

## Effect of magnesium and calcium ions on the strength and biofunctionality of GelMA/SAMA composite hydrogels

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- Fig. S4. (A) Hofmeister ion sequence, (B) the effect of  $\text{MgSO}_4$  on mechanical properties of GelMA, and (C) digital photos of GelMA hydrogels with different  $\text{MgSO}_4$  contents.
- Fig. S5. Three interval thixotropy test.

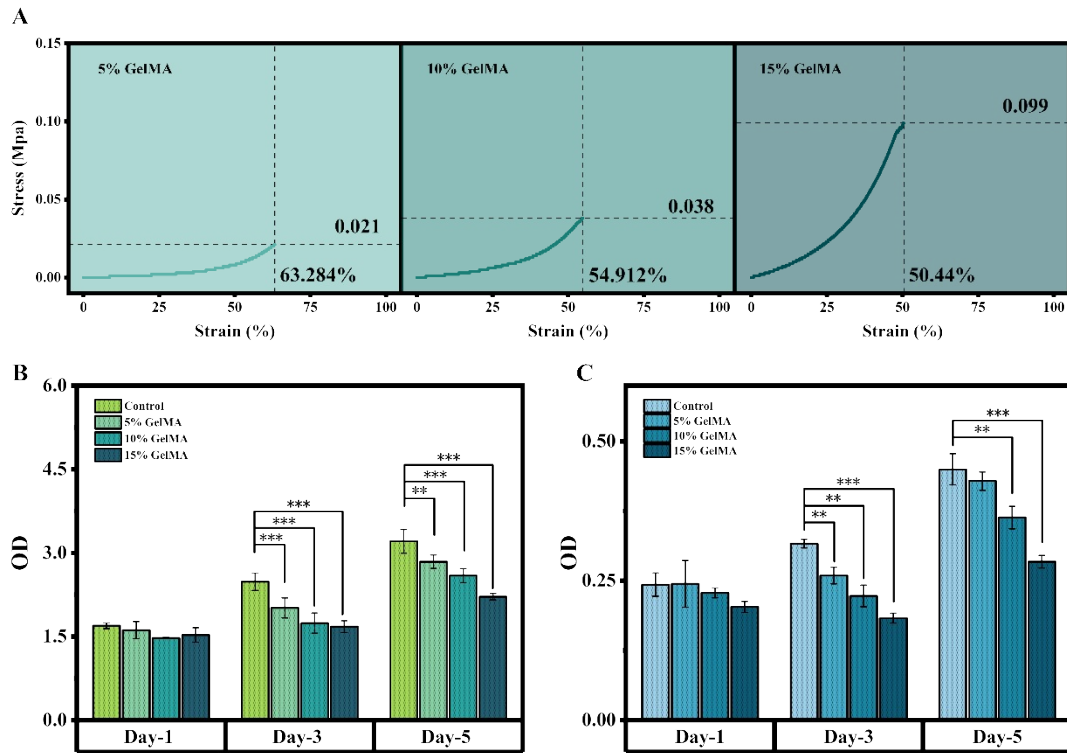


Fig. S1 (A) Mechanical properties of GelMA at different concentrations; (B) Cell viability of BMSCs in different concentrations of GelMA co culture systems; (C) ADTC5 cell viability in different concentrations of GelMA co culture systems

