

Supporting Information for Fully Biodegradable Antibacterial Hydrogels via Thiol-ene “Click” Chemistry†

Hong Du,^{‡a} Guangyu Zha,^{‡b} Lilong Gao,^a Huan Wang,^a Xiaodong Li,^b Zhiquan Shen,^a Weipu Zhu^{a*}

^a MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, People's Republic of China.

^b Department of Oral and Maxillofacial Surgery, Department of Oral and Maxillofacial Surgery, Affiliated Stomatology Hospital, School of Medicine, Zhejiang University, Hangzhou 310006, China.

† Electronic Supplementary Information (ESI) available. See DOI: 10.1039/b000000x/

‡ These two authors contributed equally to this work.

* Correspondence to: W. P. Zhu (E-mail: zhuwp@zju.edu.cn)

Synthesis of POEGMS

15.0 g of diol oligo(ethylene glycol) (OEG, $M_n = 600$, 25 mmol), 3.75 g of mercaptosuccinic acid (MSA, 25 mmol) and 123 mg of $\text{Sc}(\text{OTf})_3$ (0.25 mmol) were mixed and stirred at 80 °C under a nitrogen flow. After a homogeneous state was observed, the pressure was gradually reduced to 0.3 mm Hg and then maintained for 12 h. The crude product was dissolved in methylene chloride, and poured into large amount of cold ethyl ether to precipitate the product. (13.4 g, yield: 75.1 %)

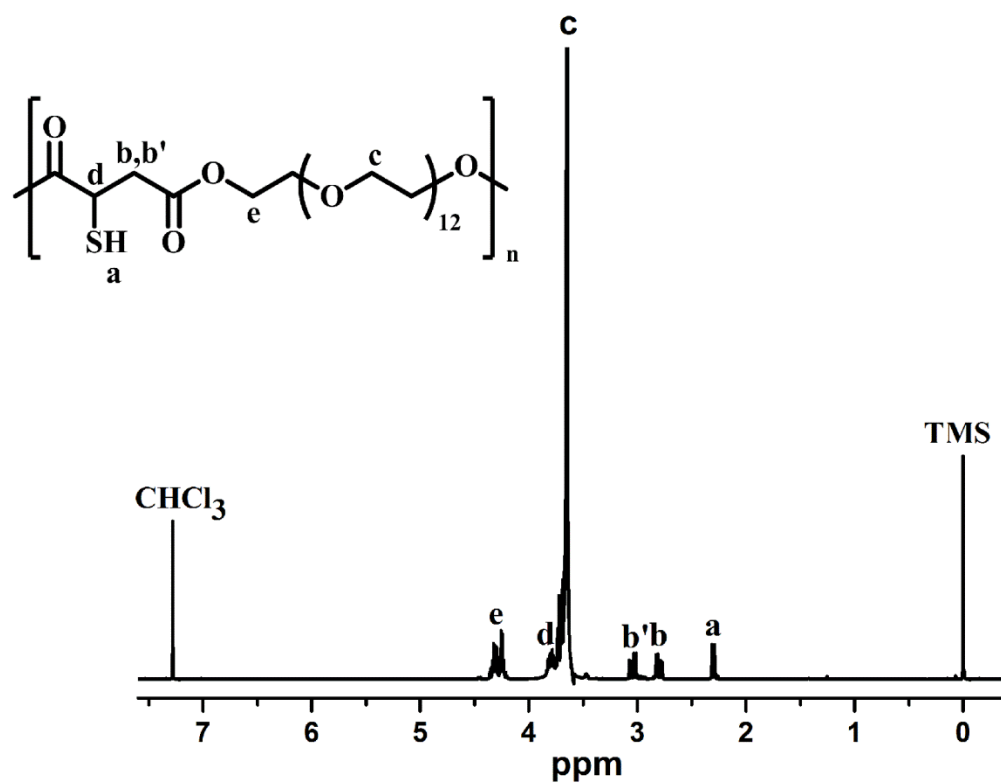


Fig. S1 ¹H NMR of POEGMS.

