Supporting Information

"In Situ Deprotection and Assembly of S-Trityl Alkanethiols on Gold Yields Monolayers Comparable to Those Prepared Directly from Alkanethiols"

Christina E. Inman, Scott M. Reed, and James E. Hutchison*

Department of Chemistry and Materials Science Institute, University of Oregon, Eugene, Oregon, 97403-1253

XPS spectra are reported for ODT and 1ATC15 monolayers formed from purified thiols as well as in situ deprotection (Figures S1-S5). XPS experiments were performed on a Kratos HSi Analytical Spectrometer using a monochromatic Al K α radiation (13.5 kV, 15 mA) with a pass energy of 20 eV and 0.1 eV step size. The PM-IRRAS spectra for monolayers formed from purified ODT and monolayers formed directly from the trityl protected are compared in Figure S6. PM-IRRAS studies were performed on a Nicolet Magna-IR 550 spectrometer with dual channel input, equipped with a photoelastic modulation (PEM) accessory (ThermoNicolet, Madison, WI), using 1024 signal-averaged scans with a mirror velocity of 0.9494 cm/sec and a resolution of 2 cm⁻¹.



Figure S1. XPS data for an ODT monolayer on gold.



Figure S2. XPS data for an in situ trityl-ODT monolayer on gold.



Figure S3. XPS data for an in situ acetyl-ODT monolayer on gold. The C (1s) peak has a higher binding energy shoulder that is not observed for ODT monolayers formed from the purified thiol.



Figure S4. XPS data for an 1ATC15 monolayer on gold.



Figure S5. XPS data for an in situ trityl-1ATC15 monolayer on gold.



Figure S6. Comparison of infrared spectra for monolayers formed from trityl-ODT (no deprotection) to those from purified ODT. Two representative spectra for each technique are plotted to demonstrate the sample-to-sample variability. Monolayers formed from the trityl-ODT (top) demonstrate significantly broader peaks that are shifted as compared to monolayers formed from purified thiol (bottom).