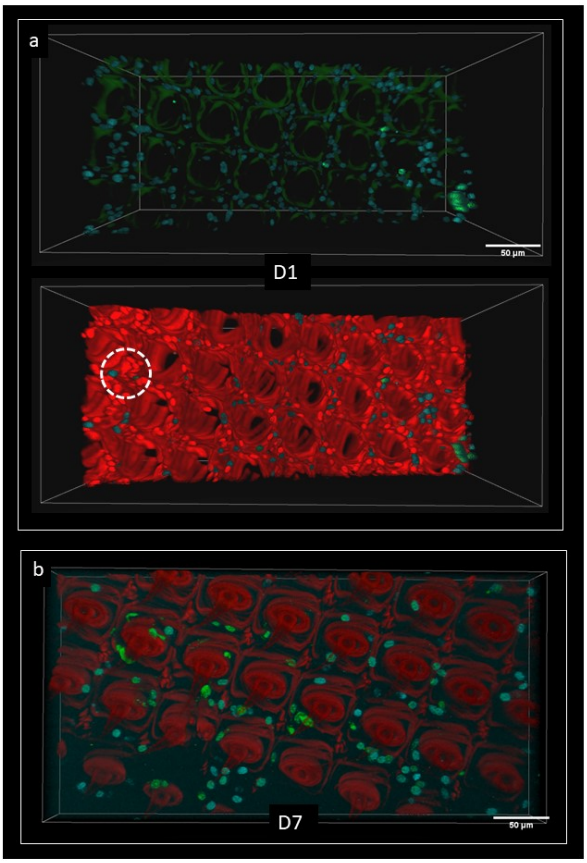
Electronic Supplementary Material (ESI) for Biomaterials Science.



Supplementary material

Fig. 1S: **Fibroblasts show cycle arrest or cell dead in soft areas in between the domes.** 3D Two photon images of fibroblasts at D1 (**fig. 1Sa**) and at D7 (**fig. 1Sb**) show adherence on soft areas on the TPP matrix without cell proliferation in time as observed for the fibroblasts on the domes (**see fig. 2**). **In fig. S1a**, the nuclei of all fibroblasts were stained with Hoechst (blue – green staining) and the dead fibroblasts with propidium iodide (red staining, see e.a. red nuclei in white dotted circle). The white box size in **fig. 1Sa** = 469 x 235 x 352 µm and in **fig. 1Sb** = 469 x 235 x 74 µm. The scale bar is 50 µm**.**

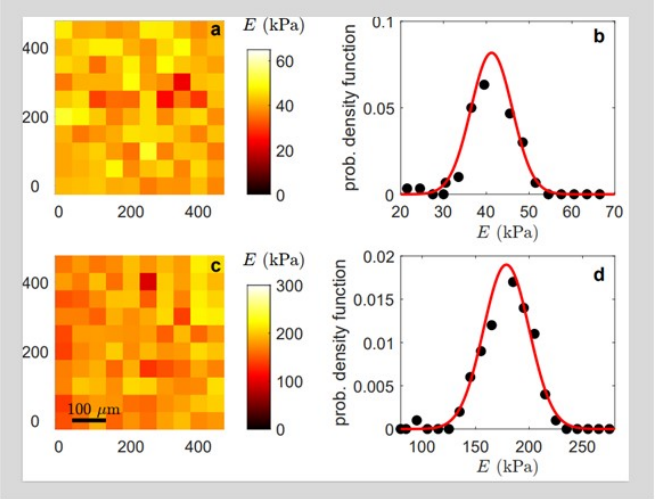


Fig. 2S: Mechanical characterization of the stiff (a,b) and soft (c,d) matrices by microindentation. Elasticity map over a region of interest of 500 µm square are reported in (a) and (c). Colors code for the Young modulus E. The probability density function of E is shown in (b) and (d), where the red curve is the best fit of the data by a Gaussian distribution.

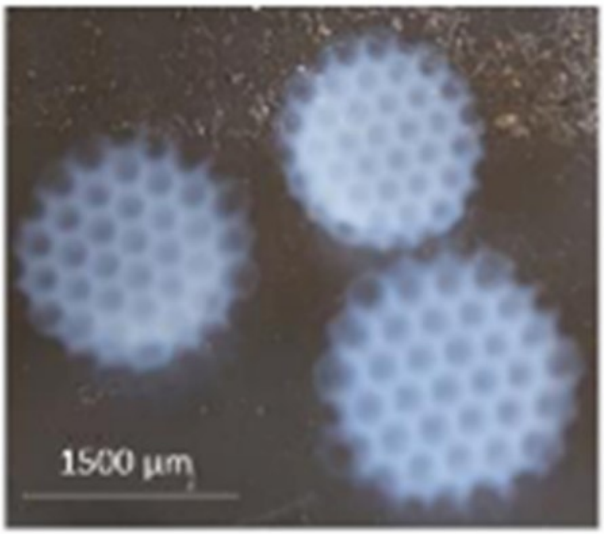


Fig. 3S: DLP GelMA-collagen matrixes with honeycomb structures at the surface. Colour photo showing structured DLP matrixes with a diameter of 1.5 mm.