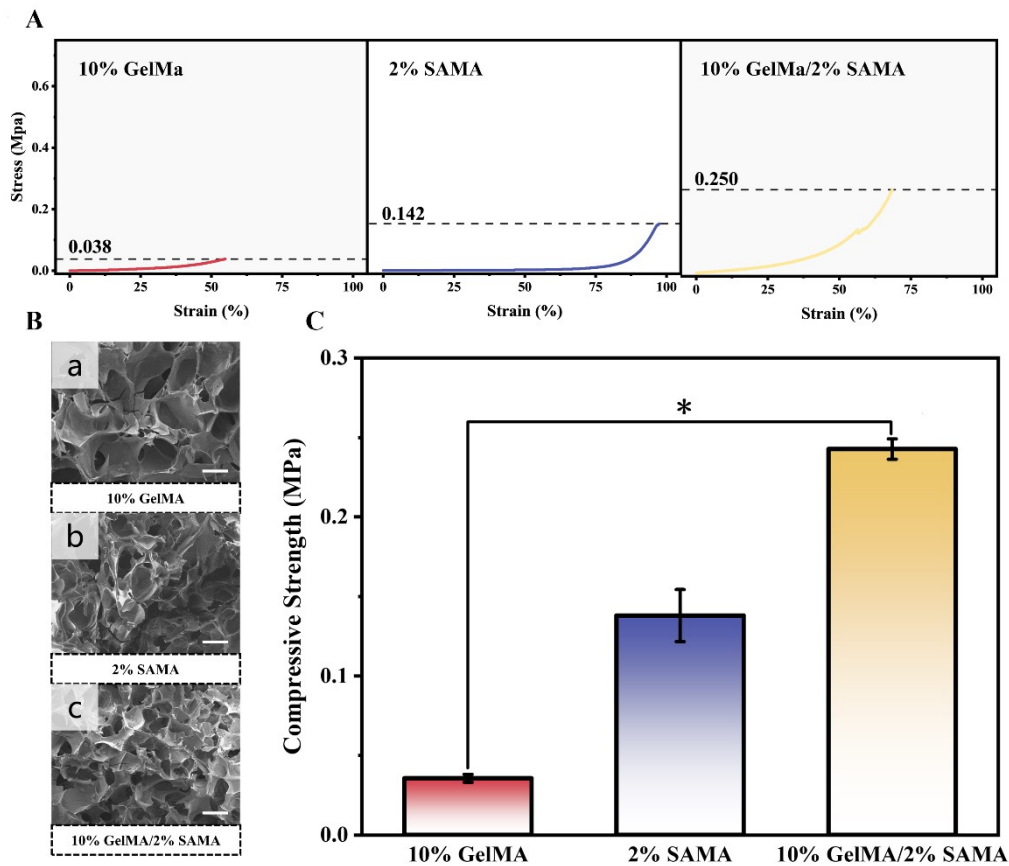


Fig. S2 The stress-strain curves (A), the morphology image (B) and the compressive strength of photocrosslinked hydrogels, (the scale bar is 500  $\mu\text{m}$ ).

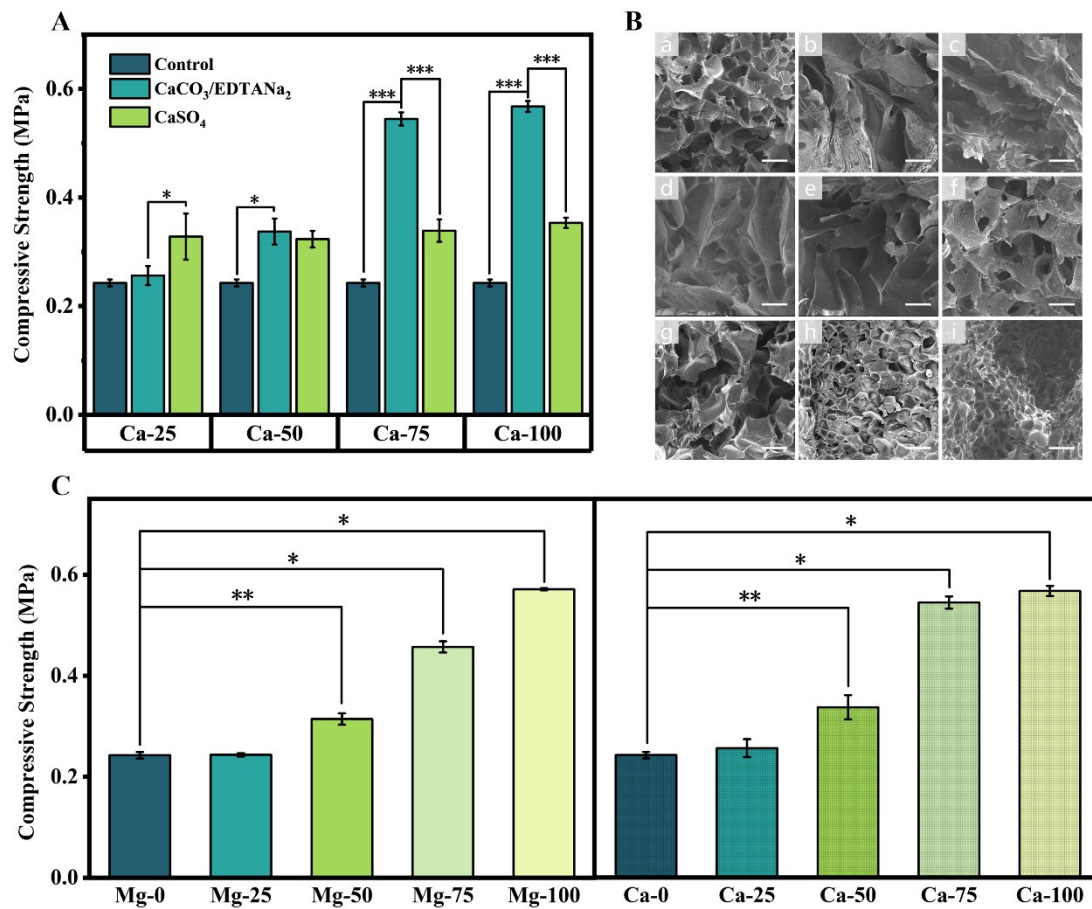


Fig. S3 (A) Effect of Ca<sup>2+</sup> introduction method on mechanical properties of materials; (B) Hydrogel microstructure (a is SEM of 10% GelMA/2% SAMA, B-E is SEM of Ca-25, Ca-50, Ca-75 and Ca-100 with ions introduced by CaSO<sub>4</sub> method, respectively. f-i is the SEM images of Ca-25, Ca-50, Ca-75 and Ca-100 introduced ions by CaCO<sub>3</sub>/EDTANA<sub>2</sub> method, respectively; (C) Compressive strength of double crosslinked hydrogel (500 μm scale in the figure).

