

SUPPLEMENTARY MATERIAL TO
**Synthesis, characterization and adsorption studies of nano-
composite hydrogels and the effect of SiO₂ on the capacity for
the removal of Methylene Blue dye**

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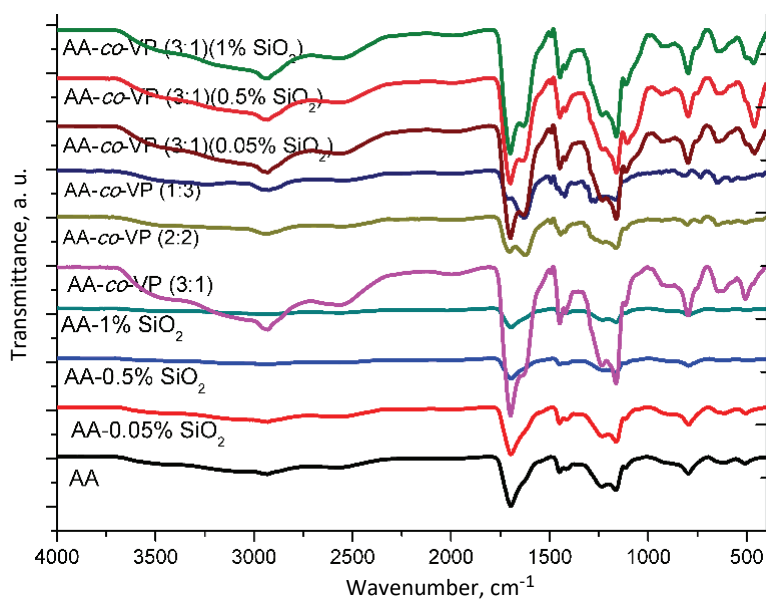


Fig. S-1. FT-IR spectra of as-prepared hydrogels and nanocomposite hydrogels.

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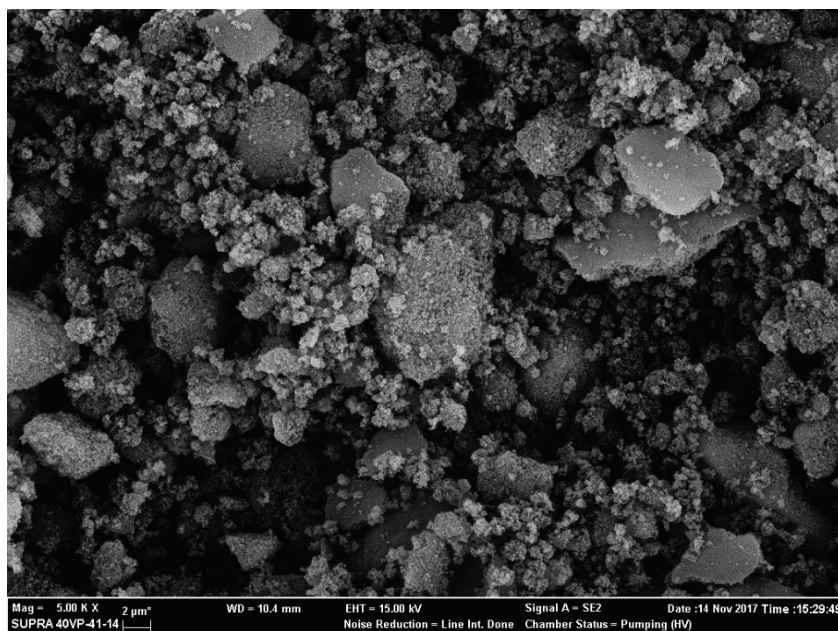


Fig. S-2. SEM image of SiO₂ nanoparticles, 5000× magnification.

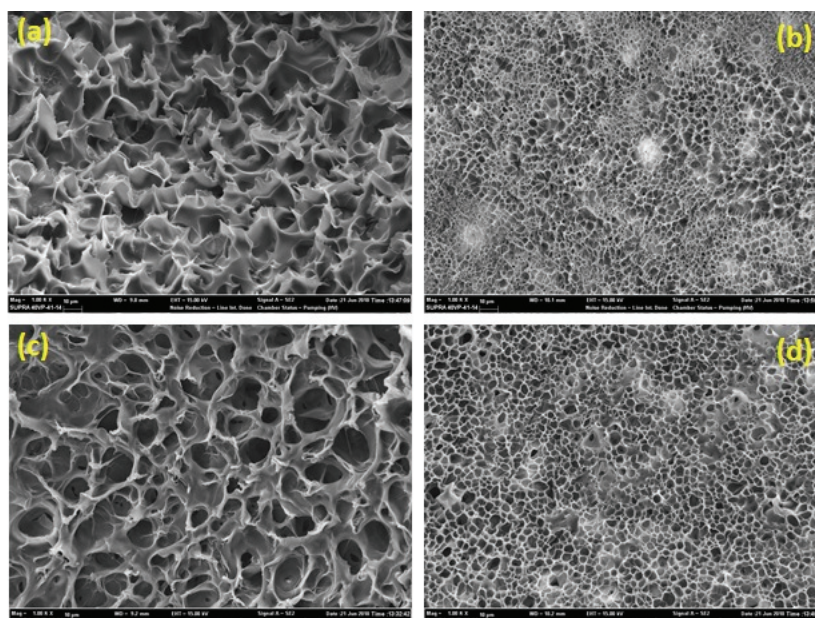


Fig. S-3. Morphological structure of the as-prepared, freeze-dried; a) AA hydrogel, b) AA-1 % SiO₂, c) AA-0.05 % SiO₂ and d) AA-0.5 % SiO₂ nanocomposite hydrogels, 1000× magnification.

