

Chris Wolverton

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

403
papers

30,817
citations

87
h-index

165
g-index

432
ext. papers

36,418
ext. citations

10.3
avg, IF

7.7
L-index

#	Paper	IF	Citations
403	Thermoelectric Performance of the 2D BiSiTe Semiconductor.. <i>Journal of the American Chemical Society</i> , 2022 ,	16.4	7
402	Extraordinary role of Zn in enhancing thermoelectric performance of Ga-doped n-type PbTe. <i>Energy and Environmental Science</i> , 2022 , 15, 368-375	35.4	12
401	Elucidating and Mitigating High-Voltage Degradation Cascades in Cobalt-Free LiNiO ₂ Lithium-Ion Battery Cathodes (Adv. Mater. 3/2022). <i>Advanced Materials</i> , 2022 , 34, 2270026	24	
400	Weak-Bonding Elements Lead to High Thermoelectric Performance in BaSnS ₃ and SrSnS ₃ : A First-Principles Study. <i>Chemistry of Materials</i> , 2022 , 34, 1289-1301	9.6	2
399	Synergistic defect- and interfacial-engineering of a Bi ₂ S ₃ -based nanoplate network for high-performance photoelectrochemical solar water splitting. <i>Journal of Materials Chemistry A</i> , 2022 , 10, 7830-7840	13	0
398	Recent advances and applications of deep learning methods in materials science. <i>Npj Computational Materials</i> , 2022 , 8,	10.9	19
397	Accelerated Discovery and Design of Ultralow Lattice Thermal Conductivity Materials Using Chemical Bonding Principles. <i>Advanced Functional Materials</i> , 2022 , 32, 2108532	15.6	6
396	Hidden Local Symmetry Breaking in Silver Diamondoid Compounds is Root Cause of Ultralow Thermal Conductivity.. <i>Advanced Materials</i> , 2022 , e2202255	24	2
395	Theory-guided experimental design in battery materials research.. <i>Science Advances</i> , 2022 , 8, eabm2422	14.3	9
394	High-Throughput Computational Discovery of Ternary Mixed-Anion Oxypnictides. <i>Chemistry of Materials</i> , 2021 , 33, 9486-9500	9.6	0
393	Elucidating and Mitigating High-Voltage Degradation Cascades in Cobalt-Free LiNiO Lithium-Ion Battery Cathodes. <i>Advanced Materials</i> , 2021 , e2106402	24	10
392	Broadband light emitting zero-dimensional antimony and bismuth-based hybrid halides with diverse structures. <i>Journal of Materials Chemistry C</i> , 2021 , 9, 15942-15948	7.1	1
391	Broad Photoluminescence and Second-Harmonic Generation in the Noncentrosymmetric Organic/Inorganic Hybrid Halide (C ₆ H ₅ (CH ₂) ₄ NH ₃) ₄ MX ₇ I ₂ O (M = Bi, In, X = Br or I). <i>Chemistry of Materials</i> , 2021 , 33, 8106-8111	9.6	3
390	Structure Tuning, Strong Second Harmonic Generation Response, and High Optical Stability of the Polar Semiconductors NaKAs. <i>Journal of the American Chemical Society</i> , 2021 , 143, 18204-18215	16.4	3
389	Fluoridation of HfO. <i>Inorganic Chemistry</i> , 2021 , 60, 4463-4474	5.1	3
388	Implications of doping on microstructure, processing, and thermoelectric performance: The case of PbSe. <i>Journal of Materials Research</i> , 2021 , 36, 1272-1284	2.5	3
387	Ultralow Thermal Conductivity in Diamondoid Structures and High Thermoelectric Performance in (CuAg)(InGa)Te. <i>Journal of the American Chemical Society</i> , 2021 , 143, 5978-5989	16.4	15

