4.7 | 135 |
| 131 | Autonomous atmospheric water seeping MOF matrix. Science Advances, 2020, 6, . | 4.7 | 120 |
| 132 | All-perovskite tandem solar cells with 24.2% certified efficiency and area over 1â€‰cm2 using surface-anchoring zwitterionic antioxidant. Nature Energy, 2020, 5, 870-880. | 19.8 | 497 |
| 133 | Chelating-agent-assisted control of CsPbBr3 quantum well growth enables stable blue perovskite emitters. Nature Communications, 2020, 11, 3674. | 5.8 | 112 |
| 134 | Magnetic Ranking Cytometry: Profiling Rare Cells at the Single-Cell Level. Accounts of Chemical Research, 2020, 53, 1445-1457. | 7.6 | 18 |
| 135 | Liquidâ€“Solid Boundaries Dominate Activity of CO<sub>2</sub> Reduction on Gas-Diffusion Electrodes. ACS Catalysis, 2020, 10, 14093-14106. | 5.5 | 114 |
| 136 | Promoting CO2 methanation via ligand-stabilized metal oxide clusters as hydrogen-donating motifs. Nature Communications, 2020, 11, 6190. | 5.8 | 93 |
| 137 | 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. | 2.1 | 22 |
| 138 | Bioinspiration in light harvesting and catalysis. Nature Reviews Materials, 2020, 5, 828-846. | 23.3 | 136 |
| 139 | Enhanced multi-carbon alcohol electroproduction from CO via modulated hydrogen adsorption. Nature Communications, 2020, 11, 3685. | 5.8 | 72 |
| 140 | Bifunctional Surface Engineering on SnO<sub>2</sub> Reduces Energy Loss in Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 2796-2801. | 8.8 | 239 |
| 141 | Copper and silver gas diffusion electrodes performing CO<sub>2</sub> reduction studied through <i>operando</i> X-ray absorption spectroscopy. Catalysis Science and Technology, 2020, 10, 5870-5885. | 2.1 | 13 |
| 142 | High-Performance Perovskite Single-Junction and Textured Perovskite/Silicon Tandem Solar Cells via Slot-Die-Coating. ACS Energy Letters, 2020, 5, 3034-3040. | 8.8 | 134 |
| 143 | High-Rate and Efficient Ethylene Electrosynthesis Using a Catalyst/Promoter/Transport Layer. ACS Energy Letters, 2020, 5, 2811-2818. | 8.8 | 106 |
| 144 | Bromine Incorporation and Suppressed Cation Rotation in Mixed-Halide Perovskites. ACS Nano, 2020, 14, 15107-15118. | 7.3 | 23 |

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| 145 | A Tuned Alternating Dâ€“A Copolymer Holeâ€Transport Layer Enables Colloidal Quantum Dot Solar Cells with Superior Fill Factor and Efficiency. Advanced Materials, 2020, 32, e2004985. | 11.1 | 56 |
| 146 | Colloidal Quantum Dot Solar Cell Band Alignment using Two-Step Ionic Doping. , 2020, 2, 1583-1589. | | 15 |
| 147 | Efficient and Stable Colloidal Quantum Dot Solar Cells with a Greenâ€Solvent Holeâ€Transport Layer. Advanced Energy Materials, 2020, 10, 2002084. | 10.2 | 23 |
| 148 | Orthogonal colloidal quantum dot inks enable efficient multilayer optoelectronic devices. Nature Communications, 2020, 11, 4814. | 5.8 | 48 |
| 149 | Monolithic Organic/Colloidal Quantum Dot Hybrid Tandem Solar Cells via Buffer Engineering. Advanced Materials, 2020, 32, e2004657. | 11.1 | 16 |
| 150 | CO<sub>2</sub> Electroreduction to Methane at Production Rates Exceeding 100 mA/cm<sup>2</sup>. ACS Sustainable Chemistry and Engineering, 2020, 8, 14668-14673. | 3.2 | 41 |
| 151 | Dual Coordination of Ti and Pb Using Bilinkable Ligands Improves Perovskite Solar Cell Performance and Stability. Advanced Functional Materials, 2020, 30, 2005155. | 7.8 | 33 |
| 152 | Suppression of Auger Recombination by Gradient Alloying in InAs/CdSe/CdS QDs. Chemistry of Materials, 2020, 32, 7703-7709. | 3.2 | 15 |
| 153 | Intermediate Binding Control Using Metalâ€“Organic Frameworks Enhances Electrochemical CO<sub>2</sub> Reduction. Journal of the American Chemical Society, 2020, 142, 21513-21521. | 6.6 | 133 |
| 154 | InP-Quantum-Dot-in-ZnS-Matrix Solids for Thermal and Air Stability. Chemistry of Materials, 2020, 32, 9584-9590. | 3.2 | 8 |
| 155 | Nanostructured Architectures Promote the Mesenchymalâ€“Epithelial Transition for Invasive Cells. ACS Nano, 2020, 14, 5324-5336. | 7.3 | 17 |
| 156 | Metalâ€Free Hydrogenâ€Bonded Polymers Mimic Noble Metal Electrocatalysts. Advanced Materials, 2020, 32, e1902177. | 11.1 | 24 |
| 157 | Mechanisms of LiF Interlayer Enhancements of Perovskite Light-Emitting Diodes. Journal of Physical Chemistry Letters, 2020, 11, 4213-4220. | 2.1 | 12 |
| 158 | Thiophene Cation Intercalation to Improve Bandâ€Edge Integrity in Reducedâ€Dimensional Perovskites. Angewandte Chemie - International Edition, 2020, 59, 13977-13983. | 7.2 | 36 |
| 159 | Efficient electrically powered CO2-to-ethanol via suppression of deoxygenation. Nature Energy, 2020, 5, 478-486. | 19.8 | 363 |
| 160 | Thiophene Cation Intercalation to Improve Bandâ€Edge Integrity in Reducedâ€Dimensional Perovskites. Angewandte Chemie, 2020, 132, 14081-14087. | 1.6 | 16 |
| 161 | Ultrasensitive and rapid quantification of rare tumorigenic stem cells in hPSC-derived cardiomyocyte populations. Science Advances, 2020, 6, eaay7629. | 4.7 | 28 |
| 162 | Accelerated discovery of CO2 electrocatalysts using active machine learning. Nature, 2020, 581, 178-183. | 13.7 | 807 |

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