

# Colossal barocaloric effects in plastic crystals

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Magnetocaloric effect as a signature of quantum level-crossing for a spin-gapped system. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 475802.	0.7	9
2	Tunable temperature dependence of electric-field-control multicaloric effects. <i>Journal of Alloys and Compounds</i> , 2019, 806, 1491-1496.	2.8	4
3	Plastic-crystalline solid-state electrolytes: Ionic conductivity and orientational dynamics in nitrile mixtures. <i>Journal of Chemical Physics</i> , 2019, 150, 244507.	1.2	13
4	Giant Reversible Barocaloric Effects in Nitrile Butadiene Rubber around Room Temperature. <i>ACS Applied Polymer Materials</i> , 2019, 1, 1991-1997.	2.0	16
5	Ratcheting up lipopolysaccharide transport. <i>Nature</i> , 2019, 567, 471-472.	13.7	15
6	Refrigeration based on plastic crystals. <i>Nature</i> , 2019, 567, 470-471.	13.7	12
7	Binary and Ternary Solid Solutions of Ionic Plastic Crystals, and Modulation of Plastic Phase Transitions. <i>Crystal Growth and Design</i> , 2019, 19, 6266-6273.	1.4	13
8	Structure-property correlation of poly(ethylene glycol) based form stable phase change materials with different crosslinking structure. <i>Solar Energy Materials and Solar Cells</i> , 2019, 203, 110192.	3.0	25
9	Colossal barocaloric effects near room temperature in plastic crystals of neopentylglycol. <i>Nature Communications</i> , 2019, 10, 1803.	5.8	144
10	Novel mechanocaloric materials for solid-state cooling applications. <i>Applied Physics Reviews</i> , 2019, 6, .	5.5	66
11	Multicaloric effect in a multiferroic composite of Gd <sub>5</sub> (Si,Ge) <sub>4</sub> microparticles embedded into a ferroelectric PVDF matrix. <i>Scientific Reports</i> , 2019, 9, 18308.	1.6	20
12	A large barocaloric effect associated with paramagnetic martensitic transformation in Co <sub>50</sub> Fe <sub>2.5</sub> V <sub>31.5</sub> Ga <sub>16</sub> quaternary Heusler alloy. <i>Scripta Materialia</i> , 2020, 177, 1-5.	2.6	26
13	Rational Design of Ceramic-Like Molecular Ferroelectric by Quasi-Spherical Theory. <i>Journal of the American Chemical Society</i> , 2020, 142, 1995-2000.	6.6	57
14	Reversible and irreversible colossal barocaloric effects in plastic crystals. <i>Journal of Materials Chemistry A</i> , 2020, 8, 639-647.	5.2	85
15	Extraordinarily Large Electrocaloric Strength of Metal-Free Perovskites. <i>Advanced Materials</i> , 2020, 32, e1906224.	11.1	43
16	Applications of CALPHAD (CALculation of PHase diagram) modeling in organic orientationally disordered phase change materials for thermal energy storage. <i>Thermochimica Acta</i> , 2020, 683, 178461.	1.2	15
17	Near-room-temperature reversible giant barocaloric effects in [(CH <sub>3</sub> ) <sub>3</sub> N] <sub>4</sub> Mn[N <sub>3</sub> ] <sub>3</sub> hybrid perovskite. <i>Materials Advances</i> , 2020, 1, 3167-3170.	2.6	27
18	Active magnetocaloric heat pipes provide enhanced specific power of caloric refrigeration. <i>Communications Physics</i> , 2020, 3, .	2.0	25

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19	Large room-temperature elastocaloric effect in a bulk polycrystalline Ni-Ti-Cu-Co alloy with low isothermal stress hysteresis. <i>Applied Materials Today</i> , 2020, 21, 100844.	2.3	13
20	Giant room-temperature barocaloric effect at the electronic phase transition in $\text{Ni}_{1-x}\text{Fe}_x\text{S}$ . <i>Materials Horizons</i> , 2020, 7, 2690-2695.	6.4	33
21	A large room-temperature entropy change in a new hybrid ferroelastic with an unconventional bond-switching mechanism. <i>Chemical Communications</i> , 2020, 56, 10054-10057.	2.2	31
22	The strong electrocaloric effect in molecular ferroelectric $\text{ImClO}_4$ with ultrahigh electrocaloric strength. <i>Journal of Materials Chemistry A</i> , 2020, 8, 16189-16194.	5.2	23
