Fluorinated carbon nanodot-tube/MXene/microfiber electronic textile with high water-interference-resistance for stable amphibious human motion monitoring

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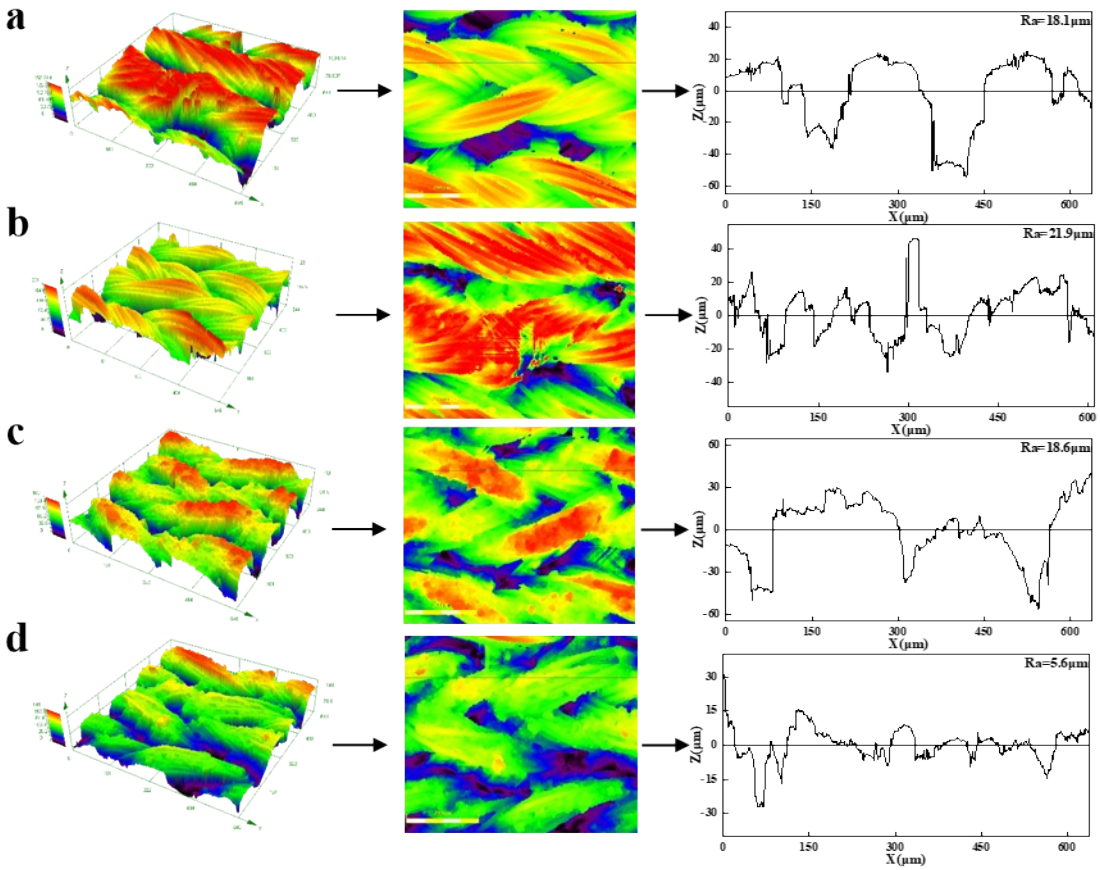

Fig. S1. (a) LSCM topographical images of the MXene-textile for direct anti fouling and **(b)** indirect anti fouling. **(c)** LSCM topographical images of the FCNET for direct anti-fouling and **(d)** indirect anti-fouling.

