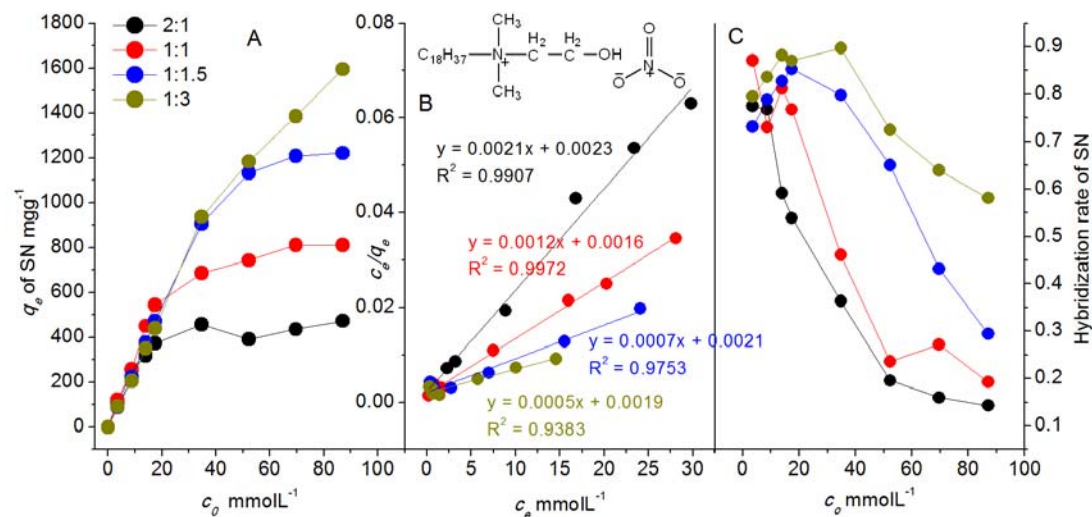
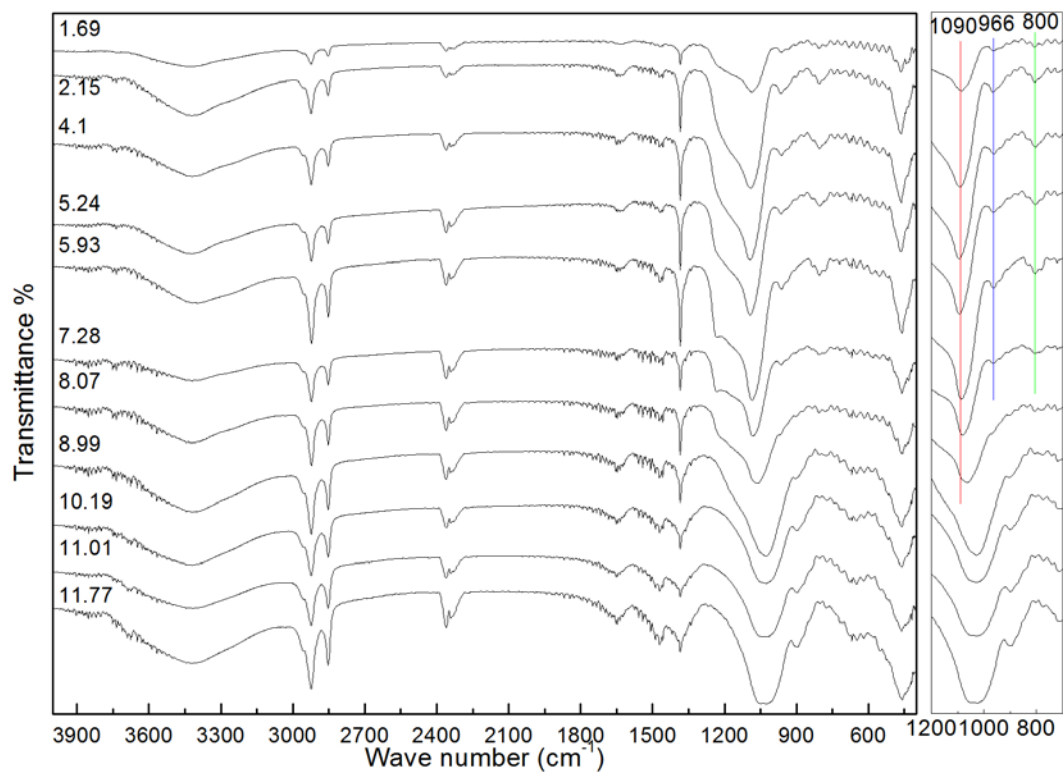


