

Supplementary Material

Preparation and Characterization of Defective TiO₂. The Effect of the Reaction Environment on Titanium Vacancies Formation.

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Received: 13 May 2020; Accepted: 16 June 2020; Published: 18 June 2020

In the Figure S1 are presented SEM images for pure TiO₂-TBT (a,b) and TBT-HIO₃_50 (c,d).

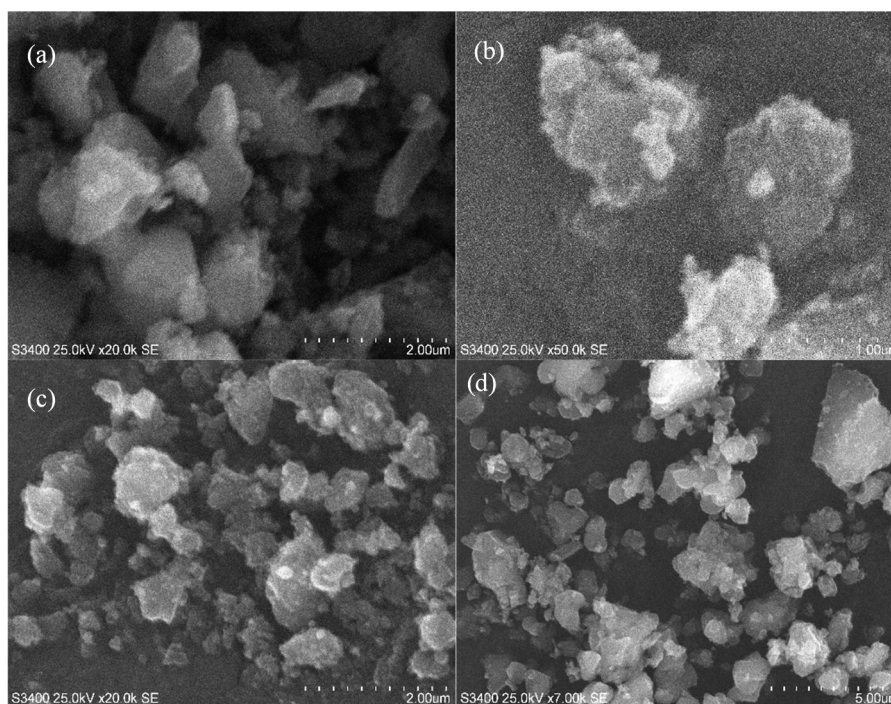


Figure S1. SEM analysis of pure TiO₂-TBT (a,b) and defective TBT-HIO₃_50 (c,d) photocatalysts.

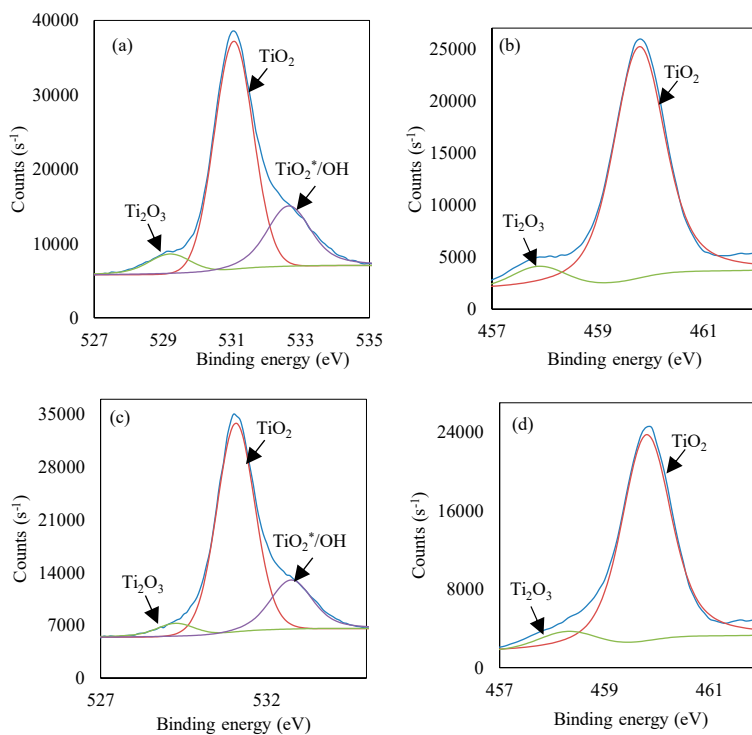


Figure S2. Deconvolution of X-ray photoelectron spectroscopy (XPS) for Ti 2p_{3/2} and O 1s for TBT-HIO₃_50 before (a,b) and after phenol photodegradation (c,d).

