Electronic Supplementary Material (ESI) for Biomaterials Science.
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Supporting Information

Development of Plant-Based Biopolymer Coatings for 3D Cell Culture: Boron-Silica-Enriched Quince Seed Mucilage Nanocomposites

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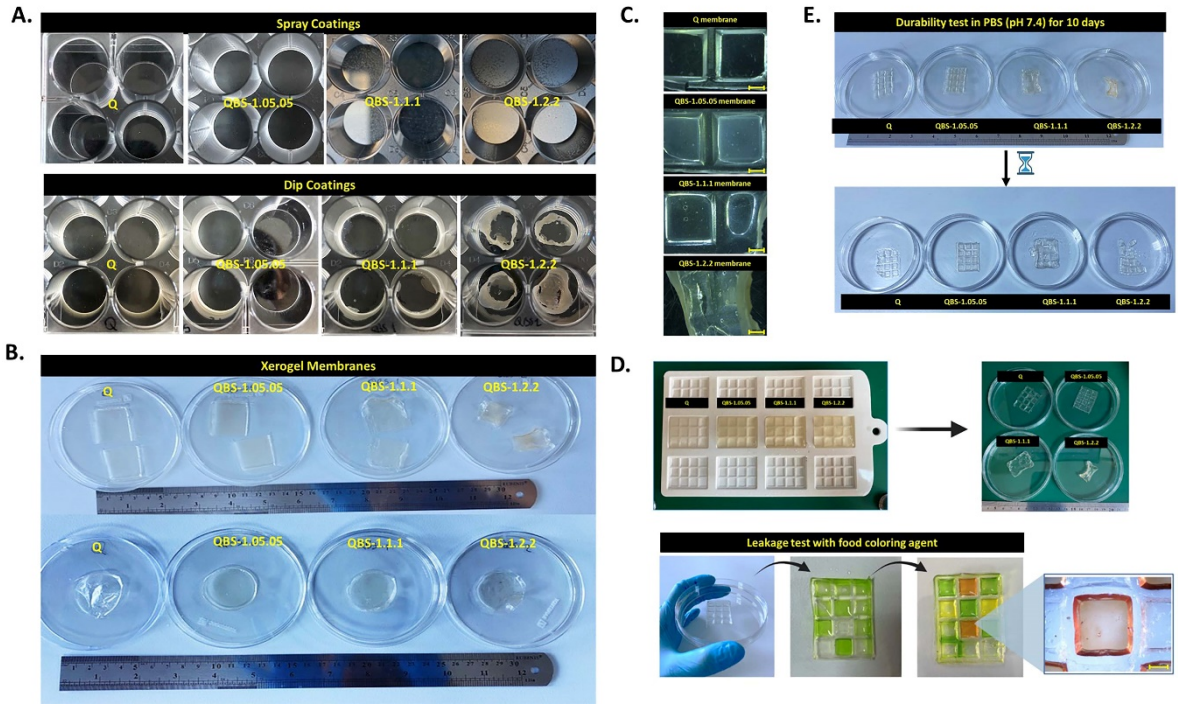

Figure S1. Overall morphologic structures of the coatings, membranes and 3D gel plates. The well plates coatings with Q and QBS composites with varying ratios using spray coating and dip coating method (A). Xerogel membrane forms of the Q and QBS composites formed from rectangular and circular silicone molds (B). The stereo microscopy micrographs of the 3D gel plates (The scale bars indicates 2000 μm) (C). Molding for 3D gel plate fabrication, and leakage test of 3D gel plates with food coloring agent (scale bar indicates 2000 μm) (D). Images of the 3D gel plates from before and after durability test in PBS (pH: 7.4) for 10 days (E).

