

# Progress in triboelectric nanogenerators as a new energy sensors

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Wearable Fall Detector using Integrated Sensors and Energy Devices. Scientific Reports, 2015, 5, 17081.	1.6	74
2	One-Step Fabrication of Transparent and Flexible Nanotopographical Triboelectric Nanogenerators via Thermal Nanoimprinting of Thermoplastic Fluoropolymers. Advanced Materials, 2015, 27, 7386-7394.	11.1	66
3	Foldable and portable triboelectric-electromagnetic generator for scavenging motion energy and as a sensitive gas flow sensor for detecting breath personality. Nanotechnology, 2015, 26, 475402.	1.3	15
4	Structural Optimization of Triboelectric Nanogenerator for Harvesting Water Wave Energy. ACS Nano, 2015, 9, 12562-12572.	7.3	192
5	Self-powered transparent flexible graphene microheaters. Nano Energy, 2015, 17, 356-365.	8.2	42
6	Automatic Mode Transition Enabled Robust Triboelectric Nanogenerators. ACS Nano, 2015, 9, 12334-12343.	7.3	111
7	Two-dimensional rotary triboelectric nanogenerator as a portable and wearable power source for electronics. Nano Energy, 2015, 17, 10-16.	8.2	78
8	Highly Transparent and Flexible Triboelectric Nanogenerators with Subwavelength-Architected Polydimethylsiloxane by a Nanoporous Anodic Aluminum Oxide Template. ACS Applied Materials & Interfaces, 2015, 7, 20520-20529.	4.0	83
9	Wearable and Implantable Mechanical Energy Harvesters for Self-Powered Biomedical Systems. ACS Nano, 2015, 9, 7742-7745.	7.3	132
10	Shape memory polymer-based self-healing triboelectric nanogenerator. Energy and Environmental Science, 2015, 8, 3605-3613.	15.6	210
11	Recent Progress in Triboelectric Nanogenerators as a Renewable and Sustainable Power Source. Journal of Nanomaterials, 2016, 2016, 1-24.	1.5	53
12	Energy harvesting from human motion: materials and techniques. Chemical Society Reviews, 2016, 45, 5455-5473.	18.7	117
13	Theoretical Study of Cellular Piezoelectret Generators. Advanced Functional Materials, 2016, 26, 1964-1974.	7.8	58
14	Self-Powered Electrochemical Synthesis of Polypyrrole from the Pulsed Output of a Triboelectric Nanogenerator as a Sustainable Energy System. Advanced Functional Materials, 2016, 26, 3542-3548.	7.8	87
15	Asymmetrical Triboelectric Nanogenerator with Controllable Direct Electrostatic Discharge. Advanced Functional Materials, 2016, 26, 5524-5533.	7.8	43
16	Flexible Nanogenerators for Energy Harvesting and Self-Powered Electronics. Advanced Materials, 2016, 28, 4283-4305.	11.1	1,438
17	Single-Step Fluorocarbon Plasma Treatment-Induced Wrinkle Structure for High-Performance Triboelectric Nanogenerator. Small, 2016, 12, 229-236.	5.2	134
18	Pursuing prosthetic electronic skin. Nature Materials, 2016, 15, 937-950.	13.3	1,821

#	ARTICLE	IF	CITATIONS
19	Lawn Structured Triboelectric Nanogenerators for Scavenging Sweeping Wind Energy on Rooftops. <i>Advanced Materials</i> , 2016, 28, 1650-1656.	11.1	334
20	Fully Packaged Self-Powered Triboelectric Pressure Sensor Using Hemispheres Array. <i>Advanced Energy Materials</i> , 2016, 6, 1502566.	10.2	212
21	Stretchable and Waterproof Self-Charging Power System for Harvesting Energy from Diverse Deformation and Powering Wearable Electronics. <i>ACS Nano</i> , 2016, 10, 6519-6525.	7.3	182
22	A Triboelectric-Based Artificial Basilar Membrane to Mimic Cochlear Tonotopy. <i>Advanced Healthcare Materials</i> , 2016, 5, 2481-2487.	3.9	62
23	A Waterproof Triboelectric-Electromagnetic Hybrid Generator for Energy Harvesting in Harsh Environments. <i>Advanced Energy Materials</i> , 2016, 6, 1501593.	10.2	243
24	Towards autonomous microscale systems: Progress in electrostatic kinetic energy harvesting. , 2016, , .		0
25	Energy harvest-power MEMS devices for future sensor network society: Stochastic resonance meets TENG device. , 2016, , .		3
26	Electrically conductive fabric based stretchable triboelectric energy harvester. <i>Journal of Physics: Conference Series</i> , 2016, 773, 012005.	0.3	6
27	Biodegradable triboelectric nanogenerator as a life-time designed implantable power source. <i>Science Advances</i> , 2016, 2, e1501478.	4.7	461
28	Rotating-Disk-Based Hybridized Electromagnetic-Triboelectric Nanogenerator for Sustainably Powering Wireless Traffic Volume Sensors. <i>ACS Nano</i> , 2016, 10, 6241-6247.	7.3	277
29	A highly sensitive pressure sensor using conductive composite elastomers with wavy structures. <i>Proceedings of SPIE</i> , 2016, , .	0.8	0
30	Controlled synthesis of Se-supported Au/Pd nanoparticles with photo-assisted electrocatalytic activity and their application in self-powered sensing systems. <i>Nano Energy</i> , 2016, 22, 564-571.	8.2	39
31	Paper-Based Triboelectric Nanogenerators Made of Stretchable Interlocking Kirigami Patterns. <i>ACS Nano</i> , 2016, 10, 4652-4659.	7.3	197
32	Harvesting Low-Frequency (<5 Hz) Irregular Mechanical Energy: A Possible Killer Application of Triboelectric Nanogenerator. <i>ACS Nano</i> , 2016, 10, 4797-4805.	7.3	606
33	Triboelectrification. <i>Green Energy and Technology</i> , 2016, , 1-19.	0.4	12
34	Self-powered SensingSelf-Powered Sensing for Human-Machine InterfaceHuman-Machine Interface. <i>Green Energy and Technology</i> , 2016, , 401-429.	0.4	1
35	Self-powered Sensing for Vibration and Biomedical Monitoring. <i>Green Energy and Technology</i> , 2016, , 431-454.	0.4	2
36	Triboelectric Nanogenerator: Freestanding Triboelectric-Layer Mode. <i>Green Energy and Technology</i> , 2016, , 109-153.	0.4	15

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37	Ergonomically designed replaceable and multifunctional triboelectric nanogenerator for a uniform contact. RSC Advances, 2016, 6, 88526-88530.	1.7	21
38	Self-powered triboelectric aptasensor for label-free highly specific thrombin detection. Nano Energy, 2016, 30, 77-83.	8.2	35
39	Liquid-skin contact triboelectrification and its use in self-powered nanosensor for detecting organics in water. Nano Energy, 2016, 30, 321-329.	8.2	81
40	Energy Harvesters for Wearable and Stretchable Electronics: From Flexibility to Stretchability. Advanced Materials, 2016, 28, 9881-9919.	11.1	407
41	Electric Eel-Inspired Mechanically Durable and Super-Stretchable Nanogenerator for Deformable Power Source and Fully Autonomous Conformable Electronics Applications. Advanced Materials, 2016, 28, 10024-10032.	11.1	273
42	Design of simulation experiments to predict triboelectric generator output using structural parameters. Simulation Modelling Practice and Theory, 2016, 68, 95-107.	2.2	22
43	Wind energy and blue energy harvesting based on magnetic-assisted noncontact triboelectric nanogenerator. Nano Energy, 2016, 30, 36-42.	8.2	111
44	Conducting polymer PPy nanowire-based triboelectric nanogenerator and its application for self-powered electrochemical cathodic protection. Chemical Science, 2016, 7, 6477-6483.	3.7	94
45	A dual-electrolyte based air-breathing regenerative microfluidic fuel cell with 1.76 V open-circuit-voltage and 0.74 V water-splitting voltage. Nano Energy, 2016, 27, 619-626.	8.2	52
46	Hydrothermally Processed Photosensitive Field-Effect Transistor Based on ZnO Nanorod Networks. Journal of Electronic Materials, 2016, 45, 5606-5611.	1.0	7
47	A flexible field-limited ordered ZnO nanorod-based self-powered tactile sensor array for electronic skin. Nanoscale, 2016, 8, 16302-16306.	2.8	76
48	Double-induced-mode integrated triboelectric nanogenerator based on spring steel to maximize space utilization. Nano Research, 2016, 9, 3355-3363.	5.8	32
49	Figure-of-Merit for Rolling-Friction-Based Triboelectric Nanogenerators. Advanced Materials Technologies, 2016, 1, 1600017.	3.0	34
50	Triboelectric Nanogenerators Driven Self-Powered Electrochemical Processes for Energy and Environmental Science. Advanced Energy Materials, 2016, 6, 1600665.	10.2	394
51	Triboelectric Nanogenerator: Lateral Sliding Mode. Green Energy and Technology, 2016, , 49-90.	0.4	20
52	Self-powered Sensing for Chemical and Environmental Detection. Green Energy and Technology, 2016, , 469-489.	0.4	0
53	Surface charge self-recovering electret film for wearable energy conversion in a harsh environment. Energy and Environmental Science, 2016, 9, 3085-3091.	15.6	106
54	Harvesting Large-Scale Blue Energy. Green Energy and Technology, 2016, , 283-306.	0.4	3

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55	Fully Packaged Blue Energy Harvester by Hybridizing a Rolling Triboelectric Nanogenerator and an Electromagnetic Generator. ACS Nano, 2016, 10, 11369-11376.	7.3	181
56	High-Performance Flexible Thermoelectric Power Generator Using Laser Multiscanning Lift-Off Process. ACS Nano, 2016, 10, 10851-10857.	7.3	199
57	3D Carbon Electrode Based Triboelectric Nanogenerator. Advanced Materials Technologies, 2016, 1, 1600160.	3.0	16
58	Cylindrical Water Triboelectric Nanogenerator via Controlling Geometrical Shape of Anodized Aluminum for Enhanced Electrostatic Induction. ACS Applied Materials & Interfaces, 2016, 8, 25014-25018.	4.0	40
59	Effect of contact- and sliding-mode electrification on nanoscale charge transfer for energy harvesting. Nano Research, 2016, 9, 3705-3713.	5.8	33
60	Electrochemical oxidation degradation of azobenzene dye self-powered by multilayer-linkage triboelectric nanogenerator. Nano Energy, 2016, 30, 52-58.	8.2	27
61	A self-powered vibration sensor based on electrospun poly(vinylidene fluoride) nanofibres with enhanced piezoelectric response. Smart Materials and Structures, 2016, 25, 105010.	1.8	33
62	Conformal, graphene-based triboelectric nanogenerator for self-powered wearable electronics. Nano Energy, 2016, 27, 298-305.	8.2	152
63	Self-Powered Safety Helmet Based on Hybridized Nanogenerator for Emergency. ACS Nano, 2016, 10, 7874-7881.	7.3	179
64	Wearable Powerâ€Textiles by Integrating Fabric Triboelectric Nanogenerators and Fiberâ€Shaped Dyeâ€Sensitized Solar Cells. Advanced Energy Materials, 2016, 6, 1601048.	10.2	266
65	Triboelectric driven turbine to generate electricity from the motion of water. Nano Energy, 2016, 30, 379-386.	8.2	58
66	Environmentally friendly power generator based on moving liquid dielectric and double layer effect. Scientific Reports, 2016, 6, 26708.	1.6	20
67	Large Scale Triboelectric Nanogenerator and Self-Powered Pressure Sensor Array Using Low Cost Roll-to-Roll UV Embossing. Scientific Reports, 2016, 6, 22253.	1.6	111
68	Hydrophobic SiO <sub>2</sub> Electret Enhances the Performance of Poly(vinylidene fluoride) Nanofiber-Based Triboelectric Nanogenerator. Journal of Physical Chemistry C, 2016, 120, 26600-26608.	1.5	31
69	Improving the Working Efficiency of a Triboelectric Nanogenerator by the Semimetallic PEDOT:PSS Hole Transport Layer and Its Application in Self-Powered Active Acetylene Gas Sensing. ACS Applied Materials & Interfaces, 2016, 8, 30079-30089.	4.0	60
70	One-Piece Triboelectric Nanosensor for Self-Triggered Alarm System and Latent Fingerprint Detection. ACS Nano, 2016, 10, 10366-10372.	7.3	108
71	Self-powered textile for wearable electronics by hybridizing fiber-shaped nanogenerators, solar cells, and supercapacitors. Science Advances, 2016, 2, e1600097.	4.7	705
72	Effective energy storage from a triboelectric nanogenerator. Nature Communications, 2016, 7, 10987.	5.8	407

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73	A highly shape-adaptive, stretchable design based on conductive liquid for energy harvesting and self-powered biomechanical monitoring. <i>Science Advances</i> , 2016, 2, e1501624.	4.7	274
74	Cotton-textile-enabled flexible self-sustaining power packs via roll-to-roll fabrication. <i>Nature Communications</i> , 2016, 7, 11586.	5.8	282
75	Sustainably powering wearable electronics solely by biomechanical energy. <i>Nature Communications</i> , 2016, 7, 12744.	5.8	483
76	Micro-cable structured textile for simultaneously harvesting solar and mechanical energy. <i>Nature Energy</i> , 2016, 1, .	19.8	879
77	Hybrid Energy Cell with Hierarchical Nano/Micro-Architected Polymer Film to Harvest Mechanical, Solar, and Wind Energies Individually/Simultaneously. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 30165-30175.	4.0	46
78	Fully casted soft power generating triboelectric shoe insole. <i>Journal of Physics: Conference Series</i> , 2016, 773, 012097.	0.3	8
79	All-Plastic Materials Based Self-Charging Power System Composed of Triboelectric Nanogenerators and Supercapacitors. <i>Advanced Functional Materials</i> , 2016, 26, 1070-1076.	7.8	190
80	Outputting Olfactory Bionic Electric Impulse by PANI/PTFE/PANI Sandwich Nanostructures and their Application as Flexible, Smelling Electronic Skin. <i>Advanced Functional Materials</i> , 2016, 26, 3128-3138.	7.8	102
81	A Packaged Self-Powered System with Universal Connectors Based on Hybridized Nanogenerators. <i>Advanced Materials</i> , 2016, 28, 846-852.	11.1	103
82	Triboelectrification-Enabled Self-Powered Detection and Removal of Heavy Metal Ions in Wastewater. <i>Advanced Materials</i> , 2016, 28, 2983-2991.	11.1	204
83	NanodrÄhte in Chemo- und Biosensoren: aktueller Stand und Fahrplan fÄ¼r die Zukunft. <i>Angewandte Chemie</i> , 2016, 128, 1286-1302.	1.6	10
84	Nanowire Chemical/Biological Sensors: Status and a Roadmap for the Future. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 1266-1281.	7.2	237
85	<i>In Vivo</i> Self-Powered Wireless Cardiac Monitoring <i>via</i> Implantable Triboelectric Nanogenerator. <i>ACS Nano</i> , 2016, 10, 6510-6518.	7.3	342
86	Segmented wind energy harvester based on contact-electrification and as a self-powered flow rate sensor. <i>Chemical Physics Letters</i> , 2016, 653, 96-100.	1.2	23
87	Wearable Electricity Generators Fabricated Utilizing Transparent Electronic Textiles Based on Polyester/Ag Nanowires/Graphene Core-Shell Nanocomposites. <i>ACS Nano</i> , 2016, 10, 6449-6457.	7.3	202
88	Efficient Scavenging of Solar and Wind Energies in a Smart City. <i>ACS Nano</i> , 2016, 10, 5696-5700.	7.3	193
89	Harvesting Broad Frequency Band Blue Energy by a Triboelectric-Electromagnetic Hybrid Nanogenerator. <i>ACS Nano</i> , 2016, 10, 6526-6534.	7.3	244
90	A self-powered active hydrogen sensor based on a high-performance triboelectric nanogenerator using a wrinkle-micropatterned PDMS film. <i>RSC Advances</i> , 2016, 6, 63030-63036.	1.7	32

#	ARTICLE	IF	CITATIONS
91	Magnetic-Assisted Noncontact Triboelectric Nanogenerator Converting Mechanical Energy into Electricity and Light Emissions. <i>Advanced Materials</i> , 2016, 28, 2744-2751.	11.1	138
92	A Triboelectric Sponge Fabricated from a Cube Sugar Template by 3D Soft Lithography for Superhydrophobicity and Elasticity. <i>Advanced Electronic Materials</i> , 2016, 2, 1500331.	2.6	70
93	Kinematic design for high performance triboelectric nanogenerators with enhanced working frequency. <i>Nano Energy</i> , 2016, 21, 19-25.	8.2	40
94	Conductive Fabric-Based Stretchable Hybridized Nanogenerator for Scavenging Biomechanical Energy. <i>ACS Nano</i> , 2016, 10, 4728-4734.	7.3	78
95	Self-Powered Analogue Smart Skin. <i>ACS Nano</i> , 2016, 10, 4083-4091.	7.3	153
96	Flexible Organic Tribotronic Transistor Memory for a Visible and Wearable Touch Monitoring System. <i>Advanced Materials</i> , 2016, 28, 106-110.	11.1	98
97	Self-powered flat panel displays enabled by motion-driven alternating current electroluminescence. <i>Nano Energy</i> , 2016, 20, 48-56.	8.2	43
98	A promising cathode for Li-ion batteries: $\text{Li}_3\text{V}_2(\text{PO}_4)_3$ . <i>Energy Storage Materials</i> , 2016, 4, 15-58.	9.5	129
99	Multilayer wavy-structured robust triboelectric nanogenerator for harvesting water wave energy. <i>Nano Energy</i> , 2016, 22, 87-94.	8.2	154
100	A three-dimensional integrated nanogenerator for effectively harvesting sound energy from the environment. <i>Nanoscale</i> , 2016, 8, 4938-4944.	2.8	70
101	Electromechanical behavior of a pendulum-based piezoelectric frequency up-converting energy harvester. <i>Journal of Sound and Vibration</i> , 2016, 370, 280-305.	2.1	54
102	High-efficiency ramie fiber degumming and self-powered degumming wastewater treatment using triboelectric nanogenerator. <i>Nano Energy</i> , 2016, 22, 548-557.	8.2	132
103	Chemical modification of polymer surfaces for advanced triboelectric nanogenerator development. <i>Extreme Mechanics Letters</i> , 2016, 9, 514-530.	2.0	160
104	Triboelectric Nanogenerator Based on the Internal Motion of Powder with a Package Structure Design. <i>ACS Nano</i> , 2016, 10, 1017-1024.	7.3	53
105	Micro/nanostructured surfaces for self-powered and multifunctional electronic skins. <i>Journal of Materials Chemistry B</i> , 2016, 4, 2999-3018.	2.9	116
106	Reduced graphene-oxide acting as electron-trapping sites in the friction layer for giant triboelectric enhancement. <i>Nano Energy</i> , 2017, 32, 542-550.	8.2	163
107	Breath Figure Micromolding Approach for Regulating the Microstructures of Polymeric Films for Triboelectric Nanogenerators. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 4988-4997.	4.0	62
108	A washable, stretchable, and self-powered human-machine interfacing Triboelectric nanogenerator for wireless communications and soft robotics pressure sensor arrays. <i>Extreme Mechanics Letters</i> , 2017, 13, 25-35.	2.0	78

#	ARTICLE	IF	CITATIONS
109	Bacterial Nano-Cellulose Triboelectric Nanogenerator. <i>Nano Energy</i> , 2017, 33, 130-137.	8.2	214
110	On Maxwell's displacement current for energy and sensors: the origin of nanogenerators. <i>Materials Today</i> , 2017, 20, 74-82.	8.3	1,473
111	Self-Sterilized Flexible Single-Electrode Triboelectric Nanogenerator for Energy Harvesting and Dynamic Force Sensing. <i>ACS Nano</i> , 2017, 11, 856-864.	7.3	135
112	Self-Powered Electrochemical Oxidation of 4-Aminoazobenzene Driven by a Triboelectric Nanogenerator. <i>ACS Nano</i> , 2017, 11, 770-778.	7.3	53
113	Triboelectric Nanogenerators Based on Fluorinated Wasted Rubber Powder for Self-Powering Application. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 1957-1964.	3.2	53
114	Self-powered artificial electronic skin for high-resolution pressure sensing. <i>Nano Energy</i> , 2017, 32, 389-396.	8.2	125
115	Pencil-ing a triboelectric nanogenerator on paper for autonomous power MEMS applications. <i>Nano Energy</i> , 2017, 33, 393-401.	8.2	125
116	Wide-ranging impact-competent self-powered active sensor using a stacked corrugated-core sandwich-structured robust triboelectric nanogenerator. <i>Sensors and Actuators B: Chemical</i> , 2017, 245, 1-10.	4.0	31
117	Fabrication of the flexible nanogenerator from BTO nanopowders on graphene coated PMMA substrates by sol-gel method. <i>Materials Chemistry and Physics</i> , 2017, 192, 274-281.	2.0	24
118	A fully-packaged and robust hybridized generator for harvesting vertical rotation energy in broad frequency band and building up self-powered wireless systems. <i>Nano Energy</i> , 2017, 33, 508-514.	8.2	63
119	Self-powered wireless smart patch for healthcare monitoring. <i>Nano Energy</i> , 2017, 32, 479-487.	8.2	90
120	Magnetically levitated-triboelectric nanogenerator as a self-powered vibration monitoring sensor. <i>Nano Energy</i> , 2017, 33, 88-97.	8.2	58
121	Comb-shaped electrode-based triboelectric nanogenerators for bi-directional mechanical energy harvesting. <i>Microelectronic Engineering</i> , 2017, 174, 46-51.	1.1	9
122	Environmental life cycle assessment and techno-economic analysis of triboelectric nanogenerators. <i>Energy and Environmental Science</i> , 2017, 10, 653-671.	15.6	130
123	Sustainable Energy Source for Wearable Electronics Based on Multilayer Elastomeric Triboelectric Nanogenerators. <i>Advanced Energy Materials</i> , 2017, 7, 1602832.	10.2	129
124	Evolutionary trend analysis of nanogenerator research based on a novel perspective of phased bibliographic coupling. <i>Nano Energy</i> , 2017, 34, 93-102.	8.2	80
125	Transparent, Flexible Piezoelectric Nanogenerator Based on GaN Membrane Using Electrochemical Lift-Off. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 10637-10642.	4.0	57
126	Chemical Electrostatics. , 2017, , .		17



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127	Service Behavior of Multifunctional Triboelectric Nanogenerators. <i>Advanced Materials</i> , 2017, 29, 1606703.	11.1	106
128	MEMS/NEMS-Enabled Vibrational Energy Harvesting for Self-Powered and Wearable Electronics. , 2017, , 271-297.		1
129	Triboelectric nanogenerators for sensitive nano-coulomb molecular mass spectrometry. <i>Nature Nanotechnology</i> , 2017, 12, 481-487.	15.6	254
130	Electrostatic/triboelectric hybrid power generator using folded electrets. , 2017, , .		5
131	Triboelectrification driven fin-fact (flip-flop actuated channel transistor) for security application. , 2017, , .		1
132	Triboelectrification based active sensor for liquid flow and bubble detecting. , 2017, , .		1
133	Triboelectric energy harvester using frequency up-conversion to generate from extremely low frequency strain inputs. , 2017, , .		1
134	Broadband Energy Harvester Using Non-linear Polymer Spring and Electromagnetic/Triboelectric Hybrid Mechanism. <i>Scientific Reports</i> , 2017, 7, 41396.	1.6	95
135	Enhanced performance of ZnO microballoon arrays for a triboelectric nanogenerator. <i>Nanotechnology</i> , 2017, 28, 135401.	1.3	31
136	Emerging applications driving innovations in gas sensing. <i>Sensor Review</i> , 2017, 37, 118-126.	1.0	4
137	Transfer-printable micropatterned fluoropolymer-based triboelectric nanogenerator. <i>Nano Energy</i> , 2017, 36, 126-133.	8.2	58
138	High performance lithium-sulfur batteries for storing pulsed energy generated by triboelectric nanogenerators. <i>Scientific Reports</i> , 2017, 7, 425.	1.6	11
139	Crumpled Graphene Triboelectric Nanogenerators: Smaller Devices with Higher Output Performance. <i>Advanced Materials Technologies</i> , 2017, 2, 1700044.	3.0	78
140	Research Update: Nanogenerators for self-powered autonomous wireless sensors. <i>APL Materials</i> , 2017, 5, .	2.2	43
141	High Performance Triboelectric Nanogenerators Based on Solid Polymer Electrolytes with Asymmetric Pairing of Ions. <i>Advanced Energy Materials</i> , 2017, 7, 1700289.	10.2	129
142	Auxetic Foam-Based Contact-Mode Triboelectric Nanogenerator with Highly Sensitive Self-Powered Strain Sensing Capabilities to Monitor Human Body Movement. <i>Advanced Functional Materials</i> , 2017, 27, 1606695.	7.8	156
143	Progress in triboelectric nanogenerators as self-powered smart sensors. <i>Journal of Materials Research</i> , 2017, 32, 1628-1646.	1.2	150
144	Nanogenerators for Self-Powered Gas Sensing. <i>Nano-Micro Letters</i> , 2017, 9, 45.	14.4	119

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145	Spontaneous occurrence of liquid-solid contact electrification in nature: Toward a robust triboelectric nanogenerator inspired by the natural lotus leaf. <i>Nano Energy</i> , 2017, 36, 250-259.	8.2	159
146	A triboelectric charge top-gated graphene transistor. <i>Diamond and Related Materials</i> , 2017, 73, 33-38.	1.8	9
147	A transparent and biocompatible single-friction-surface triboelectric and piezoelectric generator and body movement sensor. <i>Journal of Materials Chemistry A</i> , 2017, 5, 1176-1183.	5.2	76
148	From triboelectric nanogenerator to self-powered smart floor: A minimalist design. <i>Nano Energy</i> , 2017, 39, 192-199.	8.2	46
149	Chemically Functionalized Natural Cellulose Materials for Effective Triboelectric Nanogenerator Development. <i>Advanced Functional Materials</i> , 2017, 27, 1700794.	7.8	223
150	3D printed noise-cancelling triboelectric nanogenerator. <i>Nano Energy</i> , 2017, 38, 377-384.	8.2	41
151	Recent Progress on Integrated Energy Conversion and Storage Systems. <i>Advanced Science</i> , 2017, 4, 1700104.	5.6	162
152	Flexible PET/EVA-based piezoelectret generator for energy harvesting in harsh environments. <i>Nano Energy</i> , 2017, 37, 268-274.	8.2	69
153	Portable triboelectric based wind energy harvester for low power applications. <i>European Physical Journal Plus</i> , 2017, 132, 1.	1.2	14
154	Self-powered pressure sensor for ultra-wide range pressure detection. <i>Nano Research</i> , 2017, 10, 3557-3570.	5.8	117
155	Energy Harvesting from the Animal/Human Body for Self-Powered Electronics. <i>Annual Review of Biomedical Engineering</i> , 2017, 19, 85-108.	5.7	285
156	Direct transfer of wafer-scale graphene films. <i>2D Materials</i> , 2017, 4, 035004.	2.0	29
157	A Self-Powered Dynamic Displacement Monitoring System Based on Triboelectric Accelerometer. <i>Advanced Energy Materials</i> , 2017, 7, 1700565.	10.2	117
158	Hourglass Triboelectric Nanogenerator as a "Direct Current" Power Source. <i>Advanced Energy Materials</i> , 2017, 7, 1700644.	10.2	34
159	Supramolecular-Assembled Nanoporous Film with Switchable Metal Salts for a Triboelectric Nanogenerator. <i>Advanced Functional Materials</i> , 2017, 27, 1701367.	7.8	24
160	All flexible electrospun papers based self-charging power system. <i>Nano Energy</i> , 2017, 38, 210-217.	8.2	97
161	Lignin biopolymer based triboelectric nanogenerators. <i>APL Materials</i> , 2017, 5, .	2.2	54
162	Convenient preparation of nitrogen-doped activated carbon from <i>Macadamia</i> nutshell and its application in supercapacitor. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 13880-13887.	1.1	27

#	ARTICLE	IF	CITATIONS
163	A multi-dielectric-layered triboelectric nanogenerator as energized by corona discharge. <i>Nanoscale</i> , 2017, 9, 9668-9675.	2.8	73
164	High efficiency power management and charge boosting strategy for a triboelectric nanogenerator. <i>Nano Energy</i> , 2017, 38, 438-446.	8.2	174
165	Facile and robust triboelectric nanogenerators assembled using off-the-shelf materials. <i>Nano Energy</i> , 2017, 35, 263-270.	8.2	42
166	Magnetic force driven noncontact electromagnetic-triboelectric hybrid nanogenerator for scavenging biomechanical energy. <i>Nano Energy</i> , 2017, 35, 233-241.	8.2	102
167	Research Update: Materials design of implantable nanogenerators for biomechanical energy harvesting. <i>APL Materials</i> , 2017, 5, .	2.2	68
168	Remarkable increase in triboelectrification by enhancing the conformable contact and adhesion energy with a film-covered pillar structure. <i>Nano Energy</i> , 2017, 34, 233-241.	8.2	33
169	Multi-responsive supercapacitors: Smart solution to store electrical energy. <i>Materials Today Energy</i> , 2017, 4, 41-57.	2.5	39
170	A cross-functional nanostructured platform based on carbon nanotube-Si hybrid junctions: where photon harvesting meets gas sensing. <i>Scientific Reports</i> , 2017, 7, 44413.	1.6	10
171	Direct-laser-patterned friction layer for the output enhancement of a triboelectric nanogenerator. <i>Nano Energy</i> , 2017, 35, 379-386.	8.2	86
172	Self-sustaining water-motion sensor platform for continuous monitoring of frequency and amplitude dynamics. <i>Nano Energy</i> , 2017, 35, 179-188.	8.2	8
173	Light-concentrated solar generator and sensor based on flexible thin-film thermoelectric device. <i>Nano Energy</i> , 2017, 34, 463-471.	8.2	69
174	A flat-panel-shaped hybrid piezo/triboelectric nanogenerator for ambient energy harvesting. <i>Nanotechnology</i> , 2017, 28, 175402.	1.3	42
175	Self-Powered Electrostatic Actuation Systems for Manipulating the Movement of both Microfluid and Solid Objects by Using Triboelectric Nanogenerator. <i>Advanced Functional Materials</i> , 2017, 27, 1606408.	7.8	90
176	Nanogenerators: An emerging technology towards nanoenergy. <i>APL Materials</i> , 2017, 5, .	2.2	164
177	Tribogenerators. , 2017, , 157-168.		0
178	A self-powered acceleration sensor with flexible materials based on triboelectric effect. <i>Nano Energy</i> , 2017, 31, 469-477.	8.2	64
179	Multilayered flexible nanocomposite for hybrid nanogenerator enabled by conjunction of piezoelectricity and triboelectricity. <i>Nano Research</i> , 2017, 10, 785-793.	5.8	50
180	Self-Powered Wireless Sensor Node Enabled by a Duck-Shaped Triboelectric Nanogenerator for Harvesting Water Wave Energy. <i>Advanced Energy Materials</i> , 2017, 7, 1601705.	10.2	198

#	ARTICLE	IF	CITATIONS
181	A composite generator film impregnated with cellulose nanocrystals for enhanced triboelectric performance. <i>Nanoscale</i> , 2017, 9, 1428-1433.	2.8	67
182	A spring-based resonance coupling for hugely enhancing the performance of triboelectric nanogenerators for harvesting low-frequency vibration energy. <i>Nano Energy</i> , 2017, 32, 287-293.	8.2	164
183	Spring-assisted triboelectric nanogenerator for efficiently harvesting water wave energy. <i>Nano Energy</i> , 2017, 31, 560-567.	8.2	181
184	A Highly Stretchable Fiber-Based Triboelectric Nanogenerator for Self-Powered Wearable Electronics. <i>Advanced Functional Materials</i> , 2017, 27, 1604378.	7.8	296
185	A hybridized electromagnetic-triboelectric self-powered sensor for traffic monitoring: concept, modelling, and optimization. <i>Nano Energy</i> , 2017, 32, 105-116.	8.2	87
186	Inductively-coupled-plasma-induced electret enhancement for triboelectric nanogenerators. <i>Nanotechnology</i> , 2017, 28, 035405.	1.3	21
187	Nanopillar-array architected PDMS-based triboelectric nanogenerator integrated with a windmill model for effective wind energy harvesting. <i>Nano Energy</i> , 2017, 42, 269-281.	8.2	136
188	Recent Progress of Self-Powered Sensing Systems for Wearable Electronics. <i>Small</i> , 2017, 13, 1701791.	5.2	223
189	Fully Stretchable Textile Triboelectric Nanogenerator with Knitted Fabric Structures. <i>ACS Nano</i> , 2017, 11, 10733-10741.	7.3	191
190	Nanophotonic-Engineered Photothermal Harnessing for Waste Heat Management and Pyroelectric Generation. <i>ACS Nano</i> , 2017, 11, 10568-10574.	7.3	75
191	Reviving Vibration Energy Harvesting and Self-Powered Sensing by a Triboelectric Nanogenerator. <i>Joule</i> , 2017, 1, 480-521.	11.7	748
192	Energy Device Applications of Synthesized 1D Polymer Nanomaterials. <i>Small</i> , 2017, 13, 1701820.	5.2	38
193	Self-Powered Nanocomposites under an External Rotating Magnetic Field for Noninvasive External Power Supply Electrical Stimulation. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 38323-38335.	4.0	15
194	Surface structural analysis of a friction layer for a triboelectric nanogenerator. <i>Nano Energy</i> , 2017, 42, 34-42.	8.2	89
195	Wearable triboelectric nanogenerator using a plasma-etched PDMS-CNT composite for a physical activity sensor. <i>RSC Advances</i> , 2017, 7, 48368-48373.	1.7	81
196	Fully self-healing and shape-tailorable triboelectric nanogenerators based on healable polymer and magnetic-assisted electrode. <i>Nano Energy</i> , 2017, 40, 399-407.	8.2	113
197	Flexible transparent high-voltage diodes for energy management in wearable electronics. <i>Nano Energy</i> , 2017, 40, 289-299.	8.2	41
198	Universal Nature-Inspired Coatings for Preparing Noncharging Surfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 32220-32226.	4.0	25

