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CONTACT

ncd@tdg.ucla.edu

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Gallium Alloy Nanoparticle Synthesis via Self-Assembled Monolayer Formation and Ultrasound

Tech ID: 24575 / UC Case 2011-627-0

INNOVATION

James Hohman and colleagues have devised a facile route to synthesize designer gallium-based alloy microscale and nanoscale materials with precise elemental ratios and excellent uniformity. Alloy nanoparticle synthesis is typically very challenging and traditional synthetic approaches suffer from elemental incompatibility, the need to use costly vacuum technologies, and limitations of composition range and product uniformity. In this technology, UCLA researchers demonstrate directed particle formation by molecular self-assembly assisted by sonication. The method is solution based and avoids the use of costly vacuum deposition technology while giving gallium-based nanoparticles with excellent uniformity. The technology has wide applications for catalysts, solar cells, and semiconductor components such as high brightness LEDs for displays.

PATENT STATUS

Country	Туре	Number	Dated	Case
United States Of America	Issued Patent	9,630,161	04/25/2017	2011-627



INVENTORS

Hohman, James Nathan

OTHER INFORMATION

KEYWORDS

Gallium-based alloy, nanoparticles,

materials, molecular self-assembly

CATEGORIZED AS

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10889 Wilshire Blvd., Suite 920,Los Angeles,CA 90095

tdg.ucla.edu

Tel: 310.794.0558 | Fax: 310.794.0638 | ncd@tdg.ucla.edu

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