

Supporting Information

**Synthesis and characterization of poly(glycerol sebacate)-
based elastomeric copolyesters for tissue engineering
applications**

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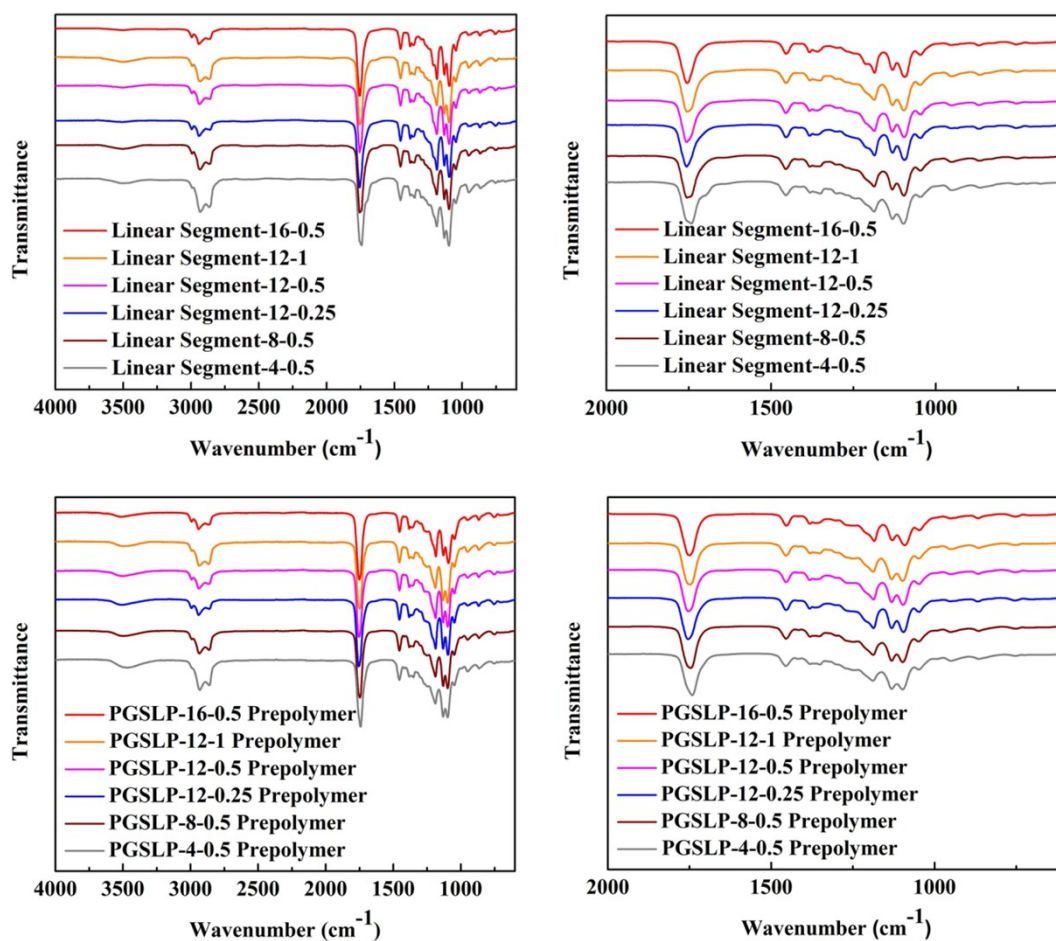


Fig. S1 FTIR spectra of linear segments and PGSLP pre-polymer.

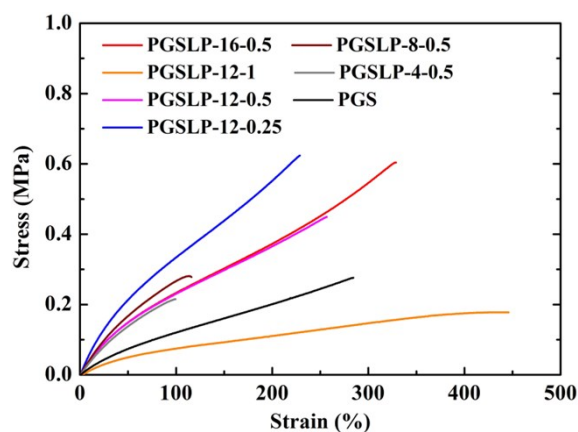


Fig. S2 Tensile stress-strain curves of the gels of PGS and PGSLP. PGS was cured at 120 °C for 60 h and PGSLP were cured at 150 °C for 48 h (PGSLP-12-1 cured for 72 h).

