Supplementary Materials For

Modeling Viscoelastic Relaxation Dynamics of Soft Particles via Molecular Dynamics Simulation-Informed Multi-Dimensional Transition-State Theory

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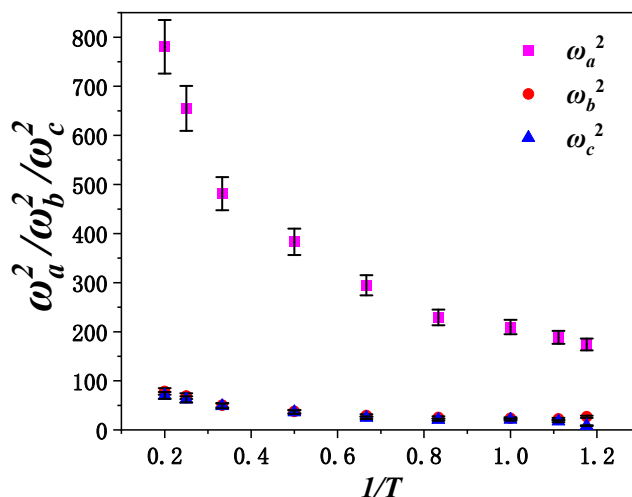
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Figure S1. The squared angular frequencies ω_a^2, ω_b^2 and ω_c^2 for the single particle type system. The error bars reflect the standard deviations from averaging three replicated MD simulation runs.

