Electronic Supplementary Material (ESI) for RSC Advances.


# Supporting Information

## Click Synthesis of Ionic Strength-Responsive Polyphosphazene Hydrogel for Reversible Binding of Enzymes

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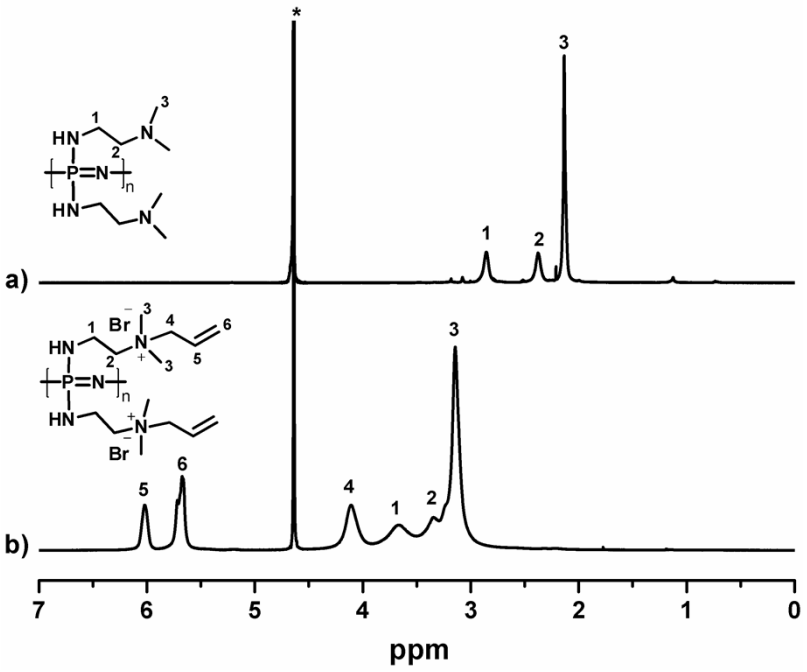


**Figure S1** $^{1}$H NMR spectra of (a) polyphosphazene with pendant tertiary amino groups, and (b) polyphosphazene with pendant allyl groups.

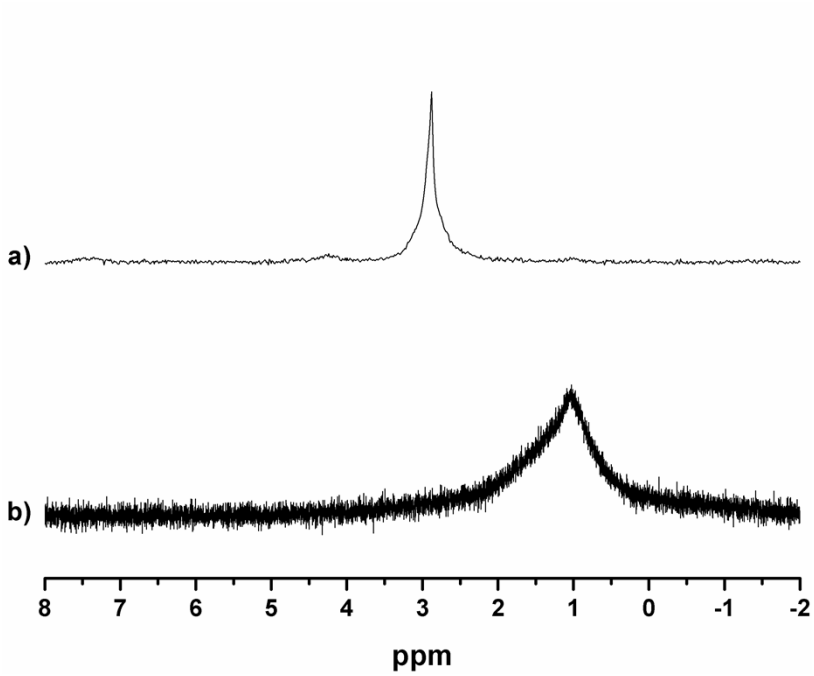


**Figure S2** $^{31}$P NMR spectra of (a) polyphosphazene with pendant tertiary amino groups, and (b) polyphosphazene with pendant allyl groups.

