## Super-hydrophobic and electrically conductive nanofibrous

## membrane for a chemical vapor sensor

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Fig. S1 (a) TEM images of CNF and (b) magnified HRTEM of the red rectangle in (a).



Fig. S2 Photographs of the nanofibrous membrane floating on the surface of (a) acid, (b) base and (c) salt solution, (d) The contact angles and electrical conductivity of the nanofibrous membrane after 3h floating on the harsh solution (Inset are photographs of the acid, base and salt droplets on the surface of nanofibrous membranes).



Fig. S3 (a) Cyclic vapor sensing behaviors of the nanofiber composite (PU/SEBS (1/1)-10) against toluene vapor for 55 cycles. (b) Photographs of the water droplet on the surface of the nanofiber composite after 55 cyclic vapor sensing. (Inset is the picture of the corresponding water contact angle).