23	Harnessing molecular rotations in plastic crystals: a holistic view for crystal engineering of adaptive soft materials. <i>Chemical Society Reviews</i> , 2020, 49, 8878-8896.	18.7	132
24	Multicaloric effects in metamagnetic Heusler Ni-Mn-In under uniaxial stress and magnetic field. <i>Applied Physics Reviews</i> , 2020, 7, .	5.5	29
25	Five thermal energy grand challenges for decarbonization. <i>Nature Energy</i> , 2020, 5, 635-637.	19.8	137
26	Reversible barocaloric effects over a large temperature span in fullerite $\text{C}_{60}$ . <i>Journal of Materials Chemistry A</i> , 2020, 8, 20354-20362.	5.2	32
27	A cascade electrocaloric cooling device for large temperature lift. <i>Nature Energy</i> , 2020, 5, 996-1002.	19.8	103
28	Ion Conduction and Complicated Phase Transition Behaviors in an Organic Ion Plastic Crystal, [Tetra- <i>n</i> -butylammonium] $_{2}$ [Ni(maleonitriledithiolate) $_{2}$ ]. <i>Journal of Physical Chemistry C</i> , 2020, 124, 20722-20729.	1.5	9
29	Understanding colossal barocaloric effects in plastic crystals. <i>Nature Communications</i> , 2020, 11, 4190.	5.8	30
30	Giant mechanocaloric materials for solid-state cooling*. <i>Chinese Physics B</i> , 2020, 29, 076202.	0.7	8
32	Low-pressure-induced giant barocaloric effect in an all- <i>d</i> -metal Heusler $\text{Ni}_{35.5}\text{Co}_{14.5}\text{Mn}_{35}\text{Ti}_{15}$ magnetic shape memory alloy. <i>APL Materials</i> , 2020, 8, .	2.2	40
33	High electrocaloric effect in barium titanate-sodium niobate ceramics with core-shell grain assembly. <i>Journal of Materiomics</i> , 2020, 6, 618-627.	2.8	13
34	Low-temperature superelasticity and elastocaloric effect in textured Ni-Mn-Ga-Cu shape memory alloys. <i>Scripta Materialia</i> , 2020, 185, 56-60.	2.6	32
35	Supergiant Barocaloric Effects in Acetoxy Silicone Rubber over a Wide Temperature Range: Great Potential for Solid-state Cooling. <i>Chinese Journal of Polymer Science (English Edition)</i> , 2020, 38, 999-1005.	2.0	23
36	A Promising Phase Change Material with Record High Ionic Conductivity over a Wide Temperature Range of a Plastic Crystal Phase and Magnetic Thermal Memory Effect. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 28129-28138.	4.0	16
37	Coexistence of plastic and partially diffusive phases in a helium-methane compound. <i>National Science Review</i> , 2020, 7, 1540-1547.	4.6	33

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38	Unveiling the Origin of the Giant Barocaloric Effect in Natural Rubber. <i>Macromolecules</i> , 2020, 53, 2606-2615.	2.2	15
39	Revisiting thermal penetration depth for caloric cooling system. <i>Applied Thermal Engineering</i> , 2020, 178, 115605.	3.0	7
40	Long-term heat-storage ceramics absorbing thermal energy from hot water. <i>Science Advances</i> , 2020, 6, eaaz5264.	4.7	34
41	Neutron scattering study of the orientational disorder in potassium cyanide. <i>Journal of Physics Communications</i> , 2020, 4, 023001.	0.5	8
42	Metal-like Ductility in Organic Plastic Crystals: Role of Molecular Shape and Dihydrogen Bonding Interactions in Aminoboranes. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 10971-10980.	7.2	65
43	Metal-like Ductility in Organic Plastic Crystals: Role of Molecular Shape and Dihydrogen Bonding Interactions in Aminoboranes. <i>Angewandte Chemie</i> , 2020, 132, 11064-11073.	1.6	24
44	Enhanced barocaloric effect for Pd-In-Fe shape memory alloys with hydrostatic-pressure training. <i>Journal of Applied Physics</i> , 2020, 127, 055109.	1.1	2
45	Normal-to-topological insulator martensitic phase transition in group-IV monochalcogenides driven by light. <i>NPG Asia Materials</i> , 2020, 12, .	3.8	18
46	Large Enhancement of Magnetocaloric and Barocaloric Effects by Hydrostatic Pressure in $\text{La}(\text{Fe}_{0.92}\text{Co}_{0.08})_{11.9}\text{Si}_{1.1}$ with a $\text{NaZn}_{13}$ -Type Structure. <i>Chemistry of Materials</i> , 2020, 32, 1807-1818.	3.2	23
