

Supporting Information

Morphology Evolution of TiO₂ Facets and Vital Influences on Photocatalytic Activity

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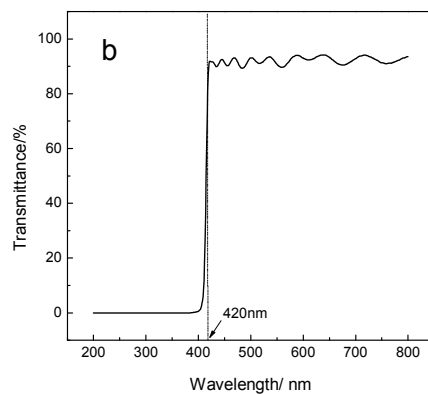
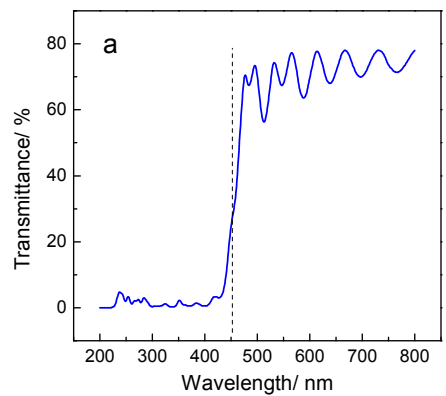


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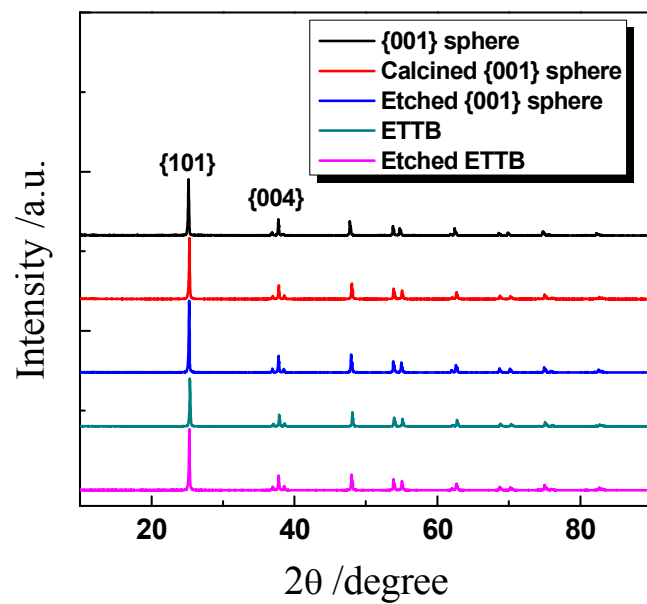


Figure S2. XRD patterns of as-prepared samples.

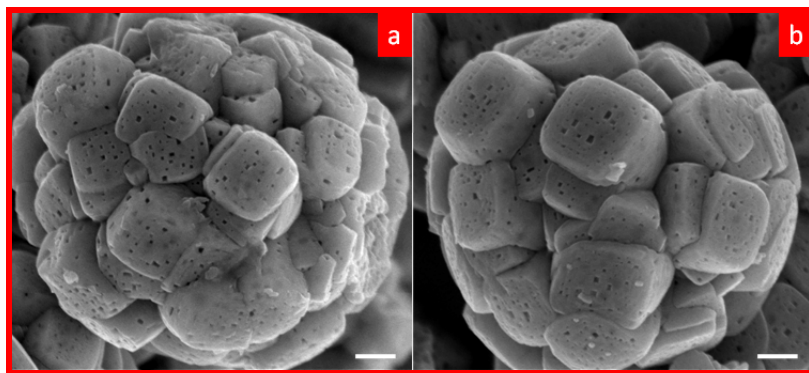


Figure S3. SEM images of {001} sphere calcined at 600 °C with the heating rate of (a) 10 and (b) 1 °C min⁻¹. All scale bars are 200 nm.

