

## Supporting Information

### Two-stage thiol-based click reactions for the preparation and adhesion of hydrogels

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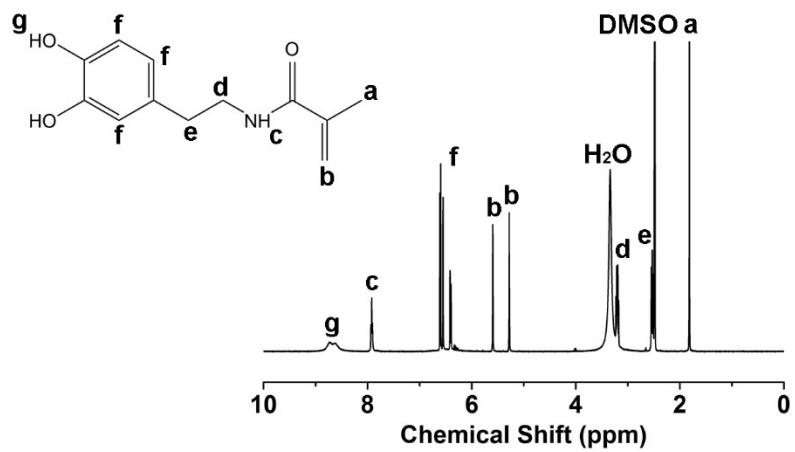
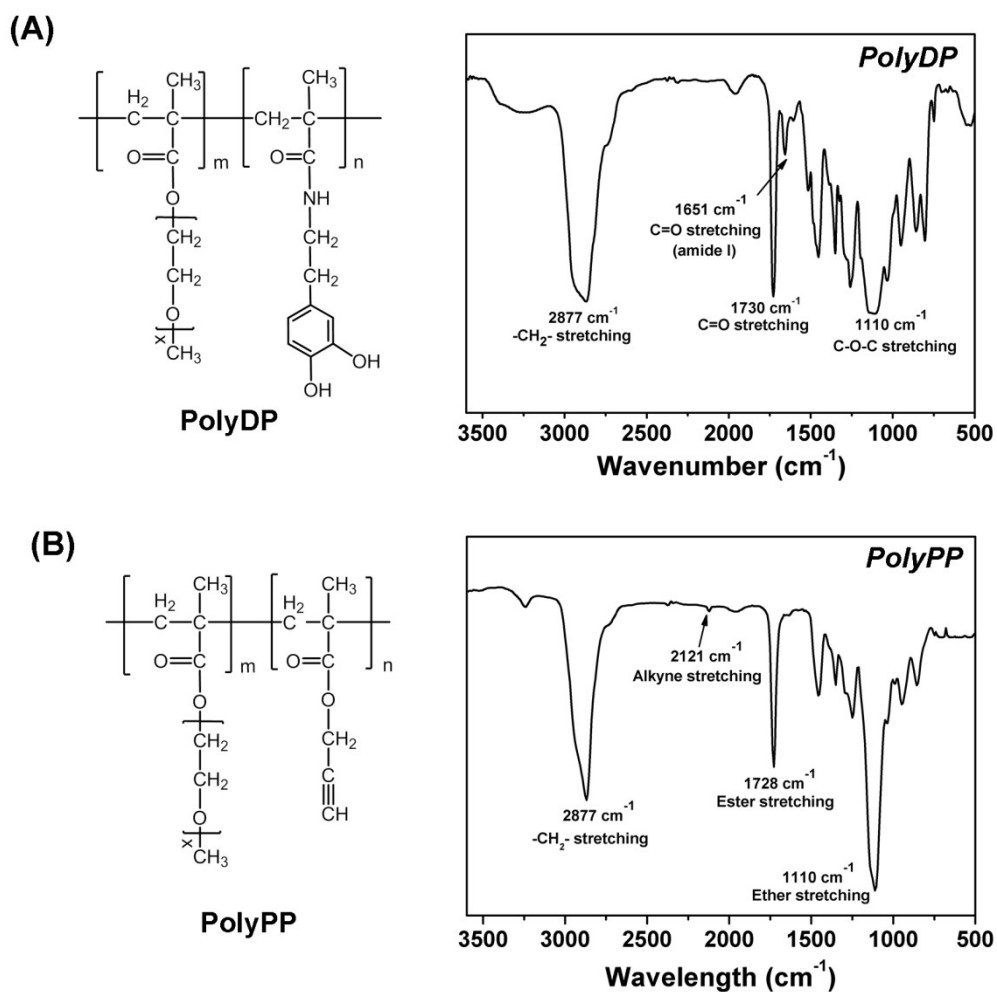
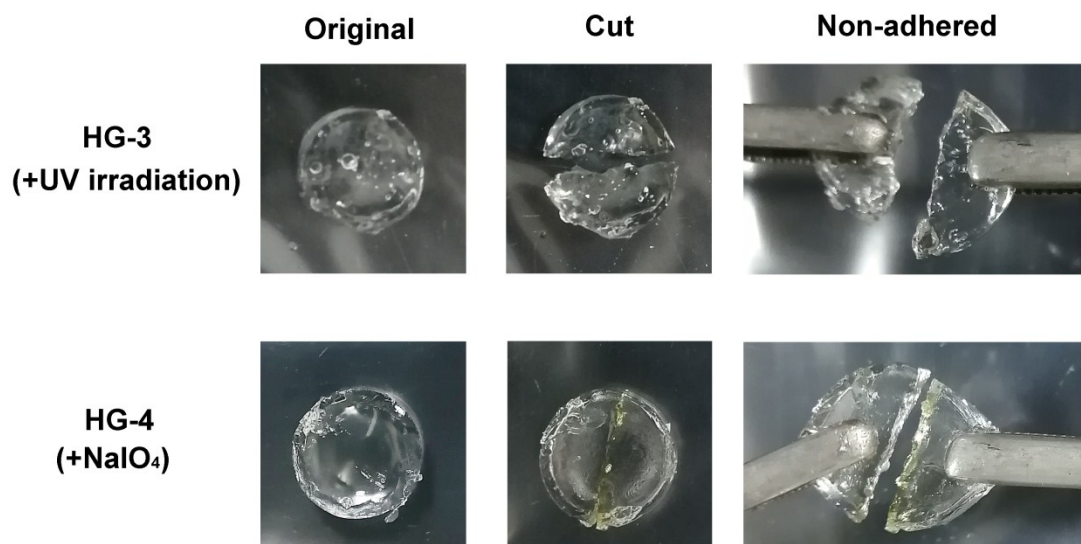


