A Wrinkled PEDOT:PSS Film Based Stretchable and Tran Nanogenerator for Wearable Energy Harvesters and Act

Advanced Functional Materials 28, 1803684 DOI: 10.1002/adfm.201803684

Citation Report

#	Article	IF	CITATIONS
1	Coaxial Triboelectric Nanogenerator and Supercapacitor Fiber-Based Self-Charging Power Fabric. ACS Applied Materials & Interfaces, 2018, 10, 42356-42362.	4.0	108
2	Fabric-based self-powered noncontact smart gloves for gesture recognition. Journal of Materials Chemistry A, 2018, 6, 20277-20288.	5.2	36
3	Atmospheric pressure difference driven triboelectric nanogenerator for efficiently harvesting ocean wave energy. Nano Energy, 2018, 54, 156-162.	8.2	65
4	Photothermally tunable biodegradation of implantable triboelectric nanogenerators for tissue repairing. Nano Energy, 2018, 54, 390-399.	8.2	136
5	Multilayered fiber-based triboelectric nanogenerator with high performance for biomechanical energy harvesting. Nano Energy, 2018, 53, 726-733.	8.2	144
6	Washable textile-structured single-electrode triboelectric nanogenerator for self-powered wearable electronics. Journal of Materials Chemistry A, 2018, 6, 19143-19150.	5.2	129
7	Toward self-powered photodetection enabled by triboelectric nanogenerators. Journal of Materials Chemistry C, 2018, 6, 11893-11902.	2.7	45
8	Stretchable/flexible silver nanowire electrodes for energy device applications. Nanoscale, 2019, 11, 20356-20378.	2.8	90
9	Energy Scavenging and Powering E-Skin Functional Devices. Proceedings of the IEEE, 2019, 107, 2118-2136.	16.4	34
10	Fingerprintâ€Inspired Conducting Hierarchical Wrinkles for Energyâ€Harvesting Eâ€5kin. Advanced Functional Materials, 2019, 29, 1903580.	7.8	79
11	Entirely, Intrinsically, and Autonomously Selfâ€Healable, Highly Transparent, and Superstretchable Triboelectric Nanogenerator for Personal Power Sources and Selfâ€Powered Electronic Skins. Advanced Functional Materials, 2019, 29, 1904626.	7.8	130
12	Patterned Metal/Polymer Strain Sensor with Good Flexibility, Mechanical Stability and Repeatability for Human Motion Detection. Micromachines, 2019, 10, 472.	1.4	14
13	PEDOT:PSS for Flexible and Stretchable Electronics: Modifications, Strategies, and Applications. Advanced Science, 2019, 6, 1900813.	5.6	563
14	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
15	Sensing body motions based on charges generated on the body. Nano Energy, 2019, 63, 103842.	8.2	39
16	Biocompatible Conductive Polymers with High Conductivity and High Stretchability. ACS Applied Materials & Interfaces, 2019, 11, 26185-26193.	4.0	130
17	Recent Progress in Wireless Sensors for Wearable Electronics. Sensors, 2019, 19, 4353.	2.1	99
18	Wrinkled Microelectrode Interface Based on Oil-Pretreated Hyperelastic Substrate. , 2019, , .		1

#	Article	IF	CITATIONS
19	A Universal Strategy for Improving the Energy Transmission Efficiency and Load Power of Triboelectric Nanogenerators. Advanced Energy Materials, 2019, 9, 1901881.	10.2	11
20	Ti/PEDOT:PSS/Ti Pressure Sensor. , 2019, , .		3
21	A strategy to promote efficiency and durability for sliding energy harvesting by designing alternating magnetic stripe arrays in triboelectric nanogenerator. Nano Energy, 2019, 66, 104087.	8.2	60
22	Direct Patterning of Highly Conductive PEDOT:PSS/Ionic Liquid Hydrogel via Microreactive Inkjet Printing. ACS Applied Materials & Interfaces, 2019, 11, 37069-37076.	4.0	67
23	lonogel-based, highly stretchable, transparent, durable triboelectric nanogenerators for energy harvesting and motion sensing over a wide temperature range. Nano Energy, 2019, 63, 103847.	8.2	188
24	Extremely Stretchable and Self-Healable Electrical Skin with Mechanical Adaptability, an Ultrawide Linear Response Range, and Excellent Temperature Tolerance. ACS Applied Materials & Interfaces, 2019, 11, 24639-24647.	4.0	67
25	Skin-contact actuated single-electrode protein triboelectric nanogenerator and strain sensor for biomechanical energy harvesting and motion sensing. Nano Energy, 2019, 62, 674-681.	8.2	140
26	Controllable Wrinkling Patterns on Chitosan Microspheres Generated from Self-Assembling Metal Nanoparticles. ACS Applied Materials & Interfaces, 2019, 11, 22824-22833.	4.0	20
27	Dopant passivation by adsorbed water monomers causes high humidity sensitivity in PEDOT: PSS thin films at ppm-level humidity. Sensors and Actuators B: Chemical, 2019, 293, 329-335.	4.0	24
28	Mechanically Flexible Conductors for Stretchable and Wearable Eâ€5kin and Eâ€Textile Devices. Advanced Materials, 2019, 31, e1901408.	11.1	313
29	Facile fabrication of large-scale silver nanowire-PEDOT:PSS composite flexible transparent electrodes for flexible touch panels. Materials Research Express, 2019, 6, 086315.	0.8	23
30	Flexible Sensors—From Materials to Applications. Technologies, 2019, 7, 35.	3.0	139
31	Tackling the Scalability Challenge in Plasmonics by Wrinkle-Assisted Colloidal Self-Assembly. Langmuir, 2019, 35, 8629-8645.	1.6	26
32	Highly transparent triboelectric nanogenerator utilizing in-situ chemically welded silver nanowire network as electrode for mechanical energy harvesting and body motion monitoring. Nano Energy, 2019, 59, 508-516.	8.2	69
33	Self-driven photodetection based on impedance matching effect between a triboelectric nanogenerator and a MoS2 nanosheets photodetector. Nano Energy, 2019, 59, 492-499.	8.2	50
34	A liquid PEDOT:PSS electrode-based stretchable triboelectric nanogenerator for a portable self-charging power source. Nanoscale, 2019, 11, 7513-7519.	2.8	55
35	Conductive Polymer Hydrogel Microfibers from Multiflow Microfluidics. Small, 2019, 15, e1805162.	5.2	59
36	Dynamic Interpenetrating Polymer Network (IPN) Strategy for Multiresponsive Hierarchical Pattern of Reversible Wrinkle. ACS Applied Materials & amp; Interfaces, 2019, 11, 15977-15985.	4.0	26

