Transient Behavior of the Hydrophobic Surface/Water Interface: From Nanobubbles to Organic Layer

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The reflectivity change as function of laser incident angle at the equilibrium condition for SAM/ETH:30-W-SALT and hydrophilic SAM/ethanol-water cases are shown in Figures S1 and S2. A hydrophilic self-assembled monolayer of 11-mercapto 1-undecanol (97% Sigma) on gold was formed by exposure of the gold covered LaSFN9 glass slides to a 2 mM 11-mercapto 1-undecanol/ethanol solution for 14 hours. After SAM formation on the gold, the surfaces were rinsed with large amounts of ethanol and dried with.
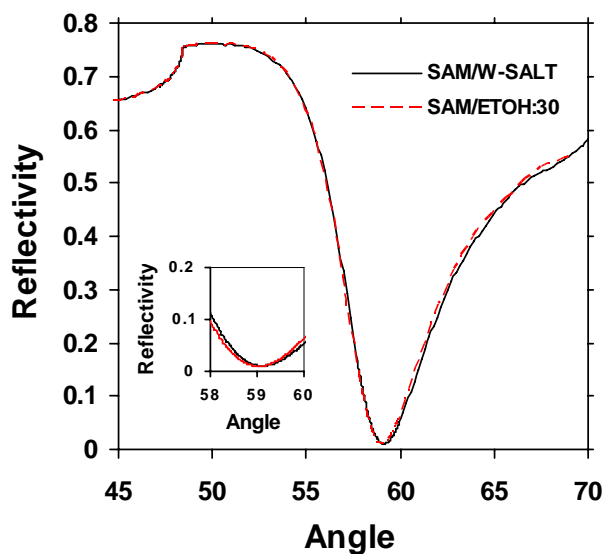

Figure S1. Reflectivity change as function of laser incident angle at the equilibrium condition for SAM/ETOH:30 and SAM/W-SALT cases. Inset shows the shift to higher angles due to adsorption.
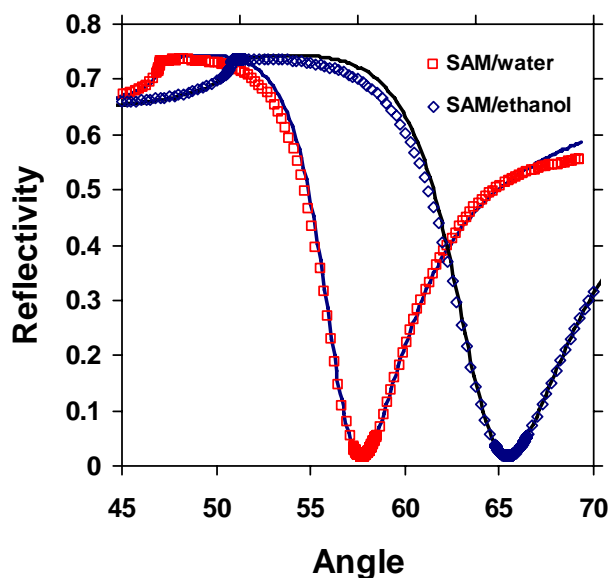
Figure S2. Reflectivity change as function of laser incident angle for the hydrophilic SAM. Fitting of experimental data is shown by the solid line. Estimated SAM thickness is equal to 1.6 nm assuming a refractive index of 1.45.
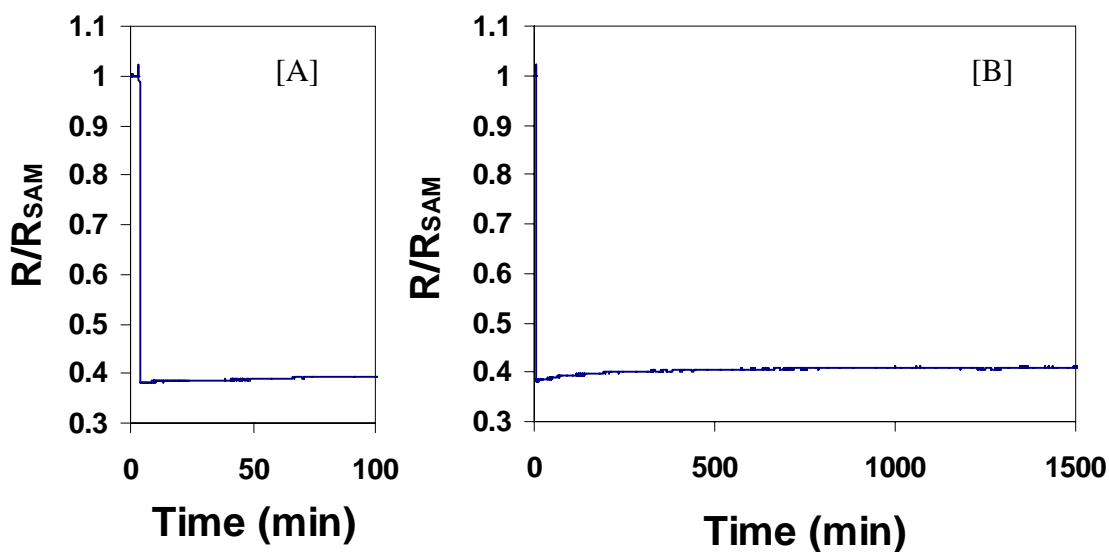

Figure S3. Change of normalized reflectivity measured for n-BTOH-water case. R_{SAM} stands for the reflectivity of SAM/ethanol at 56.6 (about 1° degree less than the calculated minimum reflectivity angle for SAM/n-BTOH). [A] short time plot. [B] long time evolution.

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changed in the text in Figure 3 "SAM/ethanol" to "SAM/n-BTOH"