Case-Encapsulated Triboelectric Nanogenerator for Ha
Sliding Motion

ACS Nano

8, 3836-3842

DOI: 10.1021/nn500694y

Citation Report

#	Article	IF	Citations
1	Self-powered triboelectric velocity sensor for dual-mode sensing of rectified linear and rotary motions. Nano Energy, 2014, 10, 305-312.	8.2	78
2	Floating Oscillator-Embedded Triboelectric Generator for Versatile Mechanical Energy Harvesting. Scientific Reports, 2015, 5, 16409.	1.6	31
3	A Selfâ€Powered Angle Measurement Sensor Based on Triboelectric Nanogenerator. Advanced Functional Materials, 2015, 25, 2166-2174.	7.8	119
4	Recent Progress on Flexible Triboelectric Nanogenerators for SelfPowered Electronics. ChemSusChem, 2015, 8, 2327-2344.	3.6	164
5	An Ultrarobust High-Performance Triboelectric Nanogenerator Based on Charge Replenishment. ACS Nano, 2015, 9, 5577-5584.	7.3	135
6	Self-powered electrochemical anodic oxidation: A new method for preparation of mesoporous Al2O3 without applying electricity. Nano Research, 2015, 8, 3604-3611.	5.8	20
7	Spiral-interdigital-electrode-based multifunctional device: Dual-functional triboelectric generator and dual-functional self-powered sensor. Nano Energy, 2015, 12, 626-635.	8.2	39
8	Self-cleaning hybrid energy harvester to generate power from raindrop and sunlight. Nano Energy, 2015, 12, 636-645.	8.2	166
9	Transparent and flexible barcode based on sliding electrification for self-powered identification systems. Nano Energy, 2015, 12, 278-286.	8.2	34
10	Notepad-like Triboelectric Generator for Efficiently Harvesting Low-Velocity Motion Energy by Interconversion between Kinetic Energy and Elastic Potential Energy. ACS Applied Materials & Interfaces, 2015, 7, 1275-1283.	4.0	20
11	Low temperature dependence of triboelectric effect for energy harvesting and self-powered active sensing. Applied Physics Letters, 2015, 106, .	1.5	51
12	High power triboelectric nanogenerator based on printed circuit board (PCB) technology. Nano Research, 2015, 8, 722-730.	5.8	155
13	Progress in triboelectric nanogenerators as a new energy technology and self-powered sensors. Energy and Environmental Science, 2015, 8, 2250-2282.	15.6	1,723
14	Triboelectric Charging Sequence Induced by Surface Functionalization as a Method To Fabricate High Performance Triboelectric Generators. ACS Nano, 2015, 9, 4621-4627.	7.3	216
15	Self-powered thin-film motion vector sensor. Nature Communications, 2015, 6, 8031.	5.8	127
16	Triboelectric nanogenerators as a new energy technology: From fundamentals, devices, to applications. Nano Energy, 2015, 14, 126-138.	8.2	574
17	Triboelectric nanogenerators as self-powered active sensors. Nano Energy, 2015, 11, 436-462.	8.2	674
18	Recent Progress in Triboelectric Nanogenerators as a Renewable and Sustainable Power Source. Journal of Nanomaterials, 2016, 2016, 1-24.	1.5	53