386	Accurate and scalable graph neural network force field and molecular dynamics with direct force architecture. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	15
385	Electronic-structure methods for materials design. <i>Nature Materials</i> , 2021 , 20, 736-749	27	24
384	In Situ, Atomic-Resolution Observation of Lithiation and Sodiation of WS Nanoflakes: Implications for Lithium-Ion and Sodium-Ion Batteries. <i>Small</i> , 2021 , 17, e2100637	11	12
383	Charge-carrier-mediated lattice softening contributes to high zT in thermoelectric semiconductors. <i>Joule</i> , 2021 , 5, 1168-1182	27.8	11
382	Crystal structure engineering in multimetallic high-index facet nanocatalysts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	4
381	Lithium/Sodium-Ion Batteries: In Situ, Atomic-Resolution Observation of Lithiation and Sodiation of WS ₂ Nanoflakes: Implications for Lithium-Ion and Sodium-Ion Batteries (Small 24/2021). <i>Small</i> , 2021 , 17, 2170120	11	
380	Nonperturbative phonon scatterings and the two-channel thermal transport in Tl ₃ VSe ₄ . <i>Physical Review B</i> , 2021 , 103,	3.3	9
379	Accelerated discovery of a large family of quaternary chalcogenides with very low lattice thermal conductivity. <i>Npj Computational Materials</i> , 2021 , 7,	10.9	7
378	Photoluminescent Re ₆ Q ₈ I ₂ (Q = S, Se) Semiconducting Cluster Compounds. <i>Chemistry of Materials</i> , 2021 , 33, 5780-5789	9.6	2
377	Outstanding Properties and Performance of CaTi _{0.5} Mn _{0.5} O ₃ F ₃ for Solar-Driven Thermochemical Hydrogen Production. <i>Matter</i> , 2021 , 4, 688-708	12.7	18
376	InPbSbS: A Stable Quaternary Chalcogenide with Low Thermal Conductivity. <i>Inorganic Chemistry</i> , 2021 , 60, 325-333	5.1	1
375	Strong Valence Band Convergence to Enhance Thermoelectric Performance in PbSe with Two Chemically Independent Controls. <i>Angewandte Chemie</i> , 2021 , 133, 272-277	3.6	6
374	Strong Valence Band Convergence to Enhance Thermoelectric Performance in PbSe with Two Chemically Independent Controls. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 268-273	16.4	11
373	Raspberry-like mesoporous Co-doped TiO ₂ nanospheres for a high-performance formaldehyde gas sensor. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 6529-6537	13	8
372	Microscopic mechanism of unusual lattice thermal transport in TlInTe ₂ . <i>Npj Computational Materials</i> , 2021 , 7,	10.9	12
371	Enabling deeper learning on big data for materials informatics applications. <i>Scientific Reports</i> , 2021 , 11, 4244	4.9	6
370	Sn ₄ B ₁₂ Se ₁₂ [Q _x], Q = Se, Te, a B ₁₂ Cluster Tunnel Framework Hosting Neutral Chalcogen Chains. <i>Chemistry of Materials</i> , 2021 , 33, 1723-1730	9.6	3
369	Dissociation of GaSb in n-Type PbTe: off-Centered Gallium Atom and Weak Electron-Phonon Coupling Provide High Thermoelectric Performance. <i>Chemistry of Materials</i> , 2021 , 33, 1842-1851	9.6	11

