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Support information

Brushed Hemicylindrical Pressure Sensor Based on Triboelectricity Exhibits High Sensitivity, Low Detection Limit and Wide Detection Range

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Fig. S1. (a) EDS images of *BT-sm*. (b) The TGA curves before and after BT modification. (c) The FTIR spectra of BT before and after modification.



Fig. S2. DSC heating profiles of PDMS/ BT-sm composites at 10 °C/min.



Fig. S3. The PDMS compression properties of different ratio of precursor and crosslinker. (a) compressive stress-strain curves, (b) compressive modulus, (c) compressive toughness, and (d) compressive strength.



Fig. S4. The Isc of the BHPS with various BT-sm contents in a series of pressing-to-releasing period.



Fig. S5. The Q_{sc} of the BHPS with different frequencies of force.

Sensitivity (mV kPa ⁻¹)	Detection range (kPa)	Detection limit (kPa)	Reference
770(1.6-10kPa)	0-40	0.5	Ref.18
344(<0.25kPa)	0-75	Not know	Ref.19
300(<200kPa)	0-800	Not know	Ref.28
550(<20kPa)	0-100	Not know	Ref.29
1003 (<23kPa)	0-31.6	Not know	Ref.30
15.6 (<1100kPa)	0-1100	Not know	Ref.31
510(<450kPa)	0-450	5	Ref.32
104 (<5kPa)	0-600	0.05	Ref.33
1330 (<3.13kPa)	0-12	1.95	Ref.34
630 (<50kPa)	0-50	5	Ref.35
1305 (<8kPa)	0-1200	0.04	This work

Table S1. The detection range, sensitivity and detection limit are compared with other pressure sensors reported previously.