Supplemental Information to Accompany

Diels-Alder Click Crosslinked Hyaluronic Acid Hydrogels for Tissue Engineering

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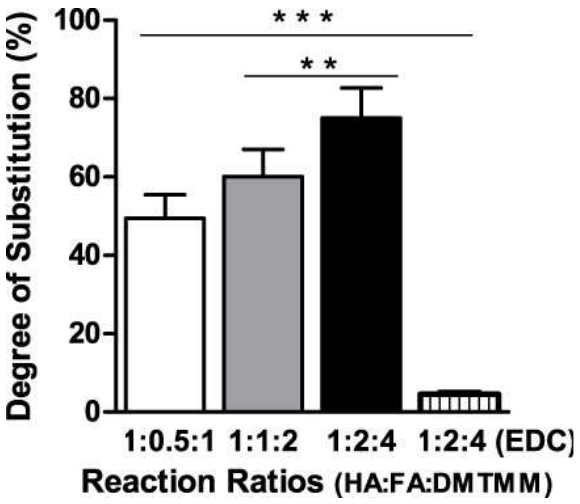
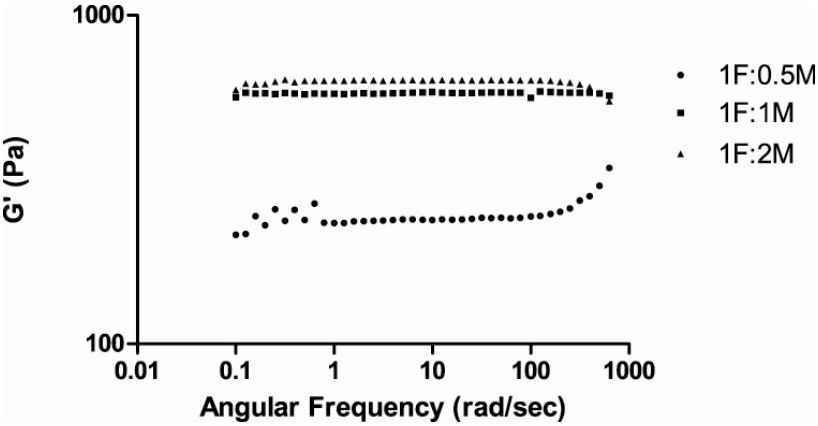


Supplemental Figure 1. The percentage of furans per disaccharide repeat in HA (degree of substitution) varied in direct relationship to the molar reaction ratios of starting material. Increasing the molar ratio of furfurylamine (FA) and the coupling reagent DMTMM, relative to HA concentration, resulted in an increased degree of substitution. Ratios of 1:0.5:1, 1:1:2, and 1:2:4 yielded HA-Furan with 49 ± 6% (n = 9), 61 ± 7% (n = 4), and 75 ± 8% (n = 4) degrees of substitution, respectively. *Columns,* average degree of substitution, *Bars,* standard deviation (SD). ** $p \leq 0.01$; *** $p \leq 0.001$.



Supplemental Figure 2. The shear elastic modulus (G') was measured for each formulation of HA-Furan hydrogel. The molar concentration of furan was held constant for each experiment, while the relative molar concentration of maleimide was varied as indicated in the graph legend. In all cases, G' was independent of frequency, indicating hydrogels were crosslinked prior to recording measurements.

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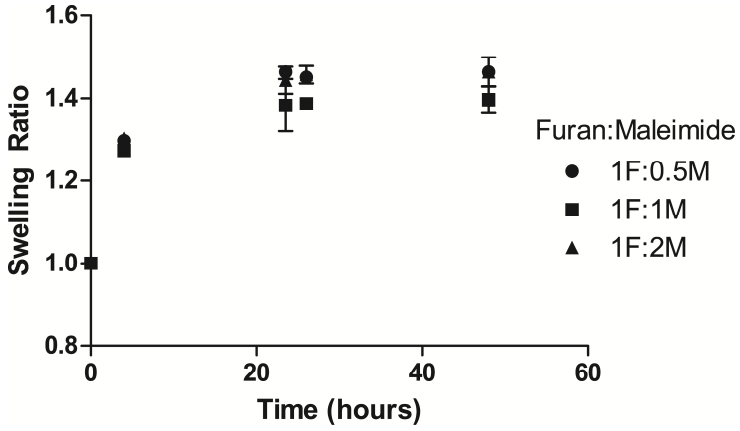

Supplemental Figure 3. The swelling behaviors of HA-Furan hydrogels were monitored after incubation in PBS at 37ºC for designated times. Swelling ratios are defined as the ratio of weight at measured times, divided by the original weight of the sample. Swelling reached a plateau after 24 hours for all formulation. *Symbols,* average swelling ratio, *Bars,* standard deviation (SD), (n=15).