

*Supporting Information (SI)*

**Graphene Oxide Based Crosslinker for Simultaneous Enhancement of  
Mechanical Toughness and Self-healing Capability of Conventional Hydrogels**

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**Table S1:** Tensile test parameters calculated from the stress-strain curves depicted in **Figure 2(a)** and **(b)** for PAM nanocomposite hydrogels having various compositions of crosslinker.

Hydrogel	Monomer (AM)  (M)	Crosslinker  (mass% with respect to AM)	Young's modulus  (MPa)	Tensile strength  (MPa)	Toughness  (MJ m <sup>-3</sup> )
PAM	5	N/A	0.128±0.023	0.166±0.025	0.607±0.013
PAM-GO- 0.05%		GO 0.05%	0.307±0.032	0.316±0.043	0.996±0.028
PAM-MBA- 0.05%		MBA 0.05%	0.218±0.022	0.234±0.025	0.407±0.033
PAM-GOBC- 0.01%		GOBC 0.01%	0.150±0.035	0.164±0.033	1.496±0.023
PAM-GOBC- 0.025%		GOBC 0.025%	0.196±0.044	0.252±0.035	1.662±0.043
PAM-GOBC- 0.035%		GOBC 0.035%	0.296±0.040	0.306±0.054	1.114±0.030
PAM-GOBC- 0.05%		GOBC 0.05%	0.446±0.029	0.473±0.36	1.775±0.032