

Abstract

We have created self-assembling tiles that create a structure that mimics a computation on a circuit by organizing one layer of tiles on top of another. the entire assembly These tiles consists of a template, which is a fixed support encoding a tree-like circuit, as well as tiles arbitrated the array of input, which provide entries to the circuit. The use of these subunits allowed us not only to generate self-assembling structures, but these structures also showed promise of allowing us to compute Boolean functions. A layer of nodes called pawns is proposed was used for the template and as the tiles used for the array were placed on top of these pawns. The use of these pawns ensured a controlled assembly so that when the array was constructed, one would know the location of each tile. When put together, the tiles and pawns construct a system, which is potentially capable of computation on the molecular scale.

Mention extending to 3D.
Work on having shorter, clearer sentences.

More on proposed interaction of levels.

universality?
mention showing DNA motifs to be used.

bad choice of words. If we know, we don't need to compute (gain no inform.). Rather, the tiles are to be placed in a programmed way.