

Electronic Supplementary Information

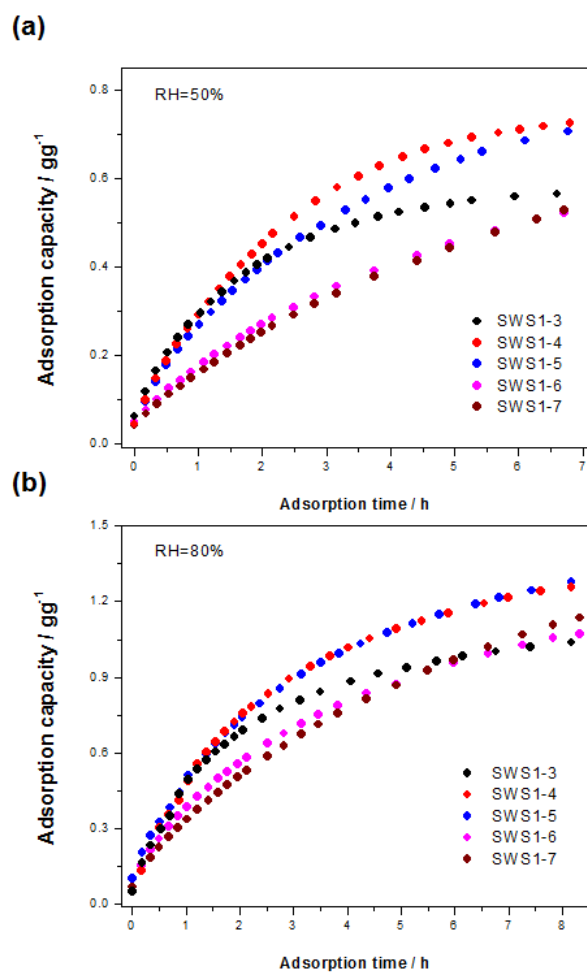


Fig. S1 Adsorption curve of the hydrophobic samples at RH=50% and 80%.

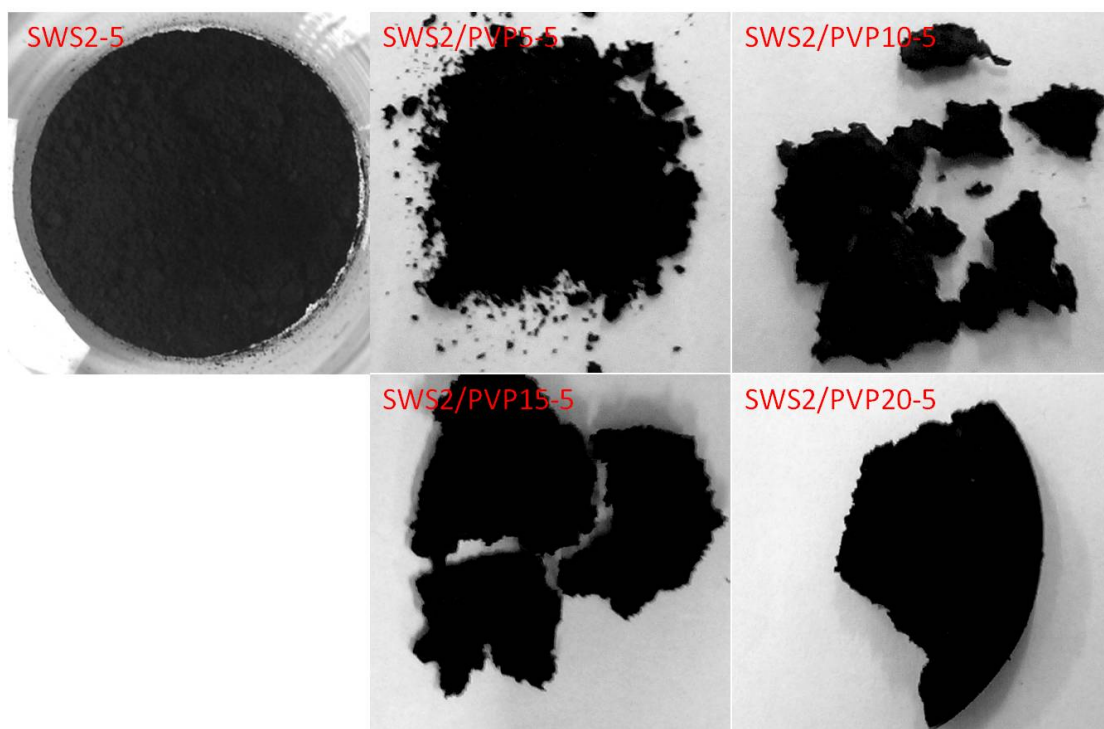


Fig. S2 The digital photos of the SWS2-5 and SWS2/PVPX-5 (X=5, 10, 15 and 20) composite in the RH=50% at 25 °C.