## Electronic Supplementary Information (ESI): Fig. S1-S11

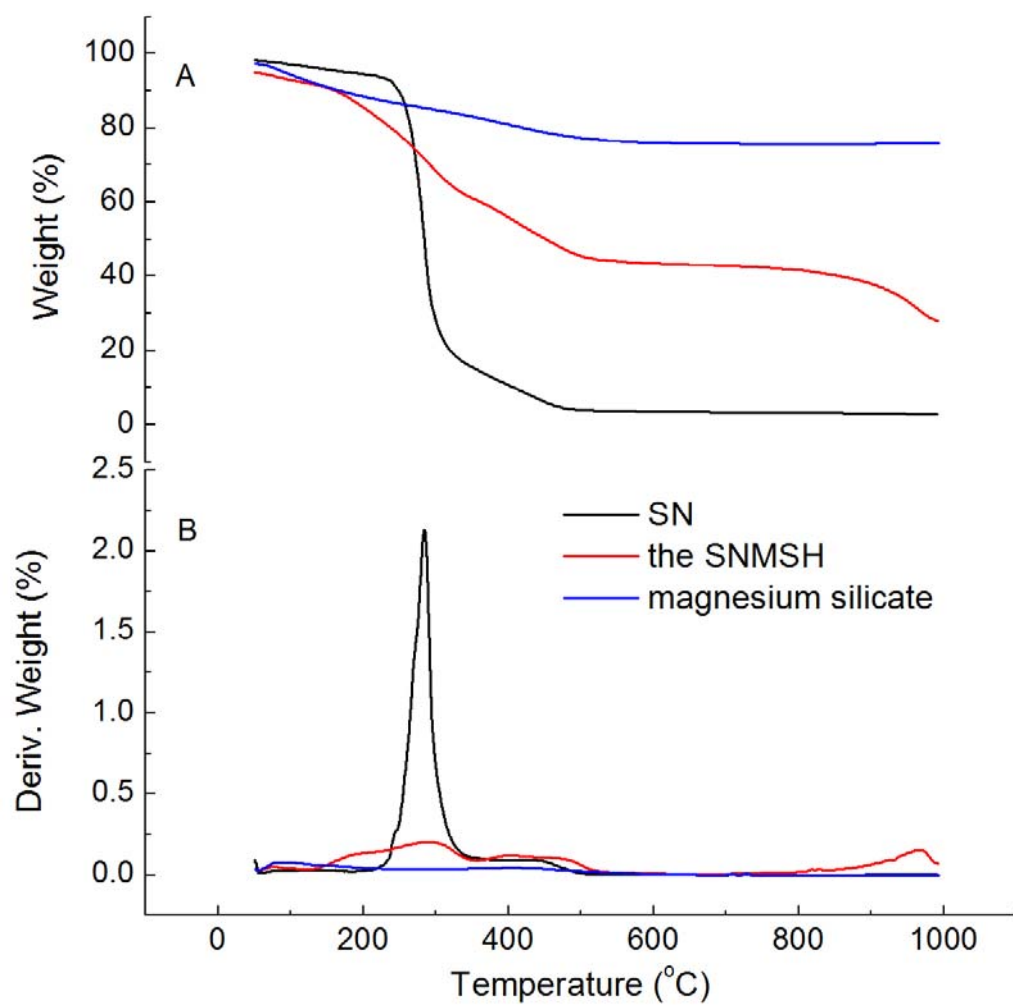
SN@silicate: an anionic dye sorbent and its reuse



