

## Electronic Supplementary Information for

### TiO<sub>2</sub> nanotrees for the photocatalytic and photoelectrocatalytic phenol degradation

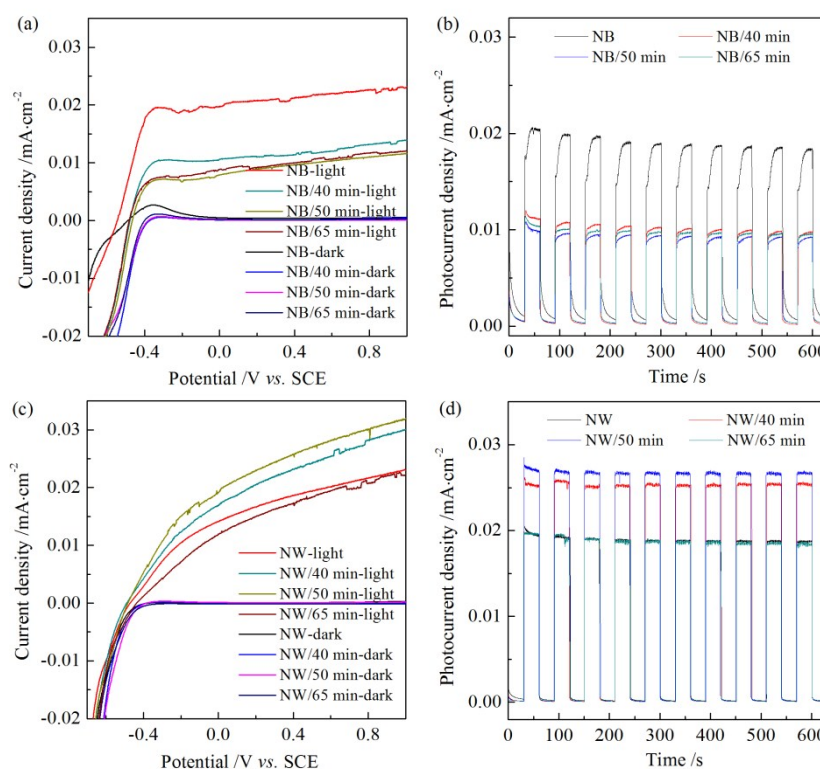
Juan Xie <sup>a</sup>, Wei Wen <sup>b</sup>, Qi Jin <sup>a</sup>, Xiao-Bo Xiang <sup>a</sup> and Jin-Ming Wu<sup>a\*</sup>

<sup>a</sup> State Key Laboratory of Silicon Materials and School of Materials Science and Engineering,

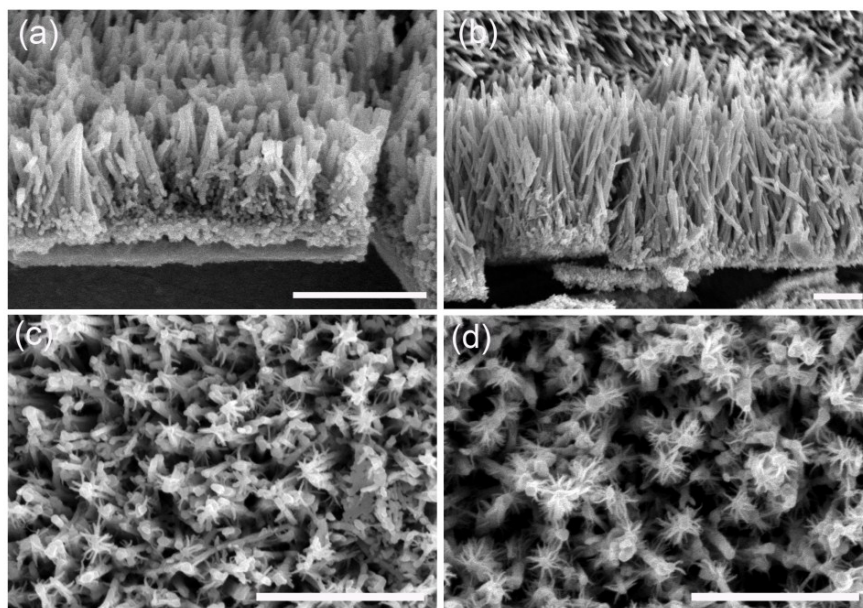
Zhejiang University, Hangzhou, 310037, P. R. China

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

China.



**Fig. S1** The linear scanning voltage curves (a, c) and transient current response curves under a bias potential of 0.6 V vs. SCE (b, d) recorded for TiO<sub>2</sub> nanotrees with nanobelt (a, b) and nanowire (c, d) trunks, under UV light illumination.



**Fig. S2** FESEM images of the TiO<sub>2</sub> nanowire array (a, b) and the corresponding nanotrees achieved by immersing in the precursor solution at 60 °C for 50 min (c, d). Scale bar: 1 μm.