		CITATION REPORT		
#	ARTICLE Buckled Structures: Fabrication and Applications in Wearable Electronics. Small, 2019, 15,	e1804805.	IF 5.2	CITATIONS 83
38	Highly flexible, breathable, tailorable and washable power generation fabrics for wearable electronics. Nano Energy, 2019, 58, 750-758.		8.2	155
39	Selfâ€Connected Ag Nanoporous Sponge Embedded in Sputtered Polytetrafluoroethylene Stretchable and Semiâ€Transparent Electrodes. Advanced Materials Interfaces, 2019, 6, 18	for Highly 01936.	1.9	12
40	Interaction of the human body with triboelectric nanogenerators. Nano Energy, 2019, 57, 2	279-292.	8.2	59
41	Enhancing proliferation and migration of fibroblast cells by electric stimulation based on triboelectric nanogenerator. Nano Energy, 2019, 57, 600-607.		8.2	106
42	Beyond energy harvesting - multi-functional triboelectric nanosensors on a textile. Nano En 57, 338-352.	ergy, 2019,	8.2	173
43	Microwave-welded single-walled carbon nanotubes as suitable electrodes for triboelectric e harvesting from biomaterials and bioproducts. Nano Energy, 2019, 56, 338-346.	nergy	8.2	23
44	Rubbery Electronics Fully Made of Stretchable Elastomeric Electronic Materials. Advanced N 2020, 32, e1902417.	/aterials,	11.1	95
45	Sensors based on conductive polymers and their composites: a review. Polymer Internation 7-17.	al, 2020, 69,	1.6	147
46	Advanced Soft Materials, Sensor Integrations, and Applications of Wearable Flexible Hybrid Electronics in Healthcare, Energy, and Environment. Advanced Materials, 2020, 32, e19019	24.	11.1	575
47	Fiber/Fabricâ€Based Piezoelectric and Triboelectric Nanogenerators for Flexible/Stretchable Wearable Electronics and Artificial Intelligence. Advanced Materials, 2020, 32, e1902549.	and	11.1	826
48	Hydrogel-based hierarchically wrinkled stretchable nanofibrous membrane for high perform wearable triboelectric nanogenerator. Nano Energy, 2020, 67, 104206.	ance	8.2	76
49	A kirigami concept for transparent and stretchable nanofiber networks-based conductors a photodetectors. Journal of Industrial and Engineering Chemistry, 2020, 82, 144-152.	nd UV	2.9	21
50	High-output, transparent, stretchable triboelectric nanogenerator based on carbon nanotu film toward wearable energy harvesters. Nano Energy, 2020, 67, 104297.	be thin	8.2	64
51	Understanding the mechanism of ageing and a method to improve the ageing resistance or PEDOT:PSS films. Polymer Degradation and Stability, 2020, 171, 109025.	fconducting	2.7	10
52	Triboelectric Touchâ€Free Screen Sensor for Noncontact Gesture Recognizing. Advanced F Materials, 2020, 30, 1907893.	unctional	7.8	180
53	Electrically conducting polyaniline smart coatings and thin films for industrial applications. 585-617.	, 2020, ,		7
54	3D double-faced interlock fabric triboelectric nanogenerator for bio-motion energy harvest as self-powered stretching and 3D tactile sensors. Materials Today, 2020, 32, 84-93.	ng and	8.3	226