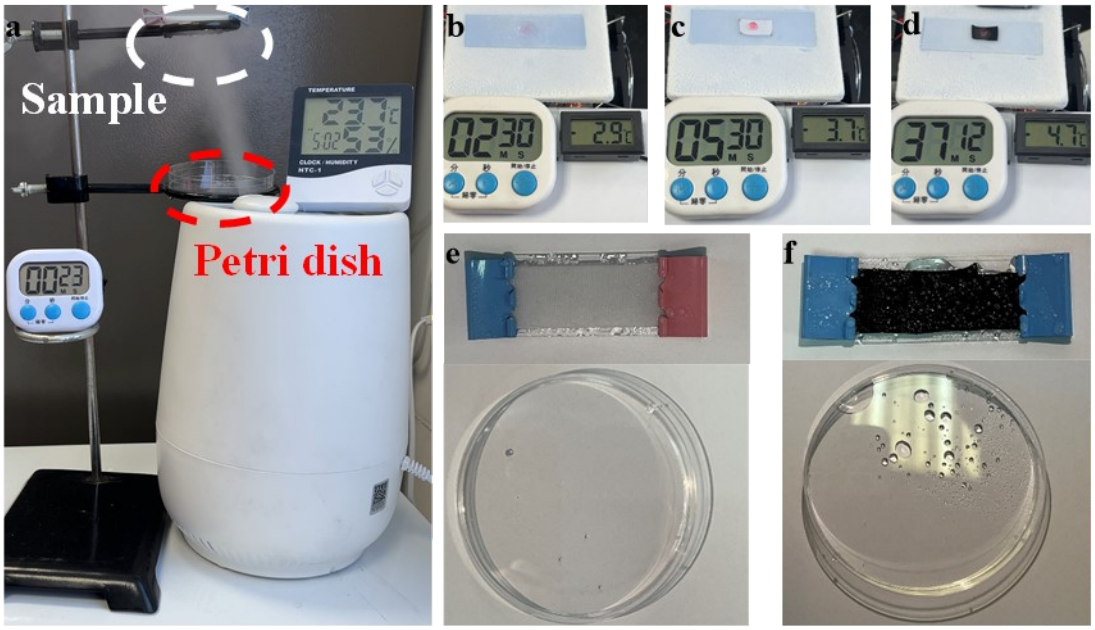

Fig. S2. (a) Schematic diagram of condensing device. Photographs of the freezing time of droplets on the surfaces of **(b)** glass slide, **(c)** fabric, and **(d)** FCNET. Surfaces of **(e)** fabric and **(f)** FCNET after condensation test, with the culture dish positioned below.

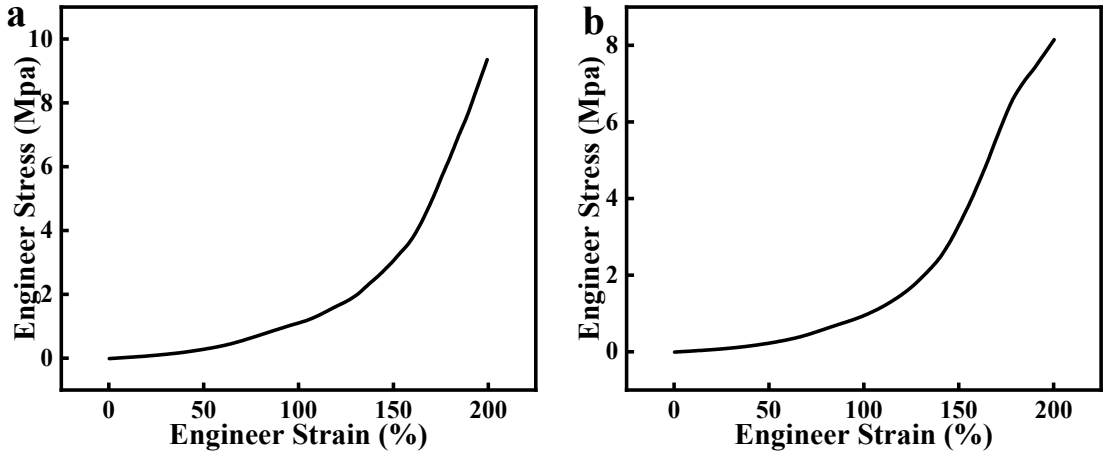

Fig. S3. (a) Stress-strain curve of nylon textile. **(b)** Stress-strain curve of FCNET.

Table S1 Performance comparison of superhydrophobic flexible sensors.

Response time	Corrosion resistance	Wear resistance	Underwater	Reference
200 ms	0.01 M acid contact	1000-grit sandpaper with a 100 g weight for 20m	√	[19]
150 ms	0.01 M acid soak for 2 h	1000-grit sandpaper with a 20 g weight for 16m	√	[20]
none	none	1500-grit sandpaper with a 50 g weight for 1m	√	[31]
151 ms	0.001 M acid soak for 6 h	800-grit sandpaper with a 10 g weight for 0.8 m	×	[38]
200 ms	0.01 M acid contact	none	×	[39]
125 ms	0.1 M acid soak for 2 h	1000-grit sandpaper with a 50 g weight for 10m	√	Our work

Supplementary Videos

Movie S1: Demonstration of various pH values and different types of liquids rolling off the surface.

Movie S2: Acidic, alkaline, and saline solutions effectively carry away dust from the sensor surface.