Spontaneous Formation of 3D-Breast Cancer Tissue on Electrospun Chitosan/Poly (ethylene Oxide) Nanofibrous Scaffolds

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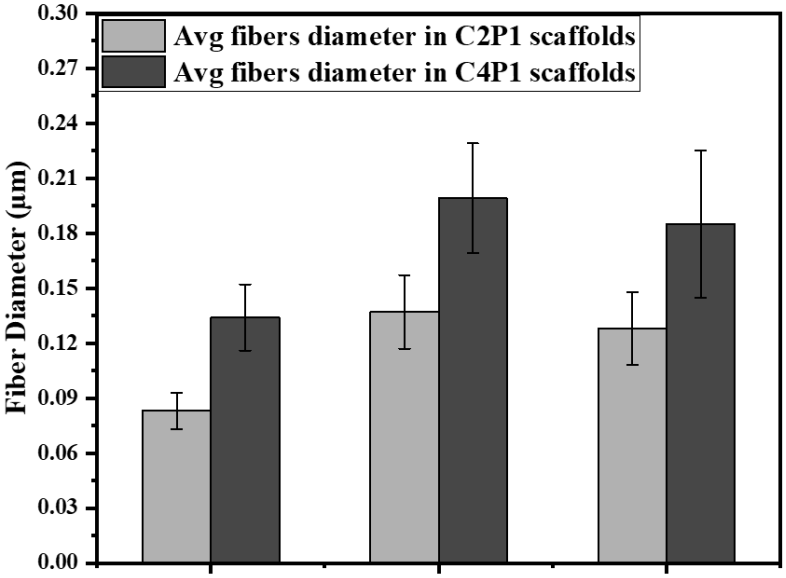

Figure S1. Comparison between average fiber diameters of different scaffolds using two solutions with different concentration (C2P1 and C4P1) electrospun at different pump flow rate (0.006 and 0.024 ml/min).

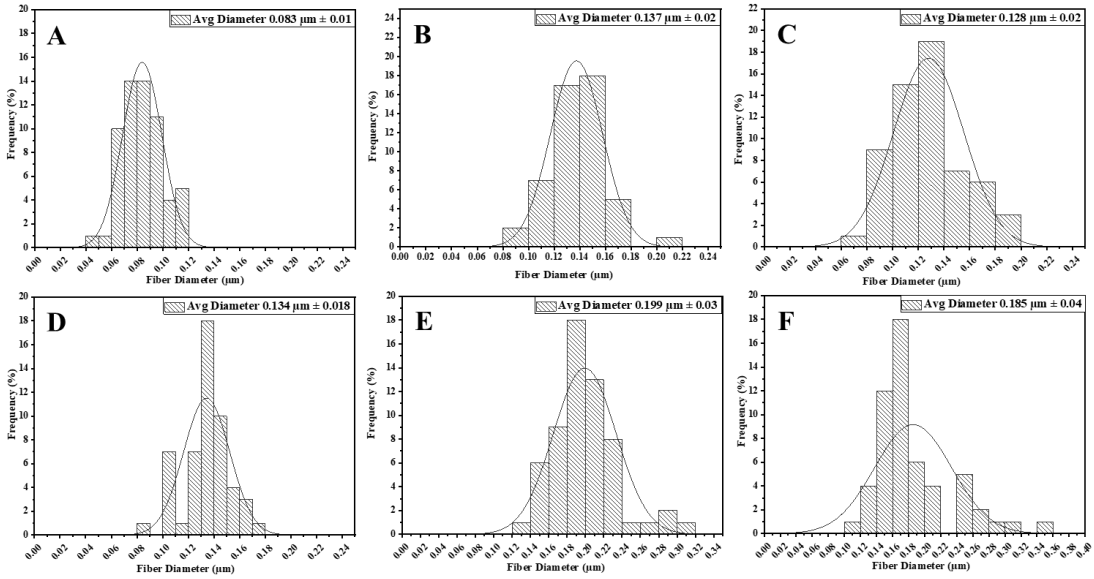

Figure S2. Fiber diameter histograms of random and aligned electrospun nanofibrous scaffolds synthesized using (A) R-R1-C2P1, (B) R-R4-C2P1, (C) A-R4-C2P1, (D) R-R1-C4P1, (E) R-R4-C4P1, and (F) A-R4-C4P1.