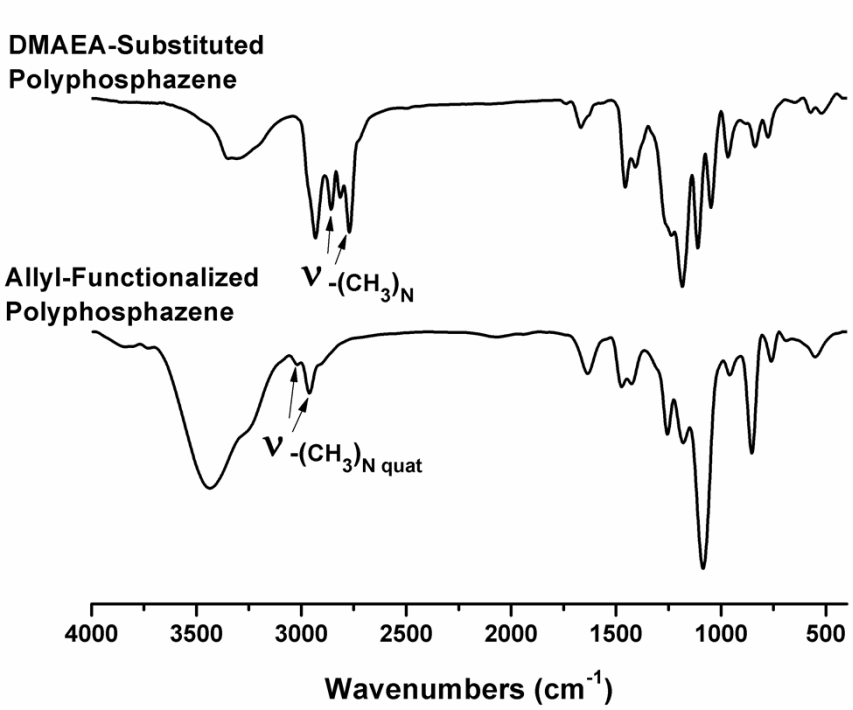


**Figure S3** FTIR spectra of polyphosphazene before and after the quaternization.

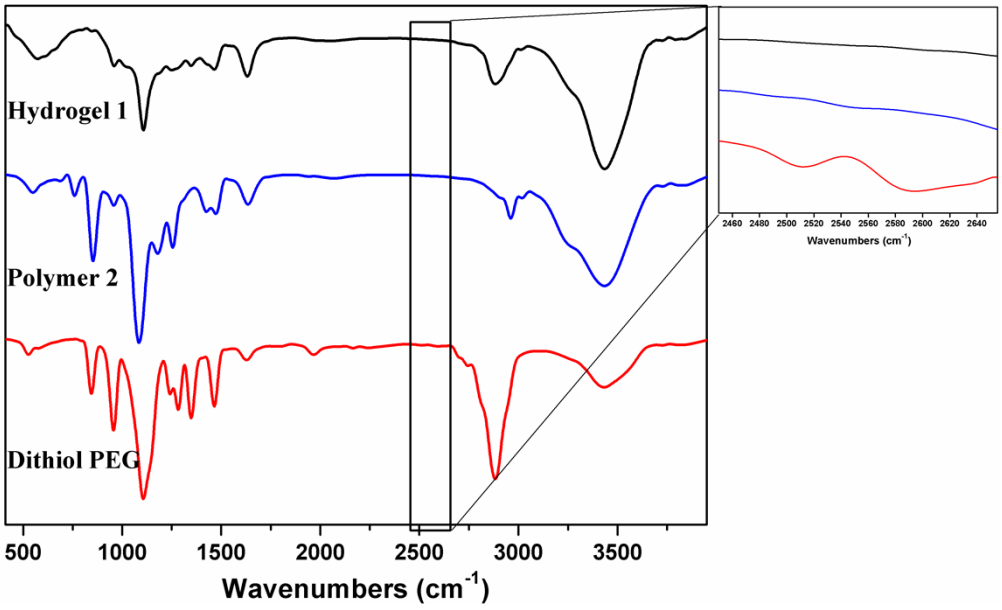


**Figure S4** FTIR spectra of Hydrogel 1, polyphosphazene with pendant tertiary amino groups (Polymer 2), and poly(ethylene glycol) dithiol (Dithiol PEG).