#	Article	IF	Citations
19	Selfâ€Powered Electrochemistry for the Oxidation of Organic Molecules by a Crossâ€Linked Triboelectric Nanogenerator. Advanced Materials, 2016, 28, 5188-5194.	11.1	31
20	Honeycomb-like nanofiber based triboelectric nanogenerator using self-assembled electrospun poly(vinylidene fluoride-co-trifluoroethylene) nanofibers. Applied Physics Letters, 2016, 108, .	1.5	42
21	Self-powered Sensing for Tracking Moving Objects. Green Energy and Technology, 2016, , 455-467.	0.4	1
22	Triboelectric Nanogenerator: Lateral Sliding Mode. Green Energy and Technology, 2016, , 49-90.	0.4	20
23	Self-Powered Safety Helmet Based on Hybridized Nanogenerator for Emergency. ACS Nano, 2016, 10, 7874-7881.	7.3	179
24	Surface dipole enhanced instantaneous charge pair generation in triboelectric nanogenerator. Nano Energy, 2016, 26, 360-370.	8.2	54
25	Ag Nanowires Single Electrode Triboelectric Nanogenerator and Its Angle Sensors. Energy Harvesting and Systems, 2016, 3, 91-99.	1.7	4
26	Wide-ranging impact-competent self-powered active sensor using a stacked corrugated-core sandwich-structured robust triboelectric nanogenerator. Sensors and Actuators B: Chemical, 2017, 245, 1-10.	4.0	31
27	Evolutionary trend analysis of nanogenerator research based on a novel perspective of phased bibliographic coupling. Nano Energy, 2017, 34, 93-102.	8.2	80
28	Enhanced performance of ZnO microballoon arrays for a triboelectric nanogenerator. Nanotechnology, 2017, 28, 135401.	1.3	31
29	Overview of Energy Harvesting Technologies. Springer Theses, 2017, , 9-37.	0.0	6
30	Progress in triboelectric nanogenerators as self-powered smart sensors. Journal of Materials Research, 2017, 32, 1628-1646.	1.2	150
31	Hourglass Triboelectric Nanogenerator as a â€œDirect Currentâ€•Power Source. Advanced Energy Materials, 2017, 7, 1700644.	10.2	34
32	Triboelectric Devices for Power Generation and Self-Powered Sensing Applications. Springer Theses, 2017, , .	0.0	9
33	Reviving Vibration Energy Harvesting and Self-Powered Sensing by a Triboelectric Nanogenerator. Joule, 2017, 1, 480-521.	11.7	748
34	Smart Floor with Integrated Triboelectric Nanogenerator As Energy Harvester and Motion Sensor. ACS Applied Materials & Interfaces, 2017, 9, 26126-26133.	4.0	78
35	Bioinspired stretchable triboelectric nanogenerator as energy-harvesting skin for self-powered electronics. Nano Energy, 2017, 39, 429-436.	8.2	147
36	Simple and rapid fabrication of pencil-on-paper triboelectric nanogenerators with enhanced electrical performance. Nanoscale, 2017, 9, 13034-13041.	2.8	43

#	Article	IF	Citations
37	Water Energy Harvesting and Selfâ€Powered Visible Light Communication Based on Triboelectric Nanogenerator. Energy Technology, 2018, 6, 1929-1934.	1.8	16
38	All-in-one self-powered flexible microsystems based on triboelectric nanogenerators. Nano Energy, 2018, 47, 410-426.	8.2	249
39	Triboelectric nanogenerator as a new technology for effective PM2.5 removing with zero ozone emission. Progress in Natural Science: Materials International, 2018, 28, 99-112.	1.8	37
40	Human Body as a Power Source for Biomechanical Energy Scavenging Based on Electrodeâ€Free Triboelectric Nanogenerators. Energy Technology, 2018, 6, 2053-2057.	1.8	10
41	Triboelectric nanogenerator based on immersion precipitation derived highly porous ethyl cellulose. Journal of Electrostatics, 2018, 92, 1-5.	1.0	30
42	Radialâ€Grating Pendulumâ€Structured Triboelectric Nanogenerator for Energy Harvesting and Tiltingâ€Angle Sensing. Advanced Materials Technologies, 2018, 3, 1700251.	3.0	26
43	Development, applications, and future directions of triboelectric nanogenerators. Nano Research, 2018, 11, 2951-2969.	5.8	112
44	Floating buoy-based triboelectric nanogenerator for an effective vibrational energy harvesting from irregular and random water waves in wild sea. Nano Energy, 2018, 45, 247-254.	8.2	94
45	Hybrid nanogenerators for low frequency vibration energy harvesting and self-powered wireless locating. Materials Research Express, 2018, 5, 015510.	0.8	8
46	A low-cost approach for measuring electrical load currents in triboelectric nanogenerators. Nanotechnology Reviews, 2018, 7, 149-156.	2.6	45
47	Triboelectric Nanogenerators for Mechanical Energy Harvesting. Energy Technology, 2018, 6, 958-997.	1.8	26
48	Intelligent Sensing System Based on Hybrid Nanogenerator by Harvesting Multiple Clean Energy. Advanced Engineering Materials, 2018, 20, 1700886.	1.6	23
49	Metallic MXenes: A new family of materials for flexible triboelectric nanogenerators. Nano Energy, 2018, 44, 103-110.	8.2	273
50	A Spherical Hybrid Triboelectric Nanogenerator for Enhanced Water Wave Energy Harvesting. Micromachines, 2018, 9, 598.	1.4	39
51	Electric impulse spring-assisted contact separation mode triboelectric nanogenerator fabricated from polyaniline emeraldine salt and woven carbon fibers. Nano Energy, 2018, 53, 362-372.	8.2	47
52	A flexible tube-based triboelectricâ€“electromagnetic sensor for knee rehabilitation assessment. Sensors and Actuators A: Physical, 2018, 279, 694-704.	2.0	22
53	Triboelectric Nanogenerators. Micro/Nano Technologies, 2018, , 1335-1376.	0.1	20
54	Nanostructured polymer-based piezoelectric and triboelectric materials and devices for energy harvesting applications. Journal Physics D: Applied Physics, 2018, 51, 303001.	1.3	82

