

Supplementary Information

**Thermoresponsive dendronized chitosan-based hydrogels as injectable
stem cells carriers**

Xiacong Zhang,^{*a} Lin Cheng,^{*b} Letian Feng,^a Yu Peng,^a Zhimin Zhou,^b Guoyong Yin,^{*b} Wen Li,^{*a} and Afang Zhang^a

a Laboratory of Polymer Chemistry, School of Materials Science and Engineering, Shanghai University, Nanchen Street 333, Materials Building Room 801, Shanghai 200444, China.

b Department of Orthopedics, the First Affiliated Hospital of Nanjing Medical University, Guangzhou Road 300, Nanjing, Jiangsu Province, 210000, China.

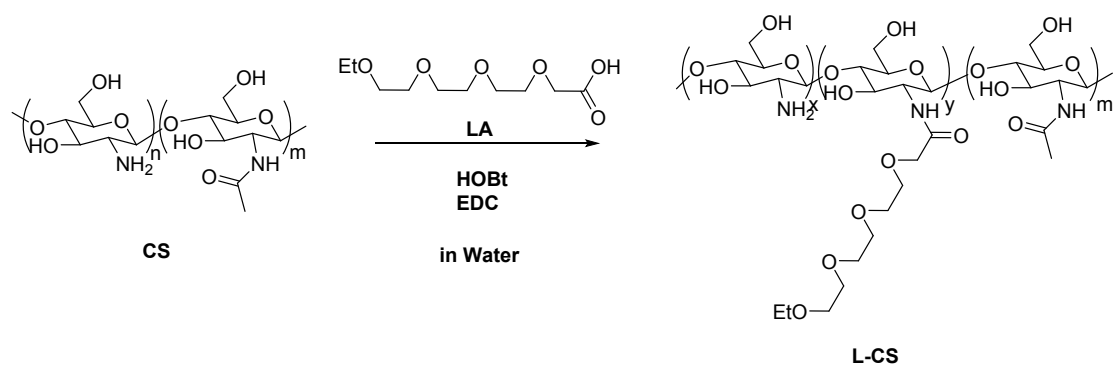
*E-mail: guoyong_yin@sina.com. Tel: +86-13675185445. Fax: +86-21-64085875.

*E-mail: wli@shu.edu.cn. Tel: +86-21-66138044. Fax: +86-21-66131720.

‡ These authors contributed equally to this work.

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Scheme S1. Synthesis procedure of **L-CS**.

Table S1. Primer sequences.

Gene	Forward primer (5'—3')	Reverse primer (5'—3')
Human-GAPDH	AGAAGGCTGGGGCTCATTTG	AGGGGCCATCCACAGTCTTC
Human-ALP	GGGTCAAGGTGGCAACGA	CTGGGCATGGAGTATGAGC
Human-CBFA-1	TGGTTACTGTCATGGCGGGTA	TCTCAGATCGTTGAACCTTGCTA
Human-SOX-9	AGCGAACGCACATCAAGAC	CTGTAGGCGATCTGTTGGGG
Human-Collagen	CCAGATGACCTTCCTACGCC	TTCAGGGCAGTGACGTGAAC
II		
Human-AP2	CTCCGCCATCCCTATTAACAAG	GACCCGGAAGTGAACAGAAGA
Human-PPAR-γ	GGGATCAGCTCCGTGGATCT	TGCACTTTGGTACTCTTGAAGTT
Rat-GAPDH	ACAGCAACAGGGTGGTGGAC	TTTGAGGGTGCAGCGAACTT
Rat-Nestin	ACAGGAGGTGGGTGCTCTAA	CCCCATCTACCCACTCAGA
Rat-NeuN	TGGGCCCCGAATTCTATGCAG	AACAAGCGTTTGCTCCAGTG
Rat-β-tubulin	CAACTATGTGGGGGACTCGG	TGGCTCTGGGCACATACTTG
Rat-MAP2	GGCACTCCTCCAAGCTACTCT	CTTGACGTCTTCAGGTCTGG
Rat-GFAP	TGCATGTACGGAGTATCGCC	GGGGGAGGAAAGGACAAGT
Rat-CD68	CGTTACCCGGAGACGACAA	TCCTTGGTGGCCTACAGAGT

