

Abstract Submitted
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Getting a grasp of sticky ends: numerical simulations of DNA-mediated particle interactions MIRJAM LEUNISSEN, AMOLF/University of Cambridge, DAAN FRENKEL, University of Cambridge — We will present the results of a Monte Carlo model for particles functionalized with short, rigid DNA constructs. We determine the dependence of the particle-particle interaction on the DNA grafting density, the binding strength of the sticky ends and the size of the beads, and predict the resulting phase behavior. We will also highlight the unique entropic costs and gains associated with the hybridization of tethered sticky ends and we will give some guidelines for experiments aimed at the DNA-mediated self-organization of micro- and nano-particles.

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