Supplementary Information

Formation Pathways and Structural Diversity of Tetramers: A Brownian Dynamics Study

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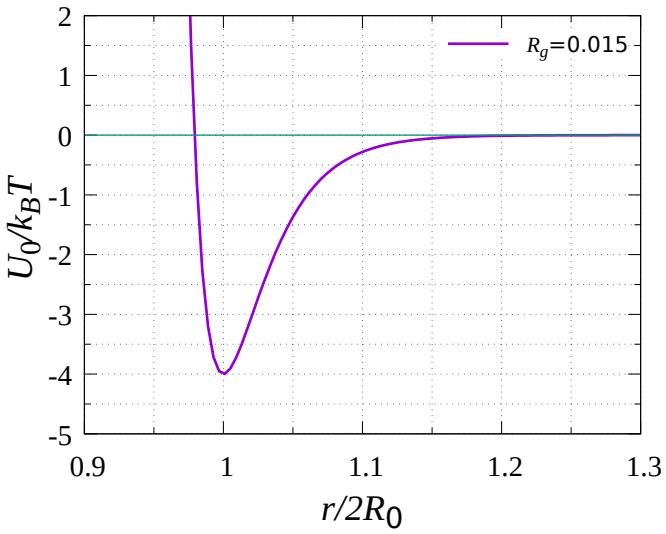

Figure S1: Potential form for $R_g = 0.015$, where the minimum of the potential is set to -4.

