

Effect of Protic Ionic Liquids (PILs) on the Formation of Non-Ionic Dodecyl Poly(ethylene oxide) Surfactant Self-Assembly Structures and the Effect of these Surfactants on the Nanostructure of PILs.

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Supplementary Material

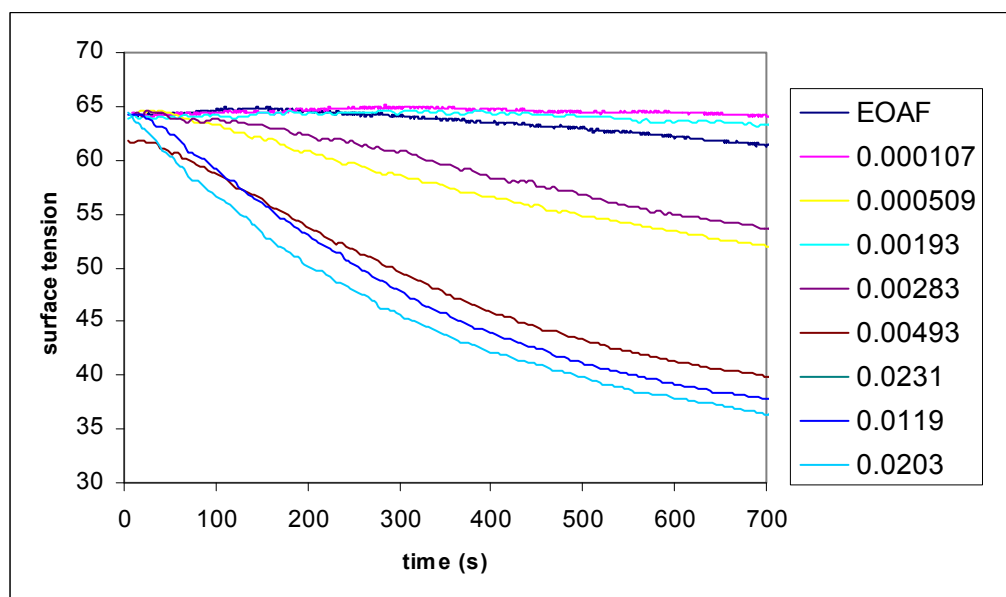
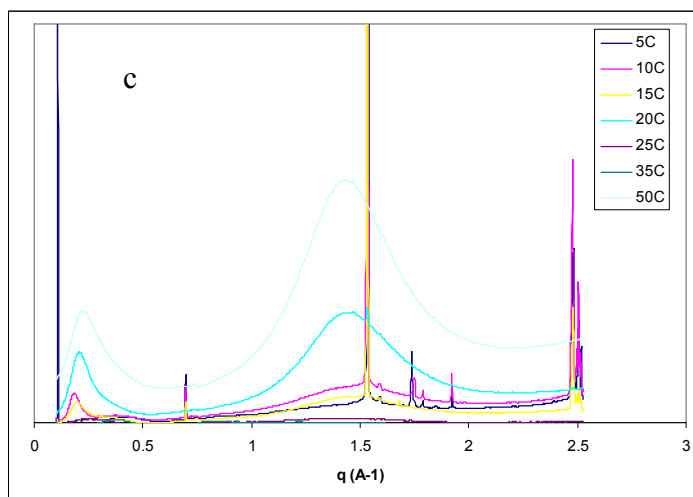
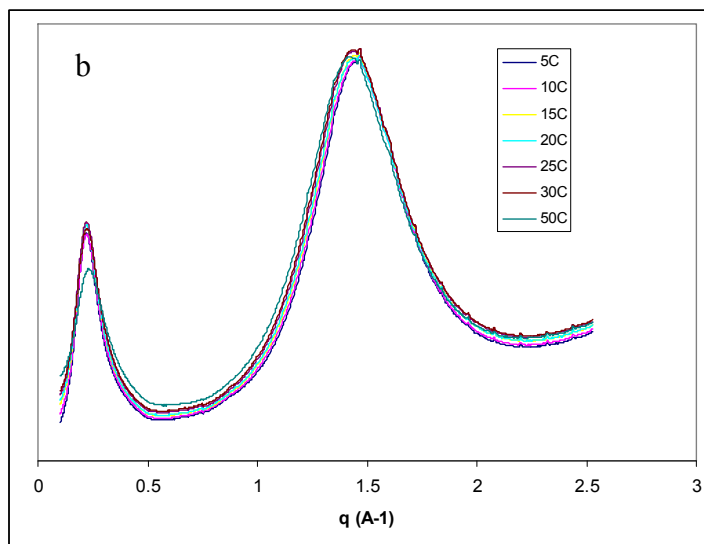
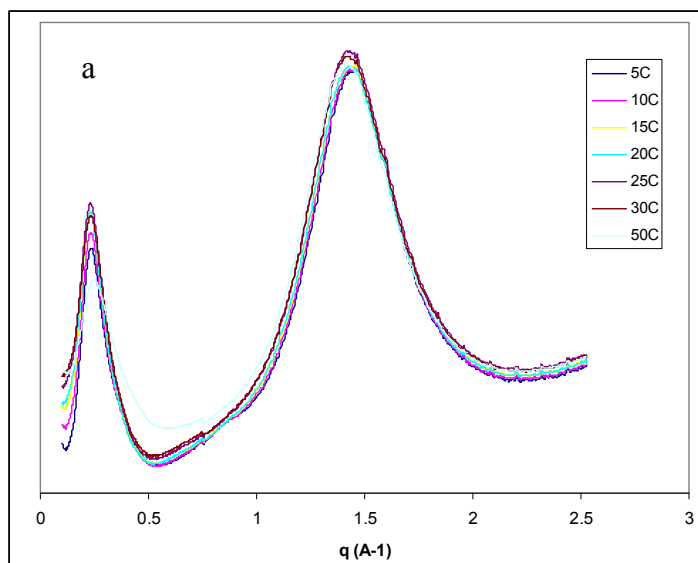