368	Pressure-induced ferroelectric-like transition creates a polar metal in defect antiperovskites HgTeX (X = Cl, Br). <i>Nature Communications</i> , 2021 , 12, 1509	17.4	0
367	Crystal and Electronic Structures of Palladium Sesquichalcogenides. <i>Chemistry of Materials</i> , 2021 , 33, 2298-2306	9.6	1
366	Lithium Thiostannate Spinel: Air-Stable Cubic Semiconductors. <i>Chemistry of Materials</i> , 2021 , 33, 2080-2089	9.9	4
365	Mechanistic Studies of Two Divergent Synthesis Routes Forming the Heteroanionic BiOCuSe. <i>Journal of the American Chemical Society</i> , 2021 , 143, 12090-12099	16.4	1
364	OPTIMADE, an API for exchanging materials data. <i>Scientific Data</i> , 2021 , 8, 217	8.2	8
363	Vast Structural and Polymorphic Varieties of Semiconductors AM ₂ Q ₄ (A = K, Rb, Cs, Tl; M = Ga, In; M' = Ge, Sn; Q = S, Se). <i>Chemistry of Materials</i> , 2021 , 33, 6572-6583	9.6	3
362	First-principles Calculations of Bulk and Interfacial Thermodynamic Properties of the T1 phase in Al-Cu-Li alloys. <i>Scripta Materialia</i> , 2021 , 202, 114009	5.6	1
361	Ultralow Thermal Conductivity, Multiband Electronic Structure and High Thermoelectric Figure of Merit in TlCuSe. <i>Advanced Materials</i> , 2021 , 33, e2104908	24	5
360	Visualizing defect energetics. <i>Materials Horizons</i> , 2021 , 8, 1966-1975	14.4	1
359	Decreasing Structural Dimensionality of Double Perovskites for Phase Stabilization toward Efficient X-ray Detection.. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 61447-61453	9.5	4
358	High-Throughput Study of Lattice Thermal Conductivity in Binary Rocksalt and Zinc Blende Compounds Including Higher-Order Anharmonicity. <i>Physical Review X</i> , 2020 , 10,	9.1	17
357	Inverse Design of Ultralow Lattice Thermal Conductivity Materials via Materials Database Screening of Lone Pair Cation Coordination Environment. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 5577-5583	6.4	7
356	Na ₃ Zr ₂ Si ₂ PO ₁₂ : A Stable Na ⁺ -Ion Solid Electrolyte for Solid-State Batteries. <i>ACS Applied Energy Materials</i> , 2020 , 3, 7427-7437	6.1	31
355	Crystal structure and luminescence properties of lead-free metal halides (C ₆ H ₅ CH ₂ NH ₃) ₃ MBr ₆ (M = Bi and Sb). <i>Journal of Materials Chemistry C</i> , 2020 , 8, 7322-7329	7.1	28
354	Ultralow Thermal Conductivity and Thermoelectric Properties of Rb ₂ Bi ₈ Se ₁₃ . <i>Chemistry of Materials</i> , 2020 , 32, 3561-3569	9.6	14
353	Contrasting SnTe-NaSbTe and SnTe-NaBiTe Thermoelectric Alloys: High Performance Facilitated by Increased Cation Vacancies and Lattice Softening. <i>Journal of the American Chemical Society</i> , 2020 , 142, 12524-12535	16.4	21
352	The phase stability network of all inorganic materials. <i>Science Advances</i> , 2020 , 6, eaay5606	14.3	12
351	Particlelike Phonon Propagation Dominates Ultralow Lattice Thermal Conductivity in Crystalline Tl ₃ VSe ₄ . <i>Physical Review Letters</i> , 2020 , 124, 065901	7.4	41

350	Direct Visualization of Electric-Field-Induced Structural Dynamics in Monolayer Transition Metal Dichalcogenides. <i>ACS Nano</i> , 2020 , 14, 1569-1576	16.7	15
349	Fundamental Insights from a Single-Crystal Sodium Iridate Battery. <i>Advanced Energy Materials</i> , 2020 , 10, 1903128	21.8	7
348	CeTiO-A Promising Oxide for Solar Thermochemical Hydrogen Production. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 21521-21527	9.5	8
347	All-Inorganic Halide Perovskites as Potential Thermoelectric Materials: Dynamic Cation off-Centering Induces Ultralow Thermal Conductivity. <i>Journal of the American Chemical Society</i> , 2020 , 142, 9553-9563	16.4	64
346	Quasilinear dispersion in electronic band structure and high Seebeck coefficient in CuFeS ₂ -based thermoelectric materials. <i>Physical Review Materials</i> , 2020 , 4,	3.2	1
345	Developing an improved crystal graph convolutional neural network framework for accelerated materials discovery. <i>Physical Review Materials</i> , 2020 , 4,	3.2	43
344	Prediction of Li intercalation voltages in rechargeable battery cathode materials: Effects of exchange-correlation functional, van der Waals interactions, and Hubbard U. <i>Physical Review Materials</i> , 2020 , 4,	3.2	5
343	First-Principles-Assisted Structure Solution: Leveraging Density Functional Theory to Solve Experimentally Observed Crystal Structures 2020 , 2835-2848		
342	Violation of the Relationship in the Lattice Thermal Conductivity of MgSb with Locally Asymmetric Vibrations. <i>Research</i> , 2020 , 2020, 4589786	7.8	9
341	Topology of transition metal dichalcogenides: the case of the core-shell architecture. <i>Nanoscale</i> , 2020 , 12, 23897-23919	7.7	8
340	Discordant nature of Cd in PbSe: off-centering and core-shell nanoscale CdSe precipitates lead to high thermoelectric performance. <i>Energy and Environmental Science</i> , 2020 , 13, 200-211	35.4	36
339	Discordant nature of Cd in GeTe enhances phonon scattering and improves band convergence for high thermoelectric performance. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 1193-1204	13	49
338	Unraveling the Structure-Valence-Property Relationships in AMM ₃ Chalcogenides with Promising Thermoelectric Performance. <i>ACS Applied Energy Materials</i> , 2020 , 3, 2110-2119	6.1	7
337	Structural and magnetic analyses of the Fe _x Co _{1-x} TiSb alloy system: Fe _{0.5} Co _{0.5} TiSb as a prototypical half-Heusler compound. <i>Journal of Alloys and Compounds</i> , 2020 , 822, 153408	5.7	1
336	High-Performance Thermoelectrics from Cellular Nanostructured Sb ₂ Si ₂ Te ₆ . <i>Joule</i> , 2020 , 4, 159-175	27.8	55
335	Superior Oxygen Reduction Reaction on Phosphorus-Doped Carbon Dot/Graphene Aerogel for All-Solid-State Flexible Air Batteries. <i>Advanced Energy Materials</i> , 2020 , 10, 1902736	21.8	62
334	Synthesis of Metal-Capped Semiconductor Nanowires from Heterodimer Nanoparticle Catalysts. <i>Journal of the American Chemical Society</i> , 2020 , 142, 18324-18329	16.4	7
333	n-Doping of Quantum Dots by Lithium Ion Intercalation. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 36523-36529	9.5	2

