

Supporting Information for crystal growth by leaps and bounds based on self-assembly: Insight from titania

Li Luo^{1,2}, Junfeng Hui¹, Qiyu Yu¹, Zhicheng Zhang¹, Dengwei Jing^{2,*}, Pengpeng Wang¹, Yong Yang¹, Xun Wang^{1,*}

1. Department of Chemistry, Tsinghua University, Beijing, 100084, P. R. China

2. School of Energy and Power Engineering, Xi'an Jiaotong University, Xi'an 710061, P. R. China

*Corresponding author e-mail: wangxun@mail.tsinghua.edu.cn
dwjing@mail.xjtu.edu.cn

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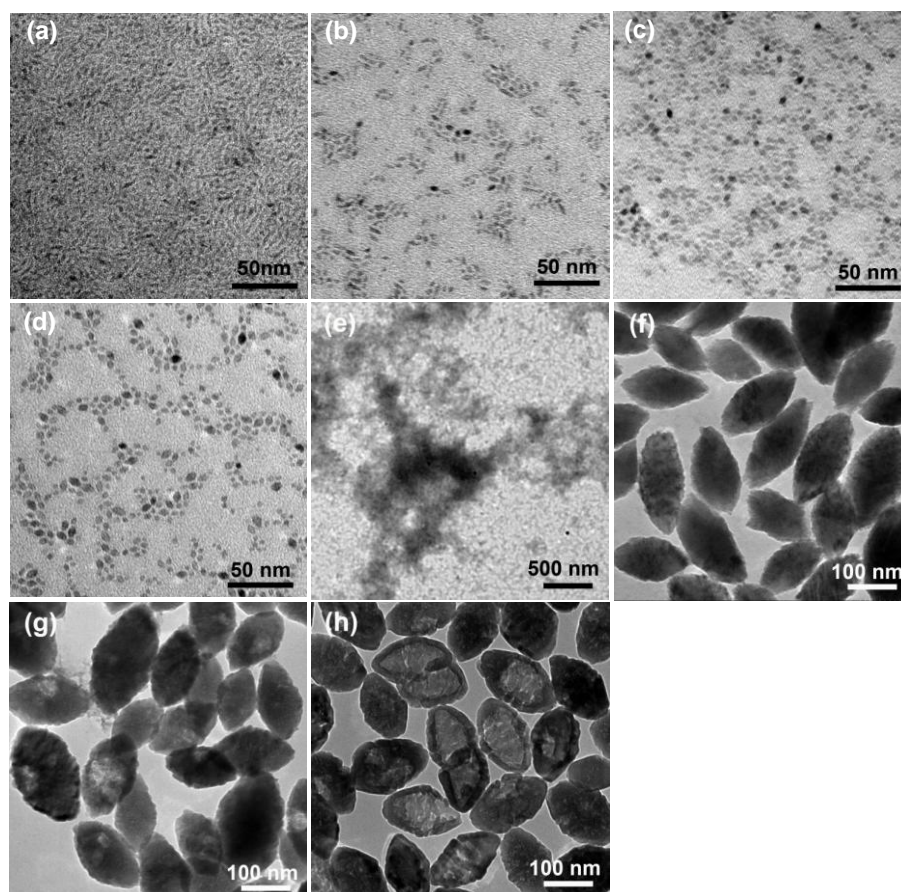


Fig. S1. TEM images of tiny TiO₂ NPs precipitated in non-H₂SO₄ system (a, b, c, d) and spindle-shaped TiO₂ NPs obtained in the reaction system with H₂SO₄ (e, f, g, h) under different reaction temperature for 8 h: (a,e) 90, (b,f) 120, (c,g) 150, (d,h) 180 °C.

