

## Supplementary Information

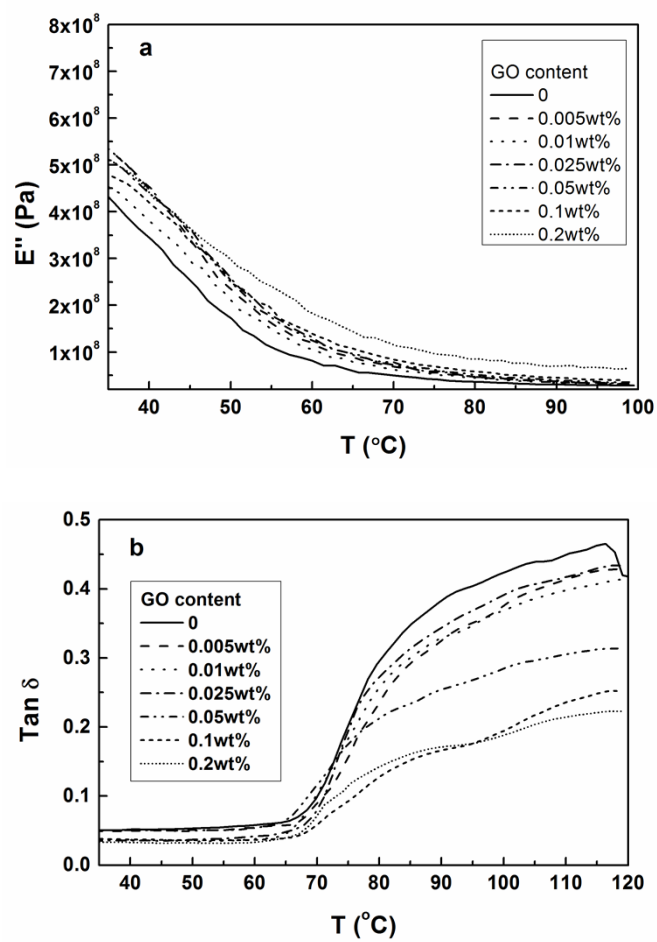
### **High-water-content Graphene oxide/Polyvinyl alcohol Hydrogel with Excellent Mechanical Properties**

