Supplementary Information

Grafting Silica Species on Anatase Surface for Visible Light Photocatalytic Activity

Dongjiang Yang, Chuncheng Chen, Zhanfeng Zheng, Hongwei Liu, Eric R. Waclawik, Zhimin Yan,

Yining Huang, Hongjie Zhang, Jin-Cai Zhao* & Huaiyong Zhu*
**Figure S1.** The irradiation spectrum of the halogen lamp.
Figure S2. (A) HRTEM image of the silica grafted anatase nanorods (sample ST3) with exposed (116) plane; (B) index of the FFT image in (C); (C) an FFT image showing the electron diffraction pattern of the anatase nanorod.
Figure S3. $^{29}$Si MAS NMR spectrum of sample ST4.
Figure S4. (A) Density of the states of the (100)/(010) surface for the situation when water molecules adsorbed at Si and Ti sites on the surface and the surface configurations (B) before and (C) after adsorption of water molecule. (Gray: Ti, red: O, and yellow: Si, light gray: H).
**Figure S5.** EPR spectra of pure anatase (ST0_R) and silica grafted anatase (ST3_R) TiO$_2$ nanorods after 20 min of visible light exposure (532 nm, 100 W).