

Electronic Supplementary Information

Visible light-driven photocatalytic and photoelectrochemical studies of Ag-SnO₂ nanocomposites synthesized using an electrochemically active biofilm

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UV-vis diffuse reflectance spectra of the *p*-SnO₂, 1 mM and 3 mM Ag-SnO₂ nanocomposites

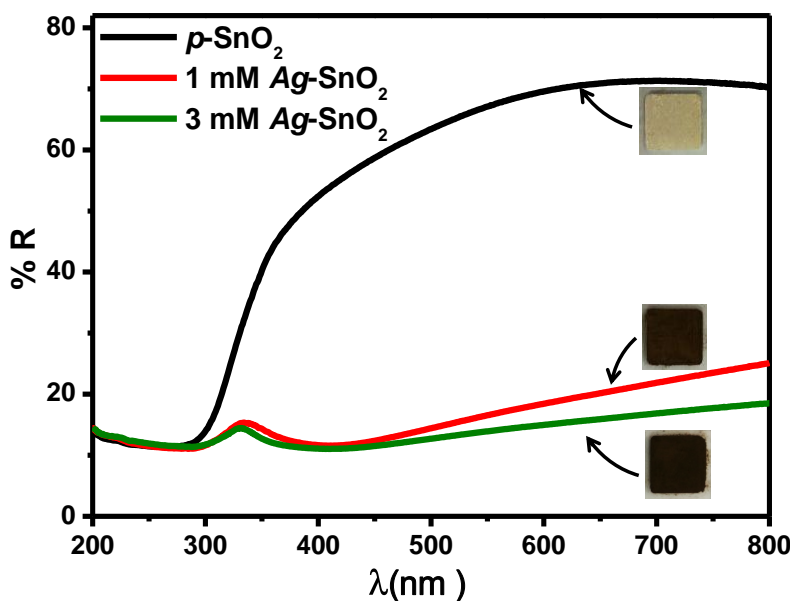


Fig. S1 UV-vis diffuse reflectance spectra of the *p*-SnO₂, 1 mM and 3 mM Ag-SnO₂ nanocomposites. The inset shows the color of the *p*-SnO₂, 1 mM and 3 mM Ag-SnO₂ nanocomposites.

TEM image of the p -SnO₂ nanostructures

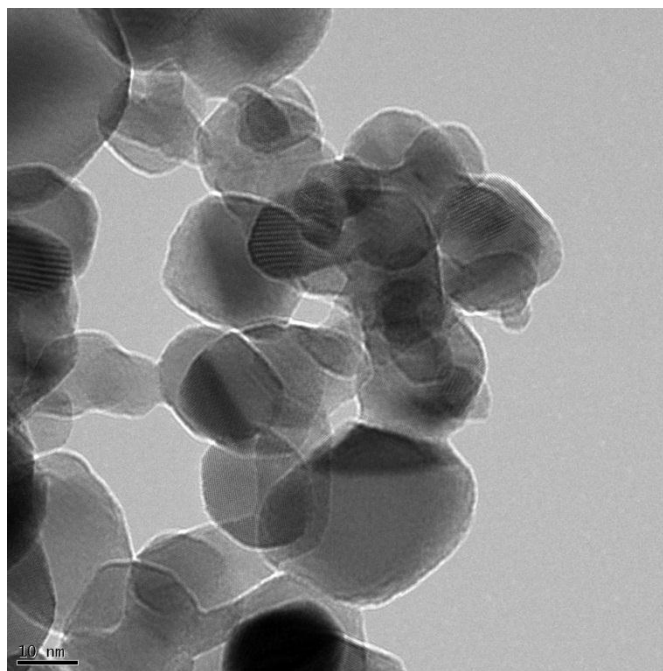


Fig. S2 TEM image of the p -SnO₂ nanostructures.