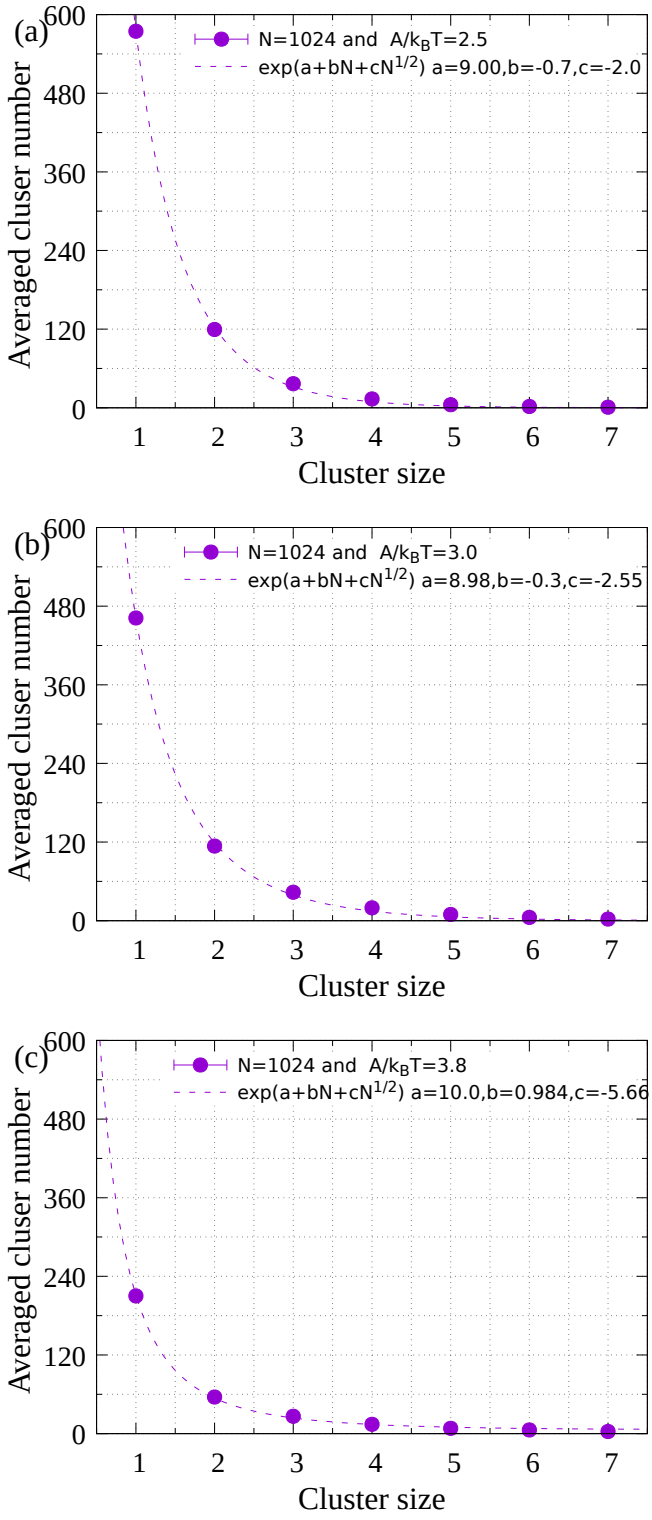

Figure S2: Distribution of the cluster numbers for systems with total particle number 1024. The particle density is 0.15 and $A/K_{\mathrm{B}}T$ is (a) 2.5, (b) 3.0, and (c) 3.8. The data are averaged over 10 individual runs. $\pi\gamma/k_{\mathrm{B}}T$ is estimated as (a) 2.00 ± 0.06, (b) 2.55 ± 0.07, and (c) 5.66 ± 0.07, respectively. The errors represent the standard error corresponding to a 68% confidence interval.

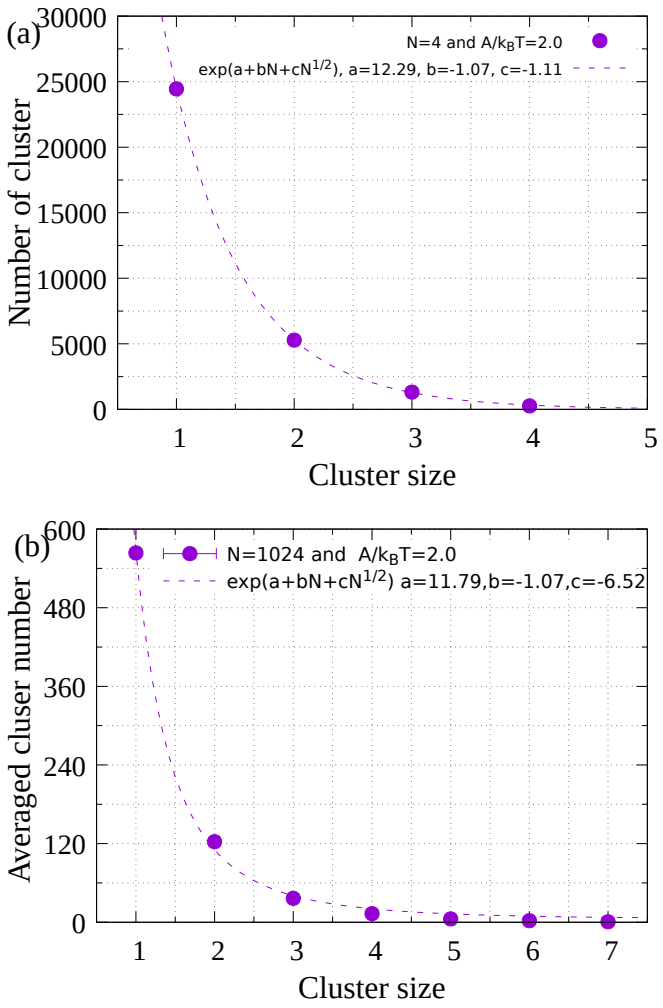

Figure S3: Distribution of the cluster numbers for systems with total particle number (a) 4 and (b) 1024. The particle density is 0.15 and $A/k_{\mathrm{B}}T$ is 2.0. The data are averaged over 10 individual runs. $\Delta\mu/k_{\mathrm{B}}T$ is estimated -1.07 ± 0.23. Using this $\Delta\mu/k_{\mathrm{B}}T$, $\pi\gamma/k_{\mathrm{B}}T$ is estimated as (a) 1.11 ± 0.565 and (b) 6.525 ± 0.142. The difference in $\pi\gamma/k_{\mathrm{B}}T$ between (a) and (b) is large. The errors represent the standard error corresponding to a 68% confidence interval.

