

Supporting Information

High Efficient Overlayer Derived from Peroxotitanium for Dye-sensitized Solar Cells

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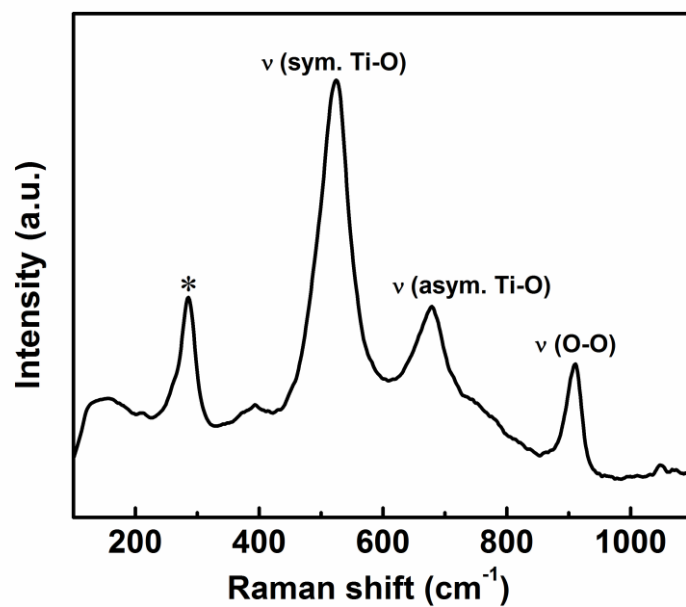


Figure S1. FT-Raman spectrum of dried peroxotitanium solution.

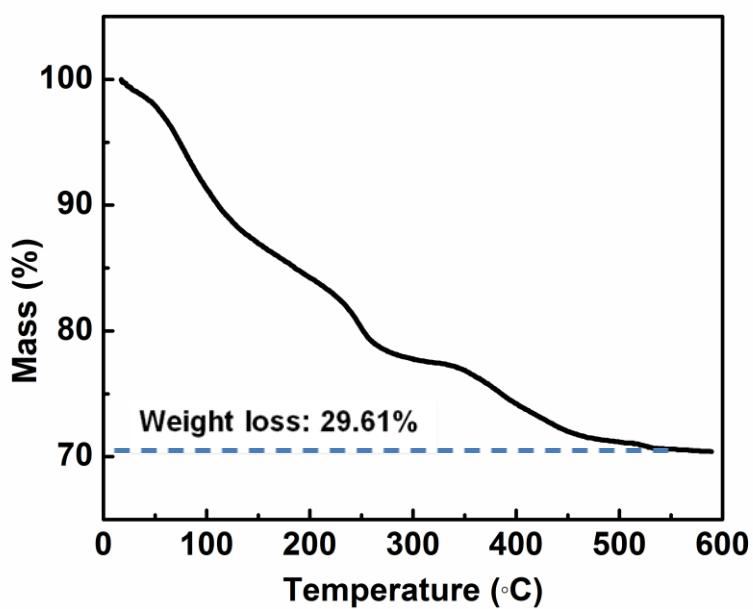


Figure S2. TG of the dried peroxotitanium gel (60 °C). Heating rate is 10 °C/min.

