Electronic Supplementary Information

The Role of Top-Layer Chemistry on the Formation of Supported Lipid Bilayers on Polyelectrolyte Multilayers: Primary versus Quaternary Amines

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Atomic force microscopy measurements (AFM). AFM measurements were performed in liquid state using a Multimode AFM with a Nanoscope V controller (Bruker AXS, Santa Barbara, CA), equipped with a J-scanner. Oxide-sharpened silicon nitride cantilevers (T: 600 nm) with a nominal spring constant of 0.06 N m–1 (Bruker, model: DNP-10) and f_o: 12-24 kHz were used. QCM-D sensors with (PAH/PSS)_{5.5} and (PDADMAC/PSS)_{5.5} (Figure S5a and b, respectively) were attached to Teflon-coated metal disks using double-sided tape and placed on the AFM scanner. Images were acquired with a minimal force. Tapping mode images were analyzed using the Gwyddion software (gwyddion.net).



Figure S1 AFM height images in contact mode of a) (PAH/PSS)_{5.5} and b) (PDADMAC/PSS)_{5.5} multilayers after deposition of 50:50 PC:PS vesicles.



Figure S2 Fluorescence images obtained by deposition of 50:50 molar ratio DOPC:DOPS labelled with 0.5:0.5 NBDPC:NBDPS fluorescent SUVs on top of a) (PDADMAC/PSS)₅PAH and b) (PDADMAC/PSS)₄(PAH/PSS)_{1.5} PEM surfaces.



Figure S3 Fluorescence images after photobleaching obtained by deposition of 50:50 molar ratio DOPC:DOPS labeled with 0.5:0.5 NBDPC:NBDPS fluorescent SUVs on top of a) (PAH/PSS)₅PDADMAC and b) (PAH/PSS)₃(PDADMAC/PSS)_{2.5} PEM surfaces.



Figure S4 a) P 2p spectrum of the PAH/PSS + PBS sample. The P $2p_{3/2}$ peak position at around 134.4 eV can be assigned to the PO₄ bonds in the Na₂HPO₄ and KH₂PO₄ salts present in the PBS buffer solution. b) XPS region where the P 2p spectra are expected. None of the samples show a phosphorous signal.



Figure S5 QCM-D curves of frequency (blue line) and dissipation (red line) obtained by the deposition of a) of pure DOPC and b) pure DOPS on top of (PAH/PSS)_{5.5} multilayer cushions.



Figure S6 XPS – depth profile composition of (PAH/PSS)_{5.5} + PBS sample after etching with an Ar ion beam with 2 kV energy at several time points.