## **Supporting Information**

## Black Strontium Titanate Nanocrystals of Enhanced Solar Absorption for Photocatalysis

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Figure S1. Diffuse reflectance spectra of SSR-STO and R-SSR-STO samples.



Figure S2. (a) SEM image and (b) selected-area electron diffraction (SAED) pattern of R-STO samples.



Figure S3. Magnetic hysteresis loops of STO and R-STO measured at 2 K



**Figure S4.** (a) solar-light driven photocatalytic water splitting for H2 generation over SSR-STO and R-SSR-STO samples. (b) cycling tests of solar-driven photocatalytic activity of R-SSR-STO sample.