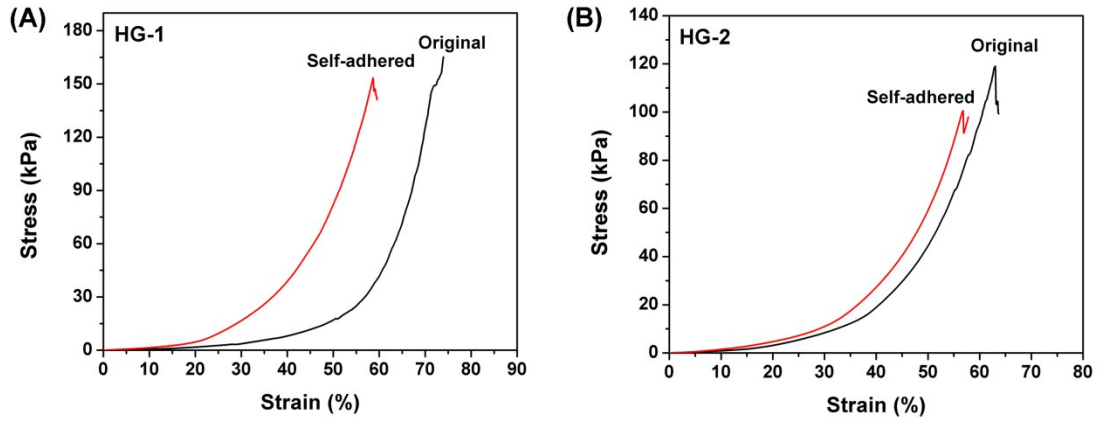
Figure S1 <sup>1</sup>H NMR spectrum of *N*-(3, 4-dihydroxyphenethyl) methacrylamide (DMA) in DMSO-d<sub>6</sub>.



**Figure S2** The FT-IR spectra for the copolymer (A) poly(DMA-*co*-PEGMA) (polyDP) and (B) poly(PMA-*co*-PEGMA) (polyPP)











**Figure S3** The self-adhesion performances for HG-3 (prepared by poly(DMA-*co*-PEGMA) and 4-arm thiol-PEG) under UV irradiation for 20 minutes and HG-4 (prepared by poly(PMA-*co*-PEGMA) and 4-arm thiol-PEG) with addition of NaIO<sub>4</sub> ([NaIO<sub>4</sub>]: 5.25 mg/mL, 25  $\mu$ L~50  $\mu$ L)



**Figure S4 The stress-strain curves of the original and self-adhered hydrogels. (A) HG-1 hydrogel, (B) HG-2 hydrogel**

**Table S1 The gelation pictures for 4-arm PEG-SH added with NaIO<sub>4</sub> aqueous solution and NaIO<sub>4</sub> in poly(PDP) solution**

[NaIO <sub>4</sub> ] <sup>a</sup>	6.5 mg/mL	7.5 mg/mL	10.5 mg/mL <sup>b</sup>	12 mg/mL
	×	×	×	✓
NaIO <sub>4</sub> in H <sub>2</sub> O solution (0.25 mL)+ 4-arm PEG-SH (0.25 mL)				
	✓	✓	✓	✓
NaIO <sub>4</sub> in poly(PDP) solution (0.25 mL)+4-arm PEG-SH (0.25 mL)				

<sup>a</sup>: 25 μL of NaIO<sub>4</sub> was added.

<sup>b</sup>: The final concentration of NaIO<sub>4</sub> was 0.046 wt% in the pre-solution for hydrogel preparation.