

High performance dye sensitized solar cells by adding titanate co-adsorbant

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Materials and instruments: One of the common titanate coupling agents, tetraisopropyl di(dioctylphosphate) titanate (TDT), addition to dyes solution before coating on TiO_2 , and adsorbs onto TiO_2 surface. When TDT is added to dye solution, the color of the solution has become darker, and this can be easily detected by naked eyes. However, in case of solid state cells, in which absorbing N719 dye or TDT with N719 dye on the TiO_2 surface, normal N719 dye coating cell bear almost resemblance with TDT cells.

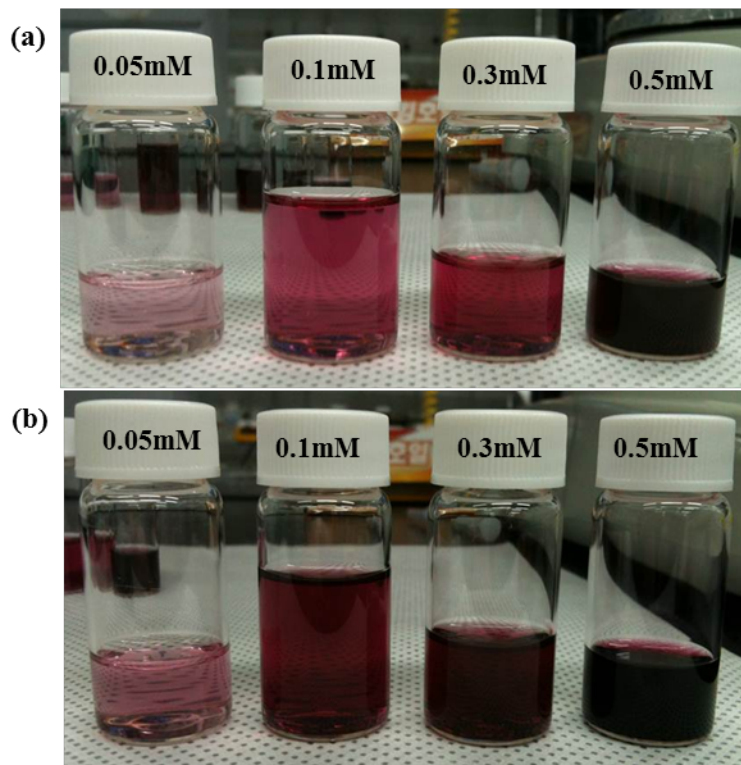


Figure S1. Comparison of color changes depending on TDT concentration. (a) N719 dye solution, (b) after TDT addition to N719 dye solution.

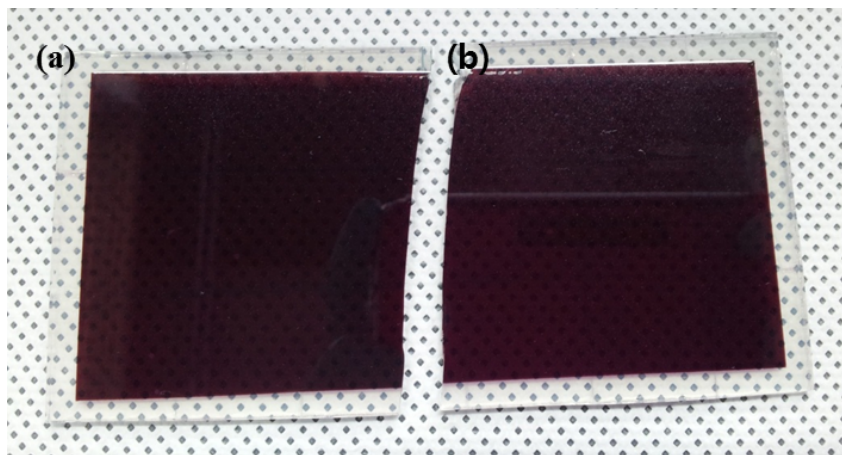


Figure S2. Comparison of color changes depending on TDT concentration on the TiO_2 surface. (a) N719 dye adsorption on the TiO_2 surface, (b) absorbing TDT with N719 dye.