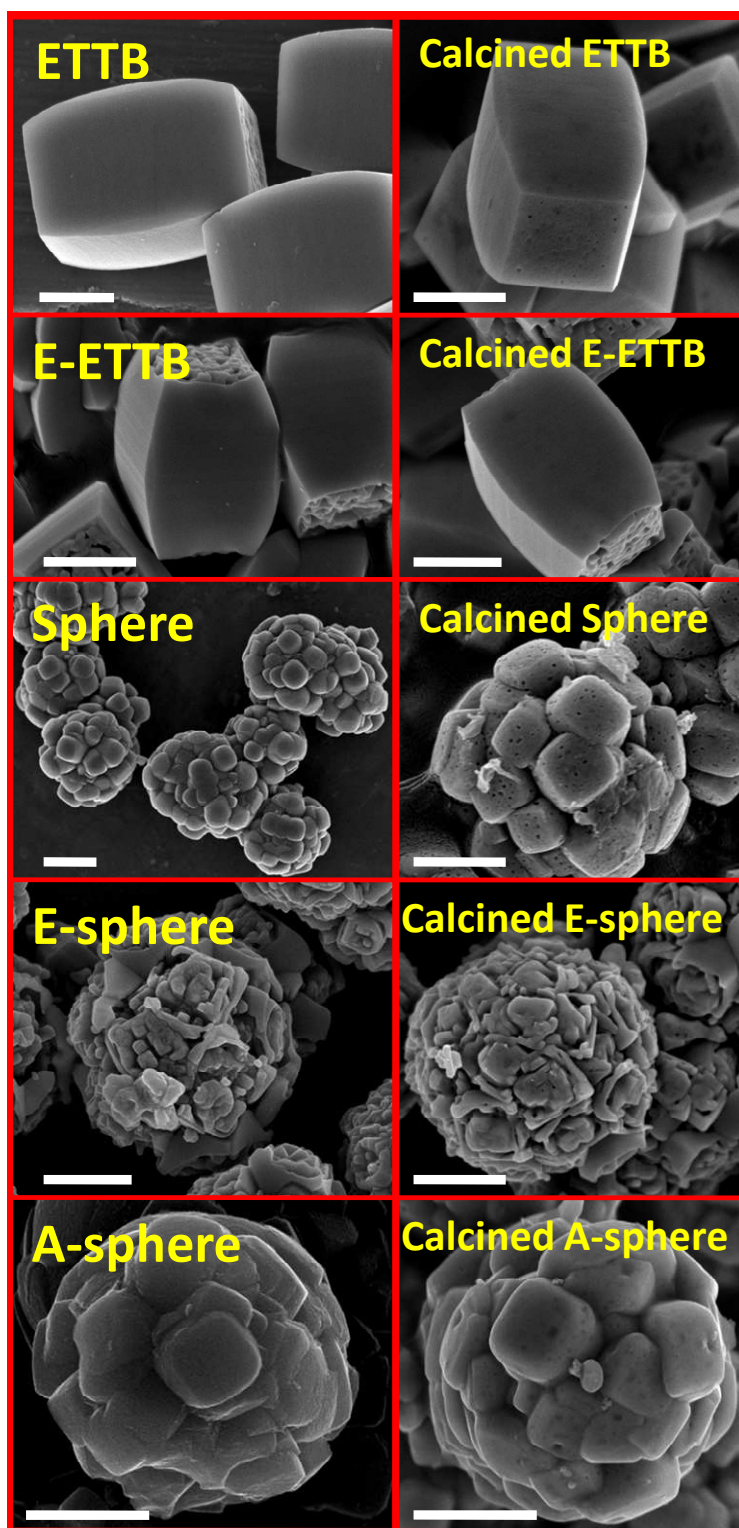


Figure S4. SEM images of samples used for photodegradation of charged and zwitterionic dyes, all scale bars are 500 nm. Five typical samples were prepared for the photoreaction, the abbreviation and prepared conditions are as follows: ETTB, $m_{\text{Ti}} = 48$ mg, $t_{\text{h}} = 4$ h; etched ETTB (E-ETT B), $m_{\text{Ti}} = 48$ mg, $t_{\text{h}} = 12$ h; {001} sphere (Sphere), $m_{\text{Ti}} = 128$ mg, $t_{\text{h}} = 2$ h; etched {001} sphere (E-sphere), $m_{\text{Ti}} = 128$ mg, $t_{\text{h}} = 12$ h; A-sphere, alkaline-treated Sphere. The calcined samples were calcined at 600 °C and the heating rate is 10 °C min⁻¹.