HR-TEM image of the p -SnO₂ nanostructures

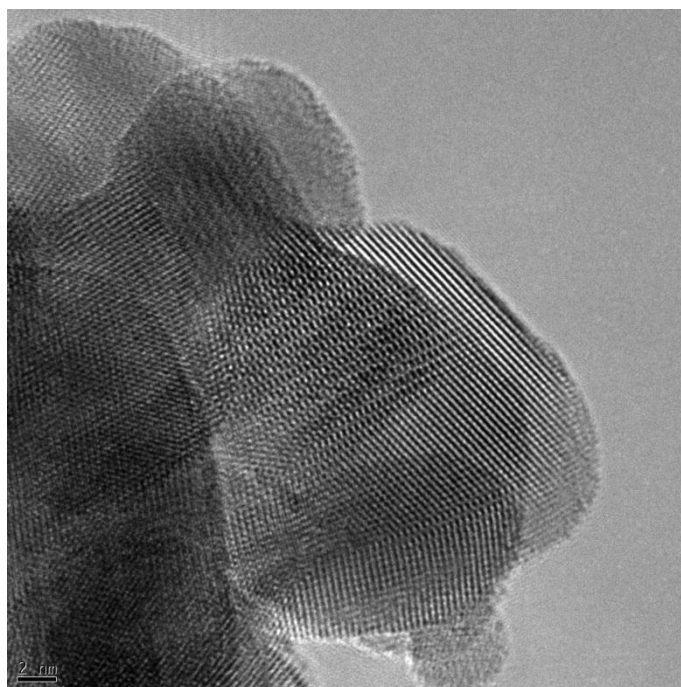


Fig. S3 HR-TEM image of the p -SnO₂ nanostructures.

SAED patterns of the p -SnO₂ nanostructures

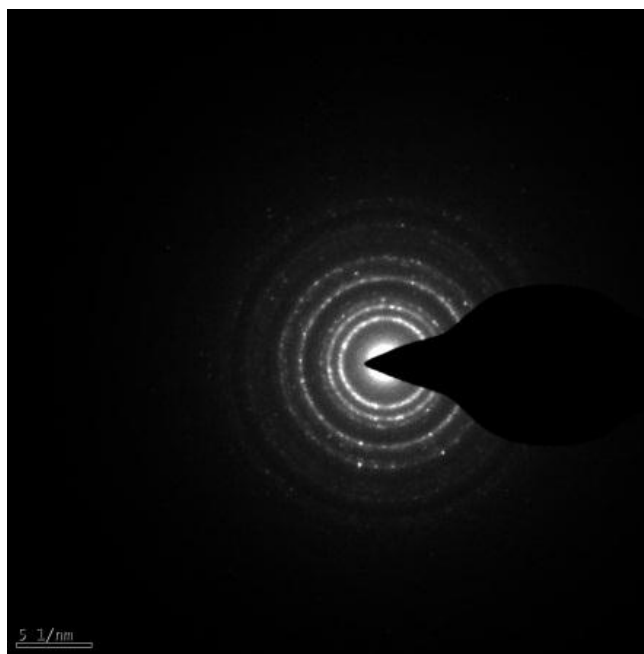


Fig. S4 SAED patterns of the p -SnO₂ nanostructures.

SAED patterns of the 1 mM Ag-SnO₂ nanocomposite

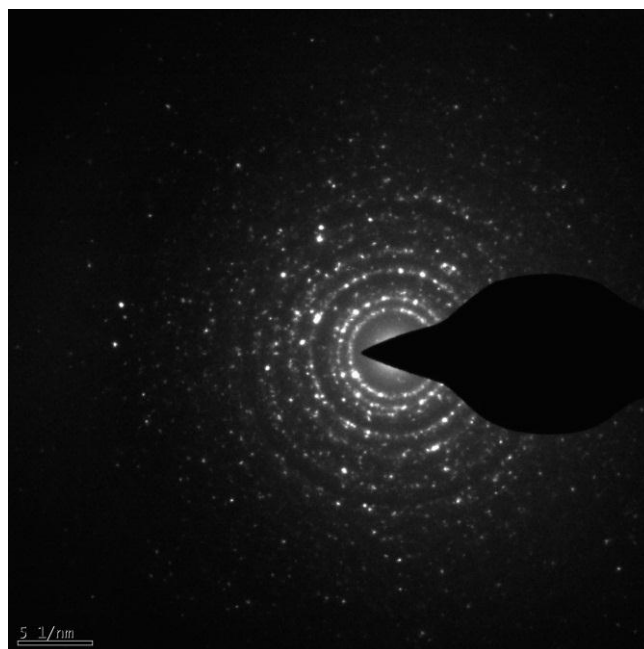


Fig. S5 SAED patterns of the 1 mM Ag-SnO₂ nanocomposite.