#	ARTICLE	IF	CITATIONS
199	Eye motion triggered self-powered mechnosensational communication system using triboelectric nanogenerator. <i>Science Advances</i> , 2017, 3, e1700694.	4.7	491
200	A Highly Stretchable and Washable All-Yarn-Based Self-Charging Knitting Power Textile Composed of Fiber Triboelectric Nanogenerators and Supercapacitors. <i>ACS Nano</i> , 2017, 11, 9490-9499.	7.3	419
201	Implanting a solid Li-ion battery into a triboelectric nanogenerator for simultaneously scavenging and storing wind energy. <i>Nano Energy</i> , 2017, 41, 210-216.	8.2	42
202	Size effect on the output of a miniaturized triboelectric nanogenerator based on superimposed electrode layers. <i>Nano Energy</i> , 2017, 41, 128-138.	8.2	34
203	Improved triboelectrification effect by bendable and slidable fish-scale-like microstructures. <i>Nano Energy</i> , 2017, 40, 646-654.	8.2	37
204	Self-powered Real-time Movement Monitoring Sensor Using Triboelectric Nanogenerator Technology. <i>Scientific Reports</i> , 2017, 7, 10521.	1.6	77
205	Biomimetic Artificial Basilar Membranes for Next-Generation Cochlear Implants. <i>Advanced Healthcare Materials</i> , 2017, 6, 1700674.	3.9	24
206	Pump drill: A superb device for converting translational motion into high-speed rotation. <i>Extreme Mechanics Letters</i> , 2017, 16, 56-63.	2.0	6
207	A triboelectric generator based on self-poled Nylon-11 nanowires fabricated by gas-flow assisted template wetting. <i>Energy and Environmental Science</i> , 2017, 10, 2180-2189.	15.6	91
208	A transparent silk-fibroin-based triboelectric microgenerator for airflow energy harvesting. , 2017, , .		1
209	Ultrasensitive triboelectric nanogenerator for weak ambient energy with rational unipolar stacking structure and low-loss power management. <i>Nano Energy</i> , 2017, 41, 351-358.	8.2	19
210	Wearable All-Fabric-Based Triboelectric Generator for Water Energy Harvesting. <i>Advanced Energy Materials</i> , 2017, 7, 1701243.	10.2	220
211	Highly Transparent, Stretchable, and Self-Healing Ionic-Skin Triboelectric Nanogenerators for Energy Harvesting and Touch Applications. <i>Advanced Materials</i> , 2017, 29, 1702181.	11.1	322
212	Smart Floor with Integrated Triboelectric Nanogenerator As Energy Harvester and Motion Sensor. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 26126-26133.	4.0	78
213	Identification of Droplet-Flow-Induced Electric Energy on Electrolyte-Insulator-Semiconductor Structure. <i>Journal of the American Chemical Society</i> , 2017, 139, 10968-10971.	6.6	56
214	Multifunctional power unit by hybridizing contact-separate triboelectric nanogenerator, electromagnetic generator and solar cell for harvesting blue energy. <i>Nano Energy</i> , 2017, 39, 608-615.	8.2	117
215	Achieving ultrahigh triboelectric charge density for efficient energy harvesting. <i>Nature Communications</i> , 2017, 8, 88.	5.8	495
216	Fully casted stretchable triboelectric device for fully energy harvesting and sensing made of elastomeric materials. , 2017, , .		0

#	ARTICLE	IF	CITATIONS
217	An aeroelastic flutter based triboelectric nanogenerator as a self-powered active wind speed sensor in harsh environment. <i>Extreme Mechanics Letters</i> , 2017, 15, 122-129.	2.0	123
218	Solid-liquid triboelectrification in smart U-tube for multifunctional sensors. <i>Nano Energy</i> , 2017, 40, 95-106.	8.2	88
219	Self-powered triboelectric nanogenerator buoy ball for applications ranging from environment monitoring to water wave energy farm. <i>Nano Energy</i> , 2017, 40, 203-213.	8.2	153
220	Triboelectric Nanogenerator Enabled Body Sensor Network for Self-Powered Human Heart-Rate Monitoring. <i>ACS Nano</i> , 2017, 11, 8830-8837.	7.3	400
221	A wearable, fibroid, self-powered active kinematic sensor based on stretchable sheath-core structural triboelectric fibers. <i>Nano Energy</i> , 2017, 39, 673-683.	8.2	71
222	3D Orthogonal Woven Triboelectric Nanogenerator for Effective Biomechanical Energy Harvesting and as Self-Powered Active Motion Sensors. <i>Advanced Materials</i> , 2017, 29, 1702648.	11.1	321
223	Optimization principles and the figure of merit for triboelectric generators. <i>Science Advances</i> , 2017, 3, eaap8576.	4.7	133
224	Highly stretchable fiber-based single-electrode triboelectric nanogenerator for wearable devices. <i>RSC Advances</i> , 2017, 7, 54829-54834.	1.7	62
225	Theory of energy harvesting from heartbeat including the effects of pleural cavity and respiration. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017, 473, 20170615.	1.0	7
226	Analysis on characteristics of contact-area-dependent electric energy induced by ion sorption at solid-liquid interface. <i>Nano Energy</i> , 2017, 42, 257-261.	8.2	16
227	An innovative electro-fenton degradation system self-powered by triboelectric nanogenerator using biomass-derived carbon materials as cathode catalyst. <i>Nano Energy</i> , 2017, 42, 314-321.	8.2	71
228	Toward the blue energy dream by triboelectric nanogenerator networks. <i>Nano Energy</i> , 2017, 39, 9-23.	8.2	913
229	Topochemical transformation of two-dimensional single crystalline $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ to $\text{BaTiO}_3$ platelets from $\text{Na}_{0.5}\text{Bi}_{4.5}\text{Ti}_{15}\text{O}_{15}$ precursors and their piezoelectricity. <i>Journal of Materials Chemistry A</i> , 2017, 5, 15780-15788.	5.2	8
230	Triboelectric charge generation by semiconducting $\text{SnO}_2$ film grown by atomic layer deposition. <i>Electronic Materials Letters</i> , 2017, 13, 318-323.	1.0	6
231	Integrated hybrid nanogenerator for gas energy recycle and purification. <i>Nano Energy</i> , 2017, 39, 524-531.	8.2	39
232	An ultrathin paper-based self-powered system for portable electronics and wireless human-machine interaction. <i>Nano Energy</i> , 2017, 39, 328-336.	8.2	134
233	Single-Thread-Based Wearable and Highly Stretchable Triboelectric Nanogenerators and Their Applications in Cloth-Based Self-Powered Human-Interactive and Biomedical Sensing. <i>Advanced Functional Materials</i> , 2017, 27, 1604462.	7.8	327
234	Ultra-Stable Electret Nanogenerator to Scavenge High-Speed Rotational Energy for Self-Powered Electronics. <i>Advanced Materials Technologies</i> , 2017, 2, 1600233.	3.0	22

#	ARTICLE	IF	CITATIONS
235	An Ultrathin Flexible Single-Electrode Triboelectric Nanogenerator for Mechanical Energy Harvesting and Instantaneous Force Sensing. <i>Advanced Energy Materials</i> , 2017, 7, 1601255.	10.2	168
236	Worm structure piezoelectric energy harvester using ionotropic gelation of barium titanate-calcium alginate composite. <i>Energy</i> , 2017, 118, 1146-1155.	4.5	28
237	Integrated triboelectric nanogenerator array based on air-driven membrane structures for water wave energy harvesting. <i>Nano Energy</i> , 2017, 31, 351-358.	8.2	162
238	Ferrofluid-based triboelectric-electromagnetic hybrid generator for sensitive and sustainable vibration energy harvesting. <i>Nano Energy</i> , 2017, 31, 233-238.	8.2	127
239	Environmentally Friendly Hydrogel-Based Triboelectric Nanogenerators for Versatile Energy Harvesting and Self-Powered Sensors. <i>Advanced Energy Materials</i> , 2017, 7, 1601529.	10.2	212
240	Theory of gel expansion to generate electrical energy. <i>Europhysics Letters</i> , 2017, 120, 46002.	0.7	3
241	Triboelectric nanogenerator based on vertical contact separation mode for energy harvesting. , 2017, , .		5
242	Demonstration of double electrode vertical-sliding triboelectric generator. , 2017, , .		2
243	Reversible and Continuously Tunable Control of Charge of Close Surfaces. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 6142-6147.	2.1	9
244	Explore the Dynamics of an Emerging Technology through Research Networks: The Case Study of Triboelectric Nanogenerator. , 2017, , .		1
245	Computational investigation of material combinations in triboelectric generators. , 2017, , .		2
246	Soft Triboelectric Band for Sensing of and Energy Scavenging From Body Motion. <i>Proceedings (mdpi)</i> , 2017, 1, .	0.2	1
247	Nanoscale static voltage generation and its surface potential decay using scanning probe microscopy. <i>Micro and Nano Letters</i> , 2017, 12, 928-933.	0.6	3
248	Catch wave power in floating nets. <i>Nature</i> , 2017, 542, 159-160.	13.7	524
249	Electrodeposition of Pt-Ru Alloy Electrocatalysts for Direct Methanol Fuel Cell. <i>International Journal of Electrochemical Science</i> , 2017, 12, 2485-2494.	0.5	10
250	3D Printed Materials Based Triboelectric Device for Energy Harvesting and Sensing. <i>Proceedings (mdpi)</i> , 2017, 1, .	0.2	8
251	Water Energy Harvesting and Self-Powered Visible Light Communication Based on Triboelectric Nanogenerator. <i>Energy Technology</i> , 2018, 6, 1929-1934.	1.8	16
252	Self-powered versatile shoes based on hybrid nanogenerators. <i>Nano Research</i> , 2018, 11, 3972-3978.	5.8	45

#	ARTICLE	IF	CITATIONS
253	Replica molding-based nanopatterning of tribocharge on elastomer with application to electrohydrodynamic nanolithography. <i>Nature Communications</i> , 2018, 9, 974.	5.8	23
254	Suppressing self-discharge of supercapacitors via electrorheological effect of liquid crystals. <i>Nano Energy</i> , 2018, 47, 43-50.	8.2	183
255	Triboelectric-Nanogenerator-Based Soft Energy-Harvesting Skin Enabled by Toughly Bonded Elastomer/Hydrogel Hybrids. <i>ACS Nano</i> , 2018, 12, 2818-2826.	7.3	245
256	Materials and Wearable Devices for Autonomous Monitoring of Physiological Markers. <i>Advanced Materials</i> , 2018, 30, e1705024.	11.1	145
257	All-in-one self-powered flexible microsystems based on triboelectric nanogenerators. <i>Nano Energy</i> , 2018, 47, 410-426.	8.2	249
258	An electromagnetic rotational energy harvester using sprung eccentric rotor, driven by pseudo-walking motion. <i>Applied Energy</i> , 2018, 217, 66-74.	5.1	169
259	Metal-free, flexible triboelectric generator based on MWCNT mesh film and PDMS layers. <i>Applied Surface Science</i> , 2018, 442, 693-699.	3.1	33
260	Triboelectric nanogenerator as a new technology for effective PM2.5 removing with zero ozone emission. <i>Progress in Natural Science: Materials International</i> , 2018, 28, 99-112.	1.8	37
261	Impedance Matching Effect between a Triboelectric Nanogenerator and a Piezoresistive Pressure Sensor Induced Self-Powered Weighing. <i>Advanced Materials Technologies</i> , 2018, 3, 1800054.	3.0	49
262	Si@void@C Nanofibers Fabricated Using a Self-Powered Electrospinning System for Lithium-Ion Batteries. <i>ACS Nano</i> , 2018, 12, 4835-4843.	7.3	115
263	On-vehicle triboelectric nanogenerator enabled self-powered sensor for tire pressure monitoring. <i>Nano Energy</i> , 2018, 49, 126-136.	8.2	94
264	Hybridized Nanogenerators for Harvesting Vibrational Energy by Triboelectric-Piezoelectric-Electromagnetic Effects. <i>Advanced Materials Technologies</i> , 2018, 3, 1800019.	3.0	35
265	Coaxial rotatory-freestanding triboelectric nanogenerator for effective energy scavenging from wind. <i>Smart Materials and Structures</i> , 2018, 27, 065016.	1.8	15
266	Human Body as a Power Source for Biomechanical Energy Scavenging Based on Electrode-Free Triboelectric Nanogenerators. <i>Energy Technology</i> , 2018, 6, 2053-2057.	1.8	10
267	Battery-Free Electronic Smart Toys: A Step toward the Commercialization of Sustainable Triboelectric Nanogenerators. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 6110-6116.	3.2	39
268	Skin-Inspired Hierarchical Polymer Architectures with Gradient Stiffness for Spacer-Free, Ultrathin, and Highly Sensitive Triboelectric Sensors. <i>ACS Nano</i> , 2018, 12, 3964-3974.	7.3	218
269	Transparent-flexible-multimodal triboelectric nanogenerators for mechanical energy harvesting and self-powered sensor applications. <i>Nano Energy</i> , 2018, 48, 471-480.	8.2	63
270	Insights into the mechanism of metal-polymer contact electrification for triboelectric nanogenerator via first-principles investigations. <i>Nano Energy</i> , 2018, 48, 607-616.	8.2	116



#	ARTICLE	IF	CITATIONS
271	Molecular Diffusion-Driven Motion in 2D Graphene Film. <i>Advanced Functional Materials</i> , 2018, 28, 1707053.	7.8	9
272	Harvesting mechanical energy, storage, and lighting using a novel PDMS based triboelectric generator with inclined wall arrays and micro-topping structure. <i>Applied Energy</i> , 2018, 213, 353-365.	5.1	53
273	Realization of enhanced sound-driven CNT-based triboelectric nanogenerator, utilizing sonic array configuration. <i>Current Applied Physics</i> , 2018, 18, 361-368.	1.1	31
274	Magnetorheological elastomers enabled high-sensitive self-powered tribo-sensor for magnetic field detection. <i>Nanoscale</i> , 2018, 10, 4745-4752.	2.8	73
275	MEMS based energy harvesting for the Internet of Things: a survey. <i>Microsystem Technologies</i> , 2018, 24, 2853-2869.	1.2	54
276	Keystroke dynamics enabled authentication and identification using triboelectric nanogenerator array. <i>Materials Today</i> , 2018, 21, 216-222.	8.3	176
277	Emerging nanogenerator technology in China: A review and forecast using integrating bibliometrics, patent analysis and technology roadmapping methods. <i>Nano Energy</i> , 2018, 46, 322-330.	8.2	67
278	Integrating a Silicon Solar Cell with a Triboelectric Nanogenerator via a Mutual Electrode for Harvesting Energy from Sunlight and Raindrops. <i>ACS Nano</i> , 2018, 12, 2893-2899.	7.3	229
279	Lithium-Ion Batteries: Charged by Triboelectric Nanogenerators with Pulsed Output Based on the Enhanced Cycling Stability. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 8676-8684.	4.0	18
280	Natural Leaf Made Triboelectric Nanogenerator for Harvesting Environmental Mechanical Energy. <i>Advanced Energy Materials</i> , 2018, 8, 1703133.	10.2	230
281	Self-Powered Wearable Electrocardiography Using a Wearable Thermoelectric Power Generator. <i>ACS Energy Letters</i> , 2018, 3, 501-507.	8.8	226
282	Nanogenerator for Biomedical Applications. <i>Advanced Healthcare Materials</i> , 2018, 7, e1701298.	3.9	147
283	A Self-Powered Portable Power Bank Based on a Hybridized Nanogenerator. <i>Advanced Materials Technologies</i> , 2018, 3, 1700209.	3.0	15
284	Graphene-based flexible and wearable electronics. <i>Journal of Semiconductors</i> , 2018, 39, 011007.	2.0	76
285	Triboelectric nanogenerator based on immersion precipitation derived highly porous ethyl cellulose. <i>Journal of Electrostatics</i> , 2018, 92, 1-5.	1.0	30
286	Soft triboelectric generators by use of cost-effective elastomers and simple casting process. <i>Sensors and Actuators A: Physical</i> , 2018, 271, 88-95.	2.0	21
287	Layer-by-layer assembled graphene multilayers on multidimensional surfaces for highly durable, scalable, and wearable triboelectric nanogenerators. <i>Journal of Materials Chemistry A</i> , 2018, 6, 3108-3115.	5.2	51
288	A self-powered flexible hybrid piezoelectric-pyroelectric nanogenerator based on non-woven nanofiber membranes. <i>Journal of Materials Chemistry A</i> , 2018, 6, 3500-3509.	5.2	161

#	ARTICLE	IF	CITATIONS
289	Highly Porous Polymer Aerogel Film-Based Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2018, 28, 1706365.	7.8	226
290	Liquid-Metal-Based Super-Stretchable and Structure-Designable Triboelectric Nanogenerator for Wearable Electronics. <i>ACS Nano</i> , 2018, 12, 2027-2034.	7.3	353
291	Liquid-FEP-based U-tube triboelectric nanogenerator for harvesting water-wave energy. <i>Nano Research</i> , 2018, 11, 4062-4073.	5.8	143
292	Two-dimensional ZnO nanosheets grown on flexible ITO-PET substrate for self-powered energy-harvesting nanodevices. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	39
293	Development, applications, and future directions of triboelectric nanogenerators. <i>Nano Research</i> , 2018, 11, 2951-2969.	5.8	112
294	Structural design of a flexible thermoelectric power generator for wearable applications. <i>Applied Energy</i> , 2018, 214, 131-138.	5.1	171
295	Large-Area Direct Laser-Shock Imprinting of a 3D Biomimic Hierarchical Metal Surface for Triboelectric Nanogenerators. <i>Advanced Materials</i> , 2018, 30, 1705840.	11.1	93
296	Piezoelectric-Induced Triboelectric Hybrid Nanogenerators Based on the ZnO Nanowire Layer Decorated on the Au/polydimethylsiloxane-Al Structure for Enhanced Triboelectric Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 6433-6440.	4.0	32
297	Self-Powered Low-Platinum Nanorod Alloy Monoelectrodes for Rain Energy Harvest. <i>Energy Technology</i> , 2018, 6, 1606-1609.	1.8	1
298	Enhancing the Output Charge Density of TENG via Building Longitudinal Paths of Electrostatic Charges in the Contacting Layers. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 2158-2165.	4.0	83
299	Ion Specificity on Electric Energy Generated by Flowing Water Droplets. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 2091-2095.	7.2	58
300	Coupled Supercapacitor and Triboelectric Nanogenerator Boost Biomimetic Pressure Sensor. <i>Advanced Energy Materials</i> , 2018, 8, 1702671.	10.2	134
301	A Soft and Robust Spring Based Triboelectric Nanogenerator for Harvesting Arbitrary Directional Vibration Energy and Self-Powered Vibration Sensing. <i>Advanced Energy Materials</i> , 2018, 8, 1702432.	10.2	186
302	Self-Powered Vehicle Emission Testing System Based on Coupling of Triboelectric and Chemoresistive Effects. <i>Advanced Functional Materials</i> , 2018, 28, 1703420.	7.8	95
303	Atomic-thick 2D MoS <sub>2</sub> /insulator interjection structures for enhancing nanogenerator output. <i>Journal of Materials Chemistry C</i> , 2018, 6, 899-906.	2.7	8
304	Triboelectric Nanogenerator Tree for Harvesting Wind Energy and Illuminating in Subway Tunnel. <i>Advanced Materials Technologies</i> , 2018, 3, 1700317.	3.0	98
305	Coupled Triboelectric Nanogenerator Networks for Efficient Water Wave Energy Harvesting. <i>ACS Nano</i> , 2018, 12, 1849-1858.	7.3	299
306	Complementary Electromagnetic-Triboelectric Active Sensor for Detecting Multiple Mechanical Triggering. <i>Advanced Functional Materials</i> , 2018, 28, 1705808.	7.8	87

#	ARTICLE	IF	CITATIONS
307	Ion Specificity on Electric Energy Generated by Flowing Water Droplets. <i>Angewandte Chemie</i> , 2018, 130, 2113-2117.	1.6	4
308	Floating buoy-based triboelectric nanogenerator for an effective vibrational energy harvesting from irregular and random water waves in wild sea. <i>Nano Energy</i> , 2018, 45, 247-254.	8.2	94
309	Scavenging Wind Energy by Triboelectric Nanogenerators. <i>Advanced Energy Materials</i> , 2018, 8, 1702649.	10.2	302
310	A Self-Powered and Flexible Organometallic Halide Perovskite Photodetector with Very High Detectivity. <i>Advanced Materials</i> , 2018, 30, 1704611.	11.1	339
311	Shape Memory Polymers for Body Motion Energy Harvesting and Self-Powered Mechanosensing. <i>Advanced Materials</i> , 2018, 30, 1705195.	11.1	249
312	Silicone-Based Triboelectric Nanogenerator for Water Wave Energy Harvesting. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 3616-3623.	4.0	98
313	New-generation integrated devices based on dye-sensitized and perovskite solar cells. <i>Energy and Environmental Science</i> , 2018, 11, 476-526.	15.6	364
314	Review Power Sources for the Internet of Things. <i>Journal of the Electrochemical Society</i> , 2018, 165, B3130-B3136.	1.3	126
315	Enhanced piezoelectric output performance via control of dielectrics in Fe <sup>2+</sup> -incorporated MAPbI <sub>3</sub> perovskite thin films: Flexible piezoelectric generators. <i>Nano Energy</i> , 2018, 49, 247-256.	8.2	68
316	Transparent and attachable ionic communicators based on self-cleanable triboelectric nanogenerators. <i>Nature Communications</i> , 2018, 9, 1804.	5.8	221
317	A Stretchable, Flexible Triboelectric Nanogenerator for Self-Powered Real-Time Motion Monitoring. <i>Advanced Materials Technologies</i> , 2018, 3, 1800021.	3.0	68
318	An impedance tunable and highly efficient triboelectric nanogenerator for large-scale, ultra-sensitive pressure sensing applications. <i>Nano Energy</i> , 2018, 49, 603-613.	8.2	124
319	Tunable thermo-triboelectric energy harvesting using human body heat for self-powered applications. , 2018, , .		1
320	Rationally designed sea snake structure based triboelectric nanogenerators for effectively and efficiently harvesting ocean wave energy with minimized water screening effect. <i>Nano Energy</i> , 2018, 48, 421-429.	8.2	195
321	Sustained electron tunneling at unbiased metal-insulator-semiconductor triboelectric contacts. <i>Nano Energy</i> , 2018, 48, 320-326.	8.2	103
322	High-performance flexible triboelectric nanogenerator based on porous aerogels and electrospun nanofibers for energy harvesting and sensitive self-powered sensing. <i>Nano Energy</i> , 2018, 48, 327-336.	8.2	205
323	A unified theoretical model for Triboelectric Nanogenerators. <i>Nano Energy</i> , 2018, 48, 391-400.	8.2	96
324	Freestanding Triboelectric Nanogenerator Enables Noncontact Motion-Tracking and Positioning. <i>ACS Nano</i> , 2018, 12, 3461-3467.	7.3	86

#	ARTICLE	IF	CITATIONS
325	An electret film-based triboelectric nanogenerator with largely improved performance via a tape-peeling charging method. <i>Nano Energy</i> , 2018, 48, 256-265.	8.2	23
326	Conversion of solar power to chemical energy based on carbon nanoparticle modified photo-thermoelectric generator and electrochemical water splitting system. <i>Nano Energy</i> , 2018, 48, 481-488.	8.2	85
327	Exponential energy harvesting through repetitive reconfigurations of a system of capacitors. <i>Communications Physics</i> , 2018, 1, .	2.0	14
328	Studying about applied force and the output performance of sliding-mode triboelectric nanogenerators. <i>Nano Energy</i> , 2018, 48, 292-300.	8.2	60
329	Self-Powered Wind Sensor System for Detecting Wind Speed and Direction Based on a Triboelectric Nanogenerator. <i>ACS Nano</i> , 2018, 12, 3954-3963.	7.3	224
330	Flexible self-charging power units for portable electronics based on folded carbon paper. <i>Nano Research</i> , 2018, 11, 4313-4322.	5.8	78
331	Rolling friction contact-separation mode hybrid triboelectric nanogenerator for mechanical energy harvesting and self-powered multifunctional sensors. <i>Nano Energy</i> , 2018, 47, 539-546.	8.2	77
332	Flexible triboelectric nanogenerator based on cost-effective thermoplastic polymeric nanofiber membranes for body-motion energy harvesting with high humidity-resistance. <i>Nano Energy</i> , 2018, 48, 248-255.	8.2	42
333	Harvest rain energy by polyaniline-graphene composite films. <i>Renewable Energy</i> , 2018, 125, 995-1002.	4.3	22
334	Nonlinear dynamics and triboelectric energy harvesting from a three-degree-of-freedom vibro-impact oscillator. <i>Nonlinear Dynamics</i> , 2018, 92, 1985-2004.	2.7	56
335	Triboelectric nanogenerators with gold-thin-film-coated conductive textile as floating electrode for scavenging wind energy. <i>Nano Research</i> , 2018, 11, 101-113.	5.8	47
336	Triboelectric nanogenerator based on magnetically induced retractable spring steel tapes for efficient energy harvesting of large amplitude motion. <i>Nano Research</i> , 2018, 11, 633-641.	5.8	25
337	A low-cost approach for measuring electrical load currents in triboelectric nanogenerators. <i>Nanotechnology Reviews</i> , 2018, 7, 149-156.	2.6	45
338	Integrative square-grid triboelectric nanogenerator as a vibrational energy harvester and impulsive force sensor. <i>Nano Research</i> , 2018, 11, 1157-1164.	5.8	44
339	Au nanocomposite enhanced electret film for triboelectric nanogenerator. <i>Nano Research</i> , 2018, 11, 3096-3105.	5.8	89
340	Recent Advances in Nanogenerator-Driven Self-Powered Implantable Biomedical Devices. <i>Advanced Energy Materials</i> , 2018, 8, 1701210.	10.2	156
341	Triboelectrification based on double-layered polyaniline nanofibers for self-powered cathodic protection driven by wind. <i>Nano Research</i> , 2018, 11, 1873-1882.	5.8	73
342	Polymer nanogenerators: Opportunities and challenges for large-scale applications. <i>Journal of Applied Polymer Science</i> , 2018, 135, 45674.	1.3	73

#	ARTICLE	IF	CITATIONS
343	Intelligent Sensing System Based on Hybrid Nanogenerator by Harvesting Multiple Clean Energy. <i>Advanced Engineering Materials</i> , 2018, 20, 1700886.	1.6	23
344	Water wave energy harvesting and self-powered liquid-surface fluctuation sensing based on bionic-jellyfish triboelectric nanogenerator. <i>Materials Today</i> , 2018, 21, 88-97.	8.3	192
345	A review on heat and mechanical energy harvesting from human "Principles, prototypes and perspectives. <i>Renewable and Sustainable Energy Reviews</i> , 2018, 82, 3582-3609.	8.2	169
346	All-inorganic flexible piezoelectric energy harvester enabled by two-dimensional mica. <i>Nano Energy</i> , 2018, 43, 351-358.	8.2	95
347	A novel cell-scale bio-nanogenerator based on electron-ion interaction for fast light power conversion. <i>Nanoscale</i> , 2018, 10, 526-532.	2.8	10
348	Toward Wearable Self-Charging Power Systems: The Integration of Energy Harvesting and Storage Devices. <i>Small</i> , 2018, 14, 1702817.	5.2	274
349	Ultra-robust triboelectric nanogenerator for harvesting rotary mechanical energy. <i>Nano Research</i> , 2018, 11, 2862-2871.	5.8	44
350	A One-Structure-Based Multieffects Coupled Nanogenerator for Simultaneously Scavenging Thermal, Solar, and Mechanical Energies. <i>Advanced Science</i> , 2018, 5, 1700622.	5.6	79
351	Transparent triboelectric nanogenerator-induced high voltage pulsed electric field for a self-powered handheld printer. <i>Nano Energy</i> , 2018, 44, 468-475.	8.2	70
352	Dopamine polymerization tunes triboelectric interface. <i>Nano Energy</i> , 2018, 44, 199-207.	8.2	22
353	Managing and maximizing the output power of a triboelectric nanogenerator by controlled tip-electrode air-discharging and application for UV sensing. <i>Nano Energy</i> , 2018, 44, 208-216.	8.2	145
354	Layer-by-layer assembly-induced triboelectric nanogenerators with high and stable electric outputs in humid environments. <i>Nano Energy</i> , 2018, 44, 228-239.	8.2	70
355	Compressible hexagonal-structured triboelectric nanogenerators for harvesting tire rotation energy. <i>Extreme Mechanics Letters</i> , 2018, 18, 1-8.	2.0	96
356	Ultrafine Capillary-Tube Triboelectric Nanogenerator as Active Sensor for Microliquid Biological and Chemical Sensing. <i>Advanced Materials Technologies</i> , 2018, 3, 1700229.	3.0	64
357	Recent Advances in Flexible/Stretchable Supercapacitors for Wearable Electronics. <i>Small</i> , 2018, 14, e1702829.	5.2	208
358	How to promote the development of energy-saving and emission-reduction with changing economic growth rate? A case study of China. <i>Energy</i> , 2018, 143, 732-745.	4.5	22
359	Using a synchronous switch to enhance output performance of triboelectric nanogenerators. <i>Nano Energy</i> , 2018, 43, 210-218.	8.2	26
360	Influence of Carbon Quantum Dots on the Electrical Performance of Triboelectric Generators. <i>Proceedings (mdpi)</i> , 2018, 2, .	0.2	2

#	ARTICLE	IF	CITATIONS
361	Sewing machine stitching of polyvinylidene fluoride fibers: programmable textile patterns for wearable triboelectric sensors. <i>Journal of Materials Chemistry A</i> , 2018, 6, 22879-22888.	5.2	80
362	Highly porous composite aerogel based triboelectric nanogenerators for high performance energy generation and versatile self-powered sensing. <i>Nanoscale</i> , 2018, 10, 23131-23140.	2.8	80
363	Triboelectric Balls as Three-Dimensional Vibrational Energy Harvesters and Self-Powered Sensors. , 2018, , .		2
364	Conductive and Stretchable Adhesive Electronics with Miniaturized Octopus-Like Suckers against Dry/Wet Skin for Biosignal Monitoring. <i>Advanced Functional Materials</i> , 2018, 28, 1805224.	7.8	111
365	A Spherical Hybrid Triboelectric Nanogenerator for Enhanced Water Wave Energy Harvesting. <i>Micromachines</i> , 2018, 9, 598.	1.4	39
367	The Progress of PVDF as a Functional Material for Triboelectric Nanogenerators and Self-Powered Sensors. <i>Micromachines</i> , 2018, 9, 532.	1.4	64
368	Mesoporous Highly-Deformable Composite Polymer for a Gapless Triboelectric Nanogenerator via a One-Step Metal Oxidation Process. <i>Micromachines</i> , 2018, 9, 656.	1.4	25
369	Effective weight control via an implanted self-powered vagus nerve stimulation device. <i>Nature Communications</i> , 2018, 9, 5349.	5.8	242
370	Fabric as a Sensor. , 2018, , .		22
371	Highly Flexible and Transparent Polyionic-Skin Triboelectric Nanogenerator for Biomechanical Motion Harvesting. <i>Advanced Energy Materials</i> , 2019, 9, 1803183.	10.2	72
372	A High Current Density Direct-Current Generator Based on a Moving van der Waals Schottky Diode. <i>Advanced Materials</i> , 2019, 31, e1804398.	11.1	109
373	Effects of Environmental Atmosphere on the Performance of Contact-Separation Mode TENG. <i>Advanced Materials Technologies</i> , 2019, 4, 1800569.	3.0	23
374	Highly Conductive Hydrogel Polymer Fibers toward Promising Wearable Thermoelectric Energy Harvesting. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 44033-44040.	4.0	129
375	Recent Progress in Micro-Supercapacitor Design, Integration, and Functionalization. <i>Small Methods</i> , 2019, 3, 1800367.	4.6	154
376	Dynamic Electronic Doping for Correlated Oxides by a Triboelectric Nanogenerator. <i>Advanced Materials</i> , 2018, 30, e1803580.	11.1	20
377	Efficient Delivery of Power Generated by a Rotating Triboelectric Nanogenerator by Conjunction of Wired and Wireless Transmissions Using Maxwell's Displacement Currents. <i>Advanced Energy Materials</i> , 2018, 8, 1802084.	10.2	74
378	The self-powered CO <sub>2</sub> gas sensor based on gas discharge induced by triboelectric nanogenerator. <i>Nano Energy</i> , 2018, 53, 898-905.	8.2	146
379	Improving the Performance of the Mini 2000 Mass Spectrometer with a Triboelectric Nanogenerator Electrospray Ionization Source. <i>ACS Omega</i> , 2018, 3, 12229-12234.	1.6	10

