**Supporting Information**

**Anodized TiO2 nanotubes coated with Pt nanoparticles for enhanced photoelectrocatalytic activity**

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**Figure S1.** SEM images of Pt-loading TiO2 (Pt-TiO2), without “activation step”.



**Figure S2.** UV-vis absorption of TiO2 powder sample.



**Figure S3.** O 1s XPS spectrum of Pt-A-TiO2 nanofilm.



**Figure S4.** N 1s XPS spectrum of Pt-A-TiO2 nanofilm.



**Figure S5.** Degradation rates of MO solution with Pt-A-TiO2 film in three different processes. Photolysis means the MO degradation under light in the absence of Pt-A-TiO2 film, adsorption means the MO degradation in the darkness with Pt-A-TiO2 film, and photoelectrocatalysis is the MO degradation under light with the Pt-A-TiO2 film.