

Supporting Information

A superhydrophilic, underwater superoleophobic and highly stretchable humidity and chemical vapor sensor for human breath detection

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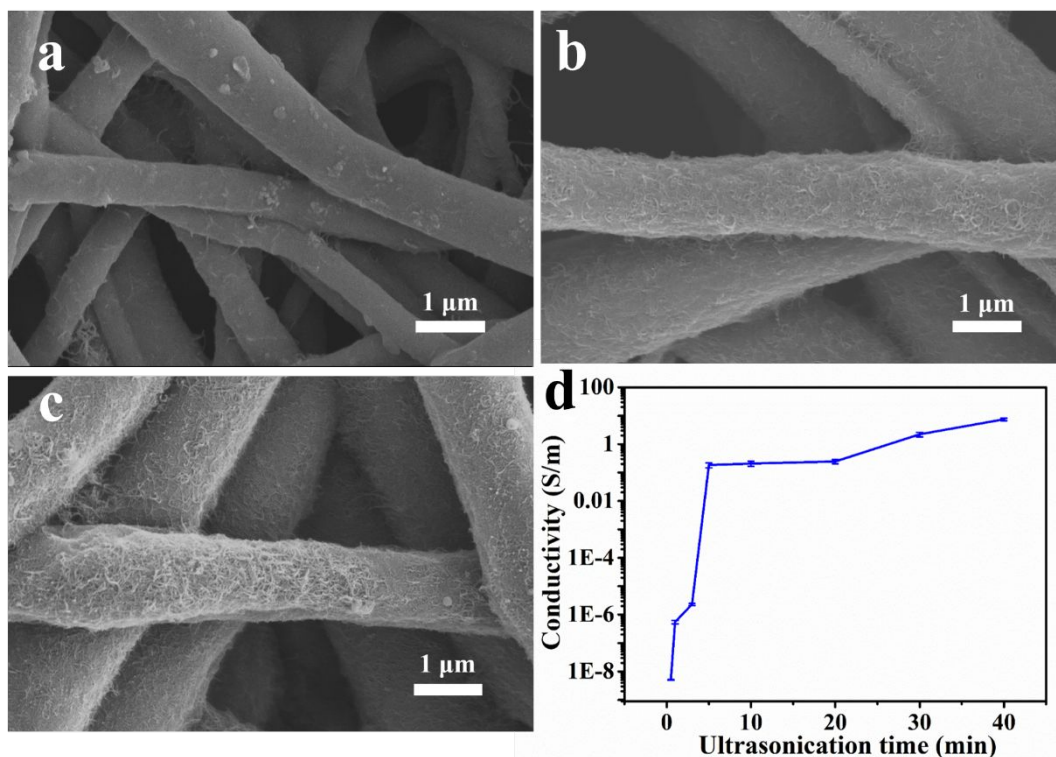


Figure S1. The SEM images of (a) CNC-0.5; (b) CNC-5; (c) CNC-40; (d) Electrical conductivity of CNC as the ultrasonication time.

Table S1. Results of mechanical properties of different nanofiber mat.

Sample	Young modulus	Tensile strength	Elongation
	(MPa)	(MPa)	(%)
Pure PU nanofiber mat	1.72	8.05	455
CNC-10	2.55	10.41	405
CNC-30	2.14	9.00	416

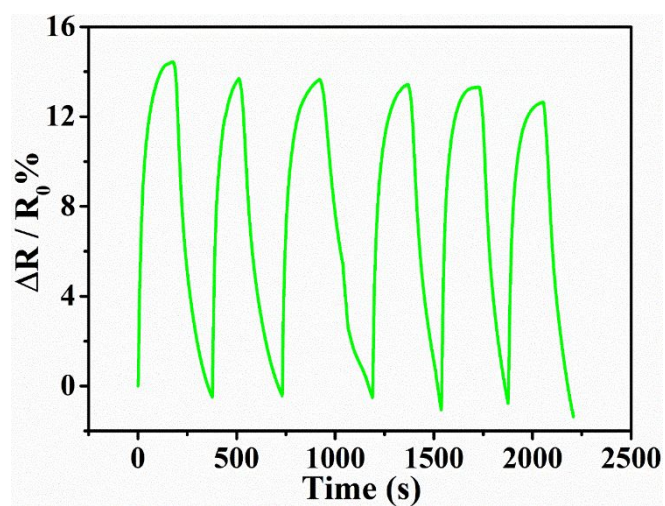


Figure. S2 Humidity sensing property after 100 cycles of uniaxial strain in 59% RH environment, the strain and strain rate were fixed at 50%, 30 mm min⁻¹, respectively.

Table S2. Physical properties of the polymer or solvents. Note that the saturated vapor pressure was measured at 21°C, the relative value was referred to “*Handbook of Organic Solvent Properties*” [I. M. Smallwood, Arnold, London, 1996.]

Parameters Polymer or solvents			
	Solubility parameters (J ^{1/2} cm ^{-3/2})	Molar volume (L mol ⁻¹)	Vapor pressure (kPa)
PU	20.5	-	-
Heptane	15.2	147.5	5.3
Acetone	20.5	73.4	25.9
Toluene	18.2	106.8	3.1
THF	20.5	81.1	17.7
Methanol	29.7	40.4	13.7