Electronic Supplementary Information (ESI)

Layer-by-layer modification effects on nanopores inner surface of polycarbonate track-etched membranes

Roberto Paoli[a], Maria Bulwan[a], Oscar Castaño[b,c,d,e], Elisabeth Engel[c,d,f], J.C. Rodriguez-Cabello[d,g], Antoni Homs-Corbera[a] and Josep Samitier[a,b,d,e,†]

† Corresponding author Josep Samitier jsamitier@ibecbarcelona.eu

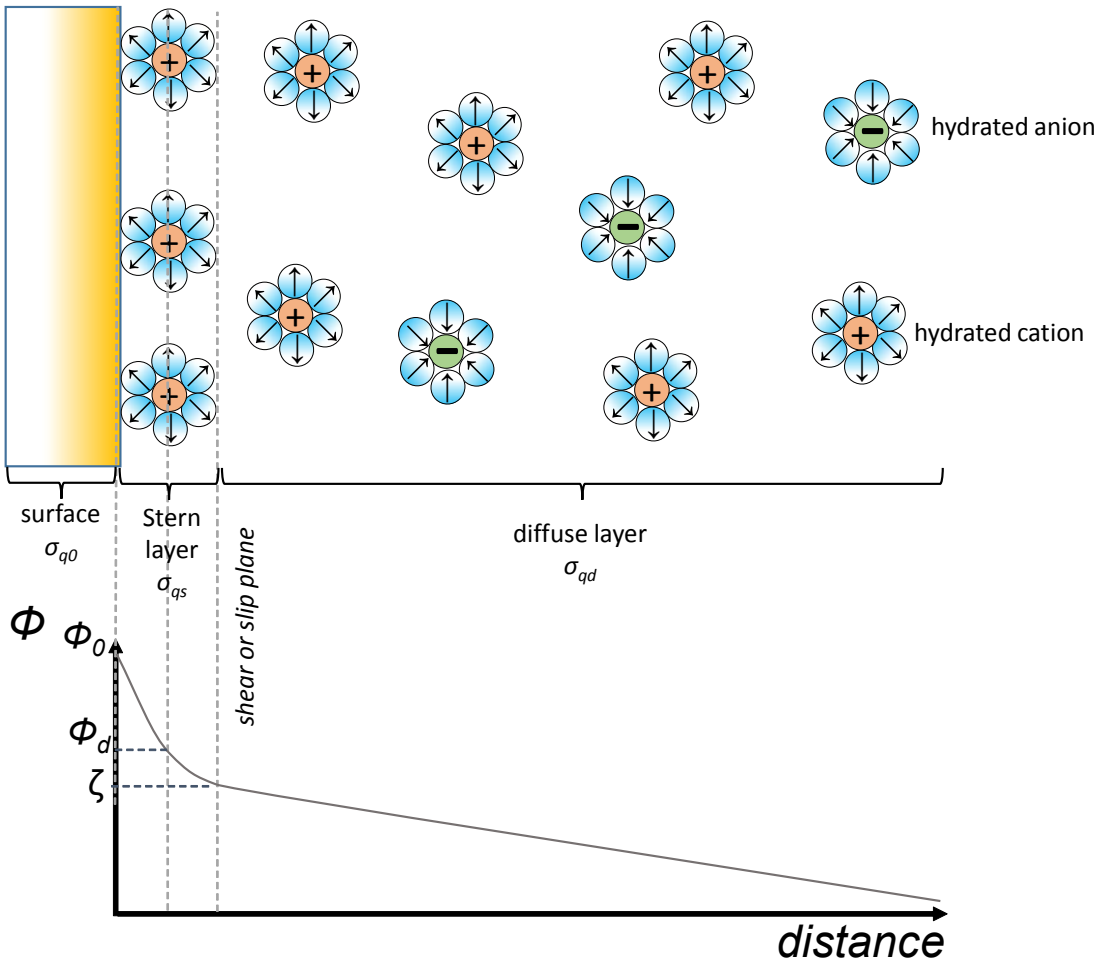

Figure A1. Electric double-layer scheme showing a proposal of solvated cations and anions around a negatively charged polymer interface in the Stern layer and the diffuse layer according to the Gouy–Chapman–Stern model. Reprinted (adapted) with permission from [1]. Copyright 2011 American Chemical Society.

Electronic Supplementary Information (ESI)

High resolution SEM cryocutting experiments. The membranes were covered by gold. Fig. A1-A shows membrane uncovered by ELPs polymers; Fig. A1-B shows polycarbonate membrane covered by 8 bilayers of ELPs. It has been observed that the entrances of the channel differ. Not only the cross section differs: the topography of the surface also.

