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Supplementary Materials

Enhanced photocatalytic performance of Rhodamine B and Enrofloxacin by Pt loaded $Bi_4V_2O_{11}$: Boosted separation of charge carriers, additional superoxide radical production, and the photocatalytic mechanism

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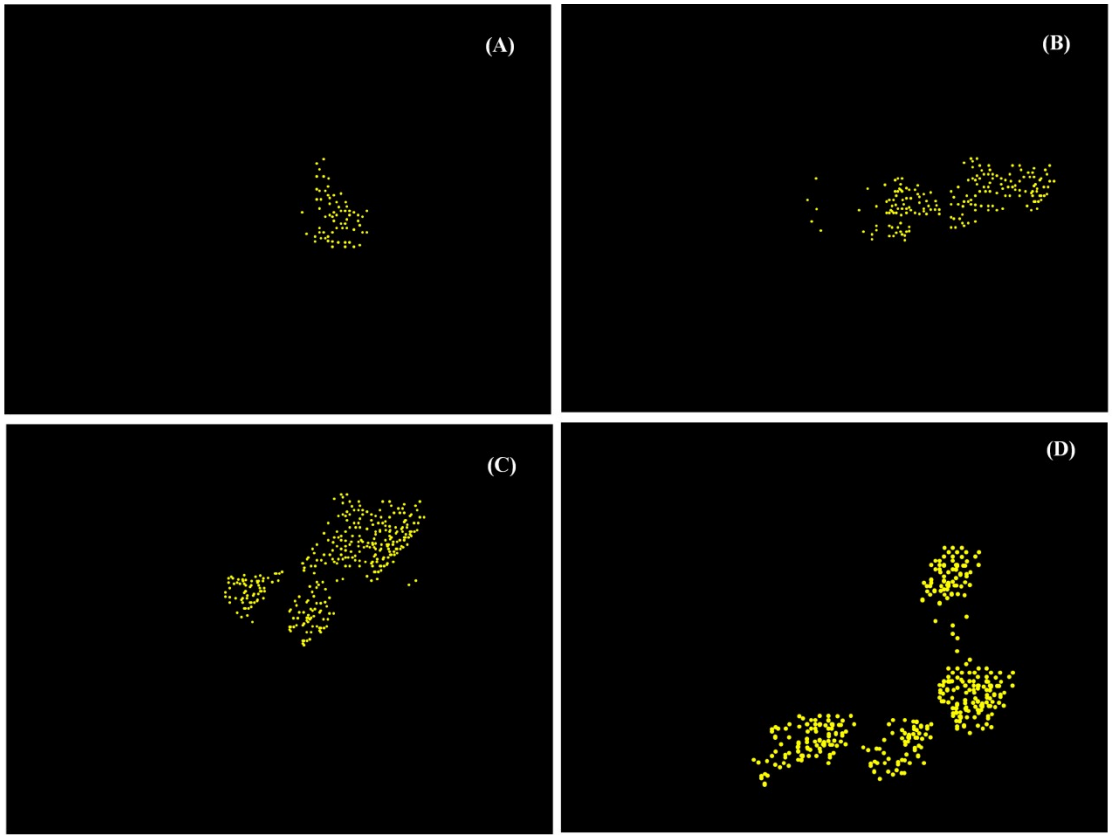

Fig. S1 EDS mapping of (A) 2%Pt-$Bi_4V_2O_{11}$, (B) 4%Pt-$Bi_4V_2O_{11}$, (C) 6%Pt-$Bi_4V_2O_{11}$, (D) 8%Pt-$Bi_4V_2O_{11}$.