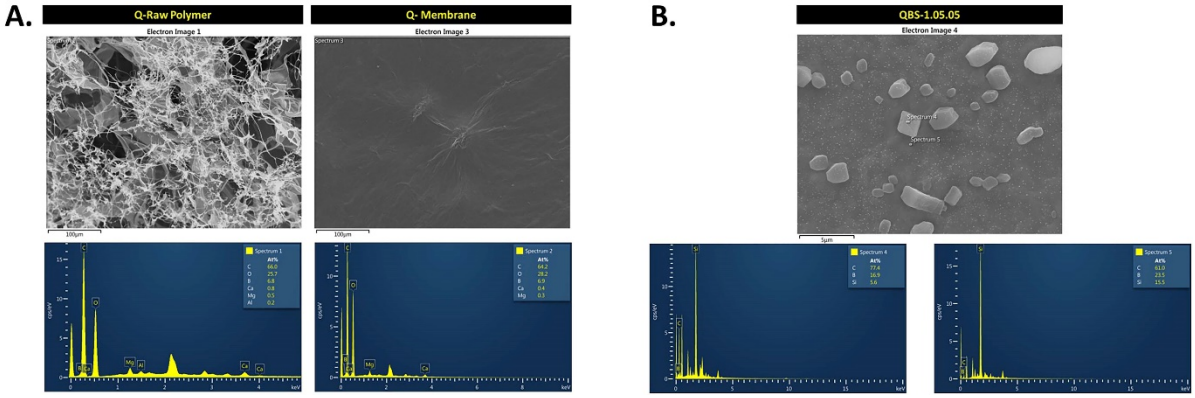

Figure S2. The SEM micrographs and EDX spectra of lyophilized raw polymer form and membrane form of the mucilage (Q) (Scale bar indicates 100 µm) (A). SEM and EDX scan of the crystal-like structure (Spectrum 4) and the surface (Spectrum 5) of QBS-1.05.05 sample (Scale bar indicates 5 µm) (B).

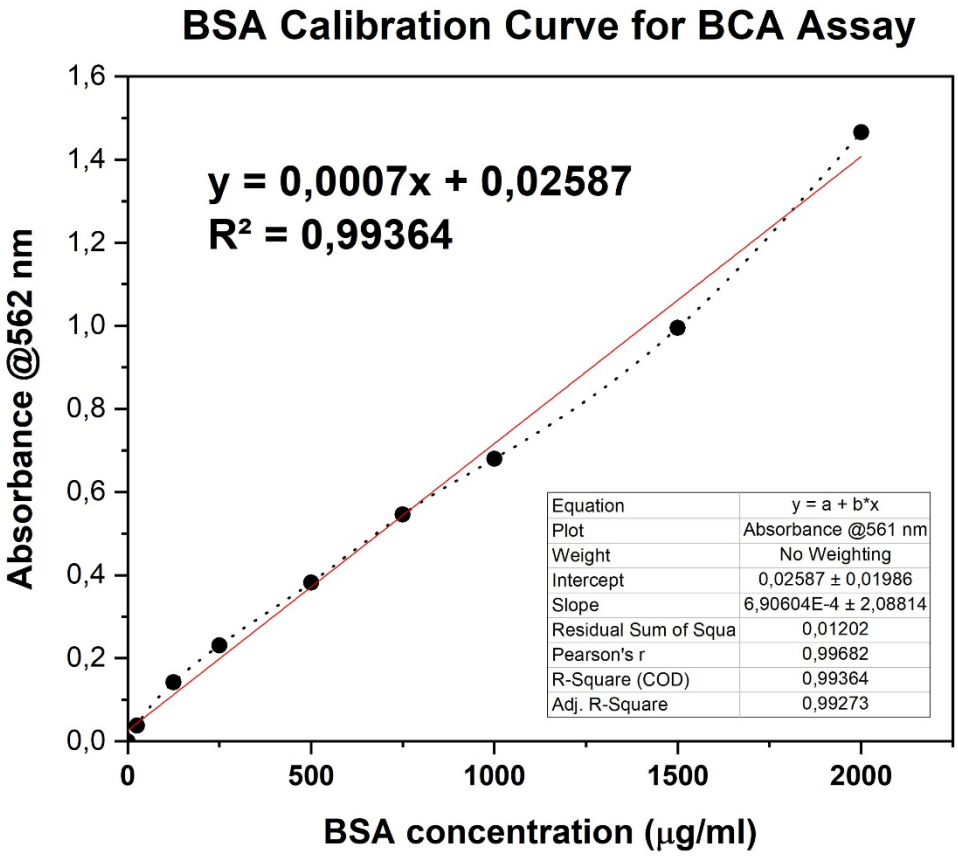

Figure S3. The BSA-based protein calibration curve for BCA assay.

