Supporting Information for Manuscript Titled

Coacervation and Aggregate Transitions of Cationic Ammonium Gemini

Surfactant and Sodium Benzoate in Aqueous Solution

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Figure S1. (a) Turbidimetric curves of titrating $C_{12}C_6C_{12}Br_2$ solution into the NaBz solution of 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40 and 0.50 M at 25.0 °C; (b) Representative turbidity and differential turbidity curves of $C_{12}C_6C_{12}Br_2$ at 0.25 M NaBz; (c) Enlarged Turbidity curve for titrating $C_{12}C_6C_{12}Br_2$ into 0.25 M NaBz.



Figure S2. The additional Cryo-TEM and SEM images of the $C_{12}C_6C_{12}Br_2/NaBz$ aggregates for C_{NaBz} = 0.25 M and $C_{12-6-12}$ = 30.00 mM.



Figure S3. ITC curves of titrating 200.00 mM $C_{12}C_6C_{12}Br_2$ into 0.10, 0.15, 0.20, 0.25,

0.30, 0.35, 0.40 and 0.50 M NaBz at 25.00 $^{\circ}\mathrm{C}.$



Figure S4. ¹H NMR spectra of the pure $C_{12}C_6C_{12}Br_2$ with different concentrations.