Supporting information

Antibacterial Hydrophilic ZnO Microstructure Film with Underwater Oleophobic and Self-Cleaning Antifouling Properties

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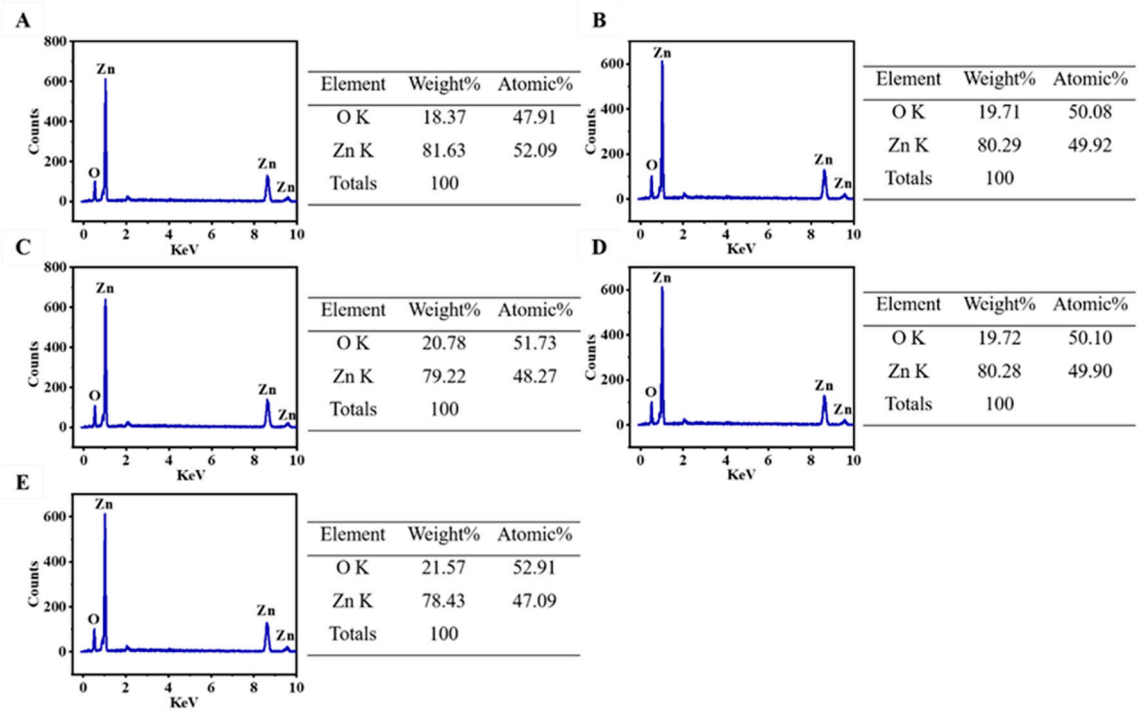

Fig. S1 Energy spectra and the atomic percentages of different elements in (A) F-ZMF-0.5, (B) F-ZMF-1, (C) F-ZMF-2, (D) F-ZMF-3, (E) F-ZMF-4.

