

Supplementary Information

An Etching-Redeposition Isomerization Process for the Shape Control of Anatase TiO₂ Nanocrystals

*Xiaolei Yuan, Muhan Cao, Xiaojing Jiang, Lei Chen, Huicheng Hu, Yong Zhang, Linzhong Wu,
Yiding Liu,* and Qiao Zhang**

X. Yuan, Dr. M. Cao, X. Jiang, L. Chen, H. Hu, Y. Zhang, L. Wu, Prof. Y. Liu and Prof. Q.
Zhang

Institute of Functional Nano and Soft Materials (FUNSOM), Jiangsu Key Laboratory for
Carbon-Based Functional Materials and Devices, Soochow University, 199 Ren'ai Road, Suzhou,
215123, Jiangsu, People's Republic of China

E-mail: qiaozhang@suda.edu.cn (Q.Z.)

Prof. Y. Liu

Department of Radiology, Xinqiao Hospital, Third Military Medical University, Shapingba
District, Chongqing, 400037, China

E-mail: lyd0409@gmail.com (Y.L.)

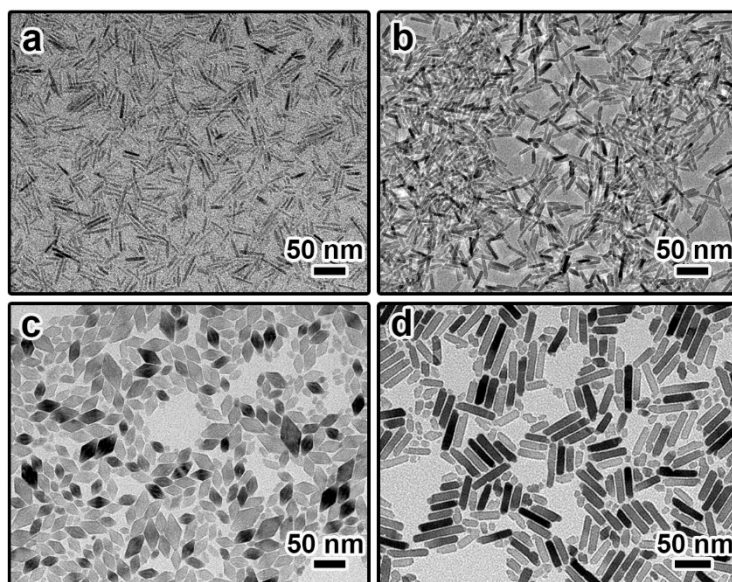


Figure S1. The influence of fluoride type and concentration on the transformation reaction. (a-c) TEM images of TiO₂ NCs synthesized in the presence of different concentration of NaF. (a) without addition of NaF, (b) NaF/TiO₂ molar ratio = 1:10, (c) NaF/TiO₂ molar ratio = 1:3. (d) TEM image of TiO₂ NCs synthesized in the presence NH₄F (NH₄F/TiO₂ molar ratio = 1:5) in substitution of NaF.

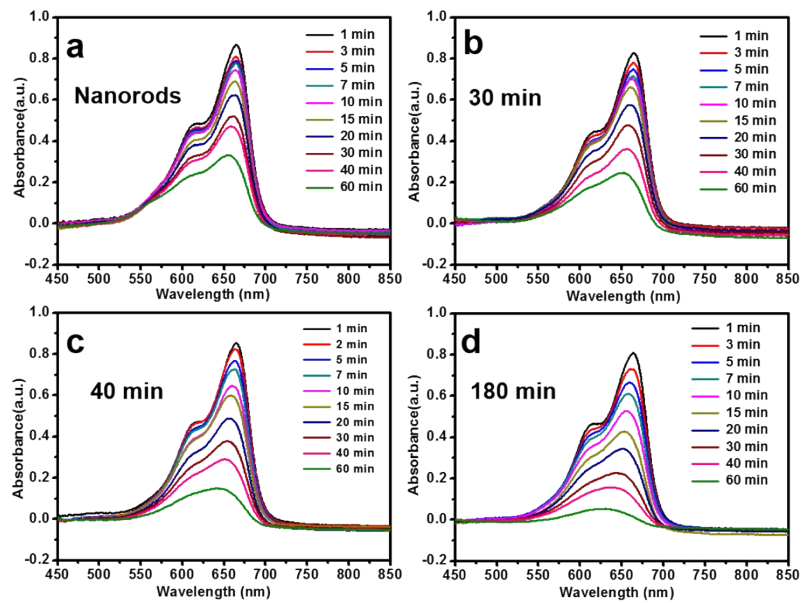


Figure S2. Absorption spectra of the MB aqueous solution at different reaction time with the addition of TiO₂ NCs with different shapes as photocatalysts: (a) Nanorods; (b) 30 min; (c) 40 min; (d) 180 min.

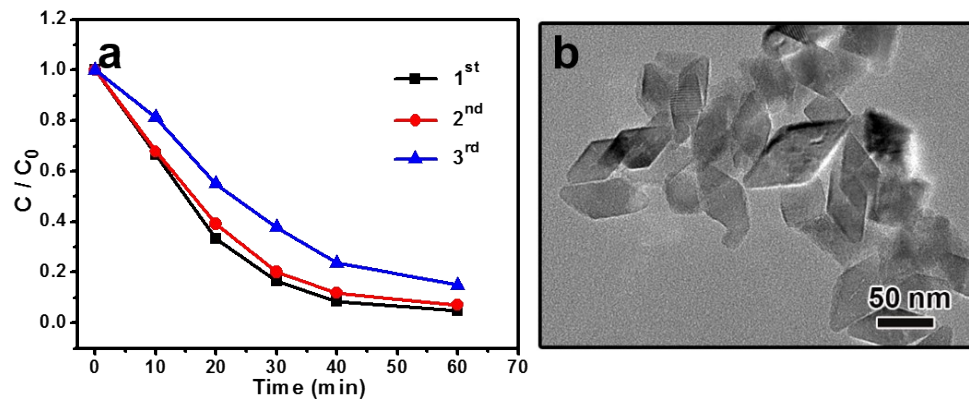


Figure S3. (a) Change of MB concentration versus UV irradiation time when the faceted TOB structure acted as photocatalysts. (b) TEM image of TOB nanocrystals after MB degradation process.