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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	Type	Number	Dated	Case
Japan	Issued Patent	JP4708861	06/22/2011	2012-027
United States Of America	Issued Patent	7,888,170	02/15/2011	2012-027

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INVENTORS

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OTHER INFORMATION

KEYWORDS

Polymer-based field effect transistors

CATEGORIZED AS

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

RELATED CASES

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