Electronic Supplementary information for

Biodegradable and pH-Responsive Nanoparticles Designed for Site-Specific Delivery in Agriculture

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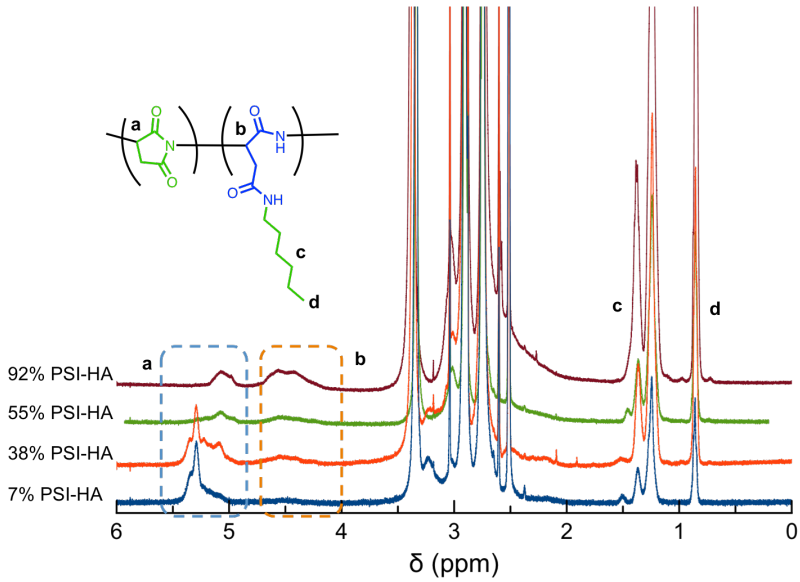

Figure S1. 1H NMR spectra of PSI-HA copolymers with functionalization 7-92%.

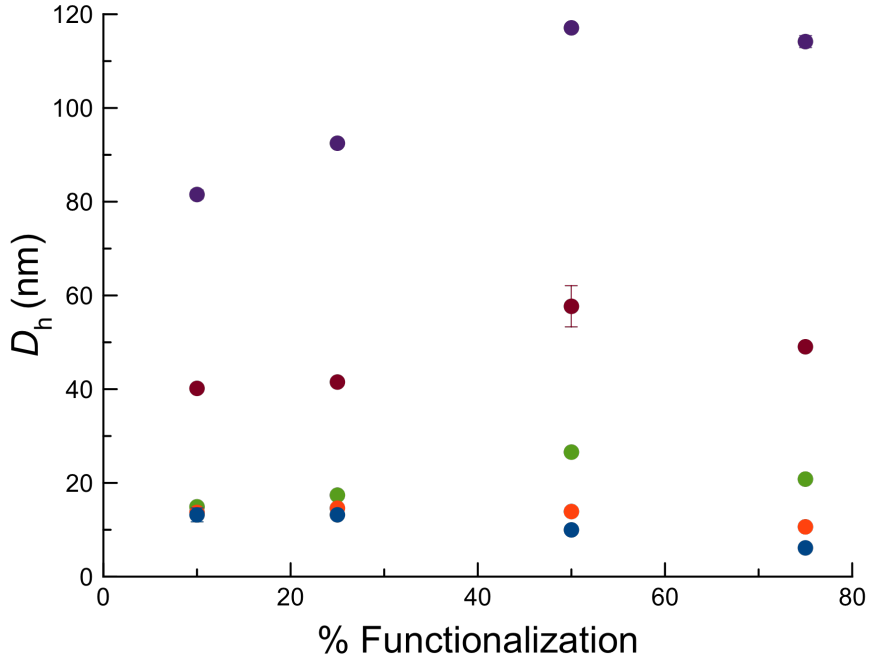

Figure S2. Hydrodynamic diameter (D_h (nm) as determined by DLS) of PSI-nanoparticles versus percent functionalization with HA for nanoparticles precipitated at different concentrations (•100 mg/mL, •50 mg/mL, • 20 mg/mL, •10 mg/mL, and •5 mg/mL).