#	Article	IF	CITATIONS
55	Soft Wearable Systems for Colorimetric and Electrochemical Analysis of Biofluids. Advanced Functional Materials, 2020, 30, 1907269.	7.8	92
56	Flexible Electronics: Status, Challenges and Opportunities. Frontiers in Electronics, 2020, 1, .	2.0	133
57	Progress in <scp>TENG</scp> technology—A journey from energy harvesting to nanoenergy and nanosystem. EcoMat, 2020, 2, e12058.	6.8	194
58	Wearable triboelectric nanogenerators for biomechanical energy harvesting. Nano Energy, 2020, 77, 105303.	8.2	206
59	Wireless battery-free wearable sweat sensor powered by human motion. Science Advances, 2020, 6, .	4.7	372
60	High-Performance Dual-Mode Triboelectric Nanogenerator Based on Hierarchical Auxetic Structure. ACS Energy Letters, 2020, 5, 3507-3513.	8.8	26
61	Stretchable respiration sensors: Advanced designs and multifunctional platforms for wearable physiological monitoring. Biosensors and Bioelectronics, 2020, 166, 112460.	5.3	129
62	Biomechanical energy harvest based on textiles used in self-powering clothing. Journal of Engineered Fibers and Fabrics, 2020, 15, 155892502096735.	0.5	6
63	Smart materials for smart healthcare– moving from sensors and actuators to self-sustained nanoenergy nanosystems. Smart Materials in Medicine, 2020, 1, 92-124.	3.7	85
64	Particle-Laden Droplet-Driven Triboelectric Nanogenerator for Real-Time Sediment Monitoring Using a Deep Learning Method. ACS Applied Materials & Interfaces, 2020, 12, 38192-38201.	4.0	38
65	Recent progress on PEDOT:PSS based polymer blends and composites for flexible electronics and thermoelectric devices. Materials Chemistry Frontiers, 2020, 4, 3130-3152.	3.2	161
66	All-printed soft triboelectric nanogenerator for energy harvesting and tactile sensing. Nano Energy, 2020, 78, 105288.	8.2	25
67	Technologies toward next generation human machine interfaces: From machine learning enhanced tactile sensing to neuromorphic sensory systems. Applied Physics Reviews, 2020, 7, .	5.5	194
68	Electrically conducting polymers for bio-interfacing electronics: From neural and cardiac interfaces to bone and artificial tissue biomaterials. Biosensors and Bioelectronics, 2020, 170, 112620.	5.3	57
69	Fully organic compliant dry electrodes self-adhesive to skin for long-term motion-robust epidermal biopotential monitoring. Nature Communications, 2020, 11, 4683.	5.8	245
70	A Stretchable Highoutput Triboelectric Nanogenerator Improved by MXene Liquid Electrode with High Electronegativity. Advanced Functional Materials, 2020, 30, 2004181.	7.8	147
71	Stretchable Electronics Based on Laser Structured, Vapor Phase Polymerized PEDOT/Tosylate. Polymers, 2020, 12, 1654.	2.0	3
72	Walking energy harvesting and self-powered tracking system based on triboelectric nanogenerators. Beilstein Journal of Nanotechnology, 2020, 11, 1590-1595.	1.5	16

#	Article	IF	CITATIONS
73	Omnidirectionally stretchable electrodes based on wrinkled silver nanowires through the shrinkage of electrospun polymer fibers. Journal of Materials Chemistry C, 2020, 8, 16798-16807.	2.7	16
74	Recent progresses on paperâ€based triboelectric nanogenerator for portable <scp>selfâ€powered</scp> sensing systems. EcoMat, 2020, 2, e12060.	6.8	44
75	Enhancing the Performance of a Stretchable and Transparent Triboelectric Nanogenerator by Optimizing the Hydrogel Ionic Electrode Property. ACS Applied Materials & Interfaces, 2020, 12, 23474-23483.	4.0	76
76	A high-performance transparent and flexible triboelectric nanogenerator based on hydrophobic composite films. Nano Energy, 2020, 75, 104918.	8.2	51
77	Regulating surface wrinkles using light. National Science Review, 2020, 7, 1247-1257.	4.6	30
78	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
79	Machine Learning Glove Using Selfâ€₽owered Conductive Superhydrophobic Triboelectric Textile for Gesture Recognition in VR/AR Applications. Advanced Science, 2020, 7, 2000261.	5.6	290
80	Work Function Engineering of Electrohydrodynamic-Jet-Printed PEDOT:PSS Electrodes for High-Performance Printed Electronics. ACS Applied Materials & Interfaces, 2020, 12, 17799-17805.	4.0	30
81	Self-powered eye motion sensor based on triboelectric interaction and near-field electrostatic induction for wearable assistive technologies. Nano Energy, 2020, 72, 104675.	8.2	87
82	Transparent and Stretchable Strain Sensors with Improved Sensitivity and Reliability Based on Ag NWs and PEDOT:PSS Patterned Microstructures. Advanced Electronic Materials, 2020, 6, 1901360.	2.6	36
83	Triboelectric generators made of mechanically robust PVDF films as self-powered autonomous sensors for wireless transmission based remote security systems. Journal of Materials Chemistry A, 2020, 8, 15023-15033.	5.2	30
84	Flexible triboelectric 3D touch pad with unit subdivision structure for effective XY positioning and pressure sensing. Nano Energy, 2020, 76, 105047.	8.2	69
85	Design of Electrode Materials for Stretchable Triboelectric Nanogenerators. , 2020, , .		0
86	Synthesis of Stretchable, Environmentally Stable, Conducting Polymer PEDOT Using a Modified Acid Template Random Copolymer. Macromolecular Chemistry and Physics, 2020, 221, 1900465.	1.1	7
87	Inductor-Free Output Multiplier for Power Promotion and Management of Triboelectric Nanogenerators toward Self-Powered Systems. ACS Applied Materials & Interfaces, 2020, 12, 5892-5900.	4.0	30
88	Recent progress on flexible nanogenerators toward selfâ€powered systems. InformaÄnÃ-Materiály, 2020, 2, 318-340.	8.5	85
89	Small-Scale Energy Harvesting from Environment by Triboelectric Nanogenerators. , 0, , .		7
90	Scalable, washable and lightweight triboelectric-energy-generating fibers by the thermal drawing process for industrial loom weaving. Nano Energy, 2020, 74, 104805.	8.2	34

