

SUPPORTING INFORMATION

Supporting Figure 1. Representative ESCA survey scans for each of the ATRP monomer reaction ratios (TM:SA): (a) 1:0 ratio, (b) 2:1 ratio, (c) 1:1 ratio, (d) 1:2 ratio, and (e) 0:1 ratio.

Supporting Figure 2. Representative AFM analysis used to determine the height of the polymer brushes formed during ATRP. (a) AFM topographical image from a patterned feature following ATRP from a 1:1 monomer ratio. The line represents the cross sectional profile shown in (b); (b) cross sectional analysis of the topographical images from both a SAM control (solid) and a polymer brush formed from a 1:1 monomer ratio (dashed). The difference between the feature heights is the height of the polymer brush formed during ATRP as indicated. The z-scale for the AFM image is 100 nm.

Supporting Figure 3. Representative SPR sensorgrams showing the typical protein adsorption behavior to each of the polymer brush reaction ratios (TM:SA): (a) 1:0 ratio, (b) 2:1 ratio, (c) 1:1 ratio, (d) 1:2 ratio, and (e) 0:1 ratio. PBS buffer was flowed for the first 10 minutes and then three independent channels were switched to protein solutions containing 1 mg/mL of FBG (black solid line), BSA (red dashed line), or LYZ (blue dotted line) in 150 mM PBS buffer (pH 7.4). After 10 minutes of adsorption, the channels were returned to PBS for 10 minutes to reestablish the baseline. For the SPR sensor used in this study, a 1 nm shift in wavelength starting at 750 nm represents a surface coverage of $\sim 15 \text{ ng/cm}^2$ of adsorbed protein.

Supporting Table 1: ESCA Composition Summaries (Avg. \pm St. Dev.)

TM:SA Ratio	1:0	2:1	1:1	1:2	0:1
O 1s	26.1 \pm 1.9	28.2 \pm 1.1	29.2 \pm 0.7	32.8 \pm 1.2	35.1 \pm 1.5
C 1s	65.2 \pm 3.1	62.5 \pm 1.0	61.5 \pm 1.8	56.9 \pm 1.8	52.7 \pm 2.6
N 1s	3.4 \pm 0.8	2.8 \pm 0.6	2.8 \pm 0.2	2.0 \pm 0.2	< 1.0
S 2p	< 1.0	2.3 \pm 0.5	2.9 \pm 0.2	3.7 \pm 0.2	5.1 \pm 0.3
Ti 2p	2.9 \pm 0.7	3.0 \pm 0.4	3.1 \pm 0.3	4.2 \pm 0.4	4.1 \pm 0.5
Au 4f	1.0 \pm 0.3	< 1.0	< 1.0	< 1.0	< 1.0
Cl 2p	1.8 \pm 1.6	ND [*]	ND [*]	ND [*]	ND [*]
Na 1s	ND [*]	ND [*]	ND [*]	< 1.0	2.1 \pm 1.6
Trace (< 1.0)	P, Si	Cu, P	Cu, Si	ND [*]	Cu, Ca, Br

ND^{*} - None detected for this sample.

Supporting Table 2: Additional Reaction Conditions (Avg. Adsorption)

Reaction Conditions	FBG (ng/cm ²)	LYZ (ng/cm ²)
Base Case: 1 hr reaction, 25° C	2.66	3.76
Temp.: 1 hr reaction, 40 ° C	0.55	1.21
Time: 24 hr reaction, 25° C	-2.08	-3.77