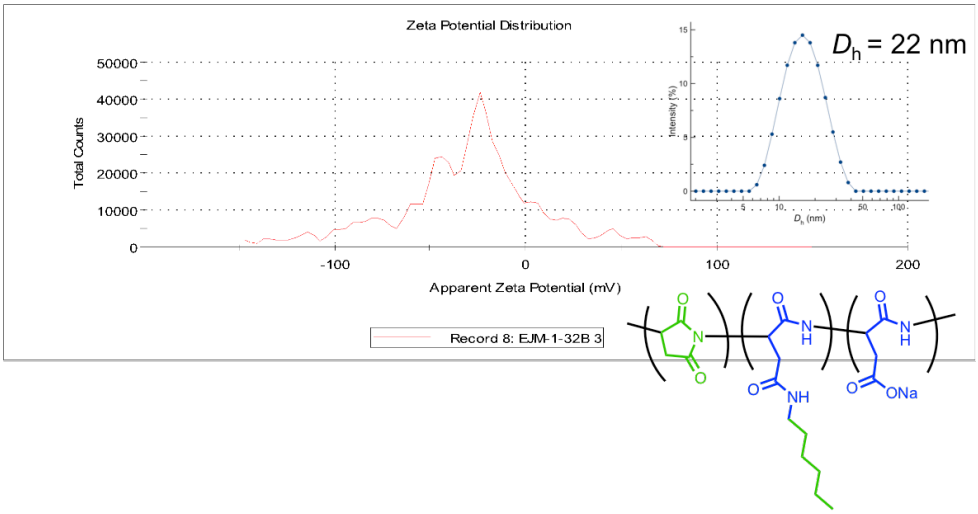

Figure S3. Zeta potential and DLS size distribution for 15% PSI-HA with 1% hydrolysis

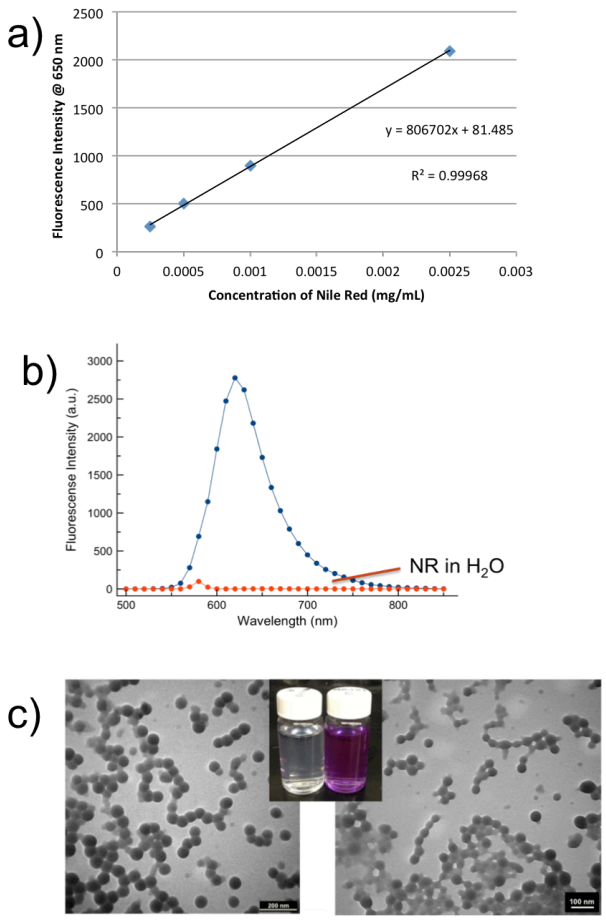

Figure S4. (a) Fluorescence calibration of Nile Red in DMF with $\lambda_{excitation}$ = 530 nm and $\lambda_{emission}$ = 650 nm, (b) Fluorescence intensity of loaded 1% PSI-HA nanoparticles compared to Nile red in water and, (c) TEM images of 50% PSI-HA nanoparticles before Nile red loading (left, clear), and after loading (right, pink).

