

## Supplementary Information

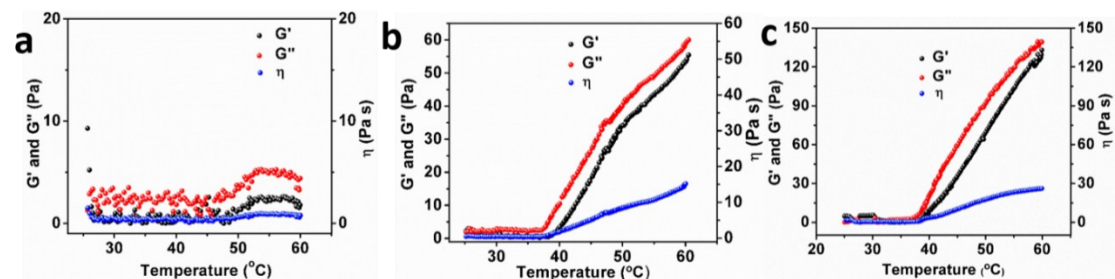
### Development of thermosensitive protein conjugated nanogel for enhanced radio-chemotherapy of cancer

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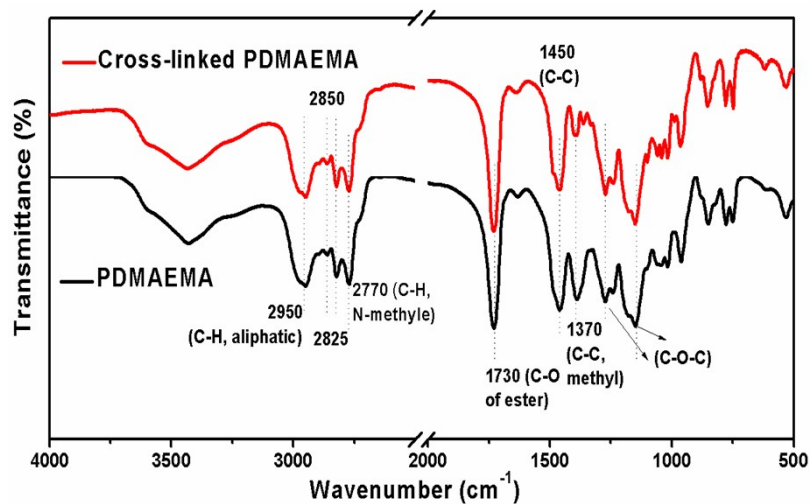
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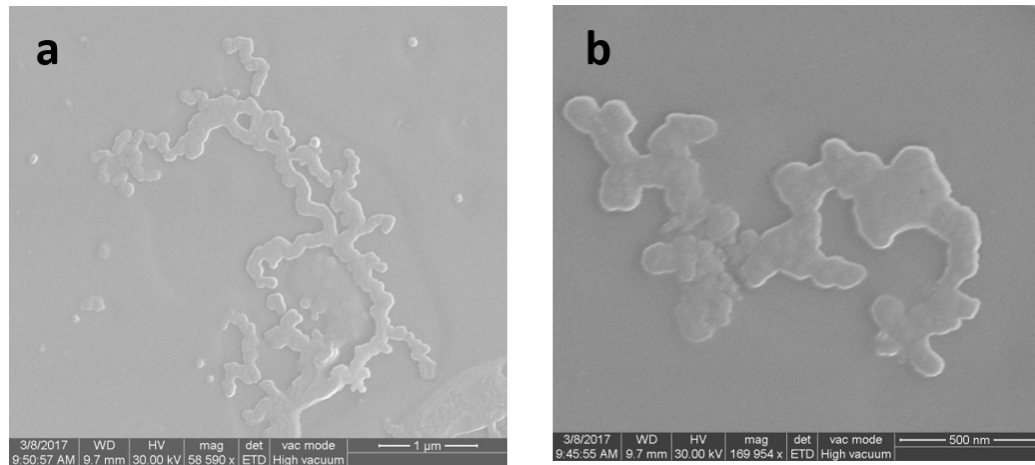
