

Electronic Supplementary Information

Preparation of *in situ*-Forming Poly(5-methyl-5-allyloxycarbonyl-1,3-dioxan-2-one)-Poly(ethylene glycol) Hybrid Hydrogels with Tuneable Swelling, Mechanical Strength and Degradability

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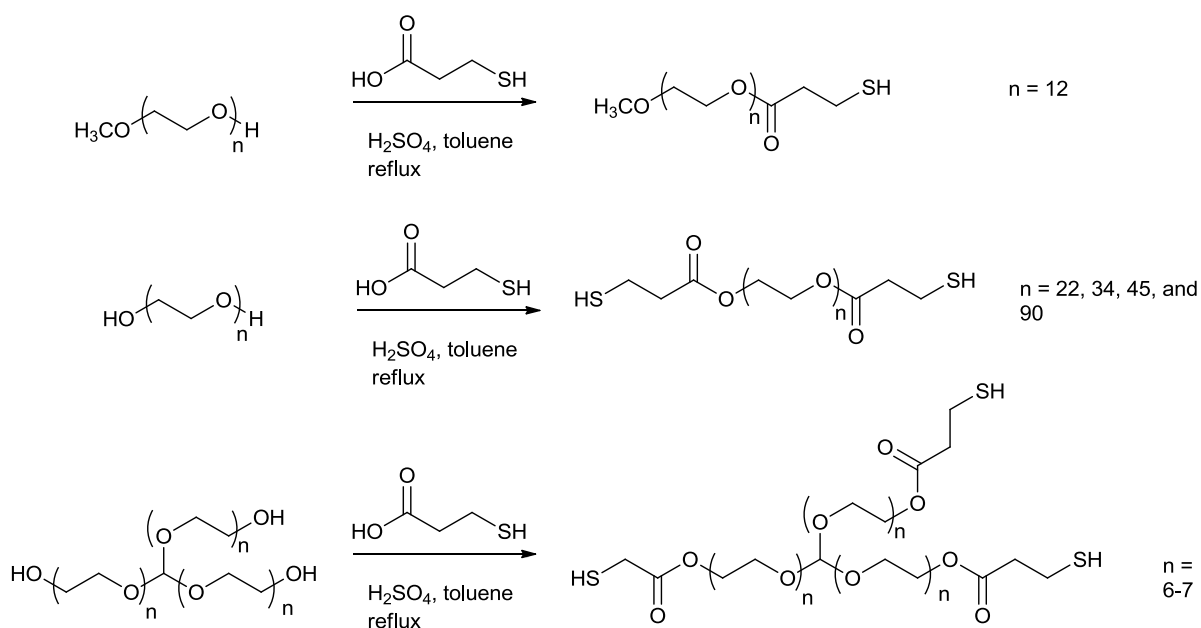
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Scheme S1: Synthesis of thiolated-PEG

