Mercouri G Kanatzidis

List of Publications by Year in Descending Order

882 papers	92,129 citations	142 h-index	282 g-index
929 ext. papers	106,283 ext. citations	12.6 avg, IF	8.72 L-index

#	Paper	IF	Citations
882	Expanding the Cage of 2D Bromide Perovskites by Large A-Site Cations. *Chemistry of Materials*, **2022**, 34, 1132-1142	9.6	5
881	Thermoelectric Performance of the 2D BiSiTe Semiconductor.. *Journal of the American Chemical Society*, **2022**,	16.4	7
880	Extraordinary role of Zn in enhancing thermoelectric performance of Ga-doped n-type PbTe. *Energy and Environmental Science*, **2022**, 15, 368-375	35.4	12
879	Weak-Bonding Elements Lead to High Thermoelectric Performance in BaSnS3 and SrSnS3: A First-Principles Study. *Chemistry of Materials*, **2022**, 34, 1289-1301	9.6	2
878	Study of Annihilation Photon Pair Coincidence Time Resolution Using Prompt Photon Emissions in New Perovskite Bulk Crystals. *IEEE Transactions on Radiation and Plasma Medical Sciences*, **2022**, 1-1	4.2	0
877	Photoluminescence spectroscopy of excitonic emission in CsPbCl3 perovskite single crystals. *Journal of Luminescence*, **2022**, 243, 118661	3.8	2
876	Understanding Instability in Formamidinium Lead Halide Perovskites: Kinetics of Transformative Reactions at Grain and Subgrain Boundaries. *ACS Energy Letters*, **2022**, 7, 1534-1543	20.1	10
875	Accelerated Discovery and Design of Ultralow Lattice Thermal Conductivity Materials Using Chemical Bonding Principles. *Advanced Functional Materials*, **2022**, 32, 2108532	15.6	6
874	Detecting ionizing radiation using halide perovskite semiconductors processed through solution and alternative methods. *Nature Photonics*, **2022**, 16, 14-26	33.9	22
873	Hidden Local Symmetry Breaking in Silver Diamondoid Compounds is Root Cause of Ultralow Thermal Conductivity.. *Advanced Materials*, **2022**, e2202255	24	2
872	Regulating off-centering distortion maximizes photoluminescence in halide perovskites. *National Science Review*, **2021**, 8, nwaa288	10.8	31
871	Light-activated interlayer contraction in two-dimensional perovskites for high-efficiency solar cells. *Nature Nanotechnology*, **2021**,	28.7	15
870	High-performance thermoelectrics and challenges for practical devices. *Nature Materials*, **2021**,	27	30
869	High-phase purity two-dimensional perovskites with 17.3% efficiency enabled by interface engineering of hole transport layer. *Cell Reports Physical Science*, **2021**, 2, 100601	6.1	5
868	Broad Photoluminescence and Second-Harmonic Generation in the Noncentrosymmetric Organic□horganic Hybrid Halide (C6H5(CH2)4NH3)4MX7□H2O (M = Bi, In, X = Br or I). *Chemistry of Materials*, **2021**, 33, 8106-8111	9.6	3
867	Controllable Nonclassical Conductance Switching in Nanoscale Phase-Separated (PbI) (BiI) Layered Crystals. *Advanced Materials*, **2021**, 33, e2103098	24	
866	High Thermoelectric Performance through Crystal Symmetry Enhancement in Triply Doped Diamondoid Compound Cu2SnSe3. *Advanced Energy Materials*, **2021**, 11, 2100661	21.8	11

865	Mixed Metal Thiophosphate FeCoPS: Role of Structural Evolution and Anisotropy. *Inorganic Chemistry*, **2021**, 60, 17268-17275	5.1	2
864	Mo S Intercalated Layered Double Hydroxide: Highly Selective Removal of Heavy Metals and Simultaneous Reduction of Ag Ions to Metallic Ag Ribbons. *Angewandte Chemie - International Edition*, **2021**,	16.4	2
863	Structure Tuning, Strong Second Harmonic Generation Response, and High Optical Stability of the Polar Semiconductors NaKAs. *Journal of the American Chemical Society*, **2021**, 143, 18204-18215	16.4	3
