

Influence of Temperature and Polymer Concentration on the Nonlinear Response of Highly Acetylated Chitosan–Genipin Hydrogels

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Supporting Information

Determination of F_A for chitosan samples.

The degree of acetylation for chitosan samples was calculated from the ¹H-NMR spectrum using the integral of the signals reported in figure S1.

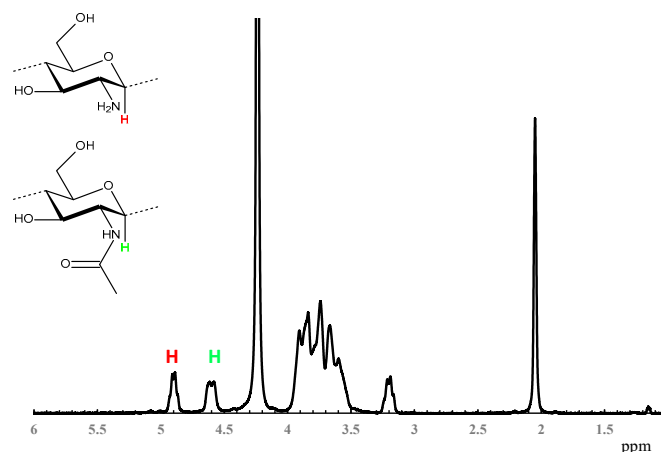


Figure S1. ¹H-NMR spectrum of ACh1.

The degree of acetylation, F_A , was calculated according to eq. S1:

