# Constantinos C Stoumpos

## List of Publications by Citations

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| 183 papers | 30,711 citations | 78 h-index | 175 g-index |
| 198 ext. papers | 35,584 ext. citations | 12.1 avg, IF | 7.69 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 183 | Semiconducting tin and lead iodide perovskites with organic cations: phase transitions, high mobilities, and near-infrared photoluminescent properties. *Inorganic Chemistry*, **2013**, 52, 9019-38 | 5.1 | 3742 |
| 182 | High-efficiency two-dimensional Ruddlesden-Popper perovskite solar cells. *Nature*, **2016**, 536, 312-6 | 50.4 | 2161 |
| 181 | Lead-free solid-state organic–inorganic halide perovskite solar cells. *Nature Photonics*, **2014**, 8, 489-494 | 33.9 | 1966 |
| 180 | 2D Homologous Perovskites as Light-Absorbing Materials for Solar Cell Applications. *Journal of the American Chemical Society*, **2015**, 137, 7843-50 | 16.4 | 1464 |
| 179 | Ruddlesden–Popper Hybrid Lead Iodide Perovskite 2D Homologous Semiconductors. *Chemistry of Materials*, **2016**, 28, 2852-2867 | 9.6 | 1166 |
| 178 | Anomalous band gap behavior in mixed Sn and Pb perovskites enables broadening of absorption spectrum in solar cells. *Journal of the American Chemical Society*, **2014**, 136, 8094-9 | 16.4 | 1010 |
| 177 | Crystal Growth of the Perovskite Semiconductor CsPbBr3: A New Material for High-Energy Radiation Detection. *Crystal Growth and Design*, **2013**, 13, 2722-2727 | 3.5 | 927 |
| 176 | Extremely efficient internal exciton dissociation through edge states in layered 2D perovskites. *Science*, **2017**, 355, 1288-1292 | 33.3 | 648 |
| 175 | Two-Dimensional Hybrid Halide Perovskites: Principles and Promises. *Journal of the American Chemical Society*, **2019**, 141, 1171-1190 | 16.4 | 608 |
| 174 | Hybrid germanium iodide perovskite semiconductors: active lone pairs, structural distortions, direct and indirect energy gaps, and strong nonlinear optical properties. *Journal of the American Chemical Society*, **2015**, 137, 6804-19 | 16.4 | 528 |
| 173 | The Renaissance of Halide Perovskites and Their Evolution as Emerging Semiconductors. *Accounts of Chemical Research*, **2015**, 48, 2791-802 | 24.3 | 476 |
| 172 | Solvent-Mediated Crystallization of CH3NH3SnI3 Films for Heterojunction Depleted Perovskite Solar Cells. *Journal of the American Chemical Society*, **2015**, 137, 11445-52 | 16.4 | 455 |
| 171 | Air-stable molecular semiconducting iodosalts for solar cell applications: Cs2SnI6 as a hole conductor. *Journal of the American Chemical Society*, **2014**, 136, 15379-85 | 16.4 | 427 |
| 170 | Hybrid Dion-Jacobson 2D Lead Iodide Perovskites. *Journal of the American Chemical Society*, **2018**, 140, 3775-3783 | 16.4 | 426 |
| 169 | Broad Wavelength Tunable Robust Lasing from Single-Crystal Nanowires of Cesium Lead Halide Perovskites (CsPbX3, X = Cl, Br, I). *ACS Nano*, **2016**, 10, 7963-72 | 16.7 | 414 |
| 168 | Light-induced lattice expansion leads to high-efficiency perovskite solar cells. *Science*, **2018**, 360, 67-70 | 33.3 | 413 |
| 167 | White-Light Emission and Structural Distortion in New Corrugated Two-Dimensional Lead Bromide Perovskites. *Journal of the American Chemical Society*, **2017**, 139, 5210-5215 | 16.4 | 385 |