862	Nanotechnology for catalysis and solar energy conversion. *Nanotechnology*, **2021**, 32, 042003	3.4	24
861	Quasi-Two-Dimensional Heterostructures (KM1□kTe)(LaTe3) (M = Mn and Zn) with Charge Density Waves. *Chemistry of Materials*, **2021**, 33, 2155-2164	9.6	1
860	Signatures of Coherent Phonon Transport in Ultralow Thermal Conductivity Two-Dimensional Ruddlesden-Popper Phase Perovskites. *ACS Nano*, **2021**, 15, 4165-4172	16.7	7
859	Distance Dependence of F□ster Resonance Energy Transfer Rates in 2D Perovskite Quantum Wells via Control of Organic Spacer Length. *Journal of the American Chemical Society*, **2021**, 143, 4244-4252	16.4	19
858	Implications of doping on microstructure, processing, and thermoelectric performance: The case of PbSe. *Journal of Materials Research*, **2021**, 36, 1272-1284	2.5	3
857	Efficient Removal of Cs and Sr Ions by Granulous (MeNH)(MeNH)SnS□1.25HO/Polyacrylonitrile Composite. *ACS Applied Materials & Interfaces*, **2021**, 13, 13434-13442	9.5	4
856	Ultralow Thermal Conductivity in Diamondoid Structures and High Thermoelectric Performance in (CuAg)(InGa)Te. *Journal of the American Chemical Society*, **2021**, 143, 5978-5989	16.4	15
855	Amorphous to Crystal Phase Change Memory Effect with Two-Fold Bandgap Difference in Semiconducting KBiSe. *Journal of the American Chemical Society*, **2021**, 143, 6221-6228	16.4	1
854	Tunable Broad Light Emission from 3D "Hollow" Bromide Perovskites through Defect Engineering. *Journal of the American Chemical Society*, **2021**, 143, 7069-7080	16.4	13
853	Local Distortions and Metal□Semiconductor□Metal Transition in Quasi-One-Dimensional Nanowire Compounds AV3Q3O□(A = K, Rb, Cs and Q = Se, Te). *Chemistry of Materials*, **2021**, 33, 2611-2623	9.6	1
852	Polaron Plasma in Equilibrium with Bright Excitons in 2D and 3D Hybrid Perovskites. *Advanced Optical Materials*, **2021**, 9, 2100295	8.1	4
851	A Noncentrosymmetric Polymorph of LuRuGe. *Inorganic Chemistry*, **2021**, 60, 7827-7833	5.1	2
850	Charge-carrier-mediated lattice softening contributes to high zT in thermoelectric semiconductors. *Joule*, **2021**, 5, 1168-1182	27.8	11
849	Shedding Light on the Stability and Structure□Property Relationships of Two-Dimensional Hybrid Lead Bromide Perovskites. *Chemistry of Materials*, **2021**, 33, 5085-5107	9.6	9
848	Memory Seeds Enable High Structural Phase Purity in 2D Perovskite Films for High-Efficiency Devices. *Advanced Materials*, **2021**, 33, e2007176	24	18

847	In-Plane Mechanical Properties of Two-Dimensional Hybrid Organic-Inorganic Perovskite Nanosheets: Structure-Property Relationships. *ACS Applied Materials & Interfaces*, **2021**, 13, 31642-31649	9.5	4
846	Accelerated discovery of a large family of quaternary chalcogenides with very low lattice thermal conductivity. *Npj Computational Materials*, **2021**, 7,	10.9	7
845	Employing the Dynamics of the Electrochemical Interface in Aqueous Zinc-Ion Battery Cathodes. *Advanced Functional Materials*, **2021**, 31, 2102135	15.6	9
844	Structural and chemical analysis of mixed cation antiferromagnetic layered metal chalcophosphate FeCoP2S6. *Microscopy and Microanalysis*, **2021**, 27, 140-143	0.5	0
843	Selective Capture Mechanism of Radioactive Thorium from Highly Acidic Solution by a Layered Metal Sulfide. *ACS Applied Materials & Interfaces*, **2021**, 13, 37308-37315	9.5	3
842	Bismuth/Silver-Based Two-Dimensional Iodide Double and One-Dimensional Bi Perovskites: Interplay between Structural and Electronic Dimensions. *Chemistry of Materials*, **2021**, 33, 6206-6216	9.6	7