332	Mixed-Valent Copper Chalcogenides: Tuning Structures and Electronic Properties Using Multiple Anions. <i>Chemistry of Materials</i> , 2020 , 32, 10146-10154	9.6	4
331	High Thermoelectric Performance in the New Cubic Semiconductor AgSnSbSe by High-Entropy Engineering. <i>Journal of the American Chemical Society</i> , 2020 , 142, 15187-15198	16.4	40
330	Favorable Redox Thermodynamics of SrTi _{0.5} Mn _{0.5} O ₃ in Solar Thermochemical Water Splitting. <i>Chemistry of Materials</i> , 2020 , 32, 9335-9346	9.6	18
329	Layered and Cubic Semiconductors Ga' (= K, Rb, Cs, Tl; ' = Ge, Sn; = S, Se) and High Third-Harmonic Generation. <i>Journal of the American Chemical Society</i> , 2020 , 142, 17730-17742	16.4	10
328	Ultralow thermal conductivity in diamondoid lattices: high thermoelectric performance in chalcopyrite Cu _{0.8+y} Ag _{0.2} In _{1-y} Te ₂ . <i>Energy and Environmental Science</i> , 2020 , 13, 3693-3705	35.4	19
327	Computational Discovery of Stable Heteroanionic Oxychalcogenides ABXO (A, B = Metals; X = S, Se, and Te) and Their Potential Applications. <i>Chemistry of Materials</i> , 2020 , 32, 8229-8242	9.6	6
326	Microscopic Mechanisms of Glasslike Lattice Thermal Transport in Cubic Cu ₁₂ Sb ₄ S ₁₃ Tetrahedrites. <i>Physical Review Letters</i> , 2020 , 125, 085901	7.4	19
325	Mechanistic insight of KBiQ (Q = S, Se) using panoramic synthesis towards synthesis-by-design. <i>Chemical Science</i> , 2020 , 12, 1378-1391	9.4	3
324	Lead-Free Broadband Orange-Emitting Zero-Dimensional Hybrid (PMA)InBr with Direct Band Gap. <i>Inorganic Chemistry</i> , 2019 , 58, 15602-15609	5.1	42
323	Shape regulation of high-index facet nanoparticles by dealloying. <i>Science</i> , 2019 , 365, 1159-1163	33.3	62
322	High Figure of Merit in Gallium-Doped Nanostructured n-Type PbTe-GeTe with Midgap States. <i>Journal of the American Chemical Society</i> , 2019 , 141, 16169-16177	16.4	44
321	Theoretical Analysis of the Galvanic Corrosion Behavior of Mg-Ge Binary Alloy. <i>Journal of the Electrochemical Society</i> , 2019 , 166, C421-C427	3.9	5
320	Antiferromagnetic Semiconductor BaFMnTe with Unique Mn Ordering and Red Photoluminescence. <i>Journal of the American Chemical Society</i> , 2019 , 141, 17421-17430	16.4	5
319	MoS ₂ -capped CuxS nanocrystals: a new heterostructured geometry of transition metal dichalcogenides for broadband optoelectronics. <i>Materials Horizons</i> , 2019 , 6, 587-594	14.4	13
318	Origin of Intrinsically Low Thermal Conductivity in Tl ₂ Te Thermoelectric Material: Correlations between Lattice Dynamics and Thermal Transport. <i>Journal of the American Chemical Society</i> , 2019 , 141, 10905-10914	16.4	29
317	Materials Informatics Approach to the Identification of One-Band Correlated Materials Analogous to the Cuprates. <i>Physical Review X</i> , 2019 , 9,	9.1	2
316	Phase Identification of the Layered Perovskite Ce SrMnO and Application for Solar Thermochemical Water Splitting. <i>Inorganic Chemistry</i> , 2019 , 58, 7705-7714	5.1	12
315	Double Half-Heuslers. <i>Joule</i> , 2019 , 3, 1226-1238	27.8	46