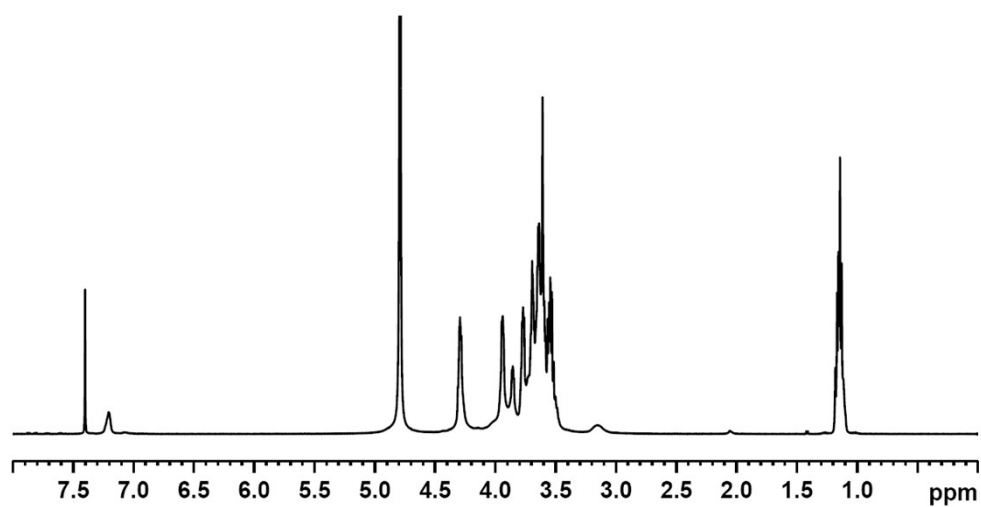


Fig. S1 ¹H NMR spectrum of **G1-CS** in D₂O (500 μL, 2 wt%) with addition of DCl in D₂O (100 μL, 1 wt%).

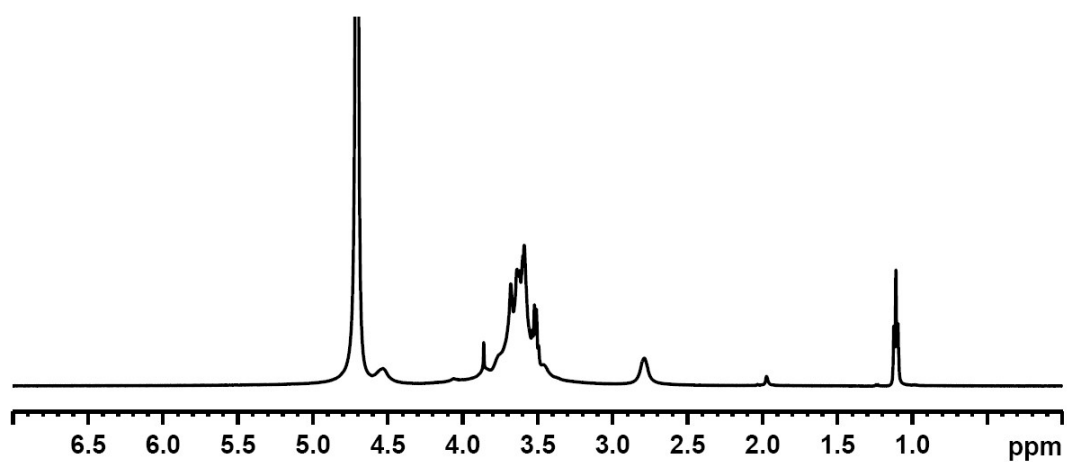


Fig. S2 ¹H NMR spectrum of **L-CS** in D₂O.