47	Simulated disordered-to-ordered phase transition of nonadecane. <i>Chemical Physics</i> , 2020, 532, 110697.	0.9	1
48	Large barocaloric effect in spin-crossover complex $[\text{Cr}(\text{depe})_2]$ . <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	11
49	High-pressure luminescence of monoclinic and triclinic $\text{GdBO}_3: \text{Eu}^{3+}$ . <i>Ceramics International</i> , 2020, 46, 26368-26376.	2.3	13
50	Plastic and Superionic Helium Ammonia Compounds under High Pressure and High Temperature. <i>Physical Review X</i> , 2020, 10, .	2.8	28
51	Microstructure and giant baro-caloric effect induced by low pressure in Heusler $\text{Co}_{51}\text{Fe}_{1}\text{V}_{33}\text{Ga}_{15}$ alloy undergoing martensitic transformation. <i>Journal of Materials Science and Technology</i> , 2021, 73, 76-82.	5.6	12
52	Impact of hysteresis on caloric cooling performance. <i>International Journal of Refrigeration</i> , 2021, 121, 302-312.	1.8	15
53	Numerical evaluation of a kilowatt-level rotary electrocaloric refrigeration system. <i>International Journal of Refrigeration</i> , 2021, 121, 279-288.	1.8	13
54	Recent progress in the piezoelectricity of molecular ferroelectrics. <i>Materials Chemistry Frontiers</i> , 2021, 5, 44-59.	3.2	43
55	Structural flexibility in crystalline coordination polymers: a journey along the underlying free energy landscape. <i>Dalton Transactions</i> , 2021, 50, 3759-3768.	1.6	12

#	ARTICLE	IF	CITATIONS
56	A novel enhanced performance thermal rectifier based on NPG functionalized carbon fibers. <i>Materials Advances</i> , 2021, 2, 5942-5954.	2.6	1
57	Theoretical Minimum Thermal Load in Buildings. <i>Joule</i> , 2021, 5, 24-46.	11.7	23
58	Elastocaloric heat pump with specific cooling power of $20.9 \text{ W/g}^{-1}$ exploiting snap-through instability and strain-induced crystallization. <i>Nature Energy</i> , 2021, 6, 260-267.	19.8	69
59	Advances and obstacles in pressure-driven solid-state cooling: A review of barocaloric materials. <i>MRS Energy &amp; Sustainability</i> , 2021, 8, 3.	1.3	21
60	Plastic/ferroelectric molecular crystals: Ferroelectric performance in bulk polycrystalline forms. <i>APL Materials</i> , 2021, 9, .	2.2	37
61	Giant and Reversible Barocaloric Effect in Trinuclear Spin-Crossover Complex $\text{Fe}_3(\text{bntz})_6(\text{tcnset})_6$ . <i>Advanced Materials</i> , 2021, 33, e2008076.	11.1	58
62	Transforming heat transfer with thermal metamaterials and devices. <i>Nature Reviews Materials</i> , 2021, 6, 488-507.	23.3	270
63	Colossal Barocaloric Effect by Large Latent Heat Produced by First-Order Intersite-Charge-Transfer Transition. <i>Advanced Functional Materials</i> , 2021, 31, 2009476.	7.8	21
64	Fantastic barocalorics and where to find them. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	34
65	Electrocaloric cooling over high device temperature span. <i>Joule</i> , 2021, 5, 780-793.	11.7	32
67	Thermo-hydraulic evaluation of oscillating-flow shell-and-tube-like regenerators for (elasto)caloric cooling. <i>Applied Thermal Engineering</i> , 2021, 190, 116842.	3.0	19
68	A Distinct Spin Structure and Giant Baromagnetic Effect in MnNiGe Compounds with Fe-Doping. <i>Journal of the American Chemical Society</i> , 2021, 143, 6798-6804.	6.6	6
70	Electroless plating Ni-P coatings on $\text{La}(\text{Fe}, \text{Si})_{13}$ hydride bulks for room-temperature magnetic-refrigeration application. <i>Journal of Magnetism and Magnetic Materials</i> , 2021, 525, 167685.	1.0	8
71	Refrigeration through Barocaloric Effect Using the Spin Crossover Complex $\{\text{Fe}[\text{H}_2\text{B}(\text{pz})_2]_2(\text{bipy})\}$ . <i>Physica Status Solidi (B): Basic Research</i> , 2021, 258, 2100108.	0.7	11
