## Synthesis, Characterization and Anti-fogging Application of Polymer/Al<sub>2</sub>O<sub>3</sub> Nanocomposite Hydrogels with High Strength and Self-healing Capacity

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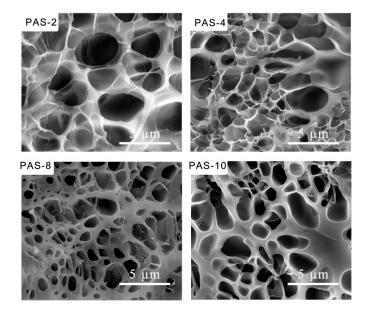
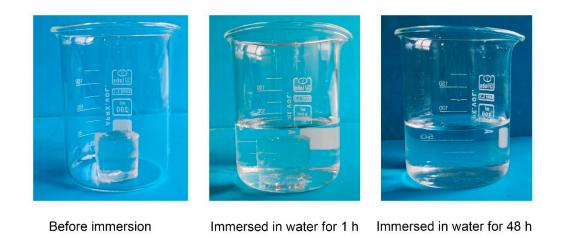
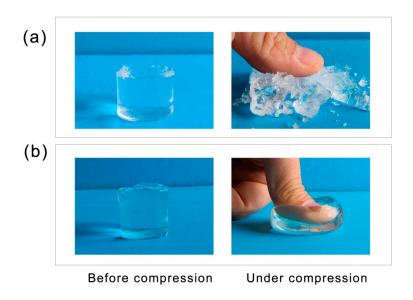


Figure S1. SEM images of PAS-2 gel, PAS-4 gel, PAS-8 gel and PAS-10 gel.



**Figure S2**. Illustration of the dissolution of neat poly (AA-co-AMPS) gels without Al<sub>2</sub>O<sub>3</sub> NPs



**Figure S3.** Illustration of mechanical properties of (a) BIS cross-linked hydrogel and (b) neat poly (AA-co-AMPS) hydrogel.

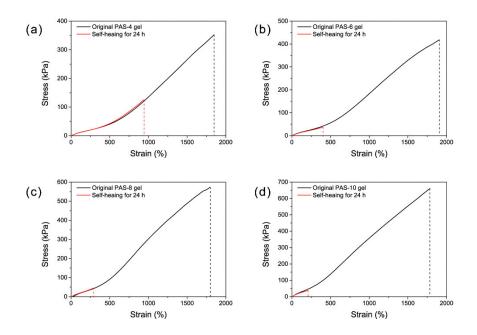


Figure S4. Stress-strain curves of original and healed PAS gels