Pure Shape Effect with Removing Facet Effect of Single-Crystalline Anatase TiO₂ (101) for Photocatalytic **Application**

Liqun Ye, a,b **Jinyan Liu, Zhuo Jiang,** Tianyou Peng and Ling Zan 4,* a College of Chemistry and Molecular Science, Wuhan University, China. Fax: 86 27 8737 8727; Tel: 86 27 6875 2919; E-mail:

b College of Chemistry and Pharmaceutical Engineering, Nanyang Normal University, Nanyang 473061, People's Republic of

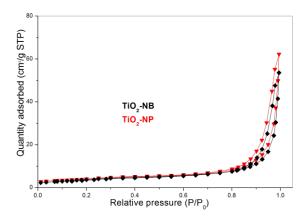


Figure S1 Nitrogen adsorption-desorption isotherm of TiO₂-NB and TiO₂-NP.

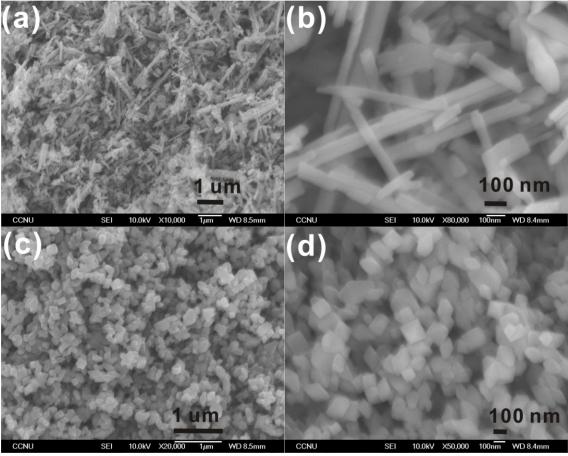


Figure S2 FESEM images of TiO₂-NB (a and b) and TiO₂-NP (c and d).

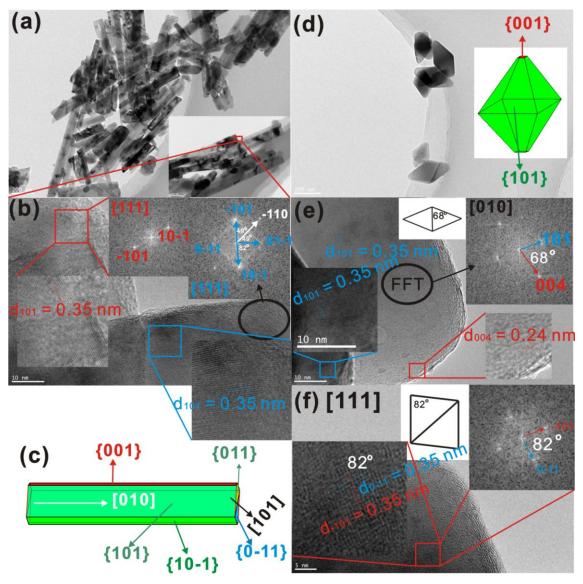


Figure S3 (a) TEM image of TiO₂ NB; (b) HRTEM image and the corresponding FFT pattern of TiO₂-NB; (c) model of TiO₂-NB; (d) TEM image of TiO₂-NP; and (d) HRTEM image and the corresponding FFT pattern of TiO₂-NP with [010] orientation; and (f) HRTEM image and the corresponding FFT pattern of TiO₂-NP with [111] orientation.

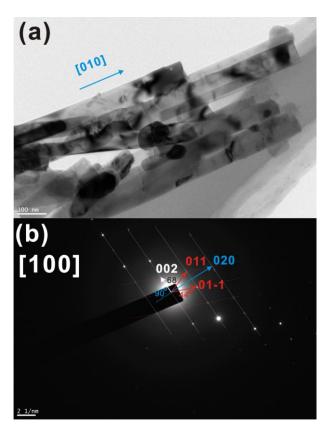


Figure S4 TEM image (a) and SAED pattern (b) of TiO₂-NB.

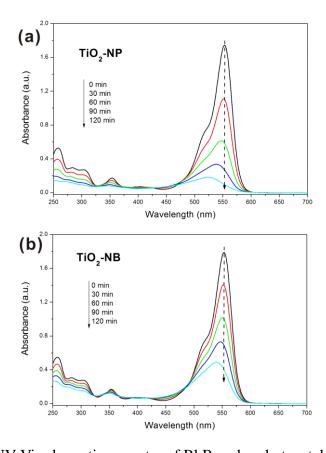


Figure S5 UV-Vis absorption spectra of RhB under photocatalytic process.

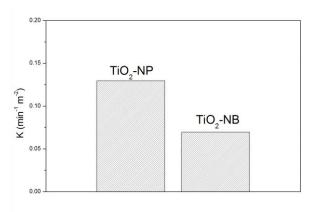


Figure S6 Photocatalytic activity for RhB degradation normalization by the surface area.

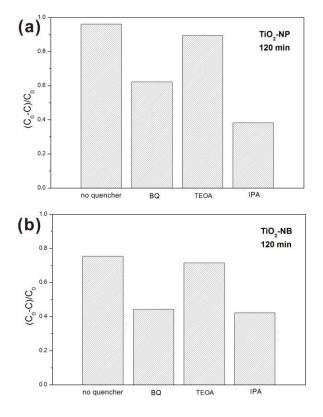


Figure S7 Trapping experiment of active species during the photocatalytic reaction with 120 min visible light irradiation.

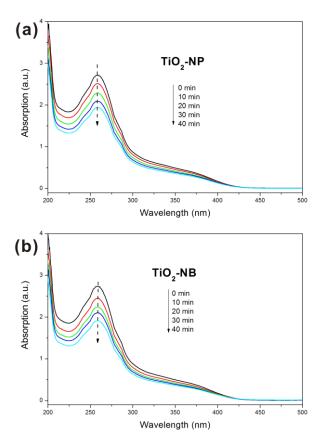


Figure S8 UV-Vis absorption spectra of NBT in TiO₂ suspension.

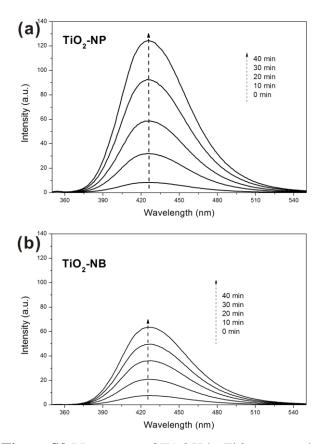


Figure S9 PL spectra of TAOH in TiO₂ suspension.