

DNA nanotechnology  
**chemical copying of connectivity  
information in DNA nanoscaffolds**  
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*Abstract*

Three-dimensional DNA nanoscaffolds such as supramolecular tetrahedra can self-assemble from tris-oligonucleotidyls — synthetic three-armed building blocks in which three identical or non-identical short DNA sequences are connected by a tris-linking backbone. Here we show that the connectivity information contained in these building blocks can be copied by using template-directed tris-linking. This finding is a crucial step towards the replication of nanoarchitectures that are based on tris-oligonucleotidyls and to the realization of artificially self-replicating systems on a nanometre scale.

