

SUPPORTING INFORMATION

To check that the decrease in the amide I signal of fibrinogen on PEU was not a consequence of the input laser beams, a time course study of the 1650 cm^{-1} peak was performed (Figure S1). During the collection of the time course study in the amide I range, the IR and visible input beams were blocked on three occasions. These times are indicated by arrows in Figure 8. The trend observed is unaffected by the presence or absence of the input laser beams, indicating that the attenuation is not caused by a laser irradiation effect, rather the loss of signal is a result of changes in the protein structure due to polymer-protein interactions. A time course study of the 3275 cm^{-1} peak was also performed, and a strong correlation between the behavior of the 3275 and 1650 cm^{-1} peaks was observed. The small difference might be due to the small water signal variation overlapped with the N-H signal at 3275 cm^{-1} .

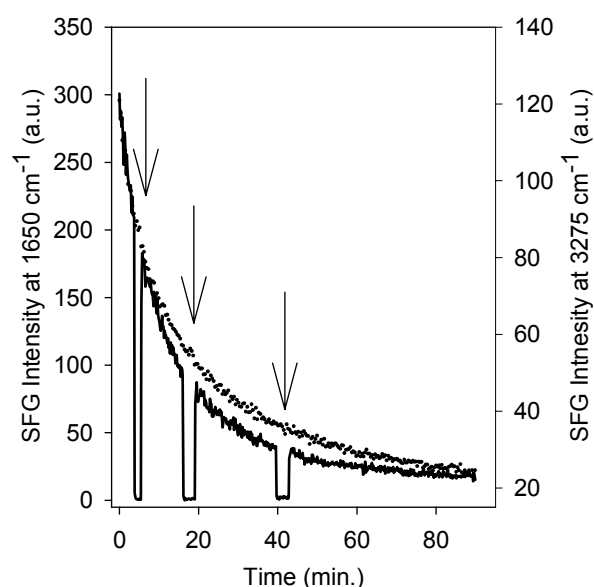


Figure S1. SFG time course study of fibrinogen solution contacting PEU, measuring peak intensities at 1650 cm^{-1} (solid line) and 3275 cm^{-1} (dots). Arrows indicate times where the input laser beams were blocked for the 1650 cm^{-1} experiment.

Fitting of SFG data was performed using eq. 1 in the text. Peak centers and widths were selected based on literature results (refs. 17 and 58 in the text), these values were kept constant for all samples. A peak was added to the PEU and SPCU samples to account for the polymer C=O group, 1703 and 1720 cm^{-1} respectively. A nonresonant background signal was included in the fitting. The intensities of the fitted peaks for the polymer with adsorbed fibrinogen/PBS interface are shown in Table S1.

Table S1. SFG fitting parameters of polymers with adsorbed fibrinogen/PBS interface after adsorption times from 10-90 minutes. Center and width values are in cm^{-1} . The intensity values, A, are reported for the spectra taken at each time interval.

PEU with adsorbed fibrinogen/PBS interface

Center	Width	A10	A20	A30	A40	A50	A60	A70	A80	A90
1600	10	4	4	4	4	4	4	4	4	5
1620	12	10	10	8	5	5	5	5	5	8
1635	13	45	40	38	35	30	25	25	25	22
1650	12	123	105	95	88	83	80	72	66	60
1668	11	5	5	5	5	5	5	5	5	15
1685	10	2	2	2	2	2	2	2	2	2
1703	12	12	15	15	20	20	18	18	19	20

SPCU with adsorbed fibrinogen/PBS interface

Center	Width	A10	A20	A30	A40	A50	A60	A70	A80	A90
1600	10	2	2	2	2	2	2	2	2	2
1620	12	4	4	4	4	4	4	4	4	5
1635	13	39	39	34	39	39	32	32	32	25
1650	12	138	140	149	145	150	149	149	144	160
1668	11	15	15	15	15	15	15	15	15	10
1685	10	3	3	3	3	3	3	3	3	2
1720	12	0	0	0	0	0	0	0	0	0

PFP with adsorbed fibrinogen/PBS interface

Center	Width	A10	A20	A30	A40	A50	A60	A70	A80	A90
1600	10	15	15	15	15	15	15	15	15	15
1620	12	30	30	30	30	30	30	30	30	25
1635	13	85	85	85	85	85	85	85	85	85
1650	12	170	190	195	197	194	193	187	190	190
1668	11	20	20	20	20	20	20	20	20	20
1685	10	2	2	2	2	2	2	2	2	2