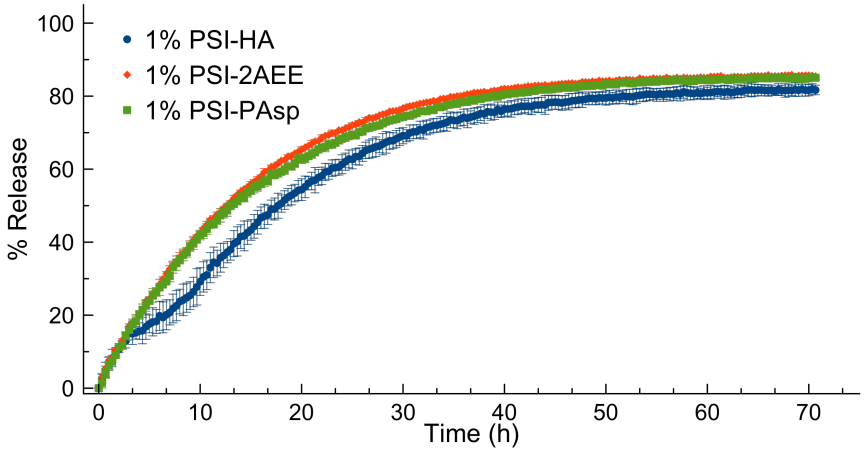

Figure S5. Release of Nile Red with varying functionalizing moieties (1% functionalization PSI-HA, PSI-2AEE, and PSI-PAsp)

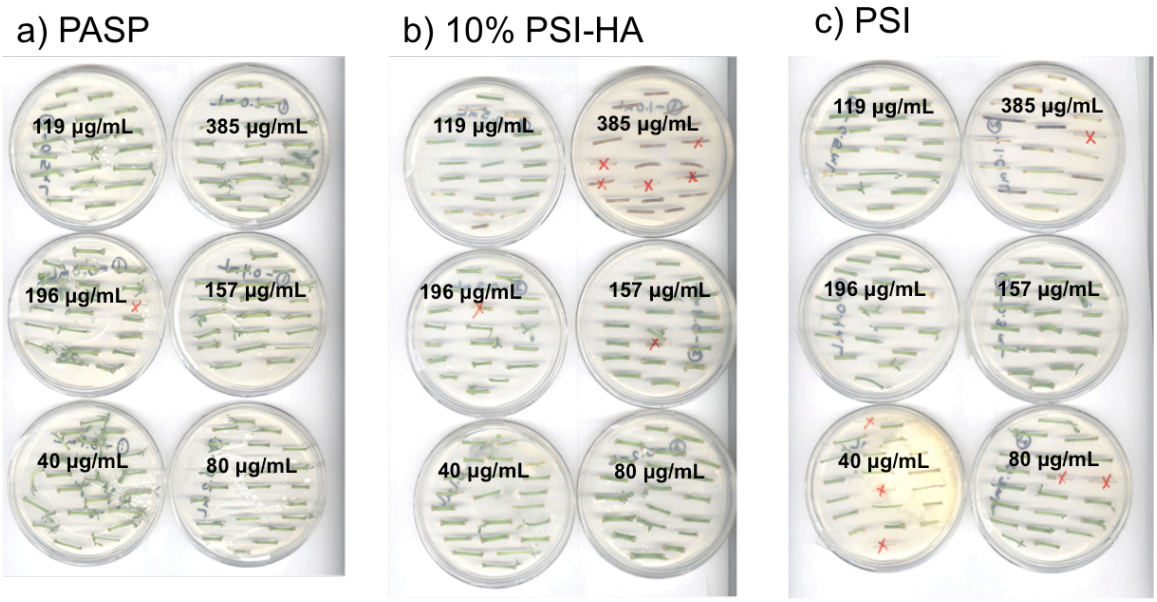

Figure S6. Plant tissue toxicity study of various polymer concentrations after 21 days of (a) PASP, (b) 10% PSI-HA, and (c) PSI