72	Colossal barocaloric effects in the complex hydride $\text{Li}_2\text{B}_{12}\text{H}_{12}$ . <i>Scientific Reports</i> , 2021, 11, 11915.	1.6	12
73	Reversible colossal barocaloric effects near room temperature in 1-X-adamantane (X=Cl, Br) plastic crystals. <i>Applied Materials Today</i> , 2021, 23, 101023.	2.3	33
74	A Direct Probe of the Hydrogen Bond Network in Aqueous Glycerol Aerosols. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 5503-5511.	2.1	18
75	High-energy X-ray diffraction study on phase transition asymmetry of plastic crystal neopentylglycol. <i>Chinese Physics B</i> , 0, , .	0.7	1

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76	Atomistic Insights into the Anisotropic and Low Thermal Conductivity in Neopentyl Glycol Crystals: A Molecular Dynamics Study. <i>Journal of Physical Chemistry C</i> , 2021, 125, 15853-15862.	1.5	6
77	Heat exchange law in caloric regenerators. <i>International Journal of Refrigeration</i> , 2021, 127, 174-179.	1.8	9
78	Low-pressure-induced large reversible barocaloric effect near room temperature in (MnNiGe)-(FeCoGe) alloys. <i>Scripta Materialia</i> , 2021, 200, 113908.	2.6	12
79	Polymer/Ceramic-based Dielectric Composites for Energy Storage and Conversion. <i>Energy and Environmental Materials</i> , 2022, 5, 486-514.	7.3	66
80	Giant room temperature elastocaloric effect in metal-free thin-film perovskites. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	9
81	Colossal Reversible Barocaloric Effects in Layered Hybrid Perovskite (C <sub>10</sub> H <sub>21</sub> NH <sub>3</sub> ) <sub>2</sub> MnCl <sub>4</sub> under Low Pressure Near Room Temperature. <i>Advanced Functional Materials</i> , 2021, 31, 2105154.	7.8	33
82	Elastocaloric cooling of shape memory alloys: A review. <i>Materials Today Communications</i> , 2021, 28, 102706.	0.9	31
83	Barocaloric properties of quaternary $Mn_3N_7$ for room-temperature refrigeration applications. <i>Physical Review B</i> , 2021, 104, .	1.1	7
84	Giant reversible barocaloric effect with low hysteresis in antiperovskite PdNMn <sub>3</sub> compound. <i>Scripta Materialia</i> , 2021, 203, 114049.	2.6	10
85	Large elastocaloric effect around room temperature in directionally solidified Co <sub>49</sub> Fe <sub>3</sub> V <sub>33</sub> Ga <sub>15</sub> superelastic alloy. <i>Journal of Alloys and Compounds</i> , 2021, 884, 161094.	2.8	11
86	Critical behavior of relaxor Pb <sub>0.91</sub> La <sub>0.09</sub> Zr <sub>0.65</sub> Ti <sub>0.35</sub> O <sub>3</sub> : Interplay between polar nano regions, electrocaloric and energy storage response. <i>Journal of Alloys and Compounds</i> , 2021, 884, 161067.	2.8	7
87	Phase-dependent dielectric properties and proton conduction of neopentyl glycol. <i>RSC Advances</i> , 2021, 11, 23228-23234.	1.7	2
88	Self-organized Bi-rich grain boundary precipitates for realizing steep magnetic-field-driven metamagnetic transition in Bi-doped Mn <sub>2</sub> Sb. <i>Acta Materialia</i> , 2020, 200, 835-847.	3.8	12
89	Solid-state cooling by stress: A perspective. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	43
90	Large barocaloric effects in thermoelectric superionic materials. <i>Physical Review Materials</i> , 2020, 4, .	0.9	19
91	Electro- and photon-induced cooling in BNT-BT-SBET relaxors with in situ optical temperature sensing. <i>Optics Letters</i> , 2020, 45, 2391.	1.7	5
92	Giant room temperature electrocaloric effect in a layered hybrid perovskite ferroelectric: [(CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> NH <sub>3</sub> ] <sub>2</sub> PbCl <sub>4</sub> . <i>Nature Communications</i> , 2021, 12, 5502.	5.8	44
93	Simple and Low-Cost Footstep Energy-Recover Barocaloric Heating and Cooling Device. <i>Materials</i> , 2021, 14, 5947.	1.3	6

