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DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

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TECHNOLOGY
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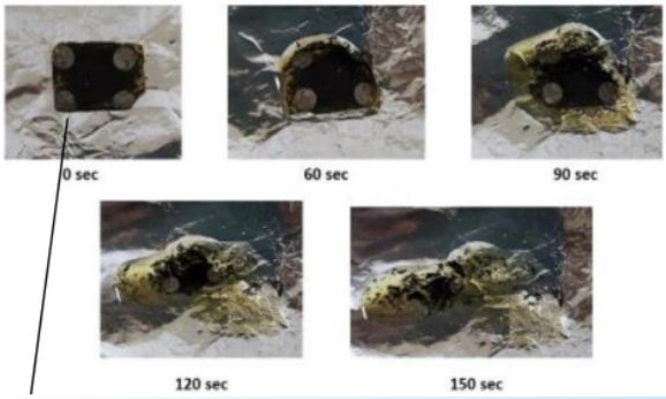
PENDING

(IN202111046523) Field-electric transistor device and method of fabrication thereof



NEED

The demand for eco-friendly, recyclable electronic devices is growing, but most current electronic components are not biodegradable. What if we could create electronic components that offer both high performance and environmental sustainability?

TECHNOLOGY OVERVIEW

The wax-based field effect transistor (FET) provides a breakthrough in eco-friendly electronics. Made from biodegradable wax, it is easy to fabricate and offers good electrical conductivity. Additionally, it disintegrates with thermal energy after use, reducing electronic waste and providing an environmentally friendly alternative.

TECHNOLOGY KEY FEATURES

Biodegradable wax substrate, good electrical conductivity, easy fabrication, thermal disintegration after use, and application of 2D materials for enhanced performance.

Read more here

MARKET ANALYSIS

The global market for biodegradable electronics is projected to grow at a 10.5% CAGR, reaching $7.8B by 2033. Growth drivers include rising consumer demand for eco-friendly products and the push for sustainable electronics. (Source: Research and Markets, Global Market Insights)

Target Industries

1) Consumer electronics manufacturers focusing on eco-friendly devices 2) Telecommunication companies adopting sustainable electronic components for wireless communication 3) Green technology innovators developing waste-reducing, biodegradable components

AT A GLANCE

- SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action)

Technology is available for licensing/ co-development.

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