International Journal of Bioprinting

RESEARCH ARTICLE

# 3D bioprinting of corneal decellularized extracellular matrix: GelMA composite hydrogel for corneal stroma engineering

## Supplementary File

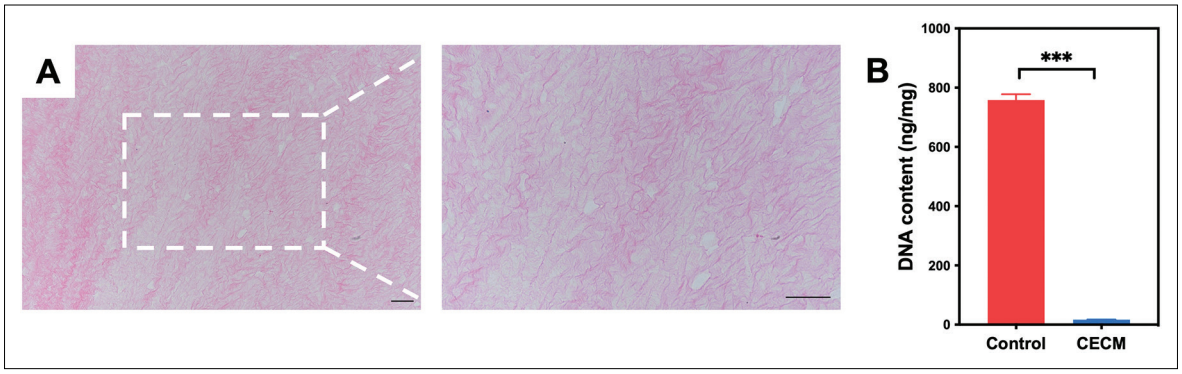


**Figure S1**. Acellular effect of stroma tissues. (A) HE staining (scale bar = 50 μm); (B) DNA content.

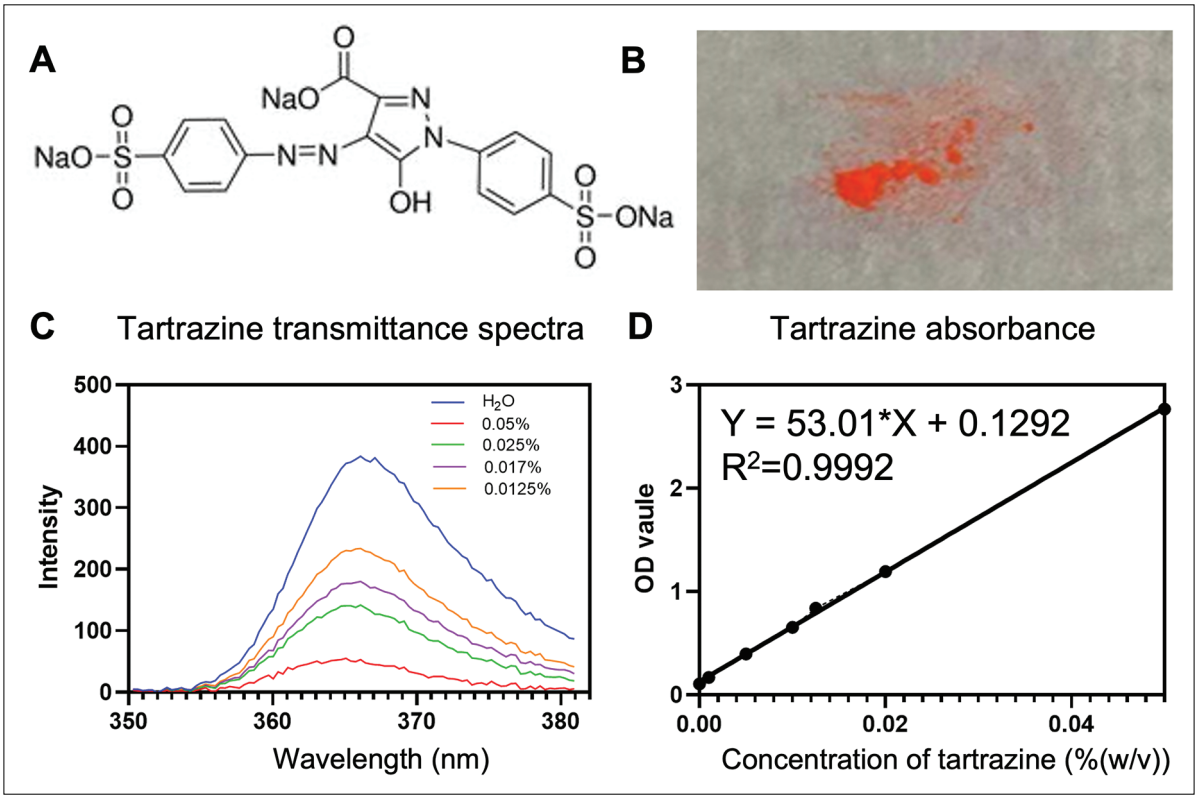