Figure S1. Surface tension of $C_{12}E_6$ -EOAF hanging drops over time. Concentrations in wt%.



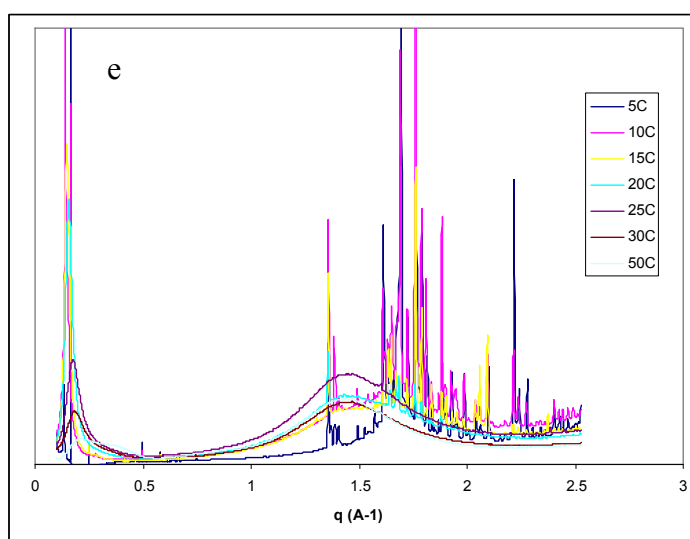
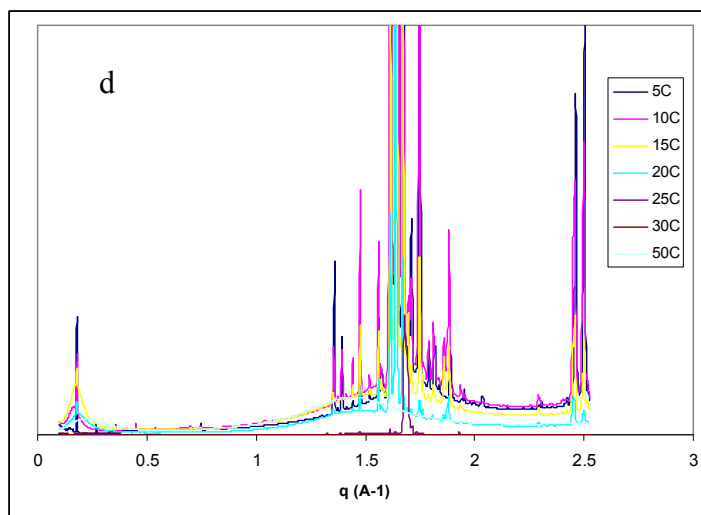


