

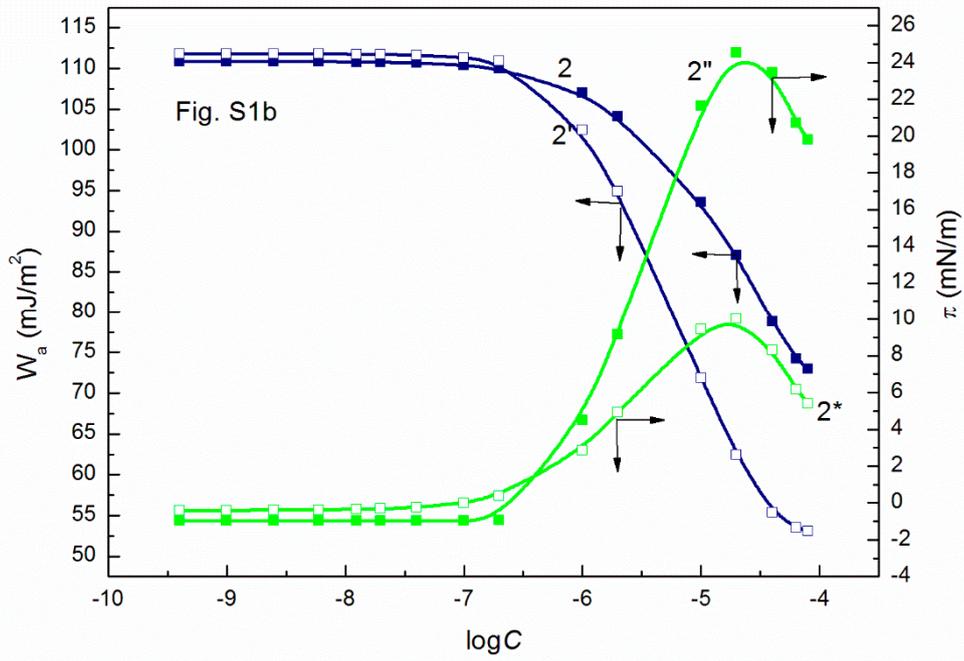
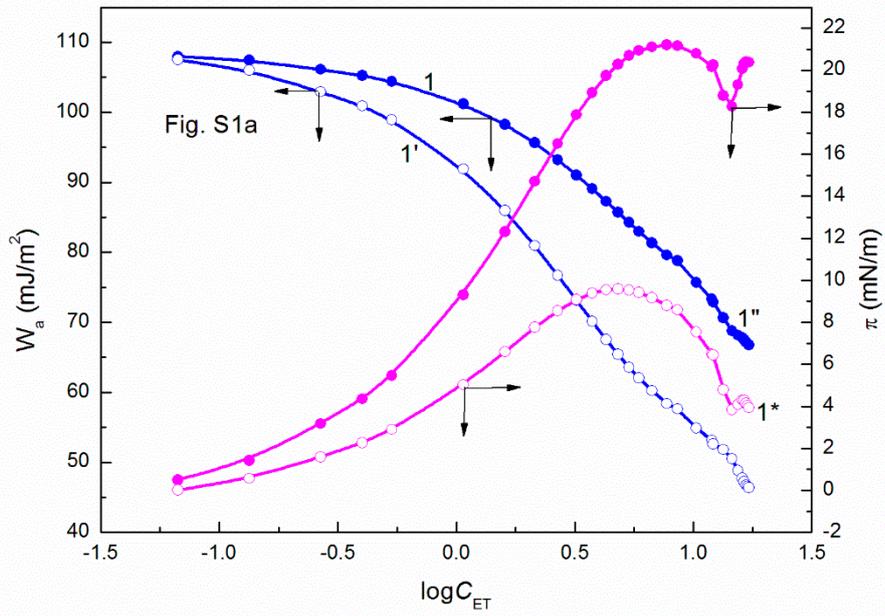
Supplementary Material

Wettability of Quartz by Ethanol, Rhamnolipid and Triton X-165 Aqueous Solutions with Regard to Its Surface Tension

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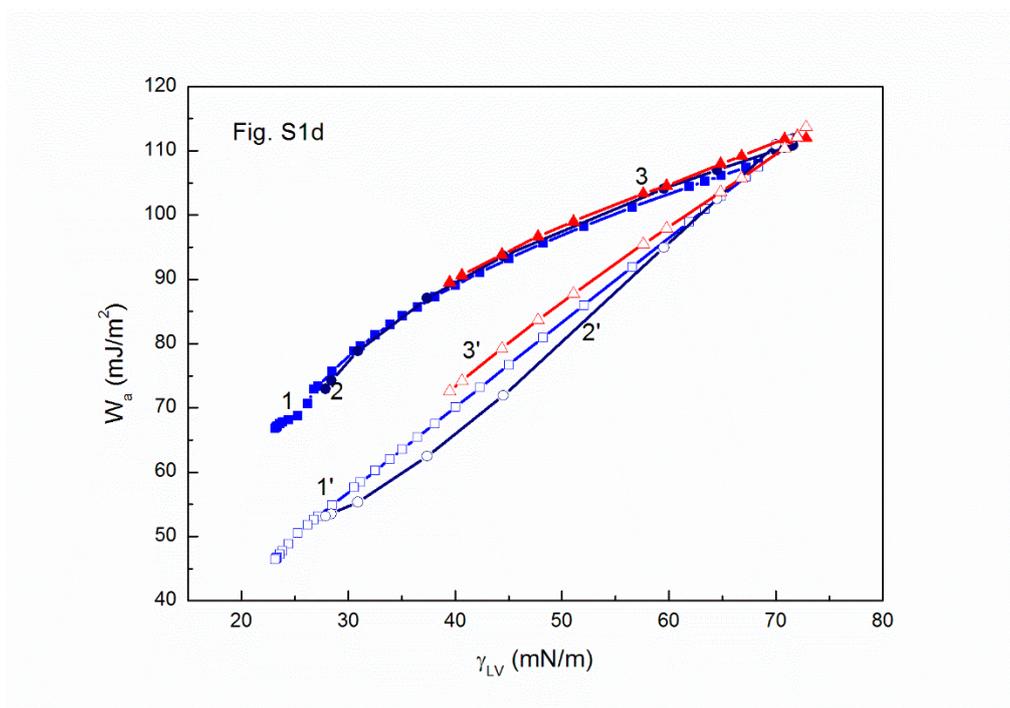
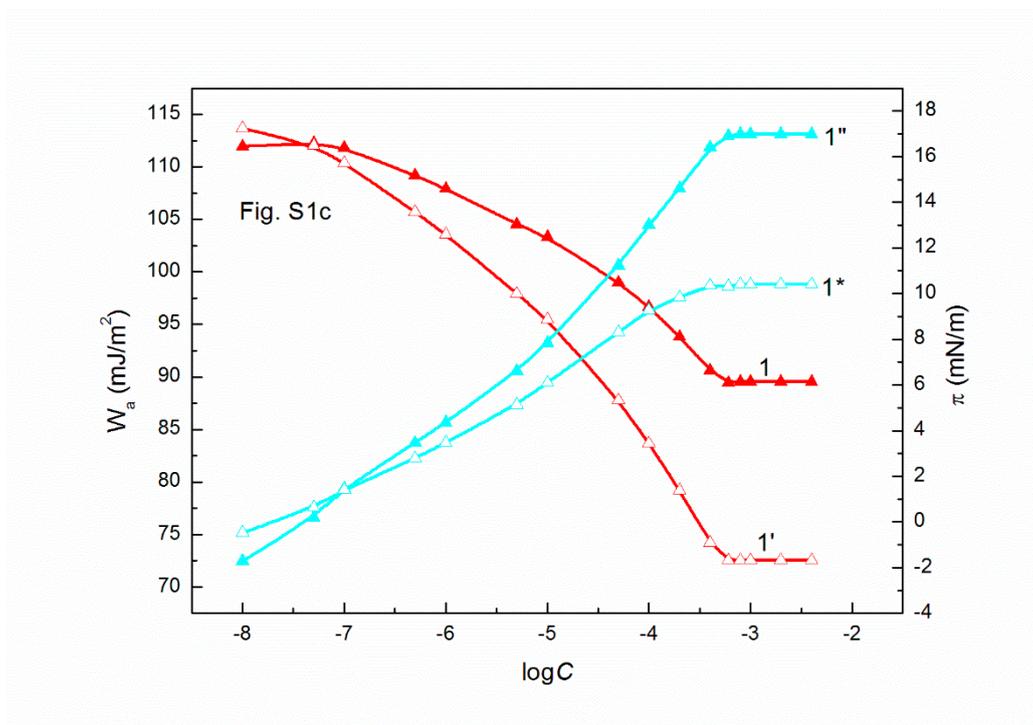