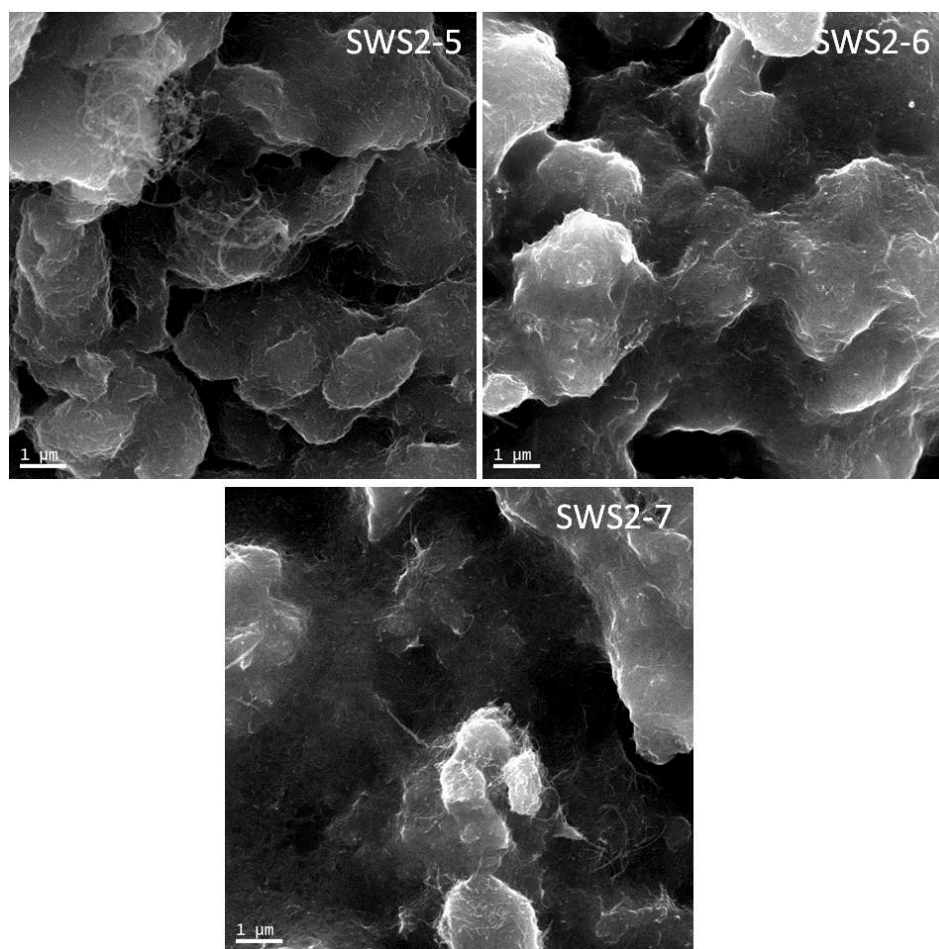


Fig. S3 SEM of the SWS2-X (X=5-7) composite adsorbents.

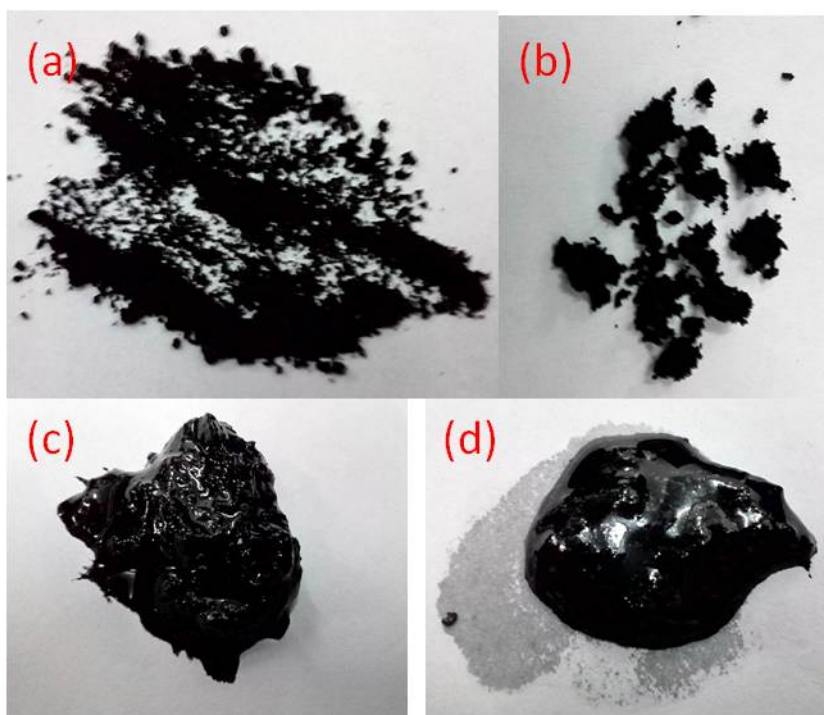


Fig. S4 The digital photos of solid-liquid phase separation states of the composite samples after full adsorption water. Therein, 1 represents powder state (a); 2 stands for moist morphology (b). The composite powder presents aggregation state, but not found any CaCl_2 solution; 3 is little solid-liquid phase separation state (c), and is similar with plasticine; 4 is corresponding to serious separation of solid and liquid phase (d). Large water is found at the bottom of beaker in the kind sample.