

Electronic Supporting information

Label-free study of the function of ion channel protein on a microfluidic optical sensor integrated with artificial cell membrane

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Results and discussion

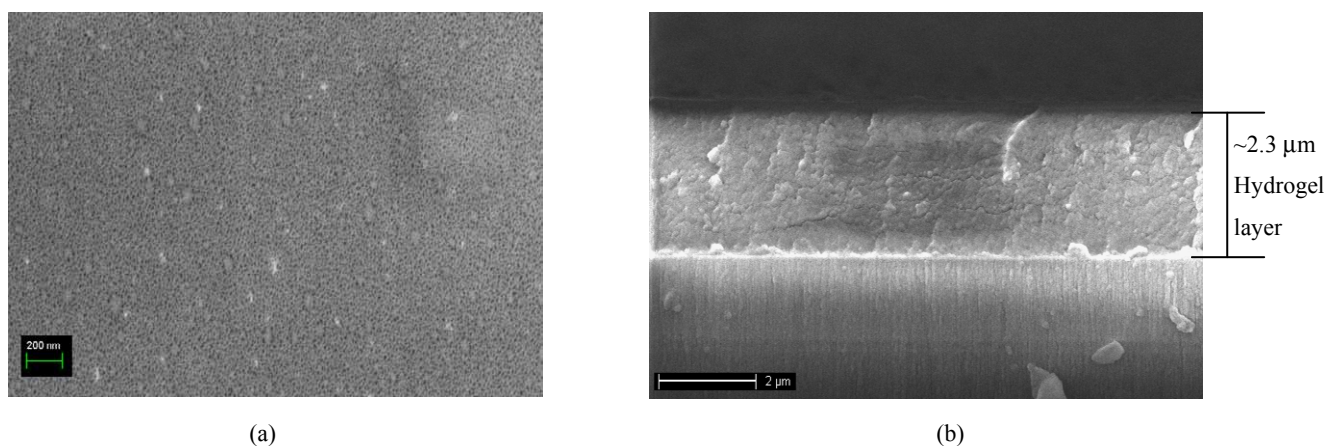


Fig. S1 (a) The SEM image of surface morphology of porous silicon, and (b) the cross-sectional SEM image of hydrogel-pSi double layer. The porosity and pore diameter of porous silicon is around 60% and 14 nm, respectively, which can be analyzed by Image-Pro Plus software. The cross-sectional SEM image show that the thickness of hydrogel layer is around 2.3 μm, coinciding with the result obtained from optical measurement.

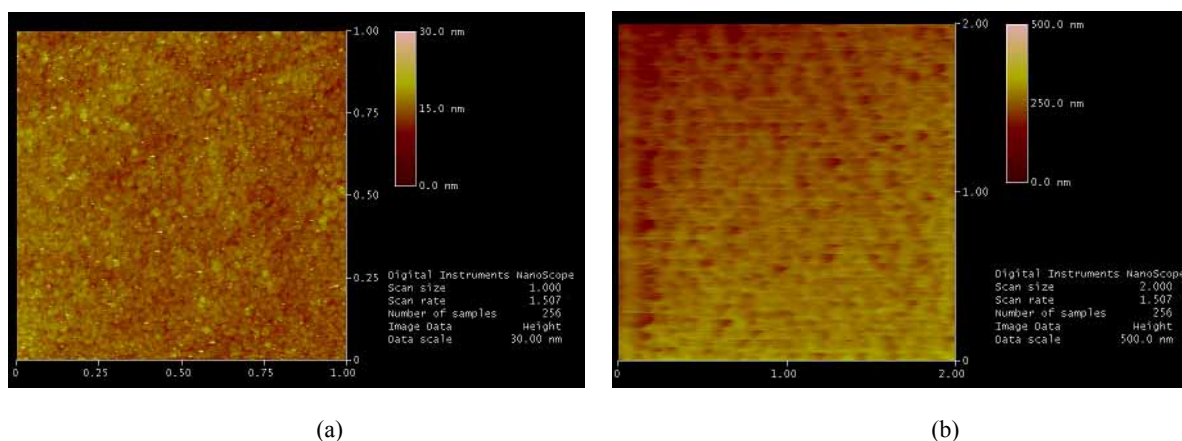


Fig. S2 (a) AFM image of porous silicon surface; and (b) the AFM image of hydrogel-pSi surface. The results indicated that the surface of hydrogel coated pSi still retains porous morphology, and the roughness of the hydrogel-pSi surface is significantly larger than that of pSi.