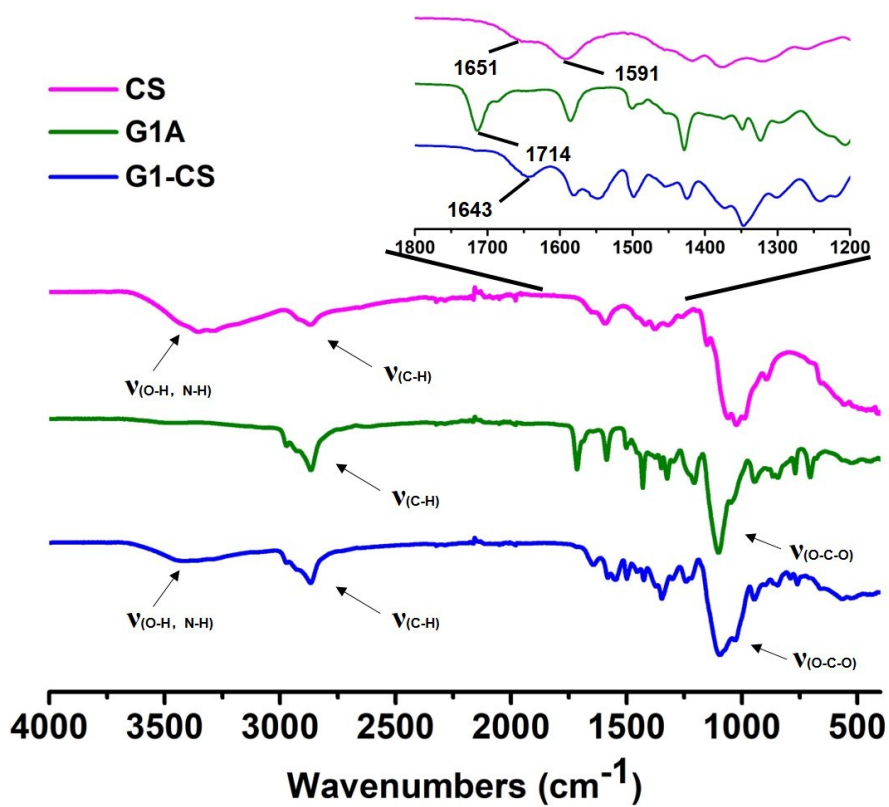


Fig. S3 FTIR spectra of CS, G1A and G1-CS.

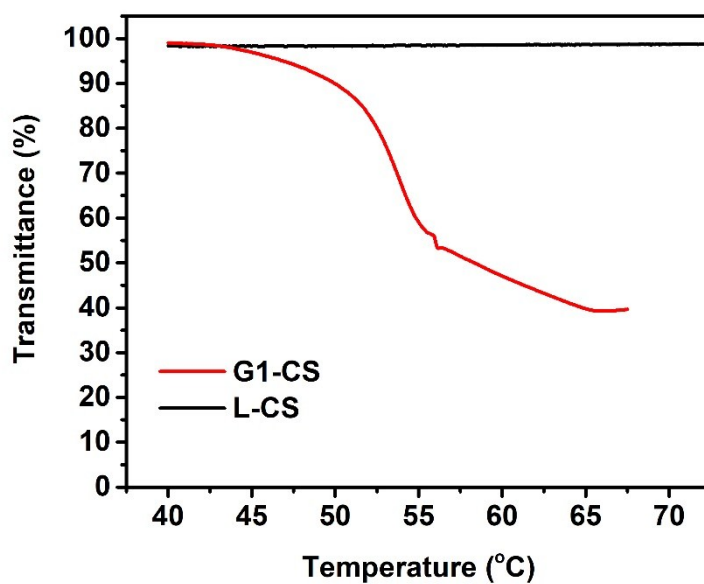


Fig. S4 Plots of transmittance vs temperature for 0.1 wt% **G1-CS** and **L-CS** in PBS buffer solution. Heating rate = 0.5 °C/min.