#	ARTICLE	IF	CITATIONS
380	Power computation for the triboelectric nanogenerator. Nano Energy, 2018, 54, 39-49.	8.2	19
381	Nature of Power Generation and Output Optimization Criteria for Triboelectric Nanogenerators. Advanced Energy Materials, 2018, 8, 1802190.	10.2	90
382	Atmospheric pressure difference driven triboelectric nanogenerator for efficiently harvesting ocean wave energy. Nano Energy, 2018, 54, 156-162.	8.2	65
383	Versatile nanodot-patterned Gore-Tex fabric for multiple energy harvesting in wearable and aerodynamic nanogenerators. Nano Energy, 2018, 54, 209-217.	8.2	45
385	Direct Electricity Generation Mediated by Molecular Interactions with Low Dimensional Carbon Materialsâ€”A Mechanistic Perspective. Advanced Energy Materials, 2018, 8, 1802212.	10.2	47
386	High-Power Aqueous Zinc-Ion Batteries for Customized Electronic Devices. ACS Nano, 2018, 12, 11838-11846.	7.3	158
387	High Energy Storage Efficiency Triboelectric Nanogenerators with Unidirectional Switches and Passive Power Management Circuits. Advanced Functional Materials, 2018, 28, 1805216.	7.8	174
388	Skin-touch-actuated textile-based triboelectric nanogenerator with black phosphorus for durable biomechanical energy harvesting. Nature Communications, 2018, 9, 4280.	5.8	433
389	Self-Powered Biosensors Using Various Light Sources in Daily Life Environments: Integration of p&acircn Heterojunction Photodetectors and Colorimetric Reactions for Biomolecule Detection. ACS Applied Materials & Interfaces, 2018, 10, 39487-39493.	4.0	17
390	Ni(OH) <sub>2</sub> nanoplates decorated on&agrphene nanosheets for alkaline secondary batteries. Journal of Renewable and Sustainable Energy, 2018, 10, 054104.	0.8	4
391	Towards self-powered sensing using nanogenerators for automotive systems. Nano Energy, 2018, 53, 1003-1019.	8.2	68
392	Giant Voltage Enhancement <i>via</i> Triboelectric Charge Supplement Channel for Self-Powered Electroadhesion. ACS Nano, 2018, 12, 10262-10271.	7.3	109
393	A Hierarchically Nanostructured Cellulose Fiber&EBased Triboelectric Nanogenerator for Self&EPowered Healthcare Products. Advanced Functional Materials, 2018, 28, 1805540.	7.8	180
394	An electrostatic discharge based needle-to-needle booster for dramatic performance enhancement of triboelectric nanogenerators. Applied Energy, 2018, 231, 1346-1353.	5.1	33
395	A flexible slip sensor using triboelectric nanogenerator approach. Journal of Physics: Conference Series, 2018, 986, 012009.	0.3	7
396	A Stretchable Yarn Embedded Triboelectric Nanogenerator as Electronic Skin for Biomechanical Energy Harvesting and Multifunctional Pressure Sensing. Advanced Materials, 2018, 30, e1804944.	11.1	396
397	Harsh&EEnvironmental&EResistant Triboelectric Nanogenerator and Its Applications in Autodrive Safety Warning. Advanced Energy Materials, 2018, 8, 1801898.	10.2	82
398	Design of Bionic Cochlear Basilar Membrane Acoustic Sensor for Frequency Selectivity Based on Film Triboelectric Nanogenerator. Nanoscale Research Letters, 2018, 13, 191.	3.1	33

#	ARTICLE	IF	CITATIONS
399	Elasticâ€œBeam Triboelectric Nanogenerator for Highâ€œPerformance Multifunctional Applications: Sensitive Scale, Acceleration/Force/Vibration Sensor, and Intelligent Keyboard. <i>Advanced Energy Materials</i> , 2018, 8, 1802159.	10.2	102
400	Electric impulse spring-assisted contact separation mode triboelectric nanogenerator fabricated from polyaniline emeraldine salt and woven carbon fibers. <i>Nano Energy</i> , 2018, 53, 362-372.	8.2	47
401	Stretchable and Wearable Triboelectric Nanogenerator Based on Kinesio Tape for Self-Powered Human Motion Sensing. <i>Nanomaterials</i> , 2018, 8, 657.	1.9	42
402	Poly(dimethylsiloxane)/ZnO Nanoflakes/Three-Dimensional Graphene Heterostructures for High-Performance Flexible Energy Harvesters with Simultaneous Piezoelectric and Triboelectric Generation. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 32281-32288.	4.0	72
403	Design, simulation, and experimental characterization of a heaving triboelectric-electromagnetic wave energy harvester. <i>Nano Energy</i> , 2018, 50, 281-290.	8.2	30
404	A multimodal and multidirectional vibrational energy harvester using a double-branched beam. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	36
405	A flexible tube-based triboelectricâ€œelectromagnetic sensor for knee rehabilitation assessment. <i>Sensors and Actuators A: Physical</i> , 2018, 279, 694-704.	2.0	22
406	A Flexible Composite Mechanical Energy Harvester from a Ferroelectric Organoamino Phosphonium Salt. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 9054-9058.	7.2	25
407	Selfâ€œPowered Cursor Using a Triboelectric Mechanism. <i>Small Methods</i> , 2018, 2, 1800078.	4.6	21
408	Triboelectricâ€œElectromagnetic Hybrid Generator for Harvesting Blue Energy. <i>Nano-Micro Letters</i> , 2018, 10, 54.	14.4	92
409	Self-Healable, Stretchable, Transparent Triboelectric Nanogenerators as Soft Power Sources. <i>ACS Nano</i> , 2018, 12, 6147-6155.	7.3	256
410	Disk-based triboelectric nanogenerator operated by rotational force converted from linear force by a gear system. <i>Nano Energy</i> , 2018, 50, 489-496.	8.2	54
411	Human Body Constituted Triboelectric Nanogenerators as Energy Harvesters, Code Transmitters, and Motion Sensors. <i>ACS Applied Energy Materials</i> , 2018, 1, 2955-2960.	2.5	39
412	Humidityâ€œResistant, Fabricâ€œBased, Wearable Triboelectric Energy Harvester by Treatment of Hydrophobic Selfâ€œAssembled Monolayers. <i>Advanced Materials Technologies</i> , 2018, 3, 1800048.	3.0	26
413	Sustainable hybrid energy harvester based on air stable quantum dot solar cells and triboelectric nanogenerator. <i>Journal of Materials Chemistry A</i> , 2018, 6, 12440-12446.	5.2	33
414	A self-powered triboelectric microfluidic system for liquid sensing. <i>Journal of Materials Chemistry A</i> , 2018, 6, 14069-14076.	5.2	45
415	Fully Bioabsorbable Naturalâ€œMaterialsâ€œBased Triboelectric Nanogenerators. <i>Advanced Materials</i> , 2018, 30, e1801895.	11.1	319
416	Near-infrared irradiation induced remote and efficient self-healable triboelectric nanogenerator for potential implantable electronics. <i>Nano Energy</i> , 2018, 51, 333-339.	8.2	106



#	ARTICLE	IF	CITATIONS
417	Biowaste crab shell-extracted chitin nanofiber-based superior piezoelectric nanogenerator. <i>Journal of Materials Chemistry A</i> , 2018, 6, 13848-13858.	5.2	95
418	Spherical Triboelectric Nanogenerators Based on Spring-Assisted Multilayered Structure for Efficient Water Wave Energy Harvesting. <i>Advanced Functional Materials</i> , 2018, 28, 1802634.	7.8	168
419	Green Biobatteries: Hybrid Paper-Polymer Microbial Fuel Cells. <i>Advanced Sustainable Systems</i> , 2018, 2, 1800041.	2.7	30
420	Comprehensive contact analysis for vertical-contact-mode triboelectric nanogenerators with micro-/nano-textured surfaces. <i>Nano Energy</i> , 2018, 51, 241-249.	8.2	44
421	Enhanced Performance of Microarchitected PTFE-Based Triboelectric Nanogenerator via Simple Thermal Imprinting Lithography for Self-Powered Electronics. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 24181-24192.	4.0	87
422	Novel augmented reality interface using a self-powered triboelectric based virtual reality 3D-control sensor. <i>Nano Energy</i> , 2018, 51, 162-172.	8.2	74
423	AlN piezoelectric thin films for energy harvesting and acoustic devices. <i>Nano Energy</i> , 2018, 51, 146-161.	8.2	149
424	Visualizing the knowledge profile on self-powered technology. <i>Nano Energy</i> , 2018, 51, 250-259.	8.2	14
425	Flexible Timbó-Like Triboelectric Nanogenerator as Self-Powered Force and Bend Sensor for Wireless and Distributed Landslide Monitoring. <i>Advanced Materials Technologies</i> , 2018, 3, 1800144.	3.0	50
426	A triboelectric nanogenerator using silica-based powder for appropriate technology. <i>Sensors and Actuators A: Physical</i> , 2018, 280, 85-91.	2.0	19
427	Triboelectric Nanogenerator Driven Self-Powered Photoelectrochemical Water Splitting Based on Hematite Photoanodes. <i>ACS Nano</i> , 2018, 12, 8625-8632.	7.3	76
428	A Self-Powered Six-Axis Tactile Sensor by Using Triboelectric Mechanism. <i>Nanomaterials</i> , 2018, 8, 503.	1.9	16
429	Direct-current triboelectric nanogenerator via water electrification and phase control. <i>Nano Energy</i> , 2018, 52, 95-104.	8.2	50
430	Polymer tubes as carrier boats of thermosetting and powder materials based on 3D printing for triboelectric nanogenerator with microstructure. <i>Nano Energy</i> , 2018, 52, 134-141.	8.2	45
431	Role of Doped Nitrogen in Graphene for Flow-Induced Power Generation. <i>Advanced Engineering Materials</i> , 2018, 20, 1800387.	1.6	16
432	Human Pulse Diagnosis for Medical Assessments Using a Wearable Piezoelectret Sensing System. <i>Advanced Functional Materials</i> , 2018, 28, 1803413.	7.8	151
433	Triboelectric nanogenerator based on rolling motion of beads for harvesting wind energy as active wind speed sensor. <i>Nano Energy</i> , 2018, 52, 256-263.	8.2	74
435	SATURN. , 2018, 2, 1-28.		52

#	ARTICLE	IF	CITATIONS
436	Self-Powered Hall Vehicle Sensors Based on Triboelectric Nanogenerators. <i>Advanced Materials Technologies</i> , 2018, 3, 1800140.	3.0	32
437	Improved Triboelectric Nanogenerator Output Performance through Polymer Nanocomposites Filled with Core-shell-Structured Particles. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 25683-25688.	4.0	47
438	Flow Control in Wells Turbines for Harnessing Maximum Wave Power. <i>Sensors</i> , 2018, 18, 535.	2.1	32
439	Flexible and active self-powered pressure, shear sensors based on freeze casting ceramic-polymer composites. <i>Energy and Environmental Science</i> , 2018, 11, 2919-2927.	15.6	130
440	Pumping electrons from chemical potential difference. <i>Nano Energy</i> , 2018, 51, 698-703.	8.2	38
441	Study of long-term biocompatibility and bio-safety of implantable nanogenerators. <i>Nano Energy</i> , 2018, 51, 728-735.	8.2	67
442	Self-powered wearable sensing-textiles for real-time detecting environmental atmosphere and body motion based on surface-triboelectric coupling effect. <i>Nanotechnology</i> , 2018, 29, 405504.	1.3	37
443	Self-powered triboelectric touch sensor made of 3D printed materials. <i>Nano Energy</i> , 2018, 52, 54-62.	8.2	52
444	Design Guidelines of Stretchable Pressure Sensors-Based Triboelectrification. <i>Advanced Engineering Materials</i> , 2018, 20, 1700997.	1.6	21
445	A self-power-transmission and non-contact-reception keyboard based on a novel resonant triboelectric nanogenerator (R-TENG). <i>Nano Energy</i> , 2018, 50, 16-24.	8.2	44
446	Electron blocking layer-based interfacial design for highly-enhanced triboelectric nanogenerators. <i>Nano Energy</i> , 2018, 50, 9-15.	8.2	105
447	3D printing individualized triboelectric nanogenerator with macro-pattern. <i>Nano Energy</i> , 2018, 50, 126-132.	8.2	64
448	A brief review on piezoelectric PVDF nanofibers prepared by electrospinning. <i>Ferroelectrics</i> , 2018, 526, 140-151.	0.3	64
449	Ultrahigh charge density realized by charge pumping at ambient conditions for triboelectric nanogenerators. <i>Nano Energy</i> , 2018, 49, 625-633.	8.2	261
450	A hybrid piezoelectric-triboelectric generator for low-frequency and broad-bandwidth energy harvesting. <i>Energy Conversion and Management</i> , 2018, 174, 188-197.	4.4	104
451	Facile roughness fabrications and their roughness effects on electrical outputs of the triboelectric nanogenerator. <i>Smart Materials and Structures</i> , 2018, 27, 105026.	1.8	33
452	Self-Power Dynamic Sensor Based on Triboelectrification for Tilt of Direction and Angle. <i>Sensors</i> , 2018, 18, 2384.	2.1	8
453	Theory of contact electrification: Optical transitions in two-level systems. <i>Nano Energy</i> , 2018, 52, 517-523.	8.2	58

#	ARTICLE	IF	CITATIONS
454	A Self-Powered Smart Roller-Bearing Based on a Triboelectric Nanogenerator for Measurement of Rotation Movement. <i>Advanced Materials Technologies</i> , 2018, 3, 1800219.	3.0	24
455	Molecular structure engineering of dielectric fluorinated polymers for enhanced performances of triboelectric nanogenerators. <i>Nano Energy</i> , 2018, 53, 37-45.	8.2	47
456	Harvest of ocean energy by triboelectric generator technology. <i>Applied Physics Reviews</i> , 2018, 5, 031303.	5.5	14
457	Investigation of Position Sensing and Energy Harvesting of a Flexible Triboelectric Touch Pad. <i>Nanomaterials</i> , 2018, 8, 613.	1.9	29
458	Polyurethane-Based Electrostrictive Nanocomposites as High Strain-Low Frequency Mechanical Energy Harvesters. <i>Journal of Physical Chemistry C</i> , 2018, 122, 21115-21123.	1.5	2
459	Performance Evaluation of Thermoelectric Energy Harvesting System on Operating Rolling Stock. <i>Micromachines</i> , 2018, 9, 359.	1.4	19
460	Direct-Current Triboelectric Nanogenerator Realized by Air Breakdown Induced Ionized Air Channel. <i>Advanced Energy Materials</i> , 2018, 8, 1800889.	10.2	111
461	Coaxial Hybrid Triboelectric Nanogenerator for Scavenging Multidirectional Mechanical Energy. <i>Advanced Electronic Materials</i> , 2018, 4, 1800161.	2.6	9
462	Theoretical study of micro/nano roughness effect on water-solid triboelectrification with experimental approach. <i>Nano Energy</i> , 2018, 52, 315-322.	8.2	68
463	High-performance self-powered wireless sensor node driven by a flexible thermoelectric generator. <i>Energy</i> , 2018, 162, 526-533.	4.5	75
464	Triboelectric-Thermoelectric Hybrid Nanogenerator for Harvesting Energy from Ambient Environments. <i>Advanced Materials Technologies</i> , 2018, 3, 1800166.	3.0	61
465	Air-Permeable and Washable Paper-Based Triboelectric Nanogenerator Based on Highly Flexible and Robust Paper Electrodes. <i>Advanced Materials Technologies</i> , 2018, 3, 1800178.	3.0	50
466	Nanostructured polymer-based piezoelectric and triboelectric materials and devices for energy harvesting applications. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 303001.	1.3	82
467	A Flexible Composite Mechanical Energy Harvester from a Ferroelectric Organoamino Phosphonium Salt. <i>Angewandte Chemie</i> , 2018, 130, 9192-9196.	1.6	13
468	Energy Harvesting Research: The Road from Single Source to Multisource. <i>Advanced Materials</i> , 2018, 30, e1707271.	11.1	203
469	Versatile Core-Sheath Yarn for Sustainable Biomechanical Energy Harvesting and Real-Time Human-Interactive Sensing. <i>Advanced Energy Materials</i> , 2018, 8, 1801114.	10.2	212
470	Actively Perceiving and Responsive Soft Robots Enabled by Self-Powered, Highly Extensible, and Highly Sensitive Triboelectric Proximity- and Pressure-Sensing Skins. <i>Advanced Materials</i> , 2018, 30, e1801114.	11.1	254
471	Ferromagnetic nanoparticle-embedded hybrid nanogenerator for harvesting omnidirectional vibration energy. <i>Nanoscale</i> , 2018, 10, 12276-12283.	2.8	25

#	ARTICLE	IF	CITATIONS
472	Tire Condition Monitoring and Intelligent Tires Using Nanogenerators Based on Piezoelectric, Electromagnetic, and Triboelectric Effects. <i>Advanced Materials Technologies</i> , 2019, 4, 1800105.	3.0	57
474	Paper-Based Disk-Type Self-Powered Glucose Biosensor Based on Screen-Printed Biofuel Cell Array. <i>Journal of the Electrochemical Society</i> , 2019, 166, B1063-B1068.	1.3	52
475	High-Output Triboelectric Nanogenerator Based on Dual Inductive and Resonance Effects-Controlled Highly Transparent Polyimide for Self-Powered Sensor Network Systems. <i>Advanced Energy Materials</i> , 2019, 9, 1901987.	10.2	73
476	Self-powered Flexible PDMS Channel Assisted Discrete Liquid Column Motion Based Triboelectric Nanogenerator (DLC-TENG) as Mechanical Transducer. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2019, 6, 907-917.	2.7	28
477	Integrated nanospheres occupancy-removal and thermoforming into bulk piezoelectric and triboelectric hybrid nanogenerators with inverse opal nanostructure. <i>Nano Energy</i> , 2019, 64, 103957.	8.2	13
478	Self-powered wearable touchpad composed of all commercial fabrics utilizing a crossline array of triboelectric generators. <i>Nano Energy</i> , 2019, 65, 103994.	8.2	27
479	Triboelectric nanogenerators enabled sensing and actuation for robotics. <i>Nano Energy</i> , 2019, 65, 104005.	8.2	62
480	Signal Output of Triboelectric Nanogenerator at Oil-Water-Solid Multiphase Interfaces and its Application for Dual-Signal Chemical Sensing. <i>Advanced Materials</i> , 2019, 31, e1902793.	11.1	120
481	Energy Scavenging and Powering E-Skin Functional Devices. <i>Proceedings of the IEEE</i> , 2019, 107, 2118-2136.	16.4	34
482	Recent Progress of Direct Ink Writing of Electronic Components for Advanced Wearable Devices. <i>ACS Applied Electronic Materials</i> , 2019, 1, 1718-1734.	2.0	108
483	Progress on wearable triboelectric nanogenerators in shapes of fiber, yarn, and textile. <i>Science and Technology of Advanced Materials</i> , 2019, 20, 837-857.	2.8	79
484	Photo-carrier extraction by triboelectricity for carrier transport layer-free photodetectors. <i>Nano Energy</i> , 2019, 65, 103958.	8.2	23
485	A universal method for quantitative analysis of triboelectric nanogenerators. <i>Journal of Materials Chemistry A</i> , 2019, 7, 19485-19494.	5.2	44
486	Whirling-Folded Triboelectric Nanogenerator with High Average Power for Water Wave Energy Harvesting. <i>Advanced Functional Materials</i> , 2019, 29, 1904867.	7.8	98
487	A flexible single-electrode-based triboelectric nanogenerator based on double-sided nanostructures. <i>AIP Advances</i> , 2019, 9, .	0.6	19
488	Entirely, Intrinsically, and Autonomously Self-Healable, Highly Transparent, and Superstretchable Triboelectric Nanogenerator for Personal Power Sources and Self-Powered Electronic Skins. <i>Advanced Functional Materials</i> , 2019, 29, 1904626.	7.8	130
489	Enhanced performance triboelectric nanogenerators based on solid polymer electrolytes with different concentrations of cations. <i>Nano Energy</i> , 2019, 64, 103960.	8.2	59
490	A string-suspended and driven rotor for efficient ultra-low frequency mechanical energy harvesting. <i>Energy Conversion and Management</i> , 2019, 198, 111820.	4.4	111

#	ARTICLE	IF	CITATIONS
491	Seed Power: Natural Seed and Electrospun Poly(vinyl difluoride) (PVDF) Nanofiber Based Triboelectric Nanogenerators with High Output Power Density. ACS Applied Bio Materials, 2019, 2, 3164-3170.	2.3	23
492	A rotational pendulum based electromagnetic/triboelectric hybrid-generator for ultra-low-frequency vibrations aiming at human motion and blue energy applications. Nano Energy, 2019, 63, 103871.	8.2	142
493	An Abundant and Renewable Potential Energy Source: Harvestable Energy under Vehicle Wheels. Global Challenges, 2019, 3, 1800096.	1.8	1
494	Design and Optimization of a MEMS Triboelectric Energy Harvester for Nano-sensor Applications. , 2019, , .		5
495	Sensors and Control Interface Methods Based on Triboelectric Nanogenerator in IoT Applications. IEEE Access, 2019, 7, 92745-92757.	2.6	54
496	A model for the triboelectric nanogenerator with inductive load and its energy boost potential. Nano Energy, 2019, 63, 103883.	8.2	20
497	Liquid-metal-elastomer foam for moldable multi-functional triboelectric energy harvesting and force sensing. Nano Energy, 2019, 64, 103912.	8.2	37
498	Mechanically Active Transducing Element Based on Solidâ€“Liquid Triboelectric Nanogenerator for Self-Powered Sensing. International Journal of Precision Engineering and Manufacturing - Green Technology, 2019, 6, 741-749.	2.7	31
499	Wireless Power Transmission Enabled by a Triboelectric Nanogenerator via a Magnetic Interaction. Energy Technology, 2019, 7, 1900503.	1.8	15
500	Waterproof, Breathable, and Antibacterial Selfâ€“Powered eâ€“Textiles Based on Omniphobic Triboelectric Nanogenerators. Advanced Functional Materials, 2019, 29, 1904350.	7.8	85
501	Multifunctional Sensor Based on Translationalâ€“Rotary Triboelectric Nanogenerator. Advanced Energy Materials, 2019, 9, 1901124.	10.2	101
502	Pyrolic-nitrogen-rich biomass-derived catalyst for sustainable degradation of organic pollutant via a self-powered electro-Fenton process. Nano Energy, 2019, 64, 103940.	8.2	62
503	A Review of Human-Powered Energy Harvesting for Smart Electronics: Recent Progress and Challenges. International Journal of Precision Engineering and Manufacturing - Green Technology, 2019, 6, 821-851.	2.7	130
504	Patterned Cu-Mesh-Based Transparent and Wearable Touch Panel for Tactile, Proximity, Pressure, and Temperature Sensing. ACS Applied Electronic Materials, 2019, 1, 1597-1604.	2.0	36
505	Research on regional energy efficiency based on GIS technology and image quality processing. Journal of Visual Communication and Image Representation, 2019, 62, 410-417.	1.7	3
506	3D-printed biomimetic-villus structure with maximized surface area for triboelectric nanogenerator and dust filter. Nano Energy, 2019, 63, 103857.	8.2	55
507	A water-evaporation-induced self-charging hybrid power unit for application in the Internet of Things. Science Bulletin, 2019, 64, 1409-1417.	4.3	51
508	Shape-Adaptive, Self-Healable Triboelectric Nanogenerator with Enhanced Performances by Soft Solidâ€“Solid Contact Electrification. ACS Nano, 2019, 13, 8936-8945.	7.3	121

#	ARTICLE	IF	CITATIONS
509	Boost the Performance of Triboelectric Nanogenerators through Circuit Oscillation. <i>Advanced Energy Materials</i> , 2019, 9, 1900772.	10.2	44
510	A Triboelectric Nanogenerator as a Self-Powered Sensor for a Soft-Rigid Hybrid Actuator. <i>Advanced Materials Technologies</i> , 2019, 4, 1900337.	3.0	53
511	Recent progress of nanogenerators acting as biomedical sensors in vivo. <i>Science Bulletin</i> , 2019, 64, 1336-1347.	4.3	91
512	Amplitude-variable output characteristics of triboelectric-electret nanogenerators during multiple working cycles. <i>Nano Energy</i> , 2019, 63, 103856.	8.2	12
513	Tribological Properties and Electrification Performance of Patterned Surface for Sliding-Mode Triboelectric Nanogenerator. <i>Langmuir</i> , 2019, 35, 9396-9401.	1.6	19
514	Dual-Stimulus Smart Actuator and Robot Hand Based on a Vapor-Responsive PDMS Film and Triboelectric Nanogenerator. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 42504-42511.	4.0	31
515	Largely enhancing the output power and charging efficiency of electret generators using position-based auto-switch and passive power management module. <i>Nano Energy</i> , 2019, 66, 104202.	8.2	17
516	Simulation of high-output and lightweight sliding-mode triboelectric nanogenerators. <i>Nano Energy</i> , 2019, 66, 104115.	8.2	19
517	Study of thin film blue energy harvester based on triboelectric nanogenerator and seashore IoT applications. <i>Nano Energy</i> , 2019, 66, 104167.	8.2	117
518	A Frequency Up-Converted Hybrid Energy Harvester Using Transverse Impact-Driven Piezoelectric Bimorph for Human-Limb Motion. <i>Micromachines</i> , 2019, 10, 701.	1.4	32
519	Integrated flywheel and spiral spring triboelectric nanogenerator for improving energy harvesting of intermittent excitations/trigging. <i>Nano Energy</i> , 2019, 66, 104104.	8.2	40
520	Devices for promising applications. , 2019, , 247-314.		0
521	On the Maximal Output Energy Density of Nanogenerators. <i>ACS Nano</i> , 2019, 13, 13257-13263.	7.3	43
522	Unveiling Peritoneum Membrane for a Robust Triboelectric Nanogenerator. <i>ACS Omega</i> , 2019, 4, 17684-17690.	1.6	22
524	An Illumination-Assisted Flexible Self-Powered Energy System Based on a Li <sup>+</sup> O <sub>2</sub> Battery. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 16411-16415.	7.2	78
527	A high-efficiency multidirectional wind energy harvester based on impact effect for self-powered wireless sensors in the grid. <i>Smart Materials and Structures</i> , 2019, 28, 115022.	1.8	46
528	Integrated Triboelectric Nanogenerators in the Era of the Internet of Things. <i>Advanced Science</i> , 2019, 6, 1802230.	5.6	174
529	Low Detection Limit and High Sensitivity Wind Speed Sensor Based on Triboelectrification-Induced Electroluminescence. <i>Advanced Science</i> , 2019, 6, 1901980.	5.6	34

#	ARTICLE	IF	CITATIONS
530	An Illumination-Assisted Flexible Self-Powered Energy System Based on a Li <sup>2</sup> Battery. <i>Angewandte Chemie</i> , 2019, 131, 16563-16567.	1.6	35
531	Self-doubled-rectification of triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 66, 104165.	8.2	50
532	Surface States Enhanced Dynamic Schottky Diode Generator with Extremely High Power Density Over 1000 W m <sup>-2</sup> . <i>Advanced Science</i> , 2019, 6, 1901925.	5.6	50
533	Semi-supervised variational Bayesian Student's t mixture regression and robust inferential sensor application. <i>Control Engineering Practice</i> , 2019, 92, 104155.	3.2	13
534	Tilting-Sensitive Triboelectric Nanogenerators for Energy Harvesting from Unstable/Fluctuating Surfaces. <i>Advanced Functional Materials</i> , 2019, 29, 1905319.	7.8	27
535	Highly Integrated Triboelectric Nanogenerator for Efficiently Harvesting Raindrop Energy. <i>Advanced Materials Technologies</i> , 2019, 4, 1900608.	3.0	48
536	Transparent flexible heater with nano amorphous pattern. <i>Journal of Micromechanics and Microengineering</i> , 2019, 29, 115010.	1.5	5
537	Multilayered Electret/Triboelectric Generator for Selfpowered Instantaneous Tactile Imaging. , 2019, , .		0
538	Frequency-independent self-powered sensing based on capacitive impedance matching effect of triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 65, 103984.	8.2	44
539	Hybridizing linear and nonlinear couplings for constructing two-degree-of-freedom electromagnetic energy harvesters. <i>International Journal of Energy Research</i> , 2019, 43, 8004.	2.2	6
540	Tactile Sensors for Advanced Intelligent Systems. <i>Advanced Intelligent Systems</i> , 2019, 1, 1900090.	3.3	80
541	PVDF Nanofiber Sensor for Vibration Measurement in a String. <i>Sensors</i> , 2019, 19, 3739.	2.1	27
542	Nanogenerator as new energy technology for self-powered intelligent transportation system. <i>Nano Energy</i> , 2019, 66, 104086.	8.2	130
543	A strategy to promote efficiency and durability for sliding energy harvesting by designing alternating magnetic stripe arrays in triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 66, 104087.	8.2	60
544	Comparative Study of Triboelectric Nanogenerators with Differently Woven Cotton Textiles for Wearable Electronics. <i>Polymers</i> , 2019, 11, 1443.	2.0	13
545	High-performance triboelectric nanogenerators for self-powered, in-situ and real-time water quality mapping. <i>Nano Energy</i> , 2019, 66, 104117.	8.2	127
546	Stacked pendulum-structured triboelectric nanogenerators for effectively harvesting low-frequency water wave energy. <i>Nano Energy</i> , 2019, 66, 104108.	8.2	60
547	Phyjama. , 2019, 3, 1-29.		31

#	ARTICLE	IF	CITATIONS
548	Harvesting ultralow frequency (<math>1\ \mu\text{Hz}</math>) mechanical energy using triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 65, 104011.	8.2	31
549	Efficient water scavenging by cooling superhydrophobic surfaces to obtain jumping water droplets from air. <i>Scientific Reports</i> , 2019, 9, 13784.	1.6	15
550	Bistable broadband hybrid generator for ultralow-frequency rectilinear motion. <i>Nano Energy</i> , 2019, 65, 103973.	8.2	25
551	Coupling Enhancement of Photo-Thermoelectric Conversion in a Lateral ZnO Nanowire Array. <i>ACS Applied Energy Materials</i> , 2019, 2, 7647-7654.	2.5	14
552	A high output magneto-mechano-triboelectric generator enabled by accelerated water-soluble nano-bullets for powering a wireless indoor positioning system. <i>Energy and Environmental Science</i> , 2019, 12, 666-674.	15.6	89
553	Softening gold for elastronics. <i>Chemical Society Reviews</i> , 2019, 48, 1668-1711.	18.7	138
554	An Ultra-Shapeable, Smart Sensing Platform Based on a Multimodal Ferrofluid-Infused Surface. <i>Advanced Materials</i> , 2019, 31, e1807201.	11.1	53
555	Emerging Technologies of Flexible Pressure Sensors: Materials, Modeling, Devices, and Manufacturing. <i>Advanced Functional Materials</i> , 2019, 29, 1808509.	7.8	316
556	Towards truly wearable energy harvesters with full structural integrity of fiber materials. <i>Nano Energy</i> , 2019, 58, 365-374.	8.2	69
557	Self-Powered Optical Switch Based on Triboelectrification-Triggered Liquid Crystal Alignment for Wireless Sensing. <i>Advanced Functional Materials</i> , 2019, 29, 1808633.	7.8	27
558	Energy scavenging from ultra-low temperature gradients. <i>Energy and Environmental Science</i> , 2019, 12, 1008-1018.	15.6	26
559	Environmental Energy Harvesting Adapting to Different Weather Conditions and Self-Powered Vapor Sensor Based on Humidity-Responsive Triboelectric Nanogenerators. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 6143-6153.	4.0	65
560	Graphitized carbon nanocages/palladium nanoparticles: Sustainable preparation and electrocatalytic performances towards ethanol oxidation reaction. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 6172-6181.	3.8	27
561	A calibration-free self-powered sensor for vital sign monitoring and finger tap communication based on wearable triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 58, 536-542.	8.2	121
562	Torus structured triboelectric nanogenerator array for water wave energy harvesting. <i>Nano Energy</i> , 2019, 58, 499-507.	8.2	109
563	Nanogenerators as a Sustainable Power Source: State of Art, Applications, and Challenges. <i>Nanomaterials</i> , 2019, 9, 773.	1.9	78
564	Self-powered, on-demand transdermal drug delivery system driven by triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 62, 610-619.	8.2	99
565	Oblate Spheroidal Triboelectric Nanogenerator for All-Weather Blue Energy Harvesting. <i>Advanced Energy Materials</i> , 2019, 9, 1900801.	10.2	162



#	ARTICLE	IF	CITATIONS
566	Investigation on Resistivity-Dependent Behavior of Carbon-Composite-Based Paintable Ionovoltaic Device. <i>ACS Applied Electronic Materials</i> , 2019, 1, 1059-1064.	2.0	4
567	Dynamic Analysis to Enhance the Performance of a Rotating-Disk-Based Triboelectric Nanogenerator by Injected Gas. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 25170-25178.	4.0	20
568	Ionogel-based, highly stretchable, transparent, durable triboelectric nanogenerators for energy harvesting and motion sensing over a wide temperature range. <i>Nano Energy</i> , 2019, 63, 103847.	8.2	188
569	High power mechanical energy harvester based on exfoliated black phosphorous-polymer composite and its multiple applications. <i>Sustainable Energy and Fuels</i> , 2019, 3, 1943-1950.	2.5	8
570	On-Chip MXene Microsupercapacitors for AC-Line Filtering Applications. <i>Advanced Energy Materials</i> , 2019, 9, 1901061.	10.2	113
571	Optimization of triboelectric energy harvesting from falling water droplet onto wrinkled polydimethylsiloxane-reduced graphene oxide nanocomposite surface. <i>Composites Part B: Engineering</i> , 2019, 174, 106923.	5.9	40
572	Towards optimized triboelectric nanogenerators. <i>Nano Energy</i> , 2019, 62, 530-549.	8.2	124
573	On the origin of contact-electrification. <i>Materials Today</i> , 2019, 30, 34-51.	8.3	958
574	A study of the charge distribution and output characteristics of an ultra-thin tribo-dielectric layer. <i>Nano Energy</i> , 2019, 62, 458-464.	8.2	10
575	Resistive switching memory integrated with amorphous carbon-based nanogenerators for self-powered device. <i>Nano Energy</i> , 2019, 63, 103793.	8.2	111
576	Cloud manufacturing paradigm with ubiquitous robotic system for product customization. <i>Robotics and Computer-Integrated Manufacturing</i> , 2019, 60, 12-22.	6.1	53
577	Power-generating footwear based on a triboelectric-electromagnetic-piezoelectric hybrid nanogenerator. <i>Nano Energy</i> , 2019, 62, 660-666.	8.2	80
578	Comparison of Two Design Methods of Triboelectric Nanogenerator for Building Efficient Energy Harvesting and Storage. <i>Lecture Notes in Electrical Engineering</i> , 2019, , 21-29.	0.3	0
579	Biomechanical Energy-Harvesting Wearable Textile-Based Personal Thermal Management Device Containing Epitaxially Grown Aligned Ag <sub>x</sub> Co <sub>1-x</sub> Se Nanowires/Reduced Graphene Oxide. <i>Advanced Functional Materials</i> , 2019, 29, 1903144.	7.8	80
580	Healable and shape-memory dual functional polymers for reliable and multipurpose mechanical energy harvesting devices. <i>Journal of Materials Chemistry A</i> , 2019, 7, 16267-16276.	5.2	45
581	Fluorinated Titania Nanoparticle-Induced Piezoelectric Phase Transition of Poly(vinylidene fluoride). <i>Langmuir</i> , 2019, 35, 8816-8822.	1.6	13
582	A Novel Arch-Shaped Hybrid Composite Triboelectric Generator Using Carbon Fiber Reinforced Polymers. <i>Energy Technology</i> , 2019, 7, 1801005.	1.8	2
583	Strong tribocatalytic dye decomposition through utilizing triboelectric energy of barium strontium titanate nanoparticles. <i>Nano Energy</i> , 2019, 63, 103832.	8.2	76

