

Supplementary materials:

## Band gap implications on nano-TiO<sub>2</sub> surface modification with ascorbic acid for visible light-active polypropylene coated photocatalyst

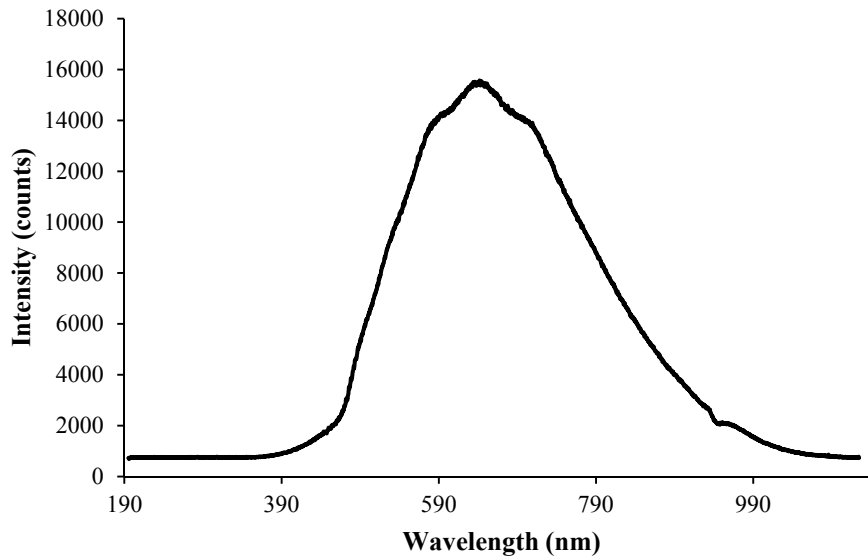


Figure S1. Emission spectrum of tubular lamp (100W, 1800 Lumen, LYVIA).

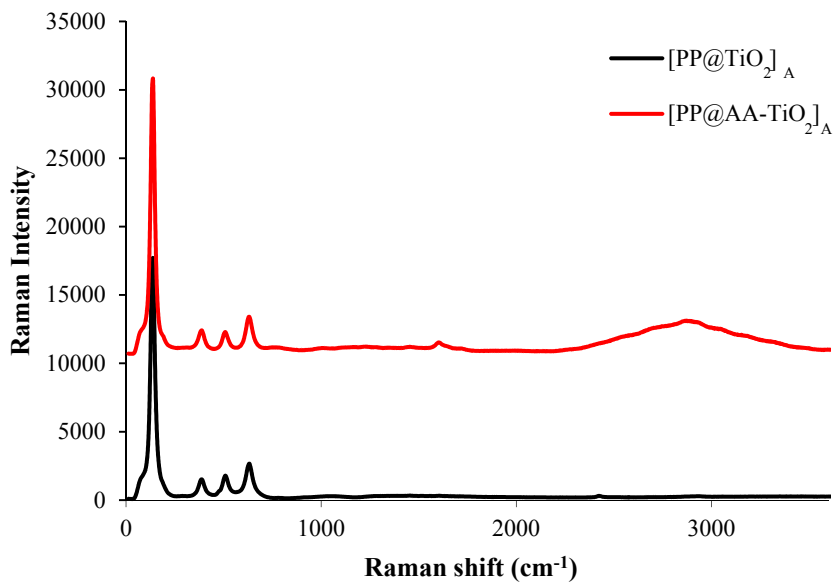
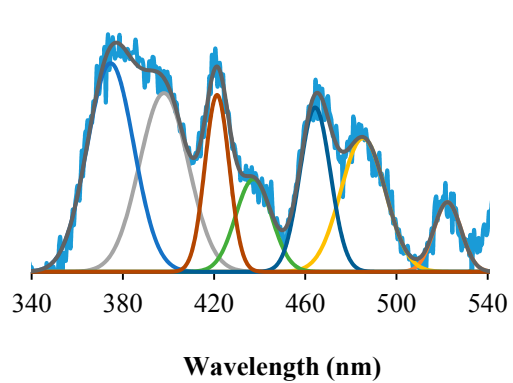
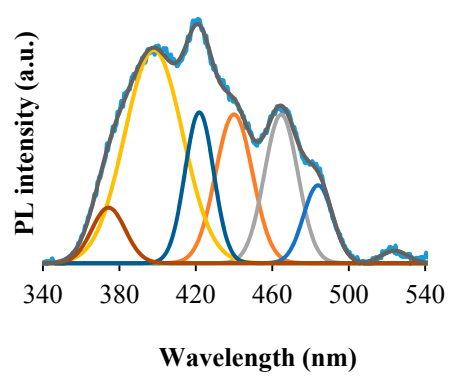


Figure S2. Raman spectra of [PP@TiO<sub>2</sub>]<sub>A</sub> and [PP@AA-TiO<sub>2</sub>]<sub>A</sub> containing 2.5 wt % of AA.



(a)  $[\text{TiO}_2]_A$



(b)  $[\text{AA-TiO}_2]_A$

**Figure S3.** Gaussian fitted PL spectra of  $[\text{TiO}_2]_A$  (a) and  $[\text{AA-TiO}_2]_A$  (b), dotted line: fitting of deconvolution study.