Supporting information

Antifouling Surfaces Enabled by Surface Grafting of Highly Hydrophilic Sulfoxide Polymer Brushes

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Table S1. Molecular characteristics of the polymers including target DP, conversion, molecular weight, and dispersity for surface-initiated PET-RAFT polymerization and free polymers.

Entry	Monomer	DP	Conversion (%)[a]	$M_{n,SEC}$	$M_{n,theo}$[d]	Dispersity ($Đ$)
1	MSEA	200	98	23700[b]	31990	1.39[b]
2	MSEA	500	95	76100[b]	77190	1.50[b]
3	MSEA	1000	92	100000[b]	149280	1.78[b]
4	OEGA	200	100	10400[c]	96240	1.18[c]
5	OEGA	500	100	19100[c]	240240	1.23[c]
6	OEGA	1000	100	41800[c]	480240	1.33[c]

Note: [a] determined by ^{1}H NMR by comparing the integral of protons of the vinyl group and methylene adjacent to the ester group of monomers before and after polymerization; [b] determined by SEC using DMAC as eluent; [c] determined by SEC using THF as eluent; [d] calculated by the equation $M_{n,theo}$ = DP × Conversion × $M_{w,\ monomer}$ + $M_{w,\ BTPA}$.

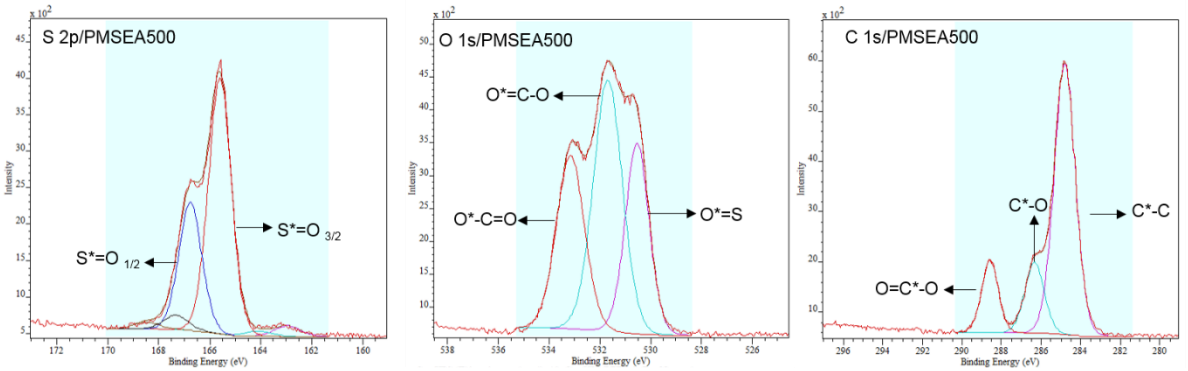

Figure S1. Deconvolution of S 2p, O 1s and C 1s spectra of glass-PMSEA500.