SAED patterns of the 3 mM Ag-SnO₂ nanocomposite

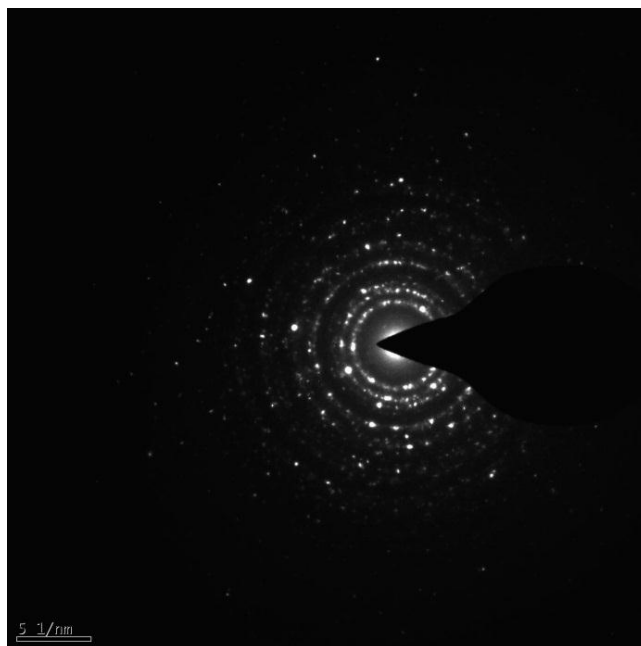


Fig. S6 SAED patterns of the 3 mM Ag-SnO₂ nanocomposite.

Acquire HAADF FE-TEM image of the *p*-SnO₂ nanostructures

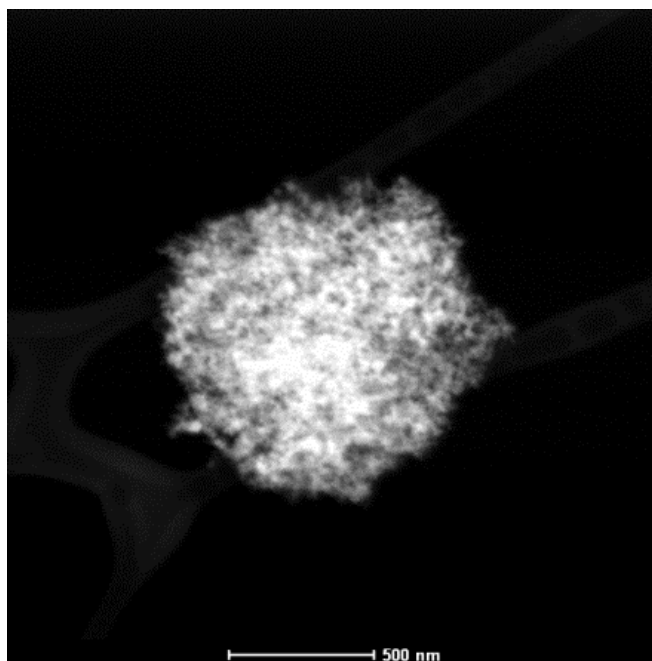


Fig. S7 Representative HAADF FE-TEM image of the *p*-SnO₂ nanostructures.

