

The Office of Technology Management

UNIVERSITY OF TEXAS  ARLINGTON

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Hollow Nanoparticles and Nanocomposites

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TECHNOLOGY NEED

Noble metal nanoparticles (NP), especially silver and gold, have been a subject of intensive research for such applications as Raman spectroscopy, bioimaging, photothermal therapy, drug delivery, hydrogen storage etc. Even though many research groups were able to synthesize gold hollow nanospheres all existing methods require fabrication of a solid core before a hollow nanoshell can be built around it. This involves several wet chemistry steps which are complicated, hard to control and expensive.

INVENTION DESCRIPTION/SOLUTION

The Researchers at UT Arlington have developed a hollow metal nanoparticle comprising a metal shell and a cavity. The cavities in these shells have a curved surface which are useful and effective in many important applications like magnetic resonance imaging, positron emission tomography etc. These hollow nanoparticle exhibits desirably catalytic properties. The preparation of the nanoparticle is a one-step method which is advantageous over most of the other methods of fabrication, making the composite particle simple, efficient, scalable, inexpensive and reproducible.

APPLICATIONS

- Magnetic Resonance Imaging
- Positron Emission Tomography
- Photothermal therapy

KEY BENEFITS

- Preparation of the nanoparticle is a one-step method.
- Method of making the composite particle is simple, efficient, scalable, inexpensive and reproducible.

STAGE OF DEVELOPMENT

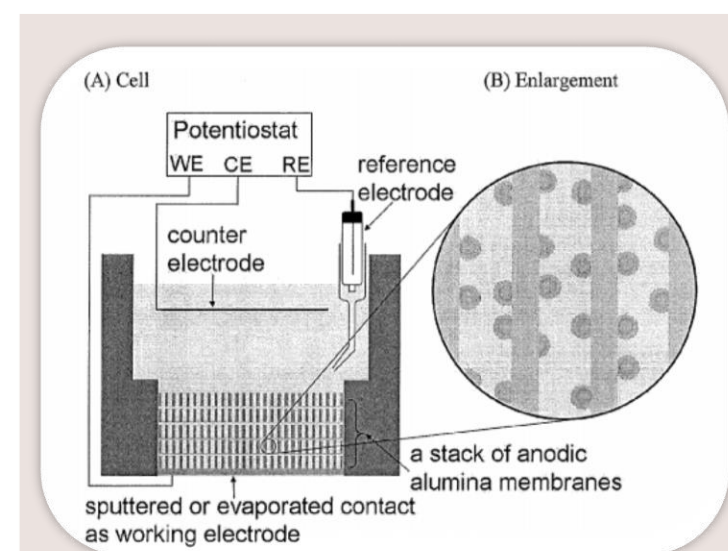
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INTELLECTUAL PROPERTY STATUS

Granted [US 9040157 B2](#)

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[WO2016191247 A1](#)



More about the Inventors:
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