#	Article	IF	CITATIONS
91	Research Progress and Prospect of Triboelectric Nanogenerators as Self-Powered Human Body Sensors. ACS Applied Electronic Materials, 2020, 2, 863-878.	2.0	75
92	Over 14% Efficiency Folding-Flexible ITO-free Organic Solar Cells Enabled by Eco-friendly Acid-Processed Electrodes. IScience, 2020, 23, 100981.	1.9	40
93	Antiâ€liquidâ€Interfering and Bacterially Antiadhesive Strategy for Highly Stretchable and Ultrasensitive Strain Sensors Based on Cassieâ€Baxter Wetting State. Advanced Functional Materials, 2020, 30, 2000398.	7.8	172
94	Technology evolution from self-powered sensors to AloT enabled smart homes. Nano Energy, 2021, 79, 105414.	8.2	177
95	Intermediate layer for enhanced triboelectric nanogenerator. Nano Energy, 2021, 79, 105439.	8.2	70
96	Theoretical analysis of sensor properties of contact-separation mode nanogenerator-based sensors. Nano Energy, 2021, 79, 105450.	8.2	6
97	Advances in triboelectric nanogenerators for biomedical sensing. Biosensors and Bioelectronics, 2021, 171, 112714.	5.3	159
98	Polymer chemistry underpinning materials for triboelectric nanogenerators (TENGs): Recent trends. European Polymer Journal, 2021, 142, 110163.	2.6	37
99	Design, manufacturing and applications of wearable triboelectric nanogenerators. Nano Energy, 2021, 81, 105627.	8.2	86
100	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
101	Trampoline inspired stretchable triboelectric nanogenerators as tactile sensors for epidermal electronics. Nano Energy, 2021, 81, 105590.	8.2	57
102	A programmable compound prism powered by triboelectric nanogenerator for highly efficient solar beam steering. Nano Energy, 2021, 80, 105524.	8.2	13
103	Thin Ag films adhesive onto flexible substrates with excellent properties for multiâ€application. Journal of Applied Polymer Science, 2021, 138, 49806.	1.3	3
104	Sensing of ultraviolet light: a transition from conventional to self-powered photodetector. Nanoscale, 2021, 13, 15526-15551.	2.8	36
105	Self-powered and low-temperature resistant MXene-modified electronic-skin for multifunctional sensing. Chemical Communications, 2021, 57, 8790-8793.	2.2	7
106	Electrical energy generation by squeezing a graphene-based aerogel in an electrolyte. Nanoscale, 2021, 13, 8304-8312.	2.8	8
107	Energy Harvesting and Storage with Soft and Stretchable Materials. Advanced Materials, 2021, 33, e2004832.	11.1	91
108	Mechanisms for doped PEDOT:PSS electrical conductivity improvement. Materials Advances, 2021, 2, 7118-7138.	2.6	84

# 109	ARTICLE Surface-control enhanced crater-like electrode in a gelatin/polyvinyl alcohol/carbon composite for biodegradable multi-modal sensing systems with human-affinity. Journal of Materials Chemistry A, 2021, 9, 9145-9156.	IF 5.2	CITATIONS
110	Expecting the unexpected: high pressure crystallization significantly boosts up triboelectric outputs of microbial polyesters. Journal of Materials Chemistry A, 2021, 9, 6306-6315.	5.2	11
111	Stretchable negative Poisson's ratio yarn for triboelectric nanogenerator for environmental energy harvesting and self-powered sensor. Energy and Environmental Science, 2021, 14, 955-964.	15.6	78
112	Recent Progress in Flexible Pressure Sensors Based Electronic Skin. Advanced Engineering Materials, 2021, 23, 2001187.	1.6	115
113	Hybrid Triboelectric Nanogenerators: From Energy Complementation to Integration. Research, 2021, 2021, 9143762.	2.8	32
114	Skin Electronics: Nextâ€Generation Device Platform for Virtual and Augmented Reality. Advanced Functional Materials, 2021, 31, 2009602.	7.8	100
115	Flexible Highâ€Resolution Triboelectric Sensor Array Based on Patterned Laserâ€Induced Graphene for Selfâ€Powered Realâ€Time Tactile Sensing. Advanced Functional Materials, 2021, 31, 2100709.	7.8	152
116	Leveraging triboelectric nanogenerators for bioengineering. Matter, 2021, 4, 845-887.	5.0	192
117	Pressure Induced Transition from Wrinkling to Period-Doubling Instability in Flexible Tactile Sensors. , 2021, , .		0
118	Design and Optimization Principles of Cylindrical Sliding Triboelectric Nanogenerators. Micromachines, 2021, 12, 567.	1.4	8
119	Triboelectric nanogenerator based self-powered sensor for artificial intelligence. Nano Energy, 2021, 84, 105887.	8.2	168
120	Soft triboelectric nanogenerators for mechanical energy scavenging and self-powered sensors. Nano Energy, 2021, 84, 105919.	8.2	80
121	Nanoarchitectured Porous Conducting Polymers: From Controlled Synthesis to Advanced Applications. Advanced Materials, 2021, 33, e2007318.	11.1	68
122	Selfâ€Powered and Imperceptible Electronic Tattoos Based on Silk Protein Nanofiber and Carbon Nanotubes for Human–Machine Interfaces. Advanced Energy Materials, 2021, 11, 2100801.	10.2	55
123	Emerging Indoor Photovoltaic Technologies for Sustainable Internet of Things. Advanced Energy Materials, 2021, 11, 2100698.	10.2	117
124	Designable Skin-like Triboelectric Nanogenerators Using Layer-by-Layer Self-Assembled Polymeric Nanocomposites. ACS Energy Letters, 2021, 6, 2451-2459.	8.8	31
125	Highly Transparent, Stretchable, and Self-Healable Ionogel for Multifunctional Sensors, Triboelectric Nanogenerator, and Wearable Fibrous Electronics. Advanced Fiber Materials, 2022, 4, 98-107.	7.9	83
126	Fingerprint-inspired electronic skin based on triboelectric nanogenerator for fine texture recognition. Nano Energy, 2021, 85, 106001.	8.2	65

