



Multi-functional nanomaterials from low cost natural minerals



RMUTT

Rajamangala University of Technology Thanyaburi

Nanomaterials from Thai low cost minerals for energy and environment applications

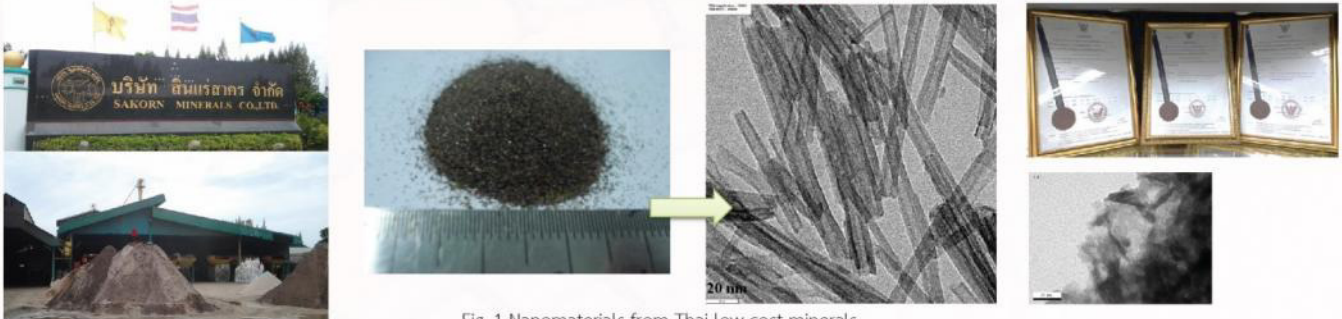


Fig. 1 Nanomaterials from Thai low cost minerals.

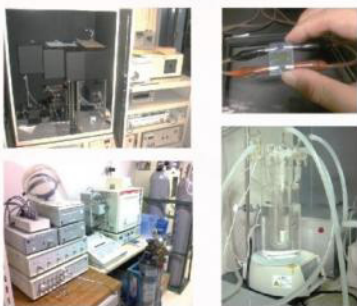


Fig. 2 Applications in solar cells and H₂ water splitting photocatalyst.

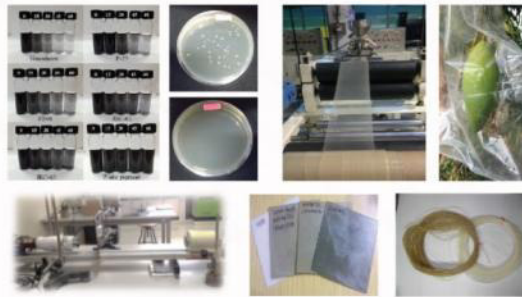


Fig. 3 Textile waste dye degradation, electromagnetic wave absorption, antibacterial, and bioplastic additives applications



Product Feature

This research has focused on the nanomaterials preparation from the low cost natural mineral under cooperation with Sakorn mineral Co., Ltd. (the biggest exported titanium mineral company in Thailand). The prepared nanomaterials could apply for a semiconductor in solar cell, photocatalyst, textile waste dye degradation, electromagnetic wave absorption, antibacterial, and bioplastic additives.

Innovation

- * Nanomaterials with unique properties from the low cost natural minerals
- * Low cost raw materials by simple processing for industrial
- * New process for mineral company

Application

- * Semiconductor in solar cell
- * H₂ water splitting photocatalyst
- * Electromagnetic wave absorber
- * bioplastic additives
- * Antibacterial for medical and cosmetic applications

IP Status

Patent Number

- 1) **IP No. 11668:** The preparation of nanomaterial from magnetic leucosene mineral for X-ray absorption and shielding. (December 14, 2015)
- 2) **IP No. 11669:** The preparation of nanosheets from ilmenite mineral for textile dye degradation. (December 14, 2015)
- 3) **IP No. 11670:** The preparation of nanosheets from magnetic leucosene mineral for photocatalyst. (December 14, 2015)



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