

## Supplementary Information

# Visible-light photocatalytic capability and the mechanism investigation of a novel PANI/Sn<sub>3</sub>O<sub>4</sub> p-n heterostructure

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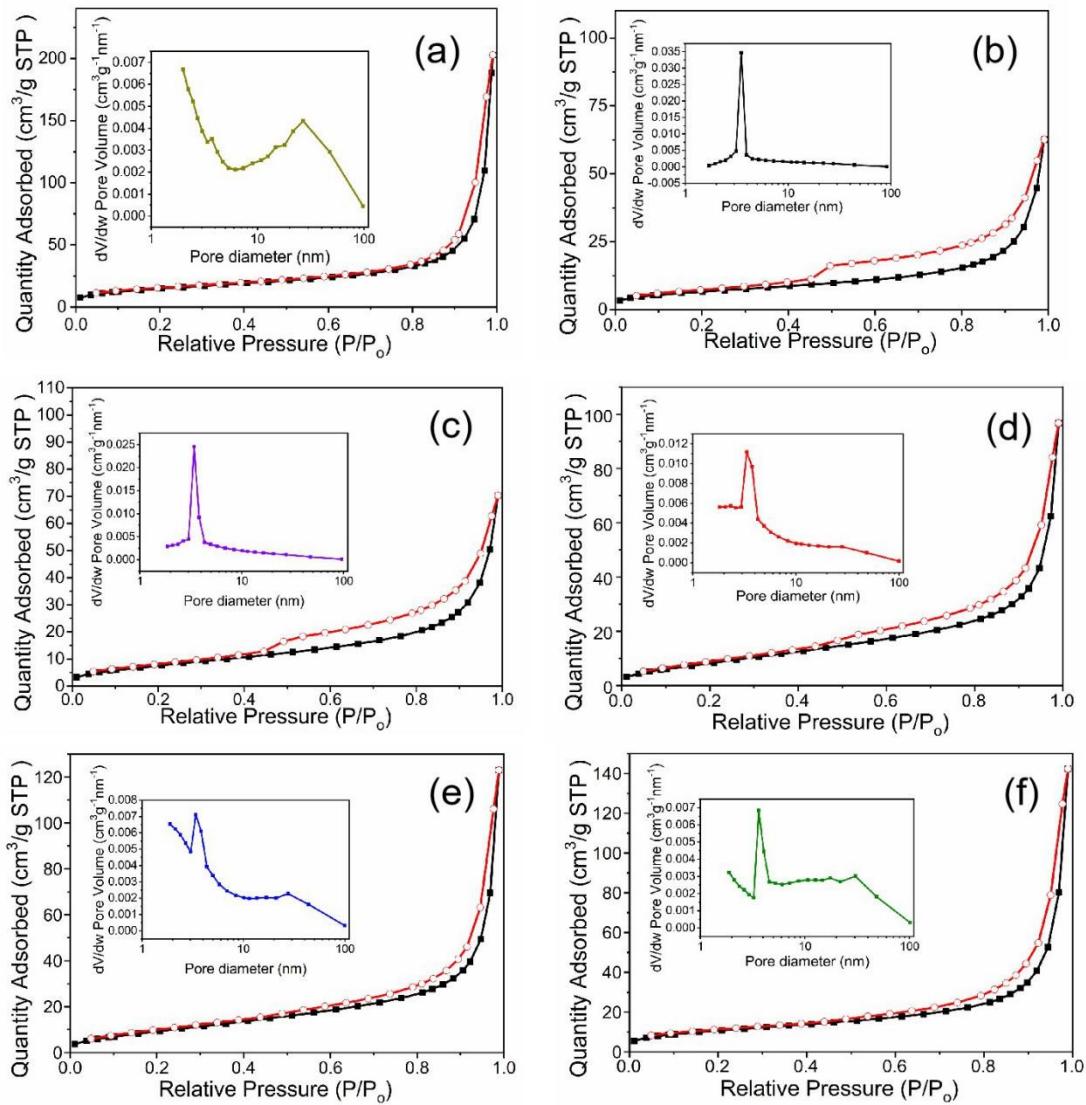
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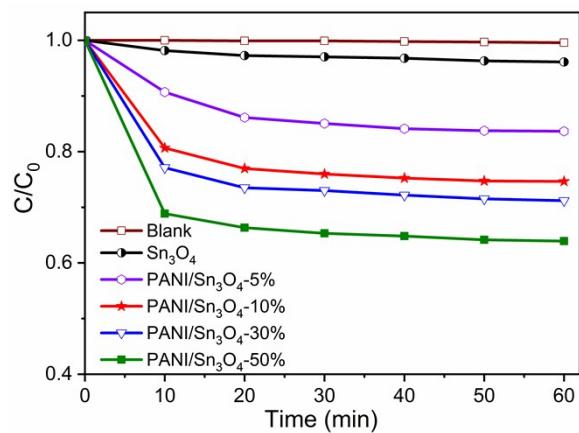
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**Table S1** The specific surface area, average pore size, and total pore volume of as-prepared samples.

Photocatalyst	PANI	Sn <sub>3</sub> O <sub>4</sub>	PANI/Sn <sub>3</sub> O <sub>4</sub> -5%	PANI/Sn <sub>3</sub> O <sub>4</sub> -10%	PANI/Sn <sub>3</sub> O <sub>4</sub> -30%	PANI/Sn <sub>3</sub> O <sub>4</sub> -50%
BET Surface Area (m <sup>2</sup> /g)	53.88	24.62	29.74	35.56	38.51	39.10
Average Pore Size (nm)	22.30	10.02	9.77	12.07	15.36	19.73
Pore Volume (cm <sup>3</sup> /g)	0.28	0.09	0.11	0.15	0.19	0.22



**Fig. S1 (a-f)**  $\text{N}_2$  adsorption and desorption isotherm of PANI,  $\text{Sn}_3\text{O}_4$  and PANI/ $\text{Sn}_3\text{O}_4$  heterostructure



**Fig. S2** Dark adsorption  $\text{Sn}_3\text{O}_4$  and PANI/ $\text{Sn}_3\text{O}_4$  composites