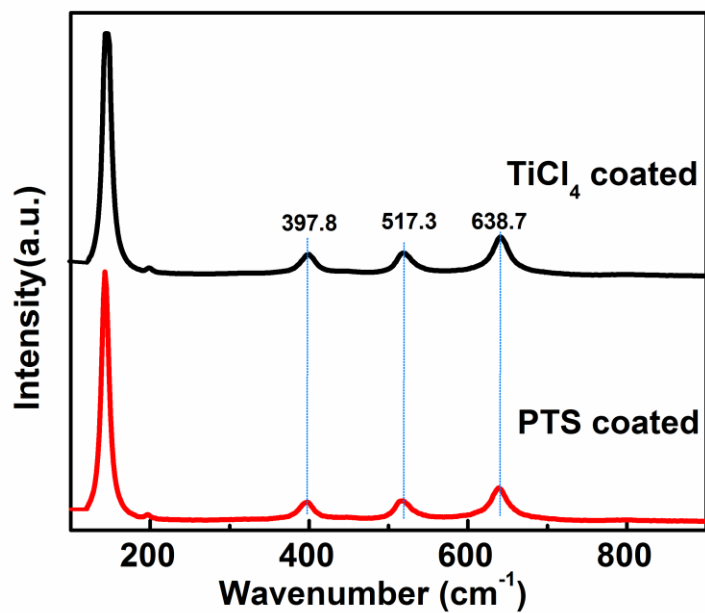


Figure S3. FT-Raman spectrum of TiCl₄ and PTS coated TiO₂ films.

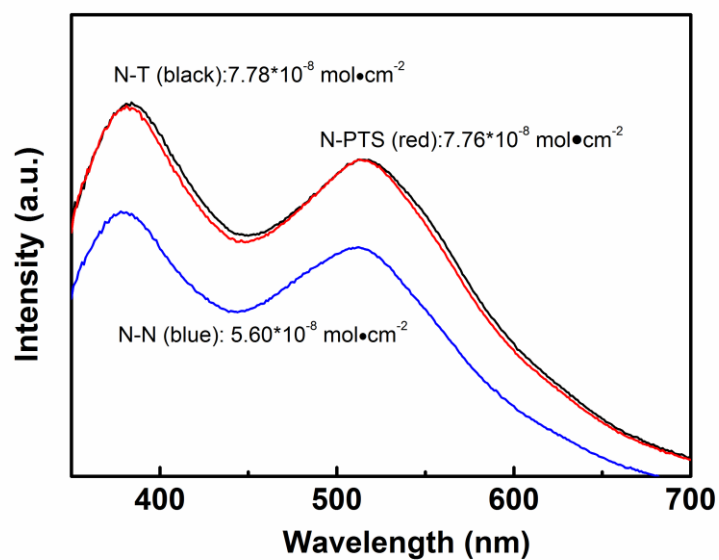


Figure S4. UV-vis absorption spectrum of N719 dye absorption on TiO₂ photoanode.

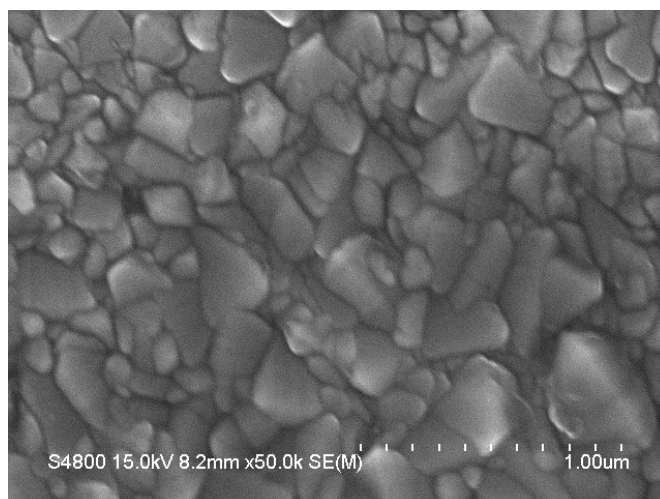


Figure S5. SEM images of bare FTO substrate.

