

Supporting Information to:

## **Modulation of Wetting of Stimulus Responsive Polymer Brushes by Lipid Vesicles: Experiments and Simulations**

Felix Weissenfeld, Lucia Wesenberg, Masaki Nakahata, Marcus Müller, Motomu Tanaka

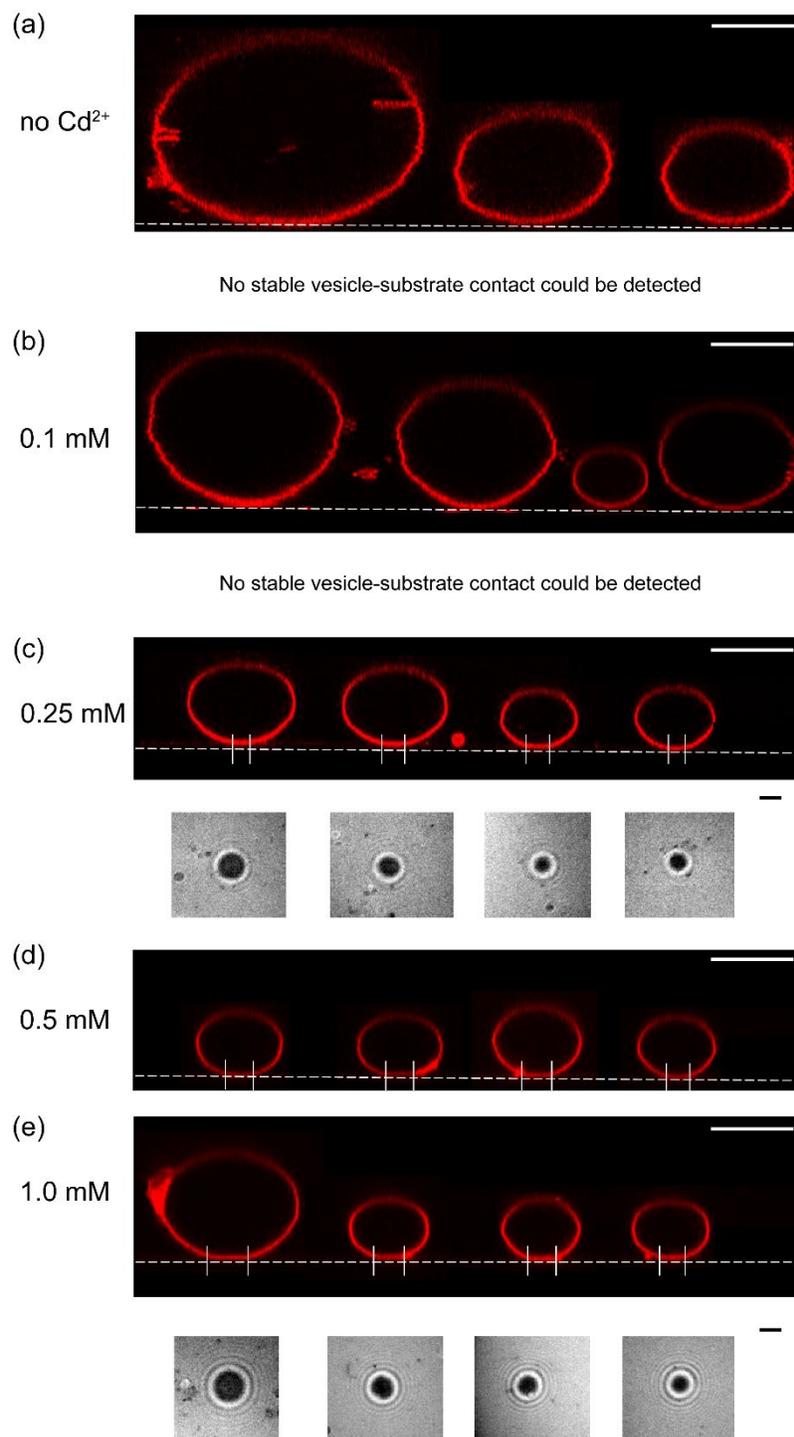
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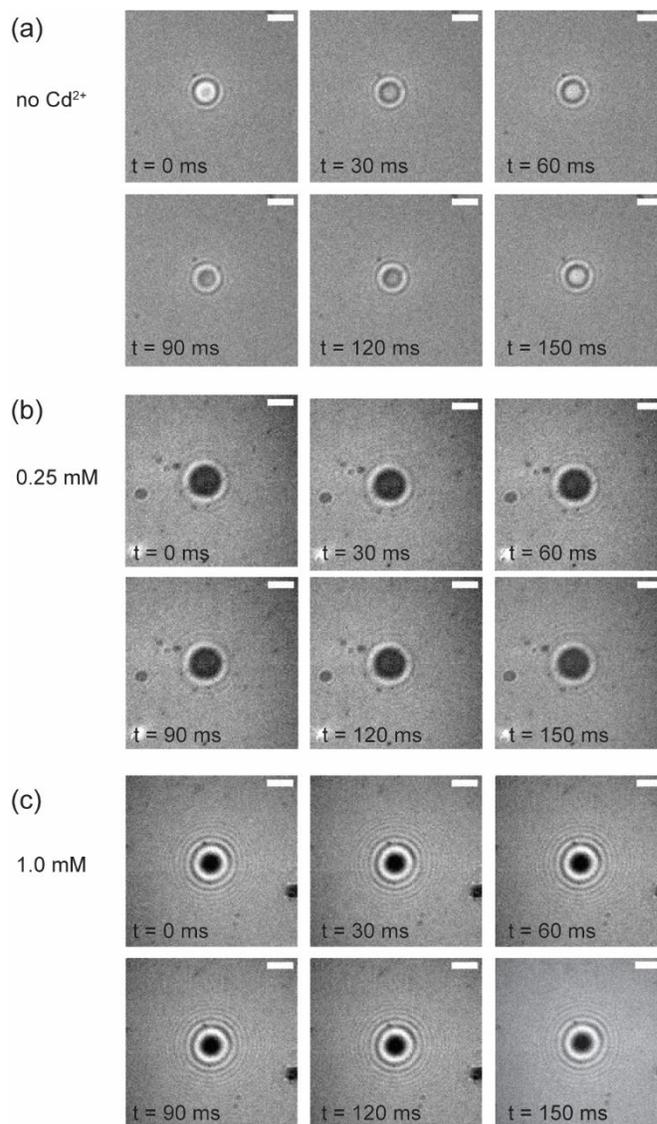
Figure S3. Side views of vesicles on lipid membranes at  $[\text{CdCl}_2] = 0$  and 1 mM.

