Supporting information

Effect of Composition on Water Permeability of Model Stratum Corneum Lipid Membranes

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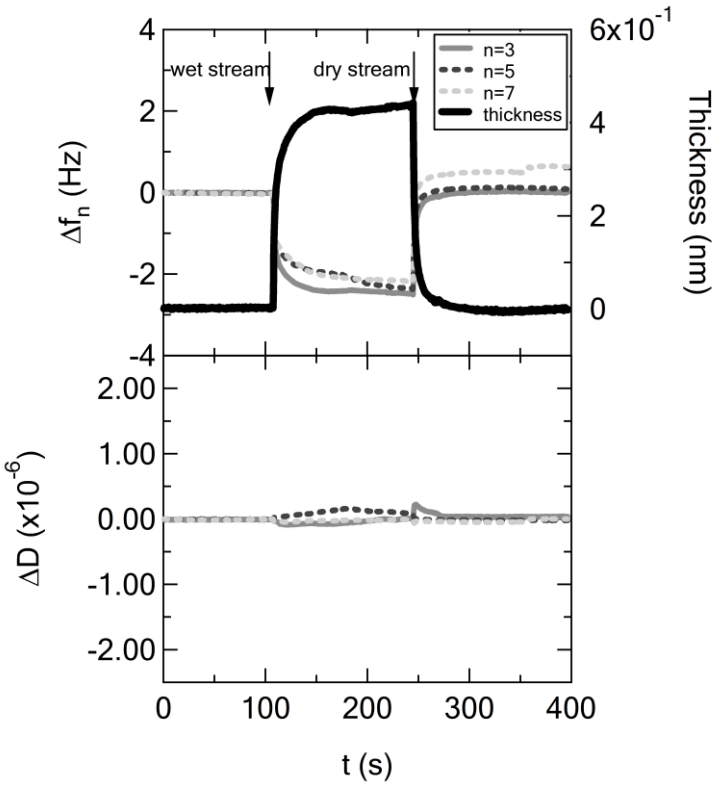

Figure S1. Change in the frequency (top) and dissipation (bottom) of blank crystal versus time under wet nitrogen. The black solid line in figure (top) shows the change in the thickness determined from the shift in the frequency of blank crystal under wet nitrogen using the Sauerbrey equation $\Delta m = -C\frac{\Delta f_n}{n}$, where Δm is the change in mass of the quartz crystal, n is the overtone number, and C is the mass sensitivity constant (C = -0.177 mg m^{-2} Hz^{-1} at 5 MHz) (Sauerbrey, G. Z. *Phys.* 1959, **155**, 206-222).

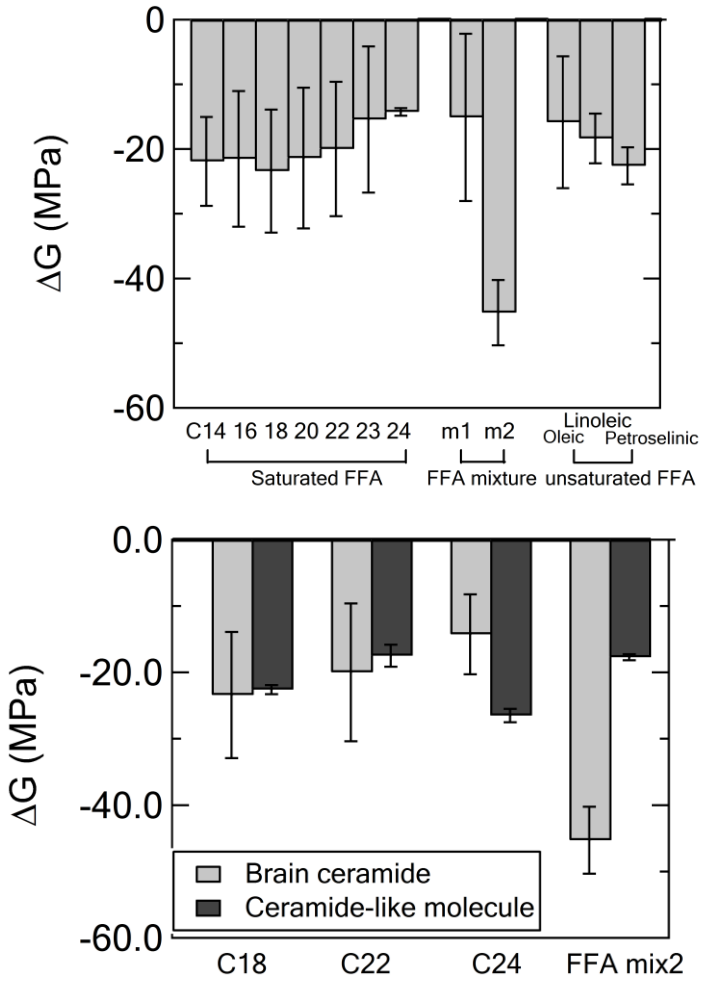

Figure S2. Change in shear modulus $(\Delta G = G_{wet} - G_{dry})$ between dry and wet conditions of model SC lipid membranes consisting of (top) brain ceramide (BCER), CHOL, and free fatty acids (FFA) varying in the chain length and saturation level and (bottom) ceramides (brain ceramide and ceramide-like molecule (PC104)), CHOL, and saturated FFA (C18, C22, C24, or FFA mix 2).