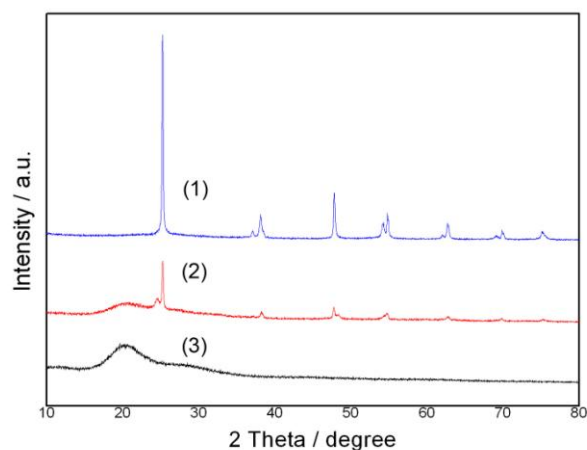


Fig. S2. XRD patterns of the products obtained in hydrothermal system with H_2SO_4 at 150 °C for different duration: (1) 2, (2) 1, (3) 0.5 h.

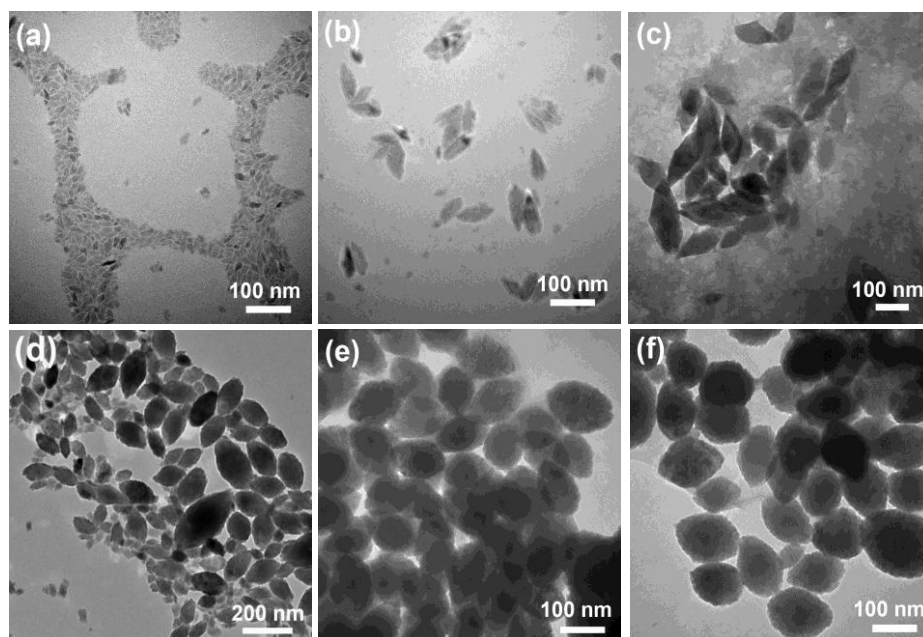


Fig. S3. TEM images of products synthesized with different amount of concentrated H_2SO_4 in the system under the same reaction temperature of 150 °C and time of 3 h : (a) 0.05, (b) 0.1, (c) 0.25, (d) 0.5, (e) 0.75, (f) 1 ml.

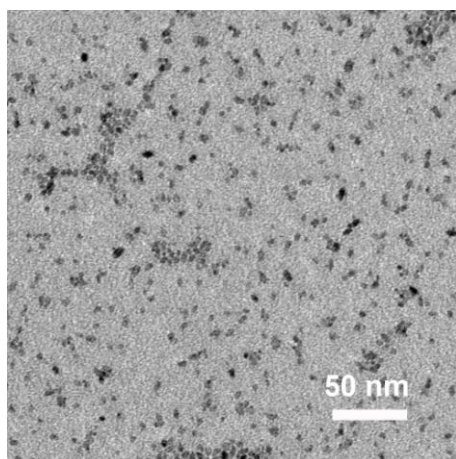


Fig. S4. TEM image of TiO₂ NPs obtained under the hydrothermal condition of 150 °C for 4 h..

