

Supplementary Information for “Effects of surface tension time-evolution for CCN activation of a complex organic surfactant”

Jack J. Lin, Thomas B. Kristensen,
Silvia M. Calderón, Jussi Malila, and Nønne L. Prisle

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S1 3D surface tension parameterizations

Surface tension measurements and the surface fits to those measurements are shown in Figs. S1–S4 for $t = 0, 400, 600,$ and 800 s. These figures correspond to Fig. 1 in the main text.

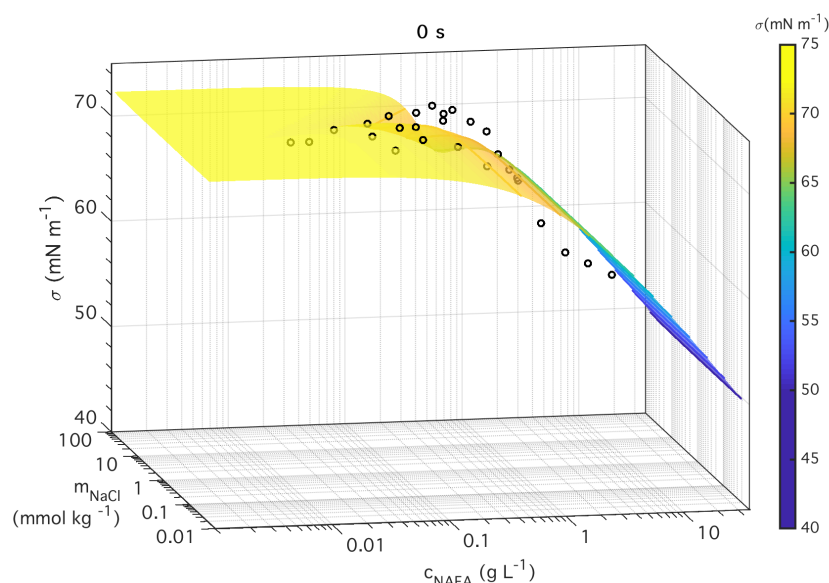


Figure S1: Time-dependent surface tension measurements and fit to measurements for $t = 0$ s.

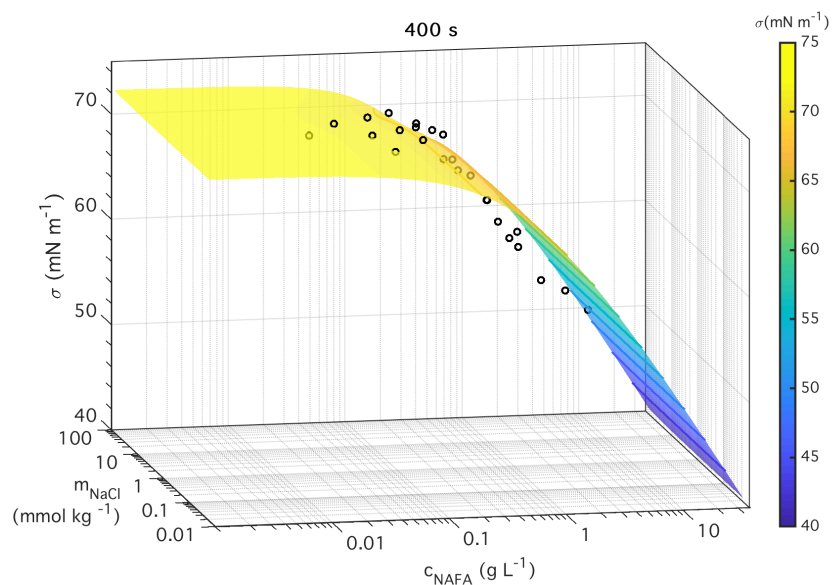


Figure S2: Time-dependent surface tension measurements and fit to measurements for $t = 400$ s.

