Supplementary Material (ESI) for Soft Matter

Miscibility and exchange chemical potential of ring polymers in symmetric ring–ring blends

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The symmetric linear—linear blends and the symmetric ring—ring blends were modeled by the bead—spring model [1]. In the equilibration of the blends, we performed a long *NVT* simulation before the production runs. Mean squared displacements of beads normalized by the squared gyration radius of the polymers in the *NVT* runs are shown in Fig. S1 for the linear polymers and Fig. S2 for the ring polymers, respectively.

[1] K. Kremer and G. Grest, *J. Chem. Phys.* Vol. 92, p. 5057 (1990)

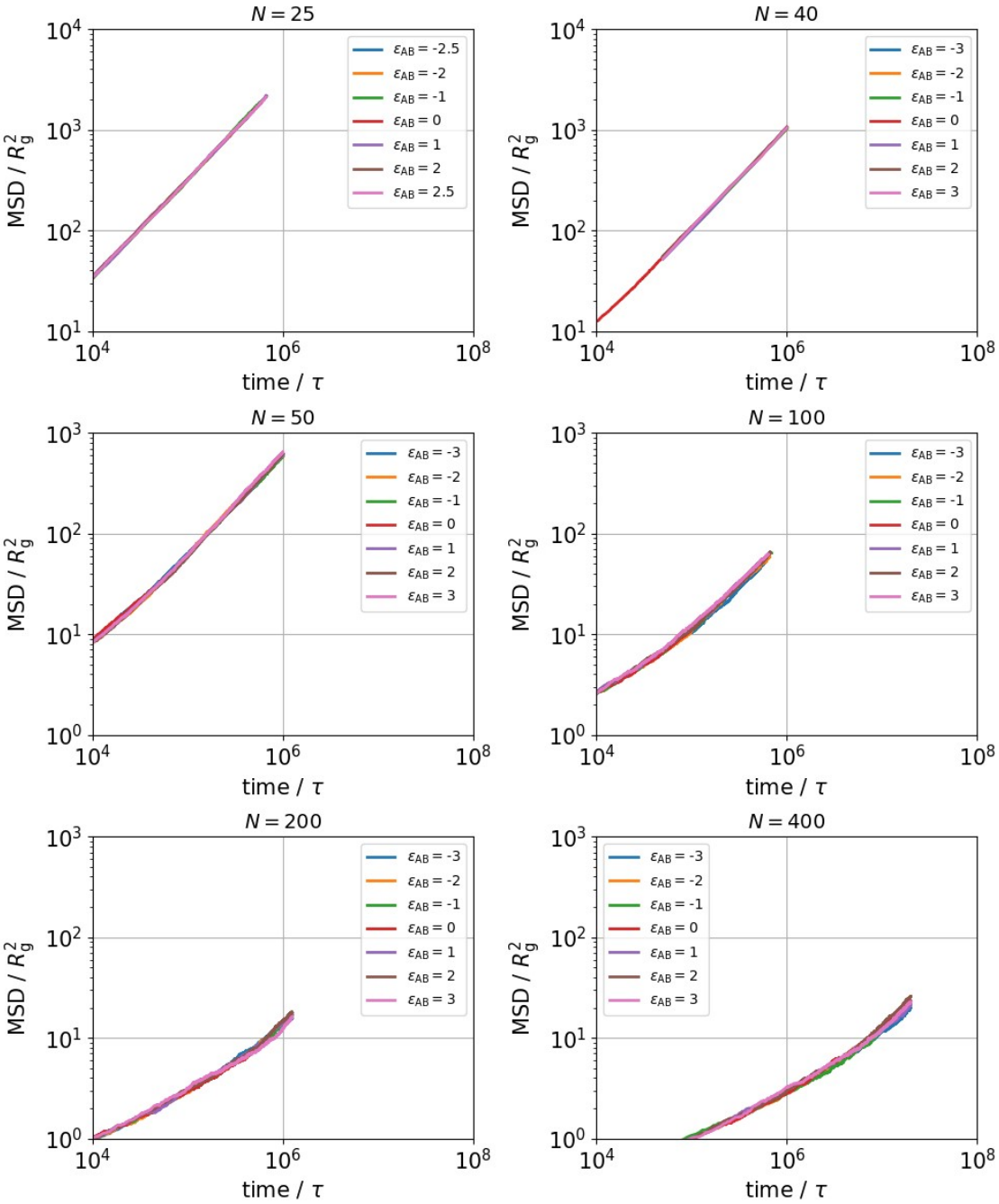

Fig. S1: Mean squared displacement divided by the squared gyration radius for the symmetric linear—linear blends of N=25, 40, 50, 100, 200 and 400 and for several conditions of ε_{AB}.