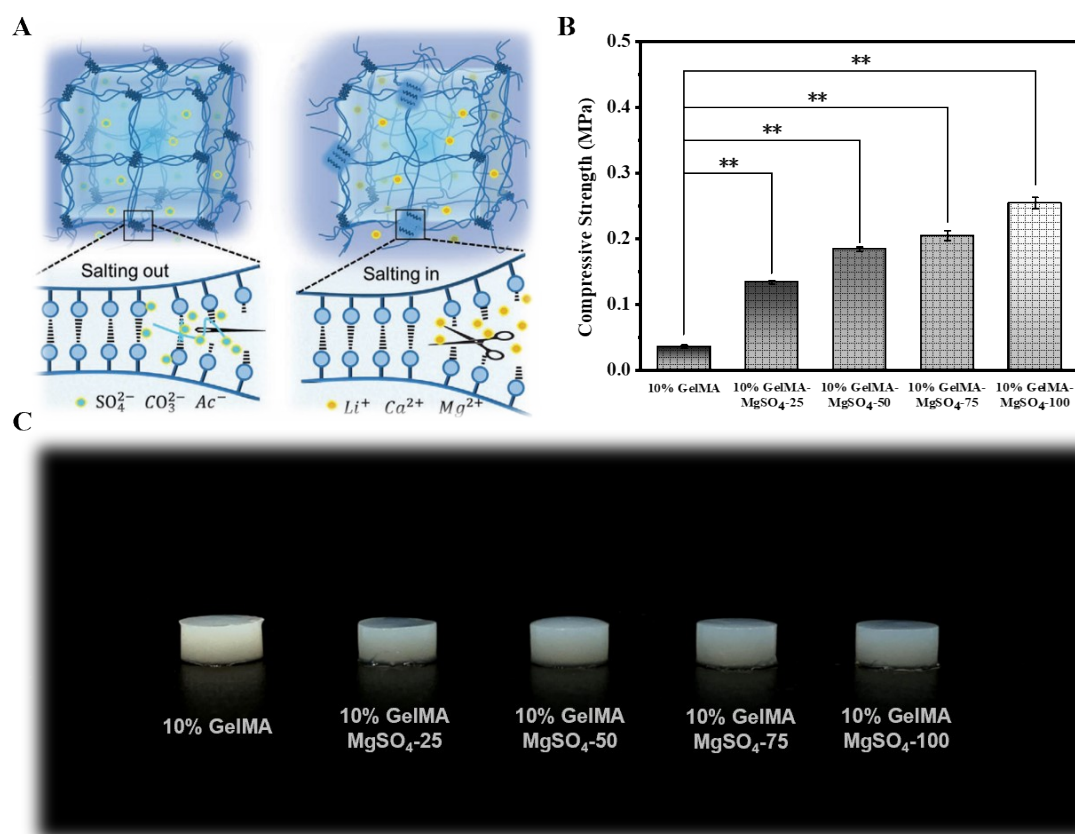


Fig. S4 (A) Hofmeister ion sequence, (B) the effect of  $\text{MgSO}_4$  on mechanical properties of GelMA, and (C) digital photos of GelMA hydrogels with different  $\text{MgSO}_4$  contents.

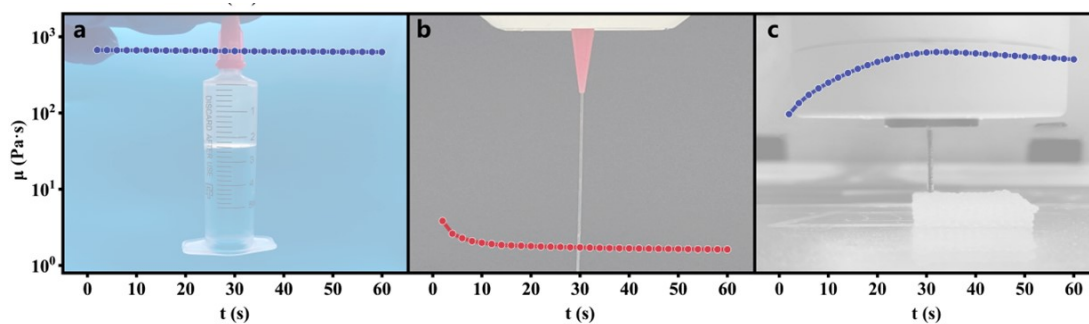


Fig. S5 Three interval thixotropy test.