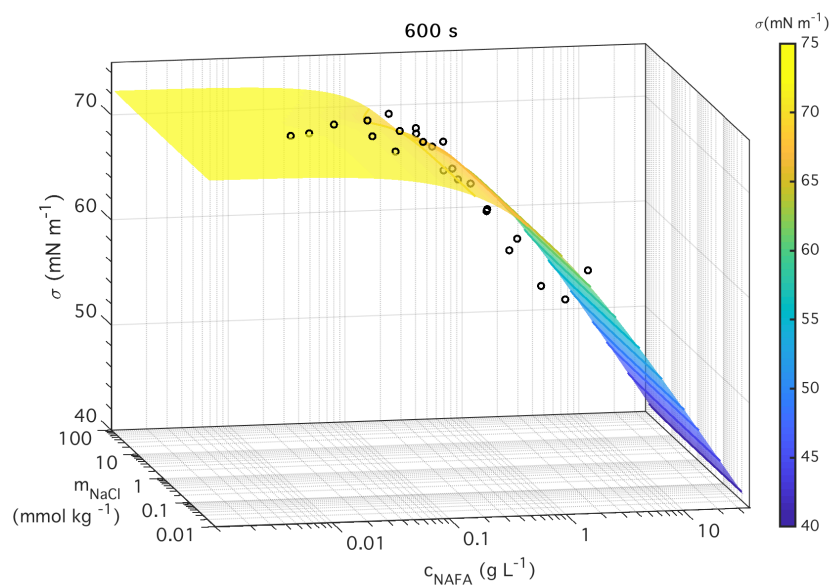


Figure S3: Time-dependent surface tension measurements and fit to measurements for $t = 600$ s.

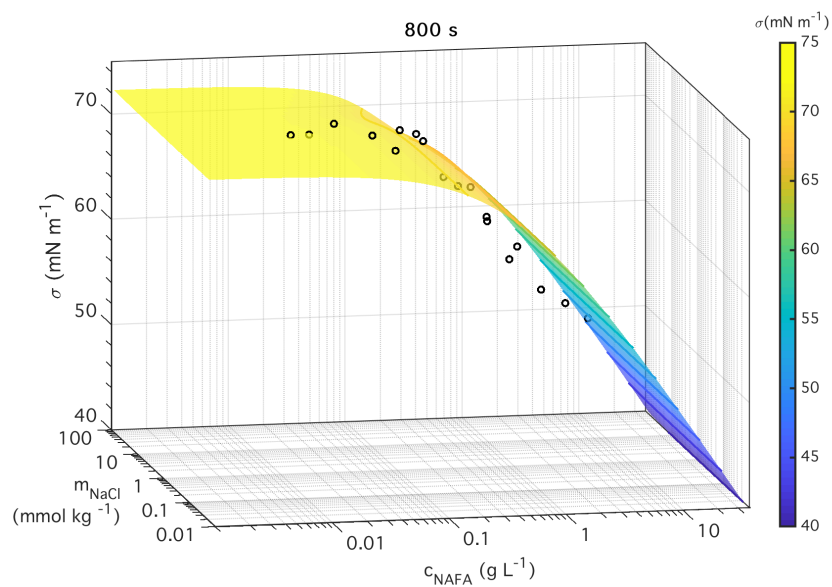


Figure S4: Time-dependent surface tension measurements and fit to measurements for $t = 800$ s.

The residuals for the surface fits of the surface tension measurements for all times steps $t = 0, 200, 400, 600, 800$, and 1000 s are shown in Fig. S5.

