Supplementary information for:

Self-template fabrication of one-dimensional hollow and solid porous titania by chemically induced self-transformation

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Fig. S1 Characterizing SATF-10: (a) SEM image; (b) high magnification SEM image of cross section; (c) XRD pattern, HRTEM image (inset); (d) TG curve.



Fig. S2 UV-vis diffuse reflection spectra of 1DHP-TiO₂, 1DSP-TiO₂ and P25.



Fig. S3 (a) TEM image of the core-shell intermediate obtained by hydrothermal treating at 180 °C for 1.0 h; (b) SAED pattern of the shell part (1), the several continuous rings indicate that the shell part is crystallized TiO₂; (c) SAED pattern of the core part (2), the unambiguous first halo ring indicates that the core is still amorphous.



Fig. S4 TEM images and corresponding XRD patterns of the samples prepared in the presence of (a) H_2O ; (b) NaCl; (c) NH₄F and (d) (NH₄)HF₂.



Fig. S5 TG-DTA curves of (a) 1DHP-TiO₂ and (b) 1DSP-TiO₂.

	Stage I	Stage II	Stage III	Peak 1	Peak 2
1DHP-TiO ₂	35-125°C	125-370°C	370-550°C	- 453°C	>800°C
	1.2 wt%	5.5 wt%	13.1 wt%		
1DSP-TiO ₂	35-115°C	115-365°C	365-550°C	451°C	>800°C
	2.2 wt%	6.1 wt%	14.7 wt%		

Table S1. Thermal decomposition behavior of photocatalysts from TG-DTA analysis



Fig. S6 (a) XRD patterns and (b) Raman spectra of $1DSP-TiO_2-T$ calcinated at various temperatures for 2 h. The red dotted boxes are the magnification images of the corresponding areas.