

[Request Information](#)

[Permalink](#)

Fabricating Crystallinity Unique Carbon Nanowires (~5nm) with Ultrahigh Electrical Conductivity

Tech ID: 32499 / UC Case 2019-923-0

BRIEF DESCRIPTION

UCI engineers have designed a new protocol for the synthesis of technology materials that uses electrospinning to draw polymers into ~5nm carbon nanowires.

SUGGESTED USES

- Creation of ~5nm carbon nanowires
- Scalable nanofabrication

FEATURES/BENEFITS

- This new method can synthesize 5nm wires which can then be integrated onto desired substrates
- Scalability
- Not wavelength limited

TECHNOLOGY DESCRIPTION

The advancement of technology has been accompanied by a steady decrease in the size of materials used. Unfortunately, current methods are unable to produce materials such as carbon nanowires under 5nm including lithography. A new synthesis method developed by UCI engineers uses electric force to draw polymer solutions to ~5nm fiber diameters (electrospinning), allowing a new step in technology miniaturization.

STATE OF DEVELOPMENT

Technique has been developed, wires created and tested for conductivity

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,846,042	12/19/2023	2019-923

CONTACT

Alvin Viray
aviray@uci.edu
tel: 949-824-3104.



INVENTORS

» Madou, Marc J.

OTHER INFORMATION

CATEGORIZED AS

- » **Materials & Chemicals**
- » Nanomaterials
- » Polymers
- » **Nanotechnology**
- » Materials

RELATED CASES

2019-923-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ LaserPack: A burstable liquid storage package for biological material storage and valve substitution
- ▶ FlexThrough: a recirculation mechanism for point of care, centrifugal disk-based microfluidic devices
- ▶ Polymer Based High Surface Area Multi-Layered Three-Dimensional Structures
- ▶ Low-Voltage Near-Field Electrospinning Enables Controlled Continuous Patterning of Nanofibers on 2D and 3D Substrates
- ▶ Flexthrough: A Recirculation Mechanism In Point Of Care CD Microfluidic Using Elastic Membrane

UCI Beall
Applied Innovation

5270 California Avenue / Irvine, CA
92697-7700 / Tel: 949.824.2683



© 2021 - 2023, The Regents of the University of
California
[Terms of use](#)
[Privacy Notice](#)