#	Article	IF	CITATIONS
127	Morphology-controllable wrinkled hierarchical structure and its application to superhydrophobic triboelectric nanogenerator. Nano Energy, 2021, 85, 105978.	8.2	54
128	Microstructure Engineering of Stretchable Resistive Strain Sensors with Discrimination Capabilities in Transverse and Longitudinal Directions. Macromolecular Materials and Engineering, 2021, 306, 2100283.	1.7	8
129	Nanogenerator-based self-powered sensors for data collection. Beilstein Journal of Nanotechnology, 2021, 12, 680-693.	1.5	17
130	Abrasion and Fracture Selfâ€Healable Triboelectric Nanogenerator with Ultrahigh Stretchability and Longâ€Term Durability. Advanced Functional Materials, 2021, 31, 2105380.	7.8	65
131	Enhanced output and wearable performances of triboelectric nanogenerator based on ePTFE microporous membranes for motion monitoring. Nano Energy, 2021, 86, 106103.	8.2	21
132	Development of flexible tactile sensor for the envelop of curved robotic hand finger in grasping force sensing. Measurement: Journal of the International Measurement Confederation, 2021, 180, 109524.	2.5	25
133	Non-planar tetrathiafulvalene derivative modified hole transporting layer for efficient organic solar cells with improved fill factor. Solar Energy, 2021, 224, 883-888.	2.9	5
134	Performance-enhanced and cost-effective triboelectric nanogenerator based on stretchable electrode for wearable SpO2 monitoring. Nano Research, 2022, 15, 2465-2471.	5.8	26
135	Epidermal Graphene Sensors and Machine Learning for Estimating Swallowed Volume. ACS Applied Nano Materials, 2021, 4, 8126-8134.	2.4	12
136	Harnessing the wide-range strain sensitivity of bilayered PEDOT:PSS films for wearable health monitoring. Matter, 2021, 4, 2886-2901.	5.0	59
137	Transparent, stretchable, temperature-stable and self-healing ionogel-based triboelectric nanogenerator for biomechanical energy collection. Nano Research, 2022, 15, 2060-2068.	5.8	36
138	Self-powered skin electronics for energy harvesting and healthcare monitoring. Materials Today Energy, 2021, 21, 100786.	2.5	36
139	Progress in the Triboelectric Human–Machine Interfaces (HMIs)-Moving from Smart Gloves to AI/Haptic Enabled HMI in the 5G/IoT Era. Nanoenergy Advances, 2021, 1, 81-121.	3.6	59
140	Analyzing the output performance of the knitted triboelectric nanogenerator based on the fish-scale shape using fast Fourier transform. Textile Reseach Journal, 0, , 004051752110445.	1.1	1
141	A review on applications of graphene in triboelectric nanogenerators. International Journal of Energy Research, 2022, 46, 544-576.	2.2	39
142	Al enabled sign language recognition and VR space bidirectional communication using triboelectric smart glove. Nature Communications, 2021, 12, 5378.	5.8	208
143	Facile synthesis of sub-10Ânm ZnS/ZnO nanoflakes for high-performance flexible triboelectric nanogenerators. Nano Energy, 2021, 88, 106256.	8.2	22
144	Theoretical and experimental investigation into the asymmetric external charging of Triboelectric Nanogenerators. Nano Energy, 2021, 90, 106511.	8.2	11

