

## Supplemental Data

### Hydrogel Delivery Device for the In Vitro and In Vivo Sustained Release of Active rhGALNS Enzyme

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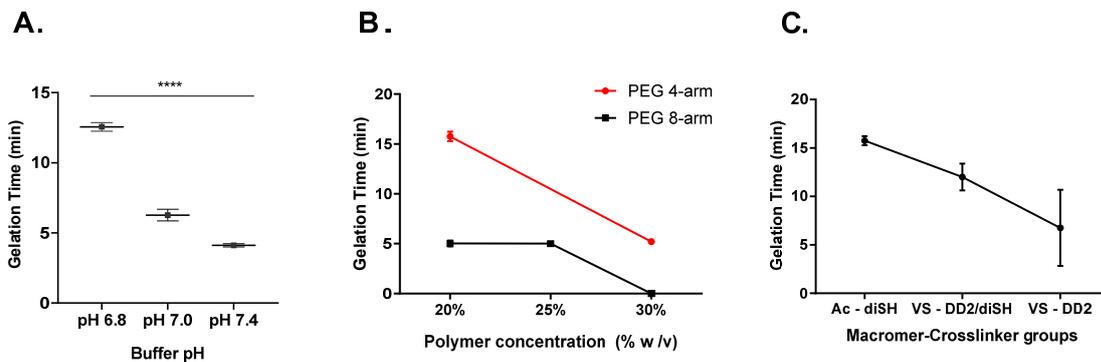
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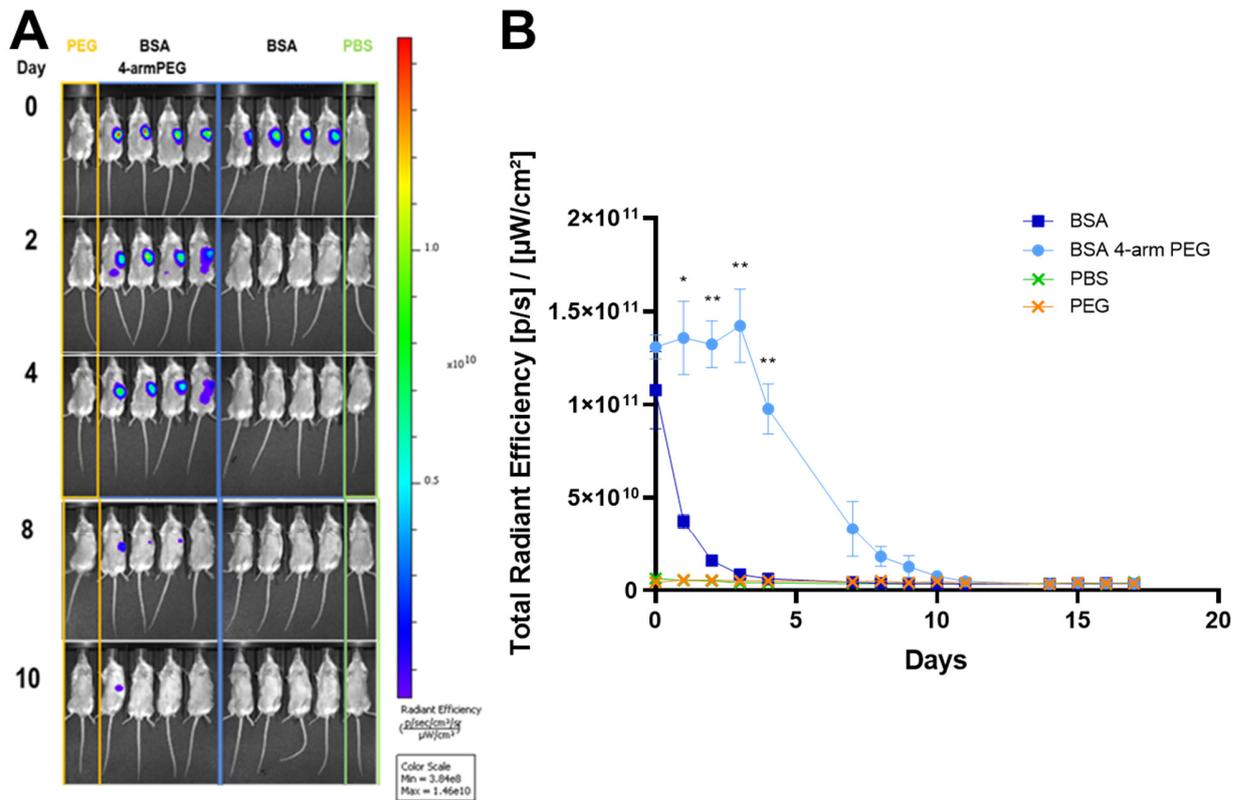
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**Figure S1: Effect of pH, polymer concentration and macromer:crosslinker on gelation time after mock subcutaneous injection** (A) Hydrogel gelation time as a function of buffer pH for the hydrogel precursor solution. Hydrogels were prepared with 8-arm PEG-Ac macromer and PEG-diSH crosslinker and were 20% w/v in total polymer concentration. (B) Hydrogel gelation time as a function of polymer concentration. Hydrogels were prepared with PEG-diSH crosslinker at buffer pH 7.4. (C) Hydrogel degradation time as a function of macromer to crosslinker reactive groups. Hydrogels were prepared with 8-arm PEG-Ac macromer at pH 7.4 and were 20% w/v in total polymer concentration. Precursor solution was injected through a syringe needle prior to determining gelation time via inverted tube. Data are mean  $\pm$  SD, n=4-8. \*\*\*\* p  $\leq$  0.0001



**Figure S2:** Representative whole body *in vivo* fluorescence images of live C57BL/6 albino mice with (A,B) non-encapsulated (n=4) or encapsulated (n=4) labeled-BSA in 4-arm PEG-Ac hydrogels. BSA at a dose of 10 mg/kg BW was administered subcutaneous (sub-Q) at day zero. Images were taken daily until 11 days post sub-Q injection.