¹H NMR and GPC data of the polymer precursor

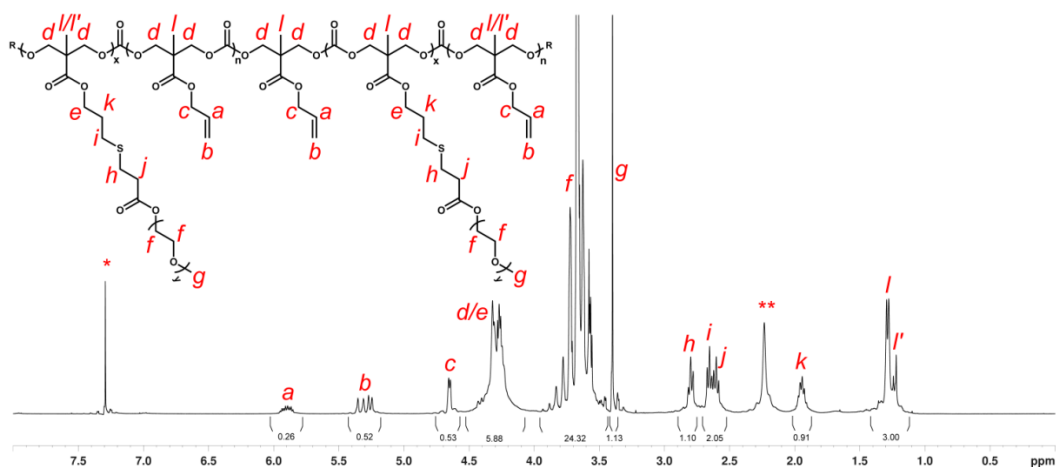


Fig.S1 ¹H NMR in CDCl₃ of PMAC-*g*-PEG after dialysis as detailed in the experimental section (400 MHz, 293 K; * = residual CHCl₃, ** = H₂O). Prime (') assignments are for chain-ends where R = H.

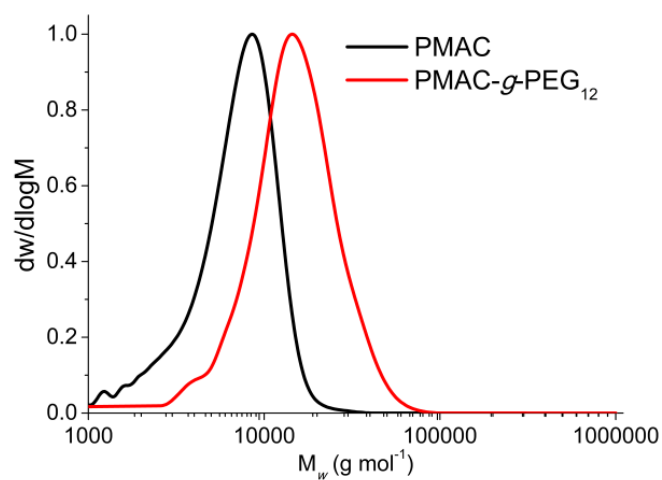


Fig.S2 GPC traces of PMAC (black, $M_n (\bar{M}_n) = 5\,870 \text{ g mol}^{-1}$ (1.39)) and PMAC-*g*-PEG (red, $M_n (\bar{M}_n) = 12\,440 \text{ g mol}^{-1}$ (1.35)).

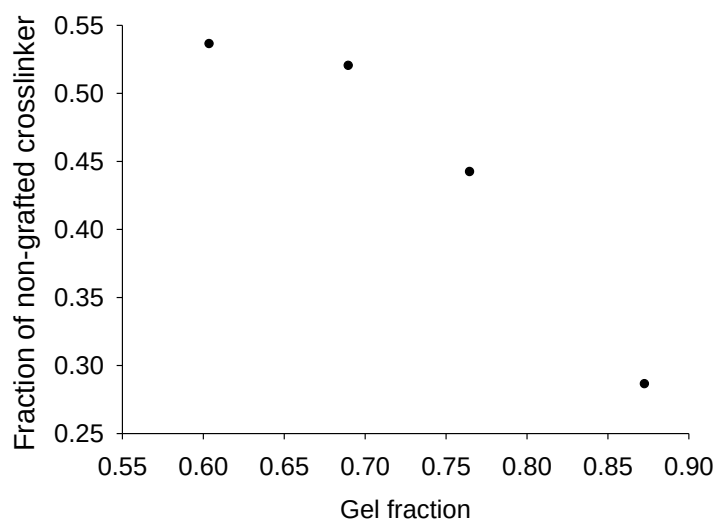


Fig.S3 Correlation between the gel fraction and fraction of unincorporated crosslinker, which indicates the relation between gel fraction and crosslinking density