#	ARTICLE	IF	CITATIONS
584	Schottky direct-current energy harvesters with large current output density. <i>Nano Energy</i> , 2019, 62, 171-180.	8.2	38
585	Eccentric triboelectric nanosensor for monitoring mechanical movements. <i>Nano Energy</i> , 2019, 62, 348-354.	8.2	17
586	Laser-Induced Graphene Triboelectric Nanogenerators. <i>ACS Nano</i> , 2019, 13, 7166-7174.	7.3	181
587	Treefrog Toe Pad-Inspired Micropatterning for High-Power Triboelectric Nanogenerator. <i>Advanced Functional Materials</i> , 2019, 29, 1901638.	7.8	56
588	Power management and effective energy storage of pulsed output from triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 61, 517-532.	8.2	135
589	A Motion-Balanced Sensor Based on the Triboelectricity of Nano-Iron Suspension and Flexible Polymer. <i>Nanomaterials</i> , 2019, 9, 690.	1.9	9
590	Extremely stretchable and self-healing conductor based on thermoplastic elastomer for all-three-dimensional printed triboelectric nanogenerator. <i>Nature Communications</i> , 2019, 10, 2158.	5.8	308
591	Transparent triboelectric sensor arrays using gravure printed silver nanowire electrodes. <i>Applied Physics Express</i> , 2019, 12, 066503.	1.1	20
592	Self-powered on-line ion concentration monitor in water transportation driven by triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 62, 442-448.	8.2	63
593	Graphene-based stretchable/wearable self-powered touch sensor. <i>Nano Energy</i> , 2019, 62, 259-267.	8.2	132
594	A stretchable dual-mode sensor array for multifunctional robotic electronic skin. <i>Nano Energy</i> , 2019, 62, 164-170.	8.2	152
595	A triboelectric energy harvester using human biomechanical motion for low power electronics. <i>Bulletin of Materials Science</i> , 2019, 42, 1.	0.8	10
596	Impact energy harvesting system using mechanical vibration frequency stabilizer. <i>Smart Materials and Structures</i> , 2019, 28, 075006.	1.8	7
597	Chitosan biopolymer-derived self-powered triboelectric sensor with optimized performance through molecular surface engineering and data-driven learning. <i>Informa-Materials</i> , 2019, 1, 116-125.	8.5	47
598	Water-solid triboelectrification with self-repairable surfaces for water-flow energy harvesting. <i>Nano Energy</i> , 2019, 61, 454-461.	8.2	88
599	Quantum-mechanical model for optical transitions between solids. <i>Nano Energy</i> , 2019, 61, 311-317.	8.2	4
600	A theoretical approach for optimizing sliding-mode triboelectric nanogenerator based on multi-parameter analysis. <i>Nano Energy</i> , 2019, 61, 442-453.	8.2	51
601	Enhanced performance of an expanded polytetrafluoroethylene-based triboelectric nanogenerator for energy harvesting. <i>Nano Energy</i> , 2019, 60, 903-911.	8.2	26

#	ARTICLE	IF	CITATIONS
602	A self-powered triboelectric nanosensor for detecting the corrosion state of magnesium treated by micro-arc oxidation. RSC Advances, 2019, 9, 10159-10167.	1.7	3
603	Energy Harvesting&Storage Bracelet Incorporating Electrochemical Microsupercapacitors Self&Charged from a Single Hand Gesture. Advanced Energy Materials, 2019, 9, 1900152.	10.2	47
604	Gd <sub>5</sub> Si <sub>4</sub> -PVDF nanocomposite films and their potential for triboelectric energy harvesting applications. AIP Advances, 2019, 9, .	0.6	7
605	Open-book-like triboelectric nanogenerators based on low-frequency roll&swing oscillators for wave energy harvesting. Nanoscale, 2019, 11, 7199-7208.	2.8	78
606	Electrospun Nanomaterials for Energy Applications: Recent Advances. Applied Sciences (Switzerland), 2019, 9, 1049.	1.3	49
607	Triboelectric freestanding flapping film generator for energy harvesting from gas flow in pipes. Smart Materials and Structures, 2019, 28, 085002.	1.8	12
608	Waterproof Fabric&Based Multifunctional Triboelectric Nanogenerator for Universally Harvesting Energy from Raindrops, Wind, and Human Motions and as Self&Powered Sensors. Advanced Science, 2019, 6, 1801883.	5.6	222
609	Rich lamellar crystal baklava-structured PZT/PVDF piezoelectric sensor toward individual table tennis training. Nano Energy, 2019, 59, 574-581.	8.2	204
610	Self-driven photodetection based on impedance matching effect between a triboelectric nanogenerator and a MoS <sub>2</sub> nanosheets photodetector. Nano Energy, 2019, 59, 492-499.	8.2	50
611	High&Performance Transparent and Flexible Triboelectric Nanogenerators Based on PDMS&PTFE Composite Films. Advanced Electronic Materials, 2019, 5, 1800846.	2.6	70
612	Recent Progress in Power Generation from Water/Liquid Droplet Interaction with Solid Surfaces. Advanced Functional Materials, 2019, 29, 1901069.	7.8	147
613	Octopus tentacles inspired triboelectric nanogenerators for harvesting mechanical energy from highly wetted surface. Nano Energy, 2019, 60, 493-502.	8.2	42
614	Biomechanical Energy Harvesting by Single Electrode-based Triboelectric Nanogenerator. , 2019, , .		3
615	Significantly Enhanced Performance of Triboelectric Nanogenerator by Incorporating BaTiO <sub>3</sub> Nanoparticles in Poly(vinylidene fluoride) Film. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900068.	0.8	35
616	Recent advance in new-generation integrated devices for energy harvesting and storage. Nano Energy, 2019, 60, 600-619.	8.2	190
617	An Ultra&Mechanosensitive Visco&Poroelastic Polymer Ion Pump for Continuous Self&Powering Kinematic Triboelectric Nanogenerators. Advanced Energy Materials, 2019, 9, 1803786.	10.2	63
618	Wearable and Stretchable Triboelectric Nanogenerator Based on Crumpled Nanofibrous Membranes. ACS Applied Materials & Interfaces, 2019, 11, 12452-12459.	4.0	104
619	High-performance flexible Bi <sub>2</sub> Te <sub>3</sub> films based wearable thermoelectric generator for energy harvesting. Energy, 2019, 175, 292-299.	4.5	104

#	ARTICLE	IF	CITATIONS
620	Can nanogenerators contribute to the global greening data centres?. Nano Energy, 2019, 60, 235-246.	8.2	8
621	Highly efficient self-healable and dual responsive hydrogel-based deformable triboelectric nanogenerators for wearable electronics. Journal of Materials Chemistry A, 2019, 7, 13948-13955.	5.2	163
622	Real-time diagnosis of small energy impacts using a triboelectric nanosensor. Sensors and Actuators A: Physical, 2019, 291, 196-203.	2.0	34
623	Investigation of diamond-like carbon films as a promising dielectric material for triboelectric nanogenerator. Nano Energy, 2019, 60, 875-885.	8.2	41
624	Unpacking the toolbox of two-dimensional nanostructures derived from nanosphere templates. Materials Horizons, 2019, 6, 1380-1408.	6.4	16
625	Integrated charge excitation triboelectric nanogenerator. Nature Communications, 2019, 10, 1426.	5.8	375
626	Triboelectric Nanogenerator Scavenging Sliding Motion Energy. , 2019, , .		2
627	Using Electrospun AgNW/P(VDF-TrFE) Composite Nanofibers to Create Transparent and Wearable Single-Electrode Triboelectric Nanogenerators for Self-Powered Touch Panels. ACS Applied Materials & Interfaces, 2019, 11, 15088-15096.	4.0	49
628	Rational Structure Optimized Hybrid Nanogenerator for Highly Efficient Water Wave Energy Harvesting. Advanced Energy Materials, 2019, 9, 1802892.	10.2	92
629	Nature Driven Bio-Piezoelectric/Triboelectric Nanogenerator as Next-Generation Green Energy Harvester for Smart and Pollution Free Society. Advanced Energy Materials, 2019, 9, 1803027.	10.2	111
630	Sustainable self-powered electro-Fenton degradation of organic pollutants in wastewater using carbon catalyst with controllable pore activated by EDTA-2Na. Nano Energy, 2019, 59, 346-353.	8.2	51
631	An eco-friendly triboelectric hybrid nanogenerators based on graphene oxide incorporated polycaprolactone fibers and cellulose paper. Nano Energy, 2019, 59, 412-421.	8.2	142
632	Direct-Current Rotary-Tubular Triboelectric Nanogenerators Based on Liquid-Dielectrics Contact for Sustainable Energy Harvesting and Chemical Composition Analysis. ACS Nano, 2019, 13, 2587-2598.	7.3	66
633	Versatile triboelectric nanogenerator with a hermetic structure by air supporting for multiple energy collection. Nano Energy, 2019, 58, 759-767.	8.2	12
634	On the force and energy conversion in triboelectric nanogenerators. Nano Energy, 2019, 59, 154-161.	8.2	61
635	Nanogenerator for scavenging low frequency vibrations. Journal of Micromechanics and Microengineering, 2019, 29, 053001.	1.5	34
636	Wearable high-dielectric-constant polymers with core-shell liquid metal inclusions for biomechanical energy harvesting and a self-powered user interface. Journal of Materials Chemistry A, 2019, 7, 7109-7117.	5.2	48
637	Structure Design and Performance of Hybridized Nanogenerators. Advanced Functional Materials, 2019, 29, 1806435.	7.8	30

#	ARTICLE	IF	CITATIONS
638	Humidity Sustained Wearable Pouch-Type Triboelectric Nanogenerator for Harvesting Mechanical Energy from Human Activities. <i>Advanced Functional Materials</i> , 2019, 29, 1807779.	7.8	99
639	Polyimide/Graphene Nanocomposite Foam-Based Wind-Driven Triboelectric Nanogenerator for Self-Powered Pressure Sensor. <i>Advanced Materials Technologies</i> , 2019, 4, 1800723.	3.0	86
640	Continuous and scalable manufacture of amphibious energy yarns and textiles. <i>Nature Communications</i> , 2019, 10, 868.	5.8	121
641	Integrated dielectric-electrode layer for triboelectric nanogenerator based on Cu nanowire-Mesh hybrid electrode. <i>Nano Energy</i> , 2019, 59, 120-128.	8.2	37
642	Interfacial friction-induced electronic excitation mechanism for tribo-tunneling current generation. <i>Materials Horizons</i> , 2019, 6, 1020-1026.	6.4	70
643	A Universal high accuracy wearable pulse monitoring system via high sensitivity and large linearity graphene pressure sensor. <i>Nano Energy</i> , 2019, 59, 422-433.	8.2	198
644	Triboelectric effect to harness fluid flow energy. <i>Journal of Physics: Conference Series</i> , 2019, 1407, 012084.	0.3	9
645	High-voltage applications of the triboelectric nanogenerator—Opportunities brought by the unique energy technology. <i>MRS Energy &amp; Sustainability</i> , 2019, 6, 1.	1.3	22
646	A Flexible Triboelectric Nanogenerator Fabricated Using Laser-Assisted Patterning Process. , 2019, , .		23
647	Woven Wearable Electronic Textiles as Self-Powered Intelligent Tribo-Sensors for Activity Monitoring. <i>Global Challenges</i> , 2019, 3, 1900070.	1.8	16
648	Direct-Current Generator Based on Dynamic PN Junctions with the Designed Voltage Output. <i>IScience</i> , 2019, 22, 58-69.	1.9	68
649	The electronic behaviors and charge transfer mechanism at the interface of metals: A first-principles perspective. <i>Journal of Applied Physics</i> , 2019, 126, 205301.	1.1	2
650	Flexible and durable wood-based triboelectric nanogenerators for self-powered sensing in athletic big data analytics. <i>Nature Communications</i> , 2019, 10, 5147.	5.8	335
651	Soft tactile sensor and curvature sensor for caterpillar-like soft robot's adaptive motion. , 2019, , .		4
652	Robust Working Mechanism of Water Droplet-Driven Triboelectric Nanogenerator: Triboelectric Output versus Dynamic Motion of Water Droplet. <i>Advanced Materials Interfaces</i> , 2019, 6, 1901547.	1.9	27
653	All-fiber tribo-ferroelectric synergistic electronics with high thermal-moisture stability and comfortability. <i>Nature Communications</i> , 2019, 10, 5541.	5.8	121
654	Energy harvesters based on fluorinated ethylene propylene unipolar ferroelectrets with negative charges. <i>AIP Advances</i> , 2019, 9, .	0.6	16
655	Advanced Multimaterial Electronic and Optoelectronic Fibers and Textiles. <i>Advanced Materials</i> , 2019, 31, e1802348.	11.1	200

#	ARTICLE	IF	CITATIONS
656	Piezoelectric ZnO thin films for 2DOF MEMS vibrational energy harvesting. <i>Surface and Coatings Technology</i> , 2019, 359, 289-295.	2.2	110
657	The Current Development and Future Outlook of Triboelectric Nanogenerators: A Survey of Literature. <i>Advanced Materials Technologies</i> , 2019, 4, 1800588.	3.0	108
658	Emerging Materials for Energy Harvesting. , 2019, , 719-817.		5
659	Recent Advances in Transparent Electronics with Stretchable Forms. <i>Advanced Materials</i> , 2019, 31, e1804690.	11.1	114
660	Fundamental research on the effective contact area of micro-/nano-textured surface in triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 57, 41-47.	8.2	103
661	Surface potential tailoring of PMMA fibers by electrospinning for enhanced triboelectric performance. <i>Nano Energy</i> , 2019, 57, 500-506.	8.2	67
662	Strategies and progress on improving robustness and reliability of triboelectric nanogenerators. <i>Nano Energy</i> , 2019, 55, 203-215.	8.2	78
663	Textile-Based Triboelectric Nanogenerators for Self-Powered Wearable Electronics. <i>Advanced Functional Materials</i> , 2019, 29, 1804533.	7.8	148
664	Standardization of triboelectric nanogenerators: Progress and perspectives. <i>Nano Energy</i> , 2019, 56, 40-55.	8.2	53
665	Fully-Enclosed Metal Electrode-Free Triboelectric Nanogenerator for Scavenging Vibrational Energy and Alternatively Powering Personal Electronics. <i>Advanced Engineering Materials</i> , 2019, 21, 1800823.	1.6	21
666	Electrode-Free Triboelectric Nanogenerator for Harvesting Human Biomechanical Energy and as a Versatile Inartificial Physiological Monitor. <i>Energy Technology</i> , 2019, 7, 1800931.	1.8	23
667	Triboelectric Nanogenerator Boosts Smart Green Tires. <i>Advanced Functional Materials</i> , 2019, 29, 1806331.	7.8	52
668	Nanogenerator and piezotronic inspired concepts for energy efficient magnetic field sensors. <i>Nano Energy</i> , 2019, 56, 420-425.	8.2	14
669	Self-powered electronic skin based on the triboelectric generator. <i>Nano Energy</i> , 2019, 56, 252-268.	8.2	205
670	Angle-shaped triboelectric nanogenerator for harvesting environmental wind energy. <i>Nano Energy</i> , 2019, 56, 269-276.	8.2	127
671	Mechanical energy conversion systems for triboelectric nanogenerators: Kinematic and vibrational designs. <i>Nano Energy</i> , 2019, 56, 307-321.	8.2	79
672	A general optimization approach for contact-separation triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 56, 700-707.	8.2	70
673	Micro-scale to nano-scale generators for energy harvesting: Self powered piezoelectric, triboelectric and hybrid devices. <i>Physics Reports</i> , 2019, 792, 1-33.	10.3	111

#	ARTICLE	IF	CITATIONS
674	A full-packaged rolling triboelectric-electromagnetic hybrid nanogenerator for energy harvesting and building up self-powered wireless systems. Nano Energy, 2019, 56, 300-306.	8.2	96
675	Triboelectric Nanogenerator: A Foundation of the Energy for the New Era. Advanced Energy Materials, 2019, 9, 1802906.	10.2	1,086
676	More than energy harvesting – Combining triboelectric nanogenerator and flexible electronics technology for enabling novel micro-/nano-systems. Nano Energy, 2019, 57, 851-871.	8.2	255
677	Triboelectric Nanogenerator Networks Integrated with Power Management Module for Water Wave Energy Harvesting. Advanced Functional Materials, 2019, 29, 1807241.	7.8	190
678	Integration of organic/inorganic nanostructured materials in a hybrid nanogenerator enables efficacious energy harvesting via mutual performance enhancement. Nano Energy, 2019, 58, 112-120.	8.2	26
679	Hybrid thermomagnetic oscillator for cooling and direct waste heat conversion to electricity. Applied Energy, 2019, 233-234, 312-320.	5.1	29
680	Aerosol Jet Printed Fine-Featured Triboelectric Sensors for Motion Sensing. Advanced Materials Technologies, 2019, 4, 1800328.	3.0	38
681	High-efficiency self-charging smart bracelet for portable electronics. Nano Energy, 2019, 55, 29-36.	8.2	116
682	Recent progress on textile-based triboelectric nanogenerators. Nano Energy, 2019, 55, 401-423.	8.2	184
683	Green hybrid power system based on triboelectric nanogenerator for wearable/portable electronics. Nano Energy, 2019, 55, 151-163.	8.2	129
684	Kelp-inspired biomimetic triboelectric nanogenerator boosts wave energy harvesting. Nano Energy, 2019, 55, 541-547.	8.2	54
685	Evolution From Single to Hybrid Nanogenerator: A Contemporary Review on Multimode Energy Harvesting for Self-Powered Electronics. IEEE Nanotechnology Magazine, 2019, 18, 21-36.	1.1	47
686	Self-sustainable wind speed sensor system with omni-directional wind based triboelectric generator. Nano Energy, 2019, 55, 115-122.	8.2	35
687	The Recent Advance in Fiber-Shaped Energy Storage Devices. Advanced Electronic Materials, 2019, 5, 1800456.	2.6	103
688	Design and Implementation of Conductor-to-Dielectric Lateral Sliding TENG Mode for Low Power Electronics. Advances in Intelligent Systems and Computing, 2019, , 167-174.	0.5	6
689	Self-Powered Tactile Sensor Array Systems Based on the Triboelectric Effect. Advanced Functional Materials, 2019, 29, 1806379.	7.8	122
690	Butterfly-Inspired Triboelectric Nanogenerators with Spring-Assisted Linkage Structure for Water Wave Energy Harvesting. Advanced Materials Technologies, 2019, 4, 1800514.	3.0	77
691	Bladeless Turbine-Based Triboelectric Nanogenerator for Fluid Energy Harvesting and Self-Powered Fluid Gauge. Advanced Materials Technologies, 2019, 4, 1800560.	3.0	30

#	ARTICLE	IF	CITATIONS
692	Nanowires for Triboelectric Nanogenerators. Nanostructure Science and Technology, 2019, , 353-365.	0.1	1
693	Pump drill-integrated triboelectric nanogenerator as a practical substitute for batteries of intermittently used devices. Nano Energy, 2019, 56, 612-618.	8.2	10
694	Triboelectric energy harvesting from the vibro-impact of three cantilevered beams. Mechanical Systems and Signal Processing, 2019, 121, 509-531.	4.4	58
695	A 500â€”Hz-wide kinetic energy harvester: Outperforming macroscopic electrodynamic arrays with piezoelectric arrays. Mechanical Systems and Signal Processing, 2019, 119, 222-243.	4.4	8
696	Nanogenerators for wearable bioelectronics and biodevices. Journal Physics D: Applied Physics, 2019, 52, 023002.	1.3	37
697	Structural Triboelectric Nanogenerators for Self-powered Wearable Devices. Advances in Intelligent Systems and Computing, 2019, , 187-197.	0.5	3
698	High Performance Triboelectric Nanogenerator by Hot Embossing on Self-Assembled Micro-Particles. Advanced Engineering Materials, 2019, 21, 1700957.	1.6	28
699	Fiber-Based Energy Conversion Devices for Human-Body Energy Harvesting. Advanced Materials, 2020, 32, e1902034.	11.1	204
700	Prototype of energy harvesting door handles using polymer nanocomposite. Applied Nanoscience (Switzerland), 2020, 10, 1-13.	1.6	23
701	Recent Advances in 1D Stretchable Electrodes and Devices for Textile and Wearable Electronics: Materials, Fabrications, and Applications. Advanced Materials, 2020, 32, e1902532.	11.1	219
702	Nature-inspired surface topography: design and function. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	2.0	23
703	Influence of varying altitudes on matching characteristics of the Twin-VGT system with a diesel engine and performance based on analysis of available exhaust energy. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2020, 234, 1972-1985.	1.1	11
704	Ultrafast lithium-ion capacitors for efficient storage of energy generated by triboelectric nanogenerators. Energy Storage Materials, 2020, 24, 297-303.	9.5	29
705	A Leaf-Shaped Triboelectric Nanogenerator for Multiple Ambient Mechanical Energy Harvesting. IEEE Transactions on Power Electronics, 2020, 35, 25-32.	5.4	36
706	Nano-templated films from waste optical discs for self-powered biosensor application and environmental surveillance. Applied Nanoscience (Switzerland), 2020, 10, 199-212.	1.6	0
707	Fiber/Fabric-Based Piezoelectric and Triboelectric Nanogenerators for Flexible/Stretchable and Wearable Electronics and Artificial Intelligence. Advanced Materials, 2020, 32, e1902549.	11.1	826
708	Highly porous polymer cryogel based tribopositive material for high performance triboelectric nanogenerators. Nano Energy, 2020, 68, 104294.	8.2	47
709	Battery-free short-range self-powered wireless sensor network (SS-WSN) using TENG based direct sensory transmission (TDST) mechanism. Nano Energy, 2020, 67, 104266.	8.2	101



#	ARTICLE	IF	CITATIONS
710	Next-generation rooftop triboelectric piezo electric energy harvesting from rain power. Applied Nanoscience (Switzerland), 2020, 10, 679-686.	1.6	14
711	An Integrated Triboelectric-Electromagnetic-Piezoelectric Hybrid Energy Harvester Induced by a Multifunction Magnet for Rotational Motion. Advanced Engineering Materials, 2020, 22, 1900872.	1.6	19
712	Recent Progress and Perspectives of Thermally Drawn Multimaterial Fiber Electronics. Advanced Materials, 2020, 32, e1904911.	11.1	143
713	Origami-inspired electret-based triboelectric generator for biomechanical and ocean wave energy harvesting. Nano Energy, 2020, 67, 104197.	8.2	199
714	A self-powered and high sensitivity acceleration sensor with V-Q-a model based on triboelectric nanogenerators (TEGs). Nano Energy, 2020, 67, 104228.	8.2	83
715	The electron transfer mechanism between metal and amorphous polymers in humidity environment for triboelectric nanogenerator. Nano Energy, 2020, 70, 104476.	8.2	46
716	A triboelectric and pyroelectric hybrid energy harvester for recovering energy from low-grade waste fluids. Nano Energy, 2020, 70, 104459.	8.2	58
717	Energy devices generating and storing electricity from finger and solar thermal energy. Nano Energy, 2020, 69, 104458.	8.2	12
718	Active-powering pressure-sensing fabric devices. Journal of Materials Chemistry A, 2020, 8, 358-368.	5.2	21
719	Solar evaporation for simultaneous steam and power generation. Journal of Materials Chemistry A, 2020, 8, 513-531.	5.2	132
720	Flexible bioelectronics for physiological signals sensing and disease treatment. Journal of Materiomics, 2020, 6, 397-413.	2.8	28
721	Enhancing the sensitivity of portable biosensors based on self-powered ion concentration polarization and electrical kinetic trapping. Nano Energy, 2020, 69, 104407.	8.2	33
722	A triboelectric rolling ball bearing with self-powering and self-sensing capabilities. Nano Energy, 2020, 67, 104277.	8.2	80
723	Hybrid nano-textured nanogenerator and self-powered sensor for on-skin triggered biomechanical motions. Nanotechnology, 2020, 31, 155502.	1.3	22
724	A Flexible, Recyclable, and High-Performance Pullulan-Based Triboelectric Nanogenerator (TENG). Advanced Materials Technologies, 2020, 5, 1900905.	3.0	24
725	Physical sensors for skin-inspired electronics. Informa-Materiály, 2020, 2, 184-211.	8.5	159
726	The recent advances in self-powered medical information sensors. Informa-Materiály, 2020, 2, 212-234.	8.5	96
727	Noncontact triboelectric nanogenerator for human motion monitoring and energy harvesting. Nano Energy, 2020, 69, 104390.	8.2	70

#	ARTICLE	IF	CITATIONS
728	Energy harvesting from a novel contact-type dielectric elastomer generator. <i>Energy Conversion and Management</i> , 2020, 205, 112351.	4.4	44
729	Stretchable Supercapacitors as Emergent Energy Storage Units for Health Monitoring Bioelectronics. <i>Advanced Energy Materials</i> , 2020, 10, 1902769.	10.2	93
730	Rapidly fabricated triboelectric nanogenerator employing insoluble and infusible biomass materials by fused deposition modeling. <i>Nano Energy</i> , 2020, 68, 104382.	8.2	49
731	Dynamic wear sensor array based on single-electrode triboelectric nanogenerators. <i>Nano Energy</i> , 2020, 68, 104303.	8.2	18
732	3D double-faced interlock fabric triboelectric nanogenerator for bio-motion energy harvesting and as self-powered stretching and 3D tactile sensors. <i>Materials Today</i> , 2020, 32, 84-93.	8.3	226
733	Experimental apparatus for simultaneous measurement of triboelectricity and triboluminescence. <i>Measurement: Journal of the International Measurement Confederation</i> , 2020, 152, 107316.	2.5	6
734	Robust Triboelectric Nanogenerator with Ratchet-like Wheel-based Design for Harvesting of Environmental Energy. <i>Advanced Materials Technologies</i> , 2020, 5, 1900801.	3.0	25
735	Probing Contact-Induced Electron and Ion Transfers at a Liquid-Solid Interface. <i>Advanced Materials</i> , 2020, 32, e1905696.	11.1	320
736	A novel ZnPc nanorod derived piezoelectric nanogenerator for energy harvesting. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 118, 113931.	1.3	6
737	Progress in TENG technology—A journey from energy harvesting to nanoenergy and nanosystem. <i>EcoMat</i> , 2020, 2, e12058.	6.8	194
738	Nanogenerator for dynamic stimuli detection and mechanical energy harvesting based on compressed SbSeI nanowires. <i>Energy</i> , 2020, 212, 118717.	4.5	15
739	Wearable triboelectric nanogenerators for biomechanical energy harvesting. <i>Nano Energy</i> , 2020, 77, 105303.	8.2	206
740	Enhanced Triboelectric Performance of Modified PDMS Nanocomposite Multilayered Nanogenerators. <i>Materials</i> , 2020, 13, 4156.	1.3	29
741	Recent progress of triboelectric nanogenerators: From fundamental theory to practical applications. <i>EcoMat</i> , 2020, 2, e12059.	6.8	212
742	Improved output performance of triboelectric nanogenerators based on polydimethylsiloxane composites by the capacitive effect of embedded carbon nanotubes. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	28
743	Novel chitosan/ZnO bilayer film with enhanced humidity-tolerant property: Endowing triboelectric nanogenerator with acetone analysis capability. <i>Nano Energy</i> , 2020, 78, 105256.	8.2	61
744	Smart Insole for Robust Wearable Biomechanical Energy Harvesting in Harsh Environments. <i>ACS Nano</i> , 2020, 14, 14126-14133.	7.3	107
745	Energy harvesting from a dynamic vibro-impact dielectric elastomer generator subjected to rotational excitations. <i>Nonlinear Dynamics</i> , 2020, 102, 1271-1284.	2.7	27

#	ARTICLE	IF	CITATIONS
746	Theoretical maximum efficiency and higher power output in triboelectric nanogenerators. <i>Energy Reports</i> , 2020, 6, 2463-2475.	2.5	19
747	Biotriboelectric Nanogenerators: Materials, Structures, and Applications. <i>Advanced Energy Materials</i> , 2020, 10, 2002001.	10.2	54
748	Programmed-triboelectric nanogeneratorsâ€™A multi-switch regulation methodology for energy manipulation. <i>Nano Energy</i> , 2020, 78, 105241.	8.2	42
749	A pulse controllable voltage source based on triboelectric nanogenerator. <i>Nano Energy</i> , 2020, 77, 105112.	8.2	52
750	A novel MEMS triboelectric energy harvester and sensor with a high vibrational operating frequency and wide bandwidth fabricated using UV-LIGA technique. <i>Sensors and Actuators A: Physical</i> , 2020, 313, 112175.	2.0	22
751	Dripping Channel Based Liquid Triboelectric Nanogenerators for Energy Harvesting and Sensing. <i>ACS Nano</i> , 2020, 14, 10510-10517.	7.3	60
752	Seawater Degradable Triboelectric Nanogenerators for Blue Energy. <i>Advanced Materials Technologies</i> , 2020, 5, 2000455.	3.0	32
753	Emerging triboelectric nanogenerators for ocean wave energy harvesting: state of the art and future perspectives. <i>Energy and Environmental Science</i> , 2020, 13, 2657-2683.	15.6	195
754	Exploring the bifunctional properties of paper-like carbyne-enriched carbon for maintenance-free self-powered systems. <i>Materials Advances</i> , 2020, 1, 1644-1652.	2.6	9
755	A Triboelectric Closedâ€™Loop Sensing System for Authenticity Identification of Paperâ€™Based Artworks. <i>Advanced Materials Technologies</i> , 2020, 5, 2000194.	3.0	5
756	Highly Robust and Self-Powered Electronic Skin Based on Tough Conductive Self-Healing Elastomer. <i>ACS Nano</i> , 2020, 14, 9066-9072.	7.3	90
757	Powering future body sensor network systems: A review of power sources. <i>Biosensors and Bioelectronics</i> , 2020, 166, 112410.	5.3	55
758	High-efficiency super-elastic liquid metal based triboelectric fibers and textiles. <i>Nature Communications</i> , 2020, 11, 3537.	5.8	175
759	Stretchable respiration sensors: Advanced designs and multifunctional platforms for wearable physiological monitoring. <i>Biosensors and Bioelectronics</i> , 2020, 166, 112460.	5.3	129
760	Self-Powered Memory Systems. , 2020, 2, 1669-1690.		15
761	Biomechanical energy harvest based on textiles used in self-powering clothing. <i>Journal of Engineered Fibers and Fabrics</i> , 2020, 15, 155892502096735.	0.5	6
762	Leverage Surface Chemistry for High-Performance Triboelectric Nanogenerators. <i>Frontiers in Chemistry</i> , 2020, 8, 577327.	1.8	45
763	Recent trends of biocompatible triboelectric nanogenerators toward selfâ€™powered eâ€™skin. <i>EcoMat</i> , 2020, 2, e12065.	6.8	49

#	ARTICLE	IF	CITATIONS
764	A Single-Mode, Self-Adapting, and Self-Powered Mechanoreceptor Based on a Potentiometric-Triboelectric Hybridized Sensing Mechanism for Resolving Complex Stimuli. <i>Advanced Materials</i> , 2020, 32, e2005970.	11.1	41
765	Random number generator with a chaotic wind-driven triboelectric energy harvester. <i>Nano Energy</i> , 2020, 78, 105275.	8.2	17
766	Rationally patterned electrode of direct-current triboelectric nanogenerators for ultrahigh effective surface charge density. <i>Nature Communications</i> , 2020, 11, 6186.	5.8	129
767	Gas Sensing with Solar Cells: The Case of NH <sub>3</sub> Detection through Nanocarbon/Silicon Hybrid Heterojunctions. <i>Nanomaterials</i> , 2020, 10, 2303.	1.9	3
768	A high-output triboelectric nanogenerator based on nickel-copper bimetallic hydroxide nanowrinkles for self-powered wearable electronics. <i>Journal of Materials Chemistry A</i> , 2020, 8, 25995-26003.	5.2	67
769	Miura-origami-inspired electret/triboelectric power generator for wearable energy harvesting with water-proof capability. <i>Microsystems and Nanoengineering</i> , 2020, 6, 56.	3.4	40
770	Woven Fabric Triboelectric Nanogenerator for Biomotion Energy Harvesting and as Self-Powered Gait-Recognizing Socks. <i>Energies</i> , 2020, 13, 4119.	1.6	10
771	Advances in Healthcare Electronics Enabled by Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2020, 30, 2004673.	7.8	88
772	Respiration-driven triboelectric nanogenerators for biomedical applications. <i>EcoMat</i> , 2020, 2, e12045.	6.8	58
773	Antimonene dendritic nanostructures: Dual-functional material for high-performance energy storage and harvesting devices. <i>Nano Energy</i> , 2020, 77, 105248.	8.2	86
774	Engineering Materials at the Nanoscale for Triboelectric Nanogenerators. <i>Cell Reports Physical Science</i> , 2020, 1, 100142.	2.8	130
775	A potentiometric mechanotransduction mechanism for novel electronic skins. <i>Science Advances</i> , 2020, 6, eaba1062.	4.7	68
776	A high-output flexible triboelectric nanogenerator based on polydimethylsiloxane/three-dimensional bilayer graphene/carbon cloth composites. <i>Journal of Materials Chemistry A</i> , 2020, 8, 17150-17155.	5.2	38
777	Ink-Based Additive Nanomanufacturing of Functional Materials for Human-Integrated Smart Wearables. <i>Advanced Intelligent Systems</i> , 2020, 2, 2000117.	3.3	17
778	Towards Truly Wearable Systems: Optimizing and Scaling Up Wearable Triboelectric Nanogenerators. <i>IScience</i> , 2020, 23, 101360.	1.9	65
779	A synergetic hybrid mechanism of piezoelectric and triboelectric for galloping wind energy harvesting. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	43
780	The use of renewable energies driving electrochemical technologies for environmental applications. <i>Current Opinion in Electrochemistry</i> , 2020, 22, 211-220.	2.5	101
781	A triboelectric nanogenerator based on human fingernail to harvest and sense body energy. <i>Microelectronic Engineering</i> , 2020, 232, 111408.	1.1	14