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| 166 | Local Polar Fluctuations in Lead Halide Perovskite Crystals. *Physical Review Letters*, **2017**, 118, 136001 | 7.4 | 374 |
| 165 | Scaling law for excitons in 2D perovskite quantum wells. *Nature Communications*, **2018**, 9, 2254 | 17.4 | 372 |
| 164 | Anharmonicity and Disorder in the Black Phases of Cesium Lead Iodide Used for Stable Inorganic Perovskite Solar Cells. *ACS Nano*, **2018**, 12, 3477-3486 | 16.7 | 359 |
| 163 | Strong Electron‐Phonon Coupling and Self-Trapped Excitons in the Defect Halide Perovskites A3M2I9 (A = Cs, Rb; M = Bi, Sb). *Chemistry of Materials*, **2017**, 29, 4129-4145 | 9.6 | 344 |
| 162 | Importance of Reducing Vapor Atmosphere in the Fabrication of Tin-Based Perovskite Solar Cells. *Journal of the American Chemical Society*, **2017**, 139, 836-842 | 16.4 | 340 |
| 161 | Controllable perovskite crystallization at a gas-solid interface for hole conductor-free solar cells with steady power conversion efficiency over 10%. *Journal of the American Chemical Society*, **2014**, 136, 16411-9 | 16.4 | 340 |
| 160 | High Members of the 2D Ruddlesden-Popper Halide Perovskites: Synthesis, Optical Properties, and Solar Cells of (CH3(CH2)3NH3)2(CH3NH3)4Pb5I16. *CheM*, **2017**, 2, 427-440 | 16.2 | 285 |
| 159 | Thin Films and Solar Cells Based on Semiconducting Two-Dimensional Ruddlesden‐Popper (CH3(CH2)3NH3)2(CH3NH3)n‐1SnnI3n+1 Perovskites. *ACS Energy Letters*, **2017**, 2, 982-990 | 20.1 | 274 |
| 158 | Halide Perovskites: Poor Man's High-Performance Semiconductors. *Advanced Materials*, **2016**, 28, 5778-93 | 24 | 263 |
| 157 | Enhanced photovoltaic performance and stability with a new type of hollow 3D perovskite {en}FASnI. *Science Advances*, **2017**, 3, e1701293 | 14.3 | 258 |
| 156 | Tunable White-Light Emission in Single-Cation-Templated Three-Layered 2D Perovskites (CHCHNH)PbBrCl. *Journal of the American Chemical Society*, **2017**, 139, 11956-11963 | 16.4 | 254 |
| 155 | New Type of 2D Perovskites with Alternating Cations in the Interlayer Space, (C(NH))(CHNH)PbI: Structure, Properties, and Photovoltaic Performance. *Journal of the American Chemical Society*, **2017**, 139, 16297-16309 | 16.4 | 251 |
| 154 | High spectral resolution of gamma-rays at room temperature by perovskite CsPbBr single crystals. *Nature Communications*, **2018**, 9, 1609 | 17.4 | 246 |
| 153 | Direct evidence for dominant bond-directional interactions in a honeycomb lattice iridate Na2IrO3. *Nature Physics*, **2015**, 11, 462-466 | 16.2 | 244 |
| 152 | Overcoming Short-Circuit in Lead-Free CH3NH3SnI3 Perovskite Solar Cells via Kinetically Controlled Gas-Solid Reaction Film Fabrication Process. *Journal of Physical Chemistry Letters*, **2016**, 7, 776-82 | 6.4 | 242 |
| 151 | Remnant PbI2, an unforeseen necessity in high-efficiency hybrid perovskite-based solar cells?a). *APL Materials*, **2014**, 2, 091101 | 5.7 | 238 |
| 150 | Understanding Film Formation Morphology and Orientation in High Member 2D Ruddlesden‐Popper Perovskites for High-Efficiency Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1700979 | 21.8 | 231 |
| 149 | "Unleaded" Perovskites: Status Quo and Future Prospects of Tin-Based Perovskite Solar Cells. *Advanced Materials*, **2019**, 31, e1803230 | 24 | 217 |