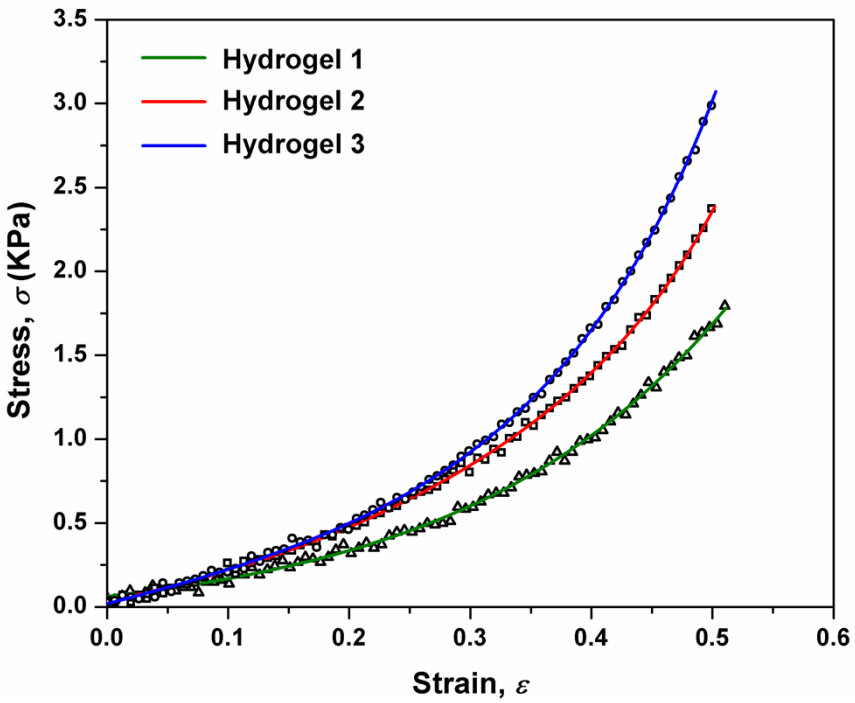


**Figure S5** Stress–strain plots of the hydrogels under compression.

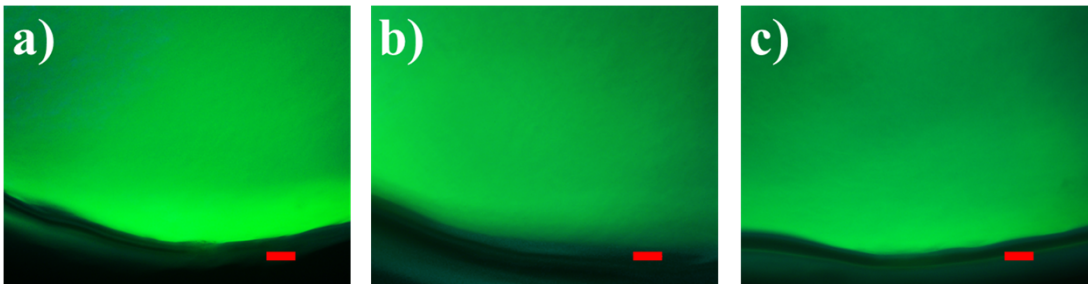


**Figure S6** Fluorescence images of the hydrogels after incubation with FITC-labled BSA, (a) Hydrogel 1, (b) Hydrogel 2, and (c) Hydrogel 3. The scale bars represent 100 μm.