Supporting Information

Observation of a Structural Gradient in Winsor-III Microemulsion Systems

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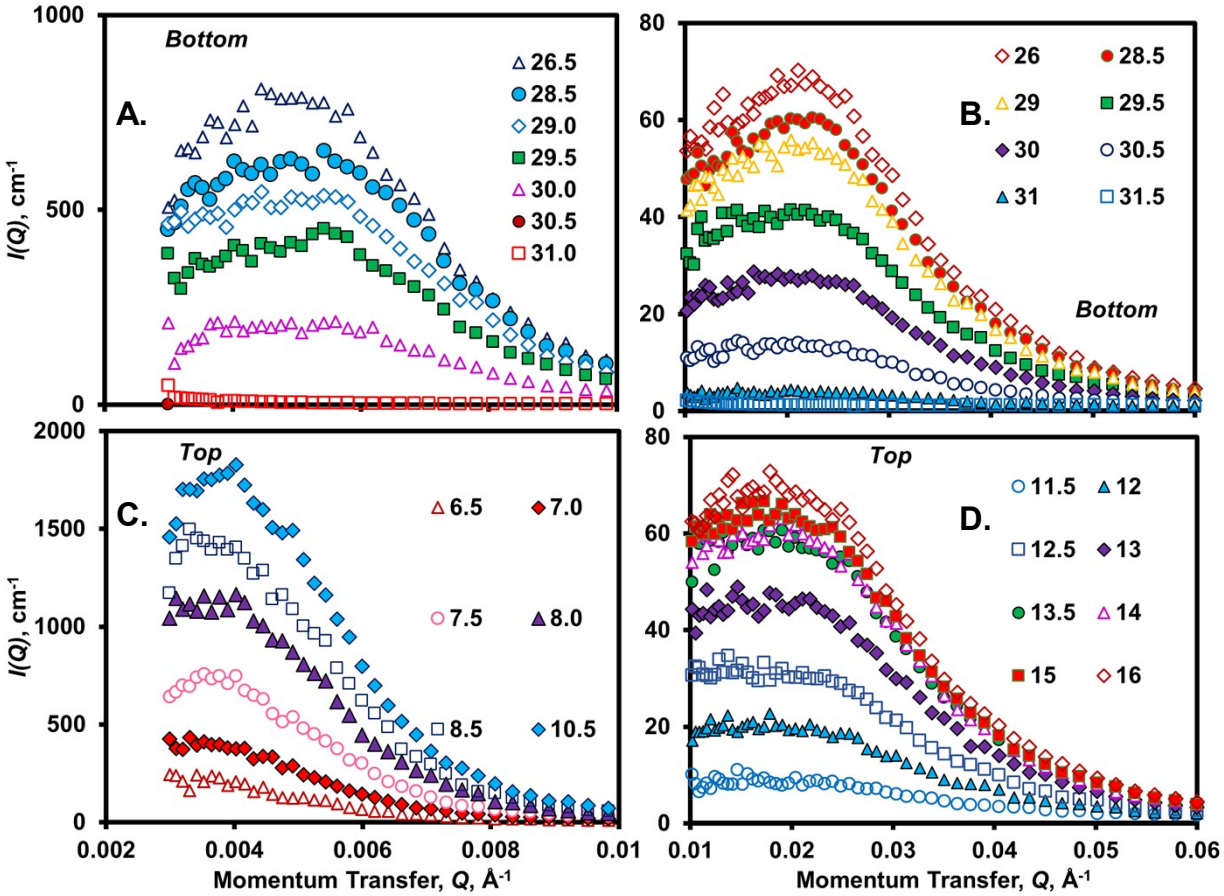

Figure S1. SANS data for W_{III} systems formed by (**A, C)** AOT/CK-2,13 and (**B, D)** SDS/pentanol near the **(A, B)** water-BμE and **(C, D)** BμE-oil interfaces respectively. The BμE phase occurred from 8.5 mm to 28.5 mm and 11.5 mm to 26.0 mm for AOT/CK-2,13 and SDS/pentanol, respectively. Legends indicate vertical position in mm.