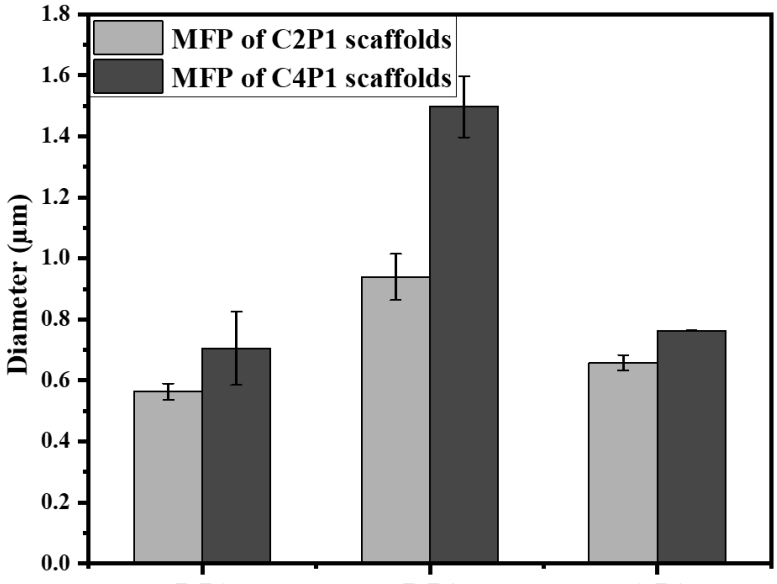

Figure S3. Comparison between main flow pore size of randomly and aligned electrospun nanofibrous' scaffolds synthesized using C2P1 and C4P1 solution at different pump flow rate (0.006 and 0.024 ml/min).

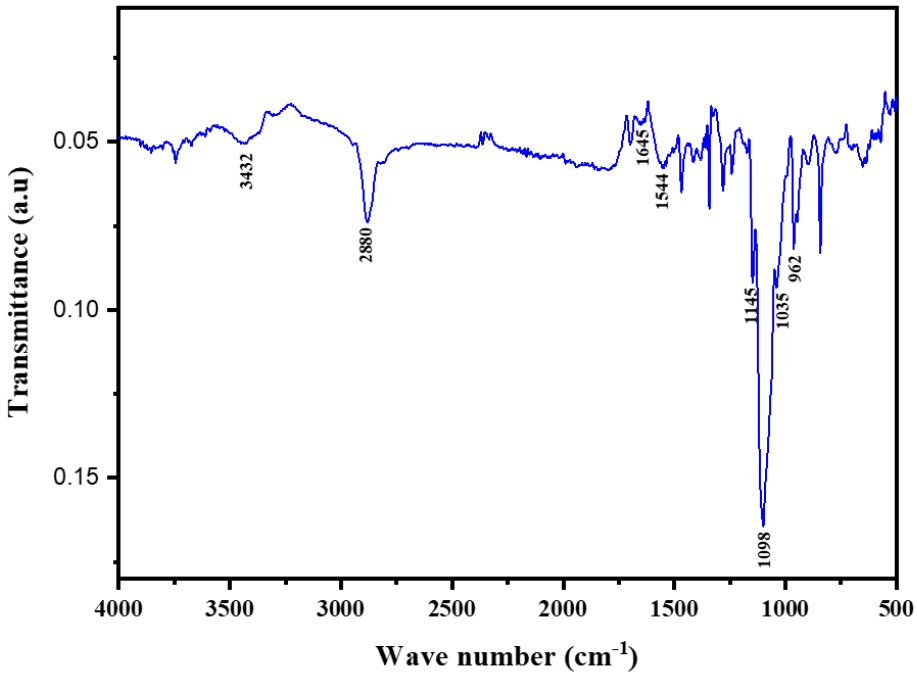

Figure S4. FTIR spectra of CS/PEO nanofibrous scaffold.