Figure S1. A plot of the adhesion work (W_a) of the aqueous solution of ET (1a, curves 1, 1'), RL (1b, curves 2, 2'), TX165 (1c, curves 3, 3') and the film pressure (π) (curves 1'', 1*, 2'', 2*, 3'' and 3*) vs. the logarithm of their concentration ($\log C$) as well as adhesion work (W_a) of solution vs. its surface tension (γ_{LV}) (1d). Curves 1 – 3 and 1' – 3' correspond to W_a calculated based on the van Oss et al. and Young-Dupre equations, respectively. Curves 1'' – 3'' and 1* - 3* correspond to the π value at the Q-A and Q-S interfaces, respectively.

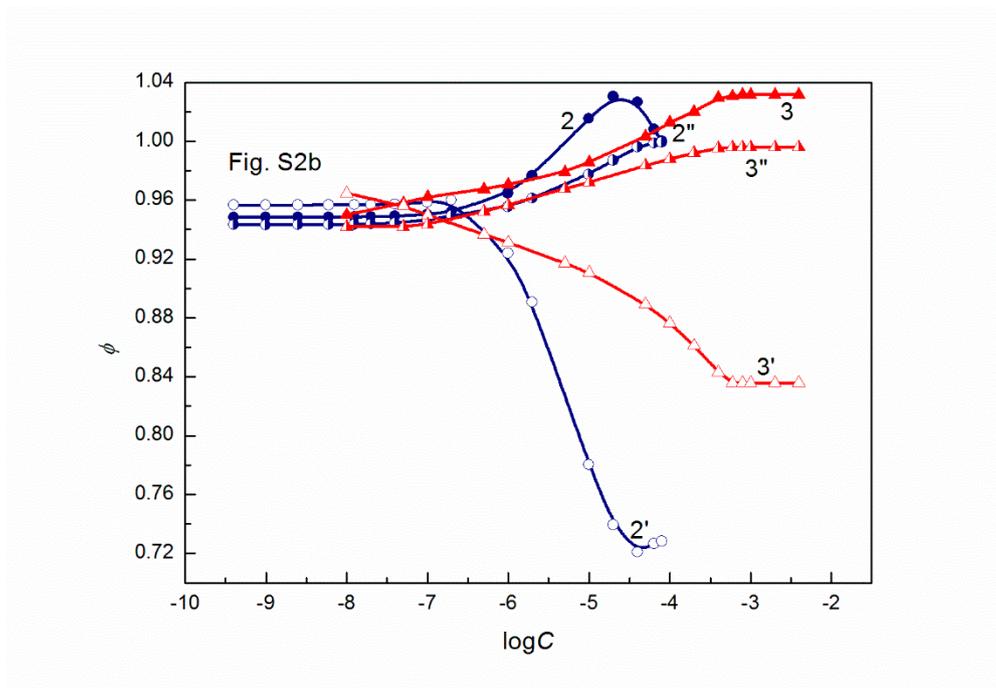
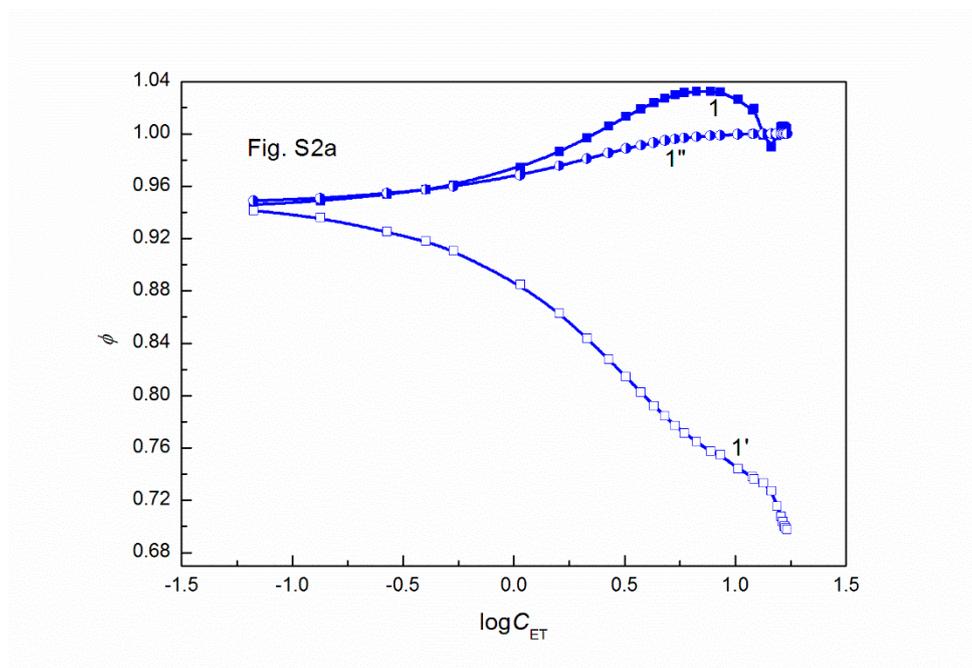


Figure S2. A plot of the ϕ parameter for the aqueous solution of ET (2a, curves 1 – 1''), RL (2b, curves 2 – 2'') and TX165 (2b, curves 3 – 3'') vs. the logarithm of their concentration ($\log C$). Curves 1 – 3 