Supporting Information: Theory for the Liquid–Liquid Phase Separation in Aqueous Antibody Solutions

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S1 Attraction range affects the coexistence curve

Here we show how the increase of attraction range among sites A, B, and C affects the liquid–liquid phase separation curve. This results supplement the section "The symmetric case" of the main text, therefore $\varepsilon_{\mathrm{AB}} = \varepsilon_{\mathrm{AC}} = \varepsilon_{\mathrm{BC}} = \varepsilon$ and $\varepsilon_{\mathrm{AA}} = \varepsilon_{\mathrm{BB}} = \varepsilon_{\mathrm{CC}} = 0$. For associated attraction range ω we assume to vary from 0.025 σ, 0.050 σ, 0.075 σ, to 0.100 σ. Next we calculate the liquid–liquid separation curves as a function of ω. Results are shown in Figure S1.

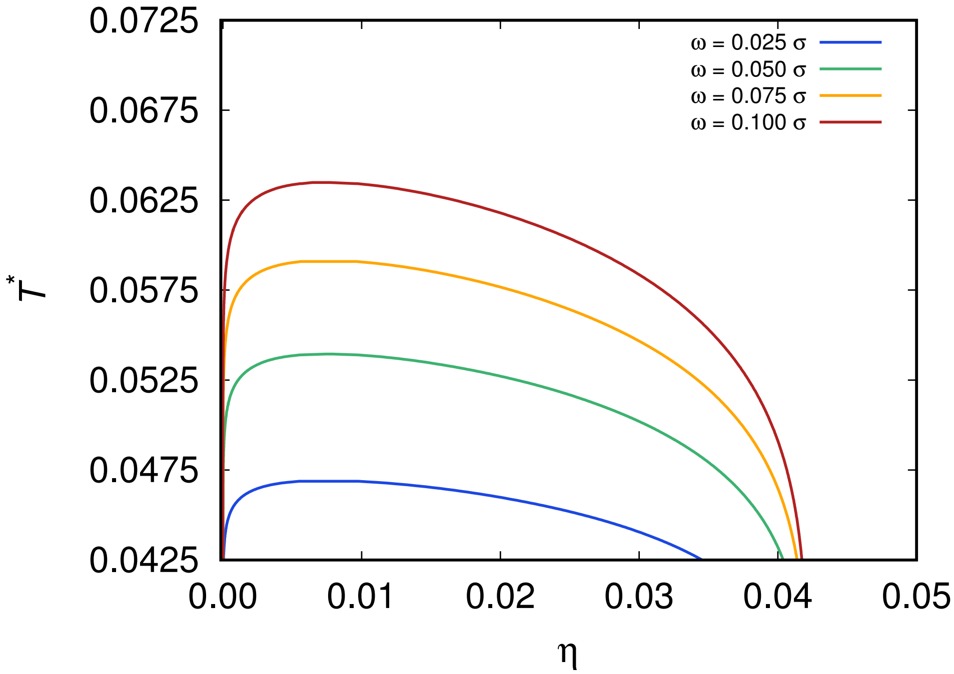

Figure S1: Liquid–liquid coexistence curves of the symmetric case ($\varepsilon_{\mathrm{AB}} = \varepsilon_{\mathrm{AC}} = \varepsilon_{\mathrm{BC}} = \varepsilon$) as a function of ω, which varies in the range from 0.025 σ, 0.050 σ, 0.075 σ, to 0.100 σ. As before, $T^* = k_{\mathrm{B}}T/\varepsilon$.

We see the similar trend as in Figure 3: larger ω value shift the temperature of critical point toward higher values, while the critical concentration (critical η) does not change much.