



Single-stranded DNA and RNA origami

Dongran Han, Xiaodong Qi, Cameron Myhrvold, Bei Wang, Mingjie Dai, Shuoxing Jiang, Maxwell Bates, Yan Liu, Byoungkwon An, Fei Zhang, Hao Yan and Peng Yin

Science **358** (6369), eaao2648.
DOI: 10.1126/science.aao2648

Large origami from a single strand

Nanostructures created by origami-like folding of nucleic acids are usually formed by base-pairing interactions between multiple strands. Han *et al.* show that large origami (up to 10,000 nucleotides for DNA and 6000 nucleotides for RNA) can be created in simple shapes, such as a rhombus or a heart. A single strand can be folded smoothly into structurally complex but knot-free structures by using partially complemented double-stranded DNA and the cohesion of parallel crossovers. The use of single strands also enables in vitro synthesis of these structures.

Science, this issue p. eaao2648

ARTICLE TOOLS

<http://science.sciencemag.org/content/358/6369/eaao2648>

SUPPLEMENTARY MATERIALS

<http://science.sciencemag.org/content/suppl/2017/12/13/358.6369.eaao2648.DC1>

REFERENCES

This article cites 62 articles, 20 of which you can access for free
<http://science.sciencemag.org/content/358/6369/eaao2648#BIBL>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.