Supporting Information

Photoclick Polysaccharide-Based Bioink with Extended Biofabrication Window for 3D Embedded Bioprinting

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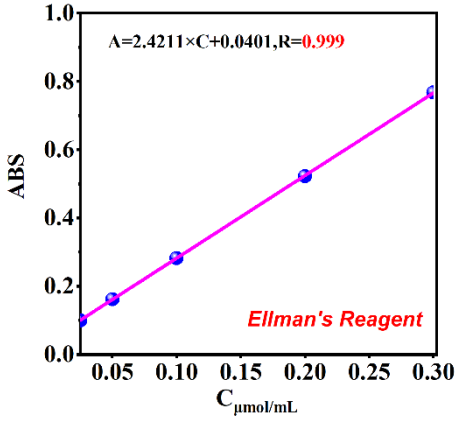

Figure S1. The standard curve of a range of L-cysteine. Ellman's reagent solution was prepared by dissolving 15 mg 5,5′-Dithiobis (2-nitrobenzoic acid) (DTNB) in 50 mL 0.5 M phosphate buffer at pH 8.0. The amounts of functional sulfhydryl group can be quantified by adding 500 μL of standards or samples to 500 μL Ellman's reagent solution, then incubated the solution at room temperature for 2 hours and analyzed using a UV–Vis spectrophotometer.

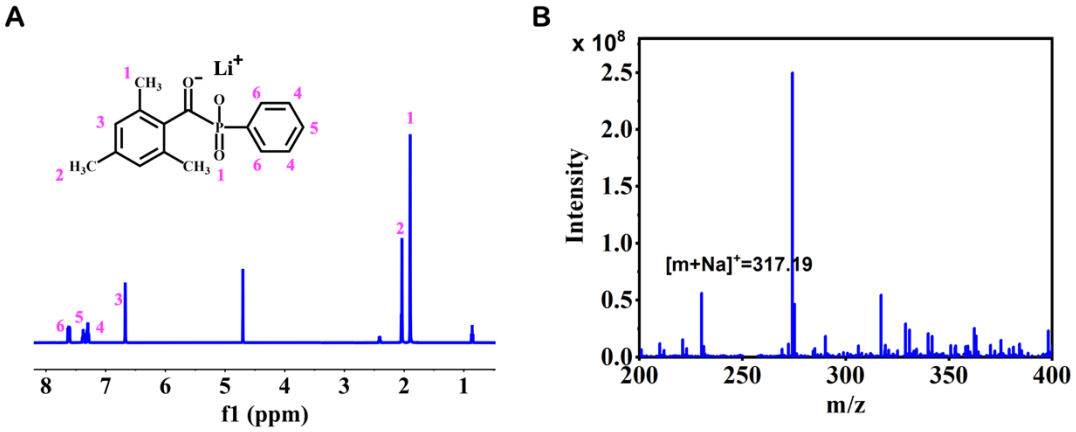

Figure S2. The characterization of LAP. (A) ^{1}H NMR characterization of LAP in D_2O. (B) ESI-HRMS mass spectrum of LAP. The theoretical molecular weight is 294.21 and the observed m/z of 317.19 correspond to the $[M+Na]^+$.

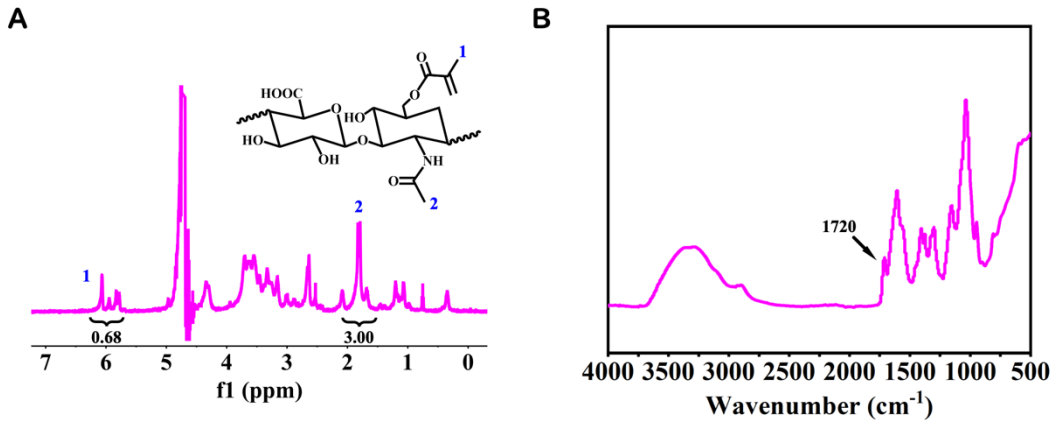

Figure S3. The characterization of HAMA. (A) ^{1}H NMR characterization of HAMA in D_2O. Methacrylate modification was determined by integrating the a) vinyl protons of methacrylate (2H, δ~5.6-6.2 ppm) relative to the b) methyl group of HA (3H, δ~1.8-2.0 ppm) to obtain a relative norbornene modification of ~34% of the disaccharide repeat units of HA. (B) FT-IR spectra of HAMA. The visible peaks at 1720 cm^{-1} in FT-IR spectra belonged to HAMA.

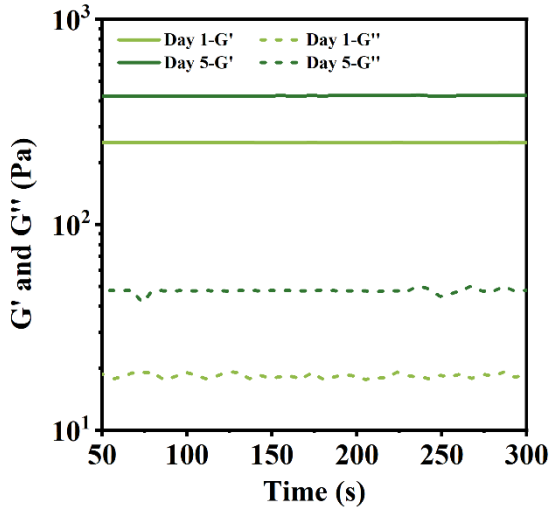

Figure S4. The rheological measurement of the liver models on Day 1 and 5 posting-bioprinting.