## Efficient photocatalytic hydrogen peroxide production over TiO2

## passivated by SnO<sub>2</sub>

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Figure S1 (a) TEM images of Au/SnO<sub>2</sub>-TiO<sub>2</sub> and (b) EDX result of the square area in (a).



Figure S2 (a) TEM images of Au/SnO<sub>2</sub>-TiO<sub>2</sub> and (b) the measured interplanar spacing (0.235 nm) of Au (1 1 1) plane.



Figure S3 Standard curve: a linear relationship for the optical absorbance at 454 nm as a function of  $H_2O_2$  concentration.



Figure S4 Plots of [H<sub>2</sub>O<sub>2</sub>] under UV-irradiation in the presence of different photocatalysts.