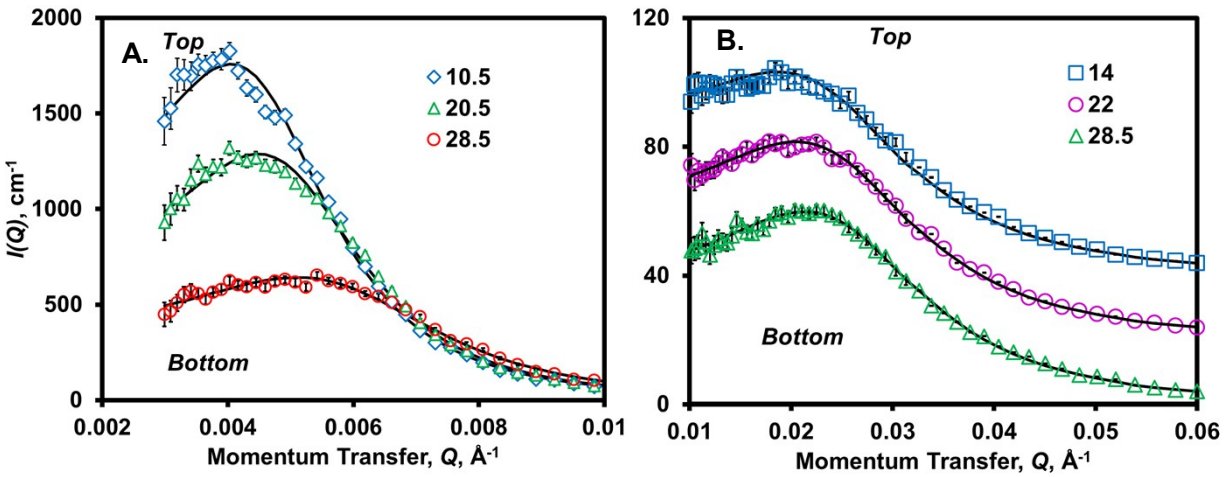

Figure S2. Demonstration of the quality of fit for the Teubner-Strey model to SANS data for the middle, BμE, phase of W_{III} systems formed by (**A)** AOT/CK-2,13 and (**B)** SDS/pentanol, and error bars for *I(Q)*. Vertical positions of representative upper, middle, and lower positions in the BμE phase are given in the legends, in mm. A constant was added to *I(Q)* in Figure B to improve visualization.