#	Article	IF	Citations
145	Preparation of intrinsic flexible conductive PEDOT:PSS@ionogel composite film and its application for touch panel. Chemical Engineering Journal, 2021, 425, 131542.	6.6	16
146	Stretchable and highly sensitive strain sensor based on conductive polymer aerogel for human physiological information detection. Nano Select, 2021, 2, 802-809.	1.9	9
147	Ultra-stretchable and healable hydrogel-based triboelectric nanogenerators for energy harvesting and self-powered sensing. RSC Advances, 2021, 11, 17437-17444.	1.7	41
148	Iceâ€Templated, Largeâ€Area Silver Nanowire Pattern for Flexible Transparent Electrode. Advanced Functional Materials, 2021, 31, 2010155.	7.8	113
149	Stretching-enhanced triboelectric nanogenerator for efficient wind energy scavenging and ultrasensitive strain sensing. Nano Energy, 2020, 75, 104920.	8.2	62
150	Underwater, Multifunctional Superhydrophobic Sensor for Human Motion Detection. ACS Applied Materials & Interfaces, 2021, 13, 4740-4749.	4.0	63
151	Micro-wrinkle strategy for stable soft neural interface with optimized electroplated PEDOT:PSS. Journal of Micromechanics and Microengineering, 2020, 30, 104001.	1.5	6
152	Nanogenerator-Based Self-Powered Sensors for Wearable and Implantable Electronics. Research, 2020, 2020, 8710686.	2.8	147
153	Designing flexible, smart and self-sustainable supercapacitors for portable/wearable electronics: from conductive polymers. Chemical Society Reviews, 2021, 50, 12702-12743.	18.7	227
154	Recent Advances on Conducting Polymers Based Nanogenerators for Energy Harvesting. Micromachines, 2021, 12, 1308.	1.4	9
155	One‣tep Synthesis of Hierarchical Structure Polydimethylsiloxane Films with Microâ€∱Nanosurfaces for Application in Triboelectric Nanogenerators. Energy Technology, 2021, 9, 2100571.	1.8	8
157	3D Printed Reduced Graphene Oxide/Elastomer Resin Composite with Structural Modulated Sensitivity for Flexible Strain Sensor. Advanced Engineering Materials, 2022, 24, 2101068.	1.6	21
158	Integrated All-Fiber Electronic Skin toward Self-Powered Sensing Sports Systems. ACS Applied Materials & Interfaces, 2021, 13, 50329-50337.	4.0	60
159	Flexible triboelectric nanogenerator for human motion tracking and gesture recognition. Nano Energy, 2022, 91, 106601.	8.2	47
160	All-in-One Self-Powered Human–Machine Interaction System for Wireless Remote Telemetry and Control of Intelligent Cars. Nanomaterials, 2021, 11, 2711.	1.9	16
161	P-type tetrathiafulvalene derivative as the interface modification layer in non-fullerene organic solar cells with high performance. Synthetic Metals, 2021, 282, 116946.	2.1	7
162	Cellulose melt processing assisted by small biomass molecule to fabricate recyclable ionogels for versatile stretchable triboelectric nanogenerators. Nano Energy, 2021, 90, 106619.	8.2	39
163	Anti-freezing organohydrogel triboelectric nanogenerator toward highly efficient and flexible human-machine interaction at â~`Â30°C. Nano Energy, 2021, 90, 106614.	8.2	74

ARTICLE IF CITATIONS # A stretchable and printable PEDOT:PSS/PDMS composite conductors and its application to wearable 1.9 12 164 strain sensor. Progress in Organic Coatings, 2022, 162, 106593. Bamboo-inspired self-powered triboelectric sensor for touch sensing and sitting posture monitoring. 8.2 Nano Energy, 2022, 91, 106670. Tetrahedral DNA mediated direct quantification of exosomes by contact-electrification effect. Nano 167 8.2 21 Energy, 2022, 92, 106781. Multifunctional Mechanical Sensing Electronic Device Based on Triboelectric Anisotropic Crumpled Nanofibrous Mats. ACS Applied Materials & amp; Interfaces, 2021, 13, 55481-55488. Electronic-ionic polymer composite for high output voltage generation. Composites Part B: 169 5.9 6 Engineering, 2022, 232, 109601. Biomimetic jagged micropatterns templated from photoswitchable liquid crystal topography for energy harvesting and sensing applications. Journal of Materials Chemistry C, 2022, 10, 1808-1815. 2.7 Stretchable PDMS Encapsulation via SiO₂ Doping and Atomic Layer Infiltration for 171 1.9 12 Flexible Displays. Advanced Materials Interfaces, 2022, 9, . In-plane dual-electrode triboelectric nanogenerator based on differential surface functionalization. 1.1 Applied Physics Express, 2022, 15, 027006. Electrohydrodynamic jet printed silver-grid electrode for transparent raindrop energy-based 173 8.2 17 triboelectric nanogenerator. Nano Energy, 2022, 95, 107049. Highly Stable and Eco-friendly Marine Self-Charging Power Systems Composed of Conductive Polymer Supercapacitors with Seawater as an Electrolyte. ACS Applied Materials & amp; Interfaces, 2022, 14, 174 90'46-90'56. Domainâ€Engineered Flexible Ferrite Membrane for Novel Machine Learning Based Multimodal Flexible 175 4 1.9 Sensing. Advanced Materials Interfaces, 2022, 9, . Electrode materials for stretchable triboelectric nanogenerator in wearable electronics. RSC Advances, 2022, 12, 10545-10572. Wearable physical sensors., 2022, , 183-218. 177 0 Design and Simulation of Singleâ€Electrode Mode Triboelectric Nanogeneratorâ€Based Pulse Sensor for 178 1.8 16 Healthcare Applications Using COMSOL Multiphysics. Energy Technology, 2022, 10, . Hydrogels as Soft Ionic Conductors in Flexible and Wearable Triboelectric Nanogenerators. Advanced 179 5.6 48 Science, 2022, 9, e2106008. Green flexible electronics based on starch. Npj Flexible Electronics, 2022, 6, . 5.1 34 Foldable and highly flexible transparent conductive electrode based on PDMS/ Ag NWs/PEDOT: PSS. 181 1.7 13 Optical Materials, 2022, 126, 112175. Industrial production of bionic scales knitting fabric-based triboelectric nanogenerator for outdoor 8.2 rescue and human protection. Nano Energy, 2022, 97, 107168.

