## **Supporting Information to**

## Sodium – Carboxylate Contact Ion Pair Formation Induces Stabilization of Palmitic Acid Monolayers at High pH

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**Figure S1.** Surface pressure of a 0.4 mM sodium palmitate pH 10.7 solution as a function of time after  $\sim$ 1 mg of palmitic acid crystals were sprinkled on the surface. The equilibrium surface pressure was determined to be  $\sim$ 47 mN/m. Every other data point is shown for convenience.



**Figure S2.** Surface tension vs. concentration of sodium palmitate in a pH 10.7 solution. The critical micelle concentration of sodium palmitate is 0.4 mM.



**Figure S3.** Percentage of contact ion pairs formed between PA<sup>-</sup> and Na<sup>+</sup> in a mixed PA/PA<sup>-</sup> (50/50) monolayer.