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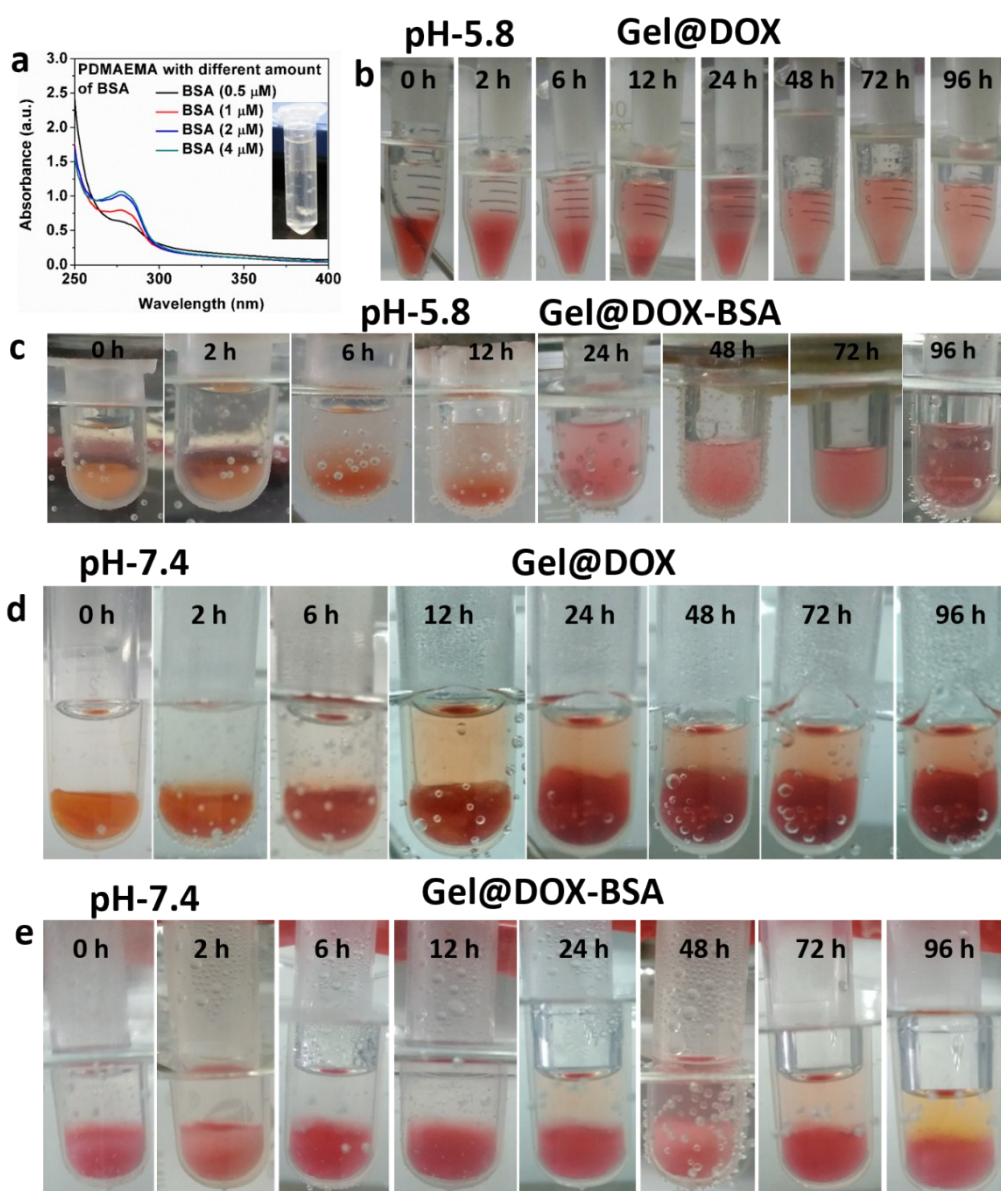
Supporting information Figure S1. The effect of temperature on complex viscosity ( $\eta$ ), loss modulus ( $G''$ ) and storage modulus ( $G'$ ) of (a) noncross-linked (0.5 mmol APS) (b) and (c) cross-linked PDMAEMA having 0.06 and 0.03 mmol of MBA.