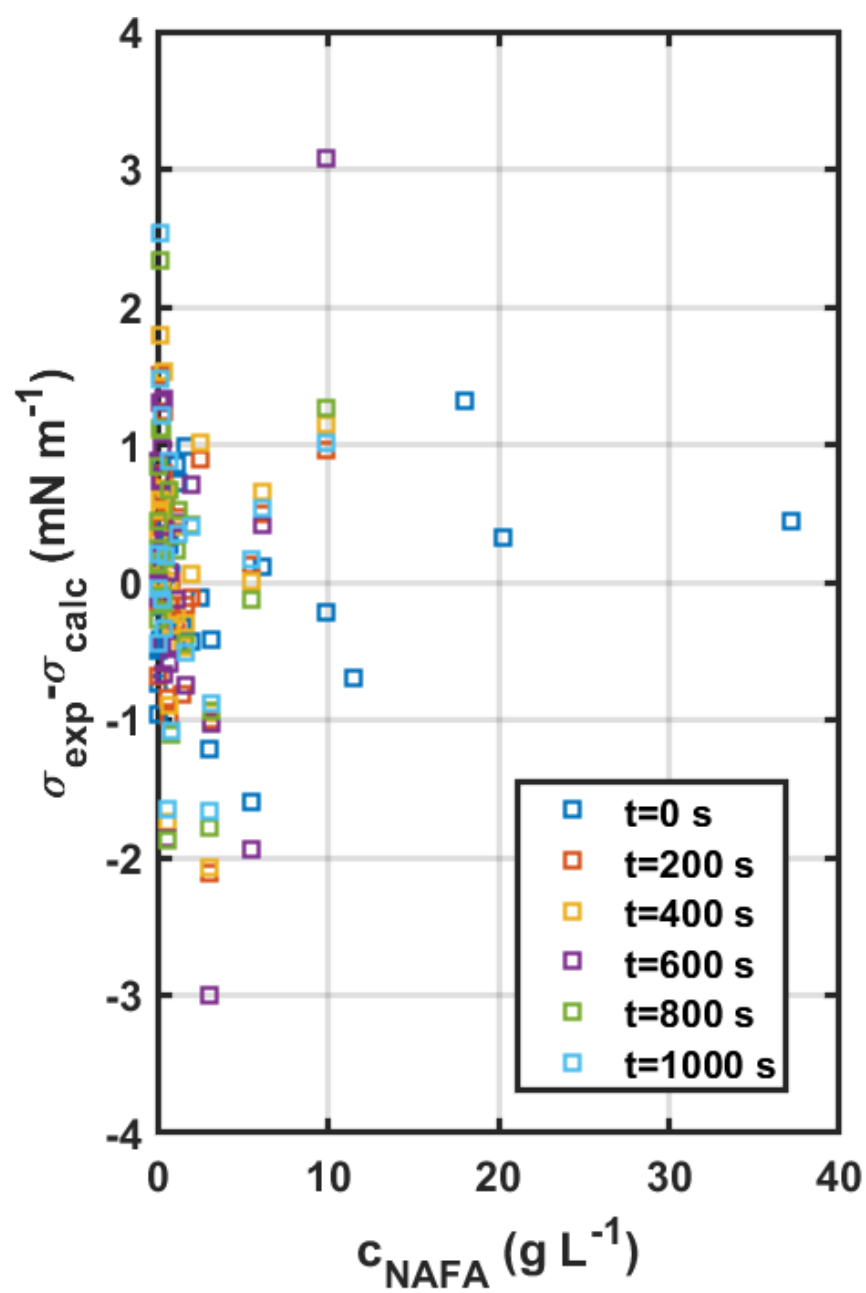


Figure S5: Time-dependent surface tension measurements and fit to measurements for $t = 800$ s.

S2 2D surface tension parameterizations

To help clarify the surface tension parameterization plots in Fig. 1 of the main text and Figs. S1–S4, the surface tension fits as only a function of NAFA concentration are shown in Figs. S6–S11 for all times $t = 0, 200, 400, 600, 800,$ and 1000 s. For each figure, the fits are plotted for four different NaCl concentrations.

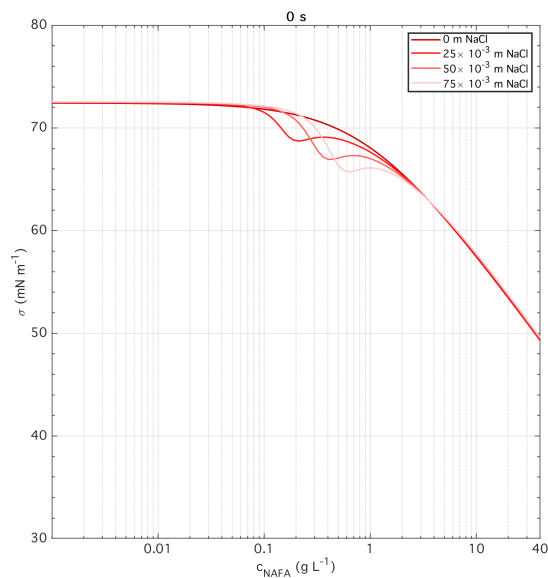


Figure S6: Time-dependent surface tension measurements and fit to measurements as a function of only NAFA concentration for $t = 0$ s.

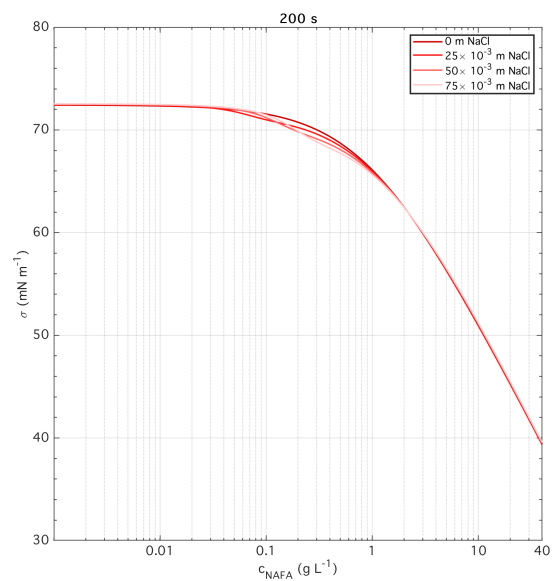


Figure S7: Time-dependent surface tension measurements and fit to measurements as a function of only NAFA concentration for $t = 400$ s.

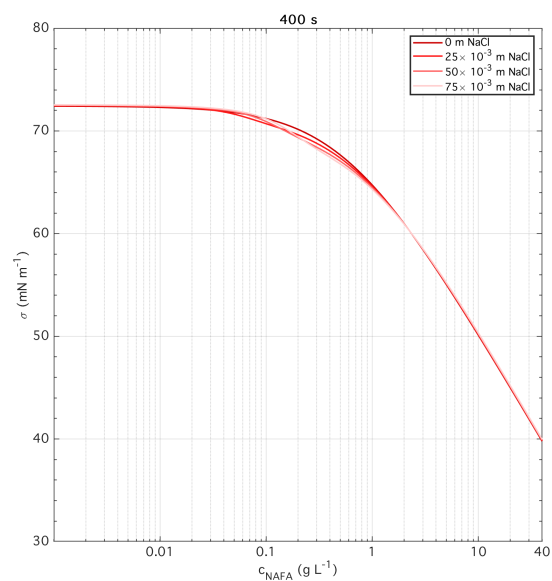


Figure S8: Time-dependent surface tension measurements and fit to measurements as a function of only NAFA concentration for $t = 400$ s.

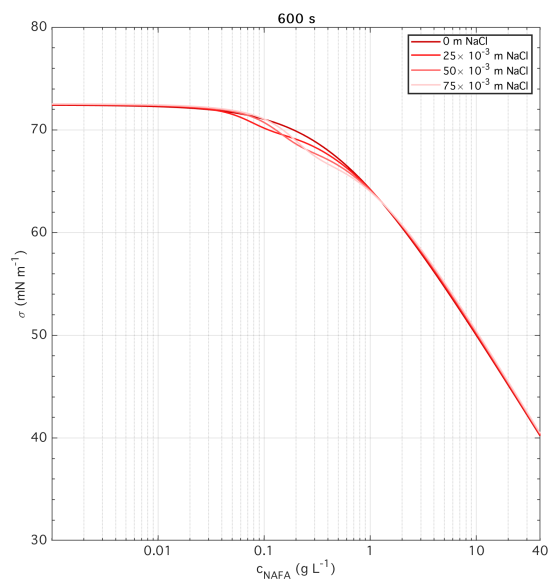


Figure S9: Time-dependent surface tension measurements and fit to measurements as a function of only NAFA concentration for $t = 600$ s.