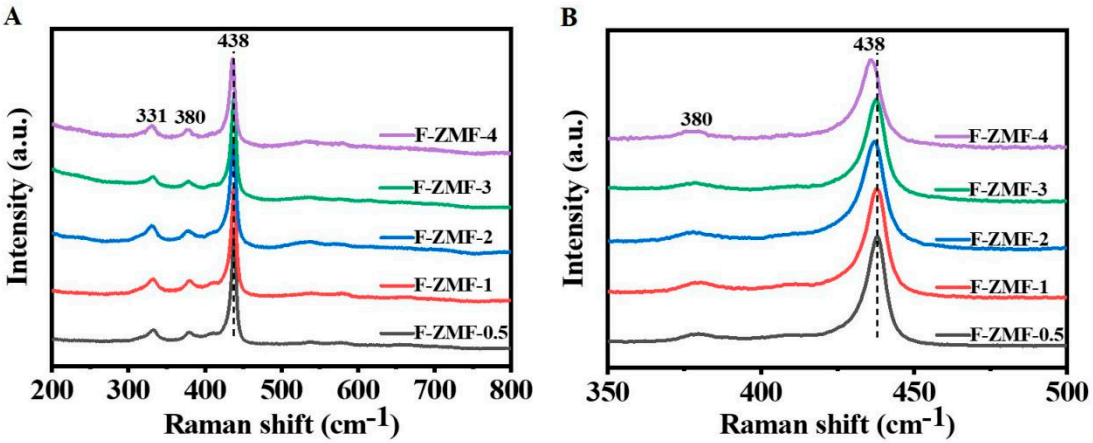

Fig. S2 (A) normal and (B) enlarged Raman spectra of the F-ZMF samples.

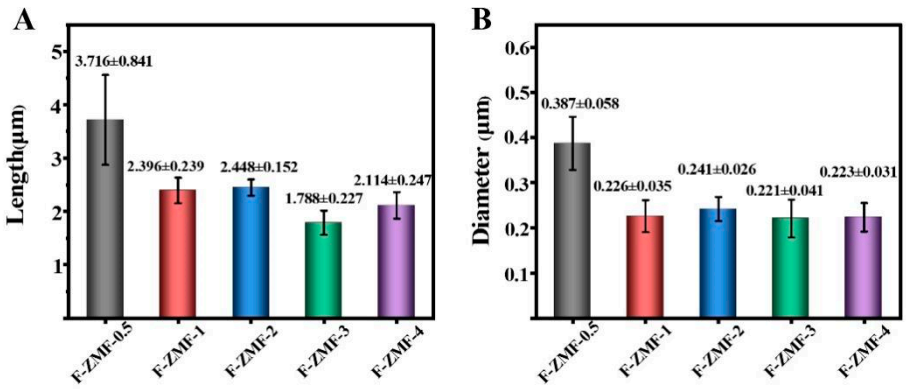

Fig. S3 Statistical histograms of (A) lengths and (B) diameters of F-ZMF.

Table S1 Water droplet diffusion area of different samples

	FTO	F-ZMF-0.5	F-ZMF-1	F-ZMF-2	F-ZMF-3	F-ZMF-4
Droplet diffusion diameter (mm)	1.87	4.16	3.46	4.05	3.83	3.78
Droplet diffusion area（mm^2）	2.74	13.61	9.41	12.86	11.51	11.21

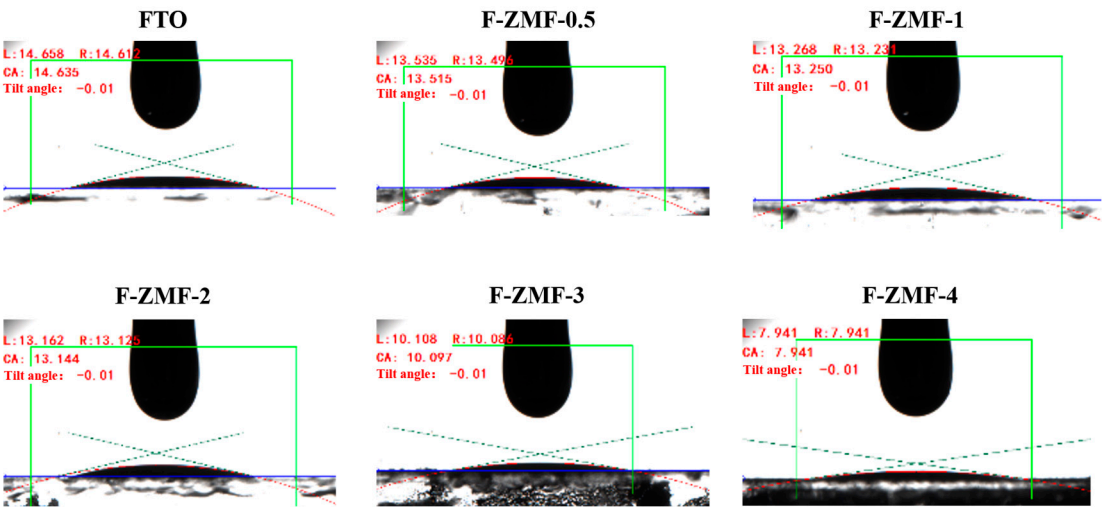

Fig. S4 Silicone oil contact angle of F-ZMF.

