

# Technology Development Group

## Available Technologies

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### **Space Confined Polymer-Based Field Effect Transistors**

Tech ID: 24594 / UC Case 2012-027-0

#### **INNOVATION**

Professor Tolbert and colleagues have developed a polymer field effect transistor (FET) which employs a silica space-confinement structure to allow high carrier mobility. Prototype devices have demonstrated carrier mobilities of 10 cm2/Vs due to the device's conduction along a polymer chain, rather than through an inter-chain network. Fabrication method can potentially be used to create transistors as narrow as 5 nm. This technology is well suited for applications in thin, flexible or low-cost devices, including displays, sensors, RFID and smart textiles.

#### **PATENT STATUS**

Country	Туре	Number	Dated	Case
United States Of America	Issued Patent	7,888,170	02/15/2011	2012-027

#### **CONTACT**

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#### **INVENTORS**

Tolbert, Sarah H.

#### OTHER INFORMATION

#### **KEYWORDS**

Polymer-based field effect transistors

#### **CATEGORIZED AS**

- **► Materials & Chemicals** 
  - ▶ Electronics Packaging
  - ▶ Other
  - ▶ Polymers
  - ▶ Textiles
- **▶** Nanotechnology
  - ▶ Electronics
  - Materials
  - ▶ Other

#### **RELATED CASES**

2012-027-0

#### ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Novel Metal Chalcogenides For Pseudocapacitive Applications
- ▶ Robust Mesoporous Nife-Based Catalysts For Energy Applications
- Nanoporous Tin Powder For Energy Applications

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