**Fig. S1** Overview of the SES fabricated scaffolds.

**Fig. S2** SEM image of the cross-section of filament in (a) PCL/TCP(Si)-CHA and (b) PCL/TCP(Si)-CHA-gelatin scaffolds.
**Fig. S3** Compressive modulus (a) and compressive yield strength (b) of PCL/TCP, PCL/TCP(Si), PCL/TCP(Si)-CHA and PCL/TCP(Si)-CHA-gelatin scaffolds. The concentration of GPTMS is 10 wt% in all PCL/TCP(Si).
**Fig. S4** SEM image of cell-scaffold construct of PCL/TCP(Si)-CHA-gelatin scaffolds at day 7. The arrow shows starting of tissue bridge formation.