correspond to the values calculated from Equation (10), curves 1' – 3' to the values calculated from Equation (7) and curves 1'' – 3'' to the values calculated from Equation (2), respectively.

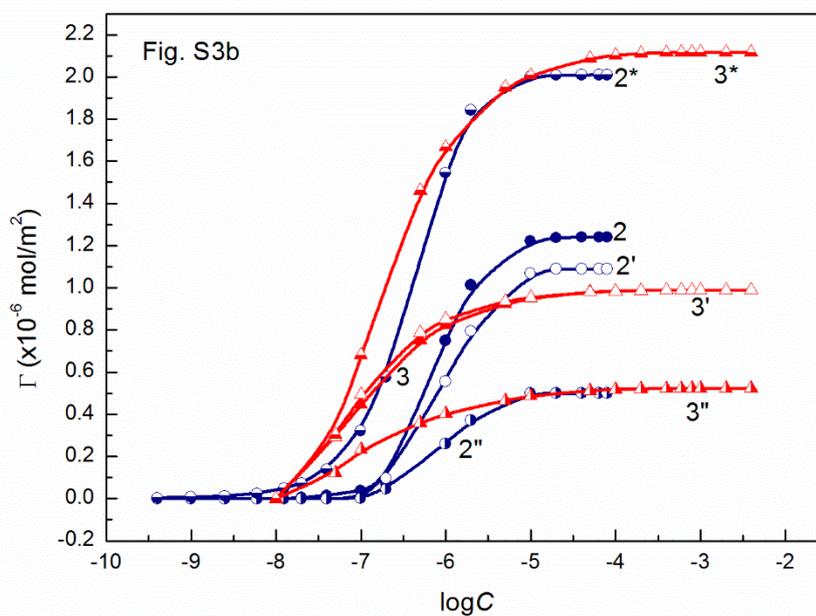
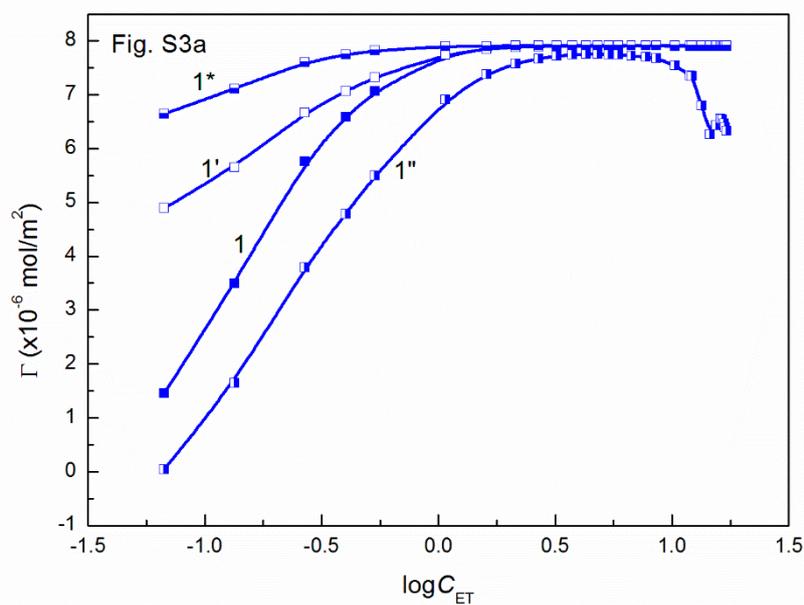
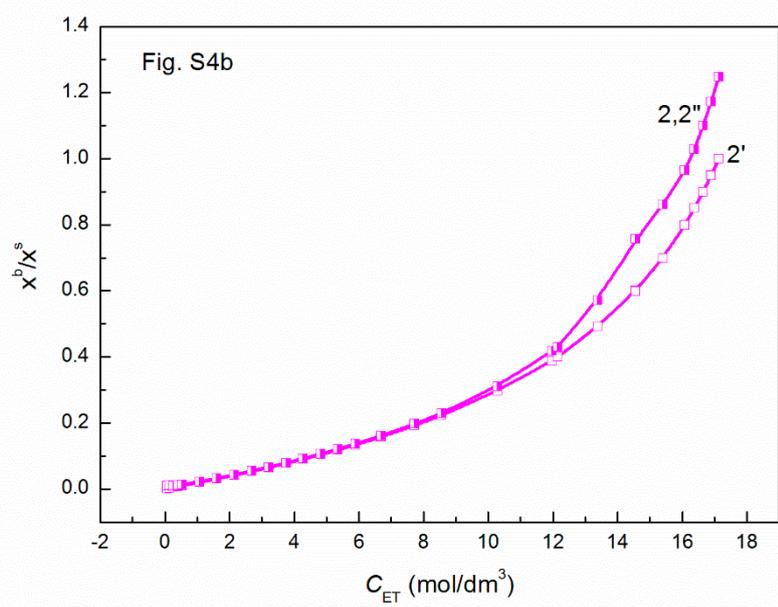
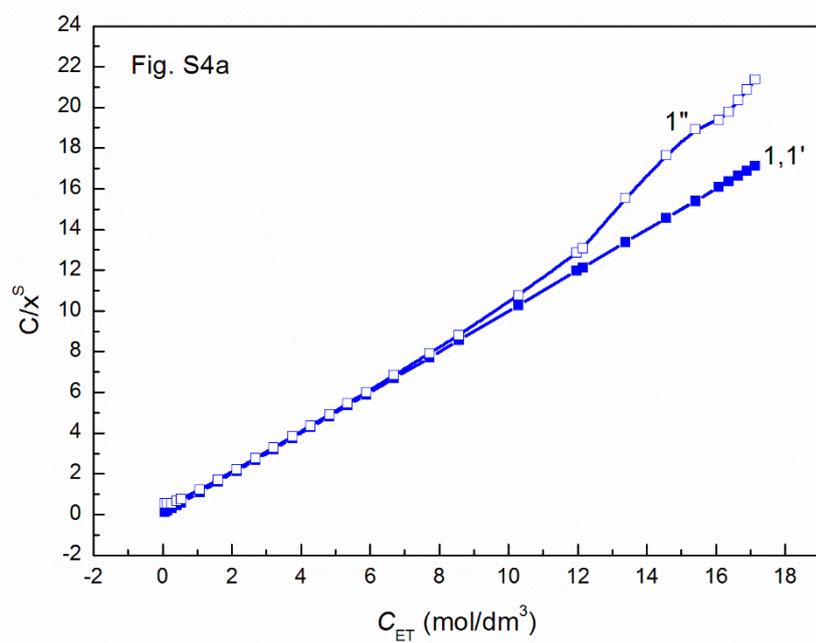


