

## ***Supporting Information***

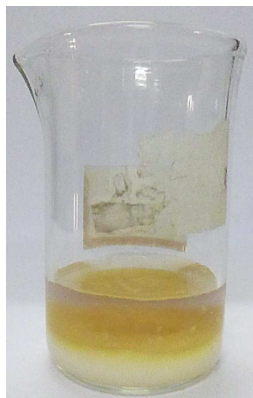
### **Co-Assembled Conductive Hydrogel of N-fluorenylmethoxycarbonyl Phenylalanine with Polyaniline**

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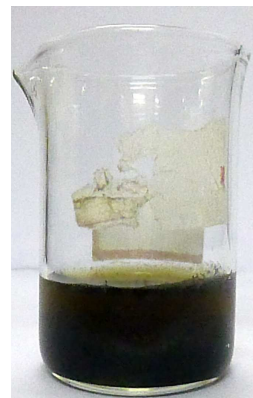
Kolkata-700 032, INDIA



Gel after addition  
of APS



After 1 hour of  
APS addition



After 24 hour of  
APS addition

Figure S1 Steps of aniline polymerization using APS

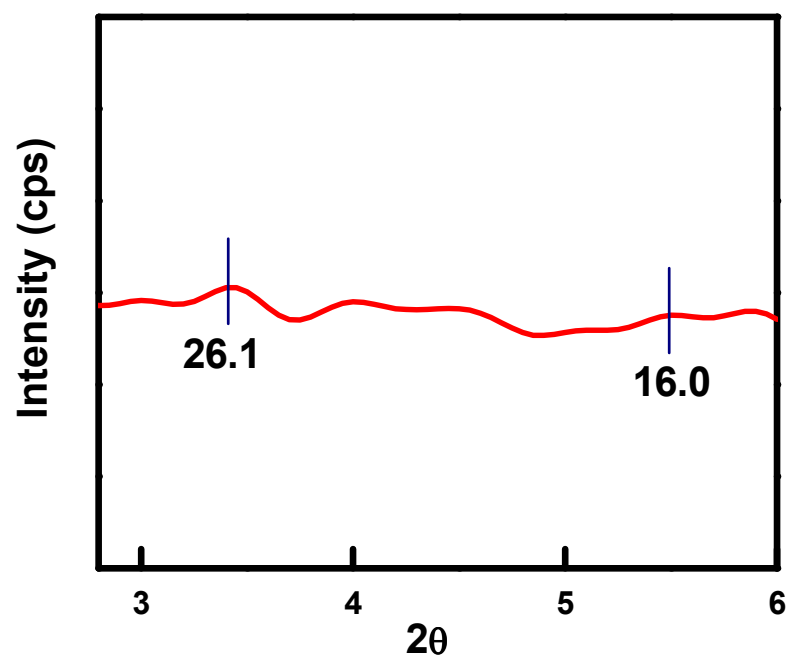


Figure S2. Enlarged XRD pattern of the **FP-ANI** xerogel in the range of  $2\theta = 3$  to 6