**Figure S2.** Tartrazine. (A) The molecular formula; (B) digital image of tartrazine powder; (C) UV-VIS absorption spectra; (D) calibration curves of different tartrazine concentration OD values.

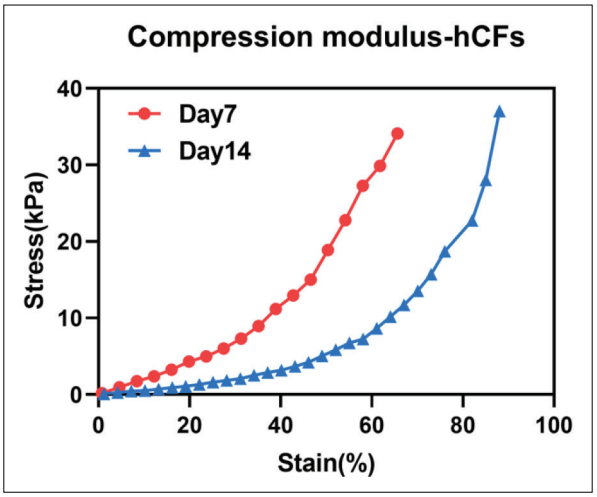


**Figure S3.** The affection of compression modulus of cell-loaded CECM-GelMA hydrogels with incubation time (2 weeks). All the results were calculated as mean ± standard deviation (SD) ($n$ = 3).