Figure S3. A plot of the surface concentration (Γ) calculated from the Frumkin equation for the aqueous solution of ET (2a, curves 1 – 1*), RL (2b, curves 2 – 2*) and TX165 (2b, curves 3 – 3*) vs. the logarithm of their concentration ($\log C$). Curves 1 – 3 at the Q-A interface based $\pi = \Delta W_a$, curves 1' – 3' at the Q-A interface based on $\pi = \Delta \gamma_{SV}$, curves 1'' – 3'' at the Q-S interface, curves 1* – 3* at the S-A interface.



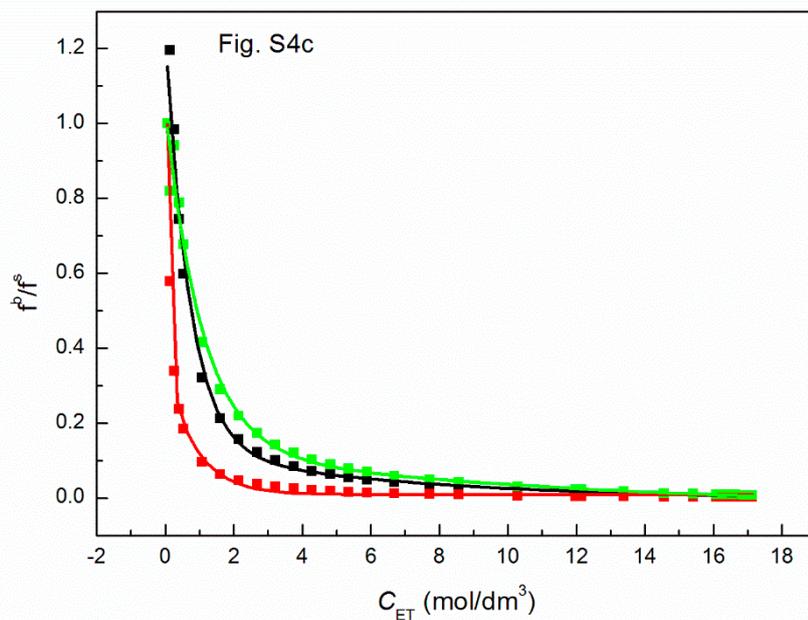


Figure S4. A plot of the values of $\frac{c}{x^s}$ (4a, curves 1 – 1''), $\frac{x^b}{x^s}$ (4b, curves 2 – 2'') and $\frac{f^b}{f^s}$ (4c, curves 3 – 3'') for the aqueous solution of ET vs. its concentration (C_{ET}). The values of x^s calculated from Equation (19) at the Q-A (curves 1, 1', 2, 2', 3 and 3') and Q-S (curves 1'' – 3'') interfaces, respectively.