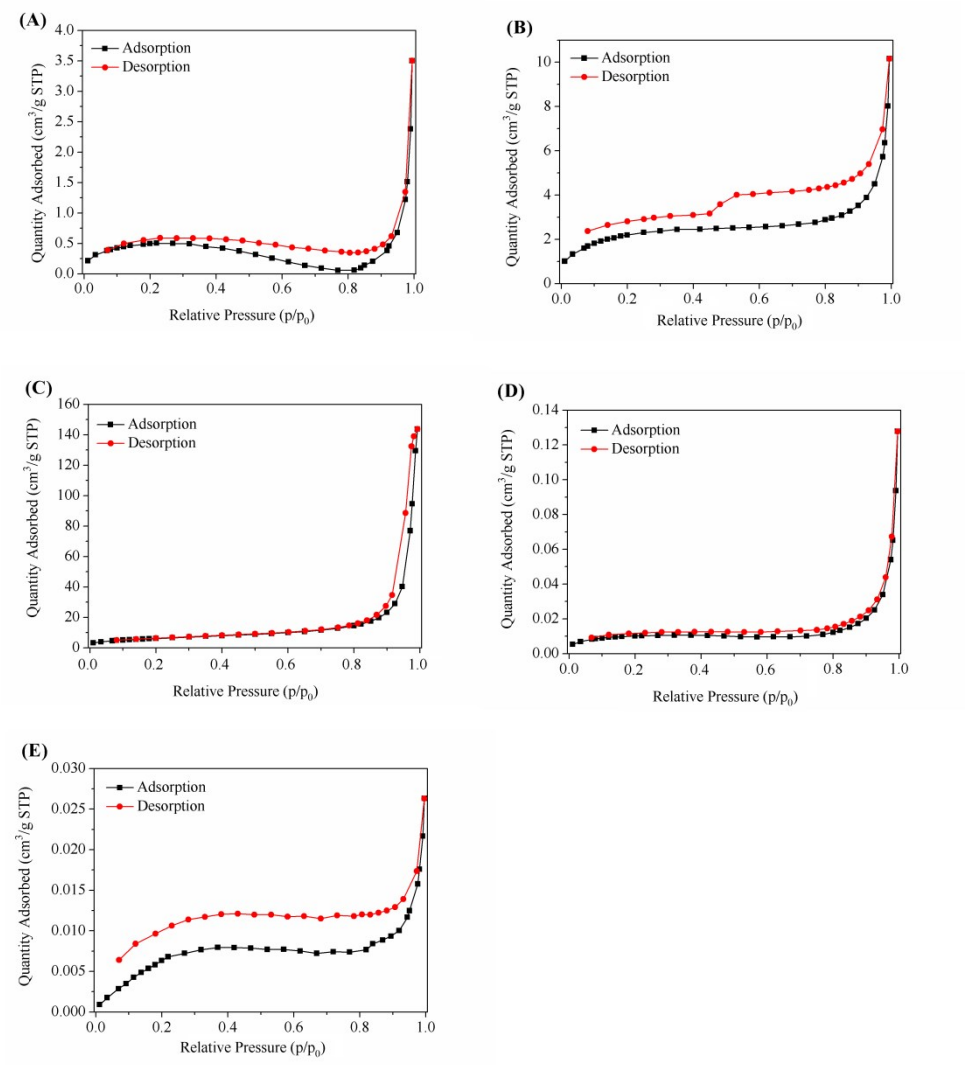

Fig. S2 The N_2 adsorption-desorption isotherm of (A) $Bi_4V_2O_{11}$, (B) 2%Pt-$Bi_4V_2O_{11}$, (C) 4%Pt-$Bi_4V_2O_{11}$, (D) 6%Pt-$Bi_4V_2O_{11}$, (E) 8%Pt-$Bi_4V_2O_{11}$.

Table S1 The BET surface areas and N_2 sorption capacities of as-prepared photocatalysts.

Sample	BET surface area (m^2 g^{-1})	N_2 sorption capacity (cm^3 g^{-1})
$Bi_4V_2O_{11}$	1.83	3.50
2%Pt-$Bi_4V_2O_{11}$	8.30	10.16
4%Pt-$Bi_4V_2O_{11}$	22.48	143.72
6%Pt-$Bi_4V_2O_{11}$	0.83	0.13
8%Pt-$Bi_4V_2O_{11}$	0.66	0.03

Table S2 Recently published $Bi_4V_2O_{11}$ based photocatalysts for environmental remediation.

Photocatalysts	Structure	Object pollutants	Ref.
$Bi_4V_2O_{11}$	hierarchical hollow microspheres	Rhodamine B	1
$BiVO_4/Bi_4V_2O_{11}$	heterojunction nanofibers	Rhodamine B	2
$Bi_4V_2O_{11}$	α–β phase junction nanofibers	Cr(VI)	3
Bi^{5+}-self-doped $Bi_4V_2O_{11}$	p−n homojunctions nanotubes	Cr(VI)	4
Dy doped $Bi_4V_2O_{11}$	nanoparticles	Tetracycline	5
$Bi_2WO_6/Bi_4V_2O_{11}$	$Bi_4V_2O_{11}$ nanocrystals were anchored onto Bi_2WO_6 nanoflakes	Cr(VI)	6
Bi-Quantum-Dot-Decorated $Bi_4V_2O_{11}$	hollow nanocakes	CO_2 reduction	7
$AgI/Bi_4V_2O_{11}$	flower-like particles	sulfamethazine	8
Pt loaded $Bi_4V_2O_{11}$	nanoparticles dispersed on the irregular polygon grain morphology	Rhodamine B; Enrofloxacin	This work

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