

Functional Materials in Photonics and Energy

Functional cotton fibers have a wide range of applications in domestic, commercial, and military settings, and so enhancing the properties of these materials can yield substantial benefits. This invention consists of the creation of functional fibers that are self-cleaning, anti-microbial, and protective against UV radiation

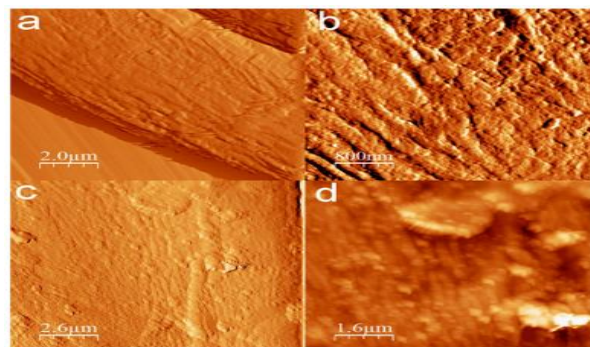
Problem

Other technology related to the preparation of photoactive textiles involving TiO_2 use complex treatment methods, and those using noble metal nanoparticles involve the separate synthesis and application of the nanoparticles to the textile.

Solution

This method is more efficient and avoid the use of environmentally harmful materials. This method uses fewer steps than prior methods.

AFM scans of (a,b) pristine cotton fiber and (c,d) TiO_2 coated cotton fiber.



Value Proposition

The self-cleaning properties of this noble technology offers a better rate of stain extinction than the untreated fibers. This functional coating enhances the properties of the textile fiber to also include photocatalytic and antimicrobial activity.

Competitive Advantages

- Ease of manufacturing
- Superior efficiency
- The main application of the technology would be in the textile manufacturing and treatment industries
- Photocatalytic and Antimicrobial activity

Status of Development

- Commercialization Ready

IP Status

- Patent Pending #US20200325624A1, US20200318283A1
- Licensing available

For further information regarding this Technology please contact:
Office of Technology Commercialization

1201 W. University Drive Edinburg, TX 78539 Email: otc@utrgv.edu Phone: