Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Colloid-probe AFM studies of the surface functionality and adsorbed proteins on binary colloidal crystal layers

Gurvinder Singh,[*a,b] *Kristen Bremmell,*[c] *Hans J. Griesser,*[d] *Peter Kingshott*[*a,e]

[a]*Interdisciplinary Nanoscience Centre, Faculty of Science, Aarhus University, Ny Munkegade, Aarhus C 8000, Denmark*
[b] *Department of Materials Science and Engineering, Norwegian University of Science and Technology, N-7491 Trondheim, Norway*
[c] *School of Pharmacy and Medical Sciences, University of South Australia, Adelaide 5000, Australia*
[d] *Future Industries Institute, University of South Australia, Mawson Lakes, SA 5095, Australia*
e Department of Chemistry and Biotechnology, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, 3122 VIC, Australia.
E-Mail: gurvinder.singh@ntnu.no, pkingshott@swin.edu.au,

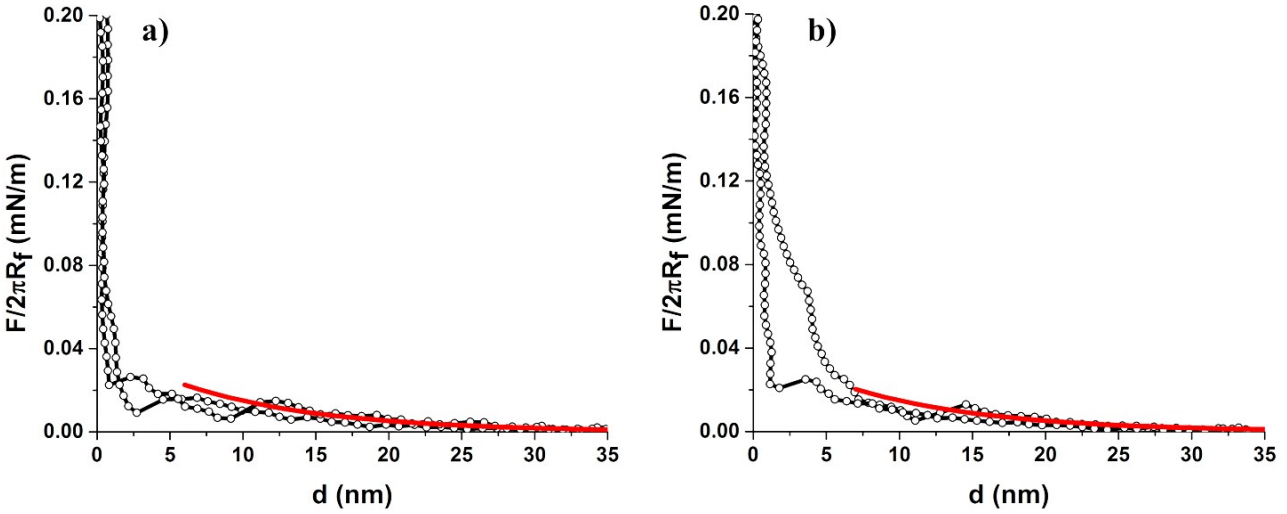

Fig. S1 Normalized force ($F/2\pi R_f$) versus apparent separation (d) approach curves for the interaction between a PS colloid probe and a 2 µm silica/200 nm silica binary patterned surface in 1 mM NaCl (pH=7.4). (a) 2 µm silica (b) 200 nm silica. The red solid line represents the theoretical fit according to DLVO theory and numerical fitting of the Poisson-Boltzmann equation using $\varphi_{1\mu m\text{-}probe}$= -28.9 mV, $\varphi_{2\mu m\text{-}Silica}$= -10.5 mV and $\varphi_{200nm\text{-}Silica}$= -11.2 mV.

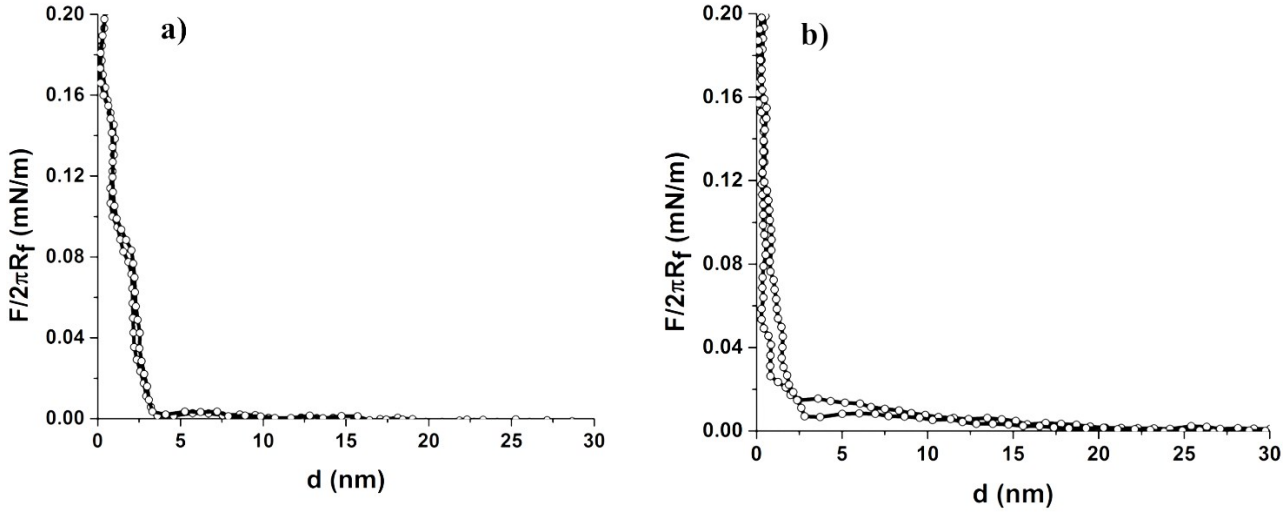

Fig. S2 Normalized force ($F/2\pi R_f$) versus apparent separation (d) approach curves for the interaction between a PS colloid probe and a binary protein patterned surface comprising LZM-coated 2 µm silica and BSA-coated 200 nm silica at 1 mM NaCl (pH=7.4). Force curves obtained for (a) 2 µm silica (LZM) (b) 200 nm silica (BSA).