Additional gel characterisation data

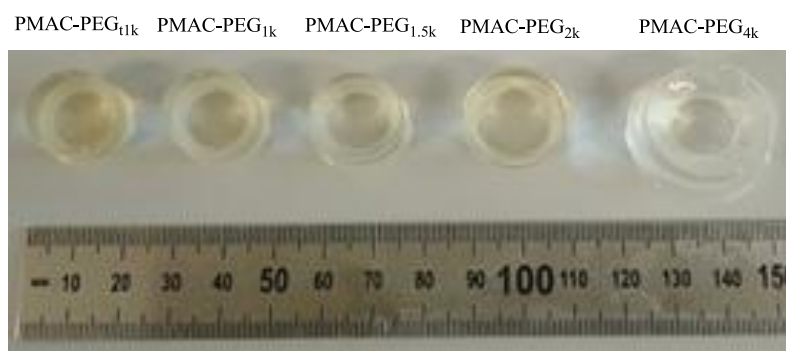


Fig.S4 Pictures of fully swollen hydrogels at ambient temperature from dry gels with similar mass.

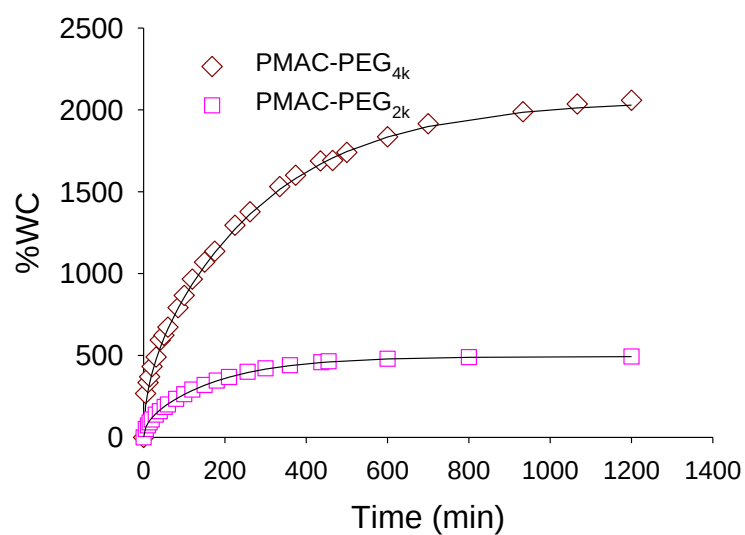


Fig.S5 Kinetics of water uptake of PMAC-PEG_{4k} and PMAC-PEG_{2k} at room temperature

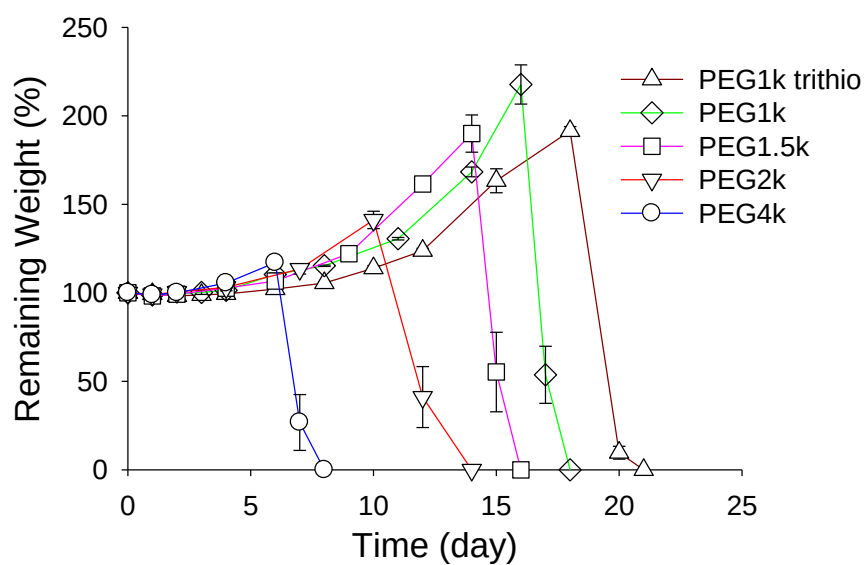


Fig.S6 Degradation profiles of PMAC-PEG gels in PBS pH 7.4 at 37 °C with *lipase* from *Thermomyces lanuginosus*.