314	Ion Beam Induced Artifacts in Lead-Based Chalcogenides. <i>Microscopy and Microanalysis</i> , 2019 , 25, 831-839.5	6
313	Computational strategies for design and discovery of nanostructured thermoelectrics. <i>Npj Computational Materials</i> , 2019 , 5,	10.9 27
312	Network analysis of synthesizable materials discovery. <i>Nature Communications</i> , 2019 , 10, 2018	17.4 40
311	First-Principles-Assisted Structure Solution: Leveraging Density Functional Theory to Solve Experimentally Observed Crystal Structures 2019 , 1-14	
310	Interface and heterostructure design in polyelemental nanoparticles. <i>Science</i> , 2019 , 363, 959-964	33.3 116
309	Probing Electrochemically Induced Structural Evolution and Oxygen Redox Reactions in Layered Lithium Iridate. <i>Chemistry of Materials</i> , 2019 , 31, 4341-4352	9.6 20
308	Design Strategy for High-Performance Thermoelectric Materials: The Prediction of Electron-Doped KZrCuSe ₃ . <i>Chemistry of Materials</i> , 2019 , 31, 3018-3024	9.6 11
307	Enhancement of Thermoelectric Performance for n-Type PbS through Synergy of Gap State and Fermi Level Pinning. <i>Journal of the American Chemical Society</i> , 2019 , 141, 6403-6412	16.4 48
306	Dynamic imaging of crystalline defects in lithium-manganese oxide electrodes during electrochemical activation to high voltage. <i>Nature Communications</i> , 2019 , 10, 1692	17.4 39
305	Six Quaternary Chalcogenides of the Pavonite Homologous Series with Ultralow Lattice Thermal Conductivity. <i>Chemistry of Materials</i> , 2019 , 31, 3430-3439	9.6 12
304	A Natural 2D Heterostructure [PbSbS][Au Te] with Large Transverse Nonsaturating Negative Magnetoresistance and High Electron Mobility. <i>Journal of the American Chemical Society</i> , 2019 , 141, 7544-7553 ⁶	16.4 16
303	Enhanced Density-of-States Effective Mass and Strained Endotaxial Nanostructures in Sb-Doped PbCdTe Thermoelectric Alloys. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 9197-9204	9.5 46
302	Ion Beam Induced Artifacts in Lead Based Chalcogenides. <i>Microscopy and Microanalysis</i> , 2019 , 25, 2262-2263	20.5 1
301	Electronic Structure and Phase Stability of Yb-Filled CoSb ₃ Skutterudite Thermoelectrics from First-Principles. <i>Chemistry of Materials</i> , 2019 , 31, 6154-6162	9.6 12
300	IRNet 2019 ,	13
299	Ultralow Thermal Conductivity and High-Temperature Thermoelectric Performance in n-Type K ₂ Sb ₈ Bi ₈ Se ₁₄ . <i>Chemistry of Materials</i> , 2019 , 31, 5943-5952	9.6 15
298	Expanded lithiation of titanium disulfide: Reaction kinetics of multi-step conversion reaction. <i>Nano Energy</i> , 2019 , 63, 103882	17.1 14
297	High Thermoelectric Performance in PbSe _{1-x} Sn _x SbSe ₂ Alloys from Valence Band Convergence and Low Thermal Conductivity. <i>Advanced Energy Materials</i> , 2019 , 9, 1901377	21.8 42