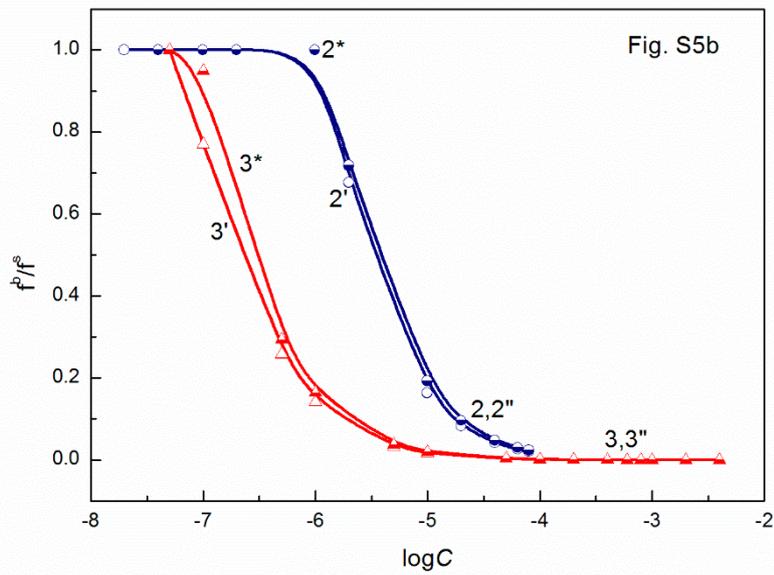
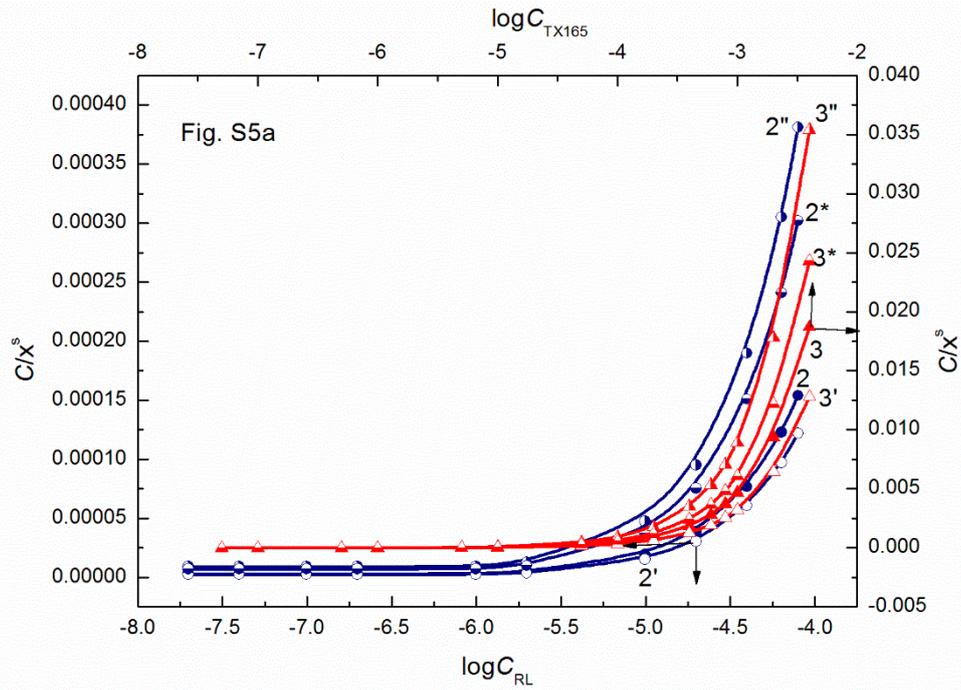


Figure S5. A plot of the values of $\frac{C}{x^S}$ (5a) and $\frac{f^b}{f^S}$ (5b) for RL (curves 2 – 2*) and TX165 (curves 3 – 3*) vs. the logarithm of their concentration ($\log C$). x^S calculated from Equation (19) at the Q-A (curves 1, 1', 2, 2', 3 and 3') and Q-S (curves 1'' – 3'') interfaces, respectively for different values of A_0 .