841	Photoluminescent Re6Q8I2 (Q = S, Se) Semiconducting Cluster Compounds. *Chemistry of Materials*, **2021**, 33, 5780-5789	9.6	2
840	A two-dimensional type I superionic conductor. *Nature Materials*, **2021**, 20, 1683-1688	27	1
839	In Quest of Environmentally Stable Perovskite Solar Cells: A Perspective. *Helvetica Chimica Acta*, **2021**, 104,	2	6
838	CsPbBr3 perovskite detectors with 1.4% energy resolution for high-energy □rays. *Nature Photonics*, **2021**, 15, 36-42	33.9	79
837	Strong Valence Band Convergence to Enhance Thermoelectric Performance in PbSe with Two Chemically Independent Controls. *Angewandte Chemie*, **2021**, 133, 272-277	3.6	6
836	Strong Valence Band Convergence to Enhance Thermoelectric Performance in PbSe with Two Chemically Independent Controls. *Angewandte Chemie - International Edition*, **2021**, 60, 268-273	16.4	11
835	Enhanced Photocurrent of All-Inorganic Two-Dimensional Perovskite CsPbICl via Pressure-Regulated Excitonic Features. *Journal of the American Chemical Society*, **2021**, 143, 2545-2551	16.4	34
834	Role of the A-Site Cation in Low-Temperature Optical Behaviors of APbBr (A = Cs, CHNH). *Journal of the American Chemical Society*, **2021**, 143, 2340-2347	16.4	6
833	The 2D Halide Perovskite Rulebook: How the Spacer Influences Everything from the Structure to Optoelectronic Device Efficiency. *Chemical Reviews*, **2021**, 121, 2230-2291	68.1	171
832	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
831	Metal cation s lone-pairs increase octahedral tilting instabilities in halide perovskites. *Materials Advances*, **2021**, 2, 4610-4616	3.3	6
830	Anisotropic Transient Disordering of Colloidal, Two-Dimensional CdSe Nanoplatelets upon Optical Excitation. *Nano Letters*, **2021**, 21, 1288-1294	11.5	4

829	Materials development and module fabrication in highly efficient lead tellurides **2021**, 247-267		
828	Highly efficient photoelectric effect in halide perovskites for regenerative electron sources. *Nature Communications*, **2021**, 12, 673	17.4	9
827	Inorganic Halide Perovskitoid TlPbI3 for Ionizing Radiation Detection. *Advanced Functional Materials*, **2021**, 31, 2006635	15.6	7
826	Tuning Ionic and Electronic Conductivities in the Hollow Perovskite {en}MAPbI3. *Chemistry of Materials*, **2021**, 33, 719-726	9.6	12
825	Triple-Cation and Mixed-Halide Perovskite Single Crystal for High-Performance X-ray Imaging. *Advanced Materials*, **2021**, 33, e2006010	24	64
824	Sn4B12Se12[Qx], Q = Se, Te, a B12 Cluster Tunnel Framework Hosting Neutral Chalcogen Chains. *Chemistry of Materials*, **2021**, 33, 1723-1730	9.6	3
823	Dissociation of GaSb in n-Type PbTe: off-Centered Gallium Atom and Weak Electron Phonon Coupling Provide High Thermoelectric Performance. *Chemistry of Materials*, **2021**, 33, 1842-1851	9.6	11
822	Inch-sized high-quality perovskite single crystals by suppressing phase segregation for light-powered integrated circuits. *Science Advances*, **2021**, 7,	14.3	26
821	PS Reactive Flux Method for the Rapid Synthesis of Mono- and Bimetallic 2D Thiophosphates MM'PS. *Inorganic Chemistry*, **2021**, 60, 3502-3513	5.1	8
820	Insight on the Stability of Thick Layers in 2D Ruddlesden-Popper and Dion-Jacobson Lead Iodide Perovskites. *Journal of the American Chemical Society*, **2021**, 143, 2523-2536	16.4	31
819	Pressure-induced ferroelectric-like transition creates a polar metal in defect antiperovskites HgTeX (X = Cl, Br). *Nature Communications*, **2021**, 12, 1509	17.4	0
818	Lithium Thiostannate Spinels: Air-Stable Cubic Semiconductors. *Chemistry of Materials*, **2021**, 33, 2080-2089	9.6	4
817	Mechanistic Studies of Two Divergent Synthesis Routes Forming the Heteroanionic BiOCuSe. *Journal of the American Chemical Society*, **2021**, 143, 12090-12099	16.4	1
816	-Phenylenediammonium as a New Spacer for Dion-Jacobson Two-Dimensional Perovskites. *Journal of the American Chemical Society*, **2021**, 143, 12063-12073	16.4	18
815	Hidden Complexity in the Chemistry of Ammonolysis-Derived Mo2N An Overlooked Oxynitride Hydride. *Chemistry of Materials*, **2021**, 33, 6671-6684	9.6	2
814	New Compounds and Phase Selection of Nickel Sulfides via Oxidation State Control in Molten Hydroxides. *Journal of the American Chemical Society*, **2021**, 143, 13646-13654	16.4	1
813	Polycrystalline SnSe with a thermoelectric figure of merit greater than the single crystal. *Nature Materials*, **2021**, 20, 1378-1384	27	79
812	Vast Structural and Polymorphic Varieties of Semiconductors AMM?Q4 (A = K, Rb, Cs, Tl; M = Ga, In; M? = Ge, Sn; Q = S, Se). *Chemistry of Materials*, **2021**, 33, 6572-6583	9.6	3

811	Cubic AgMnSbTe Semiconductor with a High Thermoelectric Performance. *Journal of the American Chemical Society*, **2021**, 143, 13990-13998	16.4	14
810	Mechanics-coupled stability of metal-halide perovskites. *Matter*, **2021**, 4, 2765-2809	12.7	10
809	Excitons in CsPbBr Halide Perovskite. *Journal of Physical Chemistry Letters*, **2021**, 12, 9301-9307	6.4	2
808	Ultralow Thermal Conductivity, Multiband Electronic Structure and High Thermoelectric Figure of Merit in TlCuSe. *Advanced Materials*, **2021**, 33, e2104908	24	5
807	On the Origin of Room-Temperature Amplified Spontaneous Emission in CsPbBr3 Single Crystals. *Chemistry of Materials*, **2021**, 33, 7185-7193	9.6	2
806	Photothermal behaviour of titanium nitride nanoparticles evaluated by transient X-ray diffraction. *Nanoscale*, **2021**, 13, 2658-2664	7.7	3
805	Defect engineering in thermoelectric materials: what have we learned?. *Chemical Society Reviews*, **2021**, 50, 9022-9054	58.5	45
804	Nonequilibrium dynamics of spontaneous symmetry breaking into a hidden state of charge-density wave. *Nature Communications*, **2021**, 12, 566	17.4	12
803	Interstitial Nature of Mn Doping in 2D Perovskites. *ACS Nano*, **2021**,	16.7	6
802	Magnetizing lead-free halide double perovskites. *Science Advances*, **2020**, 6,	14.3	25
801	Alternative Organic Spacers for More Efficient Perovskite Solar Cells Containing Ruddlesden-Popper Phases. *Journal of the American Chemical Society*, **2020**, 142, 19705-19714	16.4	42
800	Nucleation-controlled growth of superior lead-free perovskite CsBiI single-crystals for high-performance X-ray detection. *Nature Communications*, **2020**, 11, 2304	17.4	139
799	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
798	Inch-Size 0D-Structured Lead-Free Perovskite Single Crystals for Highly Sensitive Stable X-Ray Imaging. *Matter*, **2020**, 3, 180-196	12.7	90
797	The underappreciated lone pair in halide perovskites underpins their unusual properties. *MRS Bulletin*, **2020**, 45, 467-477	3.2	53
796	Three-Dimensional Lead Iodide Perovskitoid Hybrids with High X-ray Photoresponse. *Journal of the American Chemical Society*, **2020**, 142, 6625-6637	16.4	42
795	The Subchalcogenides IrInQ (Q = S, Se, Te): Dirac Semimetal Candidates with Re-entrant Structural Modulation. *Journal of the American Chemical Society*, **2020**, 142, 6312-6323	16.4	4