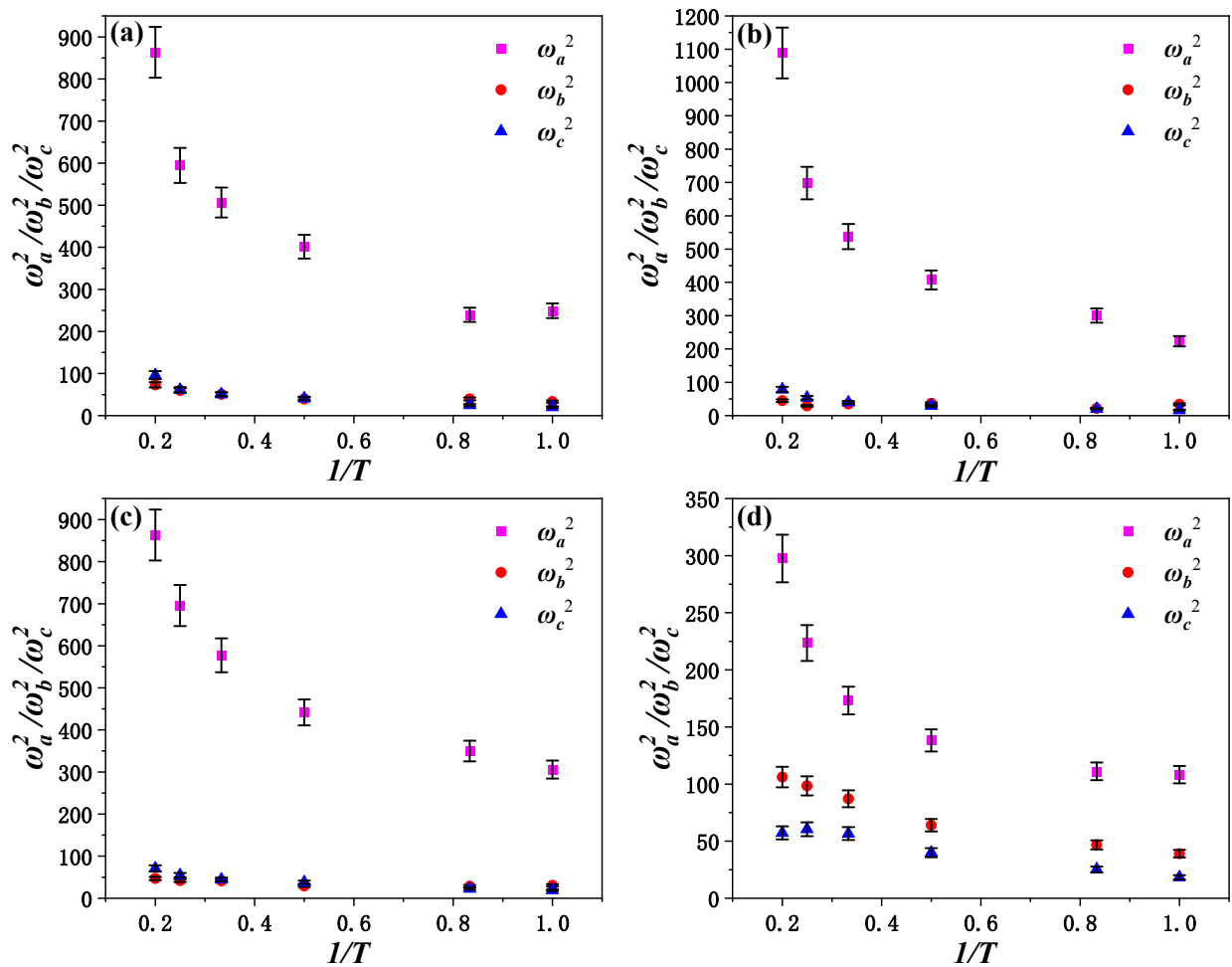**Figure S2.** The squared angular frequencies ω_a^2, ω_b^2 and ω_c^2 for the binary mixture KA system between: (a) A-A pair, (b) B-B pair, (c) A-B pair, and (d) all-all pair. The error bars reflect the standard deviations from averaging three replicated MD simulation runs.
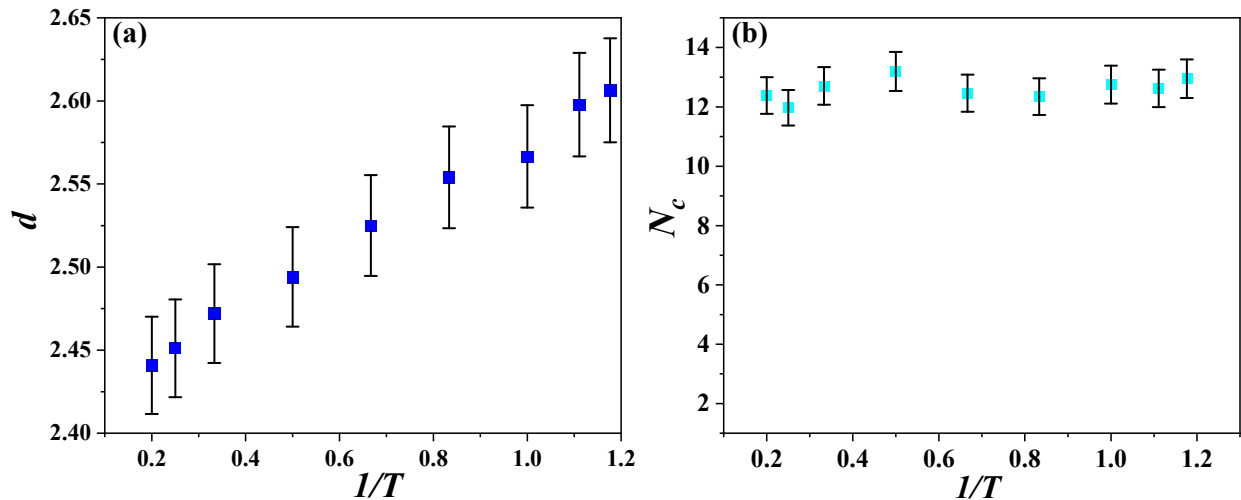
Figure S3. (a) The fractal dimension d and (b) coordination number N_c for the single particle type LJ system. The error bars reflect the standard deviations from averaging three replicated MD simulation runs.
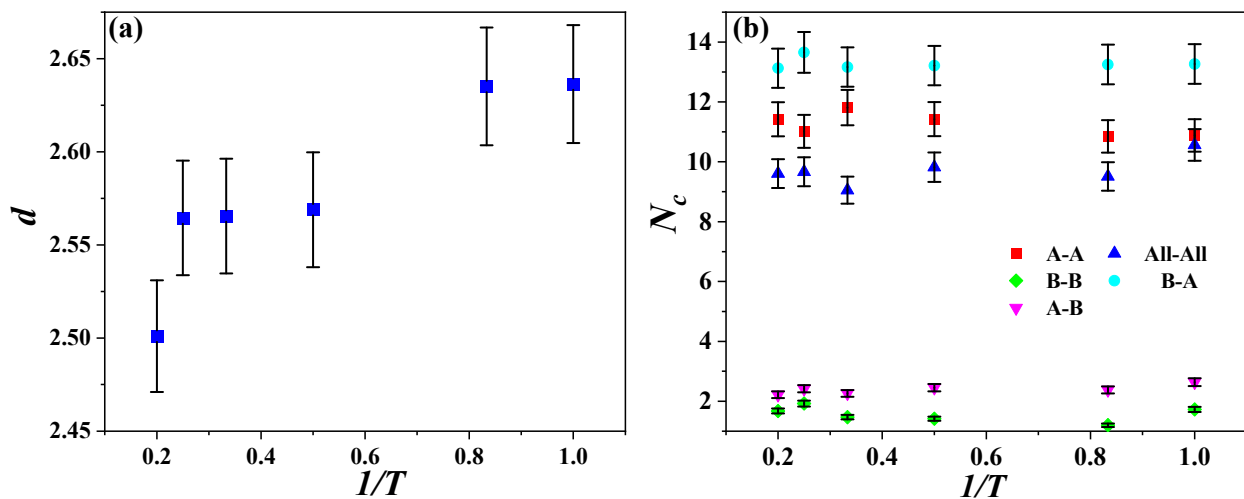

Figure S4. (a) The fractal dimension d and (b) coordination number N_c for the binary mixture KA system. The error bars reflect the standard deviations from averaging three replicated MD simulation runs.