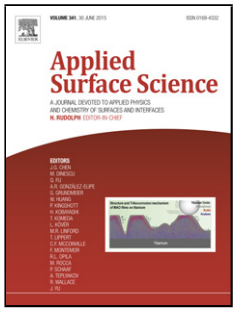
Accepted Manuscript



Title: Enhanced interfacial contact between PbS and TiO^2 layers in quantum dot solar cells using 2D-arrayed TiO^2 hemisphere nanostructures

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Enhanced interfacial contact between PbS and TiO_2 layers in quantum dot solar cells using 2D-arrayed TiO_2 hemisphere nanostructures

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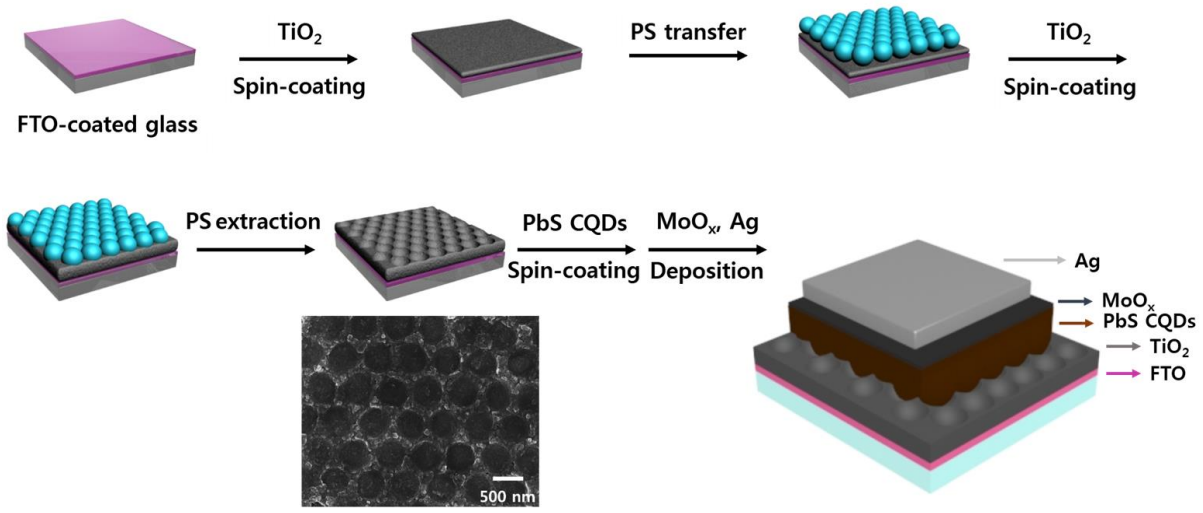
Graphical Abstract



Highlights

- Simple methods to fabricate 2D-arrayed hemispherical TiO_2 nanopatterns are proposed.
- Increased contact area between the p-n junction improves the charge transport.
- 2D-arrayed nanopatterns increase a path length and absorption of the incident light.
- Efficiency increased 1.7 times, mainly attributed to short-circuit current increase.