Electronic Supplementary Material (ESI) for RSC Advances.

Reverse Thermo-responsive Hydrogels Prepared from Pluronic F127 and Gelatin Composite Materials

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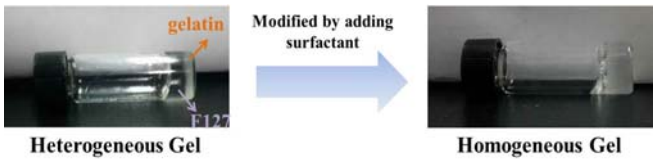

Fig. S1. Optical images of before (left) and after (right) adding SCMC in F127-gelatin at 37 ^{o}C.

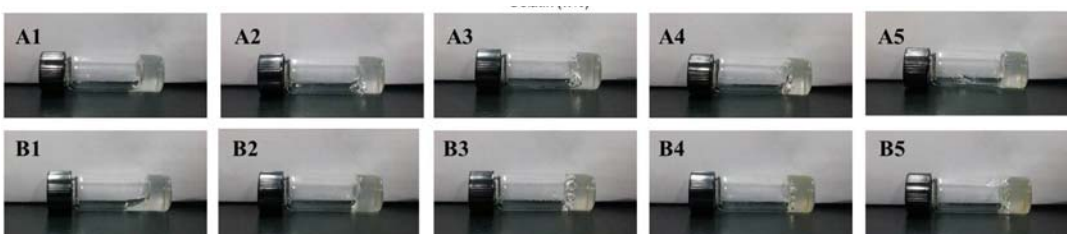

Fig. S2. Optical images of **A1**-**A5** and **B1**-**B5** at 37 ^{o}C.

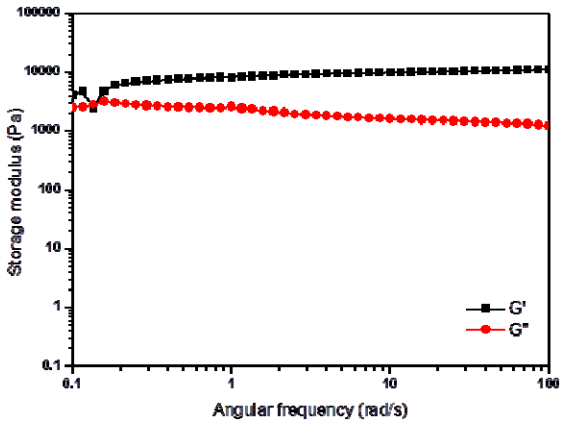

Fig. S3. Frequency sweeps of F127 (16 wt%) at 37^{o}C.

Table S1. Physical properties of the composite hydrogels of **A1-A5** and **B1-B5** at 37 ^{o}C.

Sample	Appearance[a]	$T_{sol-gel}$ (^{o}C)	$T_{gel-sol}$ (^{o}C)	G' & G" (Pa)[b]
A1	TG	29	56	$3.24x10^{3}$; $1.31x10^{3}$
A2	TG	28	61	$4.76x10^{3}$; $1.45x10^{3}$
A3	TG	28	63	$6.45x10^{3}$; $1.37x10^{3}$
A4	TG	22	65	$6.56x10^{3}$; $1.34x10^{3}$
A5	TG	22	75	$6.68x10^{3}$; $1.30x10^{3}$
B1	TG	34	48	$9.49x10^{2}$; $3.31x10^{2}$
B2	TG	31	52	$1.48x10^{3}$; $5.09x10^{2}$
B3	TG	30	59	$3.42x10^{3}$; $9.71x10^{2}$
B4	TG	22	66	$3.69x10^{3}$; $1.13x10^{3}$
B5	TG	20	77	$2.63x10^{3}$; $8.54x10^{2}$

[a] TG: transparent gel. [b]G': storage modulus; G": loss modulus.

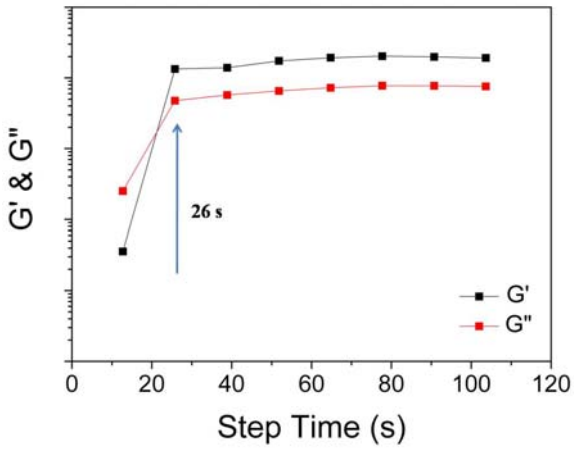

Fig. S4. Time-responsive storage (G') and loss (G") modulus changes of F127-gelatin hydrogel.

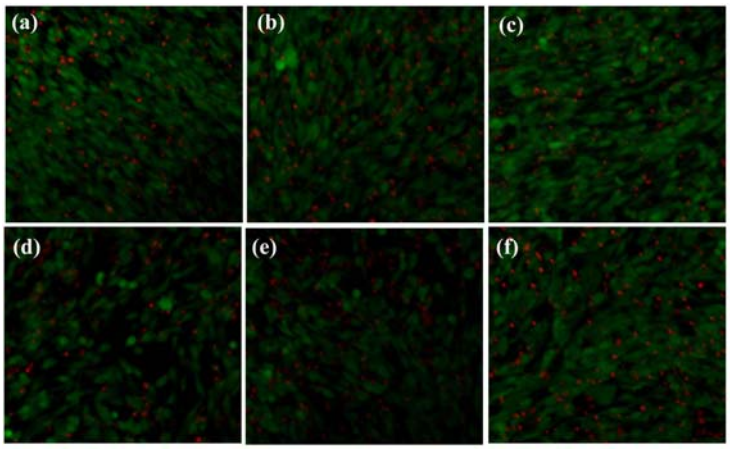

Fig. S5. The survival data of the hMSCs soaked in **A1**-**A3** and **B1**-**B3** for 2 days; live cells with calcein AM (green) and of dead cells with EthD-1 (red).

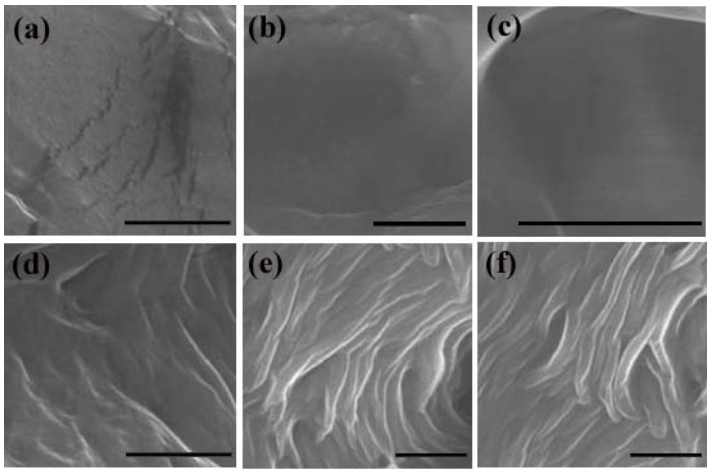

Fig. S6. SEM micrographs of vertical cross-sections of the composite hydrogels of **B1**-**B3**. (a-c) at 25 ^{o}C; (d-f) at 37 ^{o}C. (Scale bar: 1 μm)

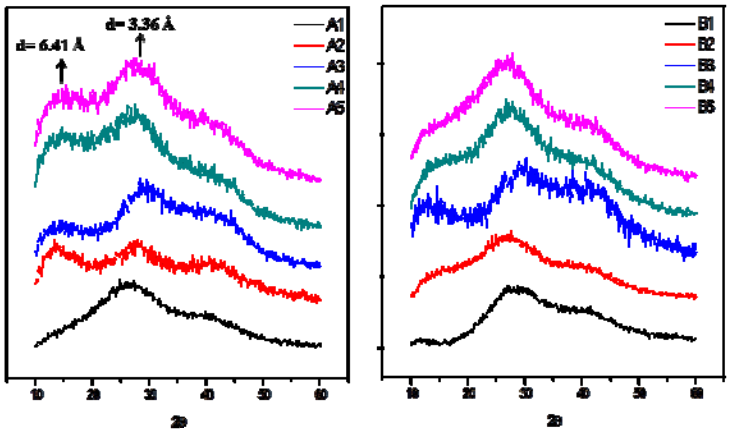

Fig. S7. The XRD patterns of **A1**-**A5** and **B1**-**B5** in water.

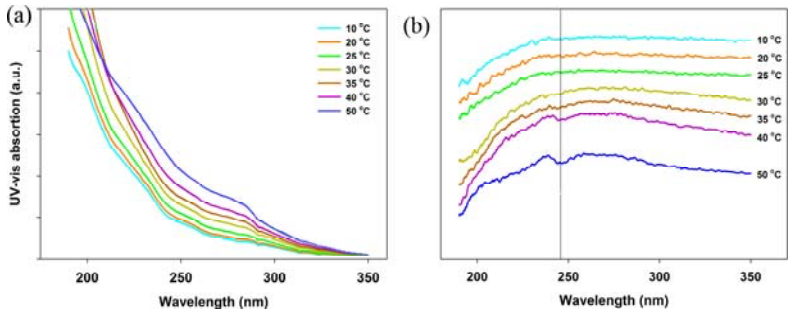

Fig. S8. Temperature-dependent (a) UV-vis absorption and (b) CD spectra of **B1**.

Fig. S9. Vial inversion tests provide visual evidence that the **B1** solution formed a hydrogel when the temperature was higher than the sol–gel transition temperature and formed a solution when the temperature back to the room temperature.