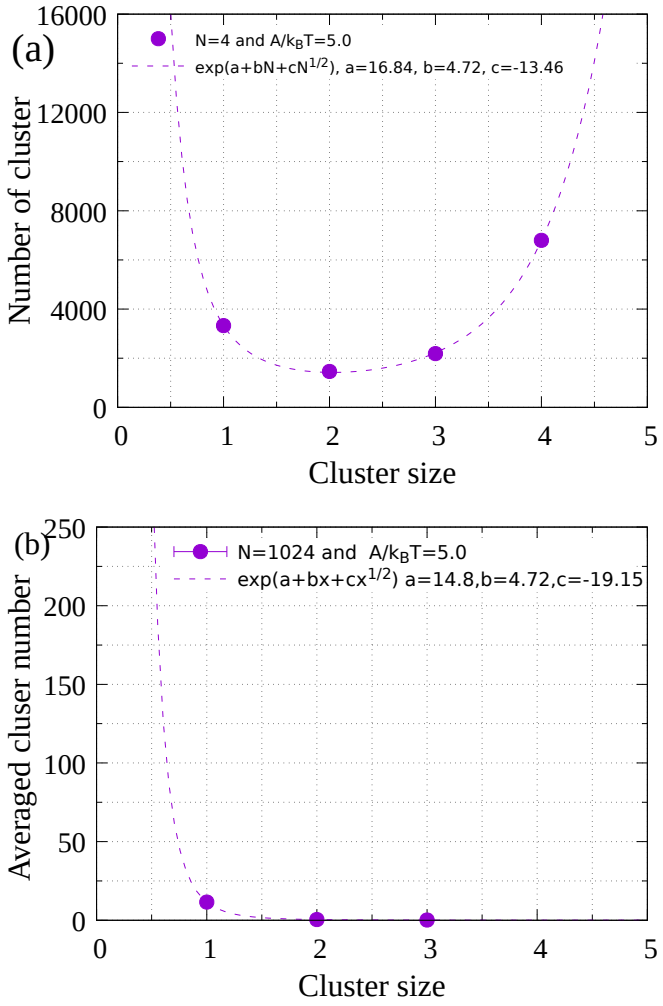

Figure S4: Distribution of the cluster numbers for systems with total particle number (a) 4 and (b) 1024. The particle density is 0.15 and $A/k_{\mathrm{B}}T$ is 5.0. The data are averaged over 10 individual runs. $\Delta\mu/k_{\mathrm{B}}T$ is estimated 4.724 ± 0.095. Using this $\Delta\mu/k_{\mathrm{B}}T$, $\pi\gamma/k_{\mathrm{B}}T$ is estimated as (a) 13.46 ± 0.30 and (b) 19.16 ± 0.01. The difference in $\pi\gamma/k_{\mathrm{B}}T$ between (a) and (b) is large, and the distribution form is quite different. The errors represent the standard error corresponding to a 68% confidence interval.

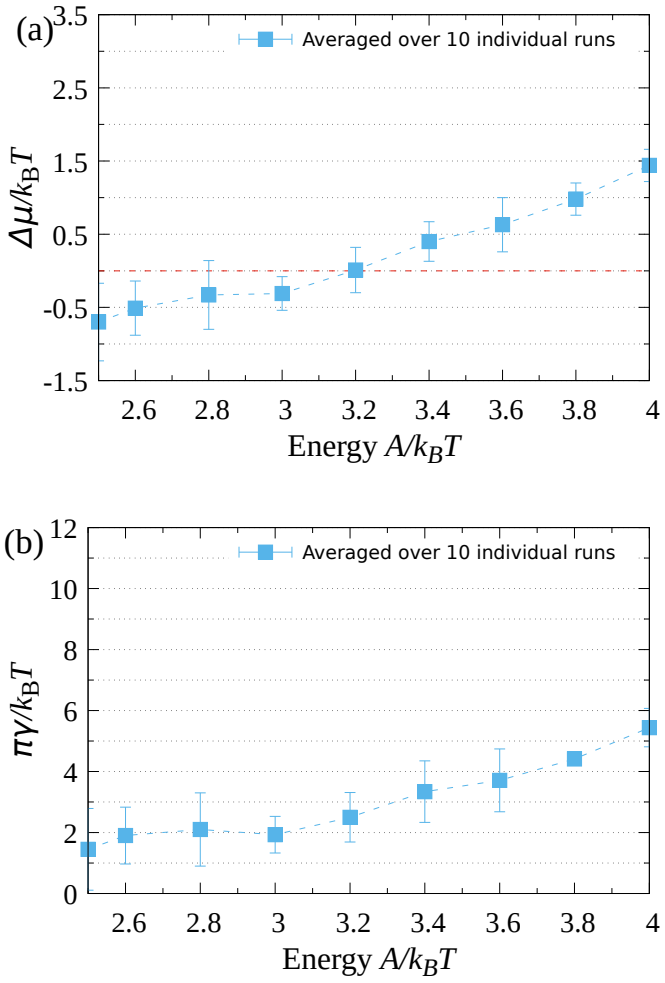

Figure S5: Dependence of (a) $\Delta\mu/k_{\mathrm{B}}T$ and (b) $\pi\gamma/k_{\mathrm{B}}T$ on the interaction energy $A/K_{\mathrm{B}}T$, which are obtained from systems with total particle number 4. The red dotted line in (a) represents $\Delta\mu/k_{\mathrm{B}}T = 0$. The data are averaged over 100 individual runs. The error bars represent the standard error corresponding to a 68% confidence interval.