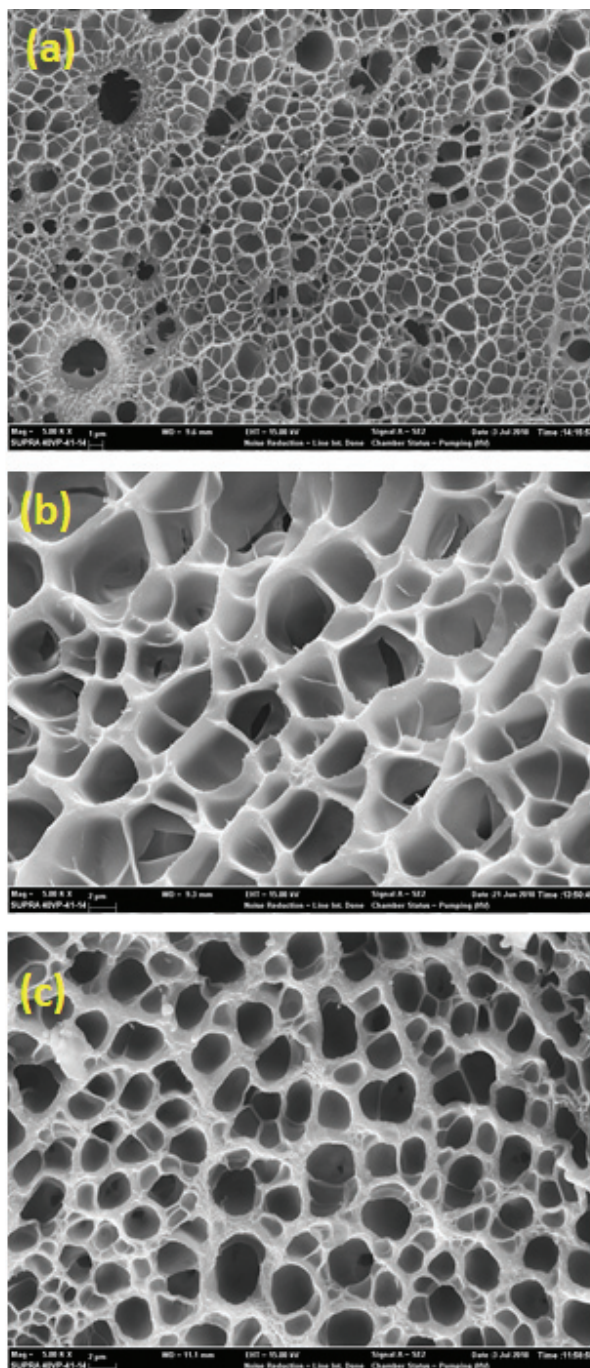


Fig. S-4. Morphological structure of: a) AA-co-VP (3:1), b) AA-co-VP (2:2) and c) AA-co-VP (1:3) hydrogels (no adsorbed MB dye, 5000 \times magnification).

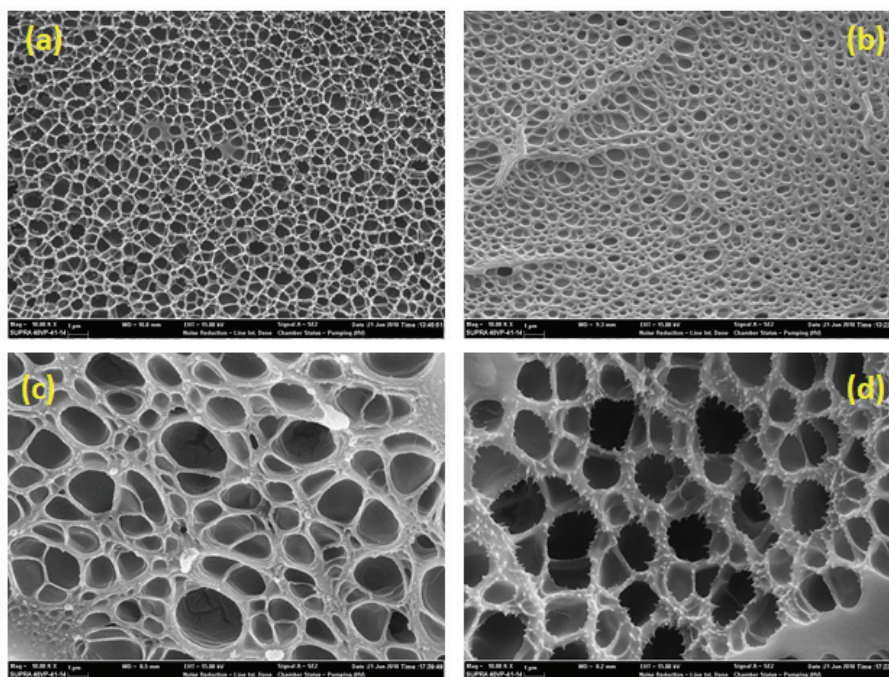


Fig. S-5. Morphological structure of: a) AA-co-VP (3:1); b) AA-co-VP (3:1) – 1 % SiO₂; c) AA-co-VP (3:1) - 0.5 % SiO₂ and d) AA-co-VP (3:1) - 0.05 % SiO₂ hydrogels (no adsorbed MB dye, 10.000×magnification).