296	Intrinsically Low Lattice Thermal Conductivity Derived from Rattler Cations in an AMM?Q3 Family of Chalcogenides. <i>Chemistry of Materials</i> , 2019 , 31, 8734-8741	9.6	15
295	A New Three-Dimensional Subulfide IrInS with Dirac Semimetal Behavior. <i>Journal of the American Chemical Society</i> , 2019 , 141, 19130-19137	16.4	17
294	Large Thermal Conductivity Drops in the Diamondoid Lattice of CuFeS by Discordant Atom Doping. <i>Journal of the American Chemical Society</i> , 2019 , 141, 18900-18909	16.4	33
293	Phase Stability and Ordering in Rock Salt-Based Thermoelectrics: NaSbX ₂ , AgSbX ₂ , and Their Alloys with PbX and SnX (X = S, Se, Te). <i>Chemistry of Materials</i> , 2019 , 31, 9445-9452	9.6	6
292	Leveraging electron-phonon interaction to enhance the thermoelectric power factor in graphene-like semimetals. <i>Physical Review B</i> , 2019 , 100,	3.3	2
291	Remarkable thermoelectric performance in BaPdS ₂ via pudding-mold band structure, band convergence, and ultralow lattice thermal conductivity. <i>Physical Review Materials</i> , 2019 , 3,	3.2	7
290	Computational evaluation of new lithium-3 garnets for lithium-ion battery applications as anodes, cathodes, and solid-state electrolytes. <i>Physical Review Materials</i> , 2019 , 3,	3.2	7
289	Ternary mixed-anion semiconductors with tunable band gaps from machine-learning and crystal structure prediction. <i>Physical Review Materials</i> , 2019 , 3,	3.2	5
288	High thermoelectric performance in BaAgYTe ₃ via low lattice thermal conductivity induced by bonding heterogeneity. <i>Physical Review Materials</i> , 2019 , 3,	3.2	15
287	Computational prediction of nanostructured alloys with enhanced thermoelectric properties. <i>Physical Review Materials</i> , 2019 , 3,	3.2	2
286	IrInS, a polar, metal-rich semiconducting subchalcogenide. <i>Chemical Science</i> , 2019 , 11, 870-878	9.4	6
285	Probing Strain-Induced Band Gap Modulation in 2D Hybrid Organic-Inorganic Perovskites. <i>ACS Energy Letters</i> , 2019 , 4, 796-802	20.1	34
284	All-Scale Hierarchically Structured p-Type PbSe Alloys with High Thermoelectric Performance Enabled by Improved Band Degeneracy. <i>Journal of the American Chemical Society</i> , 2019 , 141, 4480-4486	16.4	62
283	Designing chemical analogs to PbTe with intrinsic high band degeneracy and low lattice thermal conductivity. <i>Nature Communications</i> , 2019 , 10, 719	17.4	29
282	The Materials Research Platform: Defining the Requirements from User Stories. <i>Matter</i> , 2019 , 1, 1433-1437	13.7	13
281	Interfacial stability of γ /Al in Al-Cu alloys. <i>Scripta Materialia</i> , 2019 , 159, 99-103	5.6	24
280	Thermoelectric Material SnPbBiS: The L Member of Lillianite Homologous Series with Low Lattice Thermal Conductivity. <i>Inorganic Chemistry</i> , 2019 , 58, 1339-1348	5.1	4
279	High Thermoelectric Performance in the Wide Band-Gap AgGa _{1-x} Te ₂ Compounds: Directional Negative Thermal Expansion and Intrinsically Low Thermal Conductivity. <i>Advanced Functional Materials</i> , 2019 , 29, 1806534	15.6	32