794	Conventional Solvent Oxidizes Sn(II) in Perovskite Inks. *ACS Energy Letters*, **2020**, 5, 1153-1155	20.1	57

793	Ultralow Thermal Conductivity and Thermoelectric Properties of Rb2Bi8Se13. *Chemistry of Materials*, **2020**, 32, 3561-3569	9.6	14
792	Halogen⋯NH2+ Interaction, Temperature-Induced Phase Transition, and Ordering in (NH2CHNH2)PbX3 (X = Cl, Br, I) Hybrid Perovskites. *Journal of Physical Chemistry C*, **2020**, 124, 8479-8487	3.8	14
791	Highly tunable properties in pressure-treated two-dimensional Dion-Jacobson perovskites. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 16121-16126	11.5	18
790	In Situ Grazing-Incidence Wide-Angle Scattering Reveals Mechanisms for Phase Distribution and Disorientation in 2D Halide Perovskite Films. *Advanced Materials*, **2020**, 32, e2002812	24	51
789	Pressure-Induced Superconductivity in the Wide-Band-Gap Semiconductor Cu2Br2Se6 with a Robust Framework. *Chemistry of Materials*, **2020**, 32, 6237-6246	9.6	4
788	Contrasting SnTe-NaSbTe and SnTe-NaBiTe Thermoelectric Alloys: High Performance Facilitated by Increased Cation Vacancies and Lattice Softening. *Journal of the American Chemical Society*, **2020**, 142, 12524-12535	16.4	21
787	Cation Engineering in Two-Dimensional Ruddlesden-Popper Lead Iodide Perovskites with Mixed Large A-Site Cations in the Cages. *Journal of the American Chemical Society*, **2020**, 142, 4008-4021	16.4	45
786	Systematic over-estimation of lattice thermal conductivity in materials with electrically-resistive grain boundaries. *Energy and Environmental Science*, **2020**, 13, 1250-1258	35.4	23
785	Anomalously Large Seebeck Coefficient of CuFeS2 Derives from Large Asymmetry in the Energy Dependence of Carrier Relaxation Time. *Chemistry of Materials*, **2020**, 32, 2639-2646	9.6	16
784	Direct thermal neutron detection by the 2D semiconductor LiInPSe. *Nature*, **2020**, 577, 346-349	50.4	21
783	Selective Capture of Ba2+, Ni2+, and Co2+ by a Robust Layered Metal Sulfide. *Chemistry of Materials*, **2020**, 32, 1957-1963	9.6	19
782	Direct Observation of Bandgap Oscillations Induced by Optical Phonons in Hybrid Lead Iodide Perovskites. *Advanced Functional Materials*, **2020**, 30, 1907982	15.6	8
781	Water-Stable 1D Hybrid Tin(II) Iodide Emits Broad Light with 36% Photoluminescence Quantum Efficiency. *Journal of the American Chemical Society*, **2020**, 142, 9028-9038	16.4	31
780	Understanding the thermally activated charge transport in NaPbmSbQm+2 (Q = S, Se, Te) thermoelectrics: weak dielectric screening leads to grain boundary dominated charge carrier scattering. *Energy and Environmental Science*, **2020**, 13, 1509-1518	35.4	40
779	All-Inorganic Halide Perovskites as Potential Thermoelectric Materials: Dynamic Cation off-Centering Induces Ultralow Thermal Conductivity. *Journal of the American Chemical Society*, **2020**, 142, 9553-9563	16.4	64
778	Quasilinear dispersion in electronic band structure and high Seebeck coefficient in CuFeS2-based thermoelectric materials. *Physical Review Materials*, **2020**, 4,	3.2	1
777	Global Analysis for Time and Spectrally Resolved Multidimensional Microscopy: Application to CHNHPbI Perovskite Thin Films. *Journal of Physical Chemistry A*, **2020**, 124, 4837-4847	2.8	3
776	Discordant nature of Cd in PbSe: off-centering and core⋯shell nanoscale CdSe precipitates lead to high thermoelectric performance. *Energy and Environmental Science*, **2020**, 13, 200-211	35.4	36

775	Discordant nature of Cd in GeTe enhances phonon scattering and improves band convergence for high thermoelectric performance. *Journal of Materials Chemistry A*, **2020**, 8, 1193-1204	13	49
