

Honey, I shrunk the carbon nanotubes

14 November 2006

U.S. scientists say they have developed a method of controllably altering the diameter of individual carbon nanotubes.

Alex Zettl and colleagues at the University of California, Berkeley and the Lawrence Berkeley National Laboratory say carbon nanotubes' ability to conduct electricity and other electrical and mechanical properties depends heavily on their size. However, current methods for making CNTs cannot reliably control nanotube diameter, making it more difficult to fabricate devices from nanotubes.

"We have developed a method to shrink individual nanotubes to any desired diameter," the researchers report. "The process can be repeated in a highly controlled fashion, yielding a high-quality CNT of any pre-selected and precise diameter."

The method, involving a high-temperature that shrinks regular-sized CNTs and reforms them into high-quality tubes of a smaller diameter, is to be detailed in the Dec. 13 issue of the journal *Nano Letters*.

Copyright 2006 by United Press International

APA citation: Honey, I shrunk the carbon nanotubes (2006, November 14) retrieved 28 November 2020 from <https://phys.org/news/2006-11-honey-shrunk-carbon-nanotubes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.