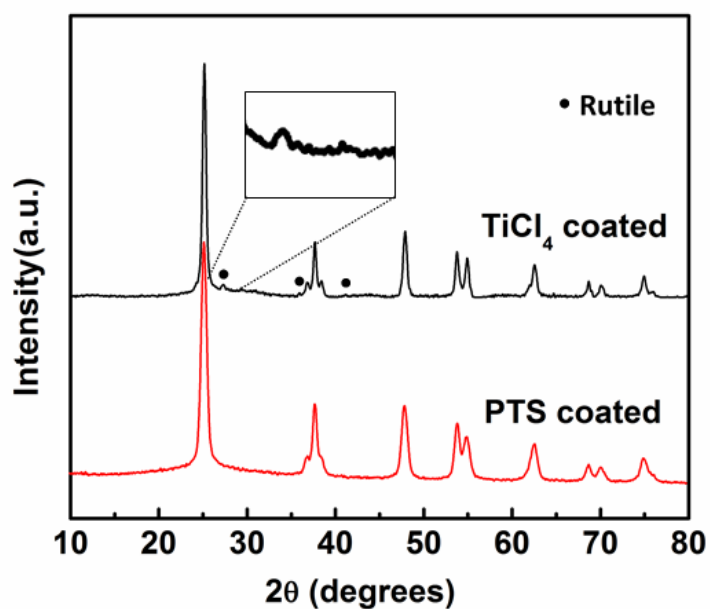


Figure S6. X-ray diffraction pattern of TiCl_4 and PTS coated anatase films. The anatase was about 20nm in diameter reported previously.^[1]

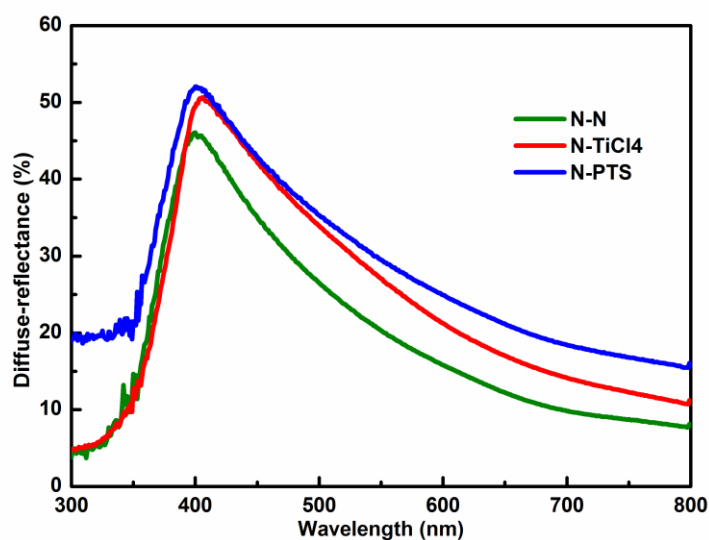


Figure S7. Diffuse reflectance spectra of the TiO₂ films without overlayer (green), TiCl₄ overlayer (red) and PTS overlayer (blue).

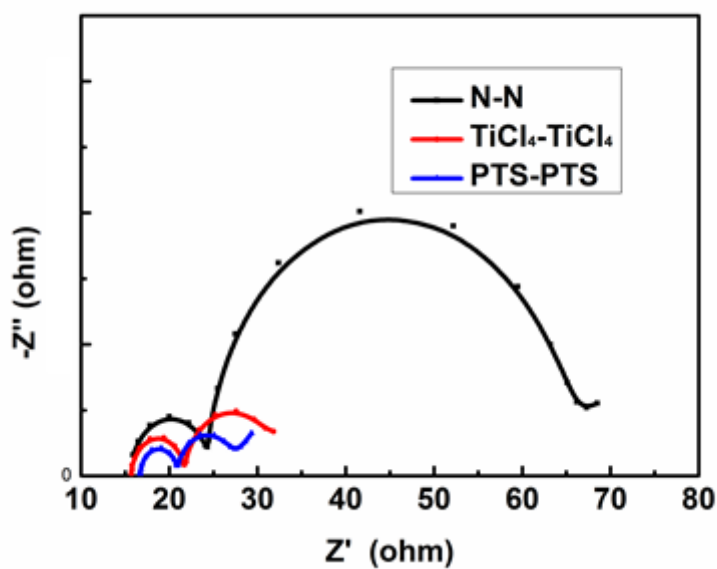


Figure S8. Nyquist plots of DSSCs fabricated with different blocking layers and overlayers on the whole TiO₂ films.

Reference

- [1] S. Ito, T. N. Murakami, P. Comte, P. Liska, C. Grätzel, M. K. Nazeeruddin, M. Grätzel, *Thin Solid Films* **2008**, *516*, 4613-4619.