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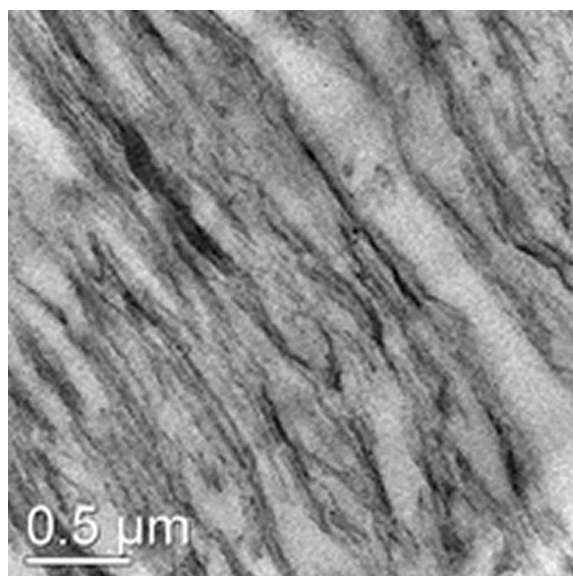
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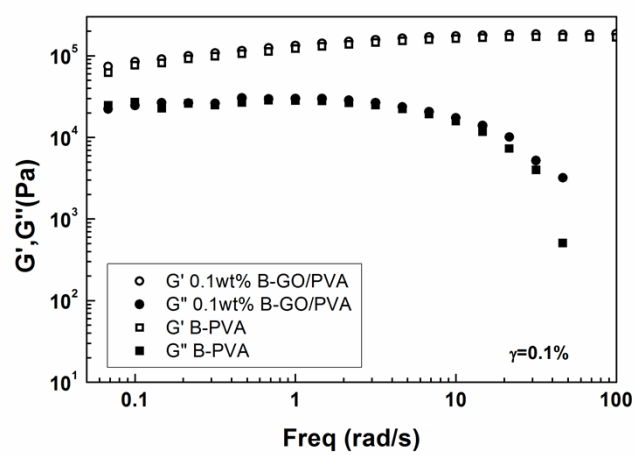
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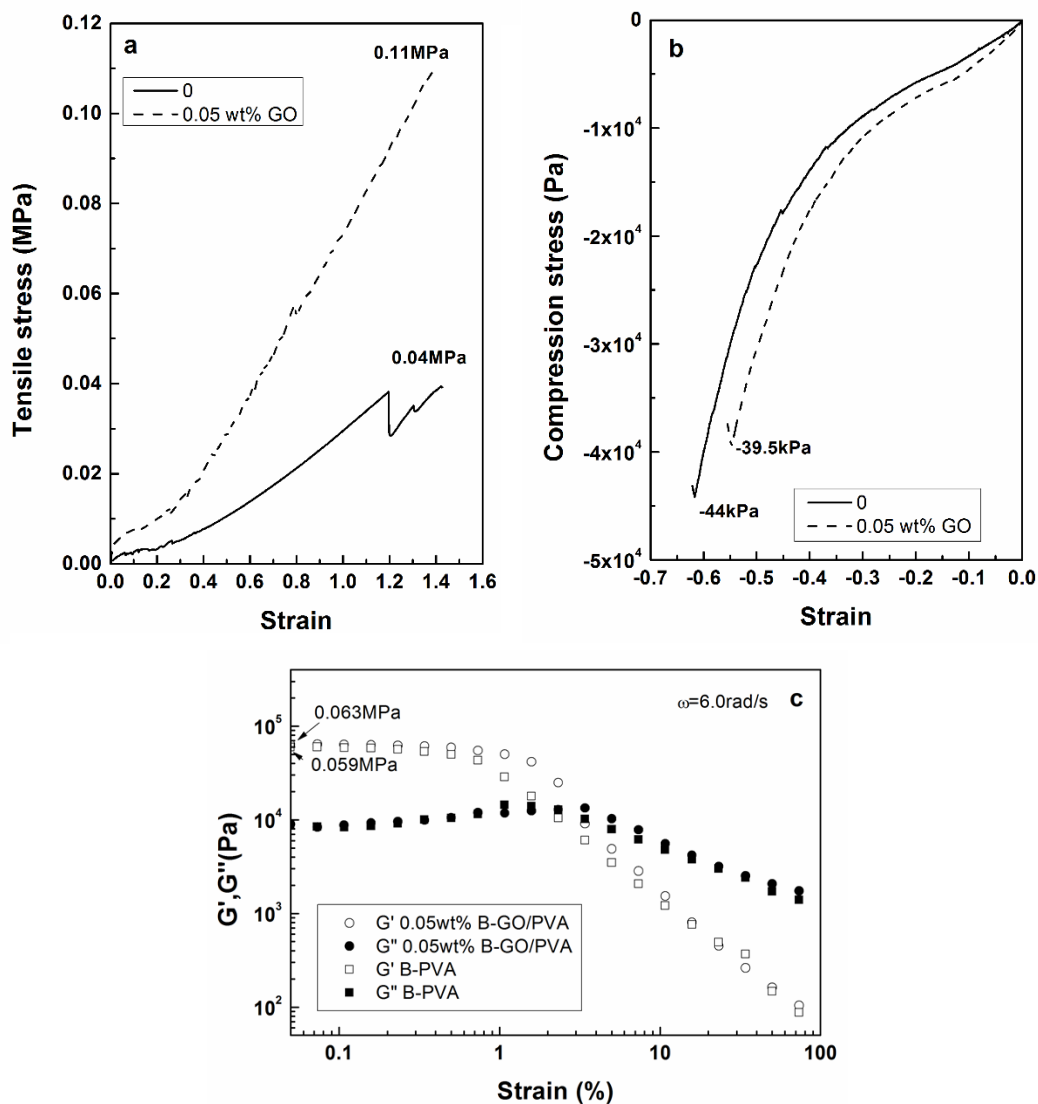
**Fig. 1S.** DMA spectra of (a) loss modulus ( $\tan \delta$ ) of GO/PVA and PVA samples; (b) loss tangent ( $E''$ ) of B-GO/PVA and B-PVA samples.



**Fig. 2S.** A TEM image of cross-sectional area of 0.2wt % B-GO/PVA hydrogel



**Fig. 3S.** Dynamic rheological properties of frequency sweeps of B-PVA and 0.1wt%B-GO/PVA hydrogels:  $\gamma=0.1\%$ , frequency range (0.01 to 100 rad/s)



**Fig. 4S.** Curves of mechanical properties of B-PVA and 0.05wt% B-GO/PVA hydrogels (water content ~98%): (a) tensile test; (b) compression; (c) dynamic shear