Acquire HAADF FE-TEM image of the 1 mM Ag-SnO₂ nanocomposite

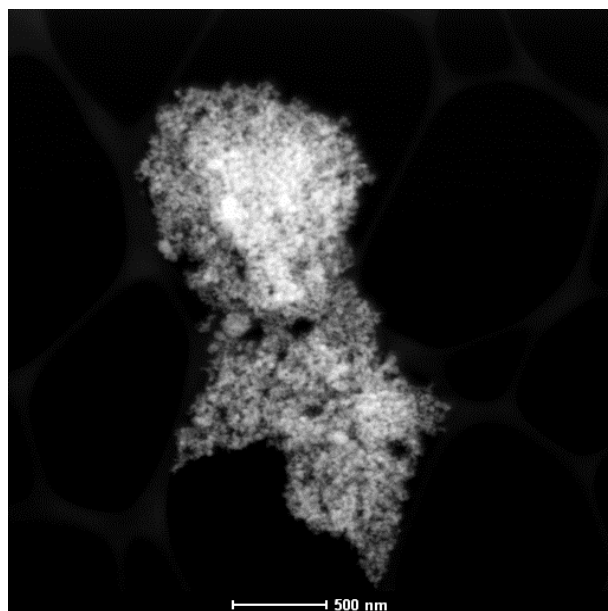


Fig. S8 Representative HAADF FE-TEM image of the 1 mM Ag-SnO₂ nanocomposite.

Acquire HAADF FE-TEM image of the 1 mM Ag-SnO₂ nanocomposite

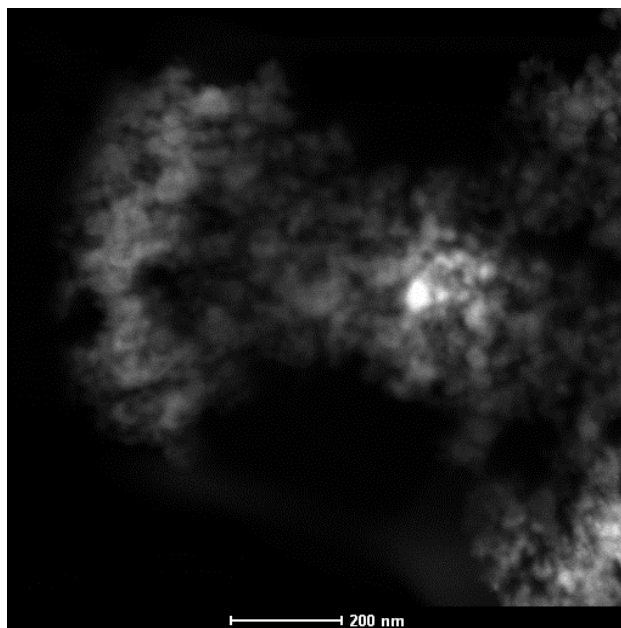


Fig. S9 Representative HAADF FE-TEM image of the 1 mM Ag-SnO₂ nanocomposite.

