

Abstract Submitted
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Programmable Nanoparticle clusters via DNA linking¹ XU MA, MARK J. BOWICK, ALISHA LEWIS, MATHEW M. MAYE, Syracuse Univ, RASTKO SKNEPNEK, University of Dundee — Due to selective recognition, short complementary DNA strands have been widely used as linkers to direct the crystallization or the formation of larger assemblies of nanoparticles. We study the self-assembly of small clusters through DNA hybridization in a binary mixture of spherical nucleic acid gold nanoparticles (SNA-GNPs) with the larger SNA-GNPs in excess by performing the molecular dynamics simulation on the graphical processing unit (GPU). The resultant structures are self-assembled clusters with a varying number of large SNA-GNPs clusters around the small ones, and the structure of the clusters varies as the ratio of large to small hydrodynamic radii changes.

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