**Figure S1: Side views of lipid vesicles on PAA-Cys5 surfaces at various  $[\text{CdCl}_2]$ .**



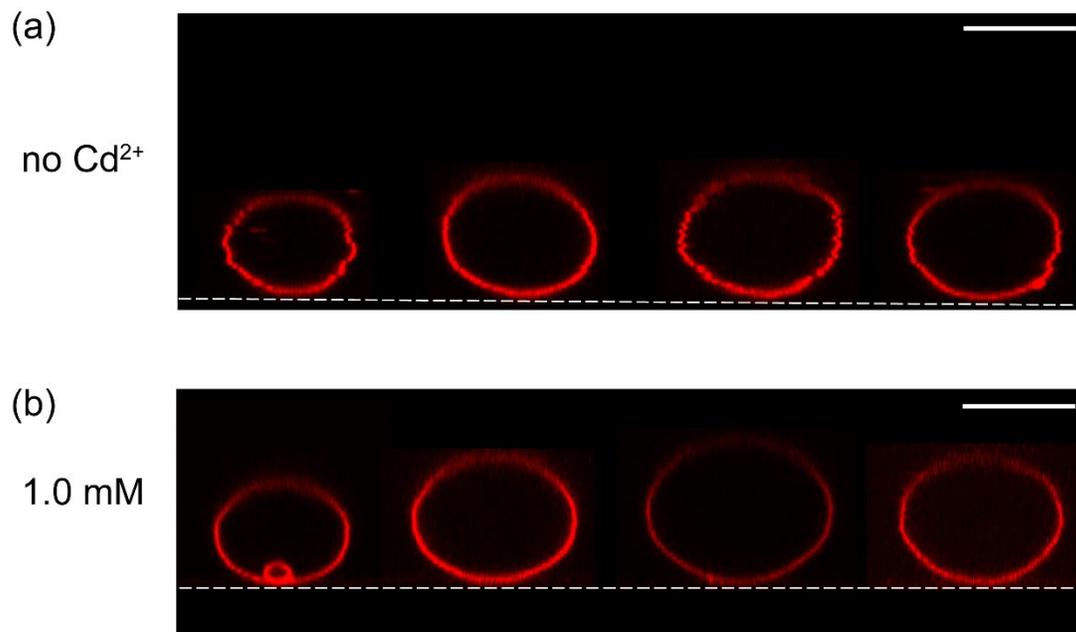
The side views of vesicles indicate the onset of wetting/adhesion at  $[\text{CdCl}_2] = 0.25$  mM. The corresponding RICM images are presented for comparison (see Figure S2 for more details).

**Figure S2: RICM images of lipid vesicles on PAA-Cys5 brushes.**



The snapshot RICM images of vesicles on PAA-Cys5 brush surfaces. Vesicle-surface distance, i.e. the intensity near the vesicle center, fluctuates below the onset level (the images taken at  $[\text{CdCl}_2] = 0$  mM are shown as an example). In contrast, the interference patterns showed no detectable change at  $[\text{CdCl}_2] \geq 0.25$  mM.

**Figure S3. Side views of vesicles on lipid membranes at  $[\text{CdCl}_2] = 0$  and 1 mM.**



No clear vesicle-surface contact could be detected in the absence (a) and presence (b) of 1 mM  $\text{CdCl}_2$ , indicating that the conformational change of PAA-Cys5 brushes dominates differential wetting behaviors.