

Structural analysis

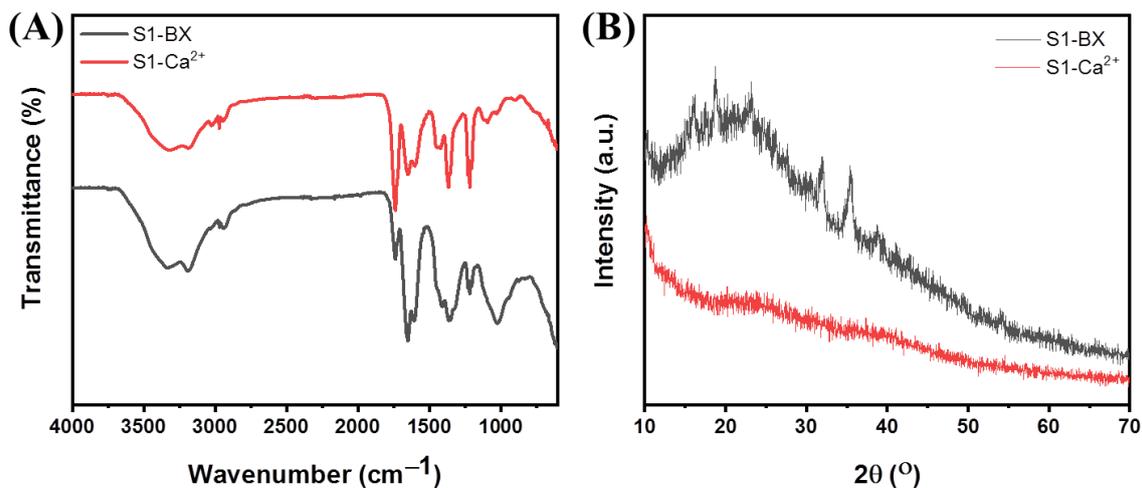


Figure S1. (A) FTIR spectra and (B) XRD pattern of borax-crosslinked and Ca^{2+} ions-crosslinked S1 hybrid hydrogels.

Morphology

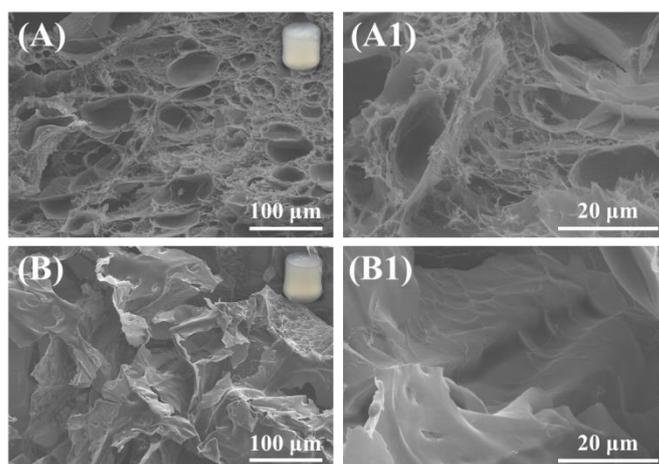


Figure S2. SEM images of (A-A1) borax-crosslinked and (B-B1) Ca^{2+} ions-crosslinked S1 hybrid hydrogels.

Mechanical analysis

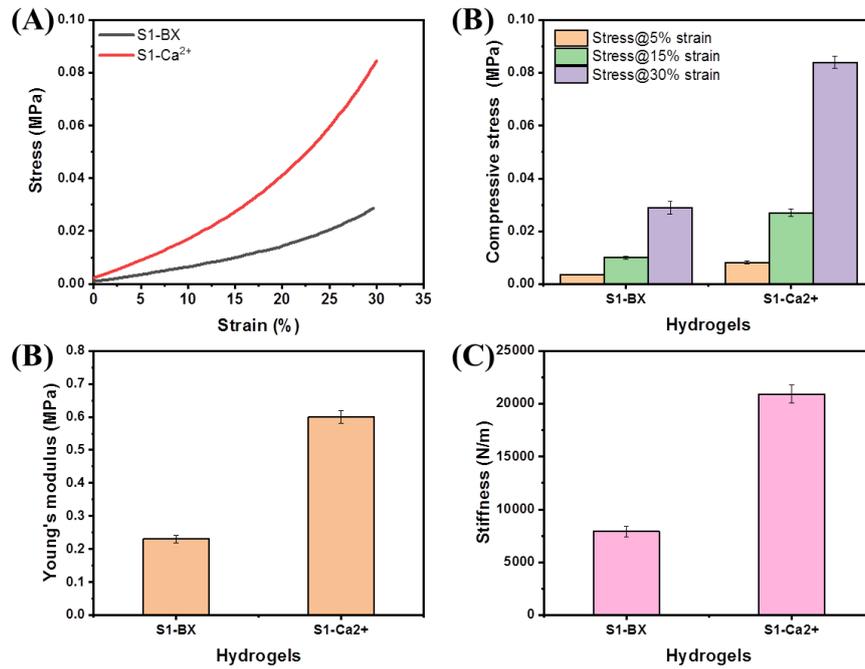


Figure S3. (A) Stress-strain curves, (B) compressive strength, (C) Young's modulus, and (D) stiffness values of borax-crosslinked and Ca²⁺ ions-crosslinked S1 hybrid hydrogels.

In-vitro Cytocompatibility

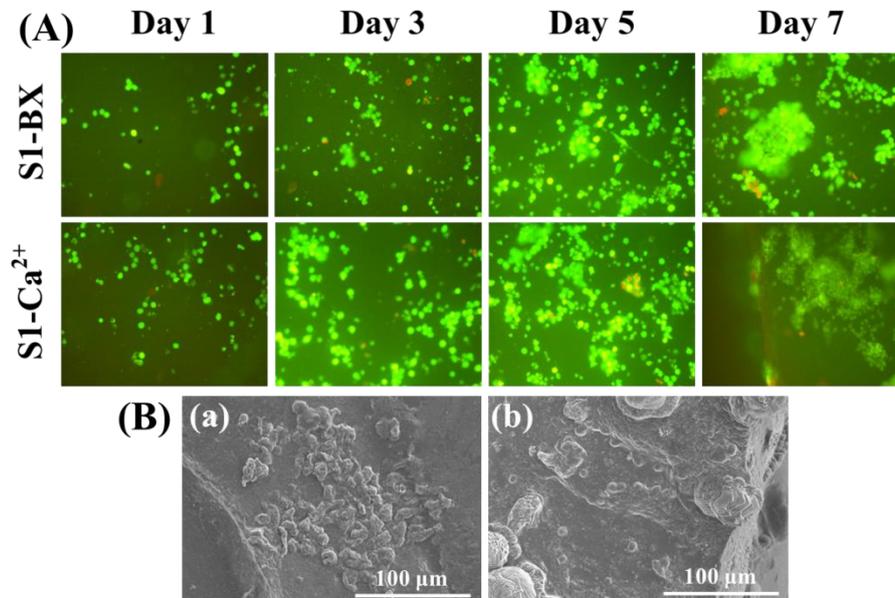


Figure S4. (A) Fluorescence images of live/dead assay of borax-crosslinked and Ca²⁺ ions-crosslinked S1 hybrid hydrogels after 1, 3, 5, and 7 days of culture with fibroblast cells. (B) SEM images of borax-crosslinked and Ca²⁺ ions-crosslinked S1 hybrid hydrogels after 7 days of culture with fibroblast cells.