#	Article	IF	Citations
55	Tire Condition Monitoring and Intelligent Tires Using Nanogenerators Based on Piezoelectric, Electromagnetic, and Triboelectric Effects. Advanced Materials Technologies, 2019, 4, 1800105.	3.0	57
56	Self-Powered Intelligent Water Meter for Electrostatic Scale Preventing, Rust Protection, and Flow Sensor in a Solar Heater System. ACS Applied Materials & Interfaces, 2019, 11, 6396-6403.	4.0	31
57	A self-powered counter/timer based on a clock pointer-like frequency-tunable triboelectric nanogenerator for wind speed detecting. Nano Energy, 2019, 65, 104025.	8.2	43
58	Direct current triboelectric cell by sliding an n-type semiconductor on a p-type semiconductor. Nano Energy, 2019, 66, 104185.	8.2	98
60	Preparation of anisotropic conductive graphene aerogel/polydimethylsiloxane composites as LEGOÂ® modulars. European Polymer Journal, 2019, 112, 487-492.	2.6	13
61	Nanogenerator as new energy technology for self-powered intelligent transportation system. Nano Energy, 2019, 66, 104086.	8.2	130
62	GLRX inhibition enhances the effects of geftinib in EGFR-TKI-resistant NSCLC cells through FoxM1 signaling pathway. Journal of Cancer Research and Clinical Oncology, 2019, 145, 861-872.	1.2	7
63	A calibration-free self-powered sensor for vital sign monitoring and finger tap communication based on wearable triboelectric nanogenerator. Nano Energy, 2019, 58, 536-542.	8.2	121
64	Towards optimized triboelectric nanogenerators. Nano Energy, 2019, 62, 530-549.	8.2	124
65	Significantly Enhanced Performance of Triboelectric Nanogenerator by Incorporating BaTiO₃ Nanoparticles in Poly(vinylidene fluoride) Film. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900068.	0.8	35
66	Triboelectric Nanogenerator Scavenging Sliding Motion Energy. , 2019, , .		2
67	Remarkable output power enhancement of sliding-mode triboelectric nanogenerator through direct metal-to-metal contact with the ground. Nano Energy, 2019, 57, 293-299.	8.2	28
68	A highly-sensitive wave sensor based on liquid-solid interfacing triboelectric nanogenerator for smart marine equipment. Nano Energy, 2019, 57, 574-580.	8.2	147
69	Fullyâ€Enclosed Metal Electrodeâ€Free Triboelectric Nanogenerator for Scavenging Vibrational Energy and Alternatively Powering Personal Electronics. Advanced Engineering Materials, 2019, 21, 1800823.	1.6	21
70	Aerosolâ€Jet Printed Fineâ€Featured Triboelectric Sensors for Motion Sensing. Advanced Materials Technologies, 2019, 4, 1800328.	3.0	38
71	A Review and Perspective for the Development of Triboelectric Nanogenerator (TENG)-Based Self-Powered Neuroprosthetics. Micromachines, 2020, 11, 865.	1.4	28
72	Powering future body sensor network systems: A review of power sources. Biosensors and Bioelectronics, 2020, 166, 112410.	5.3	55
73	Leverage Surface Chemistry for High-Performance Triboelectric Nanogenerators. Frontiers in Chemistry, 2020, 8, 577327.	1.8	45

