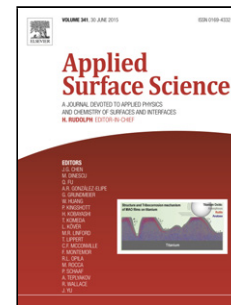


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Author: Kawin Phinjaturus Wasan Maiaugree Bhalang  
Suriharn Samuk Pimanpaeng Vittaya Amornkitbamrung  
Ekaphan Swatsitang



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Dye-sensitized solar cells based on purple corn sensitizers

Kawin Phinjaturus<sup>a</sup>, Wasan Maiaugree<sup>b</sup>, Bhalang Suriharn<sup>c</sup>, Samuk Pimanpaeng<sup>b,d</sup>, Vittaya Amornkitbamrung<sup>b,d</sup>, Ekaphan Swatsitang<sup>b,d,e\*</sup> ekaphan@kku.ac.th

<sup>a</sup>Materials Science and Nanotechnology Program, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand

<sup>b</sup>Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand

<sup>c</sup>Department of Plant Science and Agricultural Resources, Faculty of Agriculture, Khon Kaen University, Khon Kaen, 40002, Thailand

<sup>d</sup>Integrated Nanotechnology Research Center (INRC), Department of Physics, Faculty of Science, Khon Kaen University, Khon Kaen, 40002, Thailand

<sup>e</sup>Nanotec-KKU Center of Excellence on Advanced Nanomaterials for Energy Production and Storage, Khon Kaen 40002, Thailand

<PA>Assoc. Prof. Dr. Ekaphan Swatsitang, Phone: +66 43-203166, Fax: +66 43-202374</PA>

#### Abstract

Natural dye extracted from husk, cob and silk of purple corn, were used for the first time as photosensitizers in dye sensitized solar cells (DSSCs). The dye sensitized solar cells fabrication process has been optimized in terms of solvent extraction. The resulting maximal efficiency of 1.06% was obtained from purple corn husk extracted by acetone. The ultraviolet – visible (UV–Vis) spectroscopy, Fourier transform infrared spectroscopy (FTIR), electrochemical impedance spectroscopy (EIS) and incident photon-to-current efficiency (IPCE) were employed to characterize the natural dye and the DSSCs.

#### Keyword

Dye-sensitized solar cell (DSSC), Natural dye, Purple corn.

#### Graphical abstract

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