$$F_A = \frac{I_{\text{H}}}{I_{\text{H}} + I_{\text{H}}} \quad (\text{S1})$$

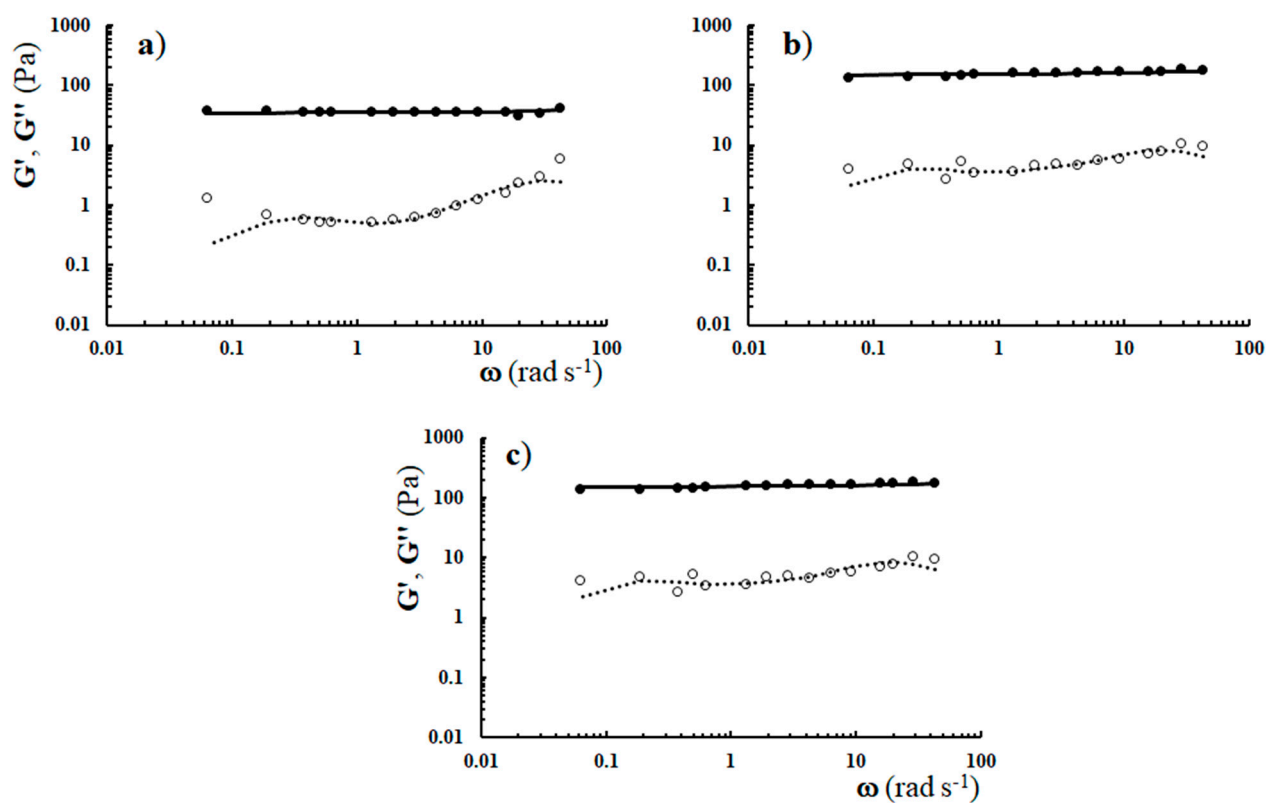


Figure S2. Dependence of G' (filled symbols) and G'' (open symbols) for ACh1 reticulated with genipin (0.31 mM). Chitosan concentration: **a)** 0.8 % (m/V); **b)** 1.0 % (m/V) and **c)** 1.3 % (m/V). Continuous line and dashed line represent the best fit of the experimental data using the generalized Maxwell model (eqs. 1 and 2).

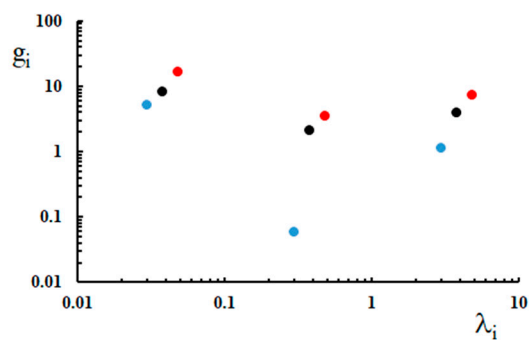


Figure S3. Dependence of g_i from λ_i obtained from the fitting of Figure S2 for ACh1 reticulated with genipin (0.31 mM). Chitosan concentration = 0.8 % (m/V) (blue); 1.0 % (m/V) (black) and 1.3 % (m/V) (red).

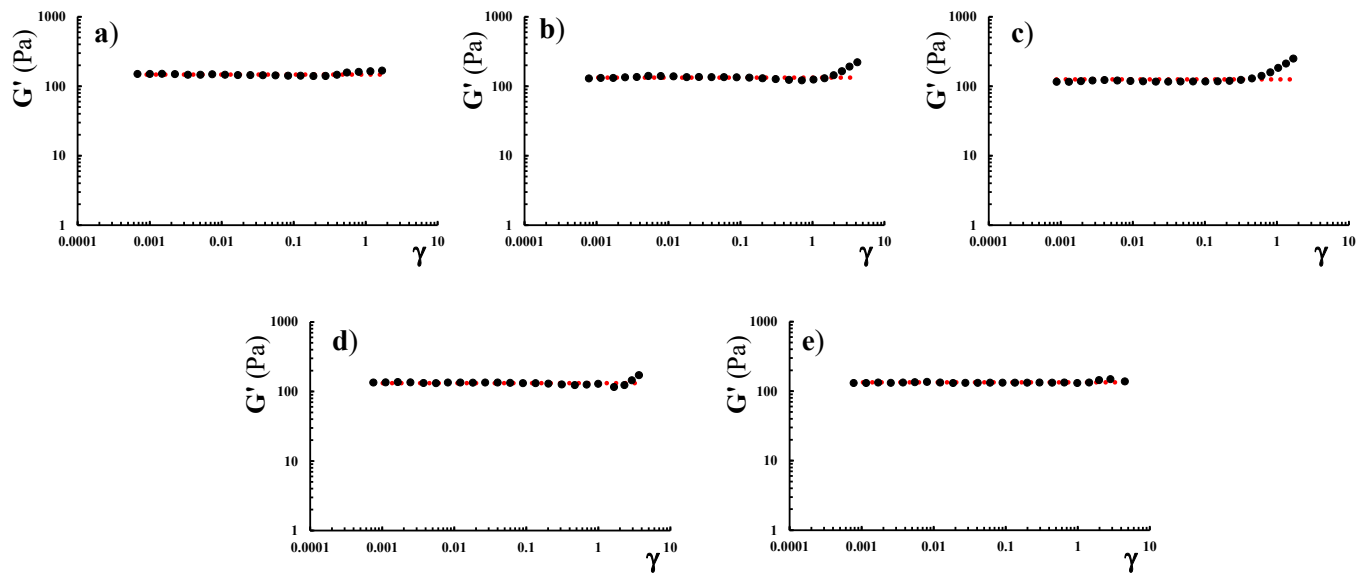


Figure S4. Stress sweep for ACh1 1% reticulated with genipin (RD/G = 90) at **a)** 37 °C, **b)** 45 °C, **c)** 60 °C, **d)** 70 °C and **e)** 80 °C. The red dotted curve is the best fit of the experimental curves using the Soskey-Winter equation (eq. 4).