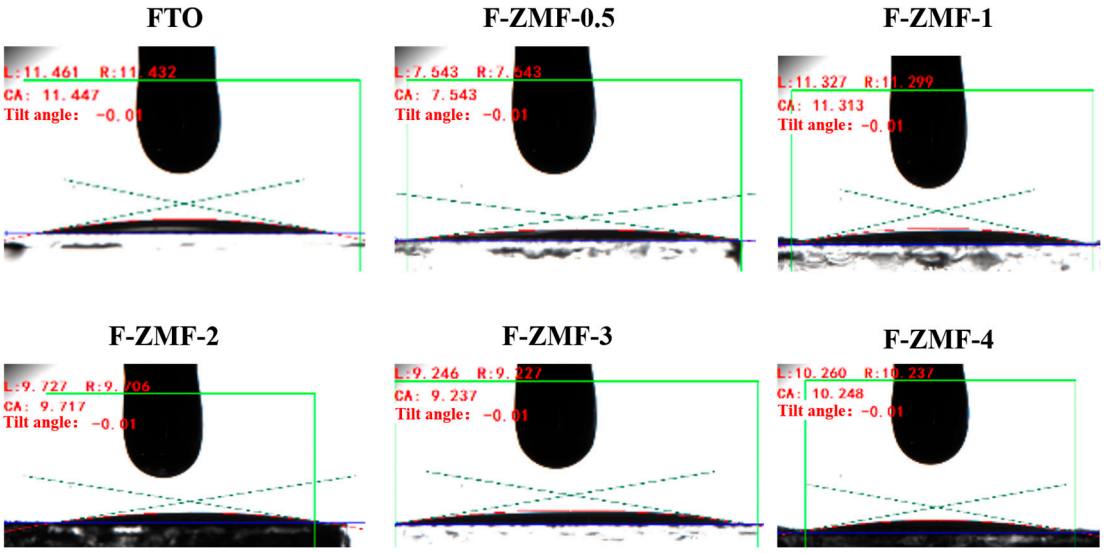

Fig. S5 Diesel oil contact angle of F-ZMF.

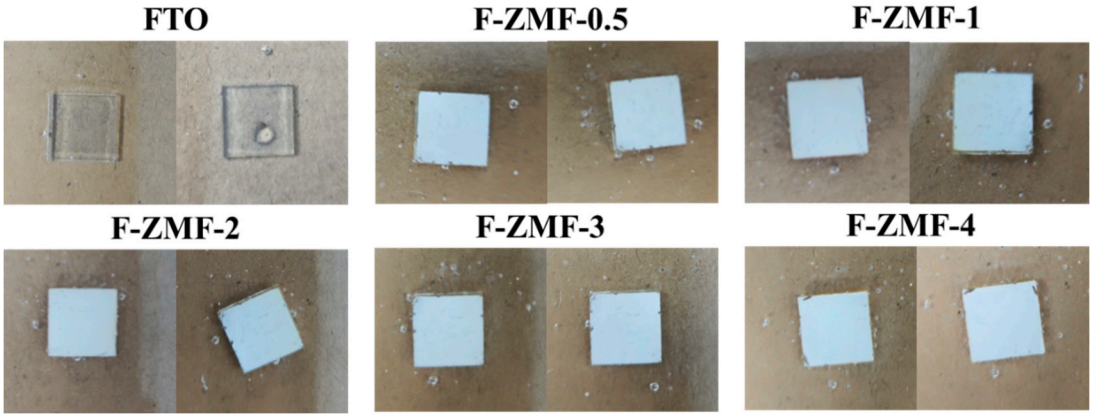

Fig. S6 Optical images of the samples before and after the underwater oleophobic experiment.

Video S1 Surface stability test of F-ZMF.

Video S2 Underwater antifouling test of F-ZMF.

Video S3 Oil stain adhesion test of F-ZMF (taken with the contact angle tester underwater condition).