

RESEARCH ARTICLE

3D bioprinting of betamethasone-loaded gellan gum–polyethyleneimine composite hydrogels for ocular drug delivery

Supplementary file

Table S1. Mechanical and rheological properties corresponding to the various bioink formulations

Property	Sample		
	GG	GG-CA	GG-3PEI
Tensile strength (MPa)			
Dry	1.6 ± 2.16	6.7 ± 1.19	4.4 ± 2.18
Wet	Dissolved	0.07 ± 2.23	0.053 ± 2.12
Young's modulus (MPa)			
Dry	107.48 ± 2.32	146.55 ± 2.15	277.22 ± 2.36
Wet	Dissolved	0.085 ± 1.66	0.063 ± 1.700
Viscosity (Pa-s)	117 ± 2.11	299 ± 2.23	172 ± 1.71

Note: $n = 3$ for each sample. Abbreviations: CA, citric acid; GG, gellan gum; PEI, polyethyleneimine.

Table S2. Transparency of samples

Sample	Transparency of hydrogel (%)	Transparency of scaffold (%)
2.5GG	82.41 ± 2.10	85.31 ± 2.19
3GG	76.91 ± 2.29	-
GG-3PEI	88.71 ± 1.49	89.33 ± 1.84
GG-4PEI	87.70 ± 1.29	89.33 ± 1.49
GG-5PEI	87.70 ± 1.11	86.89 ± 2.49

Note: $n = 4$ for each sample. Abbreviations: GG, gellan gum; PEI, polyethyleneimine.