

Article

Conductive and Adhesive Granular Alginate Hydrogels for On-Tissue Writable Bioelectronics

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Supplementary Materials

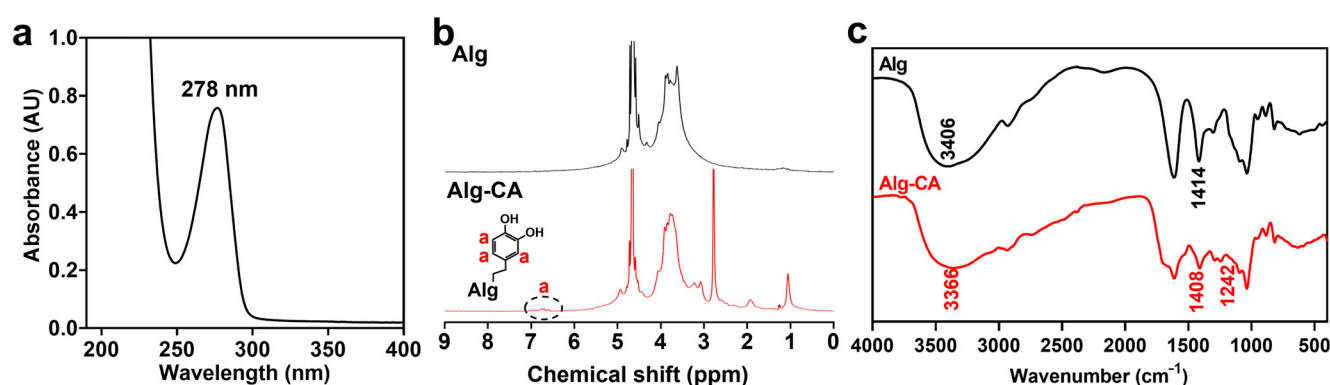


Figure S1. UV-Vis spectra of fabricated Alg-CA. **a.** The degree of conjugation of dopamine on alginate was calculated by UV absorbance value at 278 nm. **b.** ¹H NMR spectrum of Alg (black) and Alg-CA (red). The peaks at 6.5–7.1 ppm indicate 'a' protons present in aromatic rings of catechol groups. **c.** FT-IR spectra of Alg (black) and Alg-CA (red). By conjugation of catechol on the polymer, the O-H stretching peak at 3406 cm⁻¹ for Alg was shifted to 3366 cm⁻¹ for Alg-CA, C-O stretching peak of carboxylic acid at 1414 cm⁻¹ for Alg was shifted to 1408 cm⁻¹ for Alg-CA, O-H stretching peak of phenol appeared at 1290 cm⁻¹ in Alg-CA spectra.

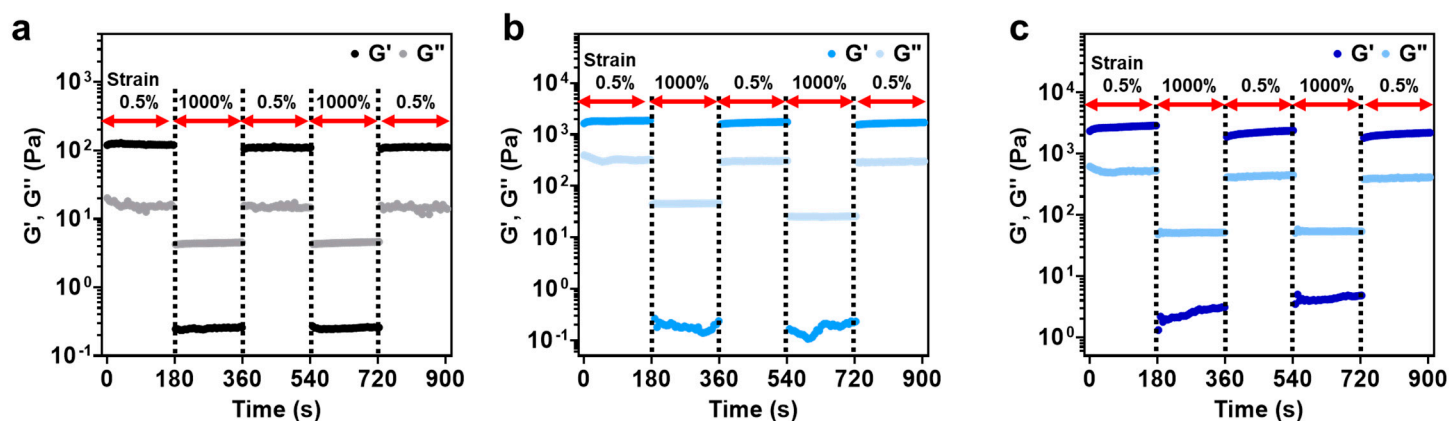


Figure S2. Self-healing property of hydrogels. a-c. Rheological measurement for self-healing property of AC (a), ACP_{0.5} (b), and ACP₁ (c).

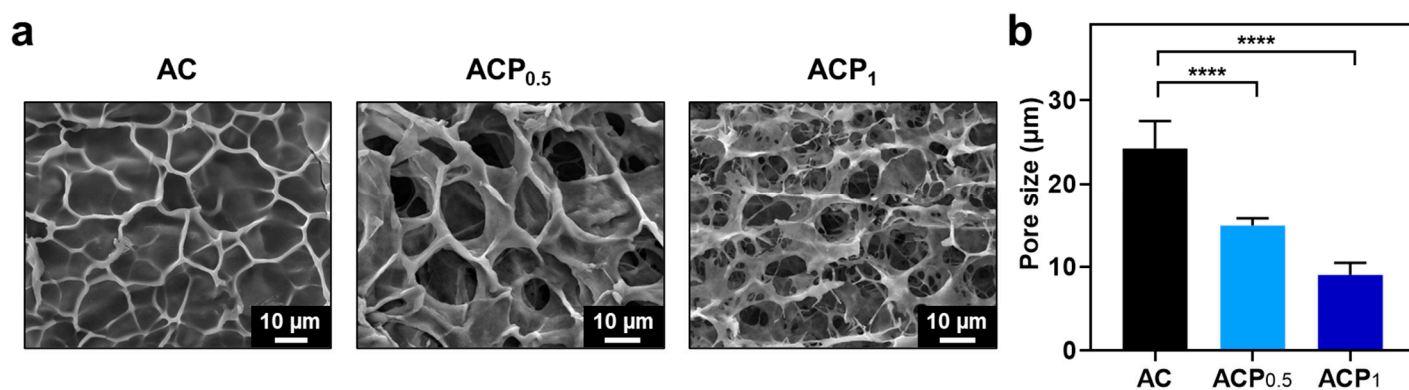


Figure S3. Cross-sectional SEM analysis of AC and ACPs. a. The SEM images of AC (left), ACP_{0.5} (middle), and ACP₁ (right). b. Quantification of the pore size of AC (black), ACP_{0.5} (light blue), and ACP₁ (blue). One-way ANOVA, **** $p < 0.0001$.