Supplementary Information

SNARE Mimic Peptide Triggered Membrane Fusion Kinetics Revealed Using Single Particle Techniques

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Video 1: A representative video of a TIRF fusion experiment in real time. Shown is the CPE/CPK condition, with CPE incorporated, R18 labelled, LUVs interacting with a CPK incorporated planar lipid bilayer. The framerate is 200ms per frame.



Figure S1: Representative images from a FRAP experiment with Atto-488 labelled CPK. FRAP experiments were performed by taking videos of planar lipid membranes with inserted Atto-488 labelled CPK using a TIRF microscope. (Left) The labelled membrane pre-bleaching. (Centre) The labelled membrane post-bleaching. (Right) The membrane after maximum recovery has taken place. FRAP experiments showed a mean recovery of $51\% \pm 3\%$ (n=6).



Figure S2: Complete histogram of the fusion time of individual particles. The histograms were fitted with a bi-exponential decay function. The bi-exponential decay function is fit with 4 variables: with A and B being the amplitudes and k_1 and k_2 being the decay constants, with the range indicating the Standard Error. R² shows the coefficient of determination of the fit.



Figure S3: LCMS data for Atto-488 labelled CPK. Calculated mass: $[M+3H^+]^{3+} = 1538.6$, found mass = 1540.07



Figure S4: LCMS data for CPK. Calculated mass: $[M+2H^+]^{2+} = 1869.4$, found mass = 1866.9, $[M+3H^+]^{3+} = 1246.6$, found mass = 1243.99



Figure S5: LCMS data for CPE. Calculated mass: $[M+2H^+]^{2+} = 1871.2$, found mass = 1868.8, $[M+3H^+]^{3+} = 1247.8$, found mass = 1245.2