Supporting information

A facile synthesis of highly stable superhydrophobic nanofibrous film for effective oil/water separation

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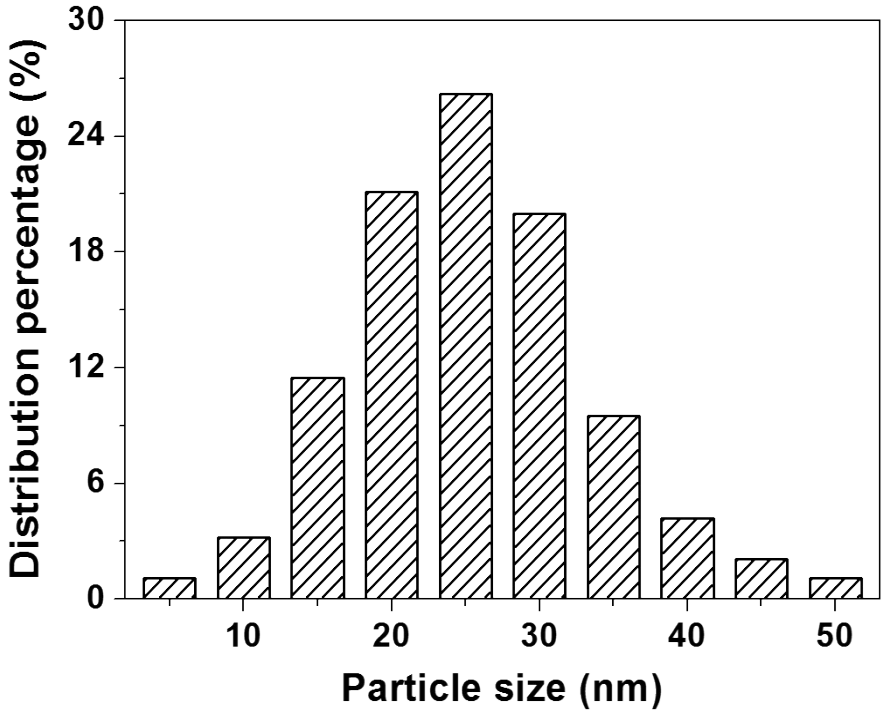

Fig. S1 Particle diameter distribution of TiO_2 nanoparticles on SNF.

