

Enhancement photocatalytic activity of the heterojunction of two-dimensional hybrid semiconductors ZnO/V₂O₅

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Figures.

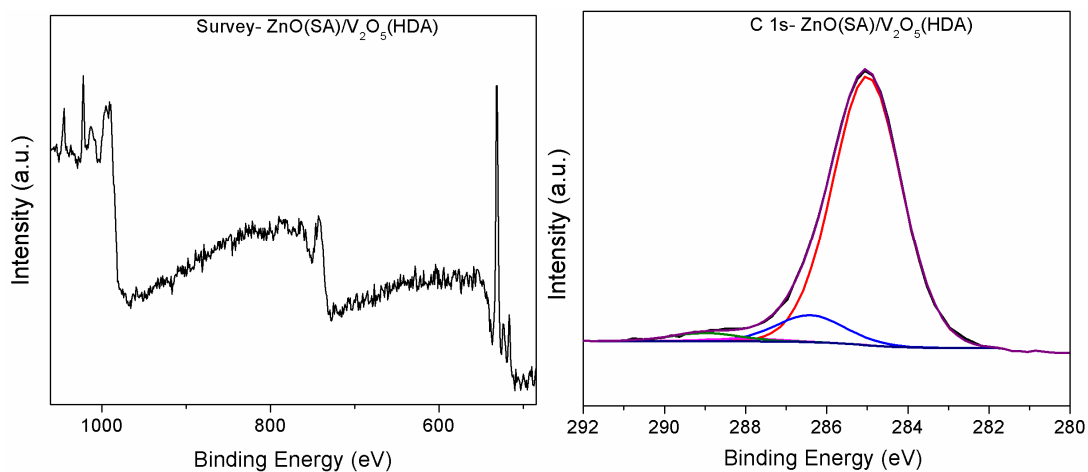


Figure S1. XPS survey spectra

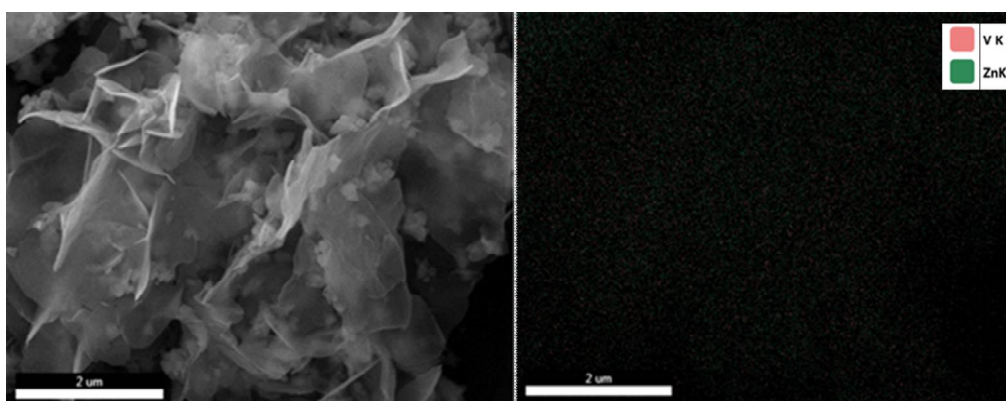


Figure S2 (a) Images SEM of ZnO(SA)/V₂O₅(HDA) and (b) Element mappings Zn and V

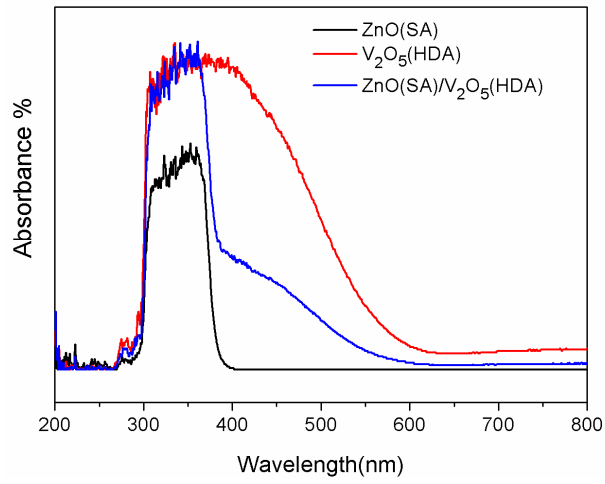


Figure S3. The UV-visible diffuse reflectance was measured for ZnO(SA), V₂O₅(HDA) and ZnO(SA)/V₂O₅(HDA)