#	Article	IF	CITATIONS
183	Wearable triboelectric devices for haptic perception and VR/AR applications. Nano Energy, 2022, 96, 107112.	8.2	39
184	Hollow chitosan hydrogel tube with controllable wrinkled pattern via film-to-tube fabrication. Carbohydrate Polymers, 2022, 287, 119333.	5.1	6
185	Recent Development of Flexible Tactile Sensors and Their Applications. Sensors, 2022, 22, 50.	2.1	39
186	Machine-Learning-Aided Self-Powered Assistive Physical Therapy Devices. ACS Nano, 2021, 15, 18633-18646.	7.3	53
187	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
188	Flexible Piezoresistive Pressure Sensor Based on Electrospun Rough Polyurethane Nanofibers Film for Human Motion Monitoring. Nanomaterials, 2022, 12, 723.	1.9	19
189	Advanced Implantable Biomedical Devices Enabled by Triboelectric Nanogenerators. Nanomaterials, 2022, 12, 1366.	1.9	33
190	Recent Progress Regarding Materials and Structures of Triboelectric Nanogenerators for AR and VR. Nanomaterials, 2022, 12, 1385.	1.9	12
191	Metal-free triboelectric nanogenerators for application in wearable electronics. Materials Advances, 2022, 3, 4460-4470.	2.6	4
192	Crystallization-Induced Shift in a Triboelectric Series and Even Polarity Reversal for Elastic Triboelectric Materials. Nano Letters, 2022, 22, 4074-4082.	4.5	25
193	A Review on Epidermal Nanogenerators: Recent Progress of the Future Selfâ€Powered Skins. Small Structures, 2022, 3, .	6.9	5
194	Ionic Gelatin-Based Flexible Thermoelectric Generator with Scalability for Human Body Heat Harvesting. Energies, 2022, 15, 3441.	1.6	4
195	3D-printed endoplasmic reticulum rGO microstructure based self-powered triboelectric pressure sensor. Chemical Engineering Journal, 2022, 445, 136821.	6.6	28
196	Performance enhancement of transparent and flexible triboelectric nanogenerator based on one-dimensionally hybridized copper/polydimethylsiloxane film. Nano Energy, 2022, 99, 107423.	8.2	12
197	Tunneling Percolation Mechanism of Conductivity for PEDOT:PSS in Hydrophilic PDMS Composite for the Fabrication of Highly Sensitive Strain Sensor. Macromolecular Chemistry and Physics, 0, , 2200077.	1.1	3
198	Advances in Biodegradable Electronic Skin: Material Progress and Recent Applications in Sensing, Robotics, and Human–Machine Interfaces. Advanced Materials, 2023, 35, .	11.1	82
199	Biomedical Applications of MXeneâ€Integrated Composites: Regenerative Medicine, Infection Therapy, Cancer Treatment, and Biosensing. Advanced Functional Materials, 2022, 32, .	7.8	62
200	Human body IoT systems based on the triboelectrification effect: energy harvesting, sensing, interfacing and communication. Energy and Environmental Science, 2022, 15, 3688-3721.	15.6	93

#	Article	IF	CITATIONS
201	Tandem Selfâ€Powered Flexible Electrochromic Energy Supplier for Sustainable Allâ€Đay Operations. Advanced Energy Materials, 2022, 12, .	10.2	17
202	Recent Progress in Sensing Technology Based on Triboelectric Nanogenerators in Dynamic Behaviors. Sensors, 2022, 22, 4837.	2.1	7
203	Self-powered wearable sensors design considerations. Journal of Micromechanics and Microengineering, 2022, 32, 083002.	1.5	2
204	Recent progress in the fabrication and applications of flexible capacitive and resistive pressure sensors. Sensors and Actuators A: Physical, 2022, 344, 113770.	2.0	24
205	Ultrasonic-Assisted Deposition Method for Creating Conductive Wrinkles on PDMS Surfaces. Coatings, 2022, 12, 955.	1.2	0
206	Recent advances on ink-based printing techniques for triboelectric nanogenerators: Printable inks, printing technologies and applications. Nano Energy, 2022, 101, 107585.	8.2	15
207	MXene-based materials for advanced nanogenerators. Nano Energy, 2022, 101, 107556.	8.2	19
208	Highâ€Performance Liquid Crystalline Polymer for Intrinsic Fireâ€Resistant and Flexible Triboelectric Nanogenerators. Advanced Materials, 2022, 34, .	11.1	48
209	Skinâ€Like Transparent Sensor Sheet for Remote Healthcare Using Electroencephalography and Photoplethysmography. Advanced Materials Technologies, 2022, 7, .	3.0	9
210	Textile-Triboelectric nanogenerators (T-TENGs) for wearable energy harvesting devices. Chemical Engineering Journal, 2023, 451, 138741.	6.6	40
211	Laminated Triboelectric Nanogenerator for Enhanced Self-Powered Pressure-Sensing Performance by Charge Regulation. ACS Applied Materials & Interfaces, 2022, 14, 40014-40020.	4.0	13
212	3D printing of nanowrinkled architectures via laser direct assembly. Science Advances, 2022, 8, .	4.7	8
213	GnPs/PVDF decorated thermoplastic veils to boost the triboelectric nanogenerator output performance toward highly efficient energy harvesting. Energy Conversion and Management, 2022, 270, 116204.	4.4	4
214	Transparent and flexible touch on/off switch based on BaTiO3/silicone polymer triboelectric nanogenerator. Nano Energy, 2022, 103, 107796.	8.2	11
215	Recent advances in stretchable, wearable and bio-compatible triboelectric nanogenerators. Journal of Materials Chemistry C, 2022, 10, 11439-11471.	2.7	16
216	Research Progress on Self-Driven Sensing System of Triboelectric Nanogenerators. Advances in Analytical Chemistry, 2022, 12, 254-265.	0.1	Ο
217	Self-powered image array composed of touch-free sensors fabricated with semiconductor nanowires. Materials Horizons, 2022, 9, 2846-2853.	6.4	3
218	Triboelectric nanogenerators as wearable power sources and self-powered sensors. National Science Review, 2023, 10, .	4.6	33

