Electronic Supplementary Material (ESI) for Polymer Chemistry

Supporting Information

A versatile macro-initiator with dual functional anchoring groups for surface-initiated atom transfer radical polymerization on various substrates

Qiangbing Wei,[a,b] Xiaolong Wang *[a] and Feng Zhou *[a]

[a] State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, P. R. China. Fax: +86-931-4968163; Tel: +86-931-4968466; E-mail: wangxl@lzb.ac.cn, zhouf@lzb.ac.cn

[b] Graduate School of Chinese Academy of Sciences, Beijing 100039, P. R. China

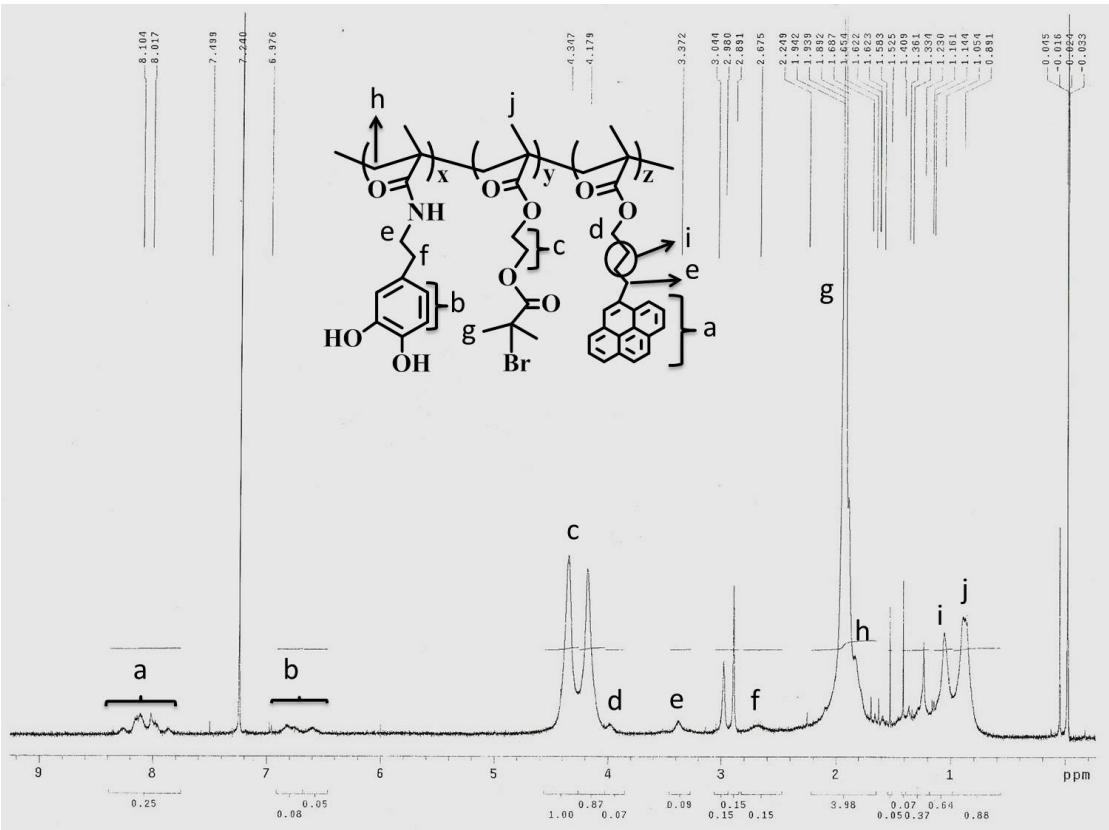

Fig. S1 [1]H-NMR spectrum of copolymer poly(DOPAMA-PBMA-BIEM).

