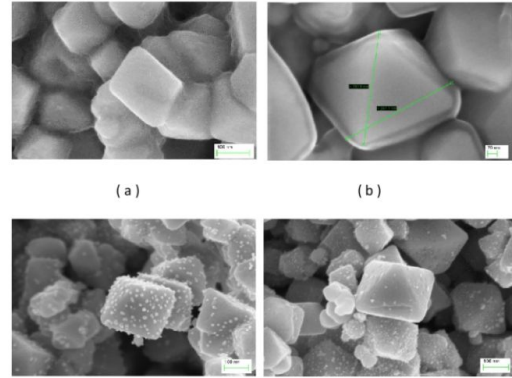


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(IN328150)

## A method for preparing core-shell nanoparticles



### NEED

Core-shell nanoparticles are vital in multiple applications but creating them efficiently remains challenging. What if there was a method to create high-performance core-shell nanoparticles without solvents or complex processes?

### TECHNOLOGY OVERVIEW

The patent discloses a method to produce core-shell nanoparticles by mixing metal oxide cores (e.g.,  $\text{Fe}_3\text{O}_4$  or  $\text{Al}_2\text{O}_3$ ) with noble metal shells (e.g., gold, silver, or platinum), followed by grinding and heating, producing high-performance nanoparticles without solvents.

### TECHNOLOGY KEY FEATURES

Solvent-free, cost-effective, scalable, magnetic or non-magnetic oxide cores, customizable noble metal shell materials (Au, Ag, Pt, Pd), precise temperature control, and flexible nanoparticle shape.

[Read more here](#)

### MARKET ANALYSIS

The global nanoparticle market is projected to grow at a CAGR of 14.1% from 2023 to 2033, driven by increasing demand in drug delivery, electronics, and energy storage. [Source: Market Research Future, 2023]

### Target Industries

Nanotechnology, Energy Storage, Healthcare (Drug Delivery), Nanoparticle manufacturers, energy storage device manufacturers, pharmaceutical companies, electronics, and catalysts industry.

### AT A GLANCE

- SDG 9 (Industry, Innovation, and Infrastructure), SDG 3 (Good Health and Well-Being), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

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