EDX of the p -SnO₂ nanostructures

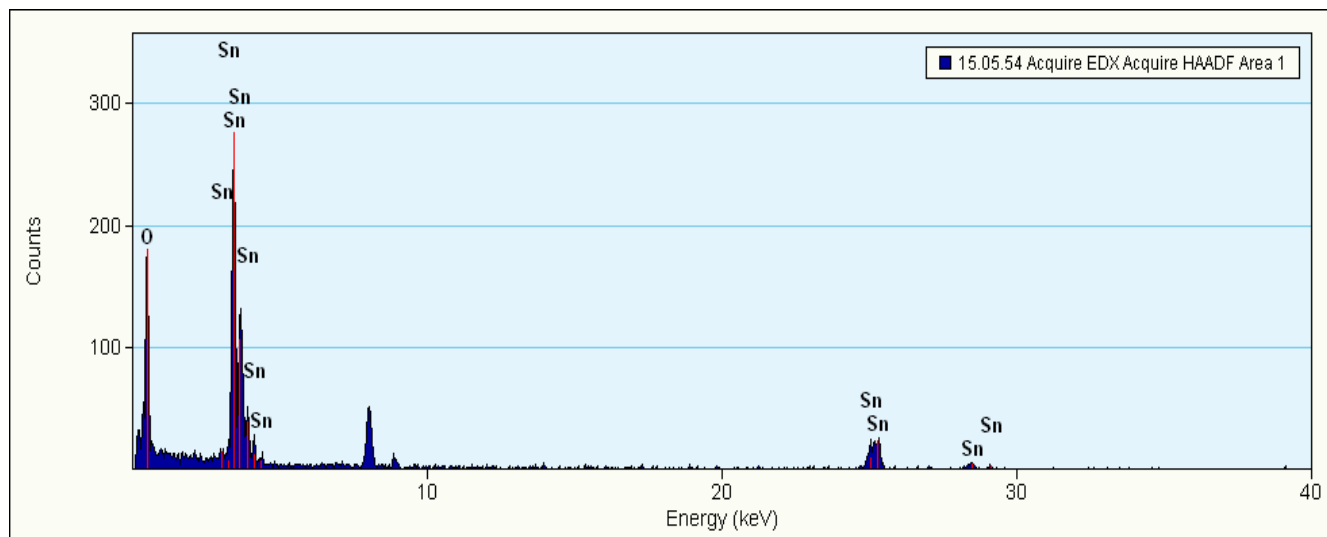


Fig. S10 EDX of the p -SnO₂ nanostructures.

EDX of the 1 mM Ag-SnO₂ nanocomposite

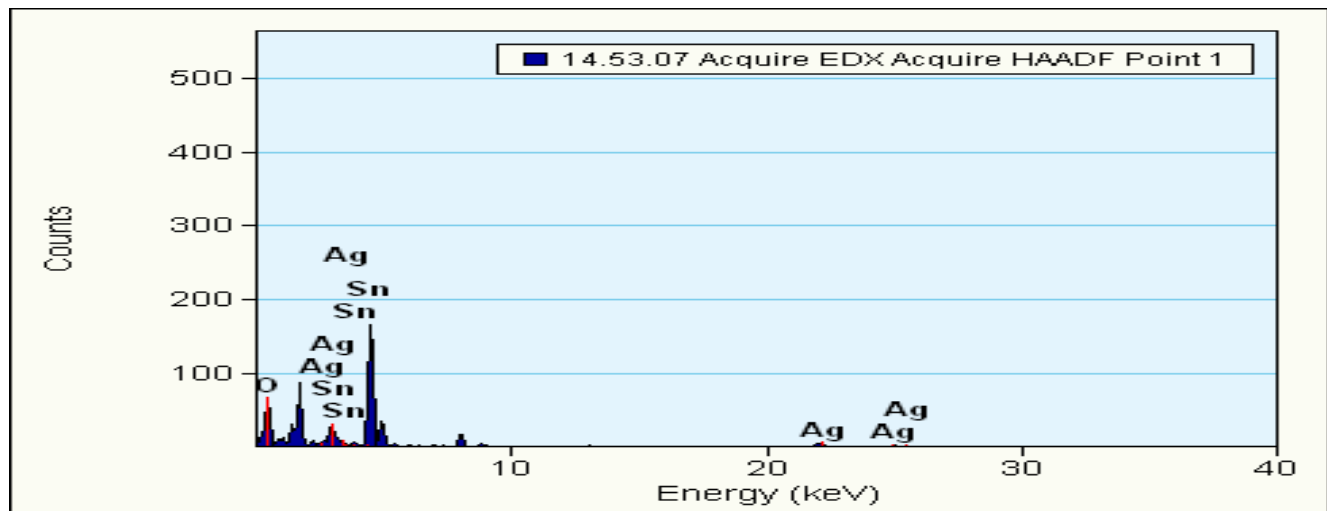


Fig. S11 EDX of the 1 mM Ag-SnO₂ nanocomposite.

EDX of the 3 mM Ag-SnO₂ nanocomposite

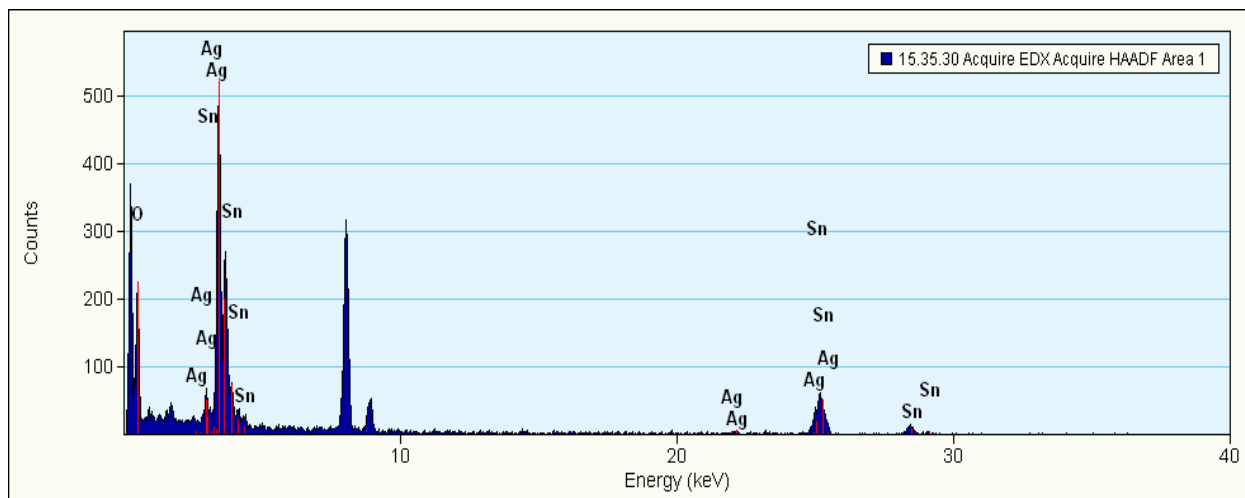


Fig. S12 EDX of the 3 mM Ag-SnO₂ nanocomposite.

C1s spectra of the *p*-SnO₂, 1 mM and 3 mM Ag-SnO₂ nanocomposites

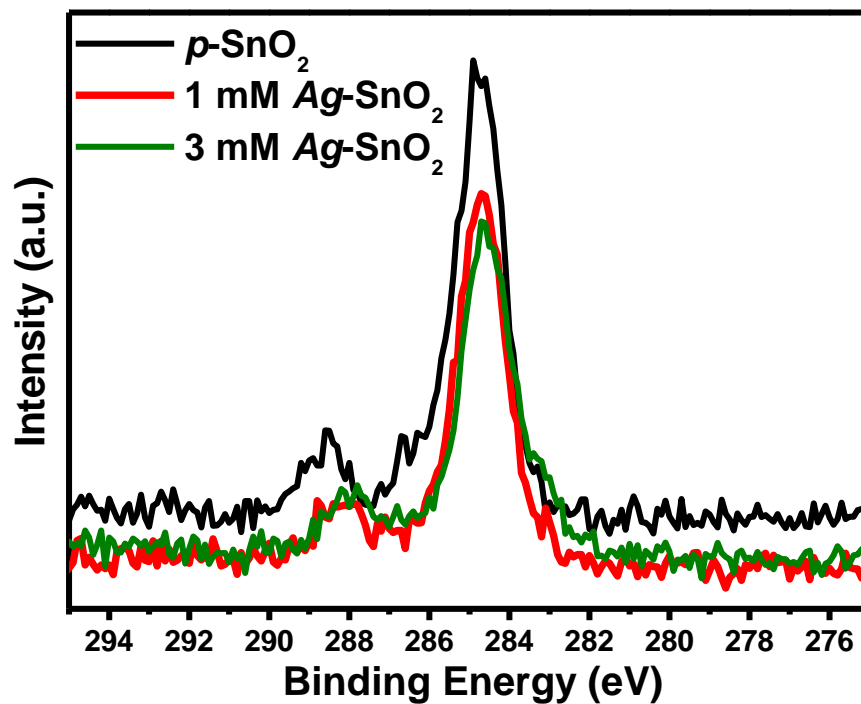


Fig. S13 C1s spectra of the *p*-SnO₂, 1 mM and 3 mM Ag-SnO₂ nanocomposites.