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94	Pyrolysis of long chain hydrocarbon-based plastics via self-exothermic effects: The origin and influential factors of exothermic processes. <i>Journal of Hazardous Materials</i> , 2022, 424, 127476.	6.5	4
95	Dynamic tunability of phase-change material transition temperatures using ions for thermal energy storage. <i>Cell Reports Physical Science</i> , 2021, 2, 100613.	2.8	7
96	In Hot Pursuit of 21st Century Cooling. <i>Physics Magazine</i> , 0, 13, .	0.1	0
97	In-situ Neutron Scattering as a Grand Opportunity for Caloric Materials Research: A Case Study of Colossal Barocaloric Effects. <i>Hamon</i> , 2020, 30, 98-101.	0.0	0
98	Barocaloric and magnetocaloric effects in isostructurally alloyed (MnCoGe)-(CuCoSn) systems. <i>Journal of Magnetism and Magnetic Materials</i> , 2022, 543, 168639.	1.0	5
99	Achieving synergistic electromechanical and electrocaloric responses by local structural evolution in lead-free BNT-based relaxor ferroelectrics. <i>Chemical Engineering Journal</i> , 2022, 431, 133386.	6.6	13
100	Gate-tunable charge carrier electrocaloric effect in trilayer graphene. <i>Scientific Reports</i> , 2021, 11, 22000.	1.6	2
101	High comprehensive electrocaloric performance in barium titanate-based ceramics via integrating diffuse phase transition near room temperature and a high applied electric field. <i>Ceramics International</i> , 2022, 48, 6842-6849.	2.3	4
102	Giant barocaloric effects in natural graphite/polydimethylsiloxane rubber composites. <i>Journal of Materials Science</i> , 2022, 57, 311-323.	1.7	6
103	Dicyanamide-perovskites at the edge of dense hybrid organic-inorganic materials. <i>Coordination Chemistry Reviews</i> , 2022, 455, 214337.	9.5	10
104	Electrocaloric Coolers: A Review. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	39
105	Giant barocaloric effects in formamidinium iodide. <i>APL Materials</i> , 2022, 10, .	2.2	6
106	Development of magnetocaloric coordination polymers for low temperature cooling. <i>Dalton Transactions</i> , 2022, , .	1.6	13
107	Exploiting the paddle-wheel mechanism for the design of fast ion conductors. <i>Nature Reviews Materials</i> , 2022, 7, 389-405.	23.3	83
108	Solid-state cooling by elastocaloric polymer with uniform chain-lengths. <i>Nature Communications</i> , 2022, 13, 9.	5.8	33
109	Giant barocaloric effects with a wide refrigeration temperature range in ethylene vinyl acetate copolymers. <i>Materials Horizons</i> , 2022, 9, 1293-1298.	6.4	5
110	Colossal and reversible barocaloric effect in liquid-solid-transition materials n-alkanes. <i>Nature Communications</i> , 2022, 13, 596.	5.8	29
111	Magnetic properties and giant cryogenic magnetocaloric effect in B-site ordered antiferromagnetic Gd <sub>2</sub> MgTiO <sub>6</sub> double perovskite oxide. <i>Acta Materialia</i> , 2022, 226, 117669.	3.8	131

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112	Colossal Barocaloric Effect in Carboranes as a Performance Tradeoff. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	18
113	On the colossal barocaloric effect in higher <i>n</i> -alkanes. <i>Journal of Materials Chemistry A</i> , 2022, 10, 8344-8355.	5.2	9
114	Magnetic properties and promising magnetocaloric performances in the antiferromagnetic GdFe <sub>2</sub> Si <sub>2</sub> compound. <i>Science China Materials</i> , 2022, 65, 1345-1352.	3.5	116
115	Materials, physics and systems for multicaloric cooling. <i>Nature Reviews Materials</i> , 2022, 7, 633-652.	23.3	89
116	Mesophase Transitions in [(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> N][FeBrCl <sub>3</sub> ] and [(CH <sub>3</sub> ) <sub>4</sub> N][FeBrCl <sub>3</sub> ] Ferroic Plastic Crystals. <i>Chemistry of Materials</i> , 2022, 34, 2585-2598.	3.2	5
117	Discovery of Colossal Breathing-Caloric Effect under Low Applied Pressure in the Hybrid Organic-Inorganic MIL-53(Al) Material. <i>Chemistry of Materials</i> , 2022, 34, 3323-3332.	3.2	13
