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A GUEST-HOST HYDROGEL FOR NEURAL TISSUE ENGINEERING APPLICATIONS

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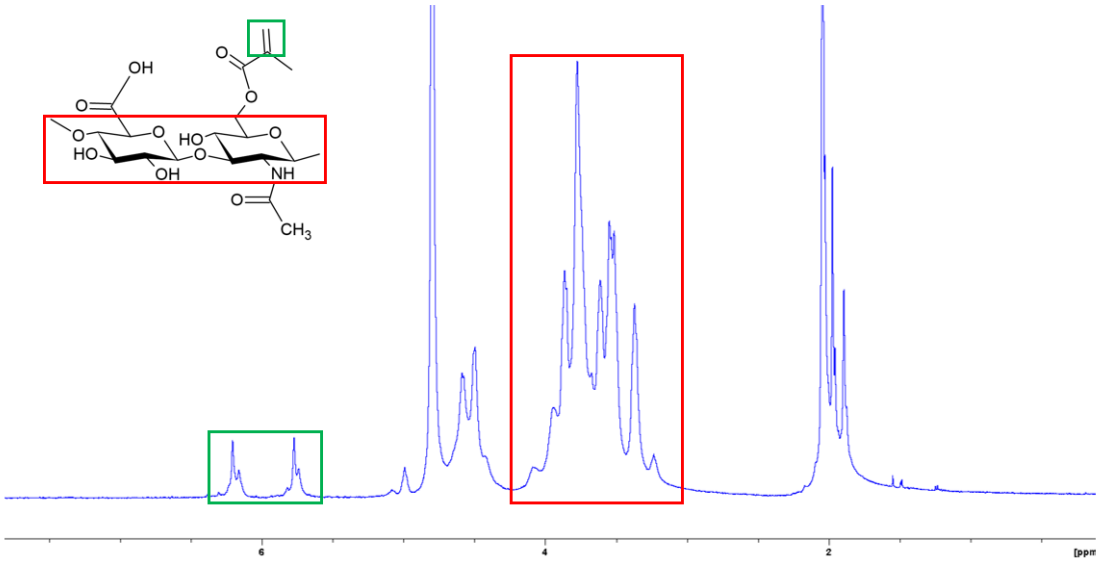
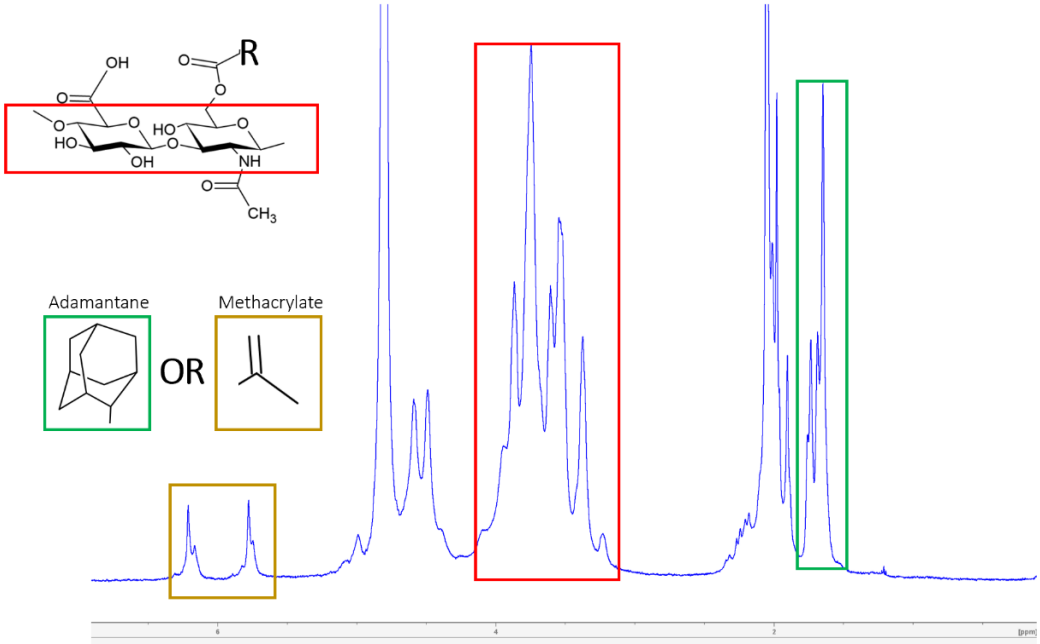
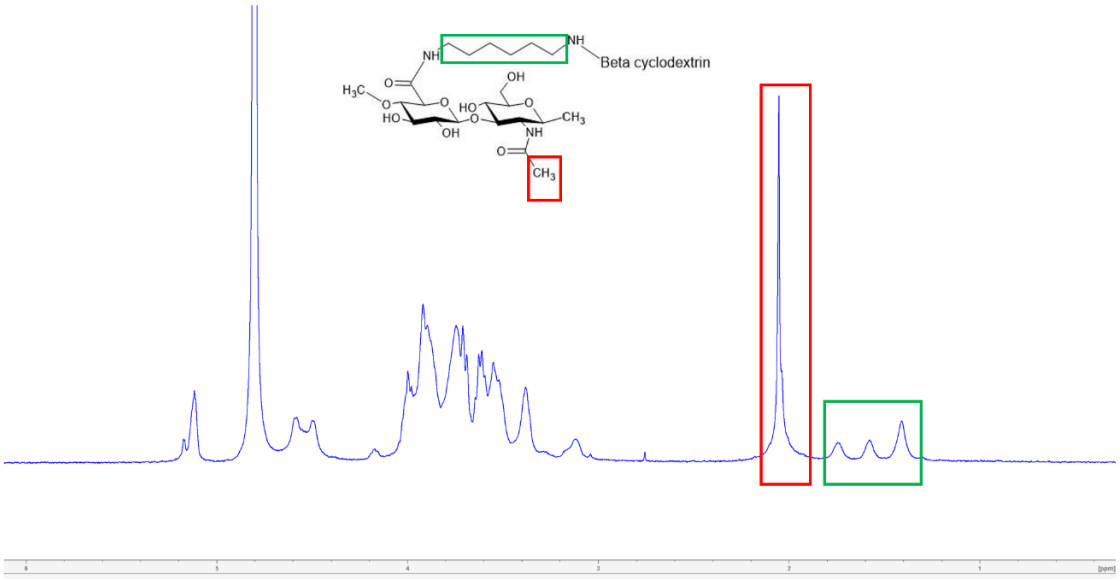
SUPPLEMENTAL INFORMATION



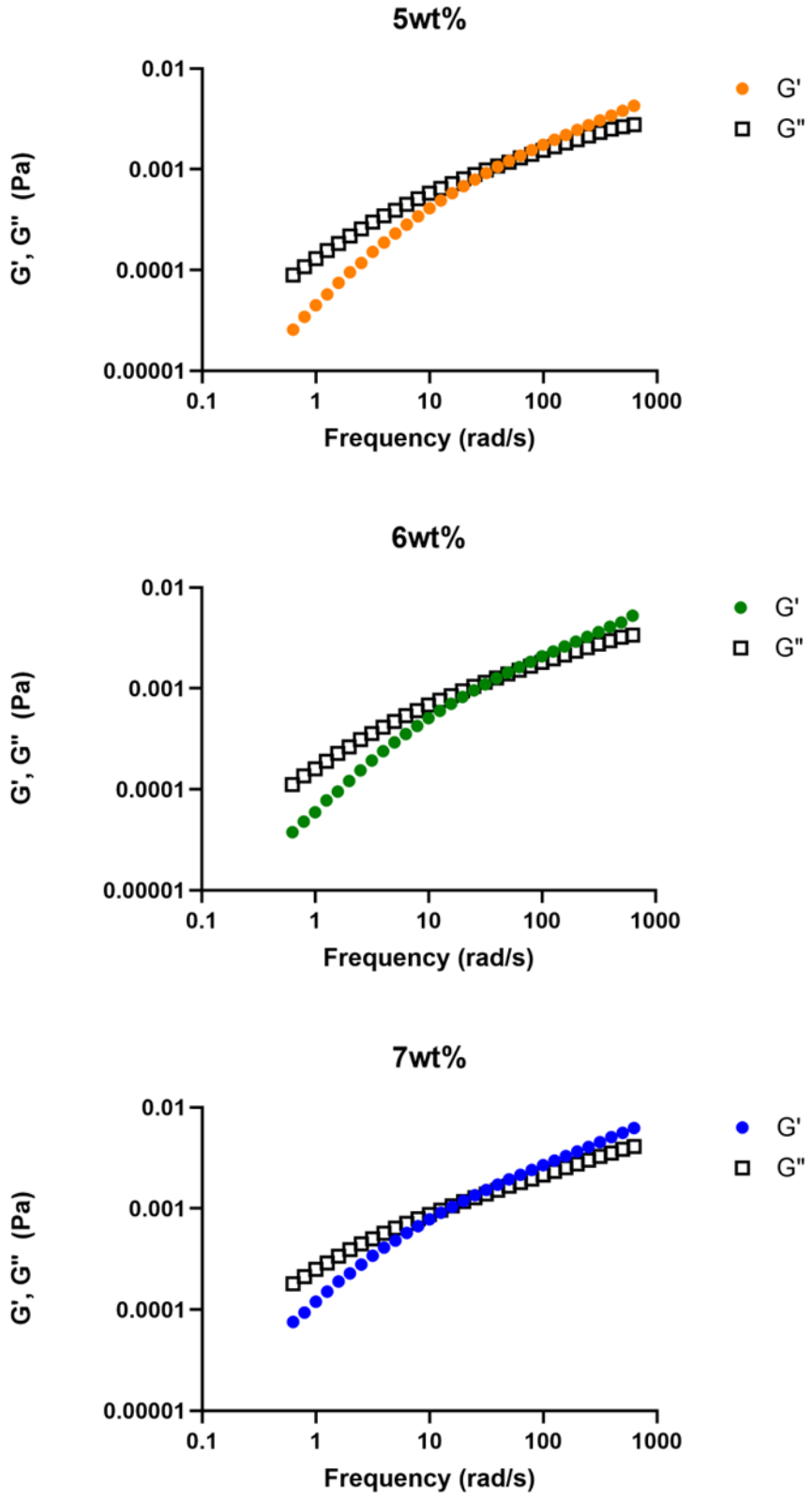
Supplemental figure 1. 1H-NMR revealed the overall methacrylate functionalization on the HA was ~20% by integration of the methacrylate peaks (vinyl protons on the methacrylate group, ~6 ppm) in comparison to the calibration peaks associated with the HA backbone (10 protons, ~3-4.25 