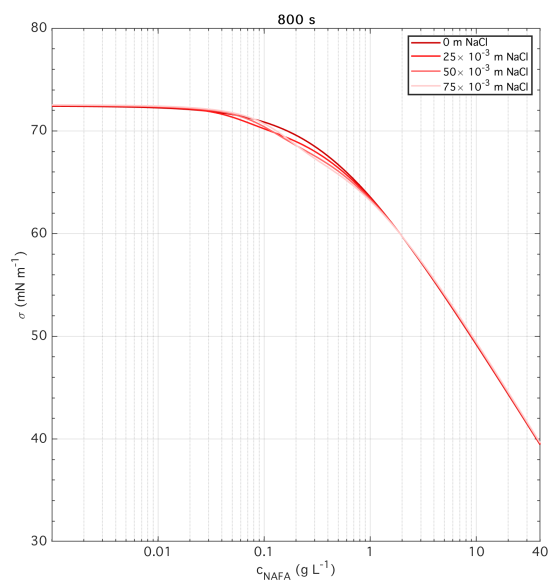


Figure S10: Time-dependent surface tension measurements and fit to measurements as a function of only NAFA concentration for $t = 800$ s.

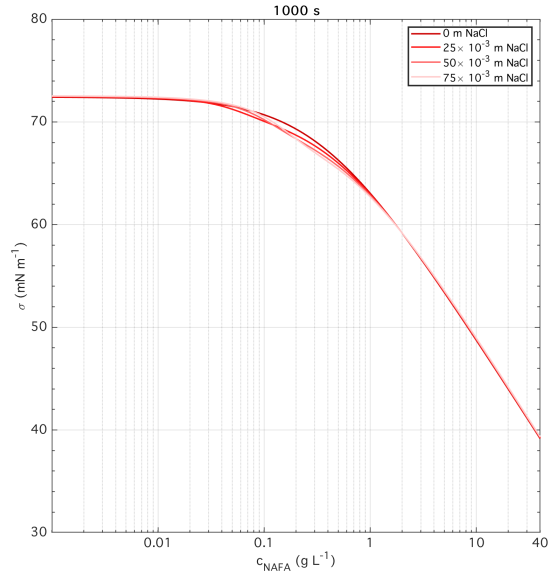


Figure S11: Time-dependent surface tension measurements and fit to measurements as a function of only NAFA concentration for $t = 1000$ s.

S3 Time change of pure NAFA surface tension

The surface tension measurements and fits of pure NAFA as a function of total NAFA concentration is shown in Fig. S12 for all times $t = 0, 200, 400, 600, 800,$ and 1000 s.

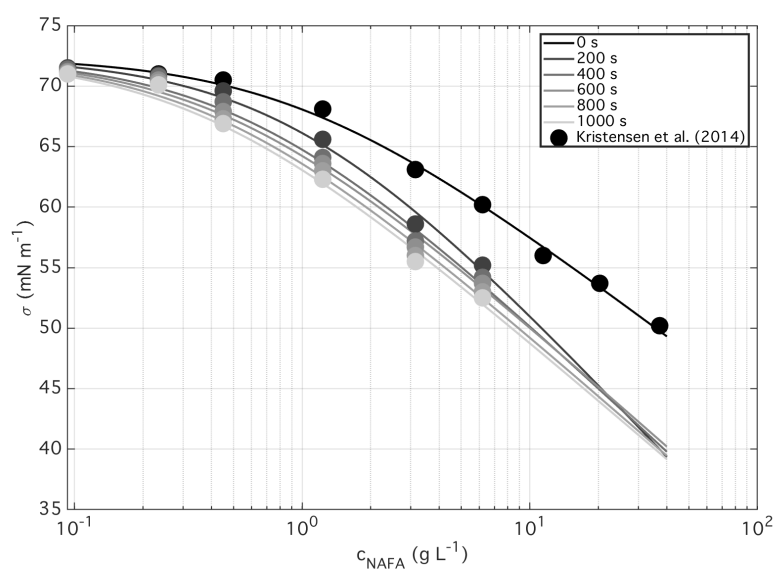


Figure S12: Surface tension measurements and fits for pure NAFA as a function of total NAFA concentration.