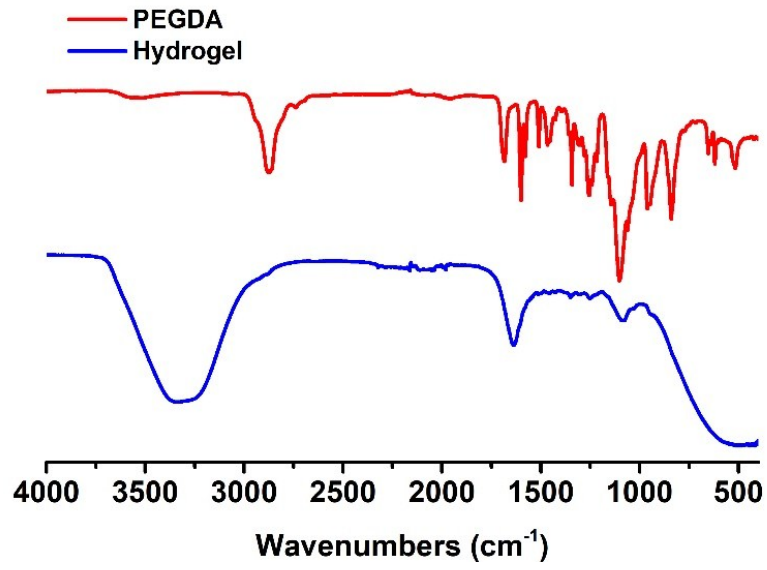
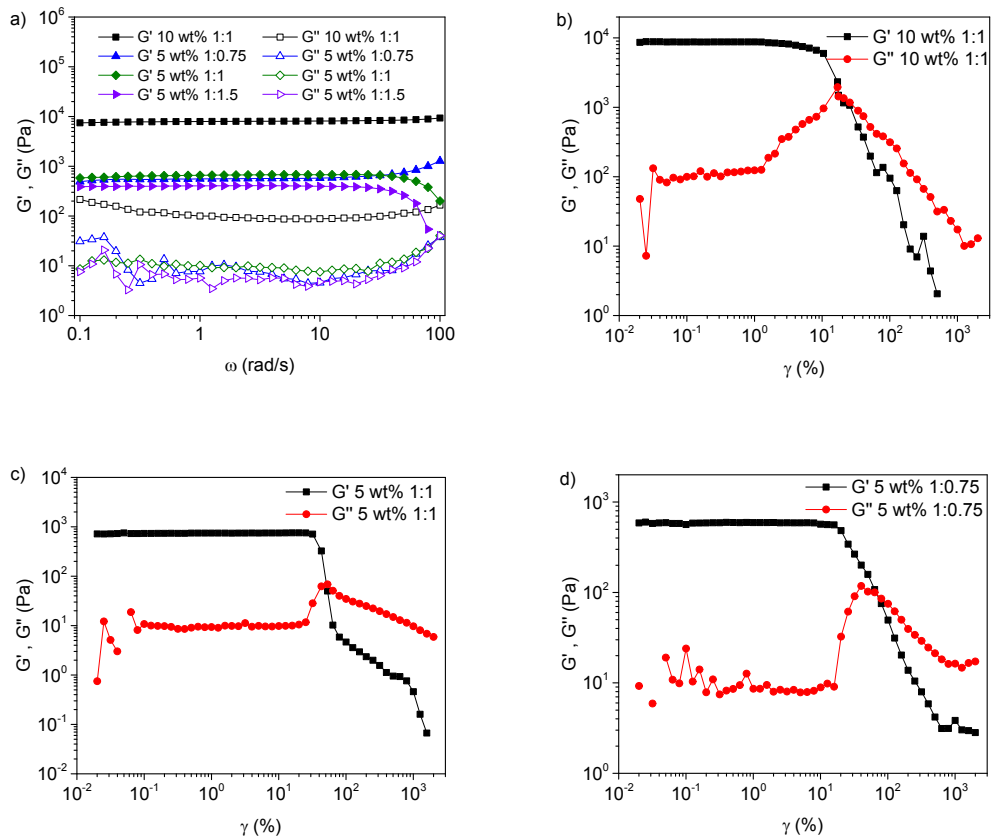


Fig. S5 FTIR spectra of **PEGDA** and the hydrogel from **G1-CS** and **PEGDA**.



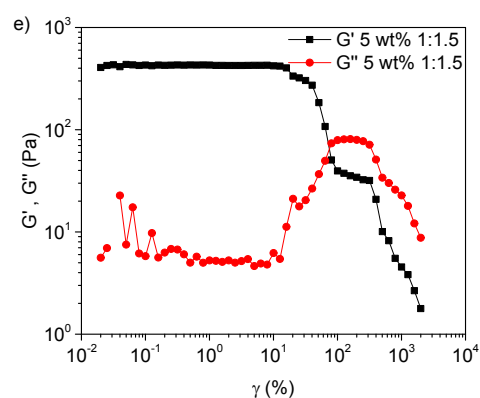


Fig. S6 Frequency sweeps (a) and strain sweeps (b, c, d, e) of hydrogels derived from **G1-CS** and **PEGDA** with different $[\text{NH}_2]/[\text{CHO}]$ ratios and different gelator concentrations.

