Appendix A. Supplementary data

Enhanced Visible and Ultraviolet Light-Induced Gas-Phase Photocatalytic Activity of TiO_2 Thin Films Modified by Increased Amount of Acetylacetone in Precursor Solution for Spray Pyrolysis

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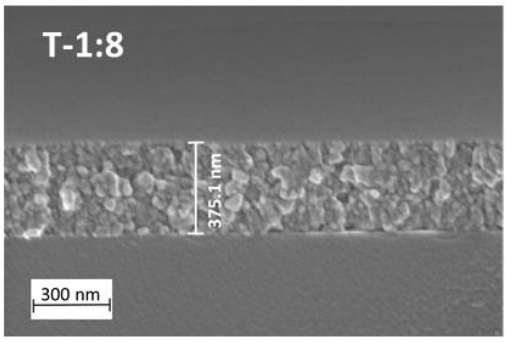

Figure S1. Cross-sectional scanning electron microscopy (SEM) image of TiO_2 thin film on borosilicate glass substrate at TTIP:AcacH molar ratio 1:8 (T-1:8).

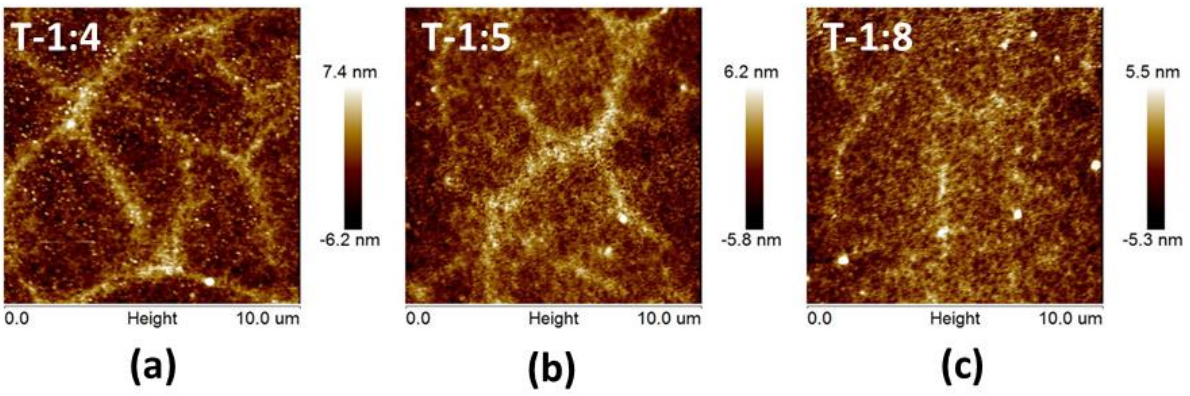

Figure S2. Atomic force microscope (AFM) images of the TiO_2 films (a) T-1:4, (b) T-1:5 and (c) T-1:8.

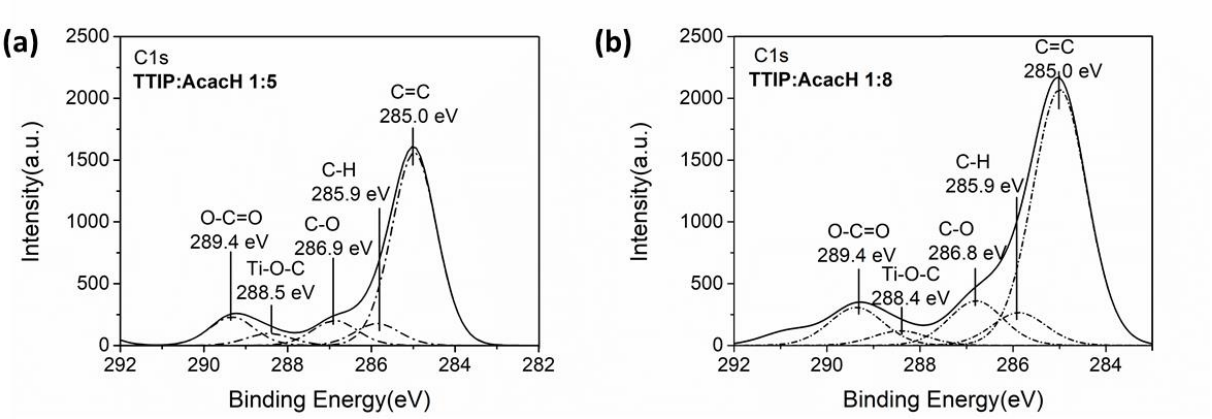

Figure S3. X-ray photoelectron spectroscopy (XPS) spectra of C1s core level for (a) 1:5 and (b) 1:8 TTIP:AcacH molar ratios in precursor solution for TiO_2 thin films.

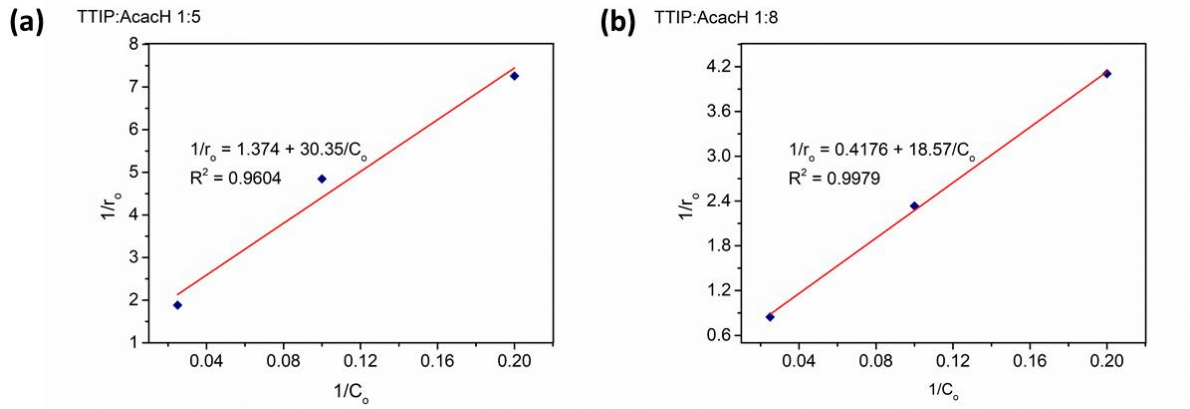

Figure S4. Langmuir-Hinshelwood kinetic plot for the determination of acetone degradation reaction rate constant and adsorption constants on TiO_2 films with TTIP:AcacH molar ratios (a) 1:5 and (b) 1:8 in precursor solution.

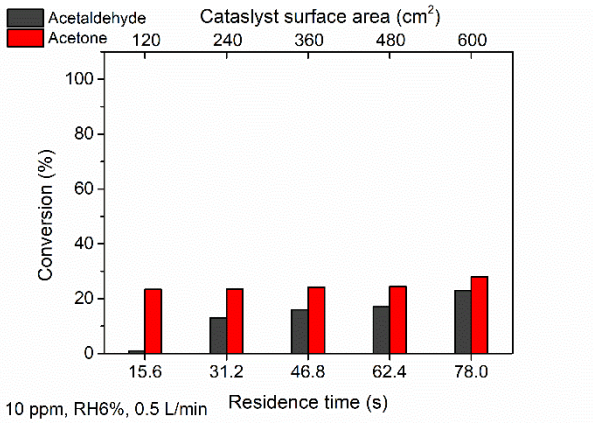

Figure S5. Photocatalytic oxidation of 10 ppm of acetone and 10 ppm of acetaldehyde under VIS light on the T-1:5 film depending on the catalyst surface area.