## **Electronic Supplementary Information for**

Photocatalytic active TiO<sub>2</sub> microtubes assembled with radially aligned

## nanowires

Yang Xu,<sup>a</sup> Wei Wen,<sup>a,b</sup> Ming-Zao Tang<sup>a</sup> and Jin-Ming Wu<sup>\*a</sup>

<sup>a</sup> State Key Laboratory of Silicon Materials and School of Materials Science and Engineering, Zhejiang University, Hangzhou, 310037, P. R. China

<sup>b</sup> College of Mechanical and Electrical Engineering, Hainan University, Haikou 570228, P. R.

## China.



**Fig. S1** Optical photographs of the PET fabrics (5 cm  $\times$  5 cm in size) covered with a TiO<sub>2</sub> seed layer (a) and that after calcination (b); the titanate nanowires covered PET fabrics (c) and that after calcination (d). Note that after calcination in air at 550 °C for 1 h, the seed layer coated PET fabrics shrunk (arrowed); whilst its shape preserved after the precipitation of the titanate nanowires. After removing the PET fabrics, the resultant TiO<sub>2</sub> reserving the original shape of PET fabrics is fragile, which broke to powders upon stirring during the photocatalytic tests.



Fig. S2 FESEM images showing the thorough destroy of the  $TiO_2$  microtubes upon grinding.