

# One-step hydrothermal fabrication and photocatalytic activity of surface-fluorinated TiO<sub>2</sub> hollow microspheres and tabular anatase single micro-crystals with high-energy facets

Jiaguo Yu<sup>1,\*</sup>, Quanjun Xiang<sup>1</sup>, Jingrun Ran<sup>1</sup> and Stephen Mann<sup>2,\*</sup>

<sup>1</sup> State Key Laboratory of Advanced Technology for Material Synthesis and processing, Wuhan

University of Technology, Luoshi Road 122#, Wuhan 430070, P. R. China.

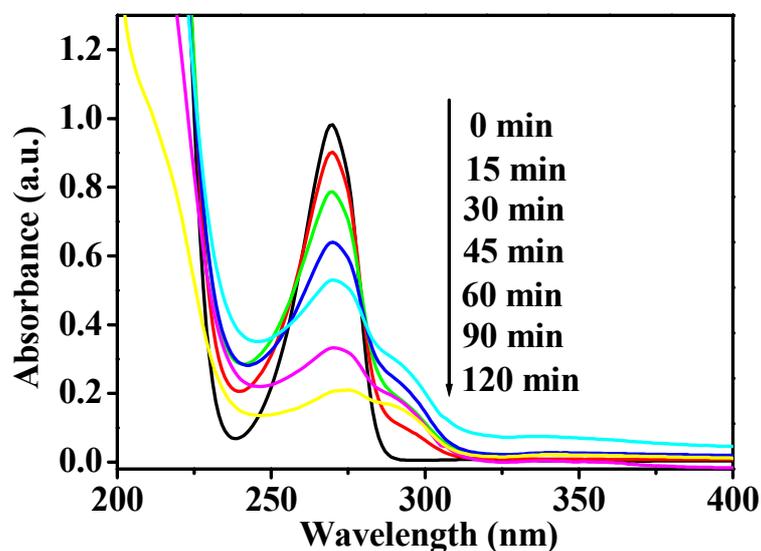
E-mail: [jiaguoyu@yahoo.com](mailto:jiaguoyu@yahoo.com)

<sup>2</sup> Centre for Organized Matter Chemistry, School of Chemistry, University of Bristol, Bristol, BS8

ITS, UK E-mail: [s.mann@bristol.ac.uk](mailto:s.mann@bristol.ac.uk)

## Electronic Supporting Information

**Fig. S1** Changes in UV-vis absorption of phenol aqueous solutions under UV irradiation in the presence of fluorinated TiO<sub>2</sub> hollow microspheres prepared with  $R_F = 0.5$ .



**Fig. S2** Comparison of the photocatalytic activity of P25 and TiO<sub>2</sub> samples prepared with varying  $R_F$  for the photocatalytic decomposition of phenol aqueous solutions.

