Electronic Supplementary Information

Chemistry in a confined space: characterization of nitrogen-doped titanium oxide nanotubes produced by calcining ammonium trititanate nanotubes

Jui-Chun Chang,[a] Wei-Je Tsai,[a] Tsai-Chin Chiu,[a] Chih-Wei Liu,[a] Jiunn-Hsing Chao,[b] and Chiu-Hsun Lin[a]*

[a] Department of Chemistry, National Changhua University of Education, Changhua 500, Taiwan E-mail: chlin@cc.ncue.edu.tw Tel: 886-4-7232105 ext. 3541 Fax: 886-4-7292361

[b] Nuclear Science and Technology Development Center, National Tsing Hua University, Hsinchu, 300 Taiwan

Additional HRTEM Data. HRTEM data verify that the calcined NH_4TNT was a hollow tube at 673 K and a solid fiber at 773 K. The TEM micrographs are depicted in Figures 1 and 2 below. The micrograph in Figure 1 shows that the material calcined at 673 K clearly has tubular pores with a diameter of about 4 nm. The dimensions of the lattice fringe indicates that it contains a mixture of (001) plane of TiO_2 (B) phase and (101) plane of anatase phase. The micrograph in Figure 2 demonstrates that the material calcined at 773 K is a solid fiber and its crystalline composition is mainly anatase phase.

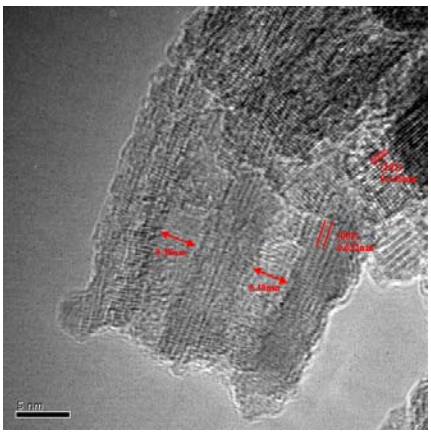

Figure S1 The HRTEM micrograph of NH_4TNT that was calcined at 673 K.

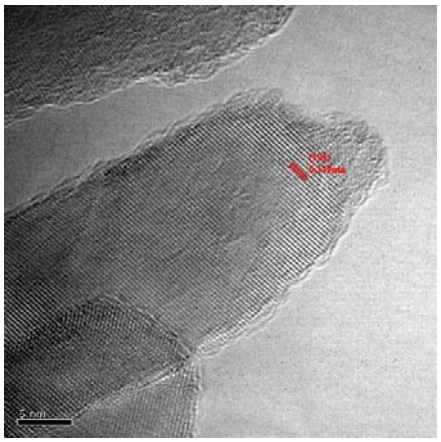

Figure S2 The HRTEM micrograph of NH_4TNT that was calcined at 773 K.

Emission Spectrum of the Light Source. The emission spectrum of the fluorescent lamp (λ_{max} = 445 nm, Taiwan Fluorescent Lamp Company) used in the photocatalytic activity tests is depicted below.

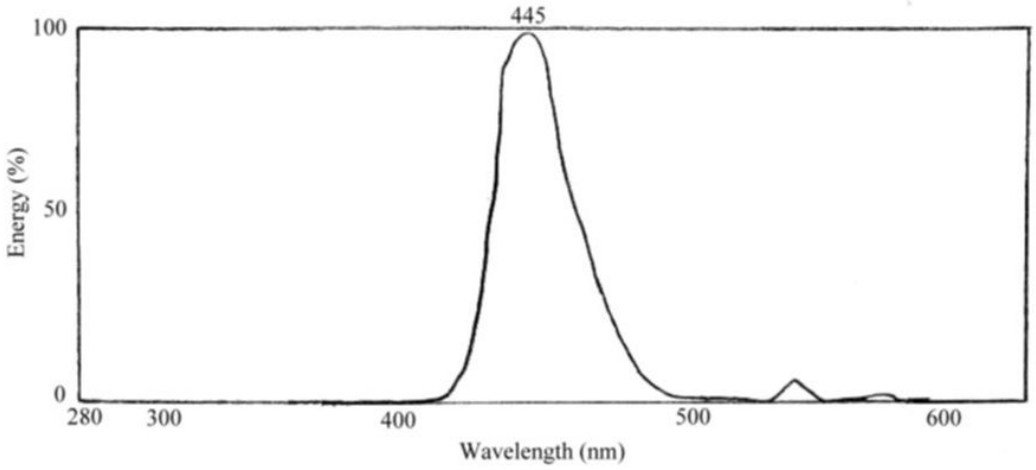

Figure S3 The emission spectrum of the light source.