

Supporting Information

The time-resolved experiment about the formation of the anatase nanorod

Yang Zhang, Liangzhuan Wu, Qinghui Zeng, Jinfang Zhi^{*}

The TEM images of the TiO₂ particles obtained by refluxing PTC solutions with pH 6 at 100 °C for different times (6h, 12h, 48h) are shown in Fig.S1. It is noticed that the particles are changed from smaller illegibility particles to the bigger nanorod particles with clear edge with time increasing. The misty layer on the particles in Fig.S1a is mainly due to the non-decomposed peroxo composite, and this layer affords the possibility of controlling the growth of the TiO₂ crystals. Based on the Fig.S1a – Fig.S1c, the peroxotitanium decomposed gradually and the smaller particles attach together to large particles. The defects of the crystal in Fig.S2 also proved this attachment. Thus, it can conclude that the nanorod possibly obtained by the orient attachment mechanism.

^{*} Corresponding author. Tel: +86-10-8254-3537. Fax : +86-10-8254-3537.
E-mail address: zhi-mail@mail.ipc.ac.cn

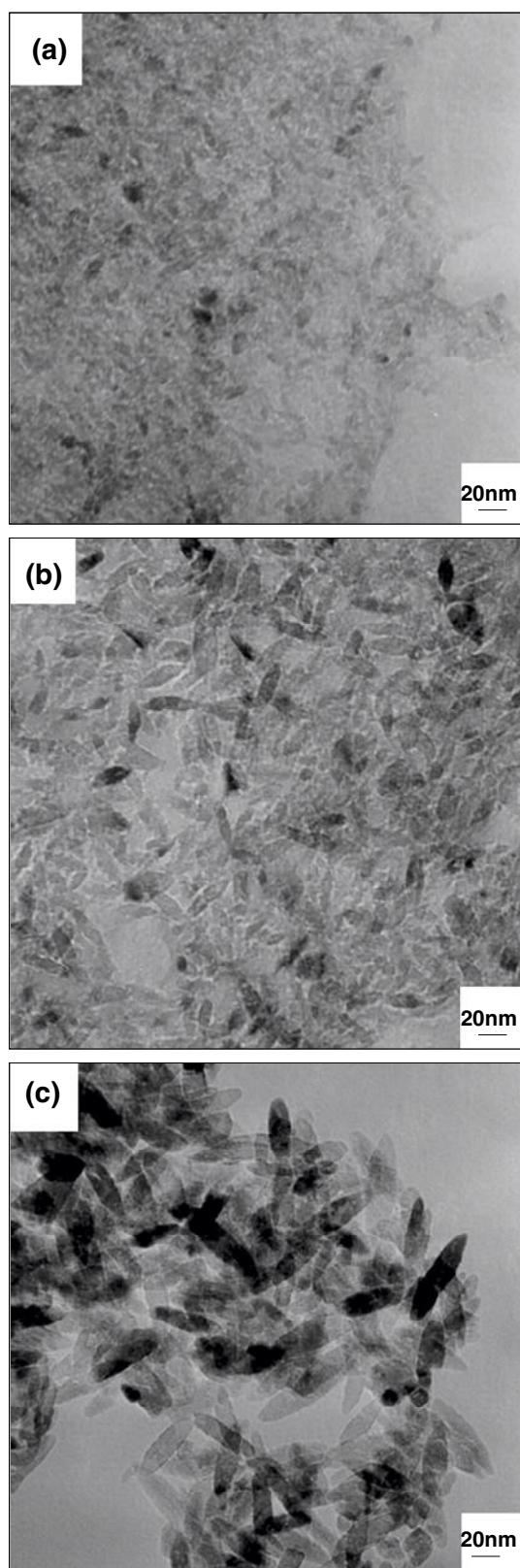


Fig.S1. TEM images of the TiO_2 particles obtained by refluxing PTC solutions with pH 6 at 100 °C for different times. a) 6h, b) 12h, c) 48h

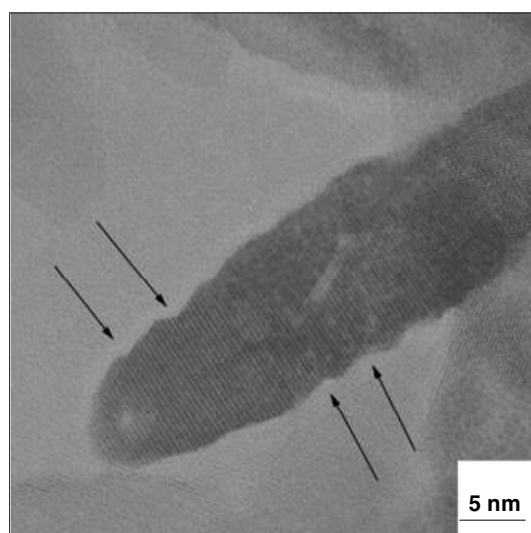


Fig.S2. HRTEM image of the anatase TiO₂ nanorod treated for 48h. The crystal defects are shown by the arrows.