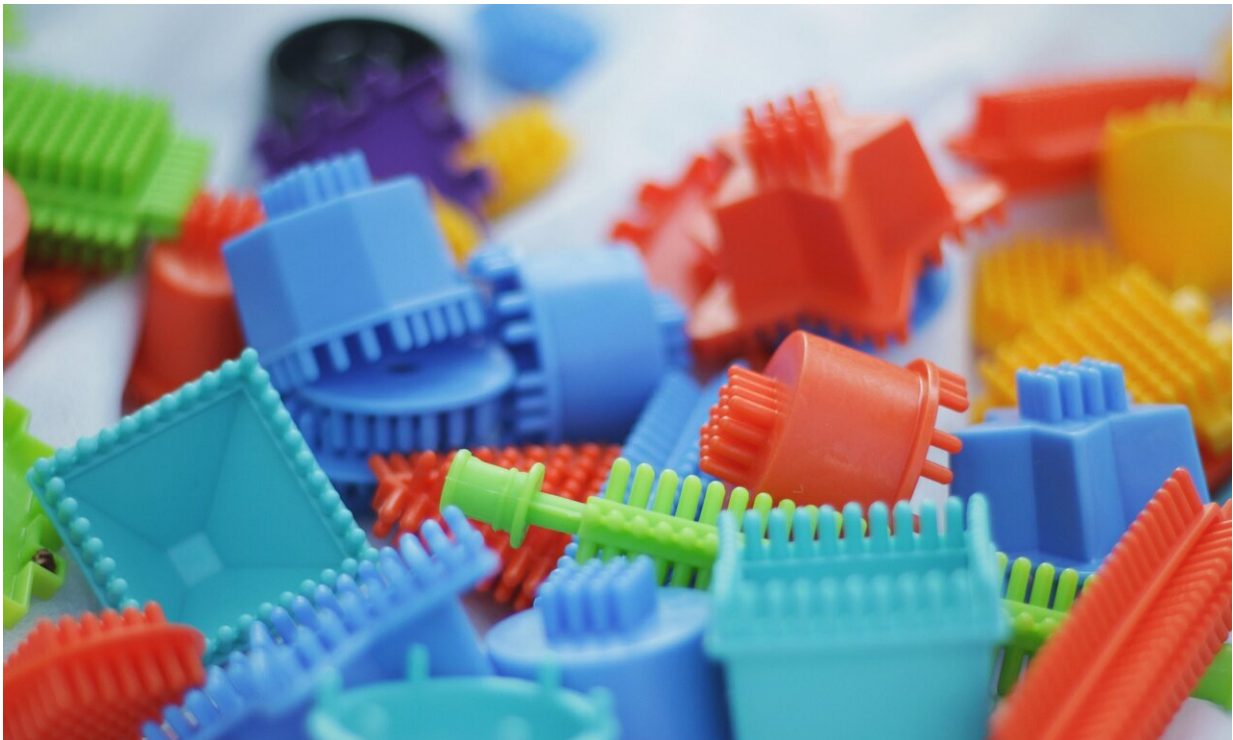


## Video: Tiny shape-shifting polymers developed for potential medical applications

December 23 2020

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Credit: Unsplash/CC0 Public Domain

Engineers at Caltech have developed a process for generating three-dimensional architected polymers with heat-dependent "shape memory" properties: That is, when heated, the material folds and unfolds itself into a new preordained shape.

In this video, Caltech graduate student Luizetta Elliott explains how these [shape memory polymers](#) could one day be used to perform [complex tasks](#) inside the [human body](#), such as unclogging a blocked artery or pulling out a blood clot. Elliott worked on micro-architected shape polymers in the lab of Julia R. Greer, the Ruben F. and Donna Mettler Professor of Materials Science, Mechanics and Medical Engineering, who is a pioneer of "nano-architected materials."

Their paper, co-authored with alumna Erika Salzman is titled "Stimuli Responsive Shape Memory Microarchitectures" and was published in the journal *Advanced Functional Materials* on December 8.

This research was supported by the Chen Neuroscience Institute and the U.S. Department of Defense.

**More information:** Luizetta V. Elliott et al. Stimuli Responsive Shape Memory Microarchitectures, *Advanced Functional Materials* (2020).  
[DOI: 10.1002/adfm.202008380](https://doi.org/10.1002/adfm.202008380)

Provided by California Institute of Technology

Citation: Video: Tiny shape-shifting polymers developed for potential medical applications (2020, December 23) retrieved 24 April 2024 from <https://phys.org/news/2020-12-video-tiny-shape-shifting-polymers-potential.html>

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