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DNA Linker Mediated Assembly of Colloidal Nanoparticles¹ HUIMING XIONG, DANIEL VAN DER LELIE, OLEG GANG, Brookhaven National Laboratory — When flexible ssDNA linkers are added to the mixture of two types of dispersed, ssDNAs capped gold nanocolloids which are mutually noncomplementary but complementary to the respective ends of the linker DNA, a crystalline phase of body-centered-cubic unit cell forms. The phase diagram of DNA linker mediated nanoparticle assemblies has been experimentally investigated and constructed by using in-situ small angle x-ray scattering. The influence of linkage defects on crystalline structure was also examined.

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