118	Plastic/Ferroelectric Crystals with Distorted Molecular Arrangement: Ferroelectricity in Bulk Polycrystalline Films through Lattice Reorientation. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	9
119	Giant mechanocaloric effect of nanoconfined water near room temperature. <i>Cell Reports Physical Science</i> , 2022, , 100822.	2.8	5
120	Martensitic Transformation and Barocaloric Effect in Co-V-Ga-Fe Paramagnetic Heusler Alloy. <i>Metals</i> , 2022, 12, 516.	1.0	4
121	Driving Barocaloric Effects in a Molecular Spin-Crossover Complex at Low Pressures. <i>Journal of the American Chemical Society</i> , 2022, 144, 6493-6503.	6.6	23
122	Large barocaloric effect in intermetallic La <sub>1.2</sub> Ce <sub>0.8</sub> Fe <sub>11</sub> Si <sub>2</sub> H <sub>1.86</sub> materials driven by low pressure. <i>NPG Asia Materials</i> , 2022, 14, .	3.8	6
123	Room-temperature elastocaloric effect in a bulk Ti <sub>49.2</sub> Ni <sub>40.8</sub> Cu <sub>10</sub> shape memory alloy. <i>Journal of Materials Science and Technology</i> , 2022, 117, 167-173.	3.8	17
124	Enhanced elastocaloric effect and refrigeration properties in a Si-doped Ni-Mn-In shape memory alloy. <i>Journal of Materials Science and Technology</i> , 2022, 117, 167-173.	5.6	8
125	Temperature-Reliant Dynamic Properties and Elasto-Plastic to Plastic Crystal (Rotator) Phase Transition in a Metal Oxyacid Salt. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	1
126	Temperature-Reliant Dynamic Properties and Elasto-Plastic to Plastic Crystal (Rotator) Phase Transition in a Metal Oxyacid Salt. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	16
127	High-entropy polymer produces a giant electrocaloric effect at low fields. <i>Nature</i> , 2021, 600, 664-669.	13.7	121
128	Elastocaloric Kirigami Temperature Modulator. <i>Advanced Functional Materials</i> , 0, , 2201116.	7.8	6
129	Reversible colossal barocaloric effect dominated by disordering of organic chains in (CH <sub>3</sub> ) <sub>2</sub> NH <sub>2</sub> ·2MnCl <sub>4</sub> single crystals. <i>NPG Asia Materials</i> , 2022, 14, .	3.8	7



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130	Recent progress in the development of RE <sub>2</sub> TMTM <sup>TM</sup> O <sub>6</sub> double perovskite oxides for cryogenic magnetic refrigeration. <i>Journal of Materials Science and Technology</i> , 2023, 136, 1-12.	5.6	97
131	Engineering Plastic Phase Transitions via Solid Solutions: The Case of "Reordering Frustration" in Ionic Plastic Crystals of Hydroxyquinuclidinium Salts. <i>Molecular Systems Design and Engineering</i> , 0, , .	1.7	1
132	Development of a hybrid piston cylinder cell for quasielastic neutron scattering experiments up to 1â€¦GPa. <i>High Pressure Research</i> , 0, , 1-10.	0.4	0
133	Exact results for interacting hard rigid rotors on a d-dimensional lattice. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2022, 2022, 043204.	0.9	6
134	Ultrasensitive barocaloric material for room-temperature solid-state refrigeration. <i>Nature Communications</i> , 2022, 13, 2293.	5.8	23
135	CO <sub>2</sub> â€nduced Melting and Solvation Reconfiguration of Phaseâ€Change Electrolyte. <i>Advanced Materials</i> , 2022, 34, e2202869.	11.1	4
136	Colossal barocaloric effects with ultralow hysteresis in two-dimensional metalâ€halide perovskites. <i>Nature Communications</i> , 2022, 13, 2536.	5.8	22
137	Atomic-scale insights into the colossal barocaloric effects of neopentyl glycol plastic crystals. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	6
138	Progress on nuclear analysis techniques. , 2022, 1, 100007.		1
139	Emerging Solidâ€toâ€Solid Phaseâ€Change Materials for Thermalâ€Energy Harvesting, Storage, and Utilization. <i>Advanced Materials</i> , 2022, 34, .	11.1	59