Figure S2. Combined SAXS and WAXS patterns for a) $C_{12}E_3$, b) $C_{12}E_4$, c) $C_{12}E_5$, d) $C_{12}E_7$ and e) $C_{12}E_8$.

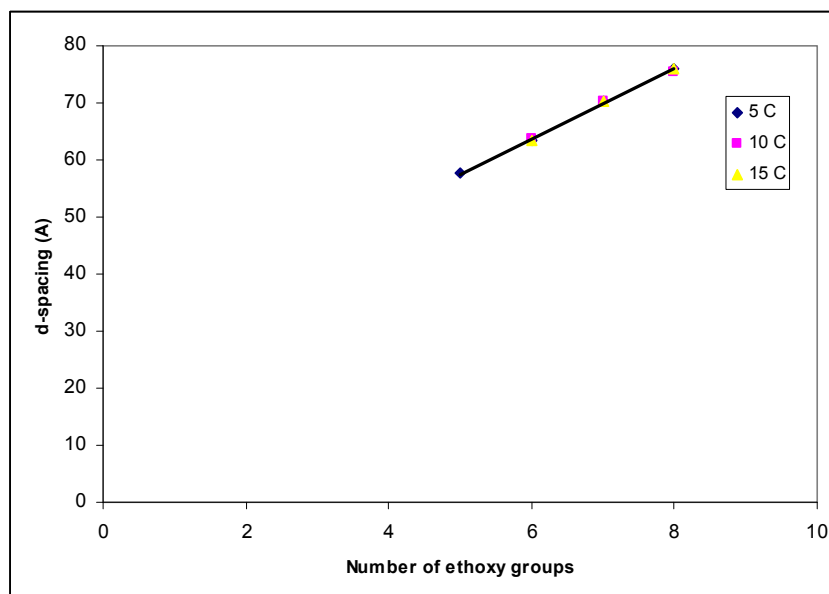


Figure S3. Relationship between the d-spacing of the crystalline $C_{12}E_n$ surfactants and the number of ethoxy groups (n).