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| 148 | Structural Diversity in White-Light-Emitting Hybrid Lead Bromide Perovskites. *Journal of the American Chemical Society*, **2018**, 140, 13078-13088 | 16.4 | 214 |
| 147 | Stable Light-Emitting Diodes Using Phase-Pure Ruddlesden-Popper Layered Perovskites. *Advanced Materials*, **2018**, 30, 1704217 | 24 | 210 |
| 146 | Rhombohedral to Cubic Conversion of GeTe via MnTe Alloying Leads to Ultralow Thermal Conductivity, Electronic Band Convergence, and High Thermoelectric Performance. *Journal of the American Chemical Society*, **2018**, 140, 2673-2686 | 16.4 | 206 |
| 145 | "Switching on" the properties of single-molecule magnetism in triangular manganese(III) complexes. *Journal of the American Chemical Society*, **2007**, 129, 9484-99 | 16.4 | 206 |
| 144 | Excitonic emissions and above-band-gap luminescence in the single-crystal perovskite semiconductors CsPbBr3 and CsPbCl3. *Physical Review B*, **2015**, 92, | 3.3 | 194 |
| 143 | Role of Organic Counterion in Lead- and Tin-Based Two-Dimensional Semiconducting Iodide Perovskites and Application in Planar Solar Cells. *Chemistry of Materials*, **2016**, 28, 7781-7792 | 9.6 | 189 |
| 142 | Carrier Diffusion Lengths of over 500 nm in Lead-Free Perovskite CHNHSnI Films. *Journal of the American Chemical Society*, **2016**, 138, 14750-14755 | 16.4 | 174 |
| 141 | TiO-ZnS Cascade Electron Transport Layer for Efficient Formamidinium Tin Iodide Perovskite Solar Cells. *Journal of the American Chemical Society*, **2016**, 138, 14998-15003 | 16.4 | 171 |
| 140 | Efficient Lead-Free Solar Cells Based on Hollow {en}MASnI Perovskites. *Journal of the American Chemical Society*, **2017**, 139, 14800-14806 | 16.4 | 168 |
| 139 | Intrinsic femtosecond charge generation dynamics in single crystal CH3NH3PbI3. *Energy and Environmental Science*, **2015**, 8, 3700-3707 | 35.4 | 166 |
| 138 | Critical Role of Interface and Crystallinity on the Performance and Photostability of Perovskite Solar Cell on Nickel Oxide. *Advanced Materials*, **2018**, 30, 1703879 | 24 | 163 |
| 137 | Initial example of a triangular single-molecule magnet from ligand-induced structural distortion of a [MnIII3O]7+ complex. *Journal of the American Chemical Society*, **2005**, 127, 15380-1 | 16.4 | 162 |
| 136 | Optical-Vibrational Properties of the Cs2SnX6 (X = Cl, Br, I) Defect Perovskites and Hole-Transport Efficiency in Dye-Sensitized Solar Cells. *Journal of Physical Chemistry C*, **2016**, 120, 11777-11785 | 3.8 | 161 |
| 135 | Antagonism between Spin-Orbit Coupling and Steric Effects Causes Anomalous Band Gap Evolution in the Perovskite Photovoltaic Materials CH3NH3Sn1-xPbxI3. *Journal of Physical Chemistry Letters*, **2015**, 6, 3503-9 | 6.4 | 160 |
| 134 | Myths and reality of HPbI in halide perovskite solar cells. *Nature Communications*, **2018**, 9, 4785 | 17.4 | 159 |
| 133 | Structure-Band Gap Relationships in Hexagonal Polytypes and Low-Dimensional Structures of Hybrid Tin Iodide Perovskites. *Inorganic Chemistry*, **2017**, 56, 56-73 | 5.1 | 158 |
| 132 | Dynamic Stereochemical Activity of the Sn(2+) Lone Pair in Perovskite CsSnBr3. *Journal of the American Chemical Society*, **2016**, 138, 11820-32 | 16.4 | 158 |
| 131 | Structural and thermodynamic limits of layer thickness in 2D halide perovskites. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 58-66 | 11.5 | 152 |