774	High-sensitivity X-ray detectors based on solution-grown caesium lead bromide single crystals. *Journal of Materials Chemistry C*, **2020**, 8, 1248-1256	7.1	58
773	Polypyrrole-MoS: An Efficient Sorbent for the Capture of Hg and Highly Selective Extraction of Ag over Cu. *Journal of the American Chemical Society*, **2020**, 142, 1574-1583	16.4	25
772	High-Performance Thermoelectrics from Cellular Nanostructured Sb2Si2Te6. *Joule*, **2020**, 4, 159-175	27.8	55
771	Expression of interfacial Seebeck coefficient through grain boundary engineering with multi-layer graphene nanoplatelets. *Energy and Environmental Science*, **2020**, 13, 4114-4121	35.4	30
770	Long periodic ripple in a 2D hybrid halide perovskite structure using branched organic spacers. *Chemical Science*, **2020**, 11, 12139-12148	9.4	10
769	Mixed-Valent Copper Chalcogenides: Tuning Structures and Electronic Properties Using Multiple Anions. *Chemistry of Materials*, **2020**, 32, 10146-10154	9.6	4
768	Static Rashba Effect by Surface Reconstruction and Photon Recycling in the Dynamic Indirect Gap of APbBr (A = Cs, CHNH) Single Crystals. *Journal of the American Chemical Society*, **2020**, 142, 21059-21067	16.4	15
767	Semiconductor physics of organic-inorganic 2D halide perovskites. *Nature Nanotechnology*, **2020**, 15, 969-985	28.7	110
766	Na Doping in PbTe: Solubility, Band Convergence, Phase Boundary Mapping, and Thermoelectric Properties. *Journal of the American Chemical Society*, **2020**, 142, 15464-15475	16.4	46
765	Novel Core-shell Nanoscale Precipitates in High Performance PbSe-CdSe Thermoelectric Materials. *Microscopy and Microanalysis*, **2020**, 26, 34-36	0.5	
764	Narrow-Bandgap Mixed Lead/Tin-Based 2D Dion-Jacobson Perovskites Boost the Performance of Solar Cells. *Journal of the American Chemical Society*, **2020**, 142, 15049-15057	16.4	53
763	High Thermoelectric Performance in the New Cubic Semiconductor AgSnSbSe by High-Entropy Engineering. *Journal of the American Chemical Society*, **2020**, 142, 15187-15198	16.4	40
762	Role of Advanced Electron Microscopy in Unraveling Complex Microstructure in Nanostructured Thermoelectric Materials. *Microscopy and Microanalysis*, **2020**, 26, 266-268	0.5	
761	Incorporated Guanidinium Expands the CHNHPbI Lattice and Enhances Photovoltaic Performance. *ACS Applied Materials & Interfaces*, **2020**, 12, 43885-43891	9.5	12
760	Blocking Ion Migration Stabilizes the High Thermoelectric Performance in Cu Se Composites. *Advanced Materials*, **2020**, 32, e2003730	24	49
759	Edge States Drive Exciton Dissociation in Ruddlesden Popper Lead Halide Perovskite Thin Films **2020**, 2, 1360-1367		9
758	Layered and Cubic Semiconductors Ga' (= K, Rb, Cs, Tl; ' = Ge, Sn; = S, Se) and High Third-Harmonic Generation. *Journal of the American Chemical Society*, **2020**, 142, 17730-17742	16.4	10

757	Ultralow thermal conductivity in diamondoid lattices: high thermoelectric performance in chalcopyrite Cu0.8+yAg0.2In1−yTe2. *Energy and Environmental Science*, **2020**, 13, 3693-3705	35.4	19
756	Exploring the Factors Affecting the Mechanical Properties of 2D Hybrid Organic-Inorganic Perovskites. *ACS Applied Materials & Interfaces*, **2020**, 12, 20440-20447	9.5	22
755	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
754	Mechanistic insight of KBiQ (Q = S, Se) using panoramic synthesis towards synthesis-by-design. *Chemical Science*, **2020**, 12, 1378-1391	9.4	3
