

Supplementary Information

Stable synthesis mechanism and photocatalytic properties of TiO₂ nanocrystals with different morphologies derived from potassium titanate nanowires

Meng Chai^{1,2}, Bo Yuan³, Yao Ban⁴, Jing Guo^{1,2*}, Huifang Lou^{1,2}, Hongyuan Kang^{1,2}, Qiaoling Zhang^{1,2}, Zhiwei Liu^{1,2}, Dongming Zhang^{1,2}

1. Shanxi Province Key Laboratory of Chemical Process Intensification, School of Chemistry and Chemical Engineering, North University of China, Taiyuan 030051, China

2. State Key Laboratory of Coal and CBM Co-Mining, North University of China, Taiyuan 030051, China

3. Ordos Carbon Neutral Research and Application Co., Ltd., Ordos 017010, China

4. Sinopec Maoming Company, Maoming 525099, China

*Corresponding Author, Email: guojing0519@nuc.edu.cn

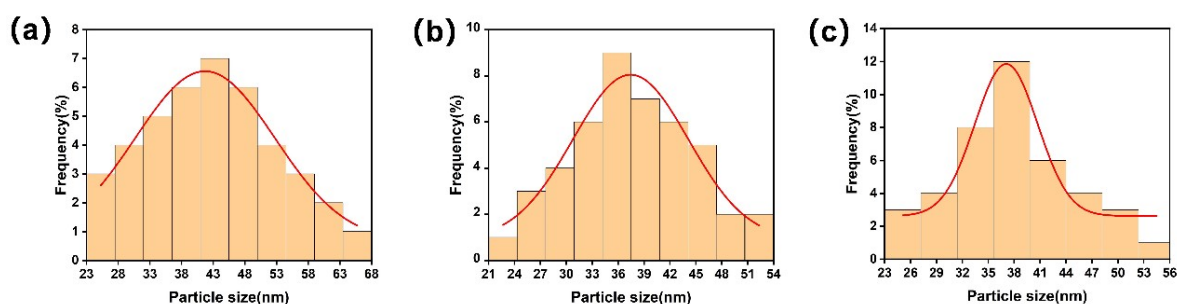


Fig.S1 The grain size distribution of TiO₂ nanocrystals synthesized by different acid treatment time (a) TiO₂-R-H7, (b) TiO₂-R-H24, (c) TiO₂-R-H48

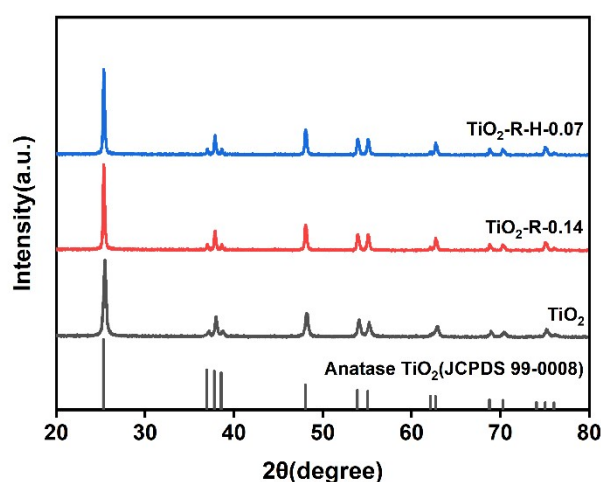


Fig.S2 XRD pattern of TiO₂ prepared by crystal surface control

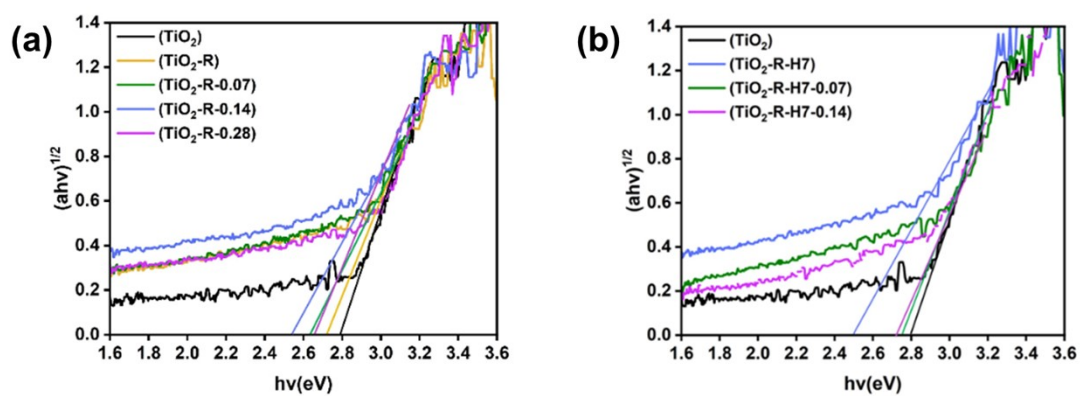


Fig. S3 Band gap energy spectra of TiO_2 nanocrystals synthesized under different conditions, (a) TiO_2 synthesized without acid treatment, (b) TiO_2 synthesized after 7h acid treatment