Supporting Information

Smart triboelectric nanogenerator with tunable rheological and electrical performance towards self-powered multi-sensor

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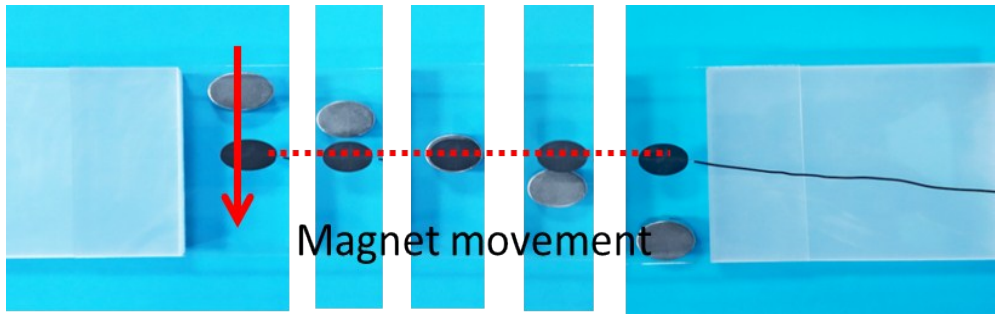*E-mail: wyu@ustc.edu.cn (Y.Wang)*
gongxl@ustc.edu.cn (X.L. Gong)

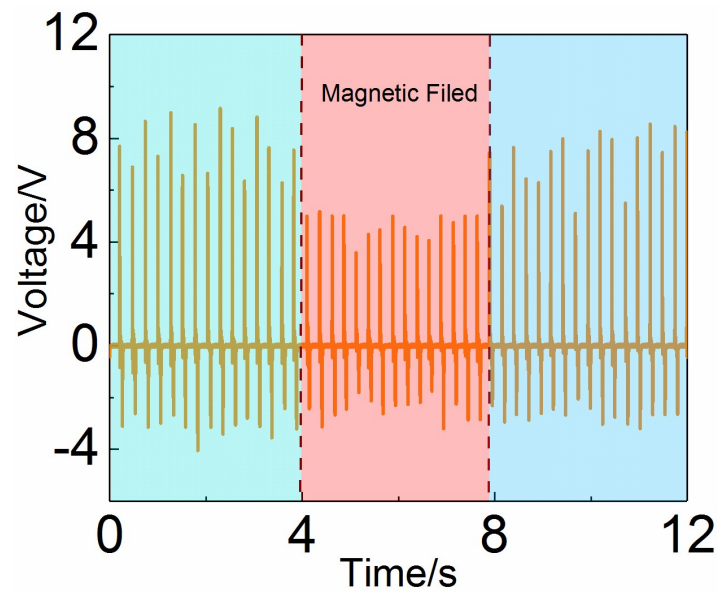**Fig. S1** the movement direction of magnet

Fig. S2 the sensing response of TENG to magnetic field when a magnet passes the TENG quickly
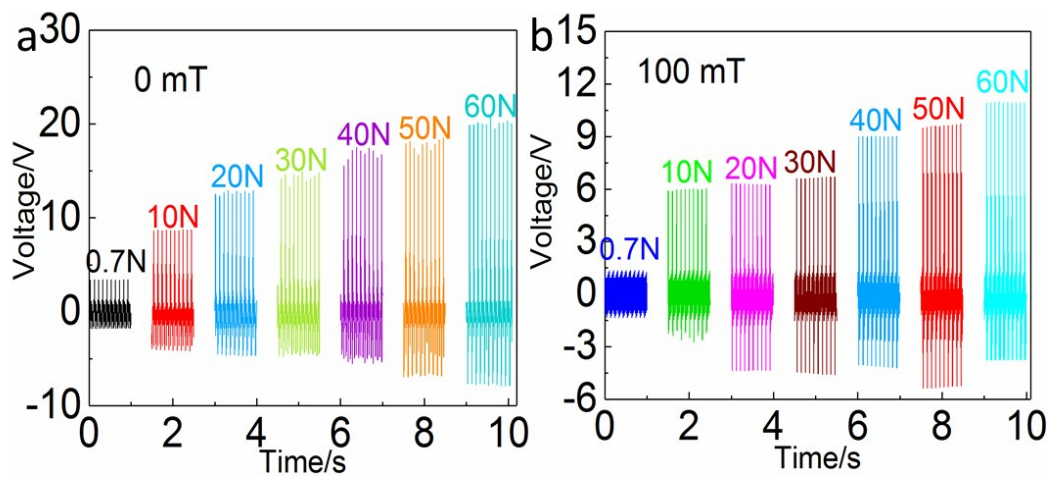

Fig. S3 Typical voltage-time curves under 0.7-60 N loading force with the magnetic fields of (a) 0 mT and (h) 100 mT
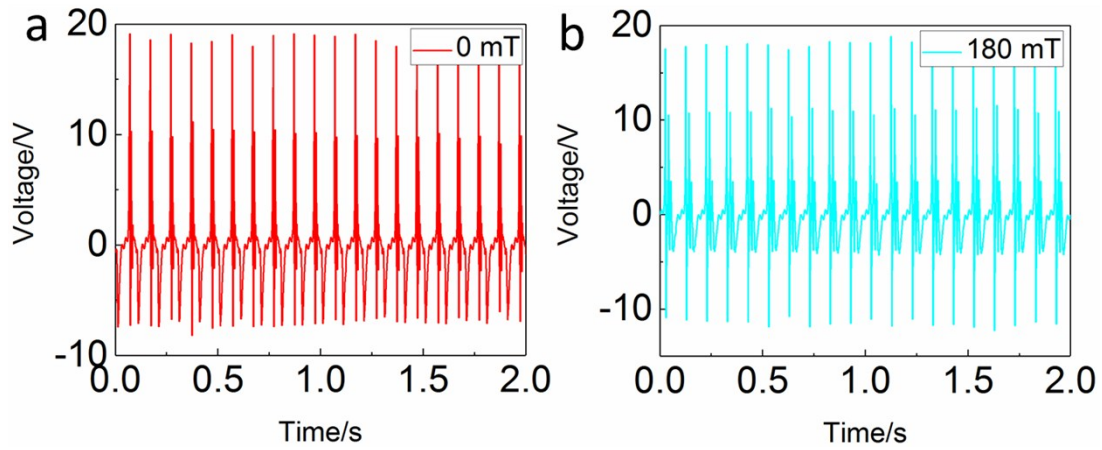
Fig. S4 Output voltages of pure SSE-based TENG under the magnetic fields of (a) 0 mT and (b) 180 mT with the compression force of 50 N

Table S1 Load resistance dependent triboelectric performance of SSE-60% based TENG device.

Resistance/Ω	Average Voltage/V	Average Power/μW
1k	0.0012	0.15
5k	0.029	0.17
100k	0.55	3.03
500k	2.40	1.84
1M	4.96	24.72
3M	10.49	36.86
5M	14.90	44.46
8M	20.20	51.05
10M	21.48	46.31
50M	26.16	13.68
100M	27.38	7.51
500M	34.55	2.39
1G	37.96	1.44

Table S2 Positive triboelectric performance of TENG under the loading of compression forces

Loading forces/N	0.7	10	20	30	40	50	60
Voltages/V	3.43	8.75	12.94	14.97	17.62	18.52	20.98

Table S3 Negative triboelectric performance of TENG under different magnetic fields with the loading force of 60 N

Magnetic field/mT	0	45	105	145	190
Voltages/V	29.98	17.13	11.02	3.32	1.81