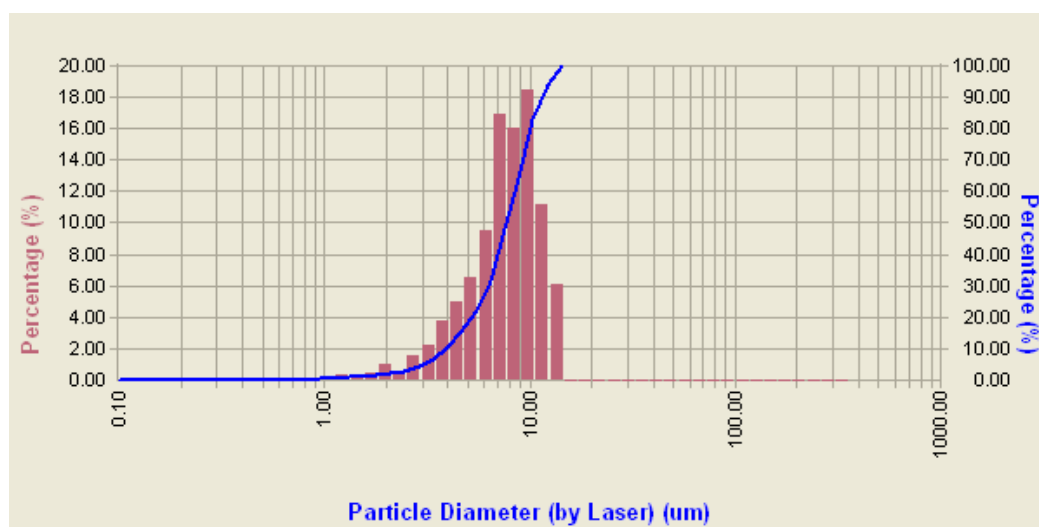
**Fig. S1** Influences of SN on the hybridization with magnesium silicate freshly formed. A: plots  $q_e$  vs  $c_0$  in the mole ratio of SN to magnesium silicate from 2:1 to 1:3. B: Plots  $c_e/q_e$  vs  $c_e$ . i.e. fitted to Langmuir isothermal model, C: change of hybridization rate of SN.



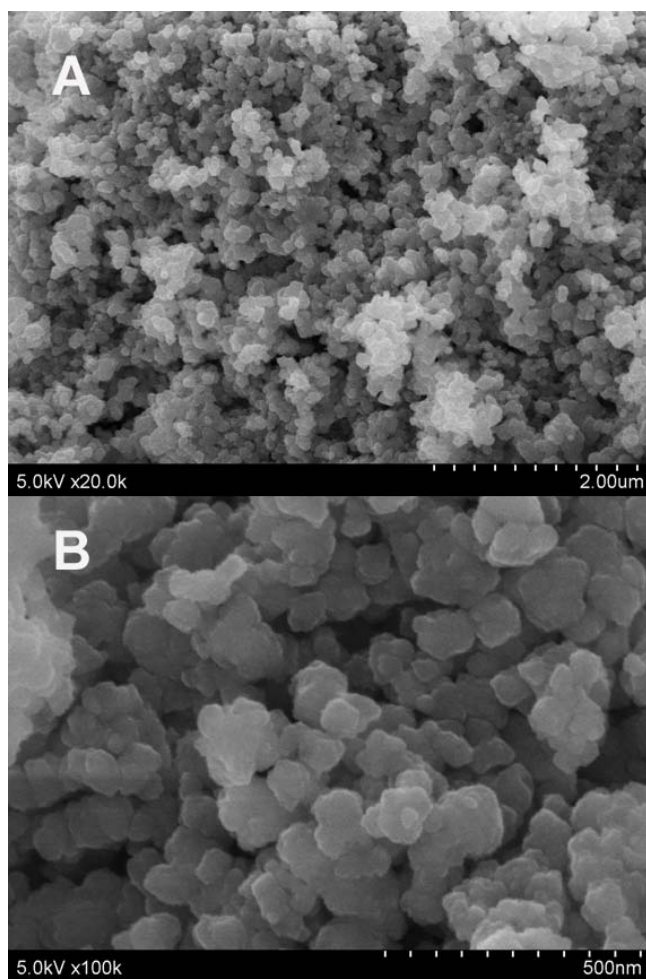
**Fig. S2** FTIR of the hybrids formed in various pH media