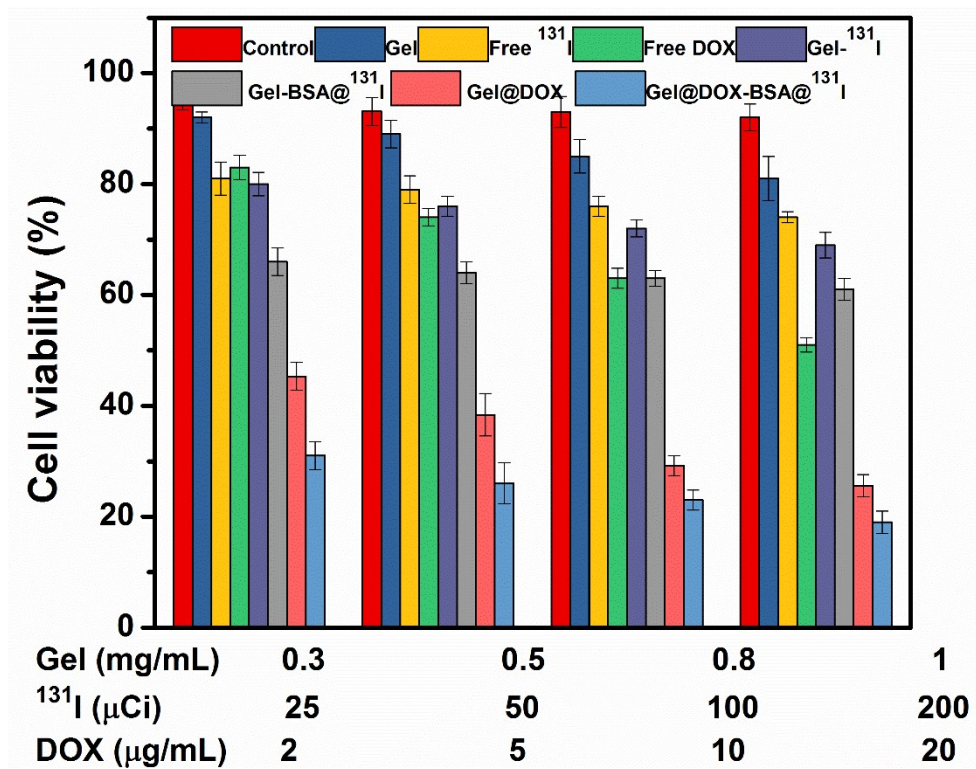
Supporting information Figure S2. FT-IR spectra of the as obtained polymers.



Supporting information Figure S3. SEM images of cross-linked PDMAEMA gel at 36 °C



**Supporting information Figure S4.** (a) Optimization of BSA concentration while loading on the polymer (destabilization of BSA during addition of 4  $\mu$ M of BSA in PDMAEMA is shown in the inset) (b), (c) and (d), (e) are the digital images of DOX release from (b) PDMAEMA@DOX and (c) PDMAEMA@DOX-BSA at pH-5.8 and pH-7.4 under water bath of temperature 37°C, respectively.



**Supporting information Figure S5.** The relative viabilities of 4T1 cells incubated with different concentrations of Gel, free  $^{131}\text{I}$ , Gel-BSA@ $^{131}\text{I}$ , Gel@DOX and Gel@ $^{131}\text{I}$ -BSA/DOX for 24 h.