

Table S1 Gelation time of CS-C hydrogel with different concentration of CS-C macromolecule

| | CS-C (wt%) | H ₂ O ₂ (wt%) | HRP (wt%) | Gelation time (s) |
|---|---------------|--|--------------|----------------------|
| 1 | 1.50 | 0.06 | 0.004 | 266s |
| 2 | 1.75 | 0.06 | 0.004 | 160s |
| 3 | 2.00 | 0.06 | 0.004 | 127s |

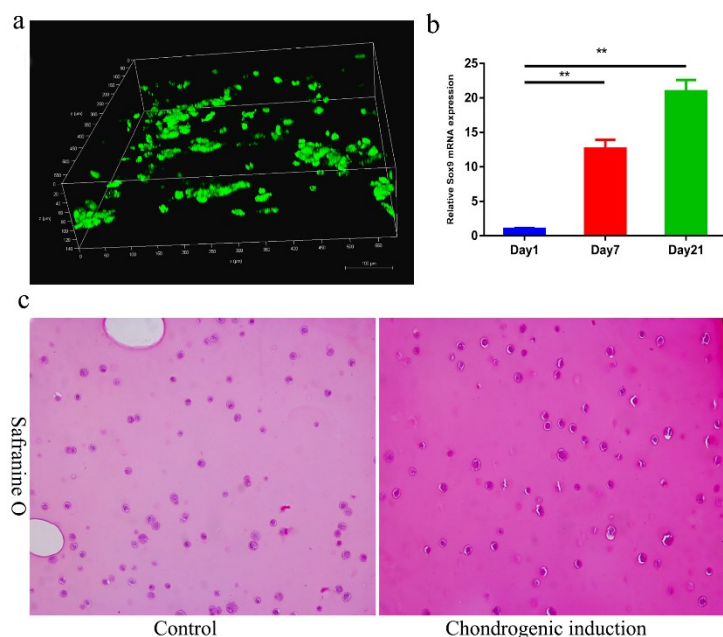


Fig. S1 Chondrogenic induction of BMSC loaded in CS-C hydrogel. (a) The cell viability was detected by Calcein/PI cell activity and cytotoxicity test kit after BMSC loaded in CS-C hydrogel for 4 days. (b) Gene expression of Sox9 after BMSC loaded in CS-C hydrogel. (c) Safranin O staining of BMSC loaded in CS-C hydrogel and chondrogenic induction for 21 days. Control group: BMSC loaded in CS-C hydrogel without chondrogenic medium. Chondrogenic induction group: BMSC loaded in CS-C hydrogel with chondrogenic medium.

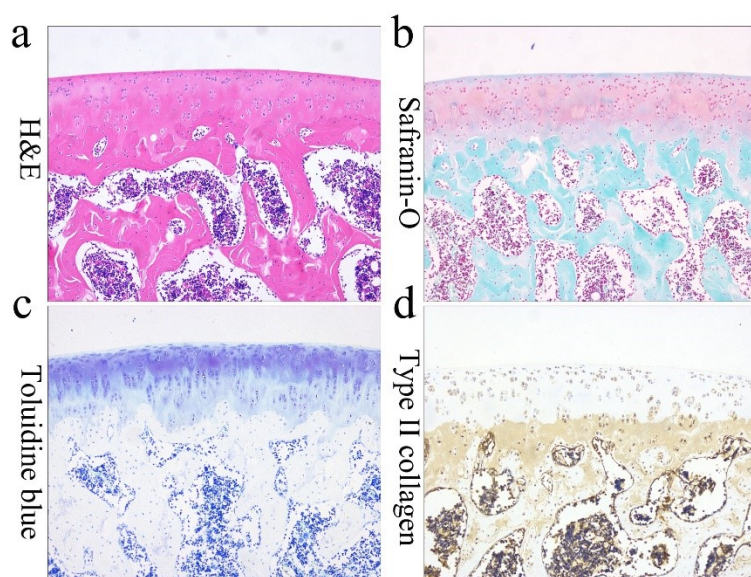


Fig. S2 Histological staining of the native articular cartilage. (a) hematoxylin and eosin. (b) Safranin-O. (c) toluidine blue (d) COL II immunohistochemical staining.