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**Request Information** 

# Dissolvable Calcium Alginate Microfibers via Immersed Microfluidic Spinning

Tech ID: 33568 / UC Case 2023-755-0

# **BRIEF DESCRIPTION**

A novel method for producing dissolvable alginate microfibers critical for advanced tissue engineering and microfluidic network fabrication.

### SUGGESTED USES

- » Tissue engineering and regenerative medicine
- » Fabrication of vascularized tissue implants
- » Development of embedded microfluidic networks for biological research
- » Advanced applications in microelectronics requiring precise micro- and nanofiber structures

### FEATURES/BENEFITS

- » Simplified fabrication process compared to traditional methods
- » Precise control over fiber diameter and topology
- » Ability to dissolve fibers quickly, leaving behind hollow microfluidic channels
- » Cost-effective and less complex setup
- » Enables the creation of vascularized tissue constructs and advanced tissue engineering applications

# **TECHNOLOGY DESCRIPTION**

Researchers at UCI have developed an innovative approach to fabricate dissolvable calcium alginate microfibers using immersed microfluidic spinning, creating micro- and nanofibers essential for various applications, especially in biotechnology and microelectronics. Unlike conventional methods that are complex and costly, this technique employs a simplified setup to produce microfibers with controlled diameters and topologies, which can be easily dissolved to form embedded microfluidic networks.

### STATE OF DEVELOPMENT

**Experimental Stage** 

PATENT STATUS

**Patent Pending** 

# CONTACT

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#### **INVENTORS**

» Kulinsky, Lawrence

OTHER INFORMATION

#### CATEGORIZED AS

- » Biotechnology
  - >>> Other
- » Materials & Chemicals
  - » Other
- » Medical
  - >>> Devices
  - » Other
- » Engineering
  - » Other

Research Translation Group Available

Available Technologies

Permalink

#### **RELATED MATERIALS**

» Dissolvable Calcium Alginate Microfibers Produced via Immersed Microfluidic Spinning - 01/26/2023

#### ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Polymer Based High Surface Area Multi-Layered Three-Dimensional Structures
- Stepwise Fabrication of Conductive Carbon Nanotube Bridges via Dielectrophoresis
- Guided Template Based Electrokinetic Microassembly (TEA)

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