Mn=6,500, PDI=1.80

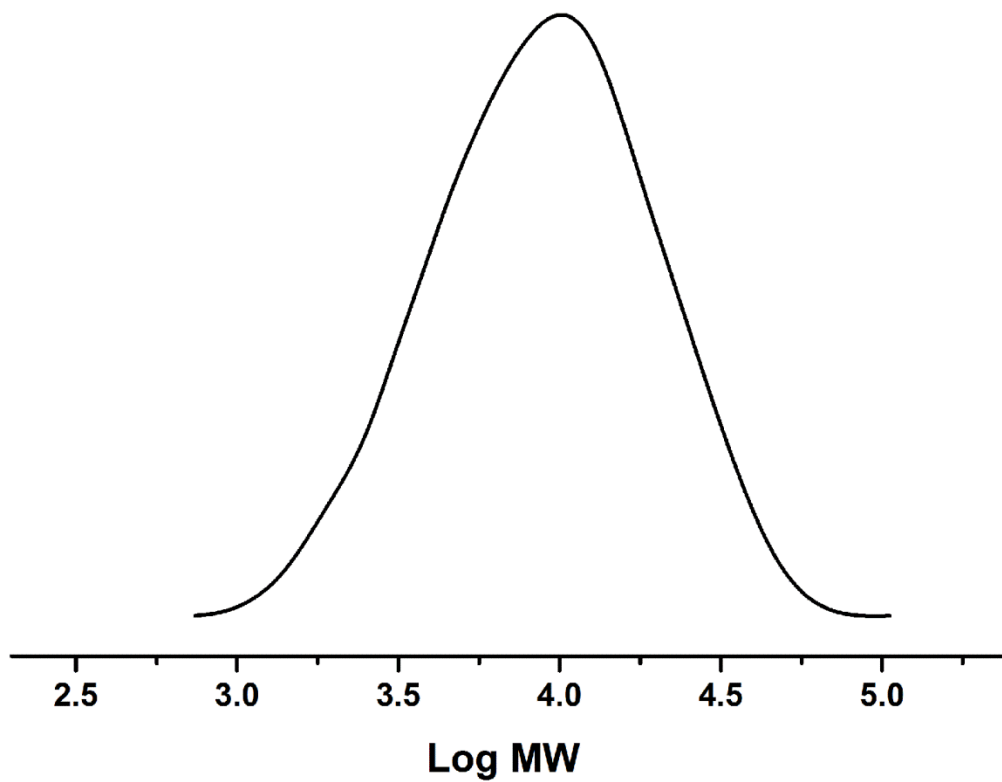


Fig. S2 GPC trace of POEGMS.

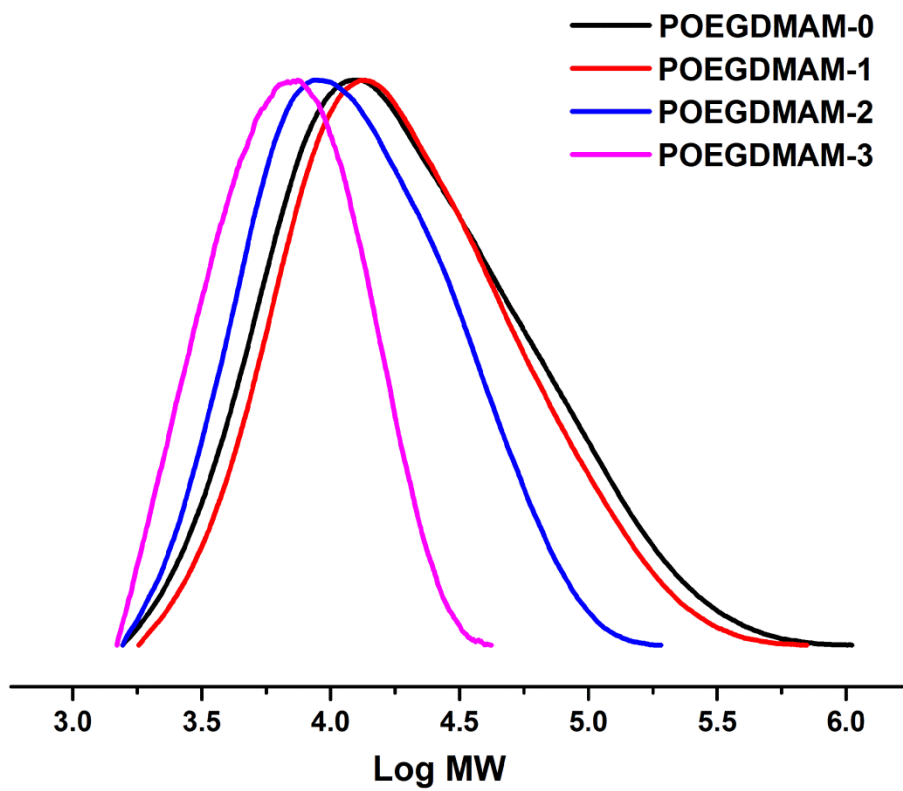


Fig. S3 GPC traces of POEGDMAMs.