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TRL

ANTIBACTERIAL NANO-SPHERES

Description

In the hospital, food, and pharmaceutical industries, ensuring the innocuity of products and services is essential; however, the growing bacterial resistance to traditional methods poses challenges.

In the field of nanotechnology, a promising solution for sterilizing food, surfaces, and medical/veterinary instruments has been identified: nano-spheres. These nano-spheres have a structure and size that give them high contact capacity, making them effective in eliminating microorganisms. Nevertheless, many current preparation methods, such as electro-deposition or in-situ synthesis, have limitations in controlling residues and the size and shape of particles, which can lead to non-wished effects.

In contrast, our method, electrospraying and deposition, is capable of creating hollow titanium dioxide nano-spheres with high antimicrobial capacity and a broad spectrum of application, ranging from food to the disinfection of surgical instruments and hospital rooms..

Applications

- Hospitals
- Disinfection of Hospital and dental and veterinary centers instruments.
- Food industry.

Advantages

- A better handling residues method.
- A less complex method and a better control of size and shape of the nano-particles.
- A more economic method.

Intellectual Property Status

- Granted
- CL 2020-074

Research Team

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