Supporting Information

Hydrothermal synthesis and formation mechanism of photocatalytically active SrTiO$_3$ nanocrystals using anatase TiO$_2$ with different facets as a precursor

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Figure S1. Nitrogen adsorption-desorption curves of TiO$_2$ precursors and the corresponding SrTiO$_3$ products

Figure S2. Schematic crystal structures of (a) anatase TiO$_2$ and (b) SrTiO$_3$
Figure S3. Cross section HRTEM image of the TO-NS precursor.

Figure S4. The XRD patterns of the products after 10 min of quenching experiments at 140 °C prepared from different anatase TiO$_2$ precursors
Figure S5. (a) SEM image of TiO$_2$ particles with bigger size; (b) SEM image of the corresponding products.

Figure S6. F 1s XPS spectra of SrTiO$_3$ prepared from TO-NS