염료감응 태양전지의 TiO_2 표면에서 흡착 과정 및 광전변환 효율 연구

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DSSCs is one of the most promising future energy sources. It was demonstrated by Grätzel group in 1991. Many researchers have studied this type of solar cells and reported advanced results. Despite the progress there are several issues for commercialization. Cost of materials and durability of the devcies in outdoor should be solved. To realize a low cost fabrication reduction of dye-loading as well as imrpovement of power conversion efficiency should be achieved. In this presentation, we report that a competitive anchoring process of dye-adsorption on the surface of nanocystalline TiO2 is able to control binding modes of dye and aggregation, resulting to improvement of harvesting ability of dyes and power conversion efficiency, even 70$ of dye loading.