#	ARTICLE	IF	CITATIONS
219	Beyond Human Touch Perception: An Adaptive Robotic Skin Based on Gallium Microgranules for Pressure Sensory Augmentation. Advanced Materials, 2022, 34, .	11.1	24
220	Pressure sensor based on wave-structured rGO film for wearable human health monitoring. Journal of Materials Science, 0, , .	1.7	0
221	Flexible, adhesive, strainâ€sensitive, and skinâ€matchable hydrogel strain sensors for human motion and handwritten signal monitoring. Polymers for Advanced Technologies, 2023, 34, 430-440.	1.6	1
222	Advanced Functional Composite Materials toward E‣kin for Health Monitoring and Artificial Intelligence. Advanced Materials Technologies, 2023, 8, .	3.0	24
223	Field effect transistorâ€based tactile sensors: From sensor configurations to advanced applications. InformaÄnÃ-Materiály, 2023, 5, .	8.5	24
224	New blind navigation sensor based on triboelectrification and electrostatic induction. Nano Energy, 2022, 104, 107899.	8.2	5
225	A Stable and Durable Triboelectric Nanogenerator for Speed Skating Land Training Monitoring. Electronics (Switzerland), 2022, 11, 3717.	1.8	4
226	Electrothermal sterilization and self-powered real-time respiratory monitoring of reusable mask based on Ag micro-mesh films. Nano Energy, 2023, 105, 107987.	8.2	18
227	Stretchable conductive-ink-based wrinkled triboelectric nanogenerators for mechanical energy harvesting and self-powered signal sensing. Materials Today Chemistry, 2023, 27, 101286.	1.7	3
228	Flexible photoplethysmographic sensing devices for intelligent medical treatment. Journal of Materials Chemistry C, 2022, 11, 97-112.	2.7	4
229	Efficient Fabrication of Carbon Nanotubeâ€Based Stretchable Electrodes for Flexible Electronic Devices. Macromolecular Rapid Communications, 2023, 44, .	2.0	1
230	Transparent, Stretchable, and Recyclable Triboelectric Nanogenerator Based on an Acid- and Alkali-Resistant Hydrogel. ACS Applied Electronic Materials, 2023, 5, 216-226.	2.0	4
231	Triboelectric Nanogenerator for Healthcare. , 2023, , 1-50.		0
232	Short-term plasticity, multimodal memory, and logical responses mimicked in stretchable hydrogels. Matter, 2023, 6, 429-444.	5.0	12
233	0D to 2D carbon-based materials in flexible strain sensors: recent advances and perspectives. 2D Materials, 2023, 10, 022002.	2.0	7
234	Innovative Technology for Selfâ€Powered Sensors: Triboelectric Nanogenerators. , 2023, 2, .		5
235	Biocompatible and Long-Term Monitoring Strategies of Wearable, Ingestible and Implantable Biosensors: Reform the Next Generation Healthcare. Sensors, 2023, 23, 2991.	2.1	18
236	Effect of Cu/In stoichiometric ratio on the performance of Self-powered Dual-wavelength CuxIn2-xS2/TiO2 photodetectors. Applied Surface Science, 2023, 617, 156540.	3.1	0

#	Article	IF	CITATIONS
237	A self-powered triboelectric UV photodetector based on coupling impedance matching and photoresistive effect by sensing-electrode model. Nano Energy, 2023, 109, 108294.	8.2	3
238	Conjugated Polymer-Based Nanocomposites for Pressure Sensors. Molecules, 2023, 28, 1627.	1.7	10
239	Biowaste Eggshell Membranes for Bio-triboelectric Nanogenerators and Smart Sensors. ACS Omega, 2023, 8, 6699-6707.	1.6	5
240	Solution-Processed Flexible Transparent Electrodes for Printable Electronics. ACS Nano, 2023, 17, 4180-4192.	7.3	11
241	3D Stitching Double Weave Fabric-Based Elastic Triboelectric Nanogenerator for Energy Harvesting and Self-Powered Sensing. Energies, 2023, 16, 2284.	1.6	2
242	Emerging MXeneâ€Based Flexible Tactile Sensors for Health Monitoring and Haptic Perception. Small, 2023, 19, .	5.2	31
243	Micro/Nanoâ€Fabrication of Flexible Poly(3,4â€Ethylenedioxythiophene)â€Based Conductive Films for Highâ€Performance Microdevices. Small, 2023, 19, .	5.2	9
257	Triboelectric Nanogenerator for Healthcare. , 2023, , 627-676.		0
258	FunctionalÂPolymer Nanocomposites as Supercapacitors for Health Care. Materials Horizons, 2024, , 505-529.	0.3	0
259	Enhancing the triboelectric performance of flexible PDMS/boron nitride composite nanogenerators. AIP Conference Proceedings, 2023, , .	0.3	0
262	Recent advances in the construction and application of stretchable PEDOT smart electronic membranes. Journal of Materials Chemistry C, 2023, 11, 14930-14967.	2.7	4
266	Material selection and performance optimization strategies for a wearable friction nanogenerator (W-TENG). Journal of Materials Chemistry A, 2023, 11, 24454-24481.	5.2	1
270	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
284	Materials for energy-efficient systems and environmental remediation. , 2024, , 741-777.		0