278	High Thermoelectric Performance in Polycrystalline SnSe Via Dual-Doping with Ag/Na and Nanostructuring With Ag ₈ SnSe ₆ . <i>Advanced Energy Materials</i> , 2019 , 9, 1803072	21.8	64
277	Discovery of Calcium-Metal Alloy Anodes for Reversible Ca-Ion Batteries. <i>Advanced Energy Materials</i> , 2019 , 9, 1802994	21.8	38
276	Strain-Induced Metastable Phase Stabilization in GaO Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 5536-5543	9.5	25
275	Revealing molecular-level surface redox sites of controllably oxidized black phosphorus nanosheets. <i>Nature Materials</i> , 2019 , 18, 156-162	27	150
274	Inverse Band Structure Design via Materials Database Screening: Application to Square Planar Thermoelectrics. <i>Chemistry of Materials</i> , 2018 , 30, 1540-1546	9.6	20
273	Intrinsic Transport in 2D Heterostructures Mediated through h-BN Tunneling Contacts. <i>Nano Letters</i> , 2018 , 18, 2990-2998	11.5	30
272	Multistep Lithiation of Tin Sulfide: An Investigation Using in Situ Electron Microscopy. <i>ACS Nano</i> , 2018 , 12, 3638-3645	16.7	37
271	First-Principles Study of Lithium Cobalt Spinel Oxides: Correlating Structure and Electrochemistry. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 13479-13490	9.5	19
270	Accelerated discovery of metallic glasses through iteration of machine learning and high-throughput experiments. <i>Science Advances</i> , 2018 , 4, eaaq1566	14.3	237
269	Optically Active 1D MoS Nanobelts. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 6799-6804	9.5	19
268	High Thermoelectric Performance in SnTe/AgSbTe ₂ Alloys from Lattice Softening, Giant Phonon/Vacancy Scattering, and Valence Band Convergence. <i>ACS Energy Letters</i> , 2018 , 3, 705-712	20.1	90
267	Large-Scale Fabrication of MoS ₂ Ribbons and Their Light-Induced Electronic/Thermal Properties: Dichotomies in the Structural and Defect Engineering. <i>Advanced Functional Materials</i> , 2018 , 28, 1704863	15.6	21
266	Quaternary Pavanites A ₂ SnBiS (A = Li, Na): Site Occupancy Disorder Defines Electronic Structure. <i>Inorganic Chemistry</i> , 2018 , 57, 2260-2268	5.1	7
265	Rhombohedral to Cubic Conversion of GeTe via MnTe Alloying Leads to Ultralow Thermal Conductivity, Electronic Band Convergence, and High Thermoelectric Performance. <i>Journal of the American Chemical Society</i> , 2018 , 140, 2673-2686	16.4	206
264	First-principles study of crystal structure and stability of T1 precipitates in Al-Li-Cu alloys. <i>Acta Materialia</i> , 2018 , 145, 337-346	8.4	22
263	High thermoelectric performance in Bi _{0.46} Sb _{1.54} Te ₃ nanostructured with ZnTe. <i>Energy and Environmental Science</i> , 2018 , 11, 1520-1535	35.4	155
262	A valence balanced rule for discovery of 18-electron half-Heuslers with defects. <i>Energy and Environmental Science</i> , 2018 , 11, 1480-1488	35.4	68
261	Catalyst design by scanning probe block copolymer lithography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 3764-3769	11.5	28

260	Pd ₂ Se ₃ Monolayer: A Promising Two-Dimensional Thermoelectric Material with Ultralow Lattice Thermal Conductivity and High Power Factor. <i>Chemistry of Materials</i> , 2018 , 30, 5639-5647	9.6	64
259	Revealing the Effects of Electrode Crystallographic Orientation on Battery Electrochemistry via the Anisotropic Lithiation and Sodiation of ReS. <i>ACS Nano</i> , 2018 , 12, 7875-7882	16.7	21
258	Quaternary Chalcogenide Semiconductors with 2D Structures: RbZnBiSe and CsCdBiTe. <i>Inorganic Chemistry</i> , 2018 , 57, 9403-9411	5.1	7
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