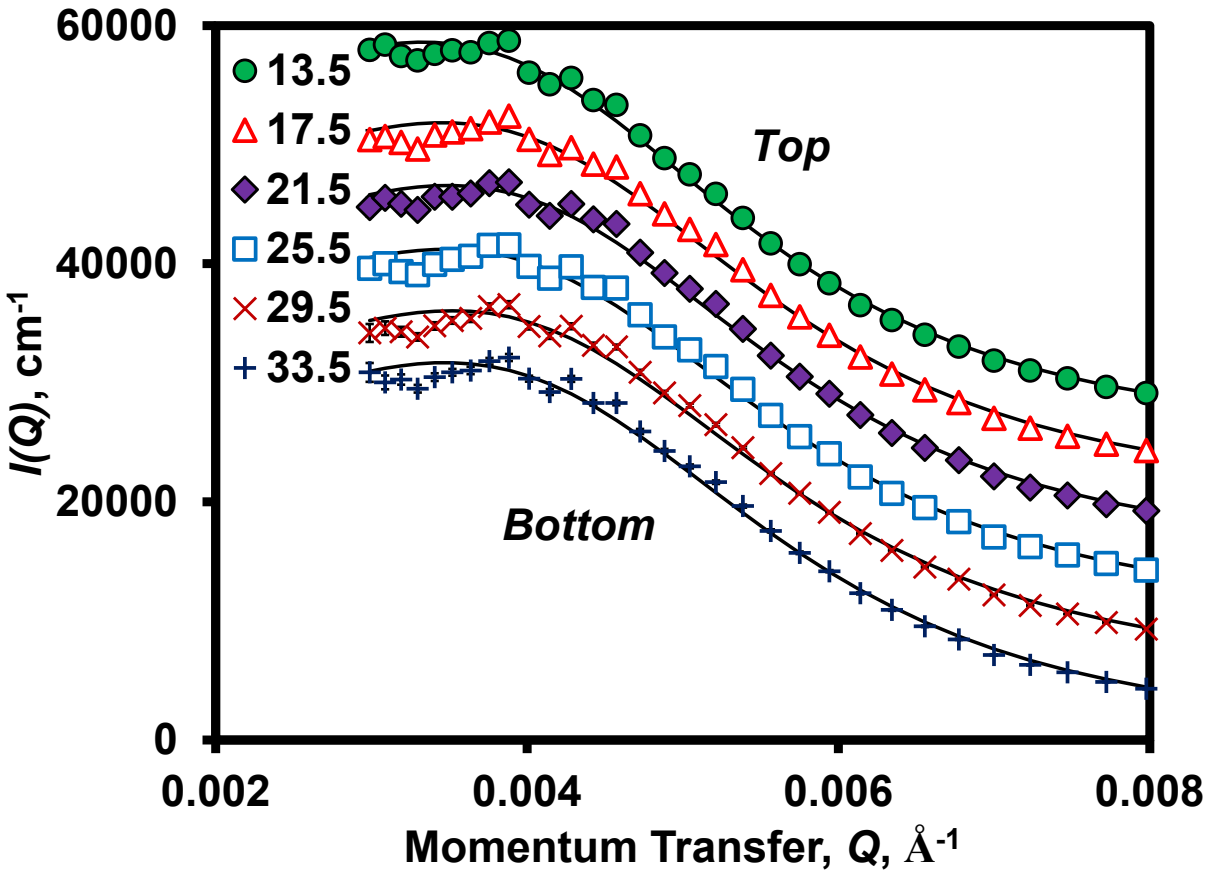

Figure S3. SANS scattering curves for the middle (BμE) phase of the AOT/CK-2,13 W_{III} system, that employed a smaller equilibration time of 4 h. Curves represent Teubner-Strey fit to the data. Error bars are within the size of the symbols. Legend represents vertical height in mm.

