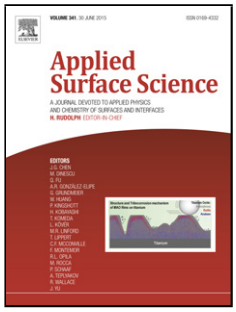

Title: Template-free synthesis of hierarchical TiO_2 hollow microspheres as scattering layer for dye-sensitized solar cells

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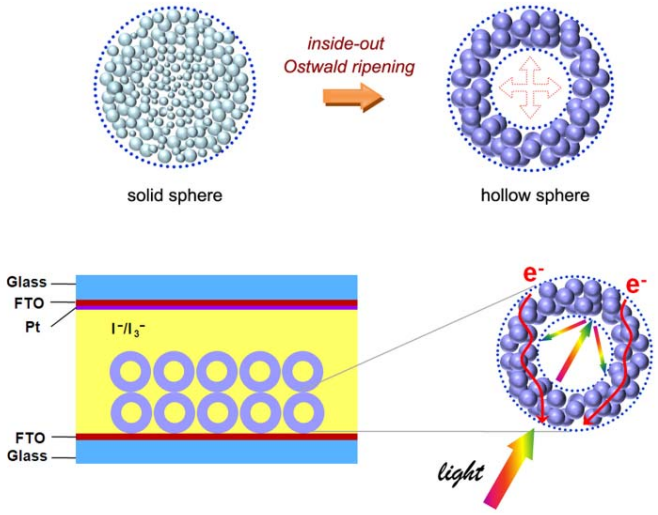

Well-crystallized and hierarchical TiO_2 hollow microspheres derived from a template-free and green synthetic route were introduced to DSSCs, leading to a high efficiency of 7.84%.

Highlights

▶ Hierarchical TiO_2 hollow microspheres were synthesized via a template-free route.

▶ The formation mechanism of inside-out Ostwald ripening was verified by using SEM/TEM.

▶ An efficiency of 7.84 % was achieved by using the hollow spheres as scattering layer.

▶ Improved efficiency was attributed to the enhanced dye-loading and light scattering.