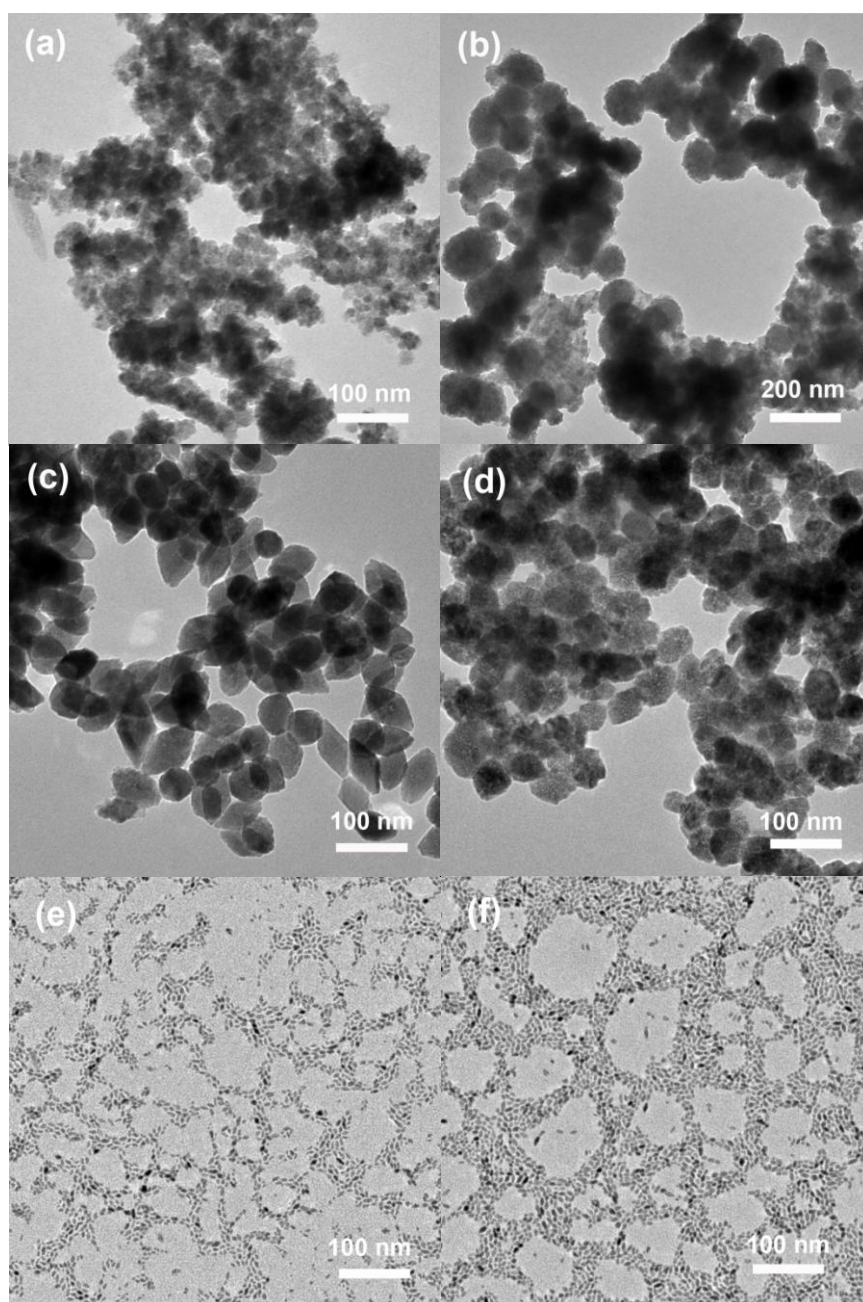


Fig. S5. TEM images of products obtained under the hydrothermal condition of 150 °C for 4 h.. HNO₃ (a), HCl (c), CH₃COOH (d) and Na₂SO₄ with the equimolar quantity of hydrogen ion and sulfate ion were used instead of H₂SO₄ in the system, comparing the samples formed separately from the systems with HNO₃ (b), HCl (d), CH₃COOH (f) only.