Improvement of dye-sensitized solar cells by using TiO_2-nanotube

이선홍, 주오심*
KIST
(joocat@kist.re.kr*)

High electron-diffusion-degree TiO_2 nanotube shows excellent photoactivity than TiO_2 nanoparticle. In this study, TiO_2 nanoparticles for working electrode of dye-sensitized solar cells (DSSC) were replaced by TiO_2 nanotubes to increase its efficiency using the property of TiO_2 nanotube.

TiO_2 nanotubes were synthesized by anodization of Ti plate. A DSSC was fabricated by attaching the TiO_2 nanotubes on FTO glass using conductive materials. The efficiency of the DSSC was measured by solar simulator. To improve the DSSC efficiency, cell fabrication should be optimized by increasing adhesion between TiO_2 nanotubes and FTO glass.