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| 130 | Compositional and Solvent Engineering in Dion–Jacobson 2D Perovskites Boosts Solar Cell Efficiency and Stability. *Advanced Energy Materials*, **2019**, 9, 1803384 | 21.8 | 149 |
| 129 | Two-Dimensional Halide Perovskites Incorporating Straight Chain Symmetric Diammonium Ions, (NHC HNH)(CHNH) Pb I ( m = 4-9; n = 1-4). *Journal of the American Chemical Society*, **2018**, 140, 12226-12238 | 16.4 | 139 |
| 128 | Two-Dimensional Dion-Jacobson Hybrid Lead Iodide Perovskites with Aromatic Diammonium Cations. *Journal of the American Chemical Society*, **2019**, 141, 12880-12890 | 16.4 | 135 |
| 127 | Enhanced Structural Stability and Photo Responsiveness of CH NH SnI Perovskite via Pressure-Induced Amorphization and Recrystallization. *Advanced Materials*, **2016**, 28, 8663-8668 | 24 | 134 |
| 126 | Uniaxial Expansion of the 2D Ruddlesden-Popper Perovskite Family for Improved Environmental Stability. *Journal of the American Chemical Society*, **2019**, 141, 5518-5534 | 16.4 | 133 |
| 125 | Dopant-Free Tetrakis-Triphenylamine Hole Transporting Material for Efficient Tin-Based Perovskite Solar Cells. *Journal of the American Chemical Society*, **2018**, 140, 388-393 | 16.4 | 118 |
| 124 | CsPbICl, All-Inorganic Two-Dimensional Ruddlesden-Popper Mixed Halide Perovskite with Optoelectronic Response. *Journal of the American Chemical Society*, **2018**, 140, 11085-11090 | 16.4 | 110 |
| 123 | Semiconductor physics of organic-inorganic 2D halide perovskites. *Nature Nanotechnology*, **2020**, 15, 969-985 | 28.7 | 110 |
| 122 | Design principles for electronic charge transport in solution-processed vertically stacked 2D perovskite quantum wells. *Nature Communications*, **2018**, 9, 2130 | 17.4 | 108 |
| 121 | Selective enhancement of optical nonlinearity in two-dimensional organic-inorganic lead iodide perovskites. *Nature Communications*, **2017**, 8, 742 | 17.4 | 104 |
| 120 | Universal Dynamics of Molecular Reorientation in Hybrid Lead Iodide Perovskites. *Journal of the American Chemical Society*, **2017**, 139, 16875-16884 | 16.4 | 103 |
| 119 | Reentrant Structural and Optical Properties and Large Positive Thermal Expansion in Perovskite Formamidinium Lead Iodide. *Angewandte Chemie - International Edition*, **2016**, 55, 15392-15396 | 16.4 | 101 |
| 118 | Interconversion between Free Charges and Bound Excitons in 2D Hybrid Lead Halide Perovskites. *Journal of Physical Chemistry C*, **2017**, 121, 26566-26574 | 3.8 | 101 |
| 117 | Adventures in the Coordination Chemistry of Di-2-pyridyl Ketone and Related Ligands: From High-Spin Molecules and Single-Molecule Magnets to Coordination Polymers, and from Structural Aesthetics to an Exciting New Reactivity Chemistry of Coordinated Ligands. *European Journal of Inorganic Chemistry*, **2009**, 2009, 3361-3391 | 2.3 | 101 |
| 116 | Unraveling the Chemical Nature of the 3D "Hollow" Hybrid Halide Perovskites. *Journal of the American Chemical Society*, **2018**, 140, 5728-5742 | 16.4 | 98 |
| 115 | Composite Nature of Layered Hybrid Perovskites: Assessment on Quantum and Dielectric Confinements and Band Alignment. *ACS Nano*, **2018**, 12, 3321-3332 | 16.7 | 94 |