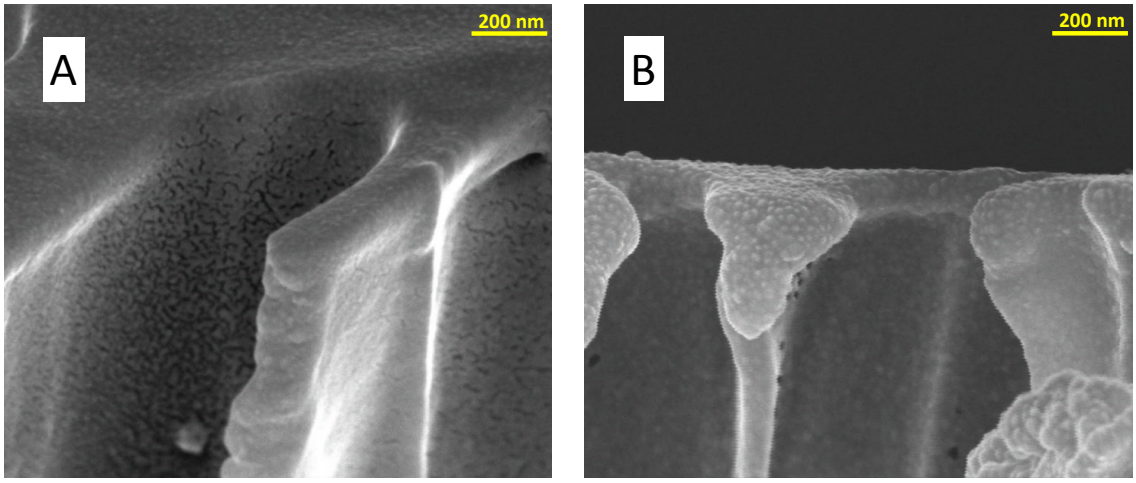

Figure A2. A) Unmodified PC membrane. B) Modified PC membrane by 8 bilayers of ELPs; arrows: the interior of channels showing polymer covering inside the porous channel.

Electronic Supplementary Information (ESI)

AFM of PC membranes:

The surface of the coated PC has been scratched using AFM contact mode, 45° scans, then observed the surface of the PC using AFM tapping mode 0° scan.

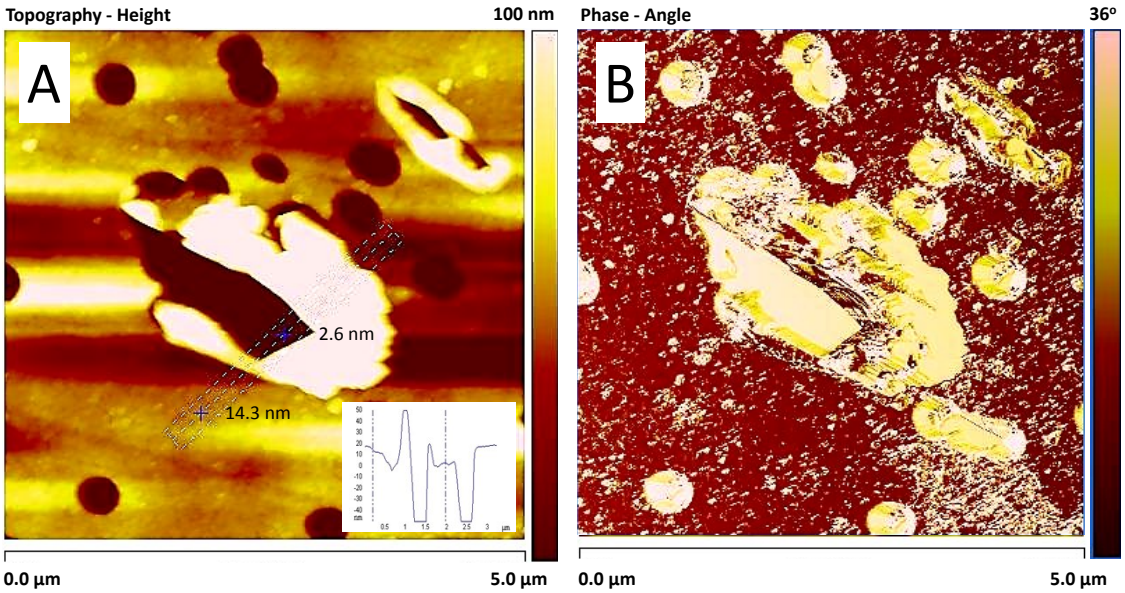

Figure A3. AFM height (A) and phase (B) images for PC modified by 8 bilayers of the polymer. In the inset, the cross-section height data is shown for the selected 2 points (blue crosses).