753	Benzodithiophene Hole-Transporting Materials for Efficient Tin-Based Perovskite Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1905393	15.6	28
752	Monte Carlo simulation of transport properties in wide gap Hg3Se2I2. *Semiconductor Science and Technology*, **2019**, 34, 115003	1.8	1
751	Seven-Layered 2D Hybrid Lead Iodide Perovskites. *CheM*, **2019**, 5, 2593-2604	16.2	44
750	Pressure-Induced Superconductivity and Flattened Se Rings in the Wide Band Gap Semiconductor CuISe. *Journal of the American Chemical Society*, **2019**, 141, 15174-15182	16.4	7
749	Unconventional Defects in a Quasi-One-Dimensional KMnBi. *Nano Letters*, **2019**, 19, 7476-7486	11.5	3
748	High Figure of Merit in Gallium-Doped Nanostructured n-Type PbTe-GeTe with Midgap States. *Journal of the American Chemical Society*, **2019**, 141, 16169-16177	16.4	44
747	K[BiMnS], Design of a Highly Selective Ion Exchange Material and Direct Gap 2D Semiconductor. *Journal of the American Chemical Society*, **2019**, 141, 16903-16914	16.4	16
746	Antiferromagnetic Semiconductor BaFMnTe with Unique Mn Ordering and Red Photoluminescence. *Journal of the American Chemical Society*, **2019**, 141, 17421-17430	16.4	5
745	Compositional and Solvent Engineering in Dion–Jacobson 2D Perovskites Boosts Solar Cell Efficiency and Stability. *Advanced Energy Materials*, **2019**, 9, 1803384	21.8	149
744	Infrared-pump electronic-probe of methylammonium lead iodide reveals electronically decoupled organic and inorganic sublattices. *Nature Communications*, **2019**, 10, 482	17.4	13
743	Surface Oxide Removal for Polycrystalline SnSe Reveals Near-Single-Crystal Thermoelectric Performance. *Joule*, **2019**, 3, 719-731	27.8	118
742	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
741	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
740	Morphology of X-ray detector Cs2TeI6 perovskite thick films grown by electrospray method. *Journal of Materials Chemistry C*, **2019**, 7, 8712-8719	7.1	16

739	Giant Enhancement of Photoluminescence Emission in WS-Two-Dimensional Perovskite Heterostructures. *Nano Letters*, **2019**, 19, 4852-4860	11.5	41
738	Improved Environmental Stability and Solar Cell Efficiency of (MA,FA)PbI3 Perovskite Using a Wide-Band-Gap 1D Thiazolium Lead Iodide Capping Layer Strategy. *ACS Energy Letters*, **2019**, 4, 1763-1769	20.1	79
737	Hierarchical Nanoassembly of MoS/CoS/NiS/Ni as a Highly Efficient Electrocatalyst for Overall Water Splitting in a Wide pH Range. *Journal of the American Chemical Society*, **2019**, 141, 10417-10430	16.4	359
736	Ultrafast correlated charge and lattice motion in a hybrid metal halide perovskite. *Science Advances*, **2019**, 5, eaaw5558	14.3	39
735	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
734	Purification and Improved Nuclear Radiation Detection of Tl6SI4 Semiconductor. *Crystal Growth and Design*, **2019**, 19, 4738-4744	3.5	1
733	Ethylenediammonium-Based "Hollow" Pb/Sn Perovskites with Ideal Band Gap Yield Solar Cells with Higher Efficiency and Stability. *Journal of the American Chemical Society*, **2019**, 141, 8627-8637	16.4	67
732	Ion Beam Induced Artifacts in Lead-Based Chalcogenides. *Microscopy and Microanalysis*, **2019**, 25, 831-839	3.5	6
731	Computational strategies for design and discovery of nanostructured thermoelectrics. *Npj Computational Materials*, **2019**, 5,	10.9	27
730	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
729	Low-Frequency Carrier Kinetics in Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2019**, 11, 14166-14174	9.5	19
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