Plots for the photodegradation of MO, MB, 4-NP and 2-CP by $p\text{-SnO}_2$, 1 mM and 3 mM Ag-SnO_2 nanocomposites under visible light irradiation

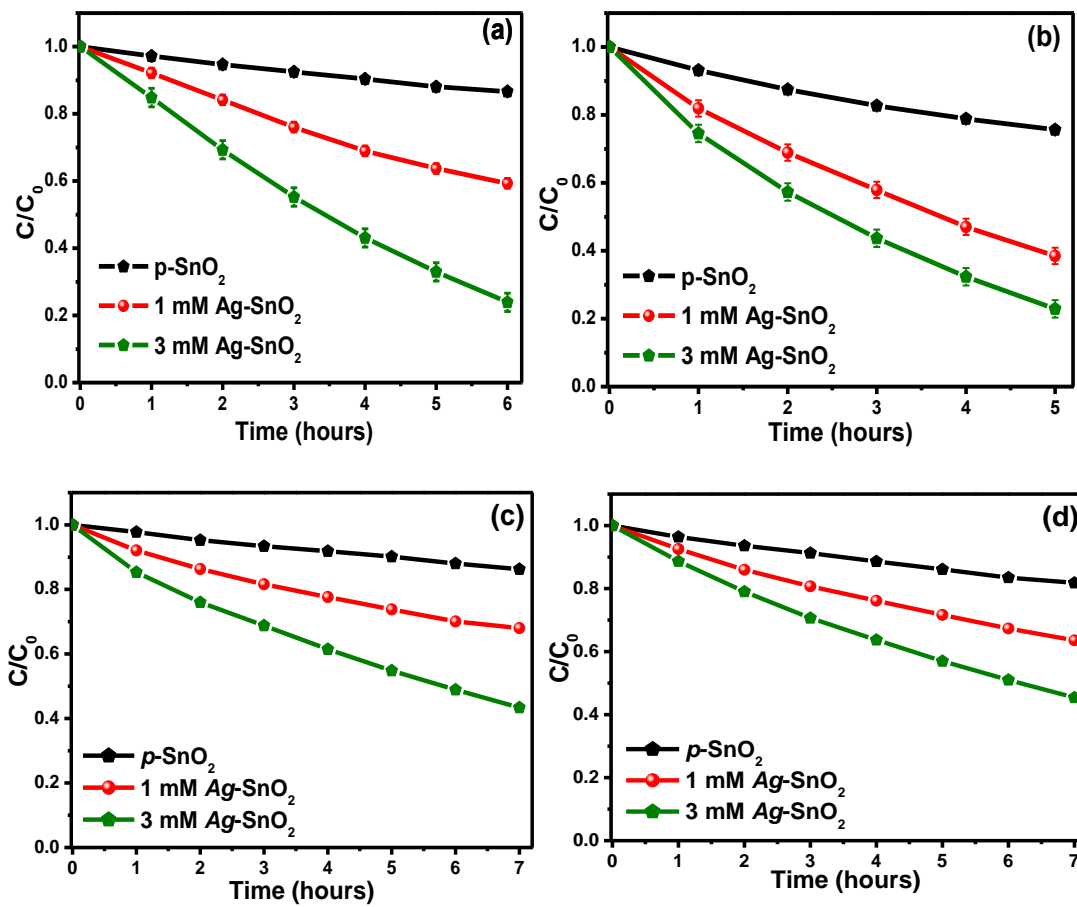


Fig. S14 C/C_0 versus irradiation time (h) plot for the photodegradation of (a) MO, (b) MB, (c) 4-NP, and (d) 2-CP by $p\text{-SnO}_2$, 1 mM and 3 mM Ag-SnO_2 nanocomposites under visible light irradiation.