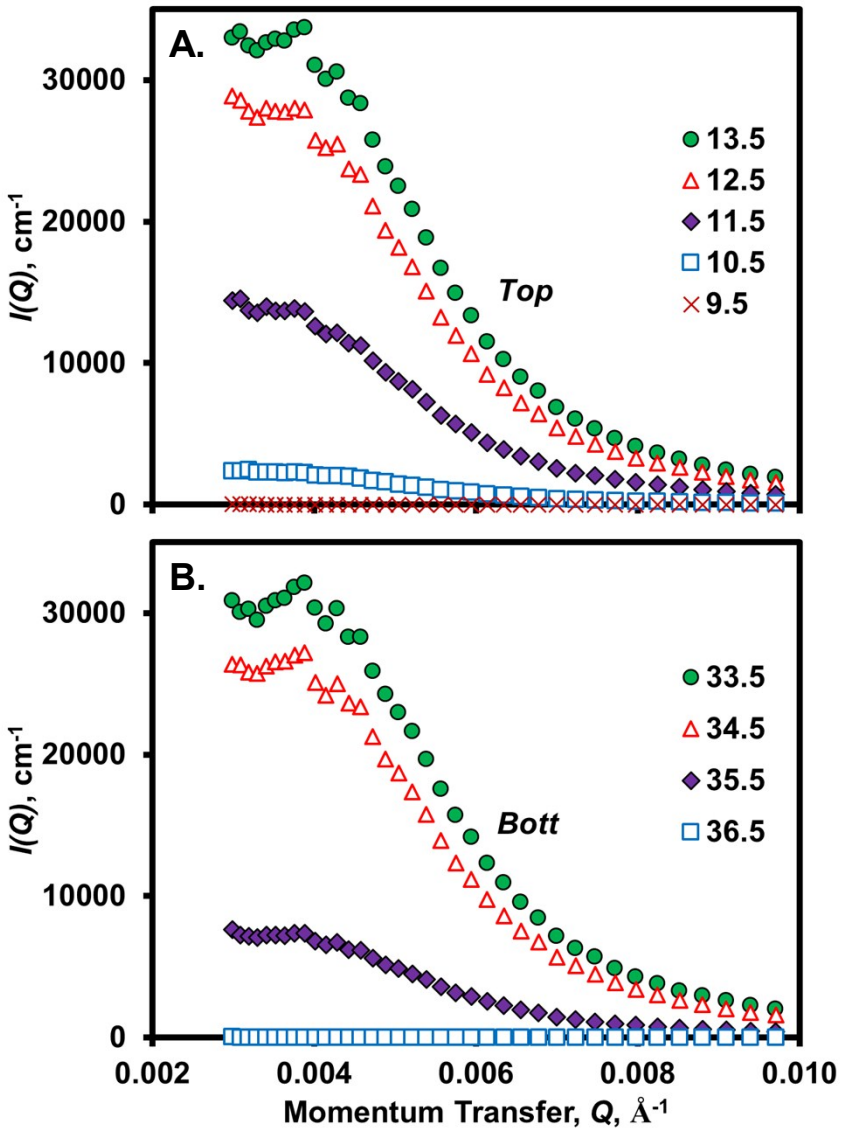

Figure S4. SANS scattering curves for the AOT/CK-2,13 W_{III} system that employed a smaller equilibration time of 4 h, at **(A)** the top portion of the BμE phase (13.5 mm) and just above the upper liquid-liquid interface, and **(B)** the bottom portion of the BμE phase (13.5 mm) and just below the lower liquid-liquid interface.