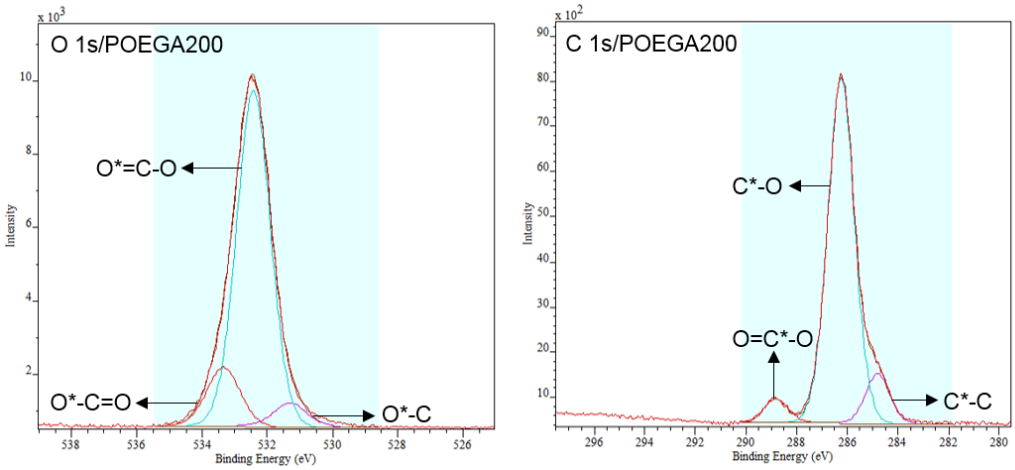

Figure S2. Deconvolution of C 1s and O 1s spectra of glass-POEGA200.

Table S2. Apparent chemical surface composition in atomic percentage (At.%) of the glass surface substrates.

Sample	C 1s	O 1s	S 2p	Si 2p	N 1s
Bare glass	12.16	68.69	-	19.15	-
Glass-BTPA	19.86	50.40	2.37	23.09	3.38
Glass-PMSEA	58.81	31.30	7.27	2.62	-
Glass-POEGA	63.96	33.40	-	2.65	-

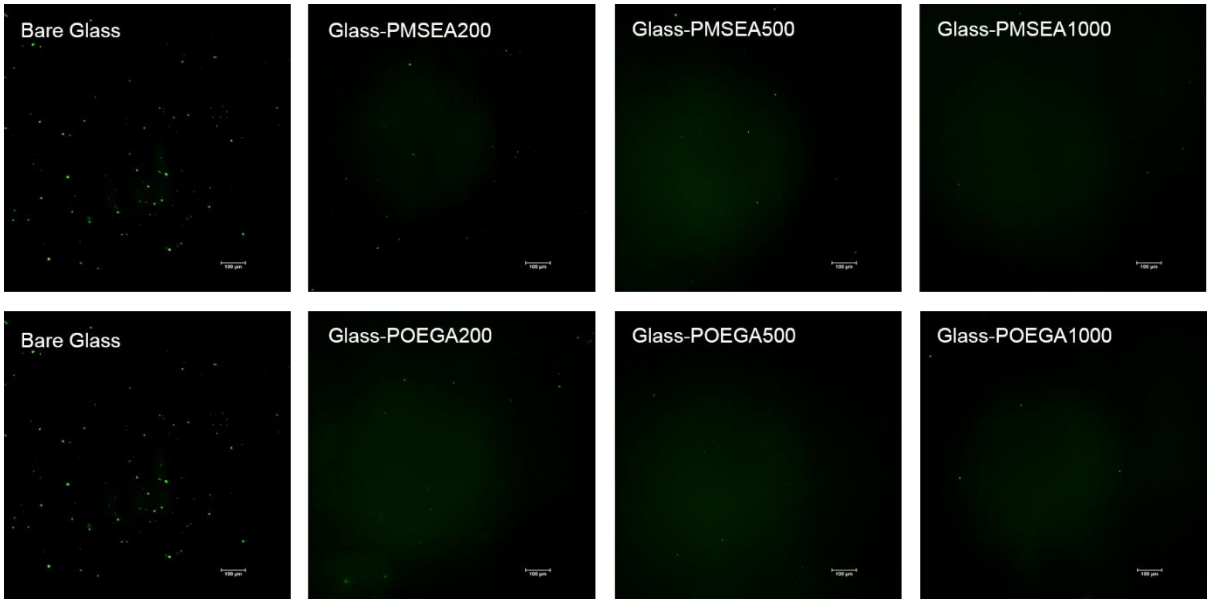

Figure S3. Protein adsorption onto different surfaces of the glass slips characterized by fluorescence microscopy. The scale bar is 100 μm. The slips were incubated with 10 mg/mL of lysozyme-FITC solution for 24 h before characterization.

