

Electronic Supplementary Information

**Tuning PEG-DA Hydrogel Properties via
Solvent-Induced Phase Separation (SIPS)**

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Table S1. Sol Content and Swelling Ratios of PEG-DA hydrogels

Hydrogel formed by SIPS	Sol Content (%)	Swelling Ratio	Conventional Hydrogel*	Sol Content (%)	Swelling Ratio
$M_n = 3.4k$ g/mol			$M_n = 3.4k$ g/mol		
5 wt%	5.7 ± 3.57	10.1 ± 0.07	5 wt%	8.7 ± 2.33	17.4 ± 0.68
10 wt%	3.9 ± 1.60	7.2 ± 0.01	10 wt%	2.1 ± 1.02	8.6 ± 0.02
15 wt%	4.7 ± 0.77	6.0 ± 0.06	15 wt%	2.0 ± 0.77	6.5 ± 0.04
20 wt%	8.4 ± 0.84	5.3 ± 0.02	20 wt%	0.6 ± 0.54	6.1 ± 0.01
25 wt%	8.5 ± 2.93	4.5 ± 0.01	25 wt%	2.6 ± 0.66	5.2 ± 0.01
$M_n = 6k$ g/mol			$M_n = 6k$ g/mol		
5 wt%	5.1 ± 0.03	16.5 ± 0.13	5 wt%	7.7 ± 6.93	24.4 ± 1.44
10 wt%	3.3 ± 0.03	9.8 ± 0.09	10 wt%	4.1 ± 1.29	9.3 ± 0.21
15 wt%	2.6 ± 0.01	8.4 ± 0.20	15 wt%	2.8 ± 0.18	8.8 ± 0.17
20 wt%	2.5 ± 0.02	7.7 ± 0.15	20 wt%	1.7 ± 1.10	7.9 ± 0.35
25 wt%	5.2 ± 0.06	7.1 ± 0.13	25 wt%	2.2 ± 1.49	7.4 ± 0.61

* Prepared from an aqueous precursor solution.

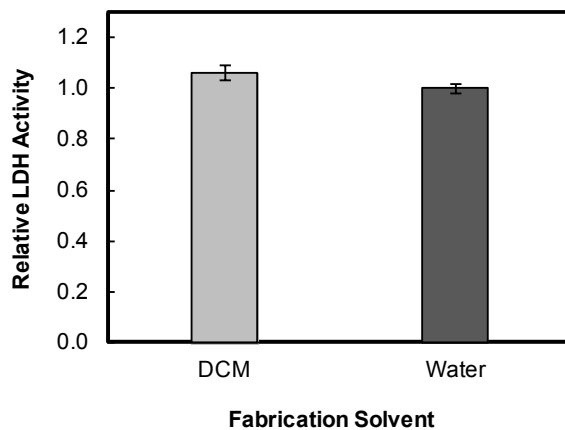


Fig. S1. LDH activity (24 hr) for PEG-DA hydrogels (3.4k g/mol; 10 wt%) prepared via SIPS (i.e. from a DCM precursor solution) or prepared from an aqueous precursor solution.

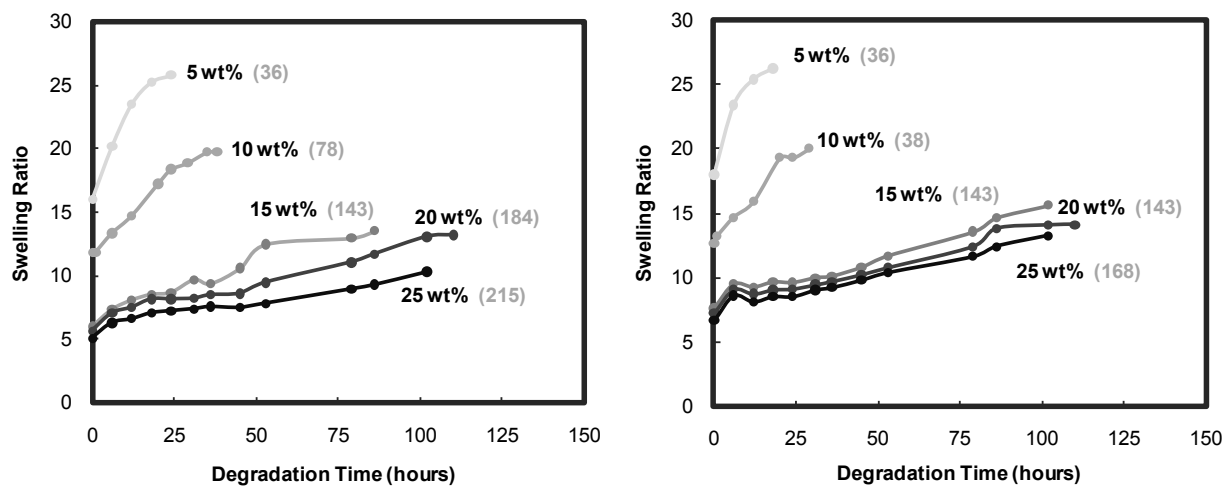


Fig. S2. Swelling ratio as a function of degradation time under basic conditions (0.05 M NaOH) of conventional PEG-DA hydrogels fabricated with 3.4k g/mol (left) and PEG-DA 6k g/mol (right) from an aqueous precursor solution at various wt% concentrations. () = hours to complete dissolution.