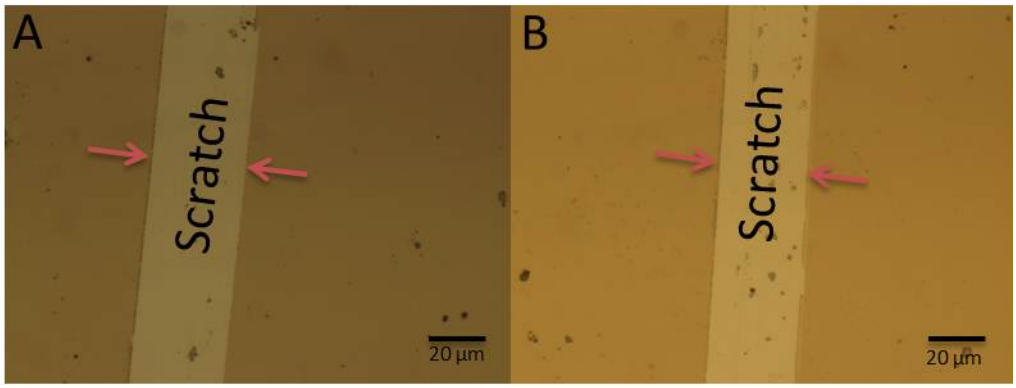

Fig. S2 Optical microscope images of POEGMA-OH film with a scratch on Ti substrate. A: POEGMA-OH modified Ti substrate; B: after soaked in 0.1 M NaOH for 1 h and then ultrasonicated for 1 h in turn with two cycles.

Table S1 The thickness of dry POEGMA-OH brushes modified Ti substrates for 90 min.

Samples	**Ti-POEGMA-OH** [a]	**Ti-POEGMA-OH** [b]	**Ti-POEGMA-OH** [c]
Thickness (nm)	35.0±0.28	33.2±0.27	34.7±0.33

[a] prepared from fresh macro-initiator solution; [b] prepared from macro-initiator solution stored for one month; [c] the POEGMA-OH film was soaked in 0.1 M NaOH for 1 h and then ultrasonicated in distilled water for 1 h in turn with two cycles.

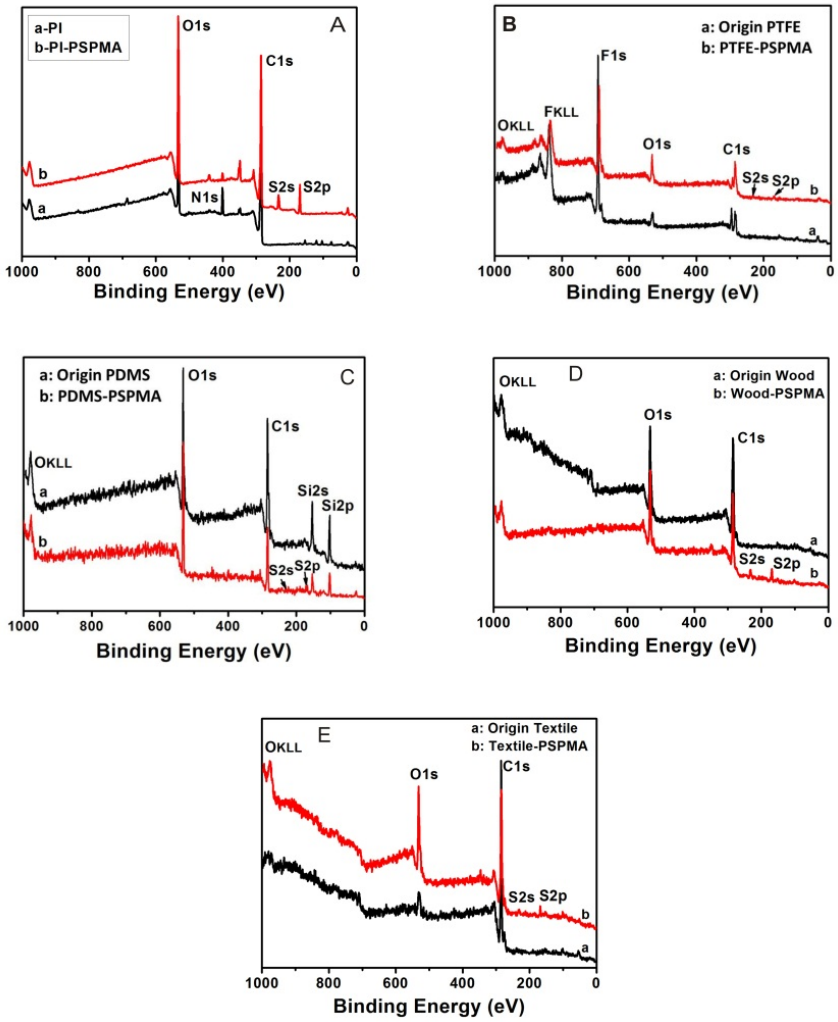

Fig. S3 XPS survey spectra corresponding to the region spectra of Fig. 7. A: PI; B: PTFE; C: PDMS; D: Wood; E: Textile.