

EVIDENCE OF SURFACTANT SUB-MONOLAYER ADSORPTION AT THE AIR/WATER INTERFACE PROVIDED BY LASER SCATTERING MEASUREMENTS OF ULTRAFINE GAS BUBBLES

SUPPLEMENTARY MATERIAL

Figure

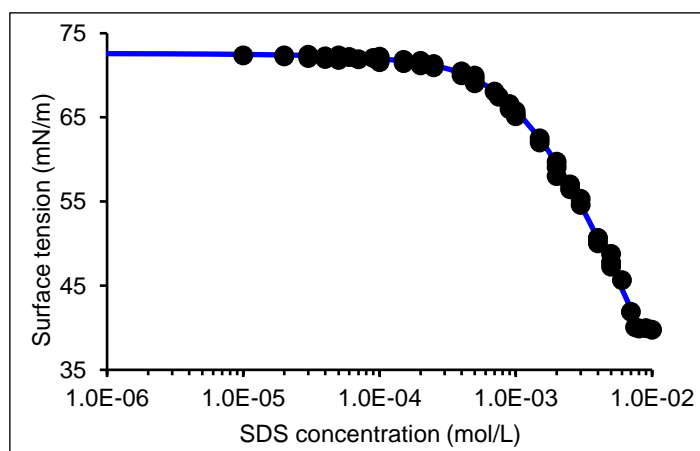


Figure S1. SDS isotherm in neat water at 25°C. Surface tension measurements were carried out by Wilhelmy plate method.

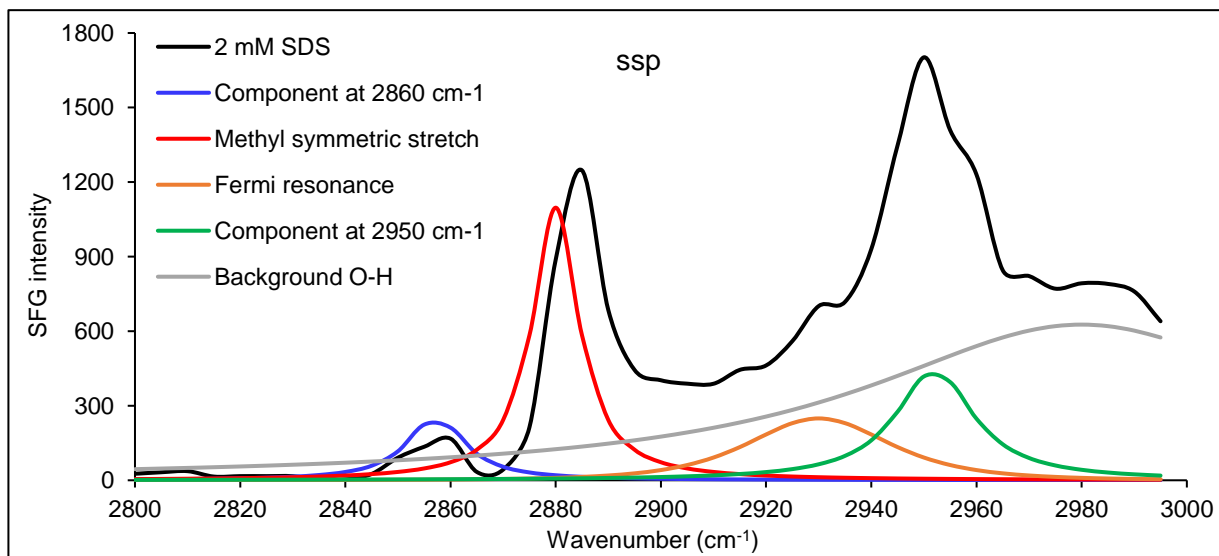


Figure S2. Detailed fitting of an SFG ssp C-H signal of the SDS adsorption layer at 2 mM SDS in neat water following the model in Equation 5. The Fermi resonance signal at 2935 cm⁻¹ was magnified by 500 times for better visualization.

Table

Table S1. A/T ratio of peaks obtained from SFG spectroscopy ppp and ssp C–H signal of neat water at various SDS concentrations. The results are expressed as means \pm standard deviations.

Wavenumber (cm ⁻¹)		2972 (ppp)	2876 (ssp)
A/T ratio (Amplitude /damping coefficient)	2 mM	20.0 \pm 0.3	35.6 \pm 0.5
	5.7 mM	21.6 \pm 0.3	26.8 \pm 0.4
	8.3 mM	18.8 \pm 0.3	22.7 \pm 0.3
	20 mM	14.3 \pm 0.2	22.6 \pm 0.3