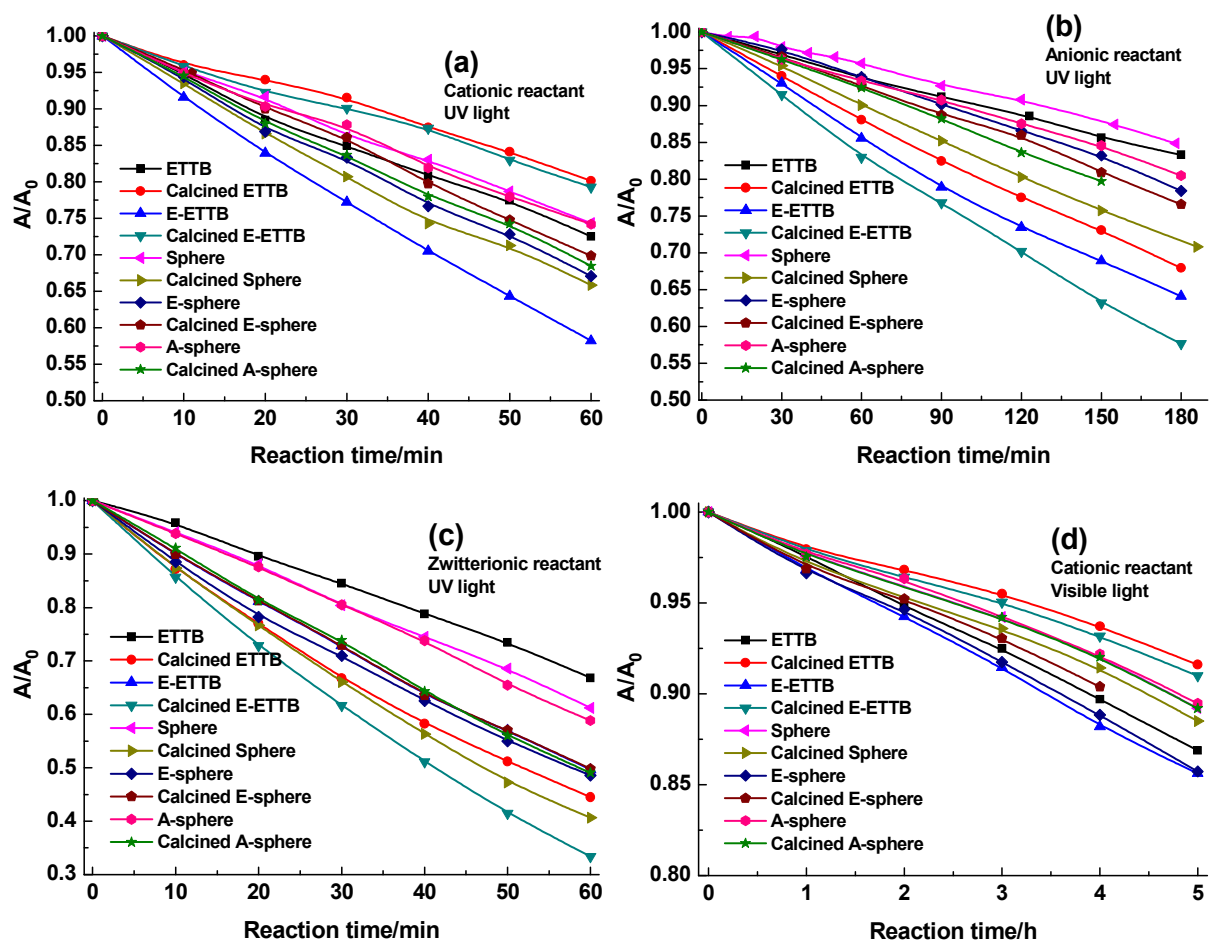


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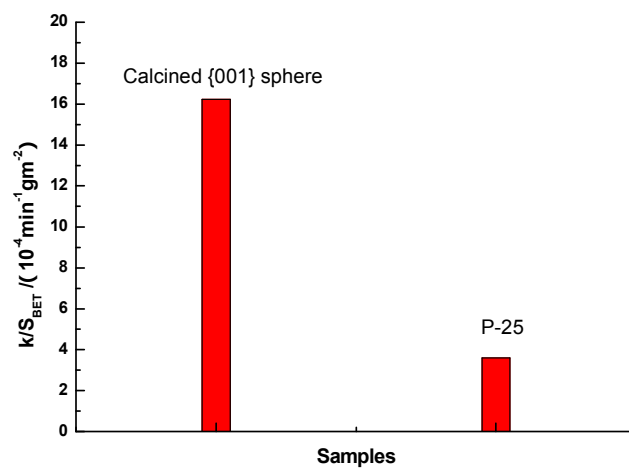


Figure S6. Normalized reaction rate constant (k) per unit surface area (S_{BET}) with different photocatalysts: the calcined {001} sphere and Degussa P-25.