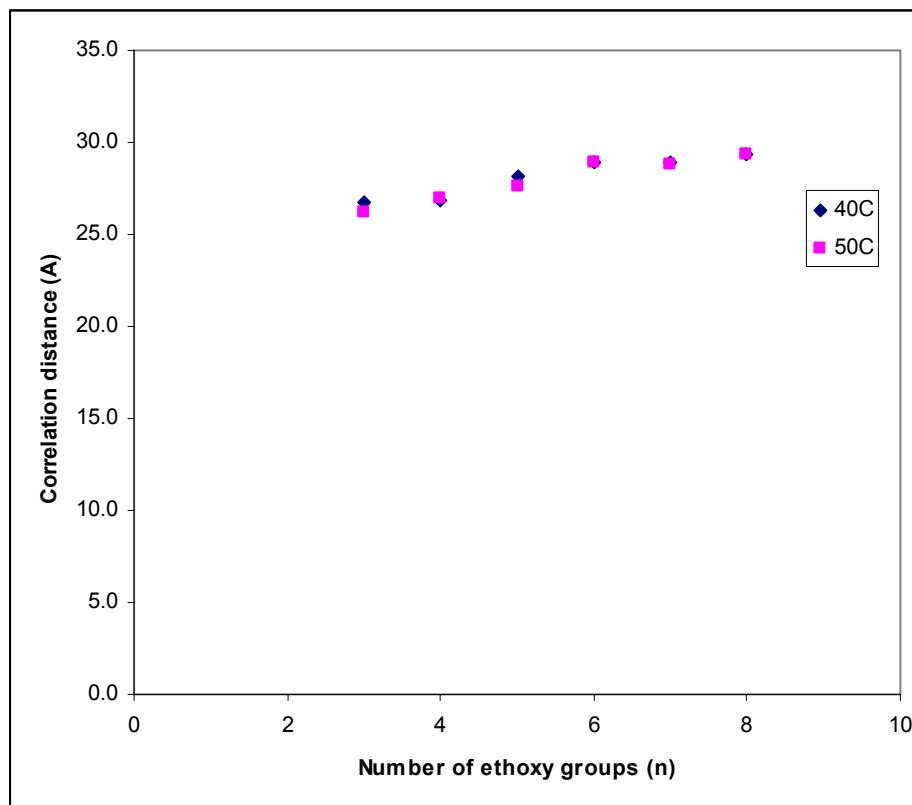


Figure S4. Relationship between the correlation distance of the liquid $C_{12}E_n$ surfactants and the number of ethoxy groups (n) at 40 and 50 °C.

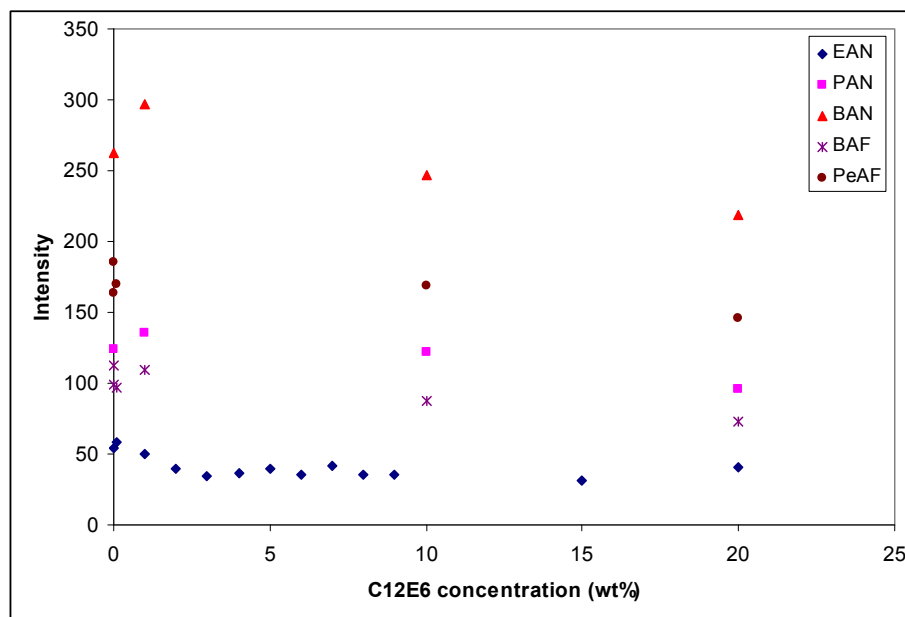


Figure S5. Change in intensity of peak 1 with increasing $C_{12}E_6$ surfactant concentration.

Table S1. CMC and cloud points for C₁₂E_n surfactants in EAN and water.

	Cloud point in water (1 wt%) °C^a	Cloud point in EAN (1 or 5 wt%) °C
C ₁₂ E ₃	< 0	>130
C ₁₂ E ₄	5	>130
C ₁₂ E ₅	31.7	>130
C ₁₂ E ₆	52	>130
C ₁₂ E ₇	63.4	>130
C ₁₂ E ₈	78	>130

^a References within ⁵².