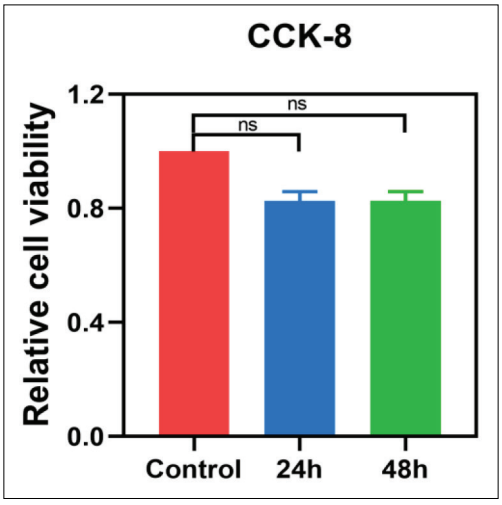


**Figure S4**. Cytotoxicity of LAP via CCK-8 test.

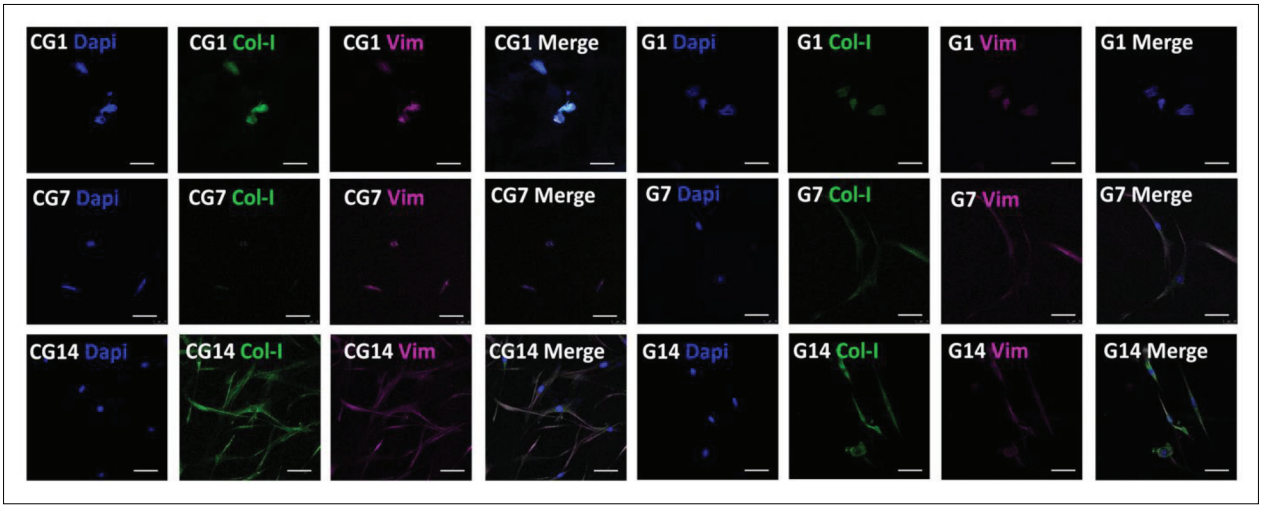


**Figure S5**. Confocal images of IHC staining of collagen type I and vimentin in hCF-loaded bioprinted hydrogels on days 1, 7, and 14. Nucleus, collagen type I, and vimentin are stained blue (by DAPI), green, and magenta, respectively. Contrast: pure GelMA hydrogel. The scale bar is 100 μm.

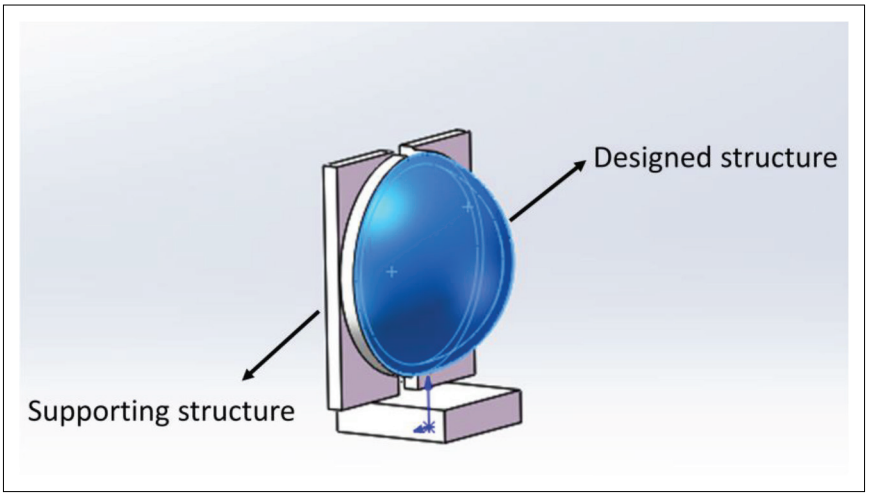


**Figure S6**. DLP 3D printing model structure diagrambased on the average adult corneal data ($R_a$ = 7.80 mm, $R_b$ = 6.80 mm).