| 114 | Crystal Structure Evolution and Notable Thermal Expansion in Hybrid Perovskites Formamidinium Tin Iodide and Formamidinium Lead Bromide. *Inorganic Chemistry*, **2018**, 57, 695-701 | 5.1 | 92 |
| 113 | Isothermal pressure-derived metastable states in 2D hybrid perovskites showing enduring bandgap narrowing. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 8076-8081 | 11.5 | 92 |

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| 112 | Subtle Roles of Sb and S in Regulating the Thermoelectric Properties of N-Type PbTe to High Performance. *Advanced Energy Materials*, **2017**, 7, 1700099 | 21.8 | 88 |
| 111 | Chemical and Structural Diversity of Hybrid Layered Double Perovskite Halides. *Journal of the American Chemical Society*, **2019**, 141, 19099-19109 | 16.4 | 85 |
| 110 | The Origin of Lower Hole Carrier Concentration in Methylammonium Tin Halide Films Grown by a Vapor-Assisted Solution Process. *ACS Energy Letters*, **2017**, 2, 22-28 | 20.1 | 82 |
| 109 | Dielectric and Thermodynamic Signatures of Low-Temperature Glassy Dynamics in the Hybrid Perovskites CH3NH3PbI3 and HC(NH2)2PbI3. *Journal of Physical Chemistry Letters*, **2016**, 7, 376-81 | 6.4 | 81 |
| 108 | Diammonium Cations in the FASnI3 Perovskite Structure Lead to Lower Dark Currents and More Efficient Solar Cells. *ACS Energy Letters*, **2018**, 3, 1470-1476 | 20.1 | 81 |
| 107 | Electron-acoustic phonon coupling in single crystal CHNHPbI perovskites revealed by coherent acoustic phonons. *Nature Communications*, **2017**, 8, 14398 | 17.4 | 80 |
| 106 | Structural Stability, Vibrational Properties, and Photoluminescence in CsSnI Perovskite upon the Addition of SnF. *Inorganic Chemistry*, **2017**, 56, 84-91 | 5.1 | 78 |
| 105 | Enhanced stability and thermoelectric figure-of-merit in copper selenide by lithium doping. *Materials Today Physics*, **2017**, 1, 7-13 | 8 | 75 |
| 104 | From 0D Cs3Bi2I9 to 2D Cs3Bi2I6Cl3: Dimensional Expansion Induces a Direct Band Gap but Enhances Electron□Phonon Coupling. *Chemistry of Materials*, **2019**, 31, 2644-2650 | 9.6 | 72 |
| 103 | Chemical tuning of dynamic cation off-centering in the cubic phases of hybrid tin and lead halide perovskites. *Chemical Science*, **2017**, 8, 5628-5635 | 9.4 | 69 |
| 102 | Concept of Lattice Mismatch and Emergence of Surface States in Two-dimensional Hybrid Perovskite Quantum Wells. *Nano Letters*, **2018**, 18, 5603-5609 | 11.5 | 67 |
| 101 | Resolving the Energy of □Ray Photons with MAPbI3 Single Crystals. *ACS Photonics*, **2018**, 5, 4132-4138 | 6.3 | 67 |
| 100 | Spatially segregated free-carrier and exciton populations in individual lead halide perovskite grains. *Nature Photonics*, **2017**, 11, 285-288 | 33.9 | 63 |
| 99 | Two Regimes of Bandgap Red Shift and Partial Ambient Retention in Pressure-Treated Two-Dimensional Perovskites. *ACS Energy Letters*, **2017**, 2, 2518-2524 | 20.1 | 63 |
| 98 | On the origin of ferromagnetism in oximato-based [Mn3O]7+ triangles. *Dalton Transactions*, **2008**, 234-40 | 4.3 | 62 |
| 97 | □Particle Detection and Charge Transport Characteristics in the A3M2I9 Defect Perovskites (A = Cs, Rb; M = Bi, Sb). *ACS Photonics*, **2018**, 5, 3748-3762 | 6.3 | 61 |
| 96 | Small Cyclic Diammonium Cation Templated (110)-Oriented 2D Halide (X = I, Br, Cl) Perovskites with White-Light Emission. *Chemistry of Materials*, **2019**, 31, 3582-3590 | 9.6 | 60 |
