

Abstract Submitted
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Functionalized patchy particles using colloidal lenses CHRISTINE MIDDLETON, New York University — Colloidal assembly had been limited by the isotropic, nonspecific nature of interactions between spherical colloidal particles. By giving particles patches functionalized with single stranded DNA, these interactions can be made both directional and specific. We create patchy particles by adding patches to spherical emulsion droplets using the depletion interaction. First we make polystyrene particles in the shape of contact lenses to be the patches. The lenses are functionalized with single stranded DNA on their convex side. Then we put the lenses on the surface of oil emulsion droplets using the depletion interaction, creating a patch (or multiple patches) on the surface of each emulsion droplet. The emulsion droplets can now interact with each other in a specific, directional way through DNA functionalized patches.

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