140	Secondary-field boosted caloric effect associated with first-order phase transition, a quasi-direct measurement. <i>Scripta Materialia</i> , 2022, 218, 114836.	2.6	0
141	Barocaloric Properties of Thermoplastic Elastomers. <i>Frontiers in Energy Research</i> , 0, 10, .	1.2	3
142	Cooling through barocaloric effect: A review of the state of the art up to 2022. <i>Thermal Science and Engineering Progress</i> , 2022, 33, 101380.	1.3	14
143	Roomâ€Temperature Colossal Elastocaloric Effects in Threeâ€Dimensional Graphene Architectures: An Atomistic Study. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	10
144	Giant barocaloric effect in neopentylglycol-graphene nanosheets composites with large thermal conductivity. <i>Materials Research Letters</i> , 2022, 10, 675-681.	4.1	5
145	Electronic structure, magnetic properties and magnetocaloric performance in rare earths (RE) based RE <sub>2</sub> BaZnO <sub>5</sub> (RE=Agd, Dy, Ho, and Er) compounds. <i>Acta Materialia</i> , 2022, 236, 118114.	3.8	68
146	Excellent magnetocaloric performance in the carbide compounds RE <sub>2</sub> Cr <sub>2</sub> C <sub>3</sub> (RE = Er, Ho, and Dy) and their composites. <i>Materials Today Physics</i> , 2022, 27, 100786.	2.9	35
147	An overview on the use of additives and preparation procedure in phase change materials for thermal energy storage with a focus on long term applications. <i>Journal of Energy Storage</i> , 2022, 53, 105140.	3.9	28

#	ARTICLE	IF	CITATIONS
148	Elastic properties related energy conversions of coordination polymers and metal-organic frameworks. <i>Coordination Chemistry Reviews</i> , 2022, 470, 214692.	9.5	17
149	Probing hydrogen-bond networks in plastic crystals with terahertz and infrared spectroscopy. <i>Cell Reports Physical Science</i> , 2022, , 100988.	2.8	1
150	Pressure dependence of rotational dynamics in barocaloric ammonium sulfate. <i>Physical Review B</i> , 2022, 106, .	1.1	2
151	Continuous-Flow Synthesis of Perfluoroalkyl Ketones via Perfluoroalkylation of Esters Using HFC-23 and HFC-125 under a KHMDS-Triglyme System. <i>Bulletin of the Chemical Society of Japan</i> , 2022, 95, 1396-1406.	2.0	3
152	Magnetic and structural entropy contributions to the multicaloric effects in Ni-Mn-Ga-Cu. <i>Physical Review Materials</i> , 2022, 6, .	0.9	4
153	Polycrystalline Shape-Memory Alloy and Strain Glass. <i>Materials Horizons</i> , 2022, , 287-303.	0.3	1
154	Resonant phonon modes induced by molecular rotations in $\hat{\pm}$ -pentaerythritol crystals. <i>Journal of Materials Chemistry C</i> , 2022, 10, 14431-14438.	2.7	2
155	Cooling with cork: envisaging its giant compressive mechanocaloric effect for solid-state cooling devices. <i>Journal of Materials Science</i> , 2022, 57, 17700-17710.	1.7	1
156	Sequence of phase transitions in a model of interacting rods. <i>Physical Review E</i> , 2022, 106, .	0.8	5
157	Thermodynamics of elastocaloric cooling and heat pump cycles. <i>Applied Thermal Engineering</i> , 2023, 219, 119540.	3.0	10
158	Colossal barocaloric effects in adamantane derivatives for thermal management. <i>APL Materials</i> , 2022, 10, .	2.2	6
159	Polymer elastomer near plastic-to-rubber critical transition produces enhanced elastocaloric effects. <i>Cell Reports Physical Science</i> , 2022, 3, 101147.	2.8	2
160	On the barocaloric properties of non-magnetic materials: application to $K_{2}TaF_{7}$ and AgI. <i>Physica Scripta</i> , 2022, 97, 125708.	1.2	1
161	Probing Phase Transitions in Organic Crystals Using Atomistic MD Simulations. <i>ACS Physical Chemistry Au</i> , 2023, 3, 84-93.	1.9	6
162	Numerical simulation of a foam regenerator for elastocaloric cooling. <i>Applied Thermal Engineering</i> , 2023, 221, 119819.	3.0	2
163	Additive manufactured thermoplastic elastomers for low-stress driven elastocaloric cooling. <i>Applied Materials Today</i> , 2023, 30, 101711.	2.3	5