| 95 | New Mn3 structural motifs in manganese single-molecule magnetism from the use of 2-pyridyloximate ligands. *Polyhedron*, **2007**, 26, 2165-2168 | 2.7 | 59 |

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| 94 | Cross-plane coherent acoustic phonons in two-dimensional organic-inorganic hybrid perovskites. *Nature Communications*, **2018**, 9, 2019 | 17.4 | 53 |
| 93 | Polarization-selective three-photon absorption and subsequent photoluminescence in CsPbBr3 single crystal at room temperature. *Physical Review B*, **2016**, 93, | 3.3 | 49 |
| 92 | A MnII4 cubane and a novel MnII10MnIII4 cluster from the use of di-2-pyridyl ketone in manganese acetate chemistry. *Dalton Transactions*, **2009**, 307-17 | 4.3 | 48 |
| 91 | Effect of Cation Rotation on Charge Dynamics in Hybrid Lead Halide Perovskites. *Journal of Physical Chemistry C*, **2016**, 120, 16577-16585 | 3.8 | 46 |
| 90 | Air-Stable Direct Bandgap Perovskite Semiconductors: All-Inorganic Tin-Based Heteroleptic Halides AxSnClyIz (A = Cs, Rb). *Chemistry of Materials*, **2018**, 30, 4847-4856 | 9.6 | 45 |
| 89 | Seven-Layered 2D Hybrid Lead Iodide Perovskites. *CheM*, **2019**, 5, 2593-2604 | 16.2 | 44 |
| 88 | Room Temperature Phase Transition in Methylammonium Lead Iodide Perovskite Thin Films Induced by Hydrohalic Acid Additives. *ChemSusChem*, **2016**, 9, 2656-2665 | 8.3 | 43 |
| 87 | Zero-Dimensional Cs2TeI6 Perovskite: Solution-Processed Thick Films with High X-ray Sensitivity. *ACS Photonics*, **2019**, 6, 196-203 | 6.3 | 43 |
| 86 | Three-Dimensional Lead Iodide Perovskitoid Hybrids with High X-ray Photoresponse. *Journal of the American Chemical Society*, **2020**, 142, 6625-6637 | 16.4 | 42 |
| 85 | Negative Pressure Engineering with Large Cage Cations in 2D Halide Perovskites Causes Lattice Softening. *Journal of the American Chemical Society*, **2020**, 142, 11486-11496 | 16.4 | 41 |
| 84 | Optical Properties and Modeling of 2D Perovskite Solar Cells. *Solar Rrl*, **2017**, 1, 1700062 | 7.1 | 41 |
| 83 | Stretching and Breaking of Ultrathin 2D Hybrid Organic-Inorganic Perovskites. *ACS Nano*, **2018**, 12, 10347-10354 | 16.0 | 41 |
| 82 | Defect Antiperovskite Compounds HgQI (Q = S, Se, and Te) for Room-Temperature Hard Radiation Detection. *Journal of the American Chemical Society*, **2017**, 139, 7939-7951 | 16.4 | 38 |
| 81 | Supramolecular Entanglement from Interlocked Molecular Nanomagnets. *Crystal Growth and Design*, **2009**, 9, 24-27 | 3.5 | 37 |
| 80 | From 2D to 1D Electronic Dimensionality in Halide Perovskites with Stepped and Flat Layers Using Propylammonium as a Spacer. *Journal of the American Chemical Society*, **2019**, 141, 10661-10676 | 16.4 | 36 |
| 79 | Rare oxidation-state combinations and unusual structural motifs in hexanuclear Mn complexes using 2-pyridyloximate ligands. *Inorganic Chemistry*, **2010**, 49, 4388-90 | 5.1 | 36 |
| 78 | Employment of methyl 2-pyridyl ketone oxime in manganese non-carboxylate chemistry: Mn(II)(2)Mn(IV) and Mn(II)(2)Mn(III)(6) complexes. *Dalton Transactions*, **2009**, 1004-15 | 4.3 | 36 |
| 77 | Thiazole-Induced Surface Passivation and Recrystallization of CHNHPbI Films for Perovskite Solar Cells with Ultrahigh Fill Factors. *ACS Applied Materials & Interfaces*, **2018**, 10, 42436-42443 | 9.5 | 36 |