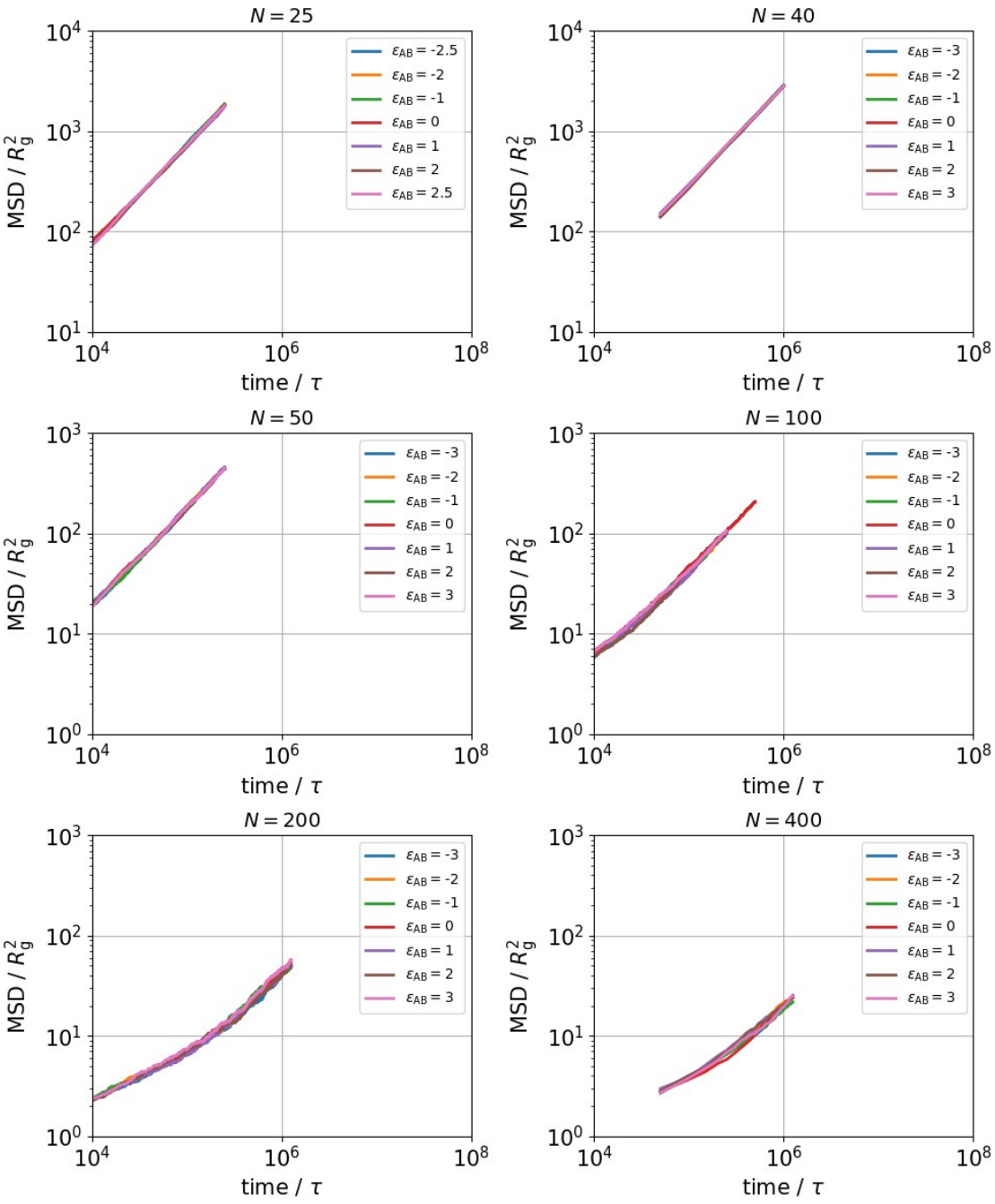

Fig. S2: Mean squared displacement divided by the squared gyration radius for the symmetric ring—ring blends of N=25, 40, 50, 100, 200 and 400 and for several conditions of ε_{AB}.