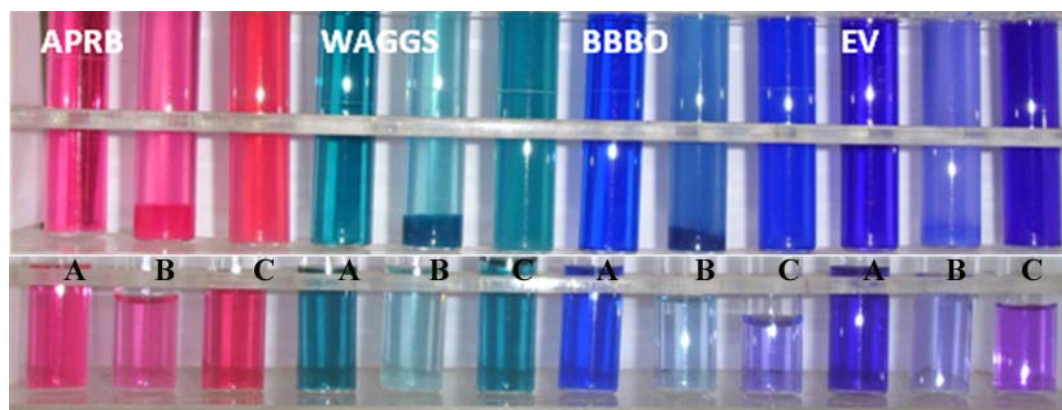
**Fig. S3** TG (A) and DTG (B) of SN, magnesium silicate and the SNMSH



