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## Tubular Scaffold for Fabrication of Heart Valves

Tech ID: 25234 / UC Case 2013-552-2

### BRIEF DESCRIPTION

Existing replacements for heart valves have drawbacks that limit its long-term usage. Researchers at UC Irvine have developed a tubular scaffold for heart valve fabrication for a long-lasting and stable heart valve.

### FULL DESCRIPTION

Treatment of valvular heart disease involves valve replacement. Current heart valve replacements are limited to mechanical or bio-prosthetic heart valves. One major drawback of mechanical heart valves is the need for patients to take anti-coagulants. While prosthetic heart valves do not require the patient to take anti-coagulants, they do not last very long, thereby requiring patients to again undergo invasive surgery for heart valve replacement.

Here, researchers at UC Irvine have developed a method to form heart valves by using a valvular scaffold. The valvular scaffold is composed of a tubular braided metal mesh shaped with leaflet structures. Leaflet formation is simple: pinching/pressing the tubular braided scaffold and then heat treating or formation of leaflet shape. The braided tubular mesh can be used to support cell growth, resulting in a biologically active valvular tissue construct.

### SUGGESTED USES

This invention can be used to make biocompatible heart valve constructs.

### ADVANTAGES

The braided tubular mesh scaffold allows for structural durability of the resulting valve construct. Fabrication process is simple, thereby allowing different types of valves to be made.

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	9,968,446	05/15/2018	2013-552

### CONTACT

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



### OTHER INFORMATION

#### CATEGORIZED AS

- » **Materials & Chemicals**
  - » Biological
- » **Medical**
  - » Devices
  - » Disease: Cardiovascular and Circulatory System

#### RELATED CASES

2013-552-2

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



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