164	The effect of defect and substitution on barocaloric performance of neopentylglycol plastic crystals. <i>Applied Physics Letters</i> , 2022, 121, .	1.5	5
165	lonocaloric refrigeration cycle. <i>Science</i> , 2022, 378, 1344-1348.	6.0	11

#	ARTICLE	IF	CITATIONS
166	Colossal barocaloric effect achieved by exploiting the amorphous high entropy of solidified polyethylene glycol. <i>NPG Asia Materials</i> , 2022, 14, .	3.8	3
167	Ferroelectric Ionic Molecular Crystals with Significant Plasticity and a Low Melting Point: High Performance in Hot-Pressed Polycrystalline Plates and Melt-Grown Crystalline Sheets. <i>Angewandte Chemie</i> , 2023, 135, .	1.6	0
168	Ferroelectric Ionic Molecular Crystals with Significant Plasticity and a Low Melting Point: High Performance in Hot-Pressed Polycrystalline Plates and Melt-Grown Crystalline Sheets. <i>Angewandte Chemie - International Edition</i> , 2023, 62, .	7.2	5
169	Giant caloric effects in charge-spin-lattice coupled transition-metal oxides. <i>Journal of Materials Chemistry A</i> , 2023, 11, 12695-12702.	5.2	3
170	A colossal barocaloric effect induced by the creation of a high-pressure phase. <i>Materials Horizons</i> , 2023, 10, 977-982.	6.4	5
171	Barocaloric effect in neopentylglycol plastic crystal: A theoretical study. <i>Acta Materialia</i> , 2023, 246, 118657.	3.8	2
172	Electrocaloric cooling-From materials to devices. <i>Journal of Applied Physics</i> , 2022, 132, .	1.1	5
173	Machine learning assisted investigation of the barocaloric performance in ammonium iodide. <i>Applied Physics Letters</i> , 2023, 122, .	1.5	6
174	Dynamics in the ordered and disordered phases of barocaloric adamantane. <i>Physical Chemistry Chemical Physics</i> , 2023, 25, 9282-9293.	1.3	3
175	Tailoring Grain Size and Precipitation via Aging for Improved Elastocaloric Stability in a Cold-Rolled (Ni,Cu)-Rich Ti-Ni-Cu Alloy. <i>Shape Memory and Superelasticity</i> , 2023, 9, 334-344.	1.1	1
177	Thermal batteries based on inverse barocaloric effects. <i>Science Advances</i> , 2023, 9, .	4.7	7
178	Conversion of Polyethylene to High-Yield Fuel Oil at Low Temperatures and Atmospheric Initial Pressure. <i>International Journal of Environmental Research and Public Health</i> , 2023, 20, 4048.	1.2	0
179	Rotational Dynamics of Discoid Colloidal Particles in Attractive Quasi-Two-Dimensional Plastic Crystals. <i>Journal of Physical Chemistry Letters</i> , 2023, 14, 2402-2409.	2.1	0
180	First-principles-based simulation of the electrocaloric effect. , 2023, , 63-91.		0
181	Phase transition regulation and caloric effect. <i>Frontiers in Energy</i> , 0, , .	1.2	1
182	Improving barocaloric properties by tailoring transition hysteresis in $Mn_{3-x}Cu_{1-x}Sn_xN$ antiperovskites. <i>JPhys Energy</i> , 2023, 5, 024018.	2.3	0
183	Thermodynamic Analysis on the Performance of Barocaloric Refrigeration Systems Using Neopentyl Glycol as the Refrigerant. <i>Journal of Thermal Science</i> , 2023, 32, 1063-1073.	0.9	5
184	Near-continuous isotropic-nematic transition in compressed rod-like liquid crystal based nanocolloid. <i>Journal of Molecular Liquids</i> , 2023, 382, 121844.	2.3	1

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191	Classical Molecular Dynamics Simulation of Molecular Crystals and Materials: Old Lessons and New Perspectives. , 2024, , 777-803.		1
193	Statistical Mechanical Model of the Giant Electrocaloric Effect in Ferroelectric Polymers. ACS Macro Letters, 0, , 848-853.	2.3	0
194	Optically-Controlled Variable-Temperature Storage and Upgrade of Thermal Energy by Photoswitchable Phase Change Materials. , 2023, 5, 2019-2027.		6
220	Low-pressure-induced large barocaloric effect in MnAs <sub>0.94</sub> Sb <sub>0.06</sub> alloy around room temperature. Rare Metals, 2023, 42, 3977-3984.	3.6	2