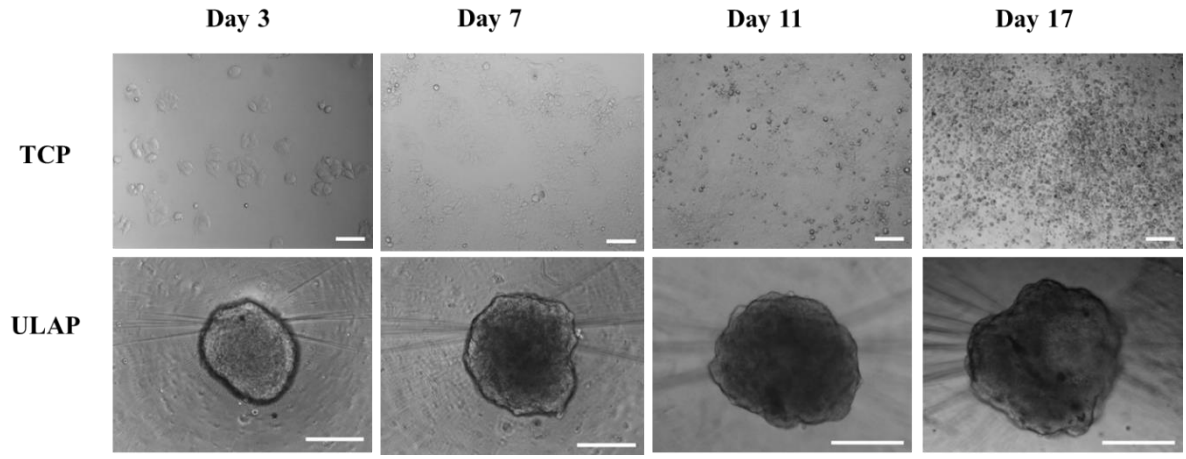

Figure S5. Optical images of MCF-7 cells seeded on normal tissue culture plate (top) and ultra-low attachment plate (bottom) over 17 days. The scale bar is 200 µm.

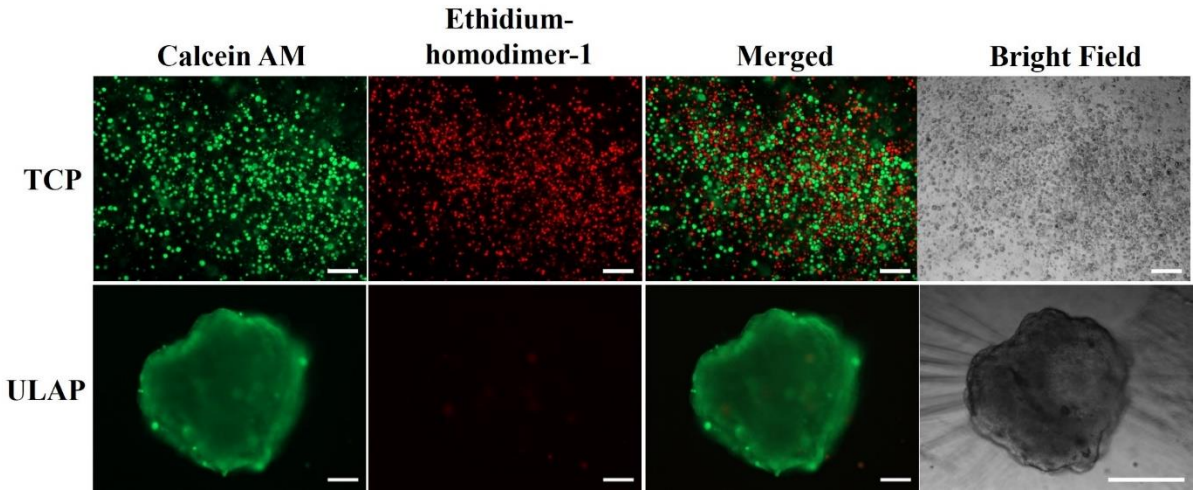

Figure S6. Fluorescence images of MCF-7 cell viability assessment on TCP (top) and ULAP (bottom) after 17 days of culturing. The Calcein AM (green) stains the live cells while the ethidium homo dimer-1 (red) stains dead cells. The scale bar is 200 µm.