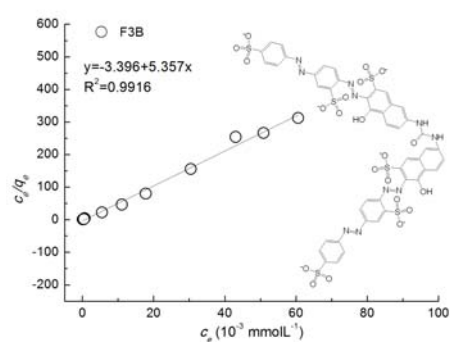
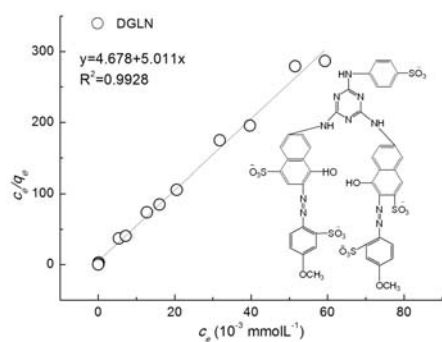
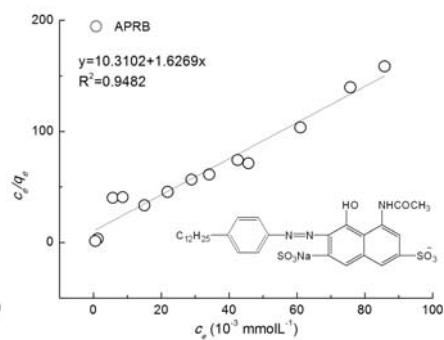
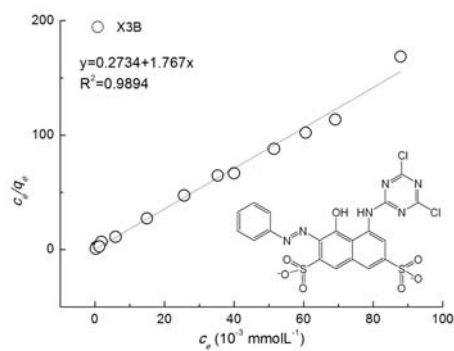
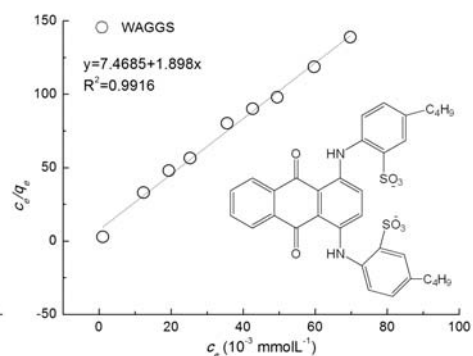
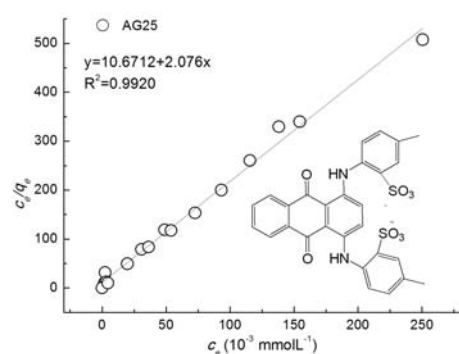
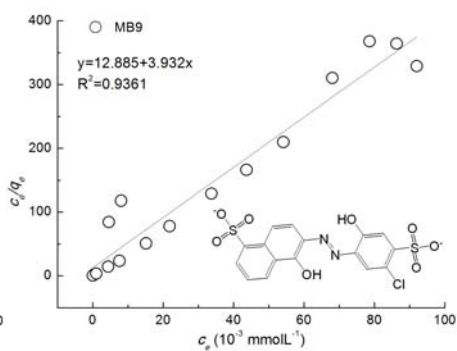
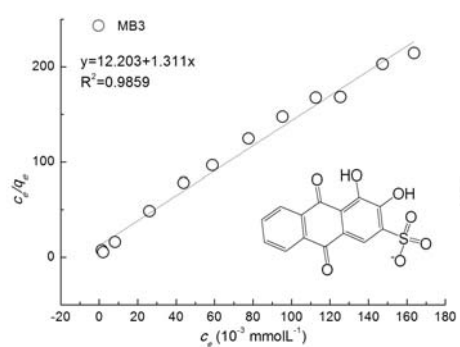
**Fig. S4** Particle size distribution of the SNMSH

