

## **DNA Self-Assembly: Complete Tripartite Graphs**

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Based on the tile method for DNA self-assembly, which involves branched junction molecules whose flexible k-arms are double strands of DNA, we design a collection of tiles that will construct a nanostructure shaped like a target graph  $G$ . We find the minimum number of tile and bond-edge types required to construct complete tripartite graphs and cocktail party graphs in different scenarios representing distinct levels of laboratory constraints.

Keyword: self-assembling DNA graphs