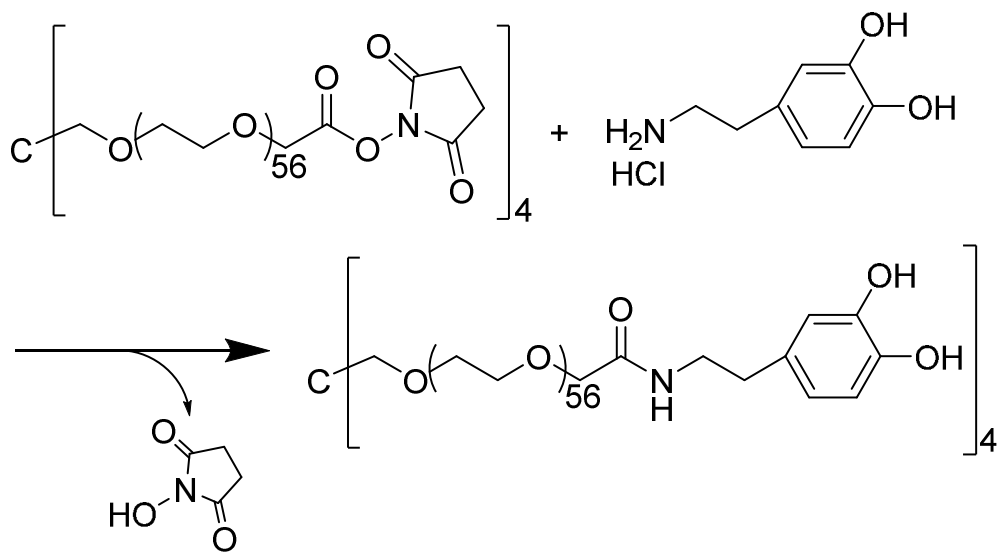


SUPPORTING INFORMATION



Scheme S1. Synthesis scheme of PEG-D.

¹H-NMR (400 MHz, d₆-DMSO)

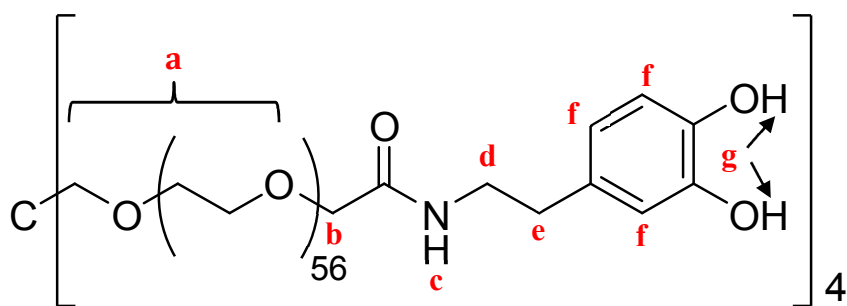
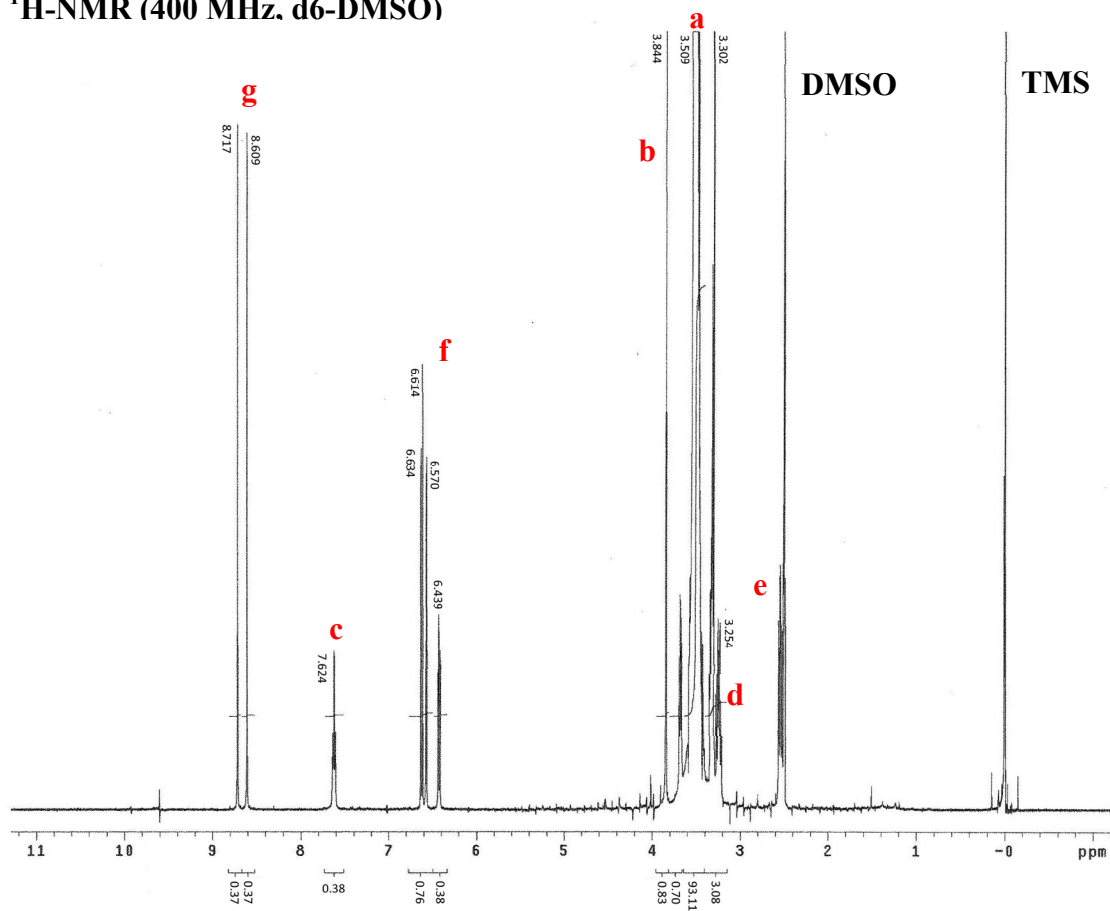


Figure S1. ¹H NMR of PEG-D performed in d₆-DMSO with the peaks labeled with corresponding protons.