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| 76 | Trimethylsulfonium Lead Triiodide: An Air-Stable Hybrid Halide Perovskite. *Inorganic Chemistry*, **2017**, 56, 6302-6309 | 5.1 | 35 |
| 75 | Multiphoton Absorption Order of CsPbBr As Determined by Wavelength-Dependent Nonlinear Optical Spectroscopy. *Journal of Physical Chemistry Letters*, **2017**, 8, 4912-4917 | 6.4 | 35 |
| 74 | Hyperbolic Dispersion Arising from Anisotropic Excitons in Two-Dimensional Perovskites. *Physical Review Letters*, **2018**, 121, 127401 | 7.4 | 35 |
| 73 | The use of di-2-pyridyl ketone in manganese(II) benzoate chemistry: Two novel linkage isomers containing the ketone form of the ligand and a neutral cubane containing the ligand in its gem-diolate(-1) form. *Inorganic Chemistry Communication*, **2008**, 11, 196-202 | 3.1 | 34 |
| 72 | Changes in charge density vs changes in formal oxidation states: The case of Sn halide perovskites and their ordered vacancy analogues. *Physical Review Materials*, **2017**, 1, | 3.2 | 34 |
| 71 | High Thermoelectric Performance in the Wide Band-Gap AgGa1-xTe2 Compounds: Directional Negative Thermal Expansion and Intrinsically Low Thermal Conductivity. *Advanced Functional Materials*, **2019**, 29, 1806534 | 15.6 | 32 |
| 70 | Regulating off-centering distortion maximizes photoluminescence in halide perovskites. *National Science Review*, **2021**, 8, nwaa288 | 10.8 | 31 |
| 69 | TlSn2I5, a Robust Halide Antiperovskite Semiconductor for Ray Detection at Room Temperature. *ACS Photonics*, **2017**, 4, 1805-1813 | 6.3 | 30 |
| 68 | Polar Fluctuations in Metal Halide Perovskites Uncovered by Acoustic Phonon Anomalies. *ACS Energy Letters*, **2017**, 2, 2463-2469 | 20.1 | 30 |
| 67 | Crystal Growth of Tl4CdI6: A Wide Band Gap Semiconductor for Hard Radiation Detection. *Crystal Growth and Design*, **2014**, 14, 2401-2410 | 3.5 | 30 |
| 66 | Origin of Intrinsically Low Thermal Conductivity in Talnakhite CuFeS Thermoelectric Material: Correlations between Lattice Dynamics and Thermal Transport. *Journal of the American Chemical Society*, **2019**, 141, 10905-10914 | 16.4 | 29 |
| 65 | Detection of Rashba spin splitting in 2D organic-inorganic perovskite via precessional carrier spin relaxation. *APL Materials*, **2019**, 7, 081116 | 5.7 | 28 |
| 64 | Organic Cation Alloying on Intralayer A and Interlayer A' sites in 2D Hybrid Dion-Jacobson Lead Bromide Perovskites (A')(A)PbBr. *Journal of the American Chemical Society*, **2020**, 142, 8342-8351 | 16.4 | 28 |
| 63 | Dirac fermions and superconductivity in the homologous structures (AgxPb1-xSe)5(Bi2Se3)3m (m=1,2). *Physical Review B*, **2014**, 90, | 3.3 | 27 |
| 62 | Ferromagnetic manganese "cubes": from PSII to single-molecule magnets. *Dalton Transactions*, **2010**, 39, 4777-85 | 4.3 | 27 |
| 61 | Ultrafast Imaging of Carrier Cooling in Metal Halide Perovskite Thin Films. *Nano Letters*, **2018**, 18, 1044-1048 | 10.9 | 26 |
| 60 | Defect Perovskites under Pressure: Structural Evolution of Cs2SnX6 (X = Cl, Br, I). *Journal of Physical Chemistry C*, **2018**, 122, 24004-24013 | 3.8 | 26 |
| 59 | Transient Sub-Band-Gap States at Grain Boundaries of CH3NH3PbI3 Perovskite Act as Fast Temperature Relaxation Centers. *ACS Energy Letters*, **2019**, 4, 1741-1747 | 20.1 | 25 |

