METHODS TO PRODUCE ULTRA-THIN COPPER NANOWIRES FOR TRANSPARENT CONDUCTORS

Tech ID: 24252 / UC Case 2015-001-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,406,602	09/10/2019	2015-001

BRIEF DESCRIPTION

The disclosure provides innovative synthesis methods to produce uniform, ultrathin and high-quality metal nanostructures. In certain embodiments, the synthesis methods disclosed herein are solution based, therefore affording scalability and allowing for the production of metal nanostructures (e.g. Cu-nanowires) that can have varying diameters, e.g., between 1 nm to 70 nm. The resulting metal nanostructures can be used to construct transparent electrodes that have lower costs, better transparency, and superior flexibility in comparison to conventional metal-oxide conductors, such as indium tin oxide (ITO) .

SUGGESTED USES

- Optoelectronic devices e.g. touch panels, display electrodes (LCD & OLED), photovoltaic devices, electrochromic windows

ADVANTAGES

- Solution processable and patternable at low cost
- Highly flexible and transparent in large wavelength range

RELATED MATERIALS

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

» **Materials & Chemicals**
» Nanomaterials
» **Nanotechnology**
» Electronics
» Materials
» **Semiconductors**
» Materials
» Processing and Production

RELATED CASES

2015-001-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- CO2 Upgrading into C2 Oxygenates with a CuAg Tandem Electrocatalyst
- Semiconductor-Based Photo Redox Catalysts For Sustainable Dehydrogenation Reactions