ppm). This value was determined by dividing the area under the methacrylate peaks by the total number of hydrogens within the vinyl group (2 hydrogens).. The calibration peak for the NMR spectrum is boxed in red, and the peaks associated with the methacrylate modification are shown in green.



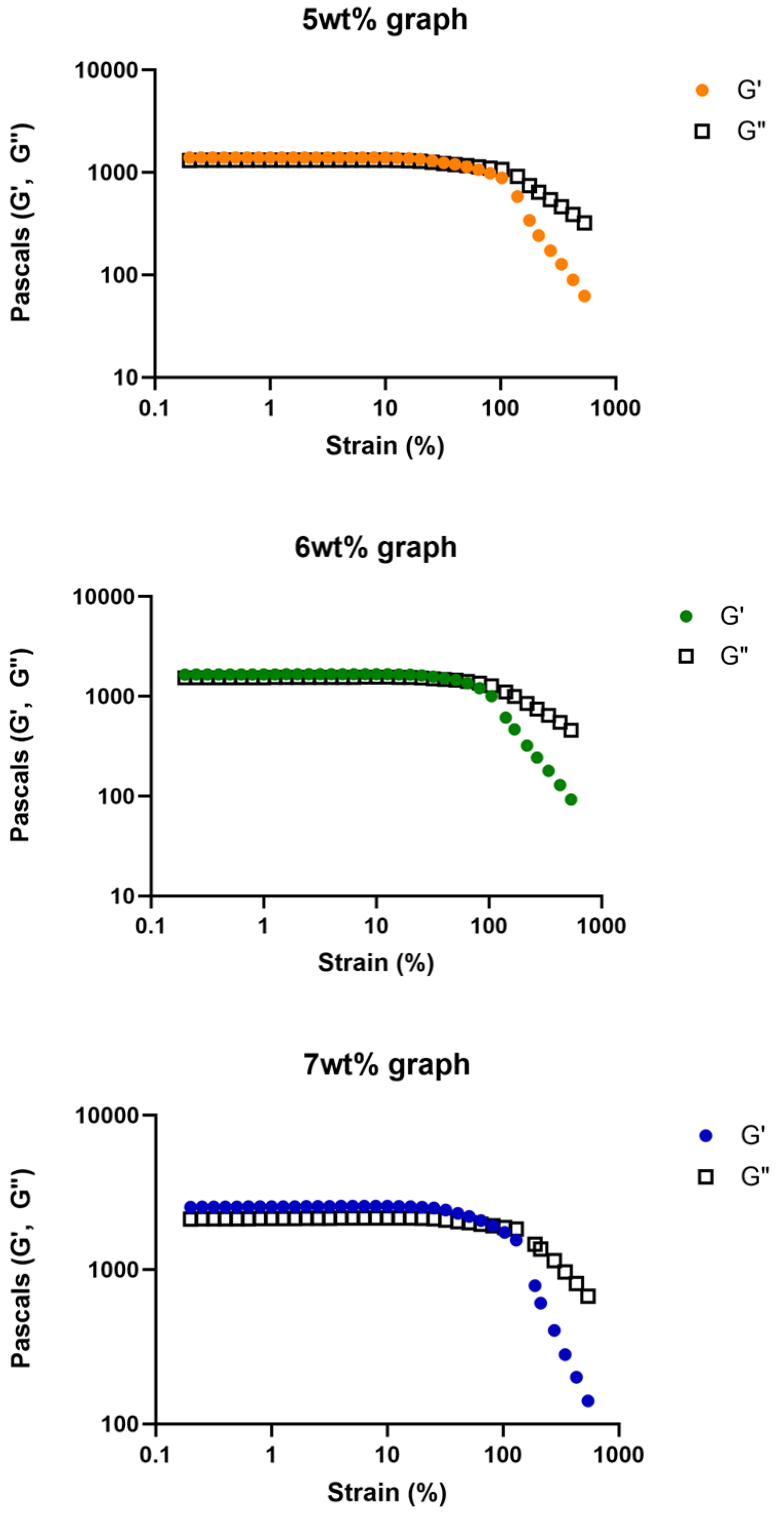
Supplemental figure 2. 1H-NMR was used to analyze the respective peaks associated with the adamantane group (ethyl protons on the adamantane group, ~1.6 – 1.8 ppm) in comparison to the calibration peaks associated with the HA backbone (10 protons, ~3 – 4.25 ppm). This analysis showed successful conjugation of the adamantane group to the MeHA backbone at a functionalization of ~18%. This value was determined by dividing the area under the adamantane peaks by the total number of hydrogens associated with the ethyl groups on adamantane (12 hydrogens). The calibration peak for the NMR spectrum is boxed in red, the adamantane peaks are in green, and the methacrylate peaks are in gold.



Supplemental figure 3. ^{1}H-NMR analysis showed successful cyclodextrin modification by the appearance of three peaks between 1.25-1.75 ppm (6-carbon crosslinker protons on the cyclodextrin group). These peaks were subsequently integrated and compared to the calibration peak on HA associated with the methyl group (3 protons, ~2.1 ppm) to determine the overall cyclodextrin modification of ~18%. This value was determined by dividing the area under the cyclodextrin peaks by the total number of hydrogens associated with the 6-carbon crosslinker on the cyclodextrin molecule (12 hydrogens). The calibration peak for the NMR spectrum is boxed in red, and the peaks associated with the cyclodextrin modification are shown in green.



Supplemental figure 4. Individual frequency sweeps for 5,6, & 7 wt% hydrogels.



Supplemental figure 5. Individual strain sweeps for 5,6, & 7 wt% hydrogels.