Supporting Information

Microenvironment Alterations Enhance Photocurrents from Photosystem I Confined in Supported Lipid Bilayers

Hanieh Niroomand,[†,#,§], Ravi Pamu,[‡,§], Dibyendu Mukherjee,*[,†,#,‡,§], and Bamin Khomami*[,†,#,‡]

[†]Sustainable Energy Education and Research Center (SEERC); [§]Nano-Biomaterials Laboratory for Energy, Energetics & Environment (nbml-E^3), [#]Department of Chemical & Biomolecular Engineering; [‡]Department of Mechanical, Aerospace & Biomedical Engineering, University of Tennessee, Knoxville

Corresponding Author

*Bamin Khomami; Phone: (865) 974-2421; Fax: (865) 974-7076; E-mail: bkhomami@utk.edu

*Dibyendu Mukherjee; Phone: (865) 974-5309; Fax: (865) 974-5274; E-mail: dmukherj@utk.edu

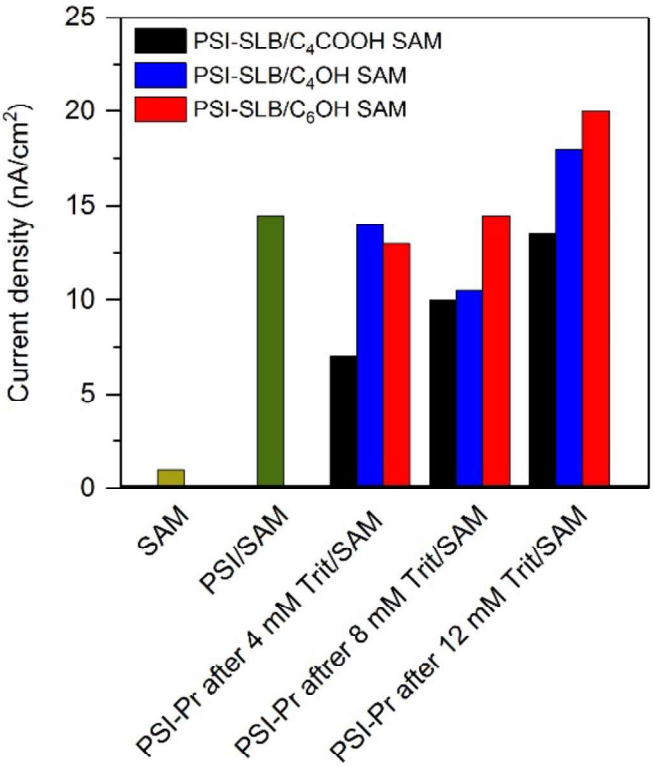

Figure.S1 Comparisons for maximum photocurrent densities (nA/cm^2) as obtained from chronoamperometry measurements on C_4COOH/SAM (control) along with PSI-SLB on different SAM/Au substrates made from PSI-proteoliposomes reconstituted with different TX-100 concentration (C_{trit} = 4, 8 and 12 Mm).

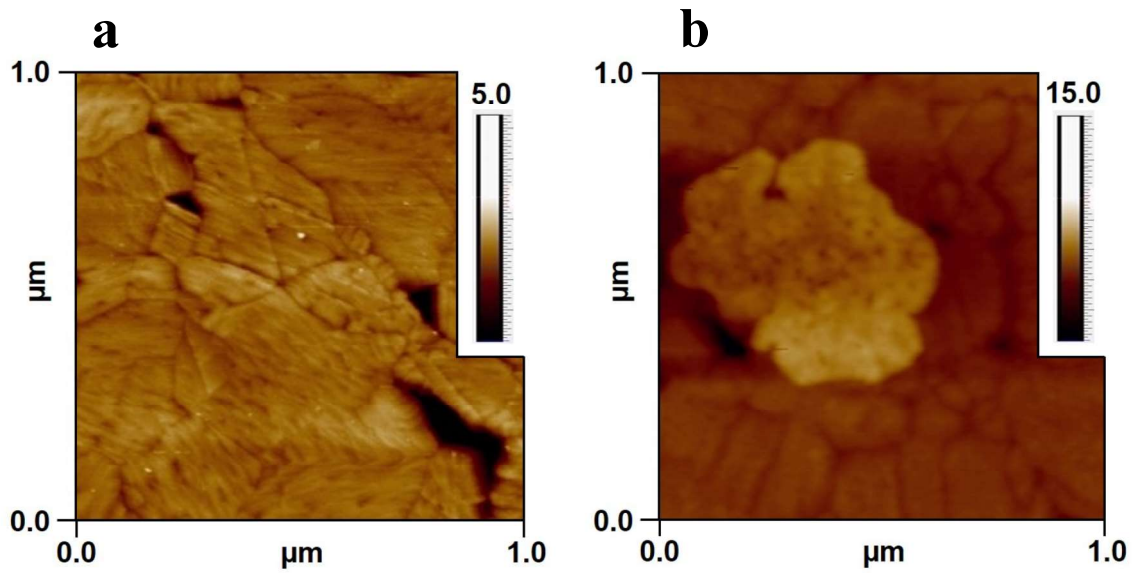

Figure.S2 AFM images showing the surface topographies of: (a) flat gold and (b) DPhPG/Au.

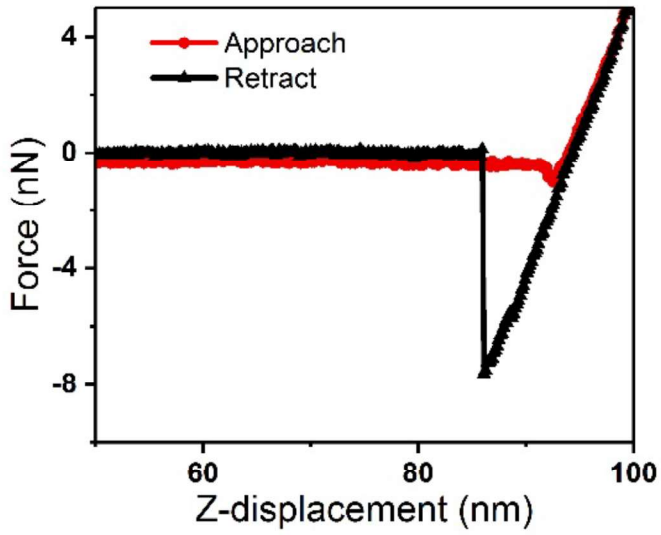

Figure.S3 Typical approach-retract curves for on flat gold. The hydrophilic surface induces an attractive force of a few pN on approach and, upon retraction, a strong adhesive force of >4nN. Force-distance curve shows no breakthrough. Multiple force-distance curves were obtained on bare gold that were used to calibrate the system to generate the inverse optical lever sensitivity of our forced spectroscopy system as 61.714 nm/nA.