Electronic Supplementary Information (ESI)

Visible Light Sensitization of TiO$_2$ Nanoparticles by a Dietary Pigment, Curcumin, for Environmental Photochemical Transformations

Jonghun Lim, Alok D. Bokare, and Wonyong Choi*

Division of Environmental Science and Engineering, Pohang University of Science and Technology (POSTECH), Pohang 37673, Korea.

*Corresponding author e-mail: wchoi@postech.edu; Fax: +82-54-279-8299
Fig. S1. (a) FT-IR transmittance spectra, and XPS spectra of (b) C 1s and (c) O 1s bands of TiO$_2$, curcumin, and curcumin/TiO$_2$. 
Fig. S2. (a) TEM image and EELS mapping of (b) Ti and (c) C of bare TiO$_2$ and (d) TEM image and EELS mapping of (e) Ti and (f) C of curcumin/TiO$_2$. 
Fig. S3. Photoluminescence emission spectra of curcumin solution and curcumin/TiO$_2$ suspension; $\lambda_{ex} = 350$ nm.
Fig. S4. Repeated cycles of the degradation of DCA in the suspension of dye/TiO$_2$ under visible light. The experimental conditions were [catalyst] = 0.5 g/L, [DCA]$_0$ = 100 μM, pH$_0$ = 3.0, λ > 420 nm, air-equilibrated for 30 min prior to irradiation.