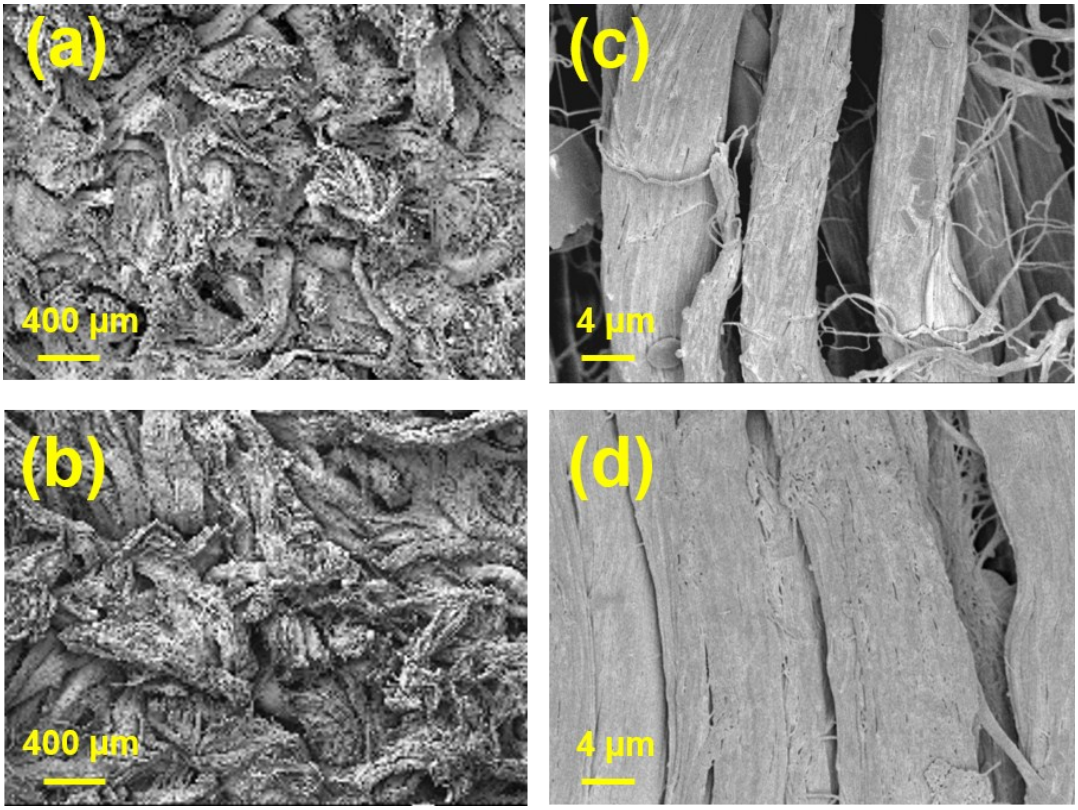

Fig. S2 FESEM images of CFM (a) and VTEO-CFM (b); (c) and (d) are their corresponding images at higher magnifications.

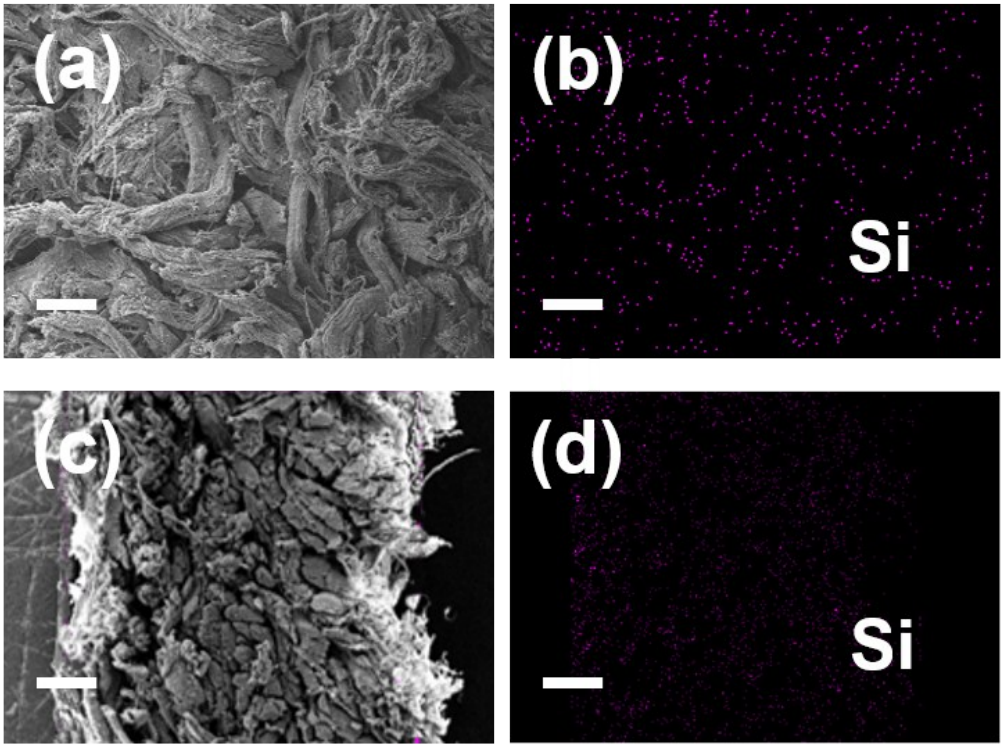

Fig. S3 SEM images and SEM-EDS mapping images for the surface of VTEO-CFM (a, b) and for the cross section of VTEO-CFM (c, d), respectively. The scale bar is 0.3 mm.