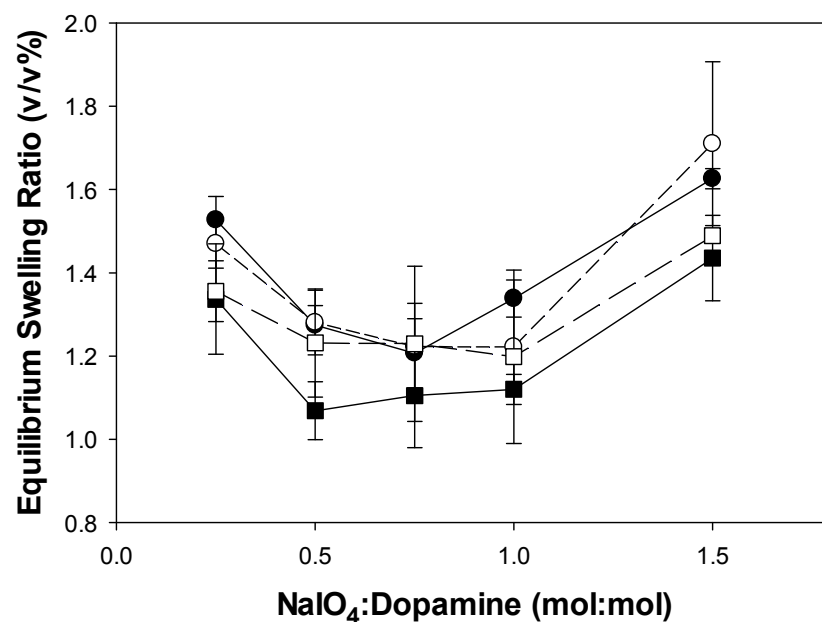


Figure S2. Equilibrium swelling ratio as a function of NaIO₄:dopamine molar ratio for hydrogels formulated with precursor solutions adjusted to a pH of 5.7 (●), 6.7 (○), 7.4 (■), and 8.0 (□).

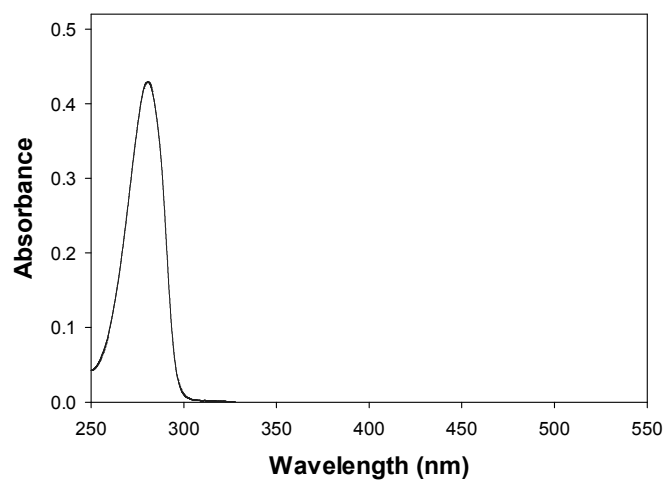


Figure S3. UV-vis spectrum of 50 μ M PEG-D (200 μ M dopamine) in 10 mM sodium phosphate buffered at pH 5.7.

Table S1. Polymer volume fraction (v_r) in the relaxed PEG-D hydrogel using a 0.5 IO₄:dopamine molar ratio (n = 3 each)*

pH	v_r
5.7	0.0687 ± 0.000333
6.7	0.0676 ± 0.000614
7.4	0.0679 ± 0.00117
8.0	0.0677 ± 0.00111
Overall Average	0.0680 ± 0.000885

* There was no statistical difference between groups and the coefficient of variance for all test groups were lower than 1.7%. As such, the average value of these 12 samples was used in calculation of the molecular weight between cross-links and the equilibrium swelling ratio.

Table S2. Adhesive properties of PEG-D and commercial CoSeal tested at pH 7.4

	PEG-D*		CoSeal^
	1 hr	overnight	
Adhesive Strength (kPa)	3.3 ± 0.52	7.8 ± 1.7	0.63 ± 0.19
Work of Adhesion (J/m ²)	4.8 ± 1.0	15 ± 2.0	1.5 ± 0.65

* Tested after incubation for either 1 hr or overnight

^ Tested after incubation for overnight

Table S3. Results of MTT cell viability assay for extract of PEG-D cured using a NaIO₄:dopamine molar ratio of 0.5.

pH	Cell Viability
5.7	$100\% \pm 16\%$
6.7	$110\% \pm 12\%$
7.4	$98\% \pm 4.0\%$
8.0	$99\% \pm 10\%$