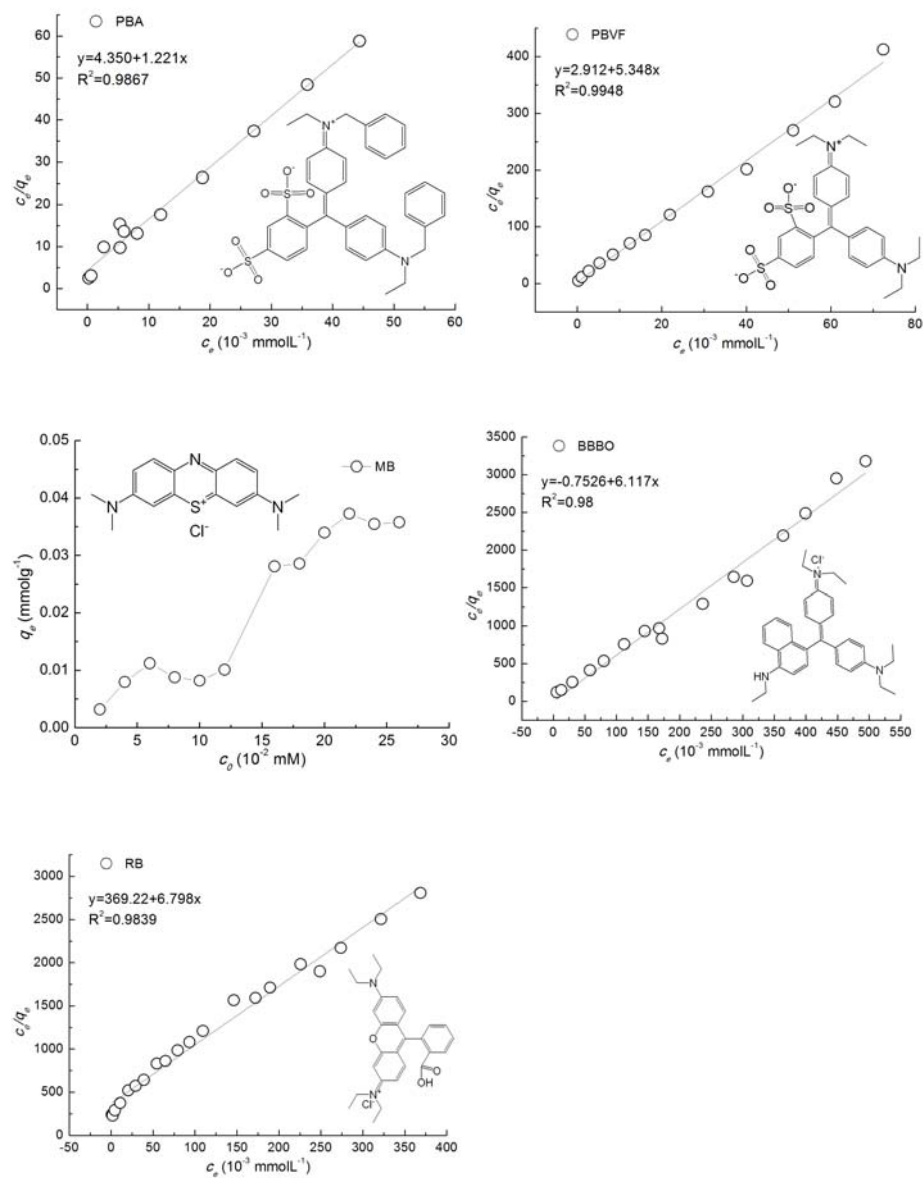


**Fig. S5** SEM image of the SNMSH (A) and the W1#-SNMSH sludge (B) after calcined at 550 °C

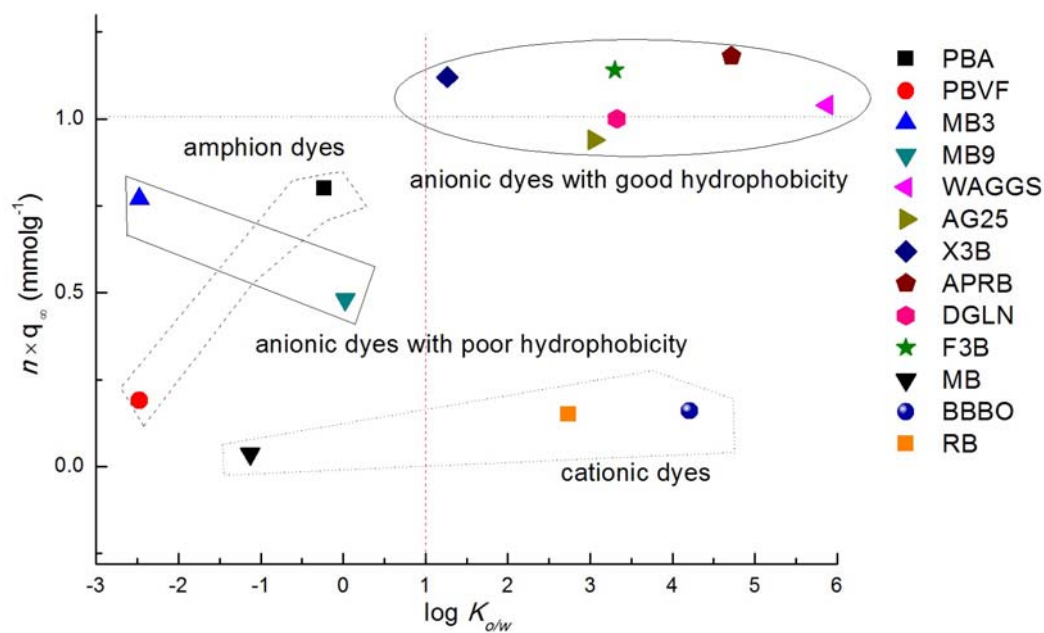


**Fig. S6** Adsorption of APRB, WAGGS, BBBO and EV solutions (A) with the SNMSH (B) and magnesium silicate – only (C), where only 0.1% of each material was added. Their supernatants appeared in Line 2.

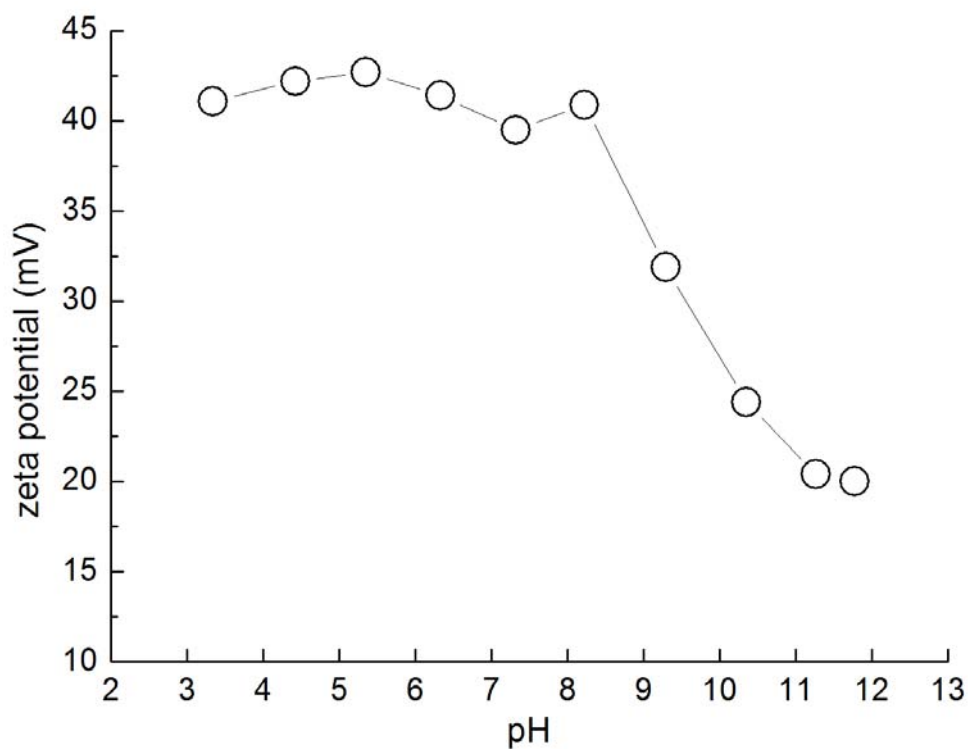




**Fig. S7** Adsorption of thirteen dyes on the SNMSH fitted to the Langmuir isotherm (Plots  $c_e/q_e$  vs.  $c_e$ ) except for MB (Plot  $q_e$  vs.  $c_e$ )