#	ARTICLE	IF	CITATIONS
782	Self-Powered Wireless Monitoring of Obstacle Position and State in Gas Pipe via Flow-Driven Triboelectric Nanogenerators. <i>Advanced Materials Technologies</i> , 2020, 5, 2000466.	3.0	23
783	Material Recognition Sensor Array by Electrostatic Induction and Triboelectric Effects. <i>Advanced Materials Technologies</i> , 2020, 5, 2000641.	3.0	15
784	Windmill-inspired hybridized triboelectric nanogenerators integrated with power management circuit for harvesting wind and acoustic energy. <i>Nano Energy</i> , 2020, 78, 105244.	8.2	64
785	Influences of surface charges and gap width between p-type and n-type semiconductors on charge pumping. <i>Nano Energy</i> , 2020, 78, 105287.	8.2	11
786	Harvesting contact-separation-compression vibrations using a flexible and compressible triboelectric generator. <i>Sustainable Energy Technologies and Assessments</i> , 2020, 42, 100869.	1.7	7
787	Direct Current Triboelectric Nanogenerators. <i>Advanced Energy Materials</i> , 2020, 10, 2002756.	10.2	64
788	A spongy electrode-brush-structured dual-mode triboelectric nanogenerator for harvesting mechanical energy and self-powered trajectory tracking. <i>Nano Energy</i> , 2020, 78, 105381.	8.2	53
789	Recent advances in wearable textile-based triboelectric generator systems for energy harvesting from human motion. <i>EcoMat</i> , 2020, 2, e12054.	6.8	63
790	Photoelectrochemical self-powered biosensing cathodic platform by NiO nanosheets/RGO/BiOI heterostructures for detection of glucose. <i>Journal of Electroanalytical Chemistry</i> , 2020, 876, 114497.	1.9	6
792	Triboelectric Nanogenerator Network Integrated with Charge Excitation Circuit for Effective Water Wave Energy Harvesting. <i>Advanced Energy Materials</i> , 2020, 10, 2002123.	10.2	154
793	Wherever there is a dynamic touch, there is electromagnetic field—a discovery for power generation. <i>Nano Energy</i> , 2020, 78, 105314.	8.2	14
794	Highly stretchable and transparent triboelectric nanogenerator based on multilayer structured stable electrode for self-powered wearable sensor. <i>Nano Energy</i> , 2020, 78, 105385.	8.2	49
795	Recent Progress of Biomimetic Antifouling Surfaces in Marine. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000966.	1.9	50
796	Fish Bladder Film-Based Triboelectric Nanogenerator for Noncontact Position Monitoring. <i>ACS Energy Letters</i> , 2020, 5, 3005-3011.	8.8	66
797	Self-Healable Reprocessable Triboelectric Nanogenerators Fabricated with Vitrimeric Poly(hindered) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	7.3	57
798	The Evolution of Flexible Electronics: From Nature, Beyond Nature, and To Nature. <i>Advanced Science</i> , 2020, 7, 2001116.	5.6	185
799	An Ultra-Durable Windmill-Like Hybrid Nanogenerator for Steady and Efficient Harvesting of Low-Speed Wind Energy. <i>Nano-Micro Letters</i> , 2020, 12, 175.	14.4	68
800	Anisotropic Triboelectric Nanogenerator Based on Ordered Electrospinning. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 46205-46211.	4.0	47

#	ARTICLE	IF	CITATIONS
801	Piezocatalysis and Piezo-Photocatalysis: Catalysts Classification and Modification Strategy, Reaction Mechanism, and Practical Application. <i>Advanced Functional Materials</i> , 2020, 30, 2005158.	7.8	435
802	A Flexible Micro-Thermoelectric Generator Sticker with Trapezoidal-Shaped Legs for Large Temperature Gradient and High-Power Density. <i>Advanced Materials Technologies</i> , 2020, 5, 2000486.	3.0	10
803	Pumping up the charge density of a triboelectric nanogenerator by charge-shuttling. <i>Nature Communications</i> , 2020, 11, 4203.	5.8	150
804	Hierarchically patterned self-powered sensors for multifunctional tactile sensing. <i>Science Advances</i> , 2020, 6, eabb9083.	4.7	234
805	Network Topology Optimization of Triboelectric Nanogenerators for Effectively Harvesting Ocean Wave Energy. <i>IScience</i> , 2020, 23, 101848.	1.9	29
806	Nylon-11 nanowires for triboelectric energy harvesting. <i>EcoMat</i> , 2020, 2, e12063.	6.8	27
807	Material choices for triboelectric nanogenerators: A critical review. <i>EcoMat</i> , 2020, 2, e12062.	6.8	196
808	Controlling Performance of Organic-Inorganic Hybrid Perovskite Triboelectric Nanogenerators via Chemical Composition Modulation and Electric Field-Induced Ion Migration. <i>Advanced Energy Materials</i> , 2020, 10, 2002470.	10.2	19
809	Basic Approaches to the Design of Intrinsic Self-Healing Polymers for Triboelectric Nanogenerators. <i>Polymers</i> , 2020, 12, 2594.	2.0	15
810	A Review of Solar Energy Harvesting Electronic Textiles. <i>Sensors</i> , 2020, 20, 5938.	2.1	37
811	Robust Swing-Structured Triboelectric Nanogenerator for Efficient Blue Energy Harvesting. <i>Advanced Energy Materials</i> , 2020, 10, 2000064.	10.2	212
812	Development of Wear-Resistant Energy Harvesting Devices and Self-Powered Systems Based on Bionic Design. <i>ECS Transactions</i> , 2020, 97, 55-61.	0.3	1
813	Microdischarge-Based Direct Current Triboelectric Nanogenerator via Accumulation of Triboelectric Charge in Atmospheric Condition. <i>Advanced Energy Materials</i> , 2020, 10, 2000730.	10.2	46
814	A wireless energy transmission enabled wearable active acetone biosensor for non-invasive prediabetes diagnosis. <i>Nano Energy</i> , 2020, 74, 104941.	8.2	193
815	Rationally Designed Dual-Mode Triboelectric Nanogenerator for Harvesting Mechanical Energy by Both Electrostatic Induction and Dielectric Breakdown Effects. <i>Advanced Energy Materials</i> , 2020, 10, 2000965.	10.2	70
816	Artificial intelligence enhanced mathematical modeling on rotary triboelectric nanogenerators under various kinematic and geometric conditions. <i>Nano Energy</i> , 2020, 75, 104993.	8.2	24
817	Charge-trapping-blocking layer for enhanced triboelectric nanogenerators. <i>Nano Energy</i> , 2020, 75, 105011.	8.2	91
818	High-Performance, Mechanically and Thermally Compliant Silica-Based Solid Polymer Electrolyte for Triboelectric Nanogenerators Application. <i>Advanced Materials Technologies</i> , 2020, 5, 2000303.	3.0	13

#	ARTICLE	IF	CITATIONS
819	Hybrid energy cells based on triboelectric nanogenerator: From principle to system. Nano Energy, 2020, 75, 104980.	8.2	71
820	Increasing the output charge quantity of triboelectric nanogenerators <i>via</i> frequency multiplication with a multigap-structured friction layer. Energy and Environmental Science, 2020, 13, 2069-2076.	15.6	23
821	Multifunctional Water Drop Energy Harvesting and Human Motion Sensor Based on Flexible Dual-Mode Nanogenerator Incorporated with Polymer Nanotubes. ACS Applied Materials & Interfaces, 2020, 12, 24030-24038.	4.0	44
822	A flexible triboelectric nanogenerator based on a super-stretchable and self-healable hydrogel as the electrode. Nanoscale, 2020, 12, 12753-12759.	2.8	45
823	Nanomaterials for cathodic protection of metals. , 2020, , 9-18.		1
824	Simultaneous energy harvesting and signal sensing from a single triboelectric nanogenerator for intelligent self-powered wireless sensing systems. Nano Energy, 2020, 75, 104813.	8.2	55
825	Portland Cement-TiO <sub>2</sub> triboelectric nanogenerator for robust large-scale mechanical energy harvesting and instantaneous motion sensor applications. Nano Energy, 2020, 74, 104802.	8.2	43
826	Hybrid triboelectric-electromagnetic generator for self-powered wind speed and direction detection. Sustainable Energy Technologies and Assessments, 2020, 39, 100717.	1.7	23
827	Bulk Pt/CsPbBr <sub>3</sub> Schottky junctions for charge boosting in robust triboelectric nanogenerators. Journal of Materials Chemistry A, 2020, 8, 11966-11975.	5.2	20
828	Theoretical foundations of triboelectric nanogenerators (TEGs). Science China Technological Sciences, 2020, 63, 1087-1109.	2.0	83
829	Liquid doping materials as micro-carrier of functional molecules for functionalization of triboelectric materials and flexible triboelectric nanogenerators for energy harvesting and gesture detection. Nano Energy, 2020, 74, 104856.	8.2	26
830	Silk and Silk Composite Aerogel-Based Biocompatible Triboelectric Nanogenerators for Efficient Energy Harvesting. Industrial & Engineering Chemistry Research, 2020, 59, 12399-12408.	1.8	30
831	Shape adaptable and highly resilient 3D braided triboelectric nanogenerators as e-textiles for power and sensing. Nature Communications, 2020, 11, 2868.	5.8	285
832	Piezoelectric polymer nanofibers for pressure sensors and their applications in human activity monitoring. RSC Advances, 2020, 10, 21887-21894.	1.7	32
833	New Self-Healing Triboelectric Nanogenerator Based on Simultaneous Repair Friction Layer and Conductive Layer. ACS Applied Materials & Interfaces, 2020, 12, 30390-30398.	4.0	53
834	Self-powered energy conversion and energy storage system based on triboelectric nanogenerator. Nano Energy, 2020, 76, 105008.	8.2	35
835	Fabrication and vibrational energy harvesting characterization of flexible piezoelectric nanogenerator (PEN) based on PVDF/PZT. Polymer Testing, 2020, 90, 106695.	2.3	47
836	Multilayered Cylindrical Triboelectric Nanogenerator to Harvest Kinetic Energy of Tree Branches for Monitoring Environment Condition and Forest Fire. Advanced Functional Materials, 2020, 30, 2003598.	7.8	39

#	ARTICLE	IF	CITATIONS
837	Wearable Triboelectric "Human" Machine Interface (THMI) Using Robust Nanophotonic Readout. ACS Nano, 2020, 14, 8915-8930.	7.3	121
838	Super Tough and Self-Healable Poly(dimethylsiloxane) Elastomer via Hydrogen Bonding Association and Its Applications as Triboelectric Nanogenerators. ACS Applied Materials & Interfaces, 2020, 12, 31975-31983.	4.0	47
839	Enhancing solar "thermal" electric energy conversion based on m-PEGMA/GO synergistic phase change aerogels. Journal of Materials Chemistry A, 2020, 8, 13207-13217.	5.2	42
840	Electrode selection rules for enhancing the performance of triboelectric nanogenerators and the role of few-layers graphene. Nano Energy, 2020, 76, 104989.	8.2	28
841	Contact electrification between identical polymers as the basis for triboelectric/flexoelectric materials. Physical Chemistry Chemical Physics, 2020, 22, 13299-13305.	1.3	24
842	Multiple "Frequency High" Output Triboelectric Nanogenerator Based on a Water Balloon for All "Weather Water Wave Energy Harvesting. Advanced Energy Materials, 2020, 10, 2000426.	10.2	142
843	Self-Powered Biosensor Big Data Intelligent Information Processing System for Real-Time Motion Monitoring. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2020, 646, 500-506.	0.6	7
844	Nanogenerators to Power Implantable Medical Systems. Joule, 2020, 4, 1398-1407.	11.7	61
845	Novel wireless power transmission based on Maxwell displacement current. Nano Energy, 2020, 76, 105051.	8.2	14
846	"Waste to Wealth" Lignin as a Renewable Building Block for Energy Harvesting/Storage and Environmental Remediation. ChemSusChem, 2020, 13, 2807-2827.	3.6	55
847	Fish Gelatin Based Triboelectric Nanogenerator for Harvesting Biomechanical Energy and Self-Powered Sensing of Human Physiological Signals. ACS Applied Materials & Interfaces, 2020, 12, 16442-16450.	4.0	100
848	Hydrophobic and Stable MXene "Polymer Pressure Sensors for Wearable Electronics. ACS Applied Materials & Interfaces, 2020, 12, 15362-15369.	4.0	161
850	A flexible semitransparent dual-electrode hydrogel based triboelectric nanogenerator with tough interfacial bonding and high energy output. Journal of Materials Chemistry C, 2020, 8, 5752-5760.	2.7	28
851	Analysis and experiment of magnetic excitation cantilever-type piezoelectric energy harvesters for rotational motion. Smart Materials and Structures, 2020, 29, 055043.	1.8	26
852	Levitating oscillator-based triboelectric nanogenerator for harvesting from rotational motion and sensing seismic oscillation. Nano Energy, 2020, 72, 104674.	8.2	27
853	Photo-Rechargeable Fabrics as Sustainable and Robust Power Sources for Wearable Bioelectronics. Matter, 2020, 2, 1260-1269.	5.0	204
854	High-Performance Piezocomposite Energy Harvesters by Constructing Bionic Ion Channels. Advanced Materials Technologies, 2020, 5, 2000050.	3.0	6
855	Nano- And Microfiber-Based Fully Fabric Triboelectric Nanogenerator For Wearable Devices. Polymers, 2020, 12, 658.	2.0	24



#	ARTICLE	IF	CITATIONS
856	Triboelectric Nanogenerator (TENG)â€”Sparking an Energy and Sensor Revolution. <i>Advanced Energy Materials</i> , 2020, 10, 2000137.	10.2	430
857	Study of the mechanisms of contact electrification and charge transfer between polytetrafluoroethylene and metals. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 285302.	1.3	7
858	Impact of the wet spinning parameters on the alpacaâ€”based polyacrylonitrile composite fibers: Morphology and enhanced mechanical properties study. <i>Journal of Applied Polymer Science</i> , 2020, 137, 49264.	1.3	19
859	Smart Textiles for Electricity Generation. <i>Chemical Reviews</i> , 2020, 120, 3668-3720.	23.0	644
860	Nacre-Mimicking Titania/Graphene/Chitin Assemblies in Macroscopic Layered Membranes and Their Performance. <i>Journal of Electronic Materials</i> , 2020, 49, 3791-3803.	1.0	4
861	Self-Powered Wind Sensor Based on Triboelectric Generator with Curved Flap Array for Multi-Directional Wind Speed Detection. , 2020, , .		4
862	A Movable Electrode Triboelectric Nanogenerator Fabricated Using a Pencil Lead for Selfâ€”Powered Locating Collision. <i>Advanced Engineering Materials</i> , 2020, 22, 2000109.	1.6	6
863	Improved piezoelectric performance of two-dimensional ZnO nanodisks-based flexible nanogenerators via ZnO/Spiro-MeOTAD PN junction. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 5584-5590.	1.1	7
864	Renewable energies driven electrochemical wastewater/soil decontamination technologies: A critical review of fundamental concepts and applications. <i>Applied Catalysis B: Environmental</i> , 2020, 270, 118857.	10.8	196
865	Holistically Engineered Polymerâ€”Polymer and Polymerâ€”Ion Interactions in Biocompatible Polyvinyl Alcohol Blends for Highâ€”Performance Triboelectric Devices in Selfâ€”Powered Wearable Cardiovascular Monitorings. <i>Advanced Materials</i> , 2020, 32, e2002878.	11.1	66
866	Sign-to-speech translation using machine-learning-assisted stretchable sensor arrays. <i>Nature Electronics</i> , 2020, 3, 571-578.	13.1	513
867	Theoretical investigation of air breakdown direct current triboelectric nanogenerator. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	23
868	Maximizing piezoelectricity by self-assembled highly porous perovskiteâ€”polymer composite films to enable the internet of things. <i>Journal of Materials Chemistry A</i> , 2020, 8, 13619-13629.	5.2	35
869	A Motion Vector Sensor via Directâ€”Current Triboelectric Nanogenerator. <i>Advanced Functional Materials</i> , 2020, 30, 2002547.	7.8	78
870	Artificial intelligence biosensors: Challenges and prospects. <i>Biosensors and Bioelectronics</i> , 2020, 165, 112412.	5.3	153
871	Nest-inspired nanosponge-Cu woven mesh hybrid for ultrastable and high-power triboelectric nanogenerator. <i>Nano Energy</i> , 2020, 71, 104561.	8.2	29
872	Roles of Semiconductor Junctions in Mechanical-Electrical Power Conversion. , 2020, , .		2
873	Manipulating Relative Permittivity for High-Performance Wearable Triboelectric Nanogenerators. <i>Nano Letters</i> , 2020, 20, 6404-6411.	4.5	231

#	ARTICLE	IF	CITATIONS
874	Continuous rotation of eccentric triboelectric nanosensor under low frequency periodic vibration. <i>Nano Energy</i> , 2020, 76, 105075.	8.2	6
875	An anti-freezing hydrogel based stretchable triboelectric nanogenerator for biomechanical energy harvesting at sub-zero temperature. <i>Journal of Materials Chemistry A</i> , 2020, 8, 13787-13794.	5.2	126
876	Automatic resonance tuning mechanism for ultra-wide bandwidth mechanical energy harvesting. <i>Nano Energy</i> , 2020, 77, 104986.	8.2	43
877	Ternary Electrification Layered Architecture for High-Performance Triboelectric Nanogenerators. <i>ACS Nano</i> , 2020, 14, 9050-9058.	7.3	88
878	Anisotropic nanogenerator for anticounterfeiting and information encrypted transmission. <i>Nano Energy</i> , 2020, 71, 104572.	8.2	27
879	A Fully Self-Powered Vibration Monitoring System Driven by Dual-Mode Triboelectric Nanogenerators. <i>ACS Nano</i> , 2020, 14, 2475-2482.	7.3	154
880	Environmental energy harvesting based on triboelectric nanogenerators. <i>Nanotechnology</i> , 2020, 31, 242001.	1.3	103
881	Self-Healing, Flexible, and Tailorable Triboelectric Nanogenerators for Self-Powered Sensors based on Thermal Effect of Infrared Radiation. <i>Advanced Functional Materials</i> , 2020, 30, 1910723.	7.8	110
882	Meter-scale fabrication of water-driven triboelectric nanogenerator based on in-situ grown layered double hydroxides through a bottom-up approach. <i>Nano Energy</i> , 2020, 71, 104646.	8.2	32
883	Enhanced output performance and stability of triboelectric nanogenerators by employing silane-based self-assembled monolayers. <i>Journal of Materials Chemistry C</i> , 2020, 8, 4542-4548.	2.7	26
884	Ultrasonic-assisted ultrafast fabrication of polymer nanowires for high performance triboelectric nanogenerators. <i>Nano Energy</i> , 2020, 71, 104593.	8.2	27
885	Wire-based triboelectric resonator for a self-powered crack monitoring system. <i>Nano Energy</i> , 2020, 71, 104615.	8.2	6
886	High-Performance Triboelectric Nanogenerators Based on a Mechanoradical Mechanism. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 3865-3871.	3.2	14
887	Manufacturing routes toward flexible and smart energy harvesters and sensors based on functional nanomaterials. , 2020, , 381-437.		2
888	Self-driven power management system for triboelectric nanogenerators. <i>Nano Energy</i> , 2020, 71, 104642.	8.2	129
889	Recent progress on flexible nanogenerators toward self-powered systems. <i>Informa-Ån-Å-Materi-Åjly</i> , 2020, 2, 318-340.	8.5	85
890	Structurally engineered textile-based triboelectric nanogenerator for energy harvesting application. <i>Journal of Materials Science</i> , 2020, 55, 5177-5189.	1.7	31
891	Large-Area Triboelectric Nanogenerator Mass Spectrometry: Expanded Coverage, Double-Bond Pinpointing, and Supercharging. <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 727-734.	1.2	10

#	ARTICLE	IF	CITATIONS
892	Maximizing power generation from ambient stray magnetic fields around smart infrastructures enabling self-powered wireless devices. <i>Energy and Environmental Science</i> , 2020, 13, 1462-1472.	15.6	59
893	Theoretical study of superlubric nanogenerators with superb performances. <i>Nano Energy</i> , 2020, 70, 104494.	8.2	23
894	Polymer-based Nanogenerator for Biomedical Applications. <i>Chemical Research in Chinese Universities</i> , 2020, 36, 41-54.	1.3	17
895	Arrangement optimization of water-driven triboelectric nanogenerators considering capillary phenomenon between hydrophobic surfaces. <i>Scientific Reports</i> , 2020, 10, 1126.	1.6	8
896	The Overlapped Electron-Cloud Model for Electron Transfer in Contact Electrification. <i>Advanced Functional Materials</i> , 2020, 30, 1909724.	7.8	61
897	Nanogenerators with Superwetting Surfaces for Harvesting Water/Liquid Energy. <i>Advanced Functional Materials</i> , 2020, 30, 1908252.	7.8	103
898	Unraveling Temperature-Dependent Contact Electrification between Sliding-Mode Triboelectric Pairs. <i>Advanced Functional Materials</i> , 2020, 30, 1909384.	7.8	42
899	Smart Soft Actuators and Grippers Enabled by Self-Powered Tribo-skins. <i>Advanced Materials Technologies</i> , 2020, 5, 1901075.	3.0	52
900	Sandwich-like sound-driven triboelectric nanogenerator for energy harvesting and electrochromic based on Cu foam. <i>Nano Energy</i> , 2020, 70, 104543.	8.2	55
901	A self-powered character recognition device based on a triboelectric nanogenerator. <i>Nano Energy</i> , 2020, 70, 104534.	8.2	23
902	Living Plant-Hybrid Generators for Multidirectional Wind Energy Conversion. <i>Energy Technology</i> , 2020, 8, 2000236.	1.8	31
903	Continuous direct current by charge transportation for next-generation IoT and real-time virtual reality applications. <i>Nano Energy</i> , 2020, 73, 104760.	8.2	61
904	Development of Highly Durable Sliding Triboelectric Nanogenerator Using Diamond-Like Carbon Films. <i>Tribology Online</i> , 2020, 15, 89-97.	0.2	12
905	A self-powered and arch-structured triboelectric nanogenerator for portable electronics and human-machine communication. <i>Journal of Materials Chemistry A</i> , 2020, 8, 8997-9005.	5.2	36
906	Carbon anchored conducting polymer composite linkage for high performance water energy harvesters. <i>Nano Energy</i> , 2020, 74, 104827.	8.2	13
907	Investigation upon the performance of piezoelectric energy harvester with elastic extensions. <i>Applied Mathematical Modelling</i> , 2020, 83, 438-453.	2.2	4
908	Electric current generation of a droplet falling into an electrolyte solution. <i>Energy Conversion and Management</i> , 2020, 212, 112791.	4.4	2
909	Scanning Probing of the Tribovoltaic Effect at the Sliding Interface of Two Semiconductors. <i>Advanced Materials</i> , 2020, 32, e2000928.	11.1	93

#	ARTICLE	IF	CITATIONS
910	An Energy Harvester for Low-Frequency Electrical Signals. <i>Energy Technology</i> , 2020, 8, 2000114.	1.8	10
911	Responsive Nanomaterials for Sustainable Applications. <i>Springer Series in Materials Science</i> , 2020, , .	0.4	2
912	Sweep-type triboelectric linear motion sensor with staggered electrode. <i>Extreme Mechanics Letters</i> , 2020, 37, 100713.	2.0	21
913	A self-charging device with bionic self-cleaning interface for energy harvesting. <i>Nano Energy</i> , 2020, 73, 104738.	8.2	65
914	Research Progress and Prospect of Triboelectric Nanogenerators as Self-Powered Human Body Sensors. <i>ACS Applied Electronic Materials</i> , 2020, 2, 863-878.	2.0	75
915	Continuous and Scalable Manufacture of Hybridized Nano-Micro Triboelectric Yarns for Energy Harvesting and Signal Sensing. <i>ACS Nano</i> , 2020, 14, 4716-4726.	7.3	130
916	Omnidirectional Triboelectric Nanogenerator Operated by Weak Wind towards a Self-Powered Anemoscope. <i>Micromachines</i> , 2020, 11, 414.	1.4	28
917	Titanium-Doped P-Type WO <sub>3</sub> Thin Films for Liquefied Petroleum Gas Detection. <i>Nanomaterials</i> , 2020, 10, 727.	1.9	17
918	Energy harvesting from shadow-effect. <i>Energy and Environmental Science</i> , 2020, 13, 2404-2413.	15.6	29
919	Multifunctional Mechanical Metamaterials with Embedded Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2020, 30, 2001720.	7.8	29
920	Electro-blown spinning driven by cylindrical rotating triboelectric nanogenerator and its applications for fabricating nanofibers. <i>Applied Materials Today</i> , 2020, 19, 100631.	2.3	10
921	Alveolus-Inspired Active Membrane Sensors for Self-Powered Wearable Chemical Sensing and Breath Analysis. <i>ACS Nano</i> , 2020, 14, 6067-6075.	7.3	271
922	Triboelectric nanogenerators: Fundamental physics and potential applications. <i>Friction</i> , 2020, 8, 481-506.	3.4	224
923	Hybridized Mechanical and Solar Energy-Driven Self-Powered Hydrogen Production. <i>Nano-Micro Letters</i> , 2020, 12, 88.	14.4	31
924	Piezoelectric boron nitride nanosheets for high performance energy harvesting devices. <i>Nano Energy</i> , 2021, 80, 105561.	8.2	49
925	Improved performance of nanogenerator via synergetic piezo/triboelectric effects of lithium niobate microparticles embedded composite films. <i>Composites Science and Technology</i> , 2021, 201, 108540.	3.8	36
926	Electron transfer in the contact-electrification between corrugated 2D materials: A first-principles study. <i>Nano Energy</i> , 2021, 79, 105386.	8.2	20
927	Conductive elastic sponge-based triboelectric nanogenerator (TENG) for effective random mechanical energy harvesting and ammonia sensing. <i>Nano Energy</i> , 2021, 79, 105422.	8.2	67

#	ARTICLE	IF	CITATIONS
928	Theoretical analysis of sensor properties of contact-separation mode nanogenerator-based sensors. Nano Energy, 2021, 79, 105450.	8.2	6
929	Sandwich as a triboelectric nanogenerator. Nano Energy, 2021, 79, 105411.	8.2	33
930	Defect states contributed nanoscale contact electrification at ZnO nanowires packed film surfaces. Nano Energy, 2021, 79, 105406.	8.2	22
931	Detection of driving actions on steering wheel using triboelectric nanogenerator via machine learning. Nano Energy, 2021, 79, 105455.	8.2	40
932	Research methods of contact electrification: Theoretical simulation and experiment. Nano Energy, 2021, 79, 105501.	8.2	23
933	Advances in triboelectric nanogenerators for biomedical sensing. Biosensors and Bioelectronics, 2021, 171, 112714.	5.3	159
934	Active matching circuit to enhance the generated power of triboelectric nanogenerators. Nano Energy, 2021, 80, 105588.	8.2	4
935	Polymer chemistry underpinning materials for triboelectric nanogenerators (TEGs): Recent trends. European Polymer Journal, 2021, 142, 110163.	2.6	37
936	Nanogenerator-based hybrid systems for smart textiles. , 2021, , 83-92.		1
937	A Novel MXene/Ecoflex Nanocomposite-Coated Fabric as a Highly Negative and Stable Friction Layer for High-Output Triboelectric Nanogenerators. Advanced Energy Materials, 2021, 11, .	10.2	133
938	Biaxial Stretchability in High-Performance, All-Solid-State Supercapacitor with a Double-Layer Anode and a Faradic Cathode Based on Graphitic-2200 Knitted Carbon Fiber. Advanced Energy Materials, 2021, 11, 2002961.	10.2	38
939	Design, manufacturing and applications of wearable triboelectric nanogenerators. Nano Energy, 2021, 81, 105627.	8.2	86
940	Making use of nanoenergy from human " Nanogenerator and self-powered sensor enabled sustainable wireless IoT sensory systems. Nano Today, 2021, 36, 101016.	6.2	180
941	First Decade of Interfacial Iontronic Sensing: From Droplet Sensors to Artificial Skins. Advanced Materials, 2021, 33, e2003464.	11.1	155
942	Waste Plastic Triboelectric Nanogenerators Using Recycled Plastic Bags for Power Generation. ACS Applied Materials & Interfaces, 2021, 13, 400-410.	4.0	116
943	Toward Healthcare Diagnoses by Machine-Learning-Enabled Volatile Organic Compound Identification. ACS Nano, 2021, 15, 894-903.	7.3	81
944	Photovoltaic Self-Powered Gas Sensing: A Review. IEEE Sensors Journal, 2021, 21, 5628-5644.	2.4	29
945	Highly thermo-conductive but electrically insulating filament via a volume-confinement self-assembled strategy for thermoelectric wearables. Chemical Engineering Journal, 2021, 421, 127764.	6.6	14

#	ARTICLE	IF	CITATIONS
946	Hybrid energy harvesting technology: From materials, structural design, system integration to applications. <i>Renewable and Sustainable Energy Reviews</i> , 2021, 137, 110473.	8.2	185
947	Design of functionally cooperating systems and application towards self-propulsive mini-generators. <i>Materials Chemistry Frontiers</i> , 2021, 5, 129-150.	3.2	14
948	Integrated energy storage system based on triboelectric nanogenerator in electronic devices. <i>Frontiers of Chemical Science and Engineering</i> , 2021, 15, 238-250.	2.3	86
949	Miura-Origami-Structured W-Tube Electret Power Generator with Water-Proof and Multifunctional Energy Harvesting Capability. , 2021, , .		1
950	ZnAlâ€“LDH-induced electroactive $\hat{I}^2$ -phase and controlled dielectrics of PVDF for a high-performance triboelectric nanogenerator for humidity and pressure sensing applications. <i>Journal of Materials Chemistry A</i> , 2021, 9, 15993-16005.	5.2	45
951	Photoacoustic and piezo-ultrasound hybrid-induced energy transfer for 3D twining wireless multifunctional implants. <i>Energy and Environmental Science</i> , 2021, 14, 1490-1505.	15.6	23
952	High output achieved by sliding electrification of an electrospun nano-grating. <i>Nanoscale</i> , 2021, 13, 17417-17427.	2.8	12
953	Natural textile based triboelectric nanogenerators for efficient energy harvesting applications. <i>Nanoscale</i> , 2021, 13, 2420-2428.	2.8	21
954	Sensing of ultraviolet light: a transition from conventional to self-powered photodetector. <i>Nanoscale</i> , 2021, 13, 15526-15551.	2.8	36
955	Wearable triboelectric nanogenerators for heart rate monitoring. <i>Chemical Communications</i> , 2021, 57, 5871-5879.	2.2	64
956	Self-powered, rapid-response, and highly flexible nanosensors. , 2021, , 397-415.		2
957	Distributed-parameter modeling and dynamic analysis of rotational compressive-mode energy harvesters. <i>Nonlinear Dynamics</i> , 2021, 103, 157-182.	2.7	4
958	Advances in self-powered chemical sensing<i> via</i> a triboelectric nanogenerator. <i>Nanoscale</i> , 2021, 13, 2065-2081.	2.8	81
959	Advances in Nanostructures for Highâ€“Performance Triboelectric Nanogenerators. <i>Advanced Materials Technologies</i> , 2021, 6, 2000916.	3.0	94
960	Triboelectric energy harvesting using conjugated microporous polymer nanoparticles in polyurethane films. <i>Journal of Materials Chemistry A</i> , 2021, 9, 12560-12565.	5.2	12
961	Nanogenerators: An introduction. , 2021, , 47-59.		0
962	Triboelectric Sensors for IoT and Wearable Applications. , 2023, , 235-257.		6
963	Analysis and Design of Wearable Electronics Based on Energy Harvesting and Storage. <i>Advances in Intelligent Systems and Computing</i> , 2021, , 312-317.	0.5	0

#	ARTICLE	IF	CITATIONS
964	Materials-Related Strategies for Highly Efficient Triboelectric Energy Generators. <i>Advanced Energy Materials</i> , 2021, 11, 2003802.	10.2	73
965	An Electrospun PVDF-TRFE/Mxene Nanofibrous Mat-Based Self-Powered Motion Sensor. , 2021, , .		5
966	Surface-control enhanced crater-like electrode in a gelatin/polyvinyl alcohol/carbon composite for biodegradable multi-modal sensing systems with human-affinity. <i>Journal of Materials Chemistry A</i> , 2021, 9, 9145-9156.	5.2	7
967	An approach to designing smart future electronics using nature-driven biopiezoelectric/triboelectric nanogenerators. , 2021, , 251-282.		2
968	Sensing Materials: Bio-inspired Materials. , 2021, , .		0
969	Advanced fibrous materials for wearable energy harvesting applications. , 2021, , 93-109.		2
970	Self-powered ammonia synthesis under ambient conditions via N <sub>2</sub> discharge driven by Tesla turbine triboelectric nanogenerators. <i>Microsystems and Nanoengineering</i> , 2021, 7, 7.	3.4	24
971	Zinc oxide heterostructures: advances in devices from self-powered photodetectors to self-charging supercapacitors. <i>Materials Advances</i> , 2021, 2, 6768-6799.	2.6	19
972	Graphene-based devices for smart cities. , 2021, , 491-514.		0
973	Power Supplies for electronic textiles. , 2021, , 435-445.		0
974	Self-Powered Wearable Biosensors. <i>Accounts of Materials Research</i> , 2021, 2, 184-197.	5.9	118
975	A chitosan/amido-graphene oxide-based self-powered humidity sensor enabled by triboelectric effect. <i>Rare Metals</i> , 2021, 40, 1995-2003.	3.6	47
976	Self-powered electro-tactile system for virtual tactile experiences. <i>Science Advances</i> , 2021, 7, .	4.7	161
977	Self-Healing Soft Sensors: From Material Design to Implementation. <i>Advanced Materials</i> , 2021, 33, e2004190.	11.1	106
978	Biopolymer Nanofibers for Nanogenerator Development. <i>Research</i> , 2021, 2021, 1843061.	2.8	22
979	Paper-based triboelectric nanogenerators and their applications: a review. <i>Beilstein Journal of Nanotechnology</i> , 2021, 12, 151-171.	1.5	27
980	Recent developments in self-powered smart chemical sensors for wearable electronics. <i>Nano Research</i> , 2021, 14, 3669-3689.	5.8	78
981	From Fiber to Fabric: Progress Towards Photovoltaic Energy Textile. <i>Advanced Fiber Materials</i> , 2021, 3, 76-106.	7.9	36

