Supplementary material

Surface graft polymerization process on chemically stable medical ePTFE for suppressing platelet adhesion and activation

Yihua Liu, Maria Chiara Munisso, Atsushi Mahara, Yusuke Kambe, Kyoko Fukazawa, Kazuhiko Ishihara, and Tetsuji Yamaoka*

a Department of Biomedical Engineering, National Cerebral and Cardiovascular Center, 5-7-1 Fujishirodai, Suita, Osaka 565-8565, Japan
b Department of Materials Engineering, Graduate School of Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8566, Japan

Corresponding Author
* E-mail: yamtet@ncvc.go.jp. Tel.: +81-6-6833-5012 (ext.2637). Fax: +81-6-6835-5476. Tetsuji Yamaoka
Experiment of Fig.S1: Surface modification method was introduced in section 2.2. The surface wettability was measured according to section 2.3 for 0 day at room temperature. The AFM image for topography of ePTFE after 1 min Ar plasma treatment was measured according to section 2.4.

Fig. S1 Surface wettability of ePTFE, PTFE and PE with different grafting methods using a captive air bubble method of static contact angle measurement. AFM image for topography of ePTFE after 1 min Ar plasma treatment.
Fig. S2 In vitro platelet adhesion test for 1 h. PTFE and PE films were modified by MPC polymers with GMA linker (two-step and one-step), and without GMA linker (direct) methods. The adherent platelets were observed by CLSM (Red, rhodamine phalloidin).
Fig. S3 In vitro platelet adhesion test for 1 h. PTFE and PE films were modified by MPC polymers with GMA linker (two-step and one-step), and without GMA linker (direct) methods. The adherent platelets were observed by SEM.
Fig. S4 In vitro platelet adhesion test for 1 h. Standard curve for LDH assay (top). The density of adherent platelets on substrates was analyzed by LDH assay (bottom).
Experiment of Fig.S5-S6 was introduced in section 2.6.

Fig. S5 Porcine blood contact test for 2 h in situ. CLSM fluorescence imaging of platelet adhesion and aggregation (green, CD41 antibody (FITC)) on ePTFE and PTFE sutures.
Fig. S6 Porcine blood contact test for 2 h in situ. SEM imaging of blood contacted surfaces on ePTFE and PTFE sutures.