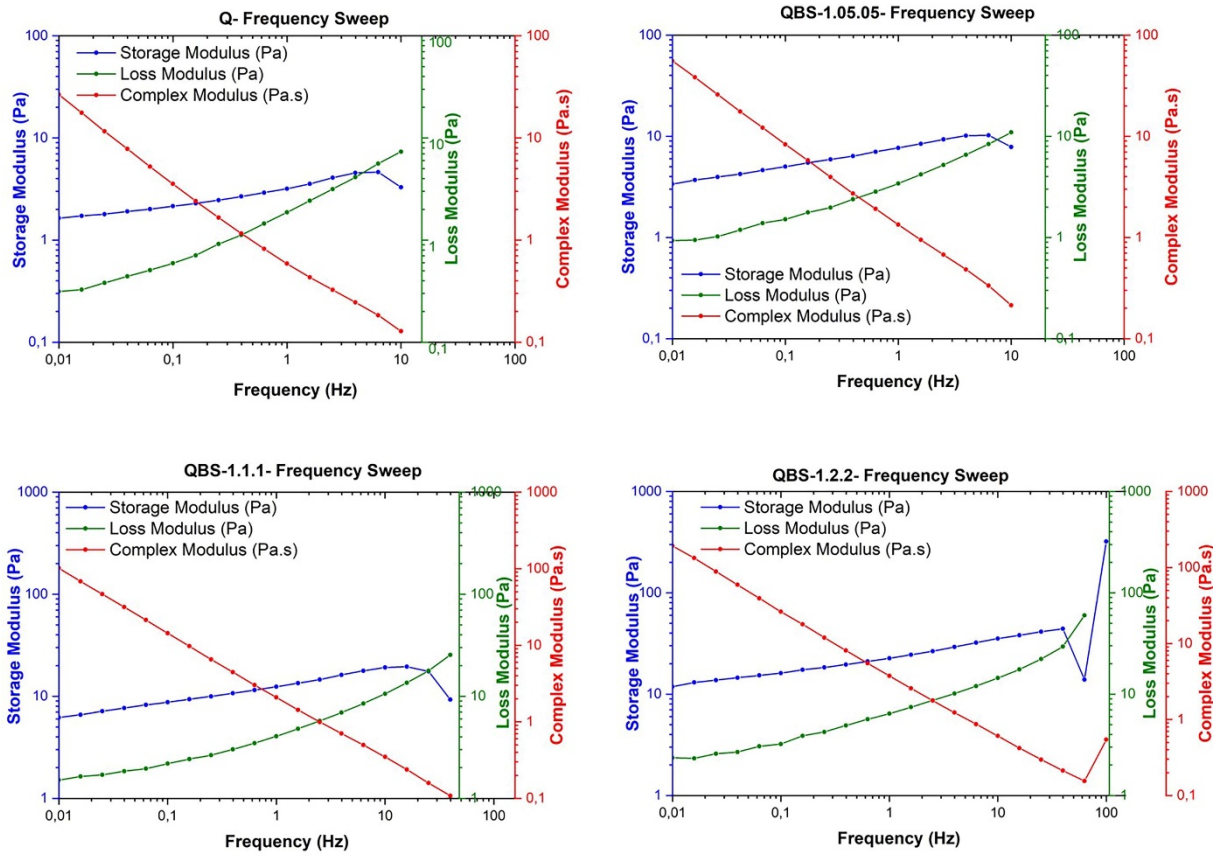

Figure S4. The rheological evaluation of prepared Q, QBS-1.05.05, QBS-1.1.1 and QBS-1.2.2 samples. The storage, loss, and complex modulus of the samples under oscillatory frequency sweep mode in rheometer.