Stability test of the Ag-SnO₂ nanocomposite

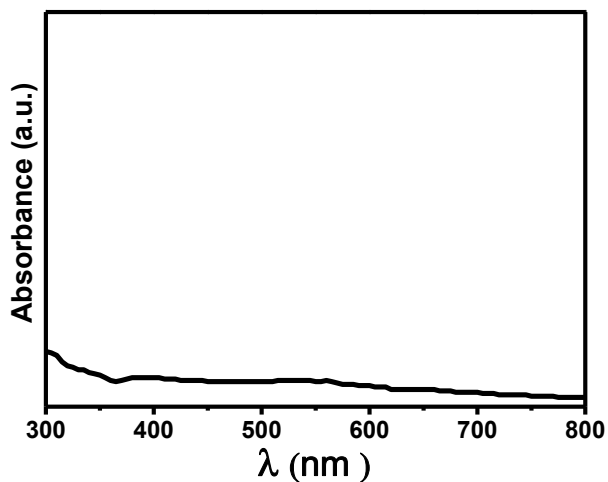
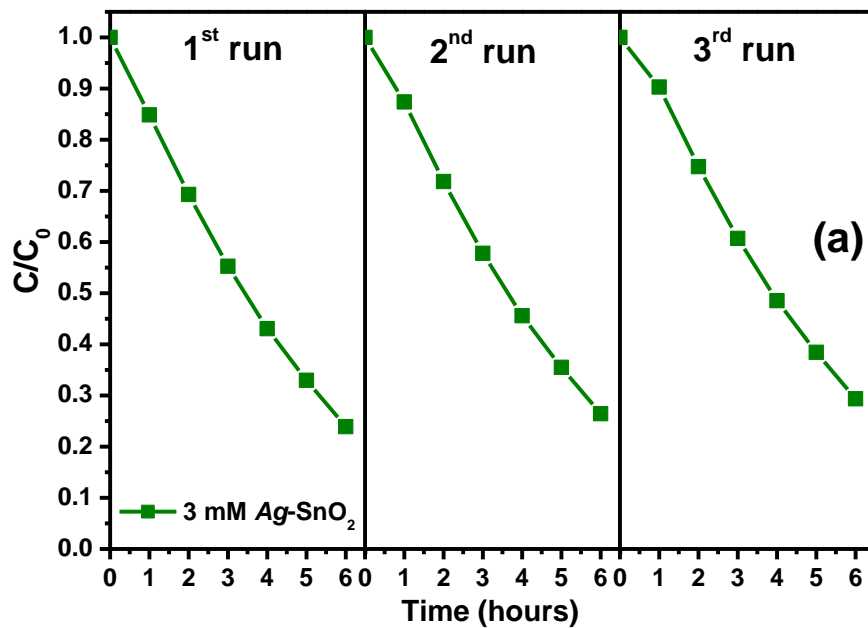


Fig. S15 Stability test of the 3 mM Ag-SnO₂ nanocomposite after 1 hour sonication.

Recycled photodegradation of MO and MB by 3 mM Ag-SnO₂ nanocomposite under visible light irradiation



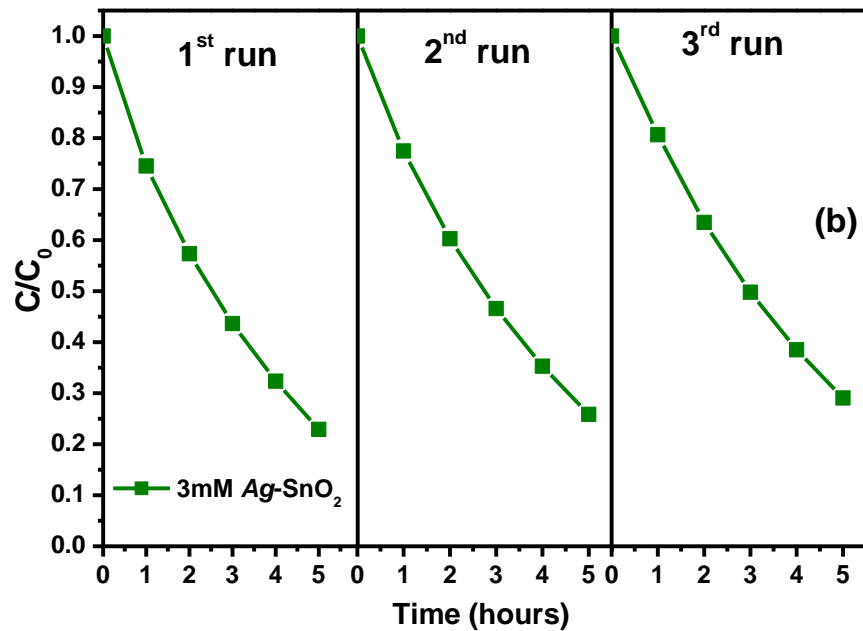


Fig. S16 Recycled photodegradation (a) MO, and (b) MB by 3 mM Ag-SnO₂ nanocomposite under visible light irradiation.