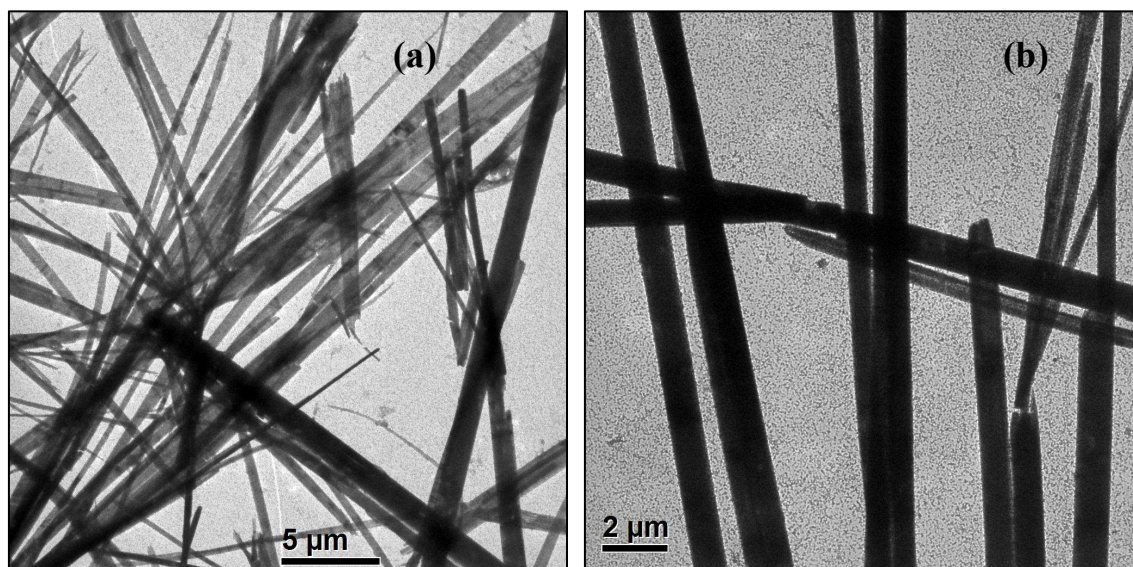


Figure S3. TEM images of the **FP** assembly

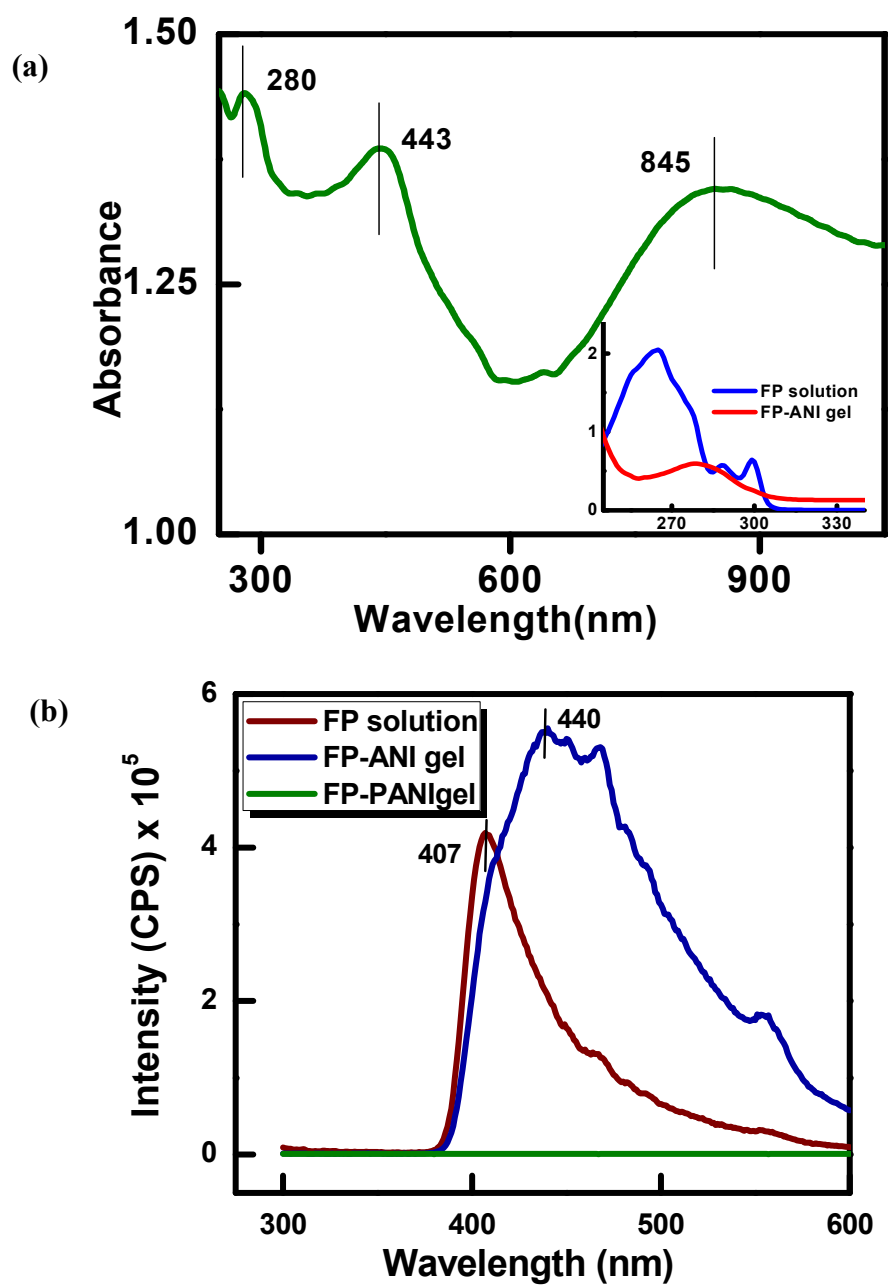


Figure S4 (a) UV-vis spectra of aqueous dispersion of **FP-PANI** gel. (Inset: UV-vis spectra of **FP** solution and diluted **FP-ANI** gel) (b) Fluorescence spectra of **FP** solution, **FP-ANI** and **FP-PANI** gels.

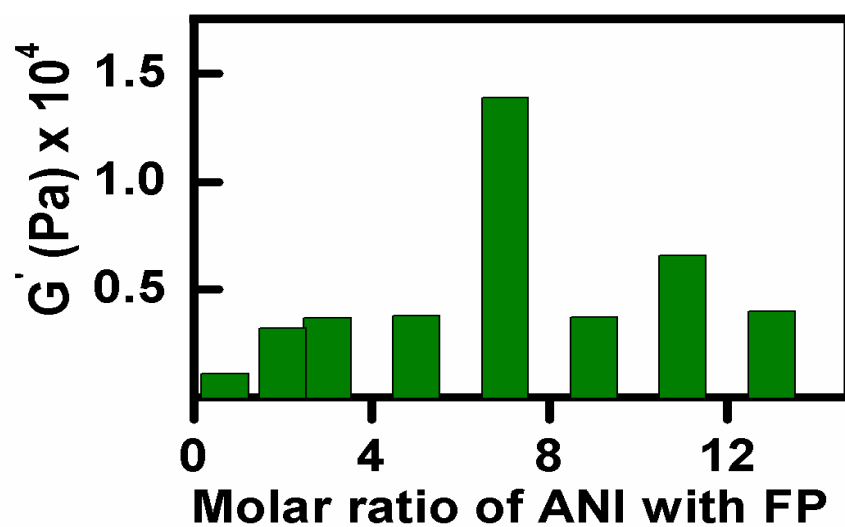


Figure S5. Bar diagram of  $G'$  values of gels after polymerization for different molar concentration of ANI.