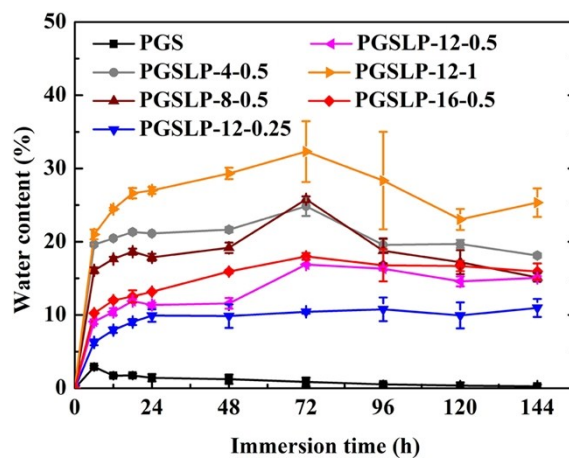


Fig. S3 The kinetics of hydration process of PGS and PGSLP in PBS solution. PGSLP were cured at 150 °C for 48 h (PGSLP-12-1 cured for 72 h).

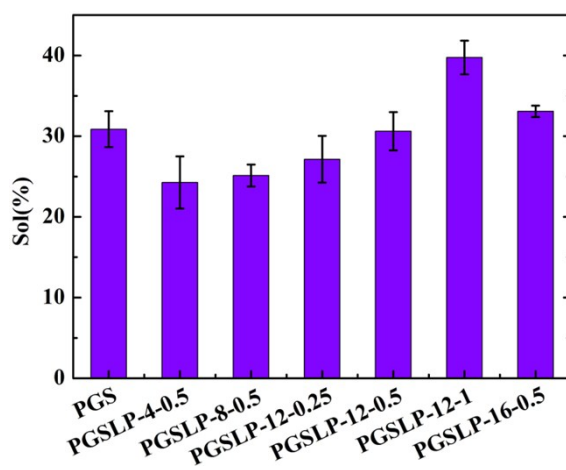


Fig. S4 Sol gel analysis of PGS and PGSLP. PGS was cured at 120 °C for 60 h and PGSLP were cured at 150 °C for 48 h (PGSLP-12-1 cured for 72 h).

Table S1

The molecular weights of linear segments, PGS pre-polymer and PGSLP pre-polymers determined by gel permeation chromatography (GPC).

sample	Theoretical M_n (kDa)	GPC data		
		M_n (kDa)	M_w (kDa)	D_n
Linear segment-4-0.5	2.043	2.296	2.778	1.21
Linear segment-8-0.5	2.084	2.048	2.428	1.19
Linear segment-12-0.25	1.683	3.536	3.987	1.13
Linear segment-12-0.5	1.483	2.374	3.252	1.37
Linear segment-12-1	1.323	2.088	2.321	1.11
Linear segment-16-0.5	0.963	2.907	3.394	1.17
PGS pre-polymer	-	9.266	10.959	1.18
PGSLP-4-0.5 pre-polymer	-	8.655	9.682	1.12
PGSLP-8-0.5 pre-polymer	-	10.214	11.278	1.10
PGSLP-12-0.25 pre-polymer	-	8.679	9.721	1.12
PGSLP-12-0.5 pre-polymer	-	6.954	8.074	1.16
PGSLP-12-1 pre-polymer	-	8.641	9.669	1.08
PGSLP-16-0.5 pre-polymer	-	8.015	11.594	1.22

Table S2

Molar ratio of LLA:S:PEG in the linear segments and PGSLP pre-polymers.

sample	NMR ratio	Theoretical ratio
Linear segment-4-0.5	7.70:2.65:1	8:3:1
PGSLP-4-0.5 pre-polymer	6.92:2.87:1	
Linear segment-8-0.5	14.70:2.98:1	16:3:1
PGSLP-8-0.5 pre-polymer	13.70:2.91:1	
Linear segment-12-0.25	45.09:4.87:1	48:5:1
PGSLP-12-0.25 pre-polymer	42.84:4.63:1	
Linear segment-12-0.5	21.29:2.85:1	24:3:1
PGSLP-12-0.5 pre-polymer	20.64:2.84:1	
Linear segment-12-1	11.93:1.96:1	12:2:1
PGSLP12-1 pre-polymer	11.19:1.99:1	
Linear segment-16-0.5	30.25:3.02:1	32:3:1
PGSLP-16-0.5 pre-polymer	27.67:2.87:1	

The peaks from glycerol partially overlap with that of PEG and LLA at δ 3.62 and 5.09-5.18 ppm in the ^1H NMR spectrum of PGSLP pre-polymers, which had been eliminated.