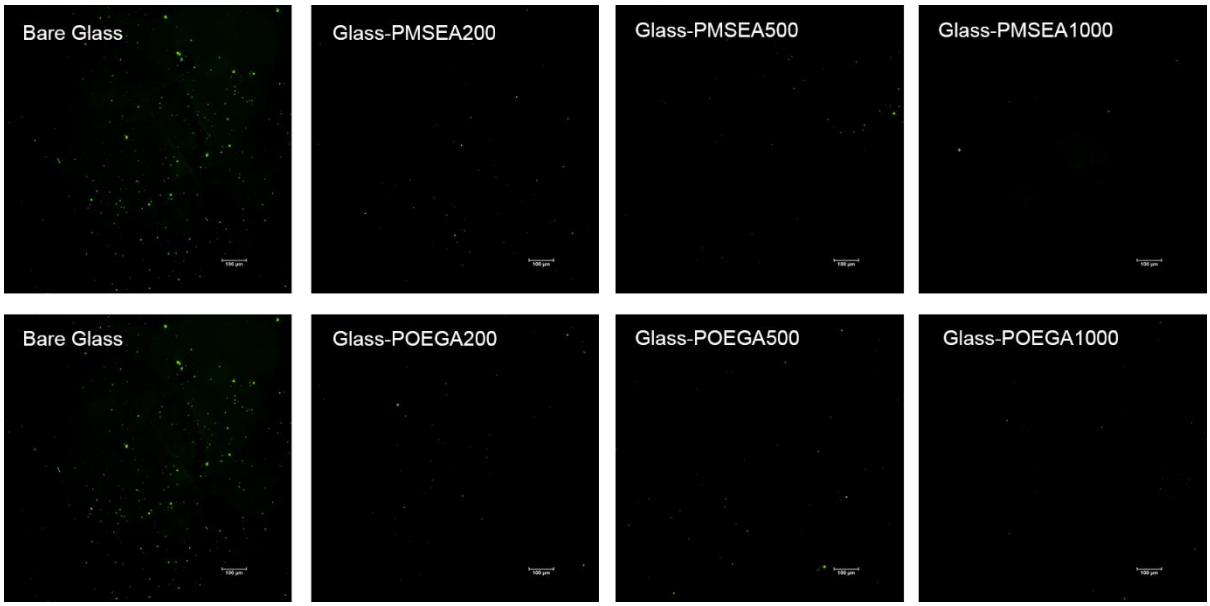

Figure S4. Protein adsorption onto different surfaces of the glass slips characterized by fluorescence microscopy. The scale bar is 100 μm. The slips were incubated with 10 mg/mL of BSA-FITC solution for 24 h before characterization.

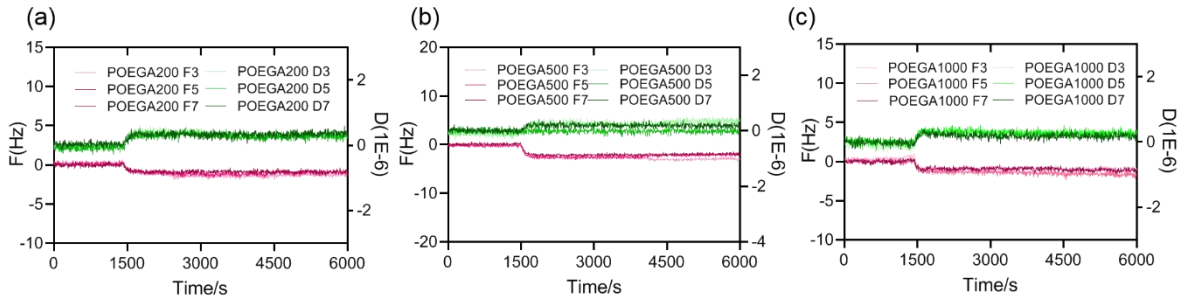

Figure S5. The changes in the frequency (F) and dissipation (D) of the (a) POEGA200-, (b) POEGA500-, and (c) POEGA1000-modifed sensors for the 3rd, 5th, and 7th overtone measured by the QCM-D after treatment of lysozyme (2 mg/mL) in PBS at 22 min (1320 sec).