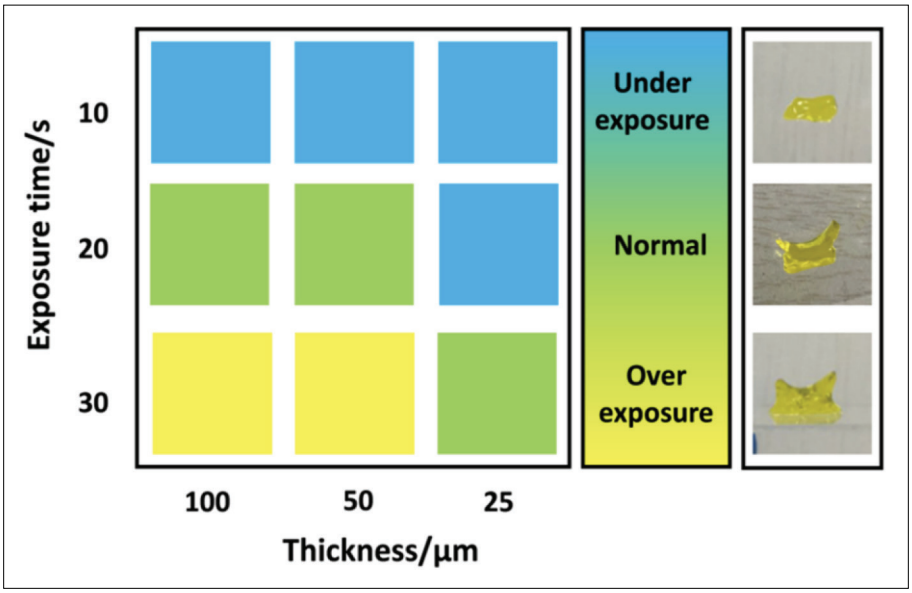


**Figure S7.** Prepolymer printability results.

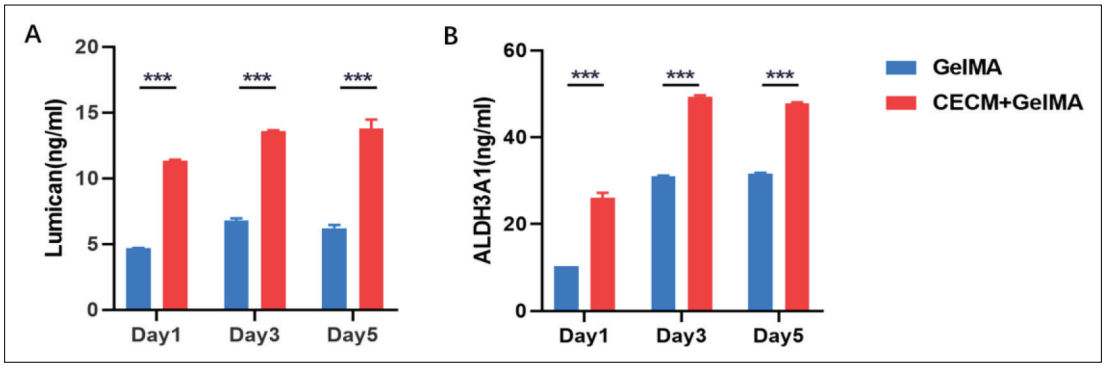


**Figure S8**. Quantitative results (marker expression of lumican and ALDH3A1) of ELISA test. *** $p < 0.001$.

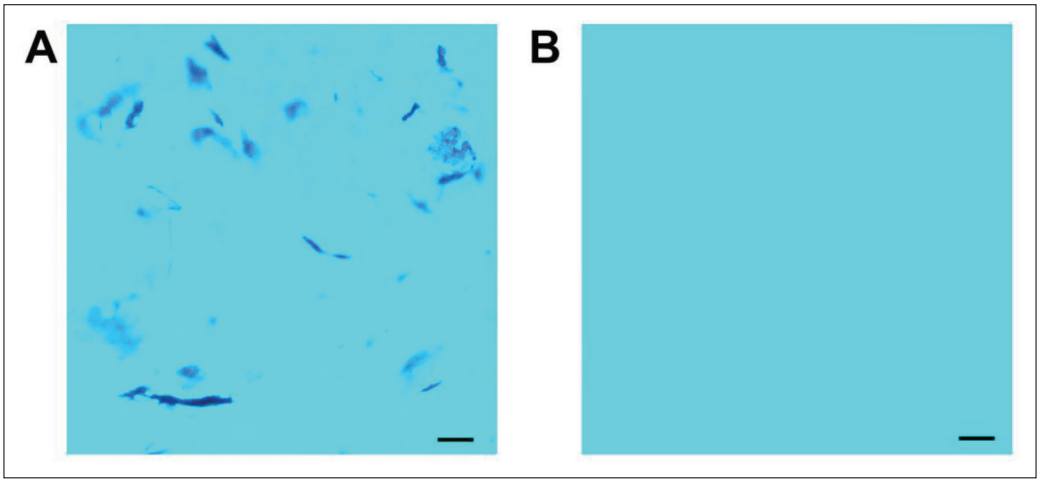


**Figure S9.** Alcian blue (AB) staining. (A) CECM-GelMA hydrogel; (B) GelMA hydrogel. The scale bar is 200 μm.