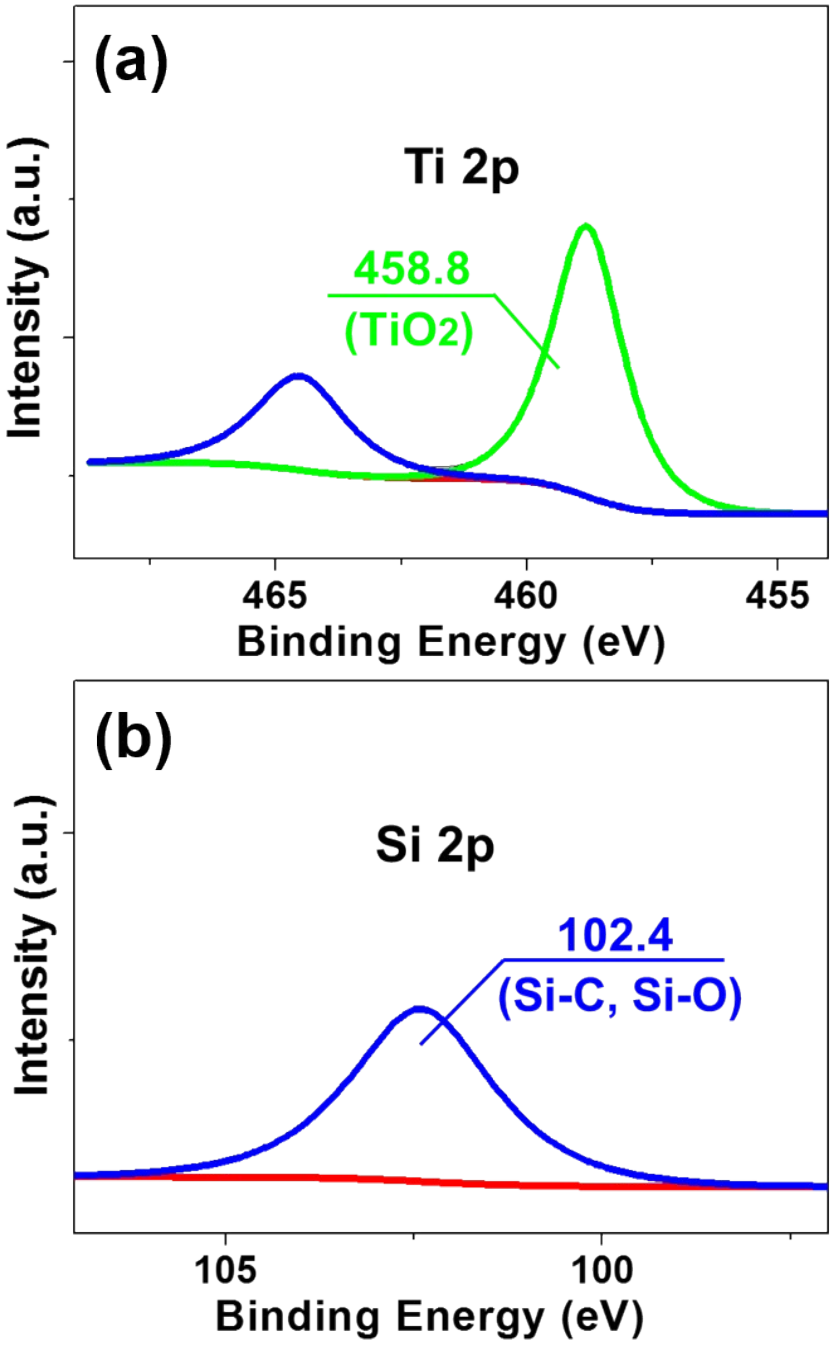

Fig. S4 Ti 2p core level XPS spectrum of TiO_2-CFM surface (a), and Si 2p (b) core level XPS spectrum of SNF surface.

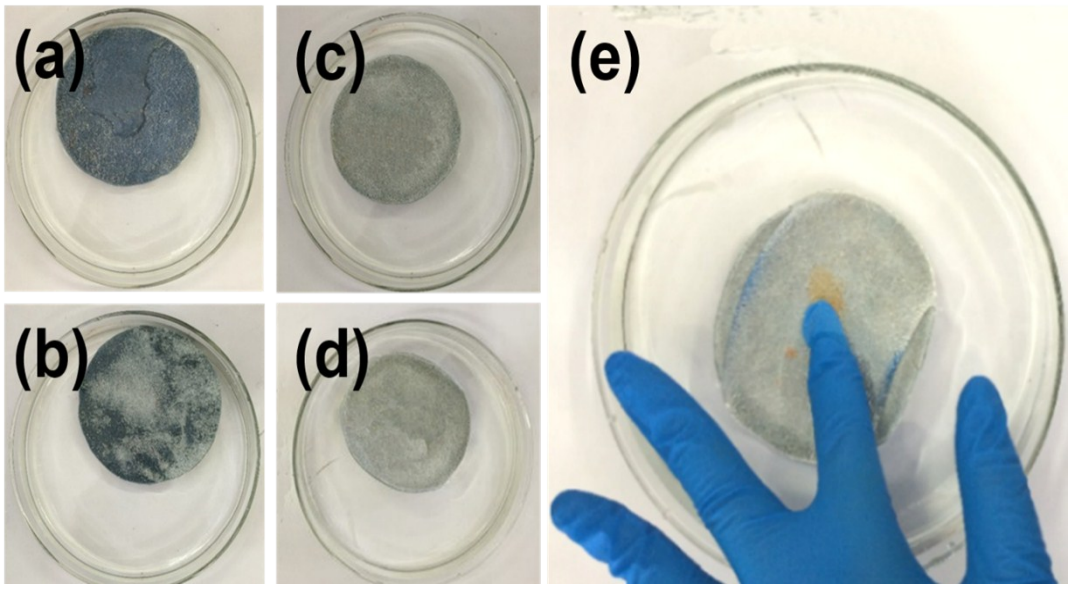

Fig. S5 Photographs of CFM (a), TiO_2-CFM (b), VTEO-CFM (c), SNF (d) immersed in water. Mirror like phenomenon on the SNF submerged in water (e).

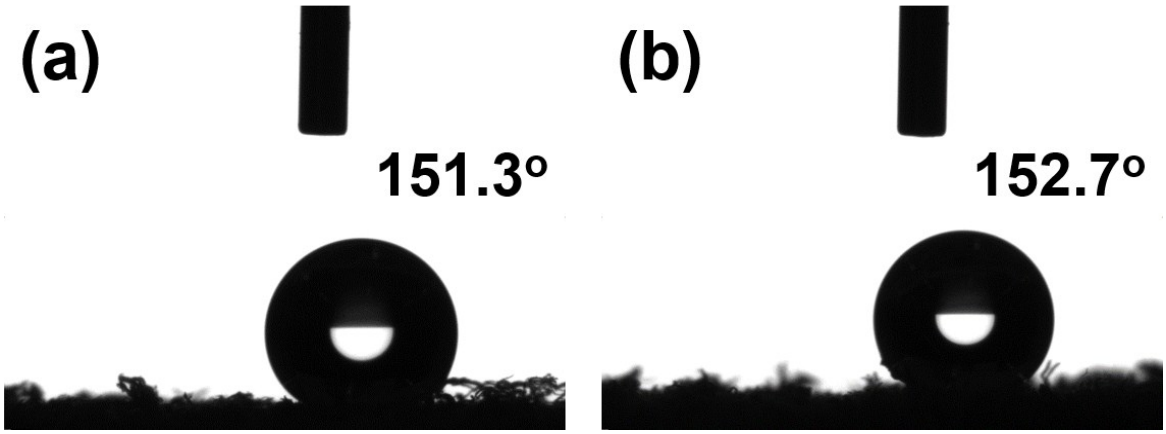

Fig. S6 Images of static water droplets (5 μL) on TiO_2-CFM coated by γ-aminopropyltriethoxysilane (a), trimethoxy(octadecyl)silane (b), respectively.

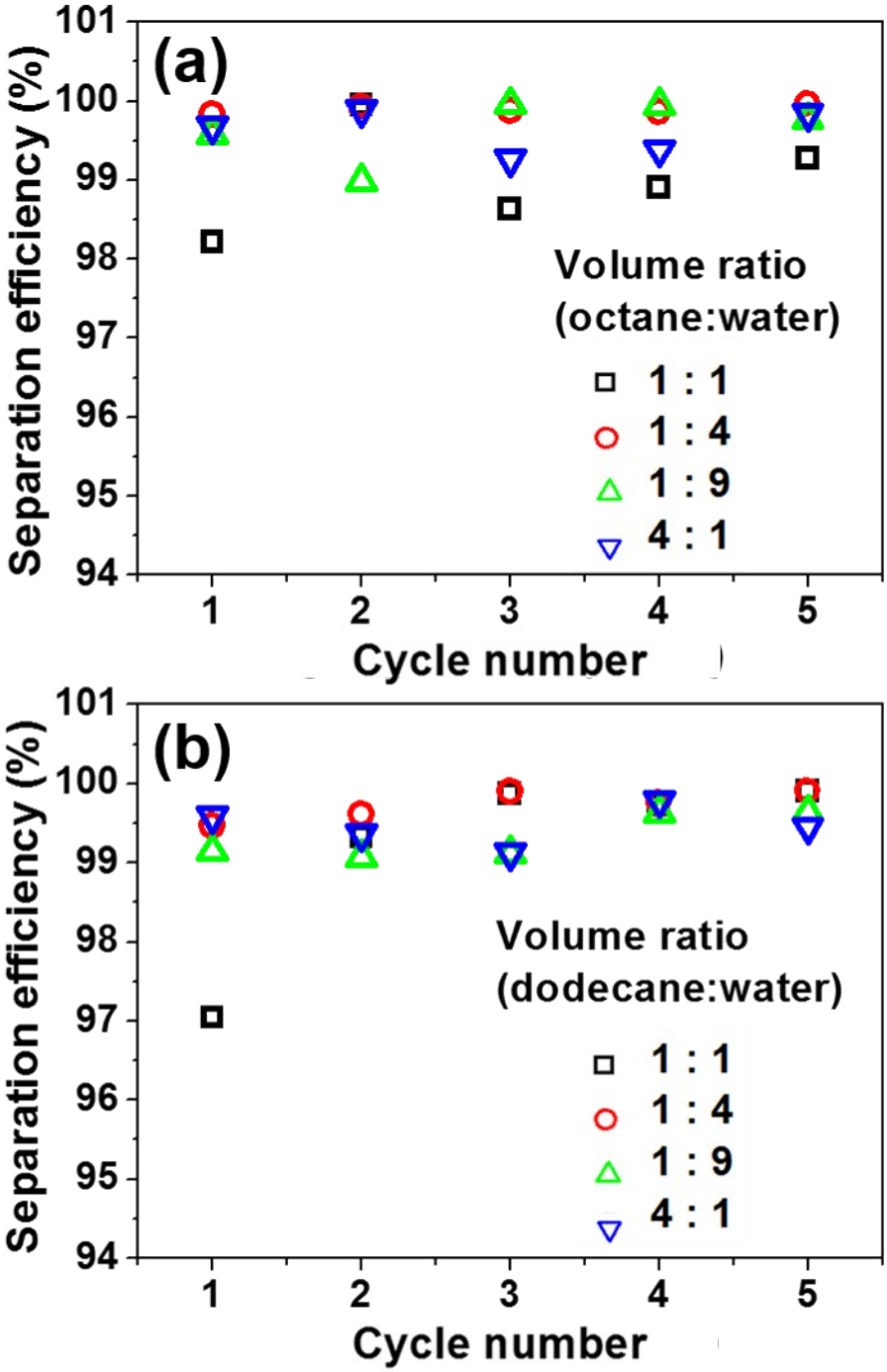

Fig. S7 The separation efficiency of SNF for the different ratio mixture of the water and octane (a) and dodecane (b) for 5 cycles.

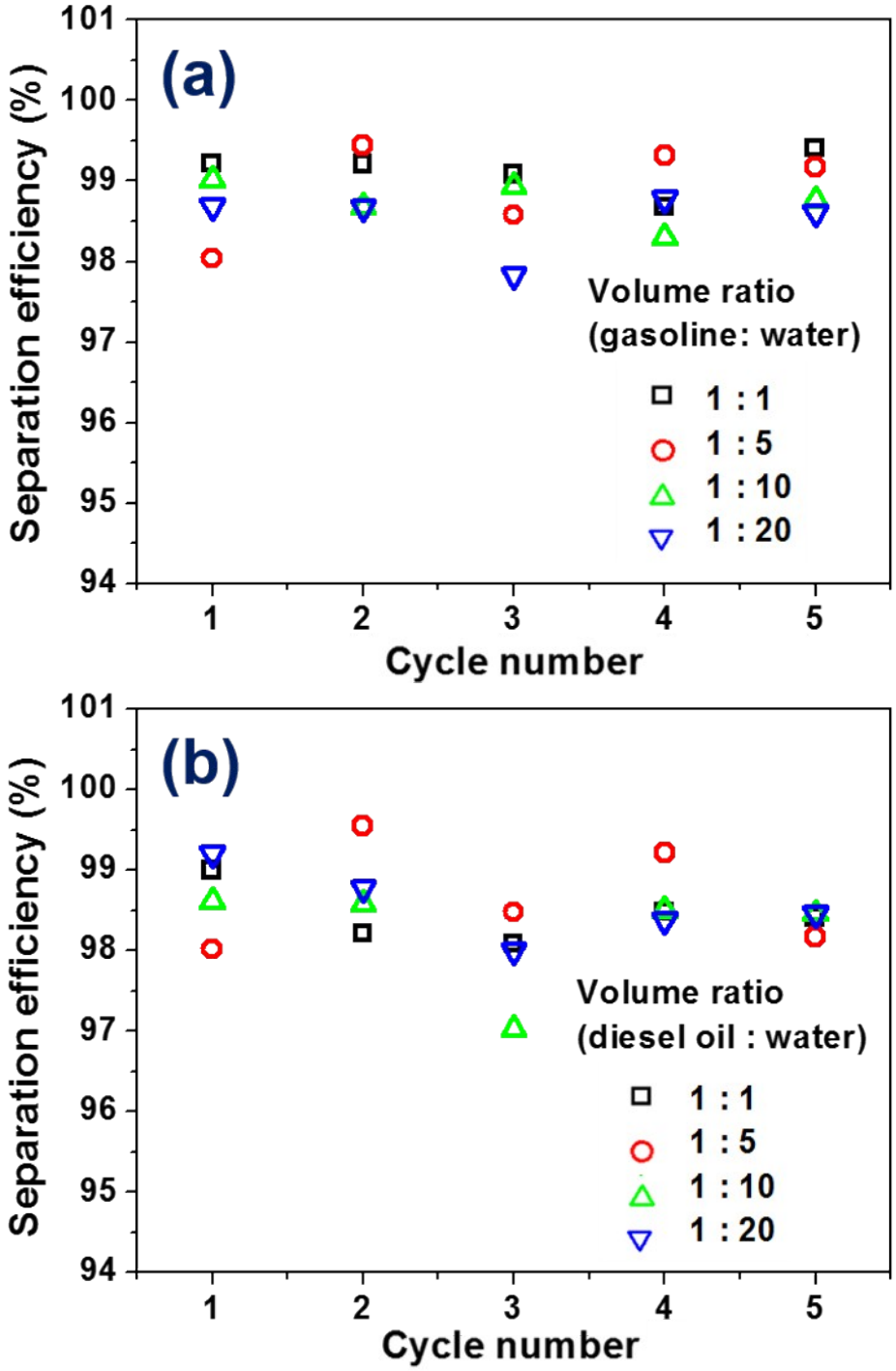

Fig. S8 The separation efficiency of SNF for the different ratio mixture of the water and gasoline (a) and diesel oil (b) for 5 cycles.

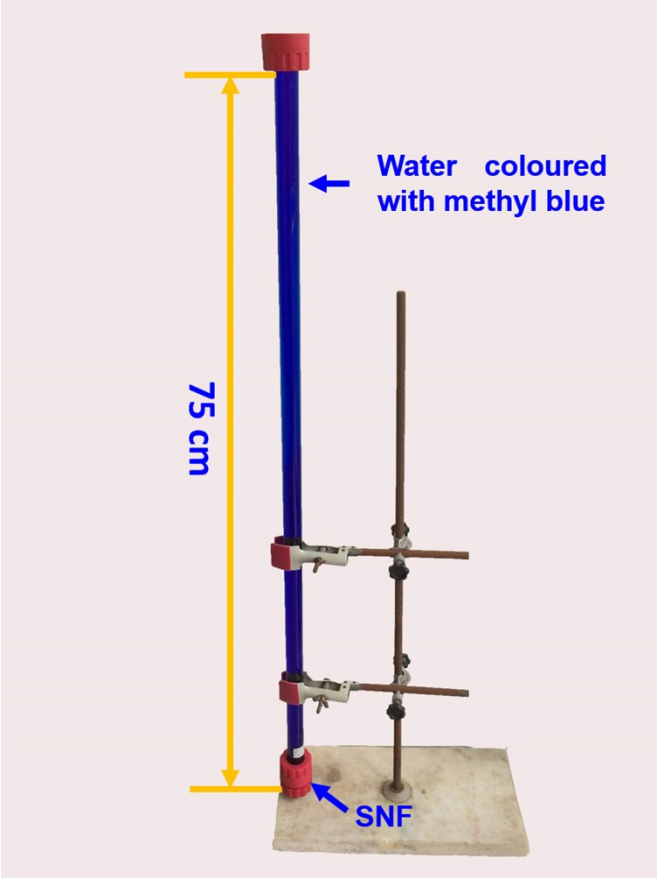

Fig. S9 Optical image showing the system to determine the water intrusion pressure of SNF (water was dyed with methyl blue).

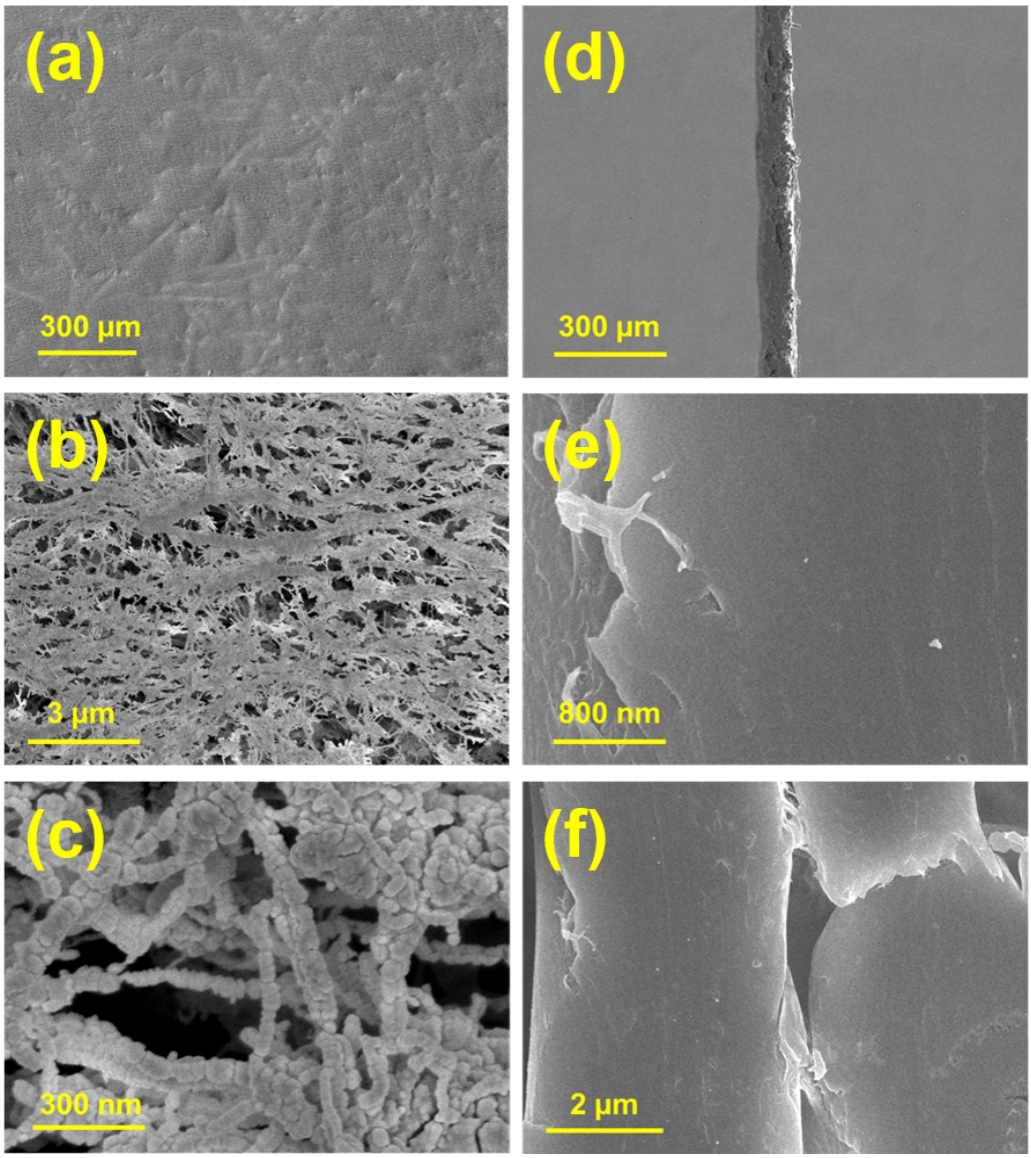

Fig. S10 FESEM images for the surface (a-c) and cross section (d-f) of PTFE.