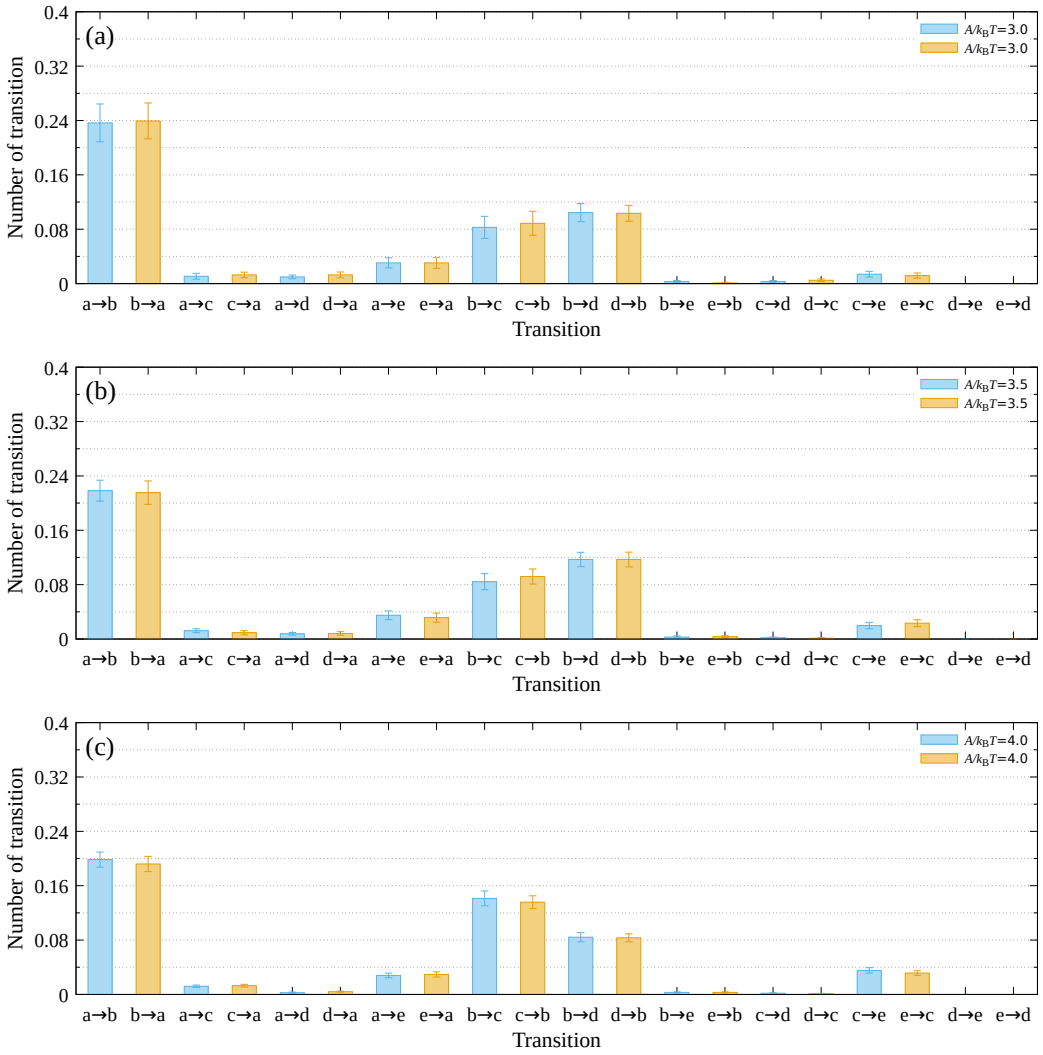

Figure S6: Number of transitions between different shapes for A/k_BT = (a) 3.0, (b) 3.5, and (c) 4.0. The error bars represent the standard error corresponding to a 68% confidence interval.