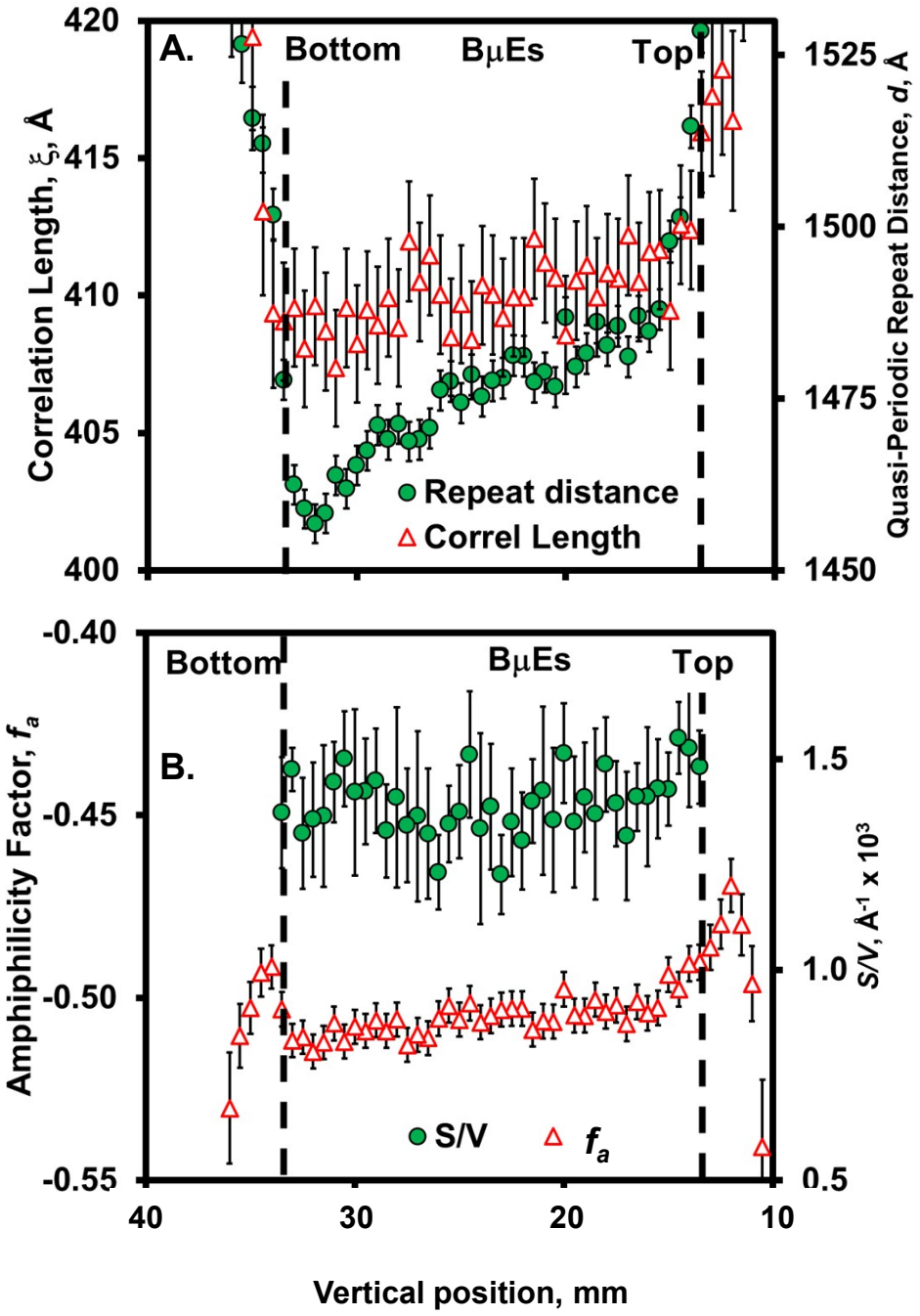

Figure S5. Changes in SANS-derived parameters vs. vertical position in the middle, BμE, phase formed for the AOT/CK-2,13 W_{III} system, that employed a smaller equilibration time of 4 h.

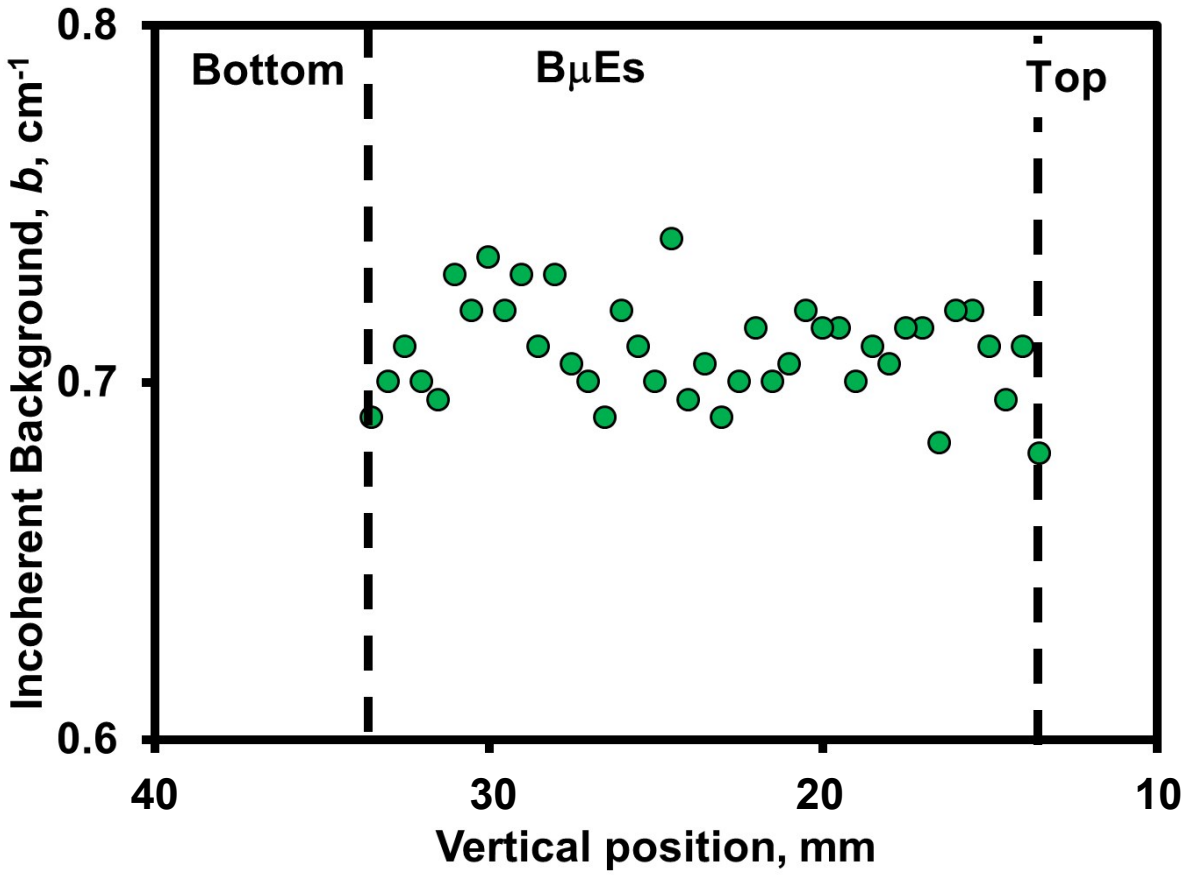

Figure S6. Changes in the incoherent background, *b* vs. vertical position in the middle, BμE, phase formed for the AOT/CK-2,13 W_{III} system, that employed a smaller equilibration time of 4 h.