Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B

Supporting Information

Injectable and Biodegradable Supramolecular Hydrogels formed by Nucleobases-terminated Poly(ethylene oxide)s and α-Cyclodextrin

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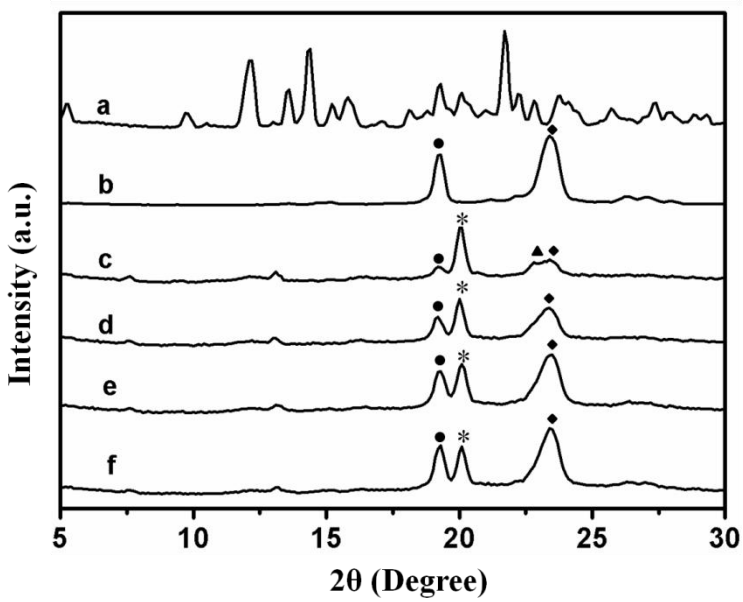

Figure S1. Powder X-ray diffraction of (a) α-CD, (b) PEG20k, (c) G5, (d) G6, (e) G7 and (f) G8. The characteristic X-ray diffraction peaks of crystalline columnarα-CD at around 2θ =19.9 and 22.6^{o} as well as PEG at around 2θ = 19.3 and 23.5 ^{o} are labeled with *, ▲, ● and ◆, respectively.

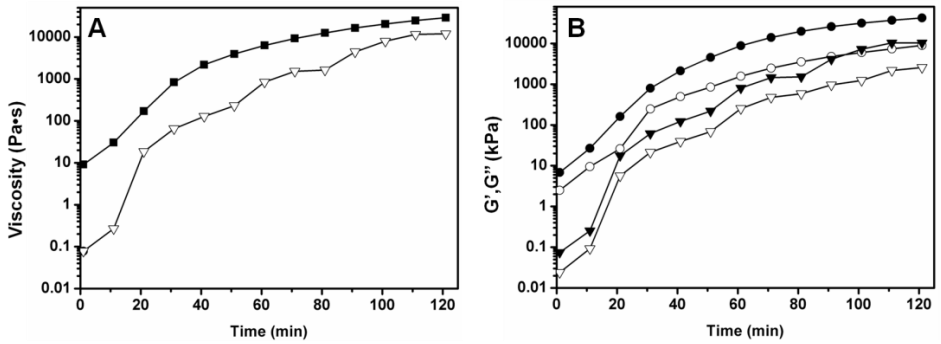

Figure S2. (A) Changes of viscosities of hydrogels as a function of time. (■, vicosity of G4 hydrogel; □, viscosity of PEG10k/α-CD (20 wt %/10 wt %) hydrogel); (B) Time sweep measurements for the viscoelastic properties of hydrogels as a function of time. (●, G' and ○, G'' of G4 hydrogel; ▼, G' and ▽, G'' of PEG10k/α-CD (20 wt %/10 wt %) hydrogel).

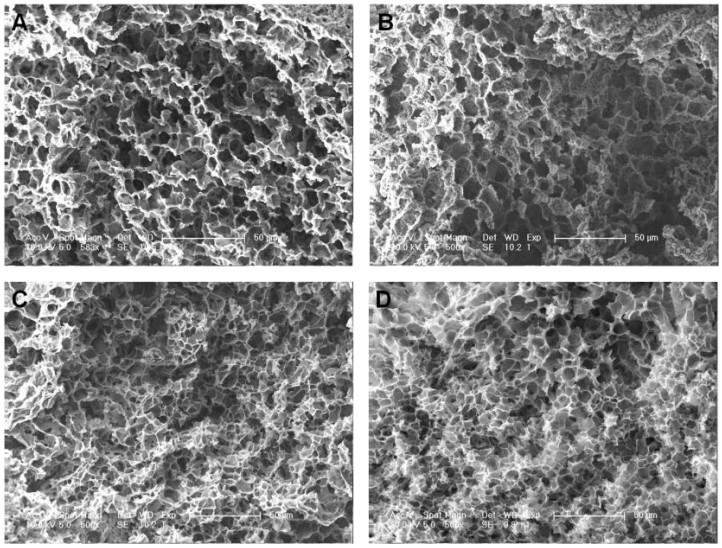

Figure S3. The SEMs of the lyophilized hydrogels. (A) G2, (B) G4, (C) G6, (D) G8. Scale bar = 50 μm.

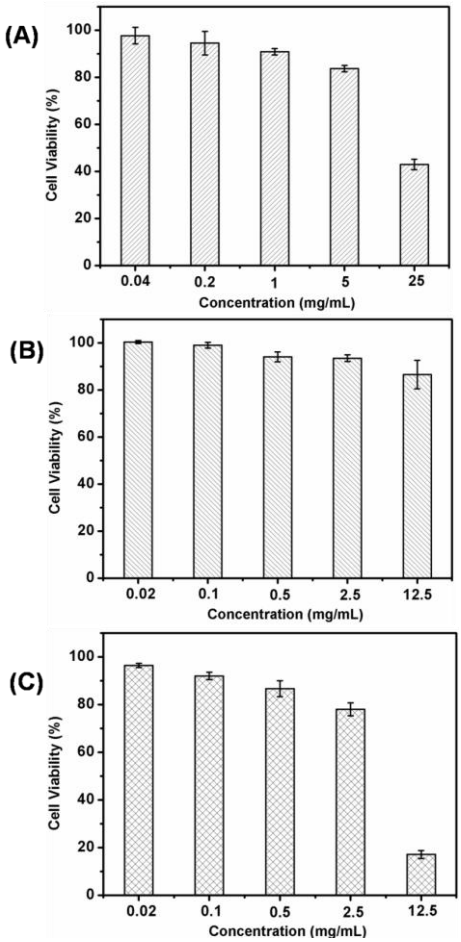

Figure S4. Cell viability of the freeze-dried powder of G2 hydrogel (A) at various concentrations as well as B-PEG10k-B (B) and α-CD (C) at equivalent concentrations against L929 cell line for 48 h.

Table S1. Preparation of PEG/α-CD Hydrogels

	gel composition[b]	results		
gel precursor [a]	polymer (wt %)	gels	gelation time[c] (min)	gelation time[d] (min)
PEG10k	5	G1’	24	33
	10	G2’	7	20
	15	G3’	5	16
	20	G4’	4	12
PEG20k	5	G5’	10	15
	10	G6’	5	11
	15	G7’	2	9
	20	G8’	1	6

[a] The gel precursor was composed of PEG.
[b] The concentration of α-CD solution was kept at 10 wt % for all the studies.
[c] The gelation time was meatured at room temperature.
[d] The gelation time was meatured at 37 ^{o}C.