#	Article	IF	Citations
74	Robust Swingâ€Structured Triboelectric Nanogenerator for Efficient Blue Energy Harvesting. Advanced Energy Materials, 2020, 10, 2000064.	10.2	212
75	Fatigue in piezoelectric ceramic vibrational energy harvesting: A review. Applied Energy, 2020, 270, 115161.	5.1	47
76	Ternary Electrification Layered Architecture for High-Performance Triboelectric Nanogenerators. ACS Nano, 2020, 14, 9050-9058.	7.3	88
77	Environmental energy harvesting based on triboelectric nanogenerators. Nanotechnology, 2020, 31, 242001.	1.3	103
78	Fabrication of triboelectric nanogenerators based on electrospun polyimide nanofibers membrane. Scientific Reports, 2020, 10, 2742.	1.6	54
79	Natural and Eco-Friendly Materials for Triboelectric Energy Harvesting. Nano-Micro Letters, 2020, 12, 42.	14.4	76
80	Small-Scale Energy Harvesting from Environment by Triboelectric Nanogenerators. , 0, , .		7
81	1D Triboelectric Nanogenerator Operating by Repeatedly Stretching and as a Selfâ€Powered Electronic Fence and Geological Monitor. Advanced Materials Technologies, 2020, 5, 1901005.	3.0	11
82	An Energy Harvester for Lowâ€Frequency Electrical Signals. Energy Technology, 2020, 8, 2000114.	1.8	10
83	An Inâ€Plane Sliding Triboelectric Nanogenerator with a Multielectrode Array for Selfâ€Powered Dynamic Addressing and Trajectory Tracking. Energy Technology, 2020, 8, 2000155.	1.8	6
84	Hybrid tribo-thermoelectric generator for effectively harvesting thermal energy activated by the shape memory alloy. Nano Energy, 2021, 82, 105696.	8.2	17
85	Self-powered nanosensors using nanogenerators. , 2021, , 617-647.		0
86	Advances in Nanostructures for Highâ€Performance Triboelectric Nanogenerators. Advanced Materials Technologies, 2021, 6, 2000916.	3.0	94
87	Production and applications of flexible/wearable triboelectric nanogenerator (TENGS). Synthetic Metals, 2021, 273, 116692.	2.1	14
88	MXene based mechanically and electrically enhanced film for triboelectric nanogenerator. Nano Research, 2021, 14, 4833-4840.	5.8	51
89	Fabrication and application of biocompatible nanogenerators. IScience, 2021, 24, 102274.	1.9	28
90	Simulation of gas sensing with a triboelectric nanogenerator. Beilstein Journal of Nanotechnology, 2021, 12, 507-516.	1.5	0
91	Nanogenerators for smart cities in the era of 5G and Internet of Things. Joule, 2021, 5, 1391-1431.	11.7	261

#	Article	IF	Citations
92	Technology evolution from micro-scale energy harvesters to nanogenerators. Journal of Micromechanics and Microengineering, 2021, 31, 093002.	1.5	53
93	A stretchable, harsh condition-resistant and ambient-stable hydrogel and its applications in triboelectric nanogenerator. Nano Energy, 2021, 86, 106086.	8.2	46
94	Nanostructured versus flat compact electrode for triboelectric nanogenerators at high humidity. Scientific Reports, 2021, 11, 16191.	1.6	18
95	Triboelectric Nanogenerators for Energy Harvesting in Ocean: A Review on Application and Hybridization. Energies, 2021, 14, 5600.	1.6	28
96	A review on applications of graphene in triboelectric nanogenerators. International Journal of Energy Research, 2022, 46, 544-576.	2.2	39
97	Self-powered slide tactile sensor with wheel-belt structures based on triboelectric effect and electrostatic induction. Sensors and Actuators A: Physical, 2021, 331, 113022.	2.0	10
98	Self-powered fault diagnosis of rolling bearings based on triboelectric effect. Mechanical Systems and Signal Processing, 2022, 166, 108382.	4.4	34
99	Textile triboelectric nanogenerators for self-powered biomonitoring. Journal of Materials Chemistry A, 2021, 9, 19149-19178.	5.2	55
100	In-Depth Analysis of Structures, Materials, Models, Parameters, and Applications of Organic Light-Emitting Diodes. Journal of Electronic Materials, 2020, 49, 4610-4636.	1.0	31
101	Self-sensing automotive magnetorheological dampers for low frequency vibration. Smart Materials and Structures, 2021, 30, 115015.	1.8	13
102	p16INK4/Ki-67 Dual-Staining Expression as a Prognostic Indicator in Laryngeal Cancer. Journal of Cancer Prevention & Current Research, 2014, 1, .	0.1	2
103	Triboelectric Nanogenerators. Toxinology, 2017, , 1-42.	0.2	0
104	Design and research of non-contact triboelectric nanogenerator based on changing electrostatic field. Wuli Xuebao/Acta Physica Sinica, 2020, 69, 230201.	0.2	2
106	Surface Modification of Textiles with Nanomaterials for Flexible Electronics Applications. Textile Science and Clothing Technology, 2020, , 1-42.	0.4	3
107	Self-Powered Sensing for Smart Agriculture by Electromagneticâ€“Triboelectric Hybrid Generator. ACS Nano, 2021, 15, 20278-20286.	7.3	79
108	High Space Efficiency Hybrid Nanogenerators for Effective Water Wave Energy Harvesting. Advanced Functional Materials, 2022, 32, .	7.8	45
109	3D fully-enclosed triboelectric nanogenerator with bionic fish-like structure for harvesting hydrokinetic energy. Nano Research, 2022, 15, 5098-5104.	5.8	20
110	A Triboelectric Pistonâ€“Cylinder Assembly with Conditionâ€Monitoring and Selfâ€Powering Capabilities. Energy Technology, 2022, 10, .	1.8	2

#	Article	IF	Citations
111	Harvesting circuits for triboelectric nanogenerators for wearable applications. IScience, 2022, 25, 103977.	1.9	15
112	Self-powered environmental monitoring via a triboelectric nanogenerator. Nano Energy, 2022, 98, 107282.	8.2	56
114	Recent advancements for improving the performance of triboelectric nanogenerator devices. Nano Energy, 2022, 99, 107318.	8.2	76
115	A Lowâ€Cost Simple Sliding Triboelectric Nanogenerator for Harvesting Energy from Human Activities. Advanced Materials Technologies, 2022, 7, .	3.0	13
116	Smart conveyor roller system for self-powered product size identification in electrically off-grid condition via hybridization of triboelectric-electromagnetic generators. Nano Energy, 2022, 100, 107447.	8.2	15
117	Honeycomb-Patterned Polyimide-Based Triboelectric Nanogenerator with Excellent Thermal Stability and Enhanced Electrification Performance. ACS Applied Energy Materials, 2022, 5, 9791-9800.	2.5	19
118	Applications of nanogenerator-based wearable devices in orthopedics. Nano Energy, 2022, 103, 107762.	8.2	10
119	Design of a soft-contact triboelectric nanogenerator for vibrational energy collection and its output performance. Frontiers in Energy Research, 0, 10, .	1.2	0
120	From Triboelectric Nanogenerator to Multifunctional Triboelectric Sensors: A Chemical Perspective toward the Interface Optimization and Device Integration. Small, 2022, 18, .	5.2	26
121	Kinetic energy harvesting based sensing and IoT systems: A review. Frontiers in Electronics, 0, 3, .	2.0	6
122	Advances in Bioinspired Triboelectric Nanogenerators. Advanced Electronic Materials, 2022, 8, .	2.6	18
123	Triboelectric nanogenerators for smart agriculture. InformaÄnÃ-MateriÃ¡ly, 2023, 5, .	8.5	12
124	Triboelectric nanogenerators for wind energy harvesting. , 2022, , .		0
125	Leaf surface-microstructure inspired fabrication of fish gelatin-based triboelectric nanogenerator. Nano Energy, 2023, 109, 108231.	8.2	15
126	Self-powered vibration sensor based on the coupling of dual-mode triboelectric nanogenerator and non-contact electromagnetic generator. Nano Energy, 2023, 111, 108356.	8.2	10
127	Spherical Magnetoelastic Generator for Multidirectional Vibration Energy Harvesting. ACS Nano, 2023, 17, 3865-3872.	7.3	11
128	Recent Advances in Mechanical Vibration Energy Harvesters Based on Triboelectric Nanogenerators. Small, 2023, 19, .	5.2	9
129	Triboelectric nanogenerators: the beginning of blue dream. Frontiers of Chemical Science and Engineering, 2023, 17, 635-678.	2.3	21

#	Article	IF	Citations
133	Boosting the output performance of triboelectric nanogenerators via surface engineering and structure designing. Materials Horizons, 0, , .	6.4	0