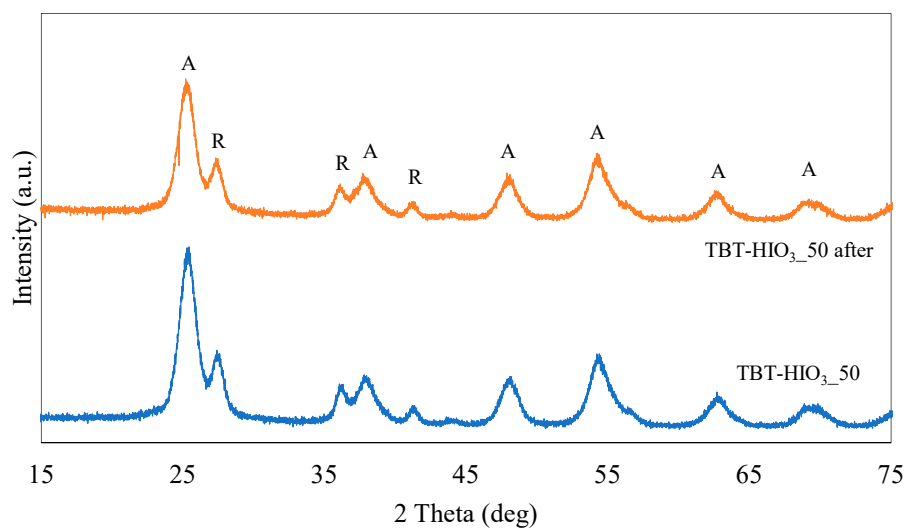


Figure S3. XRD patterns for defective TBT-HIO₃_50 photocatalyst before and after a photocatalytic phenol degradation (A-anatase, R-rutile).

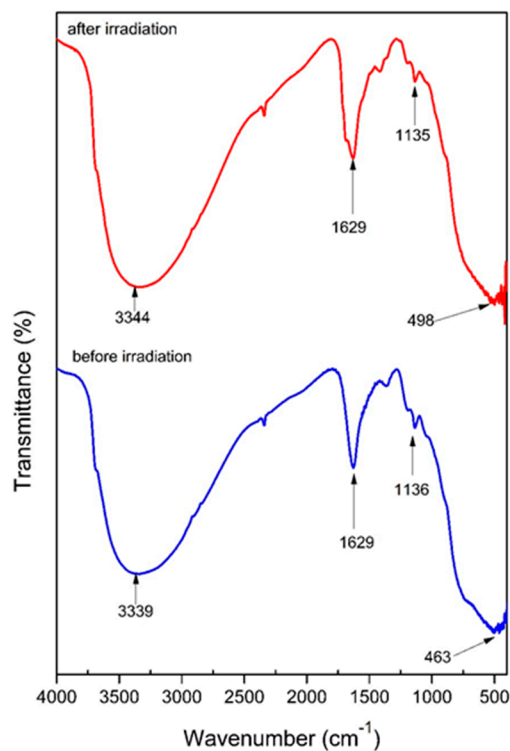


Figure S4. Fast-Fourier transformation spectroscopy (FTIR) spectra of defective TBT-HIO₃_50 before and after phenol photodegradation.

Table S1. Fraction of oxidation states of Ti as well as surface composition of defective TBT-HIO₃_50 photocatalyst before and after phenol degradation.

Photocatalyst	Ti 2p _{3/2} (%)		O 1s (%)
	Ti ⁴⁺	Ti ³⁺	
TBT-HIO ₃ _50	26.94	1.23	71.83
TBT-HIO ₃ _50 after	26.74	1.45	71.81



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