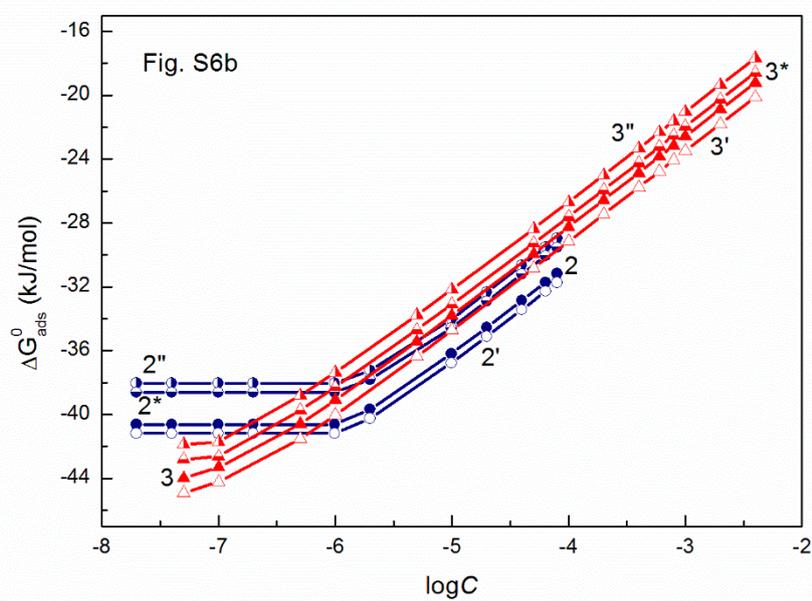
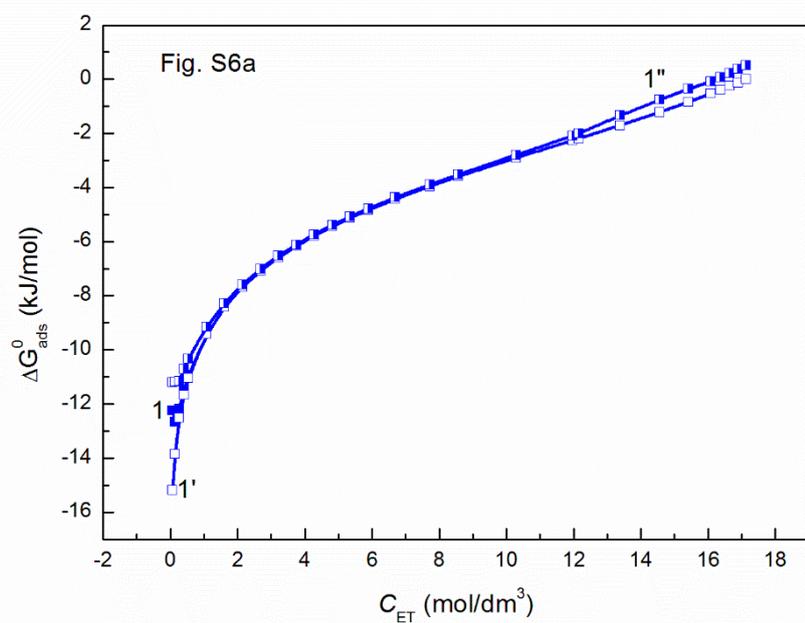


Figure S6. A plot of the Gibbs standard free energy of adsorption (ΔG_{ads}^0) calculated from Equation (17) for ET (6a, curves 1 – 1'') vs. its concentration (C_{ET}) as well as for RL (6b, curves 2 – 2*) and TX165 (6b, curves 3 – 3*) vs. the logarithm of their concentration ($\log C$). For RL and TX165 different values of A_0 were used.