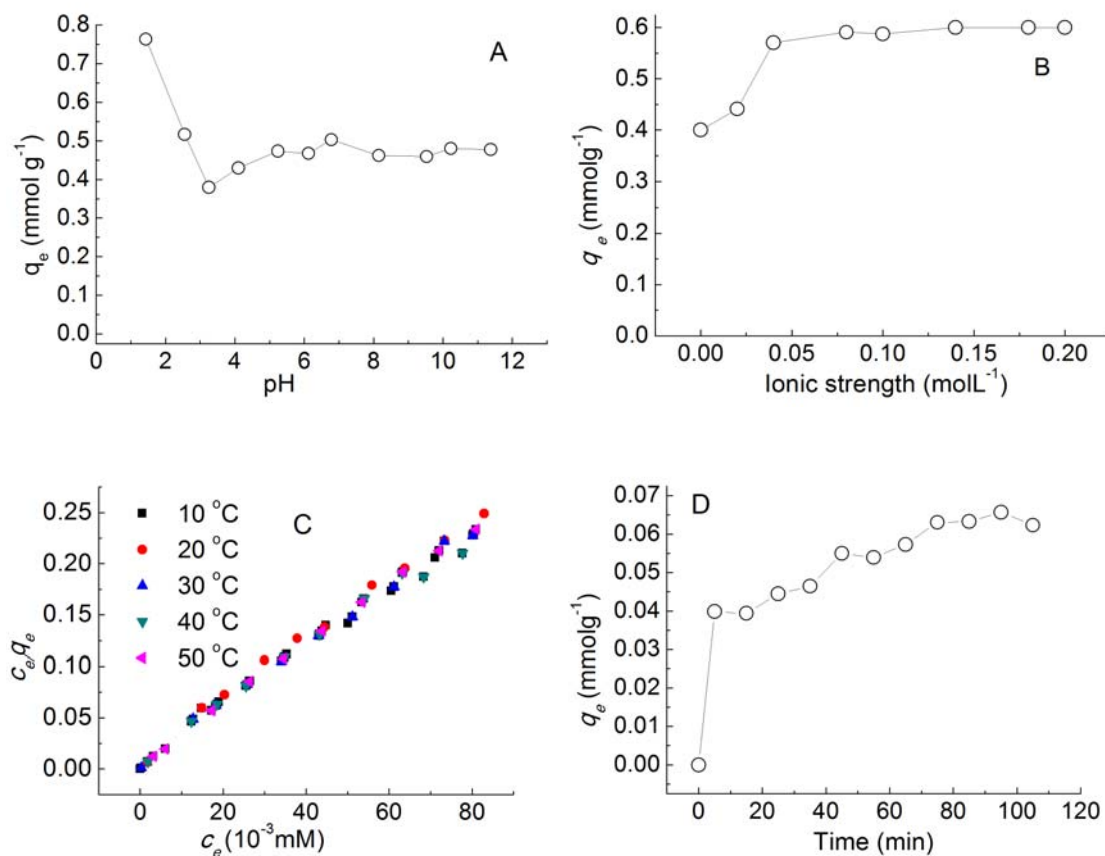


**Fig. S8** Relationship among  $\log K_{o/w}$ , the negative charge number ( $n$ ) and sorption saturation ( $q_{\infty}$ ) of 13 dyes

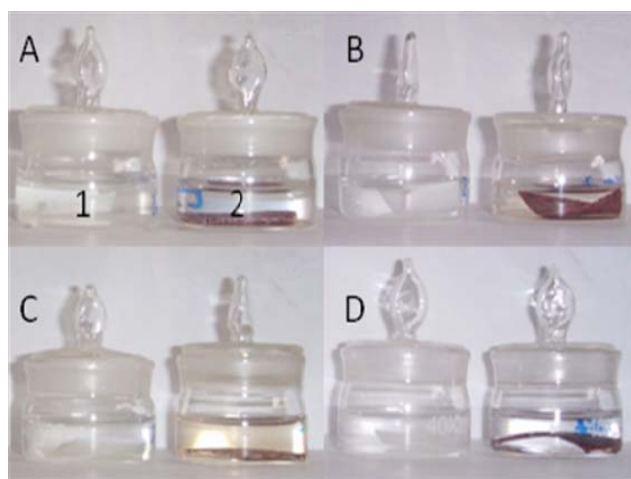


**Fig. S9** Change of the SNMSH's zeta-potential with pH





**Fig. S10** Effects of pH (A), ionic strength (B), temperature (C) and time (D) on the adsorption of WAGGS on the the SNMSH



**Fig. S11** The EP-only (1) and the EP-W1#-SNMSH (2) films were immersed into tap water (A), 2% HCl (B), 2% NaOH (C) and ethanol (D) for 70 days.