

Abstract Submitted
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The Self-Assembly of DNA Nanostructures for use as Organizing Templates TIMOTHY SAMEC, Slippery Rock University of Pennsylvania, MITCHELL CHOLEWINSKI, University of Pittsburgh, NICKALAS REAMER, MICHAEL REARDON, ARLENE FORD, Slippery Rock University of Pennsylvania — There is growing interest in the self-assembling capabilities of DNA to create functional nanodevices for use in cancer detection and treatment. One important reason for this interest is that DNA nanostructures are highly programmable molecules. This means that these structures allow for increased stability and control when designing biomacromolecules via adhesion of plasmonic nanoparticles and other similar materials. Our current work reports on the procedure and construction of hexagonal two-dimensional DNA lattice structures using three specific DNA single strands. We also reflect on several barriers that were presented during fabrication as well as the adaptations made to overcome the aforementioned barriers by improving the quality, reproducibility, and yield of the hexagonal two-dimensional DNA lattice as organizing templates.

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