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| 58 | Superconductivity and strong intrinsic defects in LaPd1-xBi2. *Physical Review B*, **2013**, 88, | 3.3 | 25 |
| 57 | Self-Passivation of 2D Ruddlesden-Popper Perovskite by Polytypic Surface PbI Encapsulation. *Nano Letters*, **2019**, 19, 6109-6117 | 11.5 | 24 |
| 56 | Slow thermal equilibration in methylammonium lead iodide revealed by transient mid-infrared spectroscopy. *Nature Communications*, **2018**, 9, 2792 | 17.4 | 21 |
| 55 | Heavy metal ternary halides for room-temperature x-ray and gamma-ray detection **2013**, | | 21 |
| 54 | Transient Sub-bandgap States in Halide Perovskite Thin Films. *Nano Letters*, **2018**, 18, 827-831 | 11.5 | 20 |
| 53 | Panoramic Synthesis as an Effective Materials Discovery Tool: The System Cs/Sn/P/Se as a Test Case. *Journal of the American Chemical Society*, **2017**, 139, 10814-10821 | 16.4 | 20 |
| 52 | "Depolymerization" approach in Mn cluster chemistry: controlled cleavage of a 1D coordination polymer consisting of Mn(8) units in its constituent, discrete Mn(8) complex. *Inorganic Chemistry*, **2010**, 49, 359-61 | 5.1 | 19 |
| 51 | Perovskites with a Twist: Strong In1+ Off-Centering in the Mixed-Valent CsInX3 (X = Cl, Br). *Chemistry of Materials*, **2019**, 31, 9554-9566 | 9.6 | 18 |
| 50 | Demonstration of Energy-Resolved -Ray Detection at Room Temperature by the CsPbCl Perovskite Semiconductor. *Journal of the American Chemical Society*, **2021**, 143, 2068-2077 | 16.4 | 18 |
| 49 | Dynamic Disorder, Band Gap Widening, and Persistent Near-IR Photoluminescence up to At Least 523 K in ASnI3 Perovskites (A = Cs+, CH3NH3+ and NH2CH?NH2+). *Journal of Physical Chemistry C*, **2018**, 122, 26353-26361 | 3.8 | 17 |
| 48 | Direct Gap Semiconductors Pb2BiS2I3, Sn2BiS2I3, and Sn2BiSI5. *Chemistry of Materials*, **2016**, 28, 7332-7343 | 9.6 | 16 |
| 47 | Homologous Series of 2D Chalcogenides Cs-Ag-Bi-Q (Q = S, Se) with Ion-Exchange Properties. *Journal of the American Chemical Society*, **2017**, 139, 12601-12609 | 16.4 | 16 |
| 46 | A new MnII4MnIII4 cluster from the use of methyl 2-pyridyl ketone oxime in manganese carboxylate chemistry: Synthetic, structural and magnetic studies. *Polyhedron*, **2008**, 27, 3703-3709 | 2.7 | 16 |
| 45 | Cs2Hg3S4: A Low-Dimensional Direct Bandgap Semiconductor. *Chemistry of Materials*, **2015**, 27, 370-378 | 9.6 | 15 |
| 44 | Halo and azido copper(II) coordination polymers featuring the gem-diolate forms of di-2-pyridyl ketone. *Polyhedron*, **2010**, 29, 100-109 | 2.7 | 15 |
| 43 | The Two-Dimensional ACdBiQ (A = K, Rb, Cs; Q = S, Se): Direct Bandgap Semiconductors and Ion-Exchange Materials. *Journal of the American Chemical Society*, **2017**, 139, 6978-6987 | 16.4 | 14 |
| 42 | Linear Mn3II and cubane Mn4II carboxylate clusters derived from di-2-pyridyl ketone: Synthesis, characterization and magnetic properties. *Polyhedron*, **2009**, 28, 2017-2025 | 2.7 | 14 |
| 41 | A two-dimensional manganese(II) coordination polymer containing 1-hydroxybenzotriazolate and acetate bridging ligands: Preparation, structural characterization and magnetic study. *Inorganica Chimica Acta*, **2008**, 361, 3638-3645 | 2.7 | 14 |

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