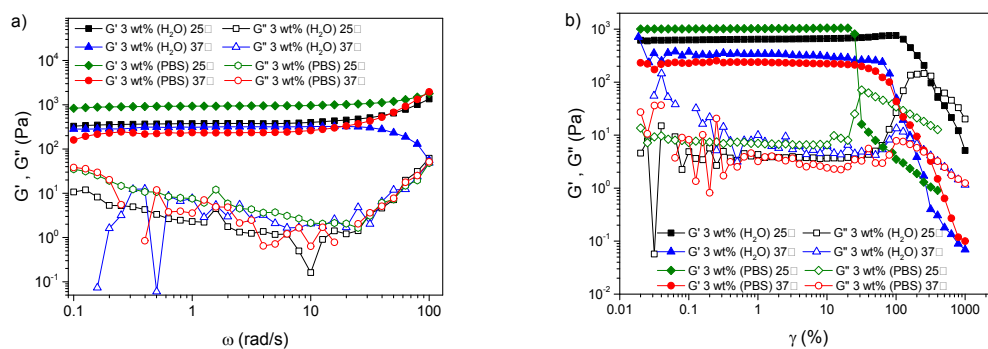


Fig. S7 Frequency sweeps (a) and strain sweeps (b) of hydrogels derived from **L-CS** and **PEGDA**.

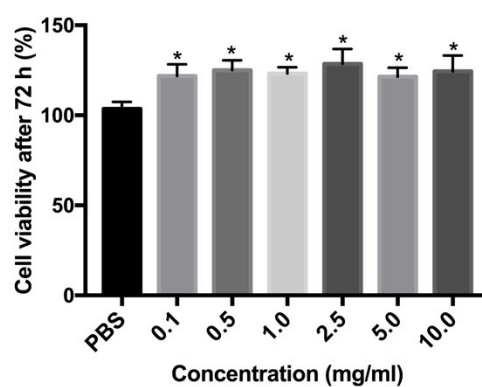


Fig. S8 Cytotoxicity of **G1-CS** to HOS cells, compared to PBS group. * $p < 0.05$.

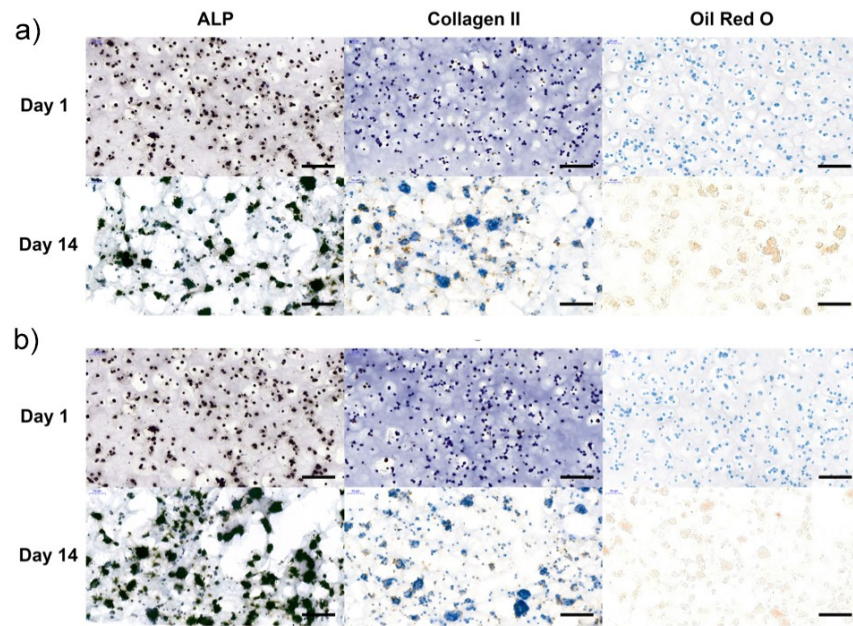


Fig. S9 Histological sections from HMSCs/**G1-CS** hydrogel constructs at different culture time. The scale bar is 100 μ m. a) and b) are results from other two repeated experiments.