**Supplementary Data**

**Quantitative evaluation of interaction force of fibrinogen at well-defined surfaces with various structures**

Weixin Chena, Yuuki Inouea, Kazuhiko Ishiharaa,b,\*

*aDepartment of Materials Engineering, School of Engineering and bDepartment of Bioengineering, School of Engineering, The University of Tokyo*

*7-3-1, Hongo, Bunkyo-ku, Tokyo 113-8656, Japan*

\*To whom all correspondence should be addressed

Tel: +81-3-5841-7124

Fax: +81-3-5841-8647

e-mail: ishihara@mpc.t.u-tokyo.ac.jp



Figure S1. XPS spectrum of surfaces (C1s and O1s)



Figure S2. XPS spectrum of surfaces (N1s and P2p)

Table S1. Statistical analysis of interaction force

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | PBMA | PHEMA | PmOEGMA | PMB | PC-SAM | TEG-SAM | NH3Cl-SAM | COOH-SAM | OH-SAM |
| PMPC | 0.104 | 0.042 | 0.073 | 0.116 | 0.002 | 0.002 | 0.003 | 0.093 | 0.005 |
| PBMA | / | 0.625 | 0.221 | 0.94 | 0.439 | 0.685 | 0.940 | 0.155 | 0.706 |
| PHEMA | / | / | 0.079 | 0.019 | 0.542 | 0.607 | 0.173 | 0.705 | 0.481 |
| PmOEGMA | / | / | / | 0.840 | 0.025 | 0.007 | 0.013 | 0.324 | 0.010 |
| PMB | / | / | / | / | 0.022 | 0.014 | 0.003 | 0.307 | 0.005 |
| PC-SAM | / | / | / | / | / | 0.009 | 0.006 | 0.836 | 0.028 |
| TEG-SAM | / | / | / | / | / | / | 0.067 | 0.421 | 0.857 |
| NH3Cl-SAM | / | / | / | / | / | / | / | 0.242 | 0.039 |
| COOH-SAM | / | / | / | / | / | / | / | / | 0.448 |

According to the statistical analysis result shown in the table, the interaction force of the PMPC brush surface had difference statistically from that of other surfaces. For the PMPC brush surfaces, the interaction force was only 0.1 nN and fibrinogen adsorption was less than 5.0 ng/cm2. These results indicated that PMPC brush surfaces had significantly strong repellency to protein adsorption.