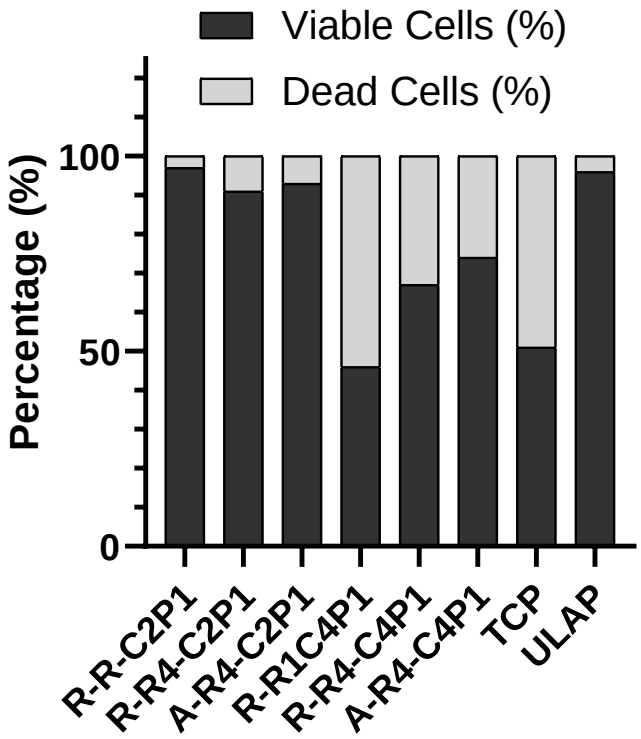

Figure S7. The percentage of cell viability calculated from the live/dead staining images by the ImageJ software

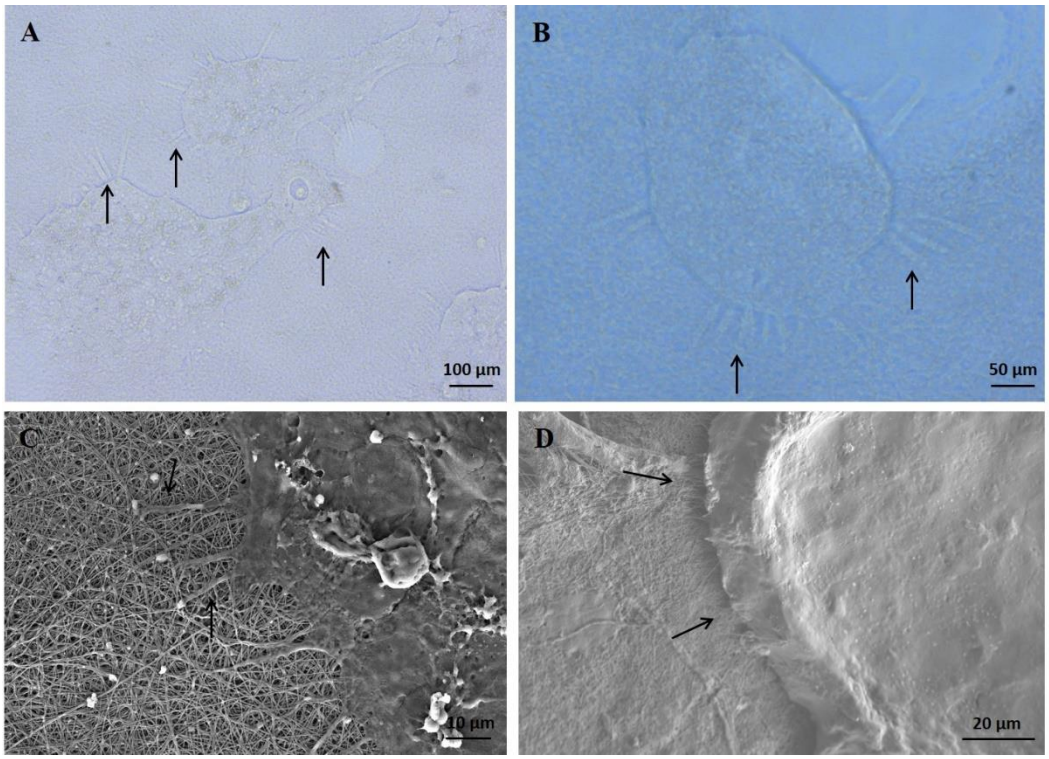

Figure S7. (A, B) Phase contrast images of spheroids protrusions formed within the first week of culture on C2P1 scaffolds and (C, D) SEM images of 3D microtissue protrusions after 14 days of culture on C2P1 scaffolds.