#	ARTICLE	IF	CITATIONS
982	Internet of things energy system: Smart applications, technology advancement, and open issues. International Journal of Energy Research, 2021, 45, 8389-8419.	2.2	34
983	Wearable and Implantable Electroceuticals for Therapeutic Electrostimulations. Advanced Science, 2021, 8, 2004023.	5.6	73
984	Efficient Triboelectric Nanogenerator (TENG) Output Management for Improving Charge Density and Reducing Charge Loss. ACS Applied Electronic Materials, 2021, 3, 532-549.	2.0	29
985	Rapid Fabrication of Superhydrophilic Micro/Nanostructured Nickel Foam Toward High-Performance Glucose Sensor. Advanced Materials Interfaces, 2021, 8, 2002133.	1.9	42
986	A Self-Powered Vector Angle/Displacement Sensor Based on Triboelectric Nanogenerator. Micromachines, 2021, 12, 231.	1.4	16
988	Rib Stitch Knitted Extremely Stretchable and Washable Textile Triboelectric Nanogenerator. Advanced Materials Technologies, 2021, 6, 2000983.	3.0	24
989	Recent Advances in Self-Powered Electrochemical Systems. Research, 2021, 2021, 4673028.	2.8	27
990	Improved Output Performance of Triboelectric Nanogenerator by Fast Accumulation Process of Surface Charges. Advanced Energy Materials, 2021, 11, 2100050.	10.2	67
991	Elastic Multifunctional Liquid-Metal Fibers for Harvesting Mechanical and Electromagnetic Energy and as Self-Powered Sensors. Advanced Energy Materials, 2021, 11, 2100411.	10.2	97
992	Triboelectric-piezoelectric hybrid nanogenerator based on BaTiO <sub>3</sub> -Nanorods/Chitosan enhanced output performance with self-charge-pumping system. Composites Part B: Engineering, 2021, 208, 108602.	5.9	67
993	Flexible Self-Charging, Ultrafast, High-Power-Density Ceramic Capacitor System. ACS Energy Letters, 0, , 1383-1391.	8.8	36
994	A Stretchable, Self-Healable Triboelectric Nanogenerator as Electronic Skin for Energy Harvesting and Tactile Sensing. Materials, 2021, 14, 1689.	1.3	38
995	Production and applications of flexible/wearable triboelectric nanogenerator (TENGS). Synthetic Metals, 2021, 273, 116692.	2.1	14
996	The Triboelectric Nanogenerator as an Innovative Technology toward Intelligent Sports. Advanced Materials, 2021, 33, e2004178.	11.1	279
997	Leveraging triboelectric nanogenerators for bioengineering. Matter, 2021, 4, 845-887.	5.0	192
998	Multi-Mode Water-Tube-Based Triboelectric Nanogenerator Designed for Low-Frequency Energy Harvesting with Ultrahigh Volumetric Charge Density. Advanced Energy Materials, 2021, 11, 2100038.	10.2	94
999	Tribo-mechanism of amorphous carbon films under corrosion solution and various mechanical loads. Diamond and Related Materials, 2021, 114, 108318.	1.8	3
1000	Oil Flow Electrification of Insulating Oil Detected by The Triboelectric Effect. , 2021, , .		0



#	ARTICLE	IF	CITATIONS
1001	ZnO nanorods@conductive carbon black nanocomposite based flexible integrated system for energy conversion and storage through triboelectric nanogenerator and supercapacitor. Nano Energy, 2021, 82, 105726.	8.2	32
1002	Progress in micro/nano sensors and nanoenergy for future AIoT-based smart home applications. Nano Express, 2021, 2, 022005.	1.2	50
1003	Simultaneously Harvesting Friction and Solar Energy via Organic/Silicon Heterojunction with High Direct-Current Generation. Advanced Energy Materials, 2021, 11, 2100578.	10.2	13
1004	Microscale Schottky superlubric generator with high direct-current density and ultralong life. Nature Communications, 2021, 12, 2268.	5.8	57
1005	Concealed Wireless Warning Sensor Based on Triboelectrification and Human-Plant Interactive Induction. Research, 2021, 2021, 9870936.	2.8	15
1006	Electret Nanogenerators for Self-Powered, Flexible Electronic Pianos. Sustainability, 2021, 13, 4142.	1.6	1
1007	Recent Advances of Energy Solutions for Implantable Bioelectronics. Advanced Healthcare Materials, 2021, 10, e2100199.	3.9	65
1008	Self-powered wearable biosensors. , 2021, , .		0
1009	Development and Characterization of Double-Contact Triboelectric Nanogenerator with Improved Energy Harvesting Performance. Journal of the Korean Society for Precision Engineering, 2021, 38, 287-294.	0.1	1
1010	The Recent Progress in Cellulose Paper-Based Triboelectric Nanogenerators. Advanced Sustainable Systems, 2021, 5, 2100034.	2.7	17
1011	Wearable and self-powered sensors made by triboelectric nanogenerators assembled from antibacterial bromobutyl rubber. Nano Energy, 2021, 82, 105769.	8.2	49
1012	Design and Optimization Principles of Cylindrical Sliding Triboelectric Nanogenerators. Micromachines, 2021, 12, 567.	1.4	8
1013	Moderately Transparent Chitosan-PVA Blended Membrane for Strong Mechanical Stiffness and as a Robust Bio-Material Energy Harvester Through Contact-Separation Mode TENG. Frontiers in Nanotechnology, 2021, 3, .	2.4	9
1014	Towards smart cities powered by nanogenerators: Bibliometric and machine learning-based analysis. Nano Energy, 2021, 83, 105844.	8.2	29
1015	Biomimetic Hairy Whiskers for Robotic Skin Tactility. Advanced Materials, 2021, 33, e2101891.	11.1	72
1016	Flexible Hybrid Photo-Thermoelectric Generator Based on Single Thermoelectric Effect for Simultaneously Harvesting Thermal and Radiation Energies. ACS Applied Materials & Interfaces, 2021, 13, 21401-21410.	4.0	24
1017	Comprehensive Review on Triboelectric Nanogenerator Based Wrist Pulse Measurement: Sensor Fabrication and Diagnosis of Arterial Pressure. ACS Sensors, 2021, 6, 1681-1694.	4.0	45
1018	A stretchable triboelectric nanogenerator made of silver-coated glass microspheres for human motion energy harvesting and self-powered sensing applications. Beilstein Journal of Nanotechnology, 2021, 12, 402-412.	1.5	5

#	ARTICLE	IF	CITATIONS
1019	Nodding Duck Structure Multi-track Directional Freestanding Triboelectric Nanogenerator toward Low-Frequency Ocean Wave Energy Harvesting. ACS Nano, 2021, 15, 9412-9421.	7.3	89
1020	“Shadow effect”-photodetector with linear output voltage vs light intensity. Journal of Applied Physics, 2021, 129, .	1.1	2
1021	Self-powered electro-Fenton degradation system using oxygen-containing functional groups-rich biomass-derived carbon catalyst driven by 3D printed flexible triboelectric nanogenerator. Nano Energy, 2021, 83, 105720.	8.2	19
1022	Integration of a porous wood-based triboelectric nanogenerator and gas sensor for real-time wireless food-quality assessment. Nano Energy, 2021, 83, 105833.	8.2	129
1023	Water-evaporation-induced intermolecular force for nano-wrinkled polymeric membrane. Cell Reports Physical Science, 2021, 2, 100441.	2.8	18
1024	Vibration behavior and excitation mechanism of ultra-stretchable triboelectric nanogenerator for wind energy harvesting. Extreme Mechanics Letters, 2021, 45, 101285.	2.0	25
1025	A Multidirectional Pendulum Kinetic Energy Harvester Based on Homopolar Repulsion for Low-Power Sensors in New Energy Driverless Buses. International Journal of Precision Engineering and Manufacturing - Green Technology, 2022, 9, 603-618.	2.7	12
1026	Advances in Electrospun Fiber-Based Flexible Nanogenerators for Wearable Applications. Macromolecular Materials and Engineering, 2021, 306, 2100143.	1.7	34
1027	Recent progress in human body energy harvesting for smart bioelectronic system. Fundamental Research, 2021, 1, 364-382.	1.6	106
1028	3D printed triboelectric nanogenerator self-powered electro-Fenton degradation of orange IV and crystal violet system using N-doped biomass carbon catalyst with tunable catalytic activity. Nano Energy, 2021, 83, 105824.	8.2	15
1029	A hand-driven portable triboelectric nanogenerator using whirling spinning dynamics. Nano Energy, 2021, 83, 105845.	8.2	81
1030	Simulation of gas sensing with a triboelectric nanogenerator. Beilstein Journal of Nanotechnology, 2021, 12, 507-516.	1.5	0
1031	Bioinspired Energy Storage and Harvesting Devices. Advanced Materials Technologies, 2021, 6, 2001301.	3.0	11
1032	A Tubular Flexible Triboelectric Nanogenerator with a Superhydrophobic Surface for Human Motion Detecting. Sensors, 2021, 21, 3634.	2.1	11
1033	A multiferroic module for biomechanical energy harvesting. Nano Energy, 2021, 83, 105777.	8.2	34
1034	Enhancing the Triboelectric Nanogenerator Output by Micro Plasma Generation in a Micro-Cracked Surface Structure. Applied Sciences (Switzerland), 2021, 11, 4262.	1.3	6
1035	Low-cost elastomer-based flexoelectric devices. Journal of Applied Physics, 2021, 129, .	1.1	7
1036	Water-Wave Driven Route Avoidance Warning System for Wireless Ocean Navigation. Advanced Energy Materials, 2021, 11, 2101116.	10.2	62

#	ARTICLE	IF	CITATIONS
1037	Acid and Alkali-Resistant Textile Triboelectric Nanogenerator as a Smart Protective Suit for Liquid Energy Harvesting and Self-Powered Monitoring in High-Risk Environments. <i>Advanced Functional Materials</i> , 2021, 31, 2102963.	7.8	63
1038	Soft triboelectric nanogenerators for mechanical energy scavenging and self-powered sensors. <i>Nano Energy</i> , 2021, 84, 105919.	8.2	80
1039	Effects of interfacial acid-base on the performance of contact-separation mode triboelectric nanogenerator. <i>Materials Today Energy</i> , 2021, 20, 100686.	2.5	8
1040	Advanced 3D printing-based triboelectric nanogenerator for mechanical energy harvesting and self-powered sensing. <i>Materials Today</i> , 2021, 50, 224-238.	8.3	73
1041	Highly Efficient Raindrop Energy-Based Triboelectric Nanogenerator for Self-Powered Intelligent Greenhouse. <i>ACS Nano</i> , 2021, 15, 12314-12323.	7.3	106
1042	Nanogenerators for smart cities in the era of 5G and Internet of Things. <i>Joule</i> , 2021, 5, 1391-1431.	11.7	261
1043	Multifunctional Self-Charging Electrochromic Supercapacitors Driven by Direct-Current Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2021, 31, 2104348.	7.8	53
1044	Emerging Indoor Photovoltaic Technologies for Sustainable Internet of Things. <i>Advanced Energy Materials</i> , 2021, 11, 2100698.	10.2	117
1045	A hybridized electromagnetic-triboelectric nanogenerator designed for scavenging biomechanical energy in human balance control. <i>Nano Research</i> , 2021, 14, 4227-4235.	5.8	29
1046	Volatile organic compounds sensing based on Bennet doubler-inspired triboelectric nanogenerator and machine learning-assisted ion mobility analysis. <i>Science Bulletin</i> , 2021, 66, 1176-1185.	4.3	50
1047	A Strategy to Reduce Air Breakdown Effect and Boost Output Energy for Contact-Separation Mode Triboelectric Nanogenerator. , 2021, , .		3
1048	A fluorinated polymer sponge with superhydrophobicity for high-performance biomechanical energy harvesting. <i>Nano Energy</i> , 2021, 85, 106021.	8.2	55
1049	Triboelectric Nanogenerator-Based Sensor Systems for Chemical or Biological Detection. <i>Advanced Materials</i> , 2021, 33, e2008276.	11.1	108
1050	Coupling electrostatic induction and global electron circulation for constant-current triboelectric nanogenerators. <i>Nano Energy</i> , 2021, 85, 105929.	8.2	9
1051	Combination of Piezoelectric and Triboelectric Devices for Robotic Self-Powered Sensors. <i>Micromachines</i> , 2021, 12, 813.	1.4	18
1052	Mechanomaterials: A Rational Deployment of Forces and Geometries in Programming Functional Materials. <i>Advanced Materials</i> , 2021, 33, e2007977.	11.1	34
1053	Ultra-robust and broadband rotary hybridized nanogenerator for self-sustained smart-farming applications. <i>Nano Energy</i> , 2021, 85, 105974.	8.2	33
1054	Nanogenerator-based self-powered sensors for data collection. <i>Beilstein Journal of Nanotechnology</i> , 2021, 12, 680-693.	1.5	17

#	ARTICLE	IF	CITATIONS
1055	Biomass derived carbon for supercapacitor applications: Review. <i>Journal of Energy Storage</i> , 2021, 39, 102646.	3.9	176
1056	On the controlled adhesive contact and electrical performance of vertical contact-separation mode triboelectric nanogenerators with micro-grooved surfaces. <i>Nano Energy</i> , 2021, 85, 106037.	8.2	24
1057	Timing strategy for boosting energy extraction from triboelectric nanogenerators. <i>Nano Energy</i> , 2021, 85, 105956.	8.2	18
1058	Technology evolution from micro-scale energy harvesters to nanogenerators. <i>Journal of Micromechanics and Microengineering</i> , 2021, 31, 093002.	1.5	53
1059	Module-Type Triboelectric Nanogenerators Capable of Harvesting Power from a Variety of Mechanical Energy Sources. <i>Micromachines</i> , 2021, 12, 1043.	1.4	6
1060	Paper triboelectric nanogenerator designed for continuous reuse and quick construction. <i>Nano Research</i> , 2022, 15, 1109-1114.	5.8	15
1061	Achieving Ultrarobust and Humidity-Resistant Triboelectric Nanogenerator by Dual-Capacitor Enhancement System. <i>Advanced Energy Materials</i> , 0, , 2101958.	10.2	42
1062	Biohybrid generators based on living plants and artificial leaves: influence of leaf motion and real wind outdoor energy harvesting. <i>Bioinspiration and Biomimetics</i> , 2021, 16, 055009.	1.5	10
1063	Sliding Triboelectric Circular Motion Sensor with Real-Time Hardware Processing. <i>Advanced Materials Technologies</i> , 2021, 6, 2100655.	3.0	5
1064	Scalable and washable 3D warp-knitted spacer power fabrics for energy harvesting and pressure sensing. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 424006.	1.3	23
1065	A Self-Powered Gas Sensor Based on Coupling Triboelectric Screening and Impedance Matching Effects. <i>Advanced Materials Technologies</i> , 2021, 6, 2100310.	3.0	21
1066	Piezoelectric PVDF Nanofibrous Membrane Electrospinning Optimization Parameters. <i>Key Engineering Materials</i> , 0, 897, 71-76.	0.4	1
1067	Advances of High-Performance Triboelectric Nanogenerators for Blue Energy Harvesting. <i>Nanoenergy Advances</i> , 2021, 1, 32-57.	3.6	40
1068	Cobalt-Nanoporous Carbon Functionalized Nanocomposite-Based Triboelectric Nanogenerator for Contactless and Sustainable Self-Powered Sensor Systems. <i>Advanced Functional Materials</i> , 2021, 31, 2105110.	7.8	47
1069	A stretchable, harsh condition-resistant and ambient-stable hydrogel and its applications in triboelectric nanogenerator. <i>Nano Energy</i> , 2021, 86, 106086.	8.2	46
1070	Recent Advances in Flexible Tactile Sensors for Intelligent Systems. <i>Sensors</i> , 2021, 21, 5392.	2.1	47
1071	Novel Recycled Triboelectric Nanogenerator Based on Polymer-Coated Trash Soda Can for Clean Energy Harvesting. <i>Advanced Sustainable Systems</i> , 2021, 5, 2100161.	2.7	19
1072	Multifunctional Triboelectric Nanogenerator-Enabled Structural Elements for Next Generation Civil Infrastructure Monitoring Systems. <i>Advanced Functional Materials</i> , 2021, 31, 2105825.	7.8	26

#	ARTICLE	IF	CITATIONS
1073	Dynamics of Electrically Driven Cholesteric Liquid Crystals by Triboelectrification and Their Application in Self-Powered Information Securing and Vision Correcting. ACS Energy Letters, 2021, 6, 3185-3194.	8.8	11
1074	A Soft Variable-Area Electrical-Double-Layer Energy Harvester. Advanced Materials, 2021, 33, e2103142.	11.1	33
1075	Functional liquid droplets for analyte sensing and energy harvesting. Advances in Colloid and Interface Science, 2021, 294, 102453.	7.0	6
1076	Natural polymers based triboelectric nanogenerator for harvesting biomechanical energy and monitoring human motion. Nano Research, 2022, 15, 2505-2511.	5.8	59
1077	Direct ink writing of fluoropolymer/CNT-based superhydrophobic and corrosion-resistant electrodes for droplet energy harvesters and self-powered electronic skins. Nano Energy, 2021, 86, 106095.	8.2	33
1078	Humidity-resistant triboelectric nanogenerator and its applications in wind energy harvesting and self-powered cathodic protection. Electrochimica Acta, 2021, 391, 138994.	2.6	32
1079	Low power energy harvesting systems: State of the art and future challenges. Renewable and Sustainable Energy Reviews, 2021, 147, 111230.	8.2	42
1080	Enhancement of performance of triboelectric generators by introduction of micro- and nano-structures on triboelectric films. Journal of Materials Science: Materials in Electronics, 0, , 1.	1.1	1
1081	Skin-like hydrogel devices for wearable sensing, soft robotics and beyond. IScience, 2021, 24, 103174.	1.9	103
1082	Laser-engraved graphene for flexible and wearable electronics. Trends in Chemistry, 2021, 3, 969-981.	4.4	34
1083	Recent advances in cellulose-based flexible triboelectric nanogenerators. Nano Energy, 2021, 87, 106175.	8.2	113
1084	A new Mylar-based triboelectric energy harvester with an innovative design for mechanical energy harvesting applications. Energy Conversion and Management, 2021, 244, 114489.	4.4	29
1085	Triboelectric Nanogenerators for Energy Harvesting in Ocean: A Review on Application and Hybridization. Energies, 2021, 14, 5600.	1.6	28
1086	A portable triboelectric spirometer for wireless pulmonary function monitoring. Biosensors and Bioelectronics, 2021, 187, 113329.	5.3	83
1087	Real-Time Acid Rain Sensor Based on a Triboelectric Nanogenerator Made of a PTFE/PDMS Composite Film. ACS Applied Electronic Materials, 2021, 3, 4162-4171.	2.0	22
1088	Functionalized wood with tunable tribopolarity for efficient triboelectric nanogenerators. Matter, 2021, 4, 3049-3066.	5.0	66
1089	Hybrid Triboelectric-Electromagnetic Nanogenerators for Mechanical Energy Harvesting: A Review. Nano-Micro Letters, 2021, 13, 199.	14.4	59
1090	Ordered nanostructures arrays fabricated by anodic aluminum oxide (AAO) template-directed methods for energy conversion. Nanotechnology, 2021, 32, 502006.	1.3	13

#	ARTICLE	IF	CITATIONS
1091	Development progress, performance enhancement routes, and applications of paper-based triboelectric nanogenerators. <i>Chemical Engineering Journal</i> , 2022, 430, 132559.	6.6	13
1092	Triboelectric properties of BaTiO <sub>3</sub> /polyimide nanocomposite film. <i>Applied Surface Science</i> , 2022, 572, 151391.	3.1	23
1093	Hybridized triboelectric-electromagnetic nanogenerators and solar cell for energy harvesting and wireless power transmission. <i>Nano Research</i> , 2022, 15, 2069-2076.	5.8	10
1094	Large-Scale Lever-Based Triboelectric Nanogenerator for Sensing Lateral Vibration and Wrist or Finger Bending for Controlling Shooting Game. <i>Micromachines</i> , 2021, 12, 1126.	1.4	1
1095	3D Printed Double Roller-Based Triboelectric Nanogenerator for Blue Energy Harvesting. <i>Micromachines</i> , 2021, 12, 1089.	1.4	6
1096	Carbon nano thorn arrays based water/cold resisted nanogenerator for wind energy harvesting and speed sensing. <i>Nano Energy</i> , 2021, 90, 106571.	8.2	18
1097	Analyzing the output performance of the knitted triboelectric nanogenerator based on the fish-scale shape using fast Fourier transform. <i>Textile Reseach Journal</i> , 0, , 004051752110445.	1.1	1
1098	From contact electrification to triboelectric nanogenerators. <i>Reports on Progress in Physics</i> , 2021, 84, 096502.	8.1	244
1099	Information accessibility oriented self-powered and ripple-inspired fingertip interactors with auditory feedback. <i>Nano Energy</i> , 2021, 87, 106117.	8.2	7
1100	A review on applications of graphene in triboelectric nanogenerators. <i>International Journal of Energy Research</i> , 2022, 46, 544-576.	2.2	39
1101	Power generation by contact and the potential applications in new energy. <i>Nano Energy</i> , 2021, 87, 106167.	8.2	8
1102	Sliding mode direct current triboelectric nanogenerators. <i>Nano Energy</i> , 2021, 90, 106531.	8.2	25
1103	Tensile and impact strength of alpaca fiber epoxy matrix hybrid composites prepared by injection moulding process. <i>Journal of Physics: Conference Series</i> , 2021, 2027, 012011.	0.3	0
1104	Self-powered mobile sterilization and infection control system. <i>Nano Energy</i> , 2021, 88, 106313.	8.2	25
1105	Performance enhanced triboelectric nanogenerator by taking advantage of water in humid environments. <i>Nano Energy</i> , 2021, 88, 106303.	8.2	36
1106	Fibrous self-powered sensor with high stretchability for physiological information monitoring. <i>Nano Energy</i> , 2021, 88, 106258.	8.2	33
1107	All-in-One High Output Rotary Electrostatic Nanogenerators Based on Charge Pumping and Voltage Multiplying. <i>ACS Nano</i> , 2021, 15, 16861-16869.	7.3	14
1108	Spring assisted triboelectric nanogenerator based on sepiolite doped polyacrylonitrile nanofibers. <i>Sustainable Energy Technologies and Assessments</i> , 2021, 47, 101492.	1.7	6

#	ARTICLE	IF	CITATIONS
1109	Scalable fabrication of stretchable and washable textile triboelectric nanogenerators as constant power sources for wearable electronics. <i>Nano Energy</i> , 2021, 88, 106247.	8.2	66
1110	Cation functionalized nylon composite nanofibrous mat as a highly positive friction layer for robust, high output triboelectric nanogenerators and self-powered sensors. <i>Nano Energy</i> , 2021, 88, 106300.	8.2	47
1111	Triboelectric-optical responsive cholesteric liquid crystals for self-powered smart window, E-paper display and optical switch. <i>Science Bulletin</i> , 2021, 66, 1986-1993.	4.3	32
1112	Facile synthesis of sub-10Ånm ZnS/ZnO nanoflakes for high-performance flexible triboelectric nanogenerators. <i>Nano Energy</i> , 2021, 88, 106256.	8.2	22
1113	Emerging artificial intelligence in piezoelectric and triboelectric nanogenerators. <i>Nano Energy</i> , 2021, 88, 106227.	8.2	76
1114	Scopes, challenges and approaches of energy harvesting for wireless sensor nodes in machine condition monitoring systems: A review. <i>Measurement: Journal of the International Measurement Confederation</i> , 2021, 183, 109856.	2.5	41
1115	Paint based triboelectric nanogenerator using facile spray deposition towards smart traffic system and security application. <i>Nano Energy</i> , 2021, 88, 106236.	8.2	35
1116	An electrostatic-electromagnetic hybrid generator with largely enhanced energy conversion efficiency. <i>Nano Energy</i> , 2021, 89, 106425.	8.2	10
1117	Liquid-metal embedded sponge-typed triboelectric nanogenerator for omnidirectionally detectable self-powered motion sensor. <i>Nano Energy</i> , 2021, 89, 106442.	8.2	29
1118	Photovoltaic and triboelectrification empowered light-weight flexible self-charging asymmetric supercapacitor cell for self-powered multifunctional electronics. <i>Renewable and Sustainable Energy Reviews</i> , 2021, 151, 111595.	8.2	20
1119	A wind vector detecting system based on triboelectric and photoelectric sensors for simultaneously monitoring wind speed and direction. <i>Nano Energy</i> , 2021, 89, 106382.	8.2	44
1120	Self-powered slide tactile sensor with wheel-belt structures based on triboelectric effect and electrostatic induction. <i>Sensors and Actuators A: Physical</i> , 2021, 331, 113022.	2.0	10
1121	Triboelectric nanogenerator-based anodic bonding of silicon to glass with an intermediate aluminum layer. <i>Sensors and Actuators A: Physical</i> , 2021, 331, 112950.	2.0	3
1122	Co/Zn bimetal organic framework elliptical nanosheets on flexible conductive fabric for energy harvesting and environmental monitoring via triboelectricity. <i>Nano Energy</i> , 2021, 89, 106355.	8.2	26
1123	Geometric gradient assisted control of the triboelectric effect in a smart brake system for self-powered mechanical abrasion monitoring. <i>Nano Energy</i> , 2021, 89, 106448.	8.2	11
1124	Theoretical and experimental investigation into the asymmetric external charging of Triboelectric Nanogenerators. <i>Nano Energy</i> , 2021, 90, 106511.	8.2	11
1125	Bacterial cellulose nanofiber triboelectric nanogenerator based on dielectric particles hybridized system. <i>Composites Part A: Applied Science and Manufacturing</i> , 2021, 151, 106646.	3.8	30
1126	A pendulum-plucked rotor for efficient exploitation of ultralow-frequency mechanical energy. <i>Renewable Energy</i> , 2021, 179, 339-350.	4.3	29

#	ARTICLE	IF	CITATIONS
1127	Recent progress of self-powered respiration monitoring systems. <i>Biosensors and Bioelectronics</i> , 2021, 194, 113609.	5.3	33
1128	Magnetic energy harvesting of transmission lines by the swinging triboelectric nanogenerator. <i>Materials Today Energy</i> , 2021, 22, 100848.	2.5	18
1129	Enhancing the output power density of polydimethylsiloxane-based flexible triboelectric nanogenerators with ultrathin nickel telluride nanobelts as a co-triboelectric layer. <i>Nano Energy</i> , 2021, 90, 106536.	8.2	15
1130	Long-term in vivo operation of implanted cardiac nanogenerators in swine. <i>Nano Energy</i> , 2021, 90, 106507.	8.2	19
1131	Nanomaterials for nanogenerator. , 2021, , 69-87.		2
1132	Self-Powered Load Sensing Circuitry for Total Knee Replacement. <i>IEEE Sensors Journal</i> , 2021, 21, 22967-22975.	2.4	4
1133	A high humidity-resistive triboelectric nanogenerator via coupling of dielectric material selection and surface-charge engineering. <i>Journal of Materials Chemistry A</i> , 2021, 9, 21357-21365.	5.2	43
1134	High rotational speed hand-powered triboelectric nanogenerator toward a battery-free point-of-care detection system. <i>RSC Advances</i> , 2021, 11, 23221-23227.	1.7	4
1135	Generating Electricity from Natural Evaporation Using PVDF Thin Films Incorporating Nanocomposite Materials. <i>Energies</i> , 2021, 14, 585.	1.6	2
1136	Ultra-stretchable and healable hydrogel-based triboelectric nanogenerators for energy harvesting and self-powered sensing. <i>RSC Advances</i> , 2021, 11, 17437-17444.	1.7	41
1137	Rationally segmented triboelectric nanogenerator with a constant direct-current output and low crest factor. <i>Energy and Environmental Science</i> , 0, , .	15.6	60
1138	Flexible triboelectric nanogenerator based on polyester conductive cloth for biomechanical energy harvesting and self-powered sensors. <i>Nanoscale</i> , 2021, 13, 18363-18373.	2.8	17
1139	In-Depth Analysis of Structures, Materials, Models, Parameters, and Applications of Organic Light-Emitting Diodes. <i>Journal of Electronic Materials</i> , 2020, 49, 4610-4636.	1.0	31
1140	Enhancement of the low-frequency acoustic energy harvesting with auxetic resonators. <i>Applied Energy</i> , 2020, 270, 115217.	5.1	57
1141	Electrical energy harvesting from ferritin bisrolled carbon nanotube yarn. <i>Biosensors and Bioelectronics</i> , 2020, 164, 112318.	5.3	19
1142	A study on tandem photoanode and photocathode for photocatalytic formaldehyde fuel cell. <i>Electrochimica Acta</i> , 2020, 352, 136476.	2.6	22
1143	Dramatic efficiency boost of single-walled carbon nanotube-silicon hybrid solar cells through exposure to ppm nitrogen dioxide in air: An ab-initio assessment of the measured device performances. <i>Journal of Colloid and Interface Science</i> , 2020, 566, 60-68.	5.0	6
1144	Reliable mechatronic indicator for self-powered liquid sensing toward smart manufacture and safe transportation. <i>Materials Today</i> , 2020, 41, 10-20.	8.3	34



#	ARTICLE	IF	CITATIONS
1145	Electricity-free electroluminescence excited by droplet impact driven triboelectric field on Solid-Liquid interface. <i>Nano Energy</i> , 2020, 75, 104823.	8.2	26
1146	Natural wood-based triboelectric nanogenerator as self-powered sensing for smart homes and floors. <i>Nano Energy</i> , 2020, 75, 104957.	8.2	121
1147	Skin-Inspired Electret Nanogenerator with Self-Healing Abilities. <i>Cell Reports Physical Science</i> , 2020, 1, 100185.	2.8	13
1149	Triboelectric Charge-Driven Enhancement of the Output Voltage of BiSbTe-Based Thermoelectric Generators. <i>ACS Energy Letters</i> , 2021, 6, 1095-1103.	8.8	18
1150	An overlapped electron-cloud model for the contact electrification in piezo-assisted triboelectric nanogenerators via control of piezoelectric polarization. <i>Journal of Materials Chemistry A</i> , 2020, 8, 25857-25866.	5.2	16
1151	Modulating the percolation network of polymer nanocomposites for flexible sensors. <i>Journal of Applied Physics</i> , 2020, 128, 220901.	1.1	18
1152	A high-stability triboelectric nanogenerator with mechanical transmission module and efficient power management system. <i>Journal of Micromechanics and Microengineering</i> , 2020, 30, 115017.	1.5	16
1153	A pulsed freestanding triboelectric nanogenerator and power management circuit to harvest rotation energy from an automobile brake. <i>Journal of Micromechanics and Microengineering</i> , 2021, 31, 015007.	1.5	8
1154	All-textile wearable triboelectric nanogenerator using pile-embroidered fibers for enhancing output power. <i>Smart Materials and Structures</i> , 2020, 29, 055026.	1.8	30
1155	Modeling contact electrification in triboelectric impact oscillators as energy harvesters. , 2019, , .		1
1156	From nanoenergy harvesting to self-powering of micro- or nano-sensors for measurements on-site or for IoT applications. , 2019, , .		3
1157	SPIN (Self-powered Paper Interfaces). , 2020, , .		20
1158	SATURN. <i>Communications of the ACM</i> , 2020, 63, 92-99.	3.3	4
1159	ZnO-Polystyrene Composite as Efficient Energy Harvest for Self-Powered Triboelectric Nanogenerator. <i>ECS Journal of Solid State Science and Technology</i> , 2020, 9, 115019.	0.9	9
1160	Self-powered electronic paper with energy supplies and information inputs solely from mechanical motions. <i>Photonics Research</i> , 2020, 8, 1496.	3.4	18
1161	Recent advances in ocean wave energy harvesting by triboelectric nanogenerator: An overview. <i>Nanotechnology Reviews</i> , 2020, 9, 716-735.	2.6	35
1162	Recent Trends in Energy Harvesting Technology Using Composite Materials. <i>Ceramist</i> , 2019, 22, 110-121.	0.0	1
1163	Fabric-Based Triboelectric Nanogenerators. <i>Research</i> , 2019, 2019, 1091632.	2.8	36

#	ARTICLE	IF	CITATIONS
1164	Tunable Dynamic Black Phosphorus/Insulator/Si Heterojunction Direct-Current Generator Based on the Hot Electron Transport. Research, 2019, 2019, 5832382.	2.8	35
1165	Contact Electrification by Quantum-Mechanical Tunneling. Research, 2019, 2019, 6528689.	2.8	15
1166	Emerging Devices Based on Two-Dimensional Monolayer Materials for Energy Harvesting. Research, 2019, 2019, 7367828.	2.8	39
1167	Interfacial Built-In Electric Field-Driven Direct Current Generator Based on Dynamic Silicon Homo Junction. Research, 2020, 2020, 5714754.	2.8	24
1168	Triboelectric Nanogenerator Enabled Smart Shoes for Wearable Electricity Generation. Research, 2020, 2020, 7158953.	2.8	67
1169	Textile triboelectric nanogenerator for wearable electronics. Advanced Materials Letters, 2018, 9, 199-204.	0.3	3
1170	High-performance triboelectric nanogenerators based on the organic semiconductor copper phthalocyanine. Nanoscale, 2021, 13, 20197-20204.	2.8	7
1171	Computational investigation of ultrasound induced electricity generation via a triboelectric nanogenerator. Nano Energy, 2022, 91, 106656.	8.2	26
1172	Intelligent facemask based on triboelectric nanogenerator for respiratory monitoring. Nano Energy, 2022, 91, 106612.	8.2	54
1173	An Ion Channel-Induced Self-Powered Flexible Pressure Sensor Based on Potentiometric Transduction Mechanism. Advanced Functional Materials, 2022, 32, 2108856.	7.8	35
1174	Development of a Sustainable and Biodegradable <i>Sonchus asper</i> Cotton Pappus Based Piezoelectric Nanogenerator for Instrument Vibration and Human Body Motion Sensing with Mechanical Energy Harvesting Applications. ACS Omega, 2021, 6, 28710-28717.	1.6	19
1175	Remote Microgrids for Energy Access in Indonesia Part II: PV Microgrids and a Technology Outlook. Energies, 2021, 14, 6901.	1.6	1
1176	Triboelectric Nanogenerators for Harvesting Wind Energy: Recent Advances and Future Perspectives. Energies, 2021, 14, 6949.	1.6	17
1177	Two-dimensional flexible thermoelectric devices: Using modeling to deliver optimal capability. Applied Physics Reviews, 2021, 8, .	5.5	29
1178	Ventilator integrated triboelectric nanogenerator based on structure of centrifugal brake. Surfaces and Interfaces, 2021, 27, 101525.	1.5	5
1179	Massive enhancement in power output of BoPET-paper triboelectric nanogenerator using 2D-hexagonal boron nitride nanosheets. Nano Energy, 2021, 90, 106628.	8.2	23
1180	Mechanically and environmentally stable triboelectric nanogenerator based on high-strength and anti-compression self-healing ionogel. Nano Energy, 2021, 90, 106645.	8.2	46
1181	Piezoelectric materials for flexible and wearable electronics: A review. Materials and Design, 2021, 211, 110164.	3.3	163

#	ARTICLE	IF	CITATIONS
1182	Enhanced output performance of tetraethyl orthosilicate and graphene nanoplates-decorated nanofiber-based triboelectric nanogenerators. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2021, 631, 127670.	2.3	5
1183	Methodology of stand tests on the selection of high energy materials for the construction of a tribo-generator. <i>Journal of KONBIN</i> , 2018, 48, 543-557.	0.1	1
1184	A Polycationâ€Modified Nanofillers Tailored Polymer Electrolytes Fiber for Versatile Biomechanical Energy Harvesting and Fullâ€Range Personal Healthcare Sensing. <i>Advanced Functional Materials</i> , 2022, 32, 2106731.	7.8	33
1185	Advances in Inorganic Nanomaterials for Triboelectric Nanogenerators. <i>ACS Nanoscience Au</i> , 2022, 2, 12-31.	2.0	15
1186	Nature inspired emerging sensing technology: Recent progress and perspectives. <i>Materials Science and Engineering Reports</i> , 2021, 146, 100647.	14.8	18
1187	Band well structure with localized states for enhanced charge accumulation on Triboelectrification. <i>Nano Energy</i> , 2021, 90, 106647.	8.2	17
1188	Research Progress of Capacitive Flexible Pressure Sensors. <i>Lecture Notes in Electrical Engineering</i> , 2020, , 533-541.	0.3	0
1189	Optimization of TriboelectricNanogenerator for Small Power Electronics. <i>E3S Web of Conferences</i> , 2020, 184, 01046.	0.2	0
1190	Advanced self-charging power packs: The assimilation of energy harvesting and storage systems. , 2022, , 441-477.		1
1191	Triboelectric nanogenerator based wearable energy harvesting devices. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2020, 69, 170202.	0.2	2
1192	An electrodeposited nano-porous and neural network-like Ln@HOF film for SO <sub>2</sub> gas quantitative detection <i>via</i> fluorescent sensing and machine learning. <i>Journal of Materials Chemistry A</i> , 2021, 9, 26391-26400.	5.2	27
1194	Self-responsive Nanomaterials for Flexible Supercapacitors. <i>Springer Series in Materials Science</i> , 2020, , 93-138.	0.4	0
1196	A Mechanical Energy Writeable Ferroelectric Memory Based on PMN-35PT Single Crystal. <i>Springer Theses</i> , 2020, , 75-101.	0.0	0
1197	Review on the Recent Advances in Composite Based Highoutput Piezo-Triboelectric Energy Harvesters. <i>Ceramist</i> , 2020, 23, 54-88.	0.0	0
1198	Designable functional polymer nanocomposites via layer-by-layer assembly for highly deformable power-boosted triboelectric nanogenerators. <i>Composites Part B: Engineering</i> , 2022, 230, 109513.	5.9	17
1199	A transparent electrowetting-on-dielectric device driven by triboelectric nanogenerator for extremely fast anti-fogging. <i>Nano Energy</i> , 2022, 92, 106697.	8.2	25
1200	Triboelectric nanogenerator and artificial intelligence to promote precision medicine for cancer. <i>Nano Energy</i> , 2022, 92, 106783.	8.2	31
1201	Textile-based triboelectric nanogenerators via electroless plating for fabricating electrode material: Study of the relationship between electrostatic-charge density and strain in dielectric material. <i>Composites Science and Technology</i> , 2022, 218, 109187.	3.8	19

#	ARTICLE	IF	CITATIONS
1202	Electronegative polyvinylidene fluoride/C60 composite nanofibers for performance enhancement of triboelectric nanogenerators. <i>Journal of Alloys and Compounds</i> , 2022, 898, 162805.	2.8	10
1203	3D-printed bearing structural triboelectric nanogenerator for intelligent vehicle monitoring. <i>Cell Reports Physical Science</i> , 2021, 2, 100666.	2.8	10
1204	Advanced triboelectric materials for liquid energy harvesting and emerging application. <i>Materials Today</i> , 2022, 52, 299-326.	8.3	75
1205	Improving performance of triboelectric nanogenerators by dielectric enhancement effect. <i>Matter</i> , 2022, 5, 180-193.	5.0	53
1206	Energy Harvesting and Storing Materials. , 2022, , 507-555.		4
1207	Triboelectric Nanogenerator Based on a Rotational Magnetic Ball for Harvesting Transmission Line Magnetic Energy. <i>Advanced Functional Materials</i> , 2022, 32, 2108827.	7.8	33
1208	An Electret/Hydrogel-Based Tactile Sensor Boosted by Micro-Patterned and Electrostatic Promoting Methods with Flexibility and Wide-Temperature Tolerance. <i>Micromachines</i> , 2021, 12, 1462.	1.4	7
1209	A Passive, Skin-Attachable Multi-Sensing Patch Based on Semi-Liquid Alloy Ni-GaN for Wireless Epidermal Signal Monitoring and Body Motion Capturing. <i>Electronics (Switzerland)</i> , 2021, 10, 2778.	1.8	1
1210	Tunable double nonlinear design in the energy harvester to enhance energy harvesting. <i>European Physical Journal Plus</i> , 2021, 136, 1.	1.2	1
1211	Book-Shaped All-in-One Piezo-Triboelectric Energy Harvester Module with Enhanced Current Characteristics As an Eco-Friendly Energy Source. <i>Journal of the European Ceramic Society</i> , 2021, 42, 1414-1414.	2.8	2
1212	Additively manufactured nano-mechanical energy harvesting systems: advancements, potential applications, challenges and future perspectives. <i>Nano Convergence</i> , 2021, 8, 37.	6.3	32
1213	Recent advances in micro-supercapacitors for AC line-filtering performance: From fundamental models to emerging applications. <i>EScience</i> , 2021, 1, 124-140.	25.0	57
1214	Dielectric-elastomer-enhanced triboelectric nanogenerator with amplified outputs. <i>Sensors and Actuators A: Physical</i> , 2022, 333, 113270.	2.0	11
1215	Mycena Chlorophos-Inspired Autoluminescent Triboelectric Fiber for Wearable Energy Harvesting, Self-Powered Sensing, and as Human-Device Interfaces. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1216	Intelligent systems using triboelectric, piezoelectric, and pyroelectric nanogenerators. <i>Materials Today</i> , 2022, 52, 188-206.	8.3	38
1217	Stress Dissipation Encoded Silk Fibroin Electrode for the Athleteâ€™Beneficial Silk Bioelectronics. <i>Advanced Science</i> , 2022, 9, e2105420.	5.6	11
1218	Methods for correctly characterizing the output performance of nanogenerators. <i>Nano Energy</i> , 2022, 93, 106884.	8.2	15
1219	Fabrication of polyethyleneimine-paper composites with improved tribopositivity for triboelectric nanogenerators. <i>Nano Energy</i> , 2022, 93, 106859.	8.2	42

#	ARTICLE	IF	CITATIONS
1220	Effect of relative humidity on the enhancement of the triboelectrification efficiency utilizing water bridges between triboelectric materials. <i>Nano Energy</i> , 2022, 93, 106880.	8.2	19
1221	A compact triboelectric nanogenerator with ultrahigh output energy density of 177.8 J m <sup>-3</sup> via retarding air breakdown. <i>Nano Energy</i> , 2022, 93, 106891.	8.2	15
1222	Enhanced TENG Performance by Engineering the Compression Modulus of Triboelectric Layers. , 2021, , .		4
1223	Fabrication of self-healing hybrid nanogenerators based on polyurethane and ZnO for harvesting wind energy. <i>Journal of Materials Science: Materials in Electronics</i> , 2022, 33, 3982-3993.	1.1	9
1224	Flexible Film-Discharge-Switch Assisted Universal Power Management System for the Four Operation Modes of Triboelectric Nanogenerators. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	19
1225	Self-charging supercapacitors for smart electronic devices: a concise review on the recent trends and future sustainability. <i>Journal of Materials Science</i> , 2022, 57, 4399-4440.	1.7	29
1226	Recent Advances in Organic and Organic-Inorganic Hybrid Materials for Piezoelectric Mechanical Energy Harvesting. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	124
1227	Stretchable Unsymmetrical Piezoelectric BaTiO <sub>3</sub> Composite Hydrogel for Triboelectric Nanogenerators and Multimodal Sensors. <i>ACS Nano</i> , 2022, 16, 1661-1670.	7.3	104
1228	Metal-Ion Coupling in Metal-Organic Framework Materials Regulating the Output Performance of a Triboelectric Nanogenerator. <i>Inorganic Chemistry</i> , 2022, 61, 2490-2498.	1.9	19
1229	Triboelectric Nanogenerators as Active Tactile Stimulators for Multifunctional Sensing and Artificial Synapses. <i>Sensors</i> , 2022, 22, 975.	2.1	12
1230	High-Power Triboelectric Nanogenerator Based on Enriched Polyvinylpyrrolidone Nanofibers for Energy Harvesting. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2022, 219, .	0.8	3
1231	Barium titanate dielectric regulation improves output performance of paper-based triboelectric nanogenerator. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2022, .	0.2	1
1232	Energy Optimization of a Mirror-Symmetric Spherical Triboelectric Nanogenerator. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	9
1233	Wearable Ball-Impact Piezoelectric Multi-Converters for Low-Frequency Energy Harvesting from Human Motion. <i>Sensors</i> , 2022, 22, 772.	2.1	16
1234	Flexible Triboelectric Nanogenerators Based on Electrospun Poly(vinylidene fluoride) with MoS <sub>2</sub> /Carbon Nanotube Composite Nanofibers. <i>Langmuir</i> , 2022, 38, 1479-1487.	1.6	18
1235	Wearable Pressure Sensors for Pulse Wave Monitoring. <i>Advanced Materials</i> , 2022, 34, e2109357.	11.1	253
1236	Ferroelectric polymers for energy harvesting. , 2022, , 503-533.		0
1237	Trapezoidal Cantilever-Structure Triboelectric Nanogenerator Integrated with a Power Management Module for Low-Frequency Vibration Energy Harvesting. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 5497-5505.	4.0	20

#	ARTICLE	IF	CITATIONS
1238	Battery-Free and Wireless Technologies for Cardiovascular Implantable Medical Devices. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	33
1239	Electrochemical Devices to Monitor Ionic Analytes for Healthcare and Industrial Applications. <i>Chemosensors</i> , 2022, 10, 22.	1.8	4
1240	Advances in flexible organic field-effect transistors and their applications for flexible electronics. <i>Npj Flexible Electronics</i> , 2022, 6, .	5.1	194
1241	Advances in High-Performance Autonomous Energy and Self-Powered Sensing Textiles with Novel 3D Fabric Structures. <i>Advanced Materials</i> , 2022, 34, e2109355.	11.1	118
1242	Dielectric Manipulated Charge Dynamics in Contact Electrification. <i>Research</i> , 2022, 2022, 9862980.	2.8	9
1243	Electronic skin based on PLLA/TFT/PVDF-TrFE array for Multi-Functional tactile sensing and visualized restoring. <i>Chemical Engineering Journal</i> , 2022, 434, 134735.	6.6	20
1244	Constructing highly tribopositive elastic yarn through interfacial design and assembly for efficient energy harvesting and human-interactive sensing. <i>Nano Energy</i> , 2022, 94, 106956.	8.2	36
1245	Mycena chlorophos-inspired autoluminescent triboelectric fiber for wearable energy harvesting, self-powered sensing, and as human-device interfaces. <i>Nano Energy</i> , 2022, 94, 106944.	8.2	21
1246	Study of interfacial design for direct-current tribovoltaic generators. <i>Nano Energy</i> , 2022, 94, 106957.	8.2	25
1247	Triboelectric nanogenerator based on a moving bubble in liquid for mechanical energy harvesting and water level monitoring. <i>Nano Energy</i> , 2022, 95, 106998.	8.2	30
1248	Multiple spring-mass oscillator for wide bandwidth piezoelectric energy harvester. <i>Ferroelectrics</i> , 2022, 586, 102-108.	0.3	0
1249	Integrative Hydrogel-Based Tactile Sensor by Triboelectric and Piezoresistive Effect For Detecting Dynamic and Static Pressure. , 2022, , .		1
1250	A waterwheel hybrid generator with disk triboelectric nanogenerator and electromagnetic generator as a power source for an electrocoagulation system. <i>Nano Energy</i> , 2022, 95, 107048.	8.2	28
1251	Sweat-Permeable, Biodegradable, Transparent and Self-powered Chitosan-Based Electronic Skin with Ultrathin Elastic Gold Nanofibers. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	80
1252	All-polymer waterproof triboelectric nanogenerator towards blue energy harvesting and self-powered human motion detection. <i>Energy</i> , 2022, 247, 123422.	4.5	19
1253	Two Faces Under a Hood: Unravelling the Energy Harnessing and Storage Properties of 1T-MoS <sub>2</sub> Quantum Sheets for Next-Generation Stand-Alone Energy Systems. <i>ACS Nano</i> , 2022, 16, 3723-3734.	7.3	27
1254	Non-oxidized bare copper nanoparticles with surface excess electrons in air. <i>Nature Nanotechnology</i> , 2022, 17, 285-291.	15.6	34
1255	Flexible Wood-Based Triboelectric Self-Powered Smart Home System. <i>ACS Nano</i> , 2022, 16, 3341-3350.	7.3	72

#	ARTICLE	IF	CITATIONS
1256	Output signals control of triboelectric nanogenerator with metal-dielectric-metal configuration through high resistance grounded systems. <i>Nano Energy</i> , 2022, 95, 107023.	8.2	8
1257	Ultra-low friction self-levitating nanomagnetic fluid bearing for highly efficient wind energy harvesting. <i>Sustainable Energy Technologies and Assessments</i> , 2022, 52, 102024.	1.7	9
1258	On the expanded Maxwell's equations for moving charged media system – General theory, mathematical solutions and applications in TENG. <i>Materials Today</i> , 2022, 52, 348-363.	8.3	128
1259	Triboelectric UV Patterning for Wearable One-Terminal Tactile Sensor Array to Perceive Dynamic Contact Motions. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1260	Output Signals Control of Triboelectric Nanogenerator with Metal-Dielectric-Metal Configuration Through High Resistance Grounded Systems. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1262	Ice-Based Triboelectric Nanogenerator with Low Friction and Self-Healing Properties for Energy Harvesting and Ice Broken Warning. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1263	Current Progress on Power Management Systems for Triboelectric Nanogenerators. <i>IEEE Transactions on Power Electronics</i> , 2022, 37, 9850-9864.	5.4	24
1264	Wearable physical sensors. , 2022, , 183-218.		0
1265	Surface microstructural engineering of silicone elastomers for high performance adhesive surface-enabled mechanical energy harvesters. <i>Journal of Materials Chemistry A</i> , 2022, 10, 9643-9654.	5.2	5
1266	Multi-Parameter Optimized Triboelectric Nanogenerator Based Self-Powered Sensor Network for Broadband Aeolian Vibration Online-Monitoring of Transmission Lines. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	72
1267	Large-scale fabrication of core-shell triboelectric braided fibers and power textiles for energy harvesting and plantar pressure monitoring. <i>EcoMat</i> , 2022, 4, .	6.8	44
1268	Experiment and parametric analysis of sliding mode triboelectric energy harvester. <i>Mechanics Based Design of Structures and Machines</i> , 2023, 51, 6293-6307.	3.4	3
1269	Filling the gap between topological insulator nanomaterials and triboelectric nanogenerators. <i>Nature Communications</i> , 2022, 13, 938.	5.8	42
1270	A New Self-Healing Triboelectric Nanogenerator Based on Polyurethane Coating and Its Application for Self-Powered Cathodic Protection. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 10498-10507.	4.0	46
1271	Flexible Miniaturized Sensor Technologies for Long-Term Physiological Monitoring. <i>Npj Flexible Electronics</i> , 2022, 6, .	5.1	35
1272	A high-accuracy, real-time, intelligent material perception system with a machine-learning-motivated pressure-sensitive electronic skin. <i>Matter</i> , 2022, 5, 1481-1501.	5.0	104
1273	2D Materials for Wearable Energy Harvesting. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	16
1274	A flutter-driven triboelectric nanogenerator for harvesting energy of gentle breezes with a rear-fixed fluttering film. <i>Nano Energy</i> , 2022, 98, 107197.	8.2	31

#	ARTICLE	IF	CITATIONS
1275	Integrated electronic skin (e-skin) for harvesting of TENG energy through push-pull ionic electrets and ion-ion hopping mechanism. <i>Scientific Reports</i> , 2022, 12, 3879.	1.6	11
1276	Exceeding 50 mW RMS Output Magneto-Mechano-Electric Generator by Hybridizing Piezoelectric and Electromagnetic Induction Effects. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	22
1277	Reconfigurable Origami Transparent Cellulose Triboelectric Paper for Multimodal Energy Harvesting. <i>ChemNanoMat</i> , 2022, 8, .	1.5	6
1278	An Ionic Hydrogel-Based Antifreezing Triboelectric Nanogenerator. <i>ACS Applied Electronic Materials</i> , 2022, 4, 1930-1938.	2.0	21
1279	Energy conversion mechanisms of a seesaw-type energy harvester. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 255002.	1.3	1
1280	3D fully-enclosed triboelectric nanogenerator with bionic fish-like structure for harvesting hydrokinetic energy. <i>Nano Research</i> , 2022, 15, 5098-5104.	5.8	20
1282	Smart Textile Triboelectric Nanogenerators: Prospective Strategies for Improving Electricity Output Performance. <i>Nanoenergy Advances</i> , 2022, 2, 133-164.	3.6	59
1283	Multilayer flexible electronics: Manufacturing approaches and applications. <i>Materials Today Physics</i> , 2022, 23, 100647.	2.9	23
1284	MXene/Poly(lactic Acid) Fabric-Based Resonant Cavity for Realizing Simultaneous High-Performance Electromagnetic Interference (EMI) Shielding and Efficient Energy Harvesting. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 14607-14617.	4.0	17
1285	Research on PDMS TENG of laser etch 3D structure. <i>Journal of Materials Science</i> , 2022, 57, 6723-6733.	1.7	11
1286	Toward a New Era of Sustainable Energy: Advanced Triboelectric Nanogenerator for Harvesting High Entropy Energy. <i>Small</i> , 2022, 18, e2107034.	5.2	45
1287	Stretchable Triboelectric Self-Powered Sweat Sensor Fabricated from Self-Healing Nanocellulose Hydrogels. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	171
1288	A Self-Powered and Efficient Triboelectric Dehydrator for Separating Water-in-Oil Emulsions with Ultrahigh Moisture Content. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	7
1289	A High-Performance Rotational Energy Harvester Integrated with Artificial Intelligence-Powered Triboelectric Sensors for Wireless Environmental Monitoring System. <i>Advanced Engineering Materials</i> , 2022, 24, .	1.6	5
1290	Antibacterial, Antifreezing, Stretchable, and Self-Healing Organohydrogel Electrode Based Triboelectric Nanogenerator for Self-Powered Biomechanical Sensing. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	15
1291	A Liquid-Solid Interface-Based Triboelectric Tactile Sensor with Ultrahigh Sensitivity of $21.48 \text{ kPa}^{-1}$ . <i>Nano-Micro Letters</i> , 2022, 14, 88.	14.4	47
1292	Evaluation of DLC, MoS <sub>2</sub> , and Ti <sub>3</sub> C <sub>2</sub> T thin films for triboelectric nanogenerators. <i>Nano Energy</i> , 2022, 97, 107185.	8.2	20
1293	Industrial production of bionic scales knitting fabric-based triboelectric nanogenerator for outdoor rescue and human protection. <i>Nano Energy</i> , 2022, 97, 107168.	8.2	28



#	ARTICLE	IF	CITATIONS
1294	Highly sensitive three-dimensional scanning triboelectric sensor for digital twin applications. Nano Energy, 2022, 97, 107198.	8.2	7
1295	A triboelectric nanogenerator sensor based on phononic crystal structures for smart buildings and transportation systems. Nano Energy, 2022, 97, 107165.	8.2	11
1296	Ice-based triboelectric nanogenerator with low friction and self-healing properties for energy harvesting and ice broken warning. Nano Energy, 2022, 97, 107144.	8.2	10
1297	Advanced triboelectric nanogenerators based on low-dimension carbon materials: A review. Carbon, 2022, 194, 81-103.	5.4	37
1298	Fiber-like Wearable Triboelectric Nanogenerator with Bionic Micro-Structure. , 2021, , .		3
1299	An Innovative Concept: Free Energy Harvesting Through Self-Powered Triboelectric Nanogenerator. Journal of Nanoelectronics and Optoelectronics, 2021, 16, 1844-1849.	0.1	0
1300	Production of ZnFe <sub>2</sub> O <sub>4</sub> Doped Carbon Cloth-Based Flexible Composite Electrodes for Supercapacitors. T̂¼rk DoÄŸa Ve Fen Dergisi, 2021, 10, 199-205.	0.2	6
1301	The comparison of triboelectric power generated by electron-donating polymers KAPTON and PDMS in contact with PET polymer. Energy Harvesting and Systems, 2022, 9, 53-61.	1.7	0
1302	Validation of a Platform for the Electrostatic Characterization of Textile. Electronics (Switzerland), 2022, 11, 115.	1.8	2
1303	Examination of pyroelectric power generation over a wide temperature range by controlling the Zr:Sn composition ratio of PLZST. Journal of Asian Ceramic Societies, 2022, 10, 99-107.	1.0	2
1304	Recent Development of Flexible Tactile Sensors and Their Applications. Sensors, 2022, 22, 50.	2.1	39
1305	A Highly Efficient Multifunctional Wind Barrier Based on PVDF for Power Generation in the Qinghaiâ€Tibet Railway. Energy Technology, 2022, 10, .	1.8	5
1306	Recent Advances in Self-Powered Piezoelectric and Triboelectric Sensors: From Material and Structure Design to Frontier Applications of Artificial Intelligence. Sensors, 2021, 21, 8422.	2.1	14
1307	Advances in graphene oxide membranes for water treatment. Nano Research, 2022, 15, 6636-6654.	5.8	76
1308	Highâ€Efficiency Poly(Vinylidene Fluorideâ€Coâ€Hexafluoropropylene) Loaded 3D Marigold Flowerâ€Like Bismuth Tungstate Triboelectric Films for Mechanical Energy Harvesting and Sensing Applications. Small, 2022, 18, e2200822.	5.2	10
1309	Highly stretchable, durable, and breathable thermoelectric fabrics for human body energy harvesting and sensing. , 2022, 4, 621-632.		74
1310	Aerodynamicsâ€Based Triboelectric Nanogenerator for Enhancing Multiâ€Operating Robustness via Mode Automatic Switching. Advanced Functional Materials, 2022, 32, .	7.8	17
1311	Realization of high voltage output on monolithic silicon solar cells in series for selfâ€powered systems. Solar Rrl, 0, , .	3.1	0

#	ARTICLE	IF	CITATIONS
1312	Self-powered environmental monitoring via a triboelectric nanogenerator. <i>Nano Energy</i> , 2022, 98, 107282.	8.2	56
1314	Energy harvesting by vitrimer-based moist-electric generators. <i>Journal of Materials Chemistry A</i> , 2022, 10, 11524-11534.	5.2	14
1315	Nanogenerators-Based Self-Powered Sensors. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	13
1316	Rotational energy harvesting from a novel arc-cylinder type vibro-impact dielectric elastomer generator. <i>International Journal of Mechanics and Materials in Design</i> , 2022, 18, 587-609.	1.7	6
1317	Multi-Tube Helmholtz Resonator Based Triboelectric Nanogenerator for Broadband Acoustic Energy Harvesting. <i>Frontiers in Materials</i> , 2022, 9, .	1.2	4
1318	Recent advancements for improving the performance of triboelectric nanogenerator devices. <i>Nano Energy</i> , 2022, 99, 107318.	8.2	76
1319	High-performance triboelectric nanogenerator based on chitin for mechanical-energy harvesting and self-powered sensing. <i>Carbohydrate Polymers</i> , 2022, 291, 119586.	5.1	23
1320	Tribo-Piezoelectricity in Group III Nitride Bilayers: A Density Functional Theory Investigation. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 20856-20865.	4.0	7
1321	Triboelectric UV patterning for wearable one-terminal tactile sensor array to perceive dynamic contact motions. <i>Nano Energy</i> , 2022, 98, 107320.	8.2	15
1322	An innovative energy harvesting backpack strategy through a flexible mechanical motion rectifier. <i>Energy Conversion and Management</i> , 2022, 264, 115731.	4.4	17
1323	An Open-Environment Tactile Sensing System: Toward Simple and Efficient Material Identification. <i>Advanced Materials</i> , 2022, 34, e2203073.	11.1	72
1324	Flexible triboelectric nanogenerator toward ultrahigh-frequency vibration sensing. <i>Nano Research</i> , 2022, 15, 7484-7491.	5.8	10
1325	Hot Carrier Transport and Carrier Multiplication Induced High Performance Vertical Graphene/Silicon Dynamic Diode Generator. <i>Advanced Science</i> , 2022, 9, .	5.6	8
1326	Magnets Assisted Triboelectric Nanogenerator for Harvesting Water Wave Energy. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	4
1327	Flexible self-powered integrated sensing system based on a rechargeable zinc-ion battery by using a multifunctional polyacrylamide/carboxymethyl chitosan/LiCl ionic hydrogel. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2022, 648, 129254.	2.3	17
1328	Magnetically Circular Layers Triboelectric Nanogenerators (Mcl-Teng) for Velocity Sensing and Damage Detection. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1329	Green Flexible Triboelectric Nanogenerators Based on Sustainable Edible Proteins for Electrophoretic Deposition; Fabrication, Characterization, and Simulation. <i>SSRN Electronic Journal</i> , 0, , .	0.4	1
1330	Hydrochromic CsPbBr <sub>3</sub> -KBr Microcrystals for Flexible Anti-Counterfeiting and Wearable Self-Powered Biomechanical Monitoring. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0

#	ARTICLE	IF	CITATIONS
1331	Highly Transparent and Adhesive Poly(vinylidene difluoride) Films for Self-Powered Piezoelectric Touch Sensors. Chinese Journal of Polymer Science (English Edition), 2022, 40, 726-737.	2.0	6
1332	Controllable and Scalable Fabrication of Superhydrophobic Hierarchical Structures for Water Energy Harvesting. Electronics (Switzerland), 2022, 11, 1651.	1.8	9
1333	Inhalation-Driven Vertical Flutter Triboelectric Nanogenerator with Amplified Output as a Gas-Mask-Integrated Self-Powered Multifunctional System. Advanced Energy Materials, 2022, 12, .	10.2	9
1334	Development and Prospects of Triboelectric Nanogenerators in Sports and Physical State Monitoring. Frontiers in Materials, 2022, 9, .	1.2	1
1335	Interfacial structure design for triboelectric nanogenerators. , 2022, 1, .		14
1336	Enhanced electrical outputs of thin-film solar thermoelectric generator with optimized metal/dielectric multilayered solar selective absorber. Applied Physics A: Materials Science and Processing, 2022, 128, .	1.1	6
1337	Probing Polymer Contact Electrification by Gamma-Ray Radiation. Frontiers in Materials, 0, 9, .	1.2	1
1338	Triboelectric nanogenerator based on polyaniline nanorods incorporated PDMS composites through a facile synthetic route. Journal of Materials Science: Materials in Electronics, 2022, 33, 15408-15421.	1.1	2
1339	Nanogenerator-Based Wireless Intelligent Motion Correction System for Storing Mechanical Energy of Human Motion. Sustainability, 2022, 14, 6944.	1.6	11
1340	Recent Development of Morphology-Controlled Hybrid Nanomaterials for Triboelectric Nanogenerator: A Review. Chemical Record, 2022, 22, .	2.9	12
1341	Triboelectric Nanogenerator Based on Polyimide/Boron Nitride Nanosheets/Polyimide Nanocomposite Film with Enhanced Electrical Performance. ACS Applied Electronic Materials, 2022, 4, 3027-3035.	2.0	10
1342	Wear- and High-Temperature-Resistant IGNs/ Fe <sub>3</sub> O <sub>4</sub> /PI Composites for Triboelectric Nanogenerator. Journal of Electronic Materials, 2022, 51, 4986-4994.	1.0	4
1343	Investigating the Performance of Triboelectric Nanogenerators (TENGs) Fabricated Using Various Flexible Polymeric Materials. , 2022, , .		5
1344	Textile-based flexible and printable sensors for next generation uses and their contemporary challenges: A critical review. Sensors and Actuators A: Physical, 2022, 344, 113696.	2.0	27
1345	Modeling and optimization of a rotational symmetric spherical triboelectric generator. Nano Energy, 2022, 100, 107491.	8.2	7
1346	Theoretical study of the rotary electrostatic generators based on a universal equivalent circuit model. Nano Energy, 2022, 100, 107512.	8.2	7
1347	Energy-efficient PM adhesion method using functional electroactive nanofibers. Energy Reports, 2022, 8, 7780-7788.	2.5	7
1348	Smart and autonomous (self-powered) nanosensor networks. , 2022, , 105-121.		0

#	ARTICLE	IF	CITATIONS
1349	The continuous fabrication of a high-performance triboelectric nanogenerator by a roll-to-roll process. <i>Journal of Materials Chemistry A</i> , 2022, 10, 16547-16554.	5.2	9
1350	Polymer-based composite materials for triboelectric energy harvesting. , 2022, , 181-202.		4
1351	Human body IoT systems based on the triboelectrification effect: energy harvesting, sensing, interfacing and communication. <i>Energy and Environmental Science</i> , 2022, 15, 3688-3721.	15.6	93
1352	Fingerprint-Inspired Dual-Mode Self-Powered Pressure Sensor for Robotic Static and Dynamic Perception. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1353	Self-Powered Intelligent Buoy Based on Triboelectric Nanogenerator for Water Level Alarming. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	23
1354	Comparison of Performance of PVDF-based Piezoelectric Energy Harvester with Commercial Piezo Sensor. , 2022, , .		0
1355	Tandem Self-Powered Flexible Electrochromic Energy Supplier for Sustainable All-Day Operations. <i>Advanced Energy Materials</i> , 2022, 12, .	10.2	17
1356	Self-powered wearable sensors design considerations. <i>Journal of Micromechanics and Microengineering</i> , 2022, 32, 083002.	1.5	2
1357	Liquid-Liquid Interfaces-Based Triboelectric Nanogenerator: An Emerging Power Generation Method from Liquid-Energy Nexus. <i>Advanced Energy and Sustainability Research</i> , 2022, 3, .	2.8	11
1358	The Progress of Research into Flexible Sensors in the Field of Smart Wearables. <i>Sensors</i> , 2022, 22, 5089.	2.1	14
1359	A critical review of the recent progress on carbon nanotubes-based nanogenerators. <i>Sensors and Actuators A: Physical</i> , 2022, 344, 113743.	2.0	14
1360	Nerve Stimulation by Triboelectric Nanogenerator Based on Nanofibrous Membrane for Spinal Cord Injury. <i>Frontiers in Chemistry</i> , 0, 10, .	1.8	3
1361	Boosting the lifespan of magneto-mechano-electric generator via vertical installation for sustainable powering of Internet of Things sensor. <i>Nano Energy</i> , 2022, 101, 107567.	8.2	10
1362	A contextual framework development toward triboelectric nanogenerator commercialization. <i>Nano Energy</i> , 2022, 101, 107572.	8.2	21
1363	Triboelectric nanogenerator with a seesaw structure for harvesting ocean energy. <i>Nano Energy</i> , 2022, 102, 107622.	8.2	22
1364	Superficial modification of polyamide-66 film for enhanced electrical performance and multimode functional triboelectric nanogenerators. <i>International Journal of Energy Research</i> , 2022, 46, 17391-17403.	2.2	5
1365	Switchless Oscillating Charge Pump-Based Triboelectric Nanogenerator and an Additional Electromagnetic Generator for Harvesting Vertical Vibration Energy. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 34081-34092.	4.0	7
1366	Hydrochromic CsPbBr <sub>3</sub> -KBr Microcrystals for Flexible Anti-Counterfeiting and Wearable Self-Powered Biomechanical Monitoring. <i>Chemical Engineering Journal</i> , 2022, 450, 138279.	6.6	14

#	ARTICLE	IF	CITATIONS
1367	Surface engineering of a triboelectric nanogenerator for room temperature high-performance self-powered formaldehyde sensors. <i>Journal of Materials Chemistry A</i> , 2022, 10, 22373-22389.	5.2	14
1368	Triboelectric Nanogenerators for Harvesting Diverse Water Kinetic Energy. <i>Micromachines</i> , 2022, 13, 1219.	1.4	6
1369	Realization of a Sustainable Charging Power Source by In-situ Low-Frequency Water Wave Energy Harvesting with a Coaxial Triboelectric-Electromagnetic Hybrid Generator. <i>Advanced Energy and Sustainability Research</i> , 2022, 3, .	2.8	2
1370	Magneto-Mechano-Electric (MME) Composite Devices for Energy Harvesting and Magnetic Field Sensing Applications. <i>Sensors</i> , 2022, 22, 5723.	2.1	8
1371	Honeycomb-Patterned Polyimide-Based Triboelectric Nanogenerator with Excellent Thermal Stability and Enhanced Electrification Performance. <i>ACS Applied Energy Materials</i> , 2022, 5, 9791-9800.	2.5	19
1372	Self-powered and self-sensing devices based on human motion. <i>Joule</i> , 2022, 6, 1501-1565.	11.7	70
1373	Harvesting Wide Frequency Micromechanical Vibration Energy and Wind Energy with a Multi-Mode Triboelectric Nanogenerator for Traffic Monitoring and Warning. <i>Advanced Materials Technologies</i> , 2023, 8, .	3.0	10
1374	Touchless-interactive teaching of soft robots through flexible bimodal sensory interfaces. <i>Nature Communications</i> , 2022, 13, .	5.8	68
1375	A Soft Magnetoelastic Generator for Wind-Energy Harvesting. <i>Advanced Materials</i> , 2022, 34, .	11.1	41
1376	Research Progress on Triboelectric Nanogenerator for Sports Applications. <i>Energies</i> , 2022, 15, 5807.	1.6	9
1377	Bio-based epoxidized natural rubber/chitosan/cellulose nanocrystal composites for enhancing mechanical properties, self-healing behavior and triboelectric nanogenerator performance. <i>Cellulose</i> , 2022, 29, 8675-8693.	2.4	17
1378	Rationally Structured Triboelectric Nanogenerator Arrays for Harvesting Water-Current Energy and Self-Powered Sensing. <i>Advanced Materials</i> , 2022, 34, .	11.1	36
1379	Recent Progresses in Wearable Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	54
1380	Review on the transformation of biomechanical energy to green energy using triboelectric and piezoelectric based smart materials. <i>Journal of Cleaner Production</i> , 2022, 371, 133702.	4.6	11
1381	Tunable polarity reversal phenomenon at the initial working state of triboelectric nanogenerator. <i>Nano Energy</i> , 2022, 102, 107651.	8.2	6
1382	Flowing water-based tubular triboelectric nanogenerators for sustainable green energy harvesting. <i>Nano Energy</i> , 2022, 102, 107675.	8.2	23
1383	Sliding Schottky diode triboelectric nanogenerators with current output of 109 A/m <sup>2</sup> by molecular engineering of Si(211) surfaces. <i>Nano Energy</i> , 2022, 102, 107658.	8.2	6
1384	Facile fabrication of stretchable and multifunctional thermoelectric composite fabrics with strain-enhanced self-powered sensing performance. <i>Composites Communications</i> , 2022, 35, 101275.	3.3	25

#	ARTICLE	IF	CITATIONS
1385	Scalable and sustainable wood for efficient mechanical energy conversion in buildings via triboelectric effects. Nano Energy, 2022, 102, 107670.	8.2	10
1386	Magnetically circular layers triboelectric nanogenerators (MCL-TENG) for velocity sensing and damage detection. Sustainable Energy Technologies and Assessments, 2022, 53, 102644.	1.7	5
1387	Copper particles-PTFE tube based triboelectric nanogenerator for wave energy harvesting. Nano Energy, 2022, 102, 107749.	8.2	16
1388	Double-blade structured triboelectric-electromagnetic hybrid generator with aerodynamic enhancement for breeze energy harvesting. Applied Energy, 2022, 326, 119970.	5.1	18
1389	Direct-current triboelectric nanogenerator based on electrostatic breakdown effect. Nano Energy, 2022, 102, 107745.	8.2	15
1390	Chemical structure-based design of triboelectric materials for high-performance TENGs. Nano Energy, 2022, 103, 107847.	8.2	12
1391	A high-applicability, high-durability wearable hybrid nanogenerator with magnetic suspension structure toward health monitoring applications. Nano Energy, 2022, 103, 107774.	8.2	11
1392	Fingerprint-inspired dual-mode pressure sensor for robotic static and dynamic perception. Nano Energy, 2022, 103, 107788.	8.2	8
1393	Sub-watt power triboelectric generator via polarization switching charge carrier. Nano Energy, 2022, 103, 107754.	8.2	6
1394	Molecular level manipulation of charge density for solid-liquid TENG system by proton irradiation. Nano Energy, 2022, 103, 107819.	8.2	49
1395	Electrospun nanofiber based TENGs for wearable electronics and self-powered sensing. Chemical Engineering Journal, 2023, 452, 139060.	6.6	78
1396	Self-powered broadband photodetection with mixed-phase black TiO <sub>2</sub> -assisted output boosting of a biobased triboelectric nanogenerator. Chemical Engineering Journal, 2023, 452, 139138.	6.6	5
1397	Superhydrophobic cellulosic triboelectric materials for distributed energy harvesting. Chemical Engineering Journal, 2023, 452, 139259.	6.6	23
1398	Detection of 16s Rdna by Triboelectric Nanogenerator-Based Biosensor System and Mathematic Model. SSRN Electronic Journal, 0, , .	0.4	0
1399	An integrally underwater self-healable droplet-based triboelectric nanogenerator. Journal of Materials Chemistry A, 2022, 10, 20509-20516.	5.2	4
1400	IoT Applications Powered by Piezoelectric Vibration Energy Harvesting Device. Communications in Computer and Information Science, 2022, , 171-182.	0.4	0
1401	A novel smart composite: from self-powered sensors to multi-responsive shape memory actuators. Journal of Materials Chemistry A, 2022, 10, 22205-22213.	5.2	6
1402	Printed Electronics Applications: Energy Conversion and Storage Devices. , 2022, , 445-515.		0

#	ARTICLE	IF	CITATIONS
1403	Bioinspired Self-Healing and Robust Smart Skin Via Tailored Slipping Semi-Crystalline Arrays for Multifunctional Biomedical Electronics. SSRN Electronic Journal, 0, , .	0.4	0
1404	Largely Enhanced Output of the Non-Contact Mode Triboelectric Nanogenerator via a Charge Excitation Based on a High Insulation Strategy. Advanced Energy Materials, 2022, 12, .	10.2	30
1405	Triboelectric nanogenerators as wearable power sources and self-powered sensors. National Science Review, 2023, 10, .	4.6	33
1406	Emerging Development of Auto-Charging Sensors for Respiration Monitoring. International Journal of Biomaterials, 2022, 2022, 1-12.	1.1	1
1407	Design of a Self-Powered System by Wind-Driven Triboelectric Nanogenerator Based on $0.94(\text{Bi}_{0.5}\text{Na}_{0.5})\text{TiO}_3 \cdot 0.06\text{Ba}(\text{Zr}_{0.25}\text{Ti}_{0.75})\text{O}_3$ / Polyvinylidene Fluoride (BNT-BZT/PVDF) Composites. Small, 2022, 18, .	3.2	5
1408	A Self-Powered Sport Sensor Based on Triboelectric Nanogenerator for Fosbury Flop Training. Journal of Sensors, 2022, 2022, 1-10.	0.6	0
1409	Covalent Organic Frameworks with Tailored Functionalities for Modulating Surface Potentials in Triboelectric Nanogenerators. Angewandte Chemie, 2022, 134, .	1.6	1
1410	Self-Powered Smart Gloves Based on Triboelectric Nanogenerators. Small Methods, 2022, 6, .	4.6	20
1411	Electrospun P3HT/PVDF-HFP semiconductive nanofibers for triboelectric nanogenerators. Scientific Reports, 2022, 12, .	1.6	8
1412	Covalent Organic Frameworks with Tailored Functionalities for Modulating Surface Potentials in Triboelectric Nanogenerators. Angewandte Chemie - International Edition, 2022, 61, .	7.2	23
1413	Flexible and Transparent Triboelectric Nanogenerators Based on Polyoxometalate-Modified Polydimethylsiloxane Composite Films for Harvesting Biomechanical Energy. ACS Applied Nano Materials, 2022, 5, 15369-15377.	2.4	7
1414	Revisiting Contact Electrification at Polymer-Liquid Interfaces. Langmuir, 2022, 38, 11882-11891.	1.6	2
1415	Classification and utilization of waste electronic components based on triboelectric nanogenerator. Nanotechnology, 2022, 33, 495401.	1.3	5
1416	Topological Nanofibers Enhanced Piezoelectric Membranes for Soft Bioelectronics. Advanced Functional Materials, 2022, 32, .	7.8	15
1417	Surface Area Enhanced Nylon-6,6 Nanofiber Engineered Triboelectric Nanogenerator for Self-Powered Seat Monitoring Applications. ACS Sustainable Chemistry and Engineering, 2022, 10, 14126-14135.	3.2	4
1418	Modulating ZnO Growth Structures for Maximum Power Output of Hybrid Piezo/Triboelectric Nanogenerator. Advanced Functional Materials, 2022, 32, .	7.8	15
1419	From Triboelectric Nanogenerator to Multifunctional Triboelectric Sensors: A Chemical Perspective toward the Interface Optimization and Device Integration. Small, 2022, 18, .	5.2	26
1420	Continuous Preparation of Chitosan-Based Self-Powered Sensing Fibers Recycled from Wasted Materials for Smart Home Applications. Advanced Fiber Materials, 2022, 4, 1584-1594.	7.9	18

#	ARTICLE	IF	CITATIONS
1422	Triboelectric nanogenerators stimulated electroacupuncture (EA) treatment for promoting the functional recovery after spinal cord injury. <i>Materials Today</i> , 2022, 60, 41-51.	8.3	15
1423	Advances in Bioinspired Triboelectric Nanogenerators. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	18
1424	Anaerobe Syntrophic Co-culture-Mediated Green Synthesis of Ultrathin Niobium Carbide (NbC) Sheets for Flexoelectricity Generation. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 13650-13660.	3.2	4
1425	A stacked triboelectric nanogenerator coupled with elastomer and non-elastomer for mechanical energy harvesting and hand motion recognition. <i>Nano Energy</i> , 2022, 103, 107859.	8.2	3
1426	Control of triboelectrification on Al metal surfaces through microstructural design. <i>Nanoscale</i> , 2022, 14, 15129-15140.	2.8	0
1427	Additively Manufactured Biomedical Energy Harvesters. , 2022, , 440-453.		0
1428	Facile construction of electrochemical and self-powered wearable pressure sensors based on metallic corrosion effects. <i>Nano Energy</i> , 2022, 104, 107954.	8.2	21
1429	Self-Powered and Robust Marine Exhaust Gas Flow Sensor Based on Bearing Type Triboelectric Nanogenerator. <i>Journal of Marine Science and Engineering</i> , 2022, 10, 1416.	1.2	7
1430	Sustainable Triboelectric Materials for Smart Active Sensing Systems. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	40
1431	Pyroelectric generators to harvest energy from disc brake pads for wireless sensors in electric vehicles. <i>EPJ Applied Physics</i> , 2022, 97, 89.	0.3	3
1432	Freshwater Production Towards Microgrid Integration: Physics, Progress, and Prospects of Solar-Thermal Evaporation. , 2022, , 100037.		1
1433	Recent Progress in Advanced Units of Triboelectric Electronic Skin. <i>Advanced Materials Technologies</i> , 2023, 8, .	3.0	8
1434	Prolonging VR Haptic Experiences by Harvesting Kinetic Energy from the User. , 2022, , .		9
1435	An artificial remote tactile device with 3D depth-of-field sensation. <i>Science Advances</i> , 2022, 8, .	4.7	9
1436	Tunable stochastic resonance based on the optimization of centrifugal distance for rotation-induced energy harvesting. <i>Smart Materials and Structures</i> , 2022, 31, 124004.	1.8	2
1437	Roadmap on nanogenerators and piezotronics. <i>APL Materials</i> , 2022, 10, .	2.2	22
1438	Carrying handle of milk carton inspired multi-layer, easy-to-assemble triboelectric nanogenerators for human motion sensing. <i>Smart Materials and Structures</i> , 2022, 31, 115026.	1.8	1
1439	Engineering of Nanocellulose Thin Films for Triboelectric Nanogenerator Development. <i>Nanoscience and Technology</i> , 2023, , 335-366.	1.5	0



#	ARTICLE	IF	CITATIONS
1440	Ultra-broadband natural frequency using automatic resonance tuning of energy harvester and deep learning algorithms. <i>Energy Conversion and Management</i> , 2022, 272, 116332.	4.4	11
1441	A Mutual Boosting Self-Excitation Hybrid Cell for Harvesting High Entropy Energy at 32% Efficiency. <i>Small</i> , 2022, 18, .	5.2	10
1442	Onion-like carbon as nano-additive for tribological nanogenerators with enhanced output performance and stability. <i>Nano Energy</i> , 2022, 104, 107900.	8.2	6
1443	Bioinspired self-healing and robust elastomer via tailored slipping semi-crystalline arrays for multifunctional electronics. <i>Chemical Engineering Journal</i> , 2023, 454, 139982.	6.6	3
1444	A volatile organic compound free unibody triboelectric nanogenerator and its application as a smart green track. <i>Nano Energy</i> , 2023, 105, 108001.	8.2	2
1445	What does a sliding triboelectrical sensor really measure?. <i>Tribology International</i> , 2023, 179, 108083.	3.0	1
1446	Bioinspired Multifunctional E-skin for Robot Dynamic Tactile Real-time Feedback Systems Using Triboelectric Sensors and Electrochromic Devices. , 2022, 1, .		2
1447	Triboelectric Nanogenerators in Sustainable Chemical Sensors. <i>Chemosensors</i> , 2022, 10, 484.	1.8	8
1448	Recent updates on triboelectric nanogenerator based advanced biomedical technologies: A short review. <i>Results in Engineering</i> , 2022, 16, 100782.	2.2	13
1449	Energy harvesting solutions for railway transportation: A comprehensive review. <i>Renewable Energy</i> , 2023, 202, 56-87.	4.3	27
1450	Triboelectric Nanogenerator Enabled Wearable Sensors and Electronics for Sustainable Internet of Things Integrated Green Earth. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	79
1451	Whirligig-Inspired Hybrid Nanogenerator for Multi-strategy Energy Harvesting. <i>Advanced Fiber Materials</i> , 2023, 5, 362-376.	7.9	17
1452	Green Flexible Triboelectric Nanogenerators Based on Edible Proteins for Electrophoretic Deposition. <i>Advanced Electronic Materials</i> , 2023, 9, .	2.6	5
1453	Ultra-low frequency vibration energy harvesting: Mechanisms, enhancement techniques, and scaling laws. <i>Energy Conversion and Management</i> , 2023, 276, 116585.	4.4	19
1454	Physically doped and printed elastomer films as flexible high-performance triboelectric nanogenerator for self-powered mechanoelectric sensor for recovering voice and monitoring heart rate. <i>Chemical Engineering Journal</i> , 2023, 456, 141012.	6.6	11
1455	Au decorated ultrathin WS <sub>2</sub> -based single-electrode triboelectric nanogenerator for flexible self-powered photodetector. <i>Sensors and Actuators A: Physical</i> , 2023, 349, 114076.	2.0	8
1456	Recent advances in wearable electromechanical sensors—Moving towards machine learning-assisted wearable sensing systems. <i>Nano Energy</i> , 2023, 105, 108041.	8.2	27
1457	Brownian motor inspired monodirectional continuous spinning triboelectric nanogenerators for extracting energy from irregular gentle water waves. <i>Energy and Environmental Science</i> , 2023, 16, 473-483.	15.6	23

#	ARTICLE	IF	CITATIONS
1458	3D printed smart glove with pyramidal MXene/Ecoflex composite-based toroidal triboelectric nanogenerators for wearable human-machine interaction applications. <i>Nano Energy</i> , 2023, 106, 108110.	8.2	21
1459	Chemically modified MXene nanoflakes for enhancing the output performance of triboelectric nanogenerators. <i>Nano Energy</i> , 2023, 107, 108128.	8.2	10
1460	Recent advances in biodegradable electronics- from fundament to the next-generation multi-functional, medical and environmental device. <i>Sustainable Materials and Technologies</i> , 2023, 35, e00530.	1.7	5
1461	Overview of Advanced Micro-Nano Manufacturing Technologies for Triboelectric Nanogenerators. <i>Nanoenergy Advances</i> , 2022, 2, 316-343.	3.6	1
1462	Stretchable nanogenerators for scavenging mechanical energy. <i>Nano Research</i> , 0, , .	5.8	1
1463	A Multifunction Freestanding Liquid-Solid Triboelectric Nanogenerator Based on Low-Frequency Mechanical Sloshing. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 54716-54724.	4.0	7
1464	Perovskite Piezoelectric-Based Flexible Energy Harvesters for Self-Powered Implantable and Wearable IoT Devices. <i>Sensors</i> , 2022, 22, 9506.	2.1	6
1465	A Comprehensive Review on the Novel Principles, Development and Applications of Triboelectric Nanogenerators. <i>Applied Mechanics Reviews</i> , 2024, 76, .	4.5	10
1466	Triboelectric nanogenerators for smart agriculture. <i>Informa-Materials</i> , 2023, 5, .	8.5	12
1467	Transparent, Stretchable, and Recyclable Triboelectric Nanogenerator Based on an Acid- and Alkali-Resistant Hydrogel. <i>ACS Applied Electronic Materials</i> , 2023, 5, 216-226.	2.0	4
1468	Gas-liquid two-phase flow-based triboelectric nanogenerator with ultrahigh output power. <i>Science Advances</i> , 2022, 8, .	4.7	34
1469	Recent progress in the fabrication and processing of triboelectric yarns. , 2023, 2, 63-89.		1
1470	Body-Patchable, Antimicrobial, Encodable TENGs with Ultrathin, Free-Standing, Translucent Chitosan/Alginate/Silver Nanocomposite Multilayers. <i>Advanced Functional Materials</i> , 2023, 33, .	7.8	12
1471	Dynamic Semiconductor Junctions for Mechanical-to-Electric Power Conversion. , 2023, , 1-28.		0
1472	Piezoelectric soft robot driven by mechanical energy. <i>Nano Research</i> , 2023, 16, 4970-4979.	5.8	1
1473	A stretchable, self-healing and semi-transparent nanogenerator for energy harvesting and sensing. <i>Nano Energy</i> , 2023, 107, 108127.	8.2	8
1474	Exalting energy scavenging for triboelectric nanogenerator using silicon carbide particles doped polyvinylidene difluoride nanocomposite. <i>Nano Energy</i> , 2023, 107, 108146.	8.2	6
1475	The sealed bionic fishtail-structured TENG based on anticorrosive paint for ocean sensor systems. <i>Nano Energy</i> , 2023, 108, 108210.	8.2	15

#	ARTICLE	IF	CITATIONS
1476	Advances in self-powered sports monitoring sensors based on triboelectric nanogenerators. Journal of Energy Chemistry, 2023, 79, 477-488.	7.1	25
1477	Fractal structured charge-excitation triboelectric nanogenerators for powering portable electronic devices. Nanoscale, 2023, 15, 2820-2827.	2.8	1
1478	Electric-field-driven interfacial trapping of drifting triboelectric charges <i>via</i> contact electrification. Energy and Environmental Science, 2023, 16, 598-609.	15.6	11
1479	From Piezoelectric Nanogenerator to Non-Invasive Medical Sensor: A Review. Biosensors, 2023, 13, 113.	2.3	15
1480	Self-powered liquid crystal lens based on a triboelectric nanogenerator. Nano Energy, 2023, 107, 108143.	8.2	4
1481	Optimizing the efficiency of triboelectric nanogenerators by surface nanoarchitectonics of graphene-based electrodes: A review. Materials Today Communications, 2023, 34, 105412.	0.9	8
1482	Investigated a PLL surface-modified Nylon 11 electrospun as a highly tribo-positive frictional layer to enhance output performance of triboelectric nanogenerators and self-powered wearable sensors. Nano Energy, 2023, 108, 108178.	8.2	27
1483	Acoustic-electric conversion and triboelectric properties of nature-driven CF-CNT based triboelectric nanogenerator for mechanical and sound energy harvesting. Nano Energy, 2023, 108, 108211.	8.2	48
1484	Dynamics and energy harvesting performance of a nonlinear arc-cylinder type dielectric elastomer oscillator under unidirectional harmonic excitations. International Journal of Mechanical Sciences, 2023, 244, 108090.	3.6	10
1485	An Integrated Solar Panel with a Triboelectric Nanogenerator Array for Synergistic Harvesting of Raindrop and Solar Energy. Advanced Materials, 2023, 35, .	11.1	42
1486	Biodegradable Polymers in Triboelectric Nanogenerators. Polymers, 2023, 15, 222.	2.0	23
1487	Fe3O4-Filled Cellulose Paper for Triboelectric Nanogenerator Application. Polymers, 2023, 15, 94.	2.0	4
1488	Self-Powered Wearable Breath Sensor Cum Nanogenerator Using AuNR-rGO-PVDF Nanocomposite. IEEE Sensors Journal, 2023, 23, 6473-6480.	2.4	2
1489	Triboelectric Nanogenerators for Self-Powered Electrochemistry. , 2023, , 1-18.		0
1490	Triboelectric Nanogenerators for Electronic and Robotic Skins. , 2023, , 1-52.		0
1491	Harvesting Water Wave Energy by Triboelectric Nanogenerators. , 2023, , 1-36.		0
1492	Highly Electronegative V<sub>2</sub>CT<i>x</i>/Silicone Nanocompositeâ€Based Serpentine Triboelectric Nanogenerator for Wearable Selfâ€Powered Sensors and Sign Language Interpretation. Advanced Energy Materials, 2023, 13, .	10.2	14
1493	Multilayered Helical Spherical Triboelectric Nanogenerator with Charge Shuttling for Water Wave Energy Harvesting. Small Methods, 2023, 7, .	4.6	10

#	ARTICLE	IF	CITATIONS
1494	Pursuing the tribovoltaic effect for direct-current triboelectric nanogenerators. <i>Energy and Environmental Science</i> , 2023, 16, 983-1006.	15.6	43
1495	Environmentally friendly natural materials for triboelectric nanogenerators: a review. <i>Journal of Materials Chemistry A</i> , 2023, 11, 9270-9299.	5.2	6
1496	BaTiO <sub>3</sub> /MXene/PVDF-TrFE composite films via an electrospinning method for flexible piezoelectric pressure sensors. <i>Journal of Materials Chemistry C</i> , 2023, 11, 4614-4622.	2.7	7
1497	Silicone-Based Multifunctional Thin Films with Improved Triboelectric and Sensing Performances via Chemically Interfacial Modification. <i>ACS Omega</i> , 2023, 8, 7135-7142.	1.6	1
1498	Self-Healing Stress Sensors: Coupling Stress Sensing Performance with Dynamic Chemistry. , 2023, 2, .		2
1499	Current Achievements in Flexible Piezoelectric Nanogenerators Based on Barium Titanate. <i>Nanomaterials</i> , 2023, 13, 988.	1.9	4
1500	Multi-layered triboelectric nanogenerator incorporated with self-charge excitation for efficient water wave energy harvesting. <i>Applied Energy</i> , 2023, 336, 120792.	5.1	12
1501	Self-powered energy harvesting and implantable storage system based on hydrogel-enabled all-solid-state supercapacitor and triboelectric nanogenerator. <i>Chemical Engineering Journal</i> , 2023, 463, 142427.	6.6	12
1502	Boost the voltage of a magnetoelastic generator via tuning the magnetic induction layer resistance. <i>Nano Energy</i> , 2023, 109, 108298.	8.2	5
1503	Slippery contact on organogel enabling droplet energy harvest. <i>Nano Energy</i> , 2023, 109, 108286.	8.2	8
1504	A triboelectric nanogenerator-based tactile sensor array system for monitoring pressure distribution inside prosthetic limb. <i>Nano Energy</i> , 2023, 111, 108397.	8.2	12
1505	Wave energy harvesting based on multilayer beads integrated spherical TENG with switch triggered instant discharging for self-powered hydrogen generation. <i>Nano Energy</i> , 2023, 111, 108432.	8.2	12
1506	Grounding strategy to promote the surface charge equilibrium and output performance of triboelectric nanogenerator. <i>Nano Energy</i> , 2023, 110, 108310.	8.2	2
1507	Synergistic effects of charge transport and trapping in tribomaterials for boosted triboelectric nanogenerators. <i>Nano Energy</i> , 2023, 110, 108345.	8.2	11
1508	Boosting power output of fluttering triboelectric nanogenerator based on charge excitation through multi-utilization of wind. <i>Nano Energy</i> , 2023, 111, 108389.	8.2	4
1509	Recent advances on porous materials and structures for high-performance triboelectric nanogenerators. <i>Nano Energy</i> , 2023, 111, 108365.	8.2	18
1510	Research on Low-Frequency Vibration Monitoring Sensor Based on a Cantilever-Beam-Structured Triboelectric Nanogenerator. <i>Journal of Marine Science and Engineering</i> , 2023, 11, 838.	1.2	2
1511	An organic semiconductor/metal Schottky heterojunction based direct current triboelectric nanogenerator windmill for wind energy harvesting. <i>Nano Energy</i> , 2023, 109, 108302.	8.2	8

#	ARTICLE	IF	CITATIONS
1512	Enhanced triboelectric degradation of organics by regulating oxygen vacancies and constructing heterojunctions. <i>Applied Surface Science</i> , 2023, 625, 157228.	3.1	7
1513	A disposable enzymatic biofuel cell for glucose sensing via short-circuit current. <i>Biosensors and Bioelectronics</i> , 2023, 230, 115272.	5.3	6
1514	Emerging ultrasonic bioelectronics for personalized healthcare. <i>Progress in Materials Science</i> , 2023, 136, 101110.	16.0	10
1515	Triboelectric Nanogenerators (TENGs) Based on Various Flexible Polymeric Materials Along With Printed and Non-Printed Electrodes. , 2023, 2, 92-100.		2
1516	Optical phase of recursion hybrid visco ferromagnetic electromagnetic microscale. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2023, 462, 128651.	0.9	11
1517	Robust salt-shelled metal halide for highly efficient photoluminescence and wearable real-time human motion perception. <i>Nano Energy</i> , 2023, 108, 108235.	8.2	4
1518	Self-Powered Biosensors for Monitoring Human Physiological Changes. <i>Biosensors</i> , 2023, 13, 236.	2.3	6
1519	Bringing Quantum Mechanics to Coarse-Grained Soft Materials Modeling. <i>Chemistry of Materials</i> , 2023, 35, 1470-1486.	3.2	6
1520	Triboelectric Nanogenerator As Implantable Devices for Biological Sensing. , 2023, , 1-48.		0
1521	Charge-accumulating-flutter-based Triboelectric Nanogenerator via Discharge Gateway. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	13
1522	Ultrahigh power output and durable flexible all-polymer triboelectric nanogenerators enabled by rational surface engineering. <i>Journal of Materials Chemistry A</i> , 2023, 11, 10174-10183.	5.2	2
1523	Recent Advances in Mechanical Vibration Energy Harvesters Based on Triboelectric Nanogenerators. <i>Small</i> , 2023, 19, .	5.2	9
1524	Enhanced triboelectric degradation of organics by tuning the synergy between ferroelectric polarization and illumination. <i>Materials Today Chemistry</i> , 2023, 29, 101427.	1.7	1
1525	A Triboelectric Nanocomposite for Sterile Sensing, Energy Harvesting, and Haptic Diagnostics in Interventional Procedures from Surgical Gloves. <i>Advanced Healthcare Materials</i> , 2023, 12, .	3.9	1
1526	Flexible and Wearable Strain/Pressure Sensors. , 2023, , 180-198.		0
1527	A hybrid piezoelectric and triboelectric nanogenerator with lead-free BZT/BCT/PDMS composite and PVA film for scavenging mechanical energy. <i>RSC Advances</i> , 2023, 13, 7921-7928.	1.7	3
1528	Harvesting Wind Energy by Triboelectric Nanogenerators. , 2023, , 1-32.		0
1529	Triboelectric Nanogenerators Assembled by Cobalt(II) Coordination Polymer Incorporated Composite Films and their Application for Self-Powered Anticorrosion. <i>Chemistry - A European Journal</i> , 2023, 29, .	1.7	5

#	ARTICLE	IF	CITATIONS
1530	Roadmap on energy harvesting materials. <i>JPhys Materials</i> , 2023, 6, 042501.	1.8	19
1531	Ultrahigh Performance, Serially Stackable, Breeze Driven Triboelectric Generator via Ambient Air Ionizing Channel. <i>Advanced Materials</i> , 2023, 35, .	11.1	12
1532	Advances in solidâ€“solid contacting triboelectric nanogenerator for ocean energy harvesting. <i>Materials Today</i> , 2023, 65, 166-188.	8.3	11
1533	Optical recursion binormal optical visco Landauâ€“Lifshitz electromagnetic optical density. <i>Communications in Theoretical Physics</i> , 2023, 75, 055003.	1.1	9
1534	Liquidâ€“Metalâ€“Based Stretchable Triboelectric Nanogenerators for Flowingâ€“Liquidâ€“Based Energy Harvesting and Selfâ€“Powered Sensor Applications. <i>Advanced Materials Technologies</i> , 2023, 8, .	3.0	7
1535	Human body heat-driven thermoelectric generators as a sustainable power supply for wearable electronic devices: Recent advances, challenges, and future perspectives. <i>Heliyon</i> , 2023, 9, e14707.	1.4	4
1536	Power Management Systems for Triboelectric Nanogenerators. , 2023, , 1-34.		0
1537	Triboelectric Nanogenerators for Civil Infrastructure Systems. , 2023, , 1-23.		0
1538	Triboelectric nanogenerators and piezoelectric nanogenerators for preventing and treating heart diseases. , 2023, 1, .		17
1539	On the contact electrification mechanism in semiconductorâ€“semiconductor case by vertical contact-separation triboelectric nanogenerator. <i>Nanotechnology</i> , 2023, 34, 295401.	1.3	2
1540	New optical geometric recursion electromagnetic ferromagnetic microscale. <i>International Journal of Modern Physics B</i> , 2024, 38, .	1.0	6
1541	Hybrid energy harvesting systems for self-powered sustainable water purification by harnessing ambient energy. <i>Frontiers of Environmental Science and Engineering</i> , 2023, 17, .	3.3	6
1542	Asymmetric-elastic-structure fabric-based triboelectric nanogenerators for wearable energy harvesting and human motion sensing. <i>Chemical Engineering Journal</i> , 2023, 466, 143079.	6.6	16
1558	Self-powered sensors for biomarker detection. <i>Sensors &amp; Diagnostics</i> , 0, , .	1.9	0
1573	Service behavior of triboelectric nanogenerators: Bridging the gap between prototypes and applications. <i>Nano Research</i> , 0, , .	5.8	0
1584	Smart textiles for self-powered biomonitoring. , 2023, 1, .		38
1585	Design and synthesis of triboelectric polymers for high performance triboelectric nanogenerators. <i>Energy and Environmental Science</i> , 2023, 16, 3654-3678.	15.6	17
1589	Lumber Piezoelectric Material Nanogenerators that are Adaptable and Robust for use in Sporting Big Data Statistics. , 2023, , .		0

#	ARTICLE	IF	CITATIONS
1600	Perspectives on recent advancements in energy harvesting, sensing and bio-medical applications of piezoelectric gels. Chemical Society Reviews, 2023, 52, 6191-6220.	18.7	12
1603	Triboelectric nanogenerator assisted synthesis and detection of chemical compounds. Journal of Materials Chemistry A, 2023, 11, 19244-19280.	5.2	2
1604	Harvesting Water Wave Energy by Triboelectric Nanogenerators. , 2023, , 1079-1114.		0
1605	Triboelectric Nanogenerator as Implantable Devices for Biological Sensing. , 2023, , 1439-1486.		0
1606	Triboelectric Nanogenerators for Self-Powered Electrochemistry. , 2023, , 801-818.		0
1607	Triboelectric Nanogenerators for Electronic and Robotic Skins. , 2023, , 1877-1928.		0
1608	Harvesting Wind Energy by Triboelectric Nanogenerators. , 2023, , 1143-1174.		0
1609	Triboelectric Nanogenerators for Civil Infrastructure Systems. , 2023, , 1215-1237.		0
1610	Dynamic Semiconductor Junctions for Mechanical-to-Electric Power Conversion. , 2023, , 111-138.		0
1615	A comparative study on impregnation of silver and aluminium nanoparticles into PDMS matrix: Dielectric property tailoring for improving the output performance of triboelectric nanogenerators. AIP Conference Proceedings, 2023, , .	0.3	0
1616	Enhancing the triboelectric performance of flexible PDMS/boron nitride composite nanogenerators. AIP Conference Proceedings, 2023, , .	0.3	0
1628	Effect of Flow Rate or Pressure on the Potential of Tungsten Oxide Placed in Flowing Liquid. , 2023, , .		0
1638	Power Management Systems for Triboelectric Nanogenerators. , 2023, , 387-420.		0
1640	Research on Cost-Sharing Contract for New Energy Vehicle Battery R&D Based on Quality and Price Sensitivity. , 2022, , .		0
1669	Facile surface functionalization of triboelectric layers <i>via</i> electrostatically self-assembled zwitterionic molecules for achieving efficient and stable antibacterial flexible triboelectric nanogenerators. Materials Horizons, 2024, 11, 646-660.	6.4	1
1673	Design of a Novel Tridimensional Silicon MEMS ThermoElectric Generator. , 2023, , .		0
1700	Semiconductor multimaterial optical fibers for biomedical applications. , 2024, , 231-258.		0
1701	Charge Pump Concept Based Oscillating Triboelectric Nanogenerator with One Fixed Point-Structure. , 2023, , .		0

#	ARTICLE	IF	CITATIONS
1703	Emerging electrochemical humidity sensors for zero power consumption and self-powered humidity detection: a perspective. Journal of Materials Chemistry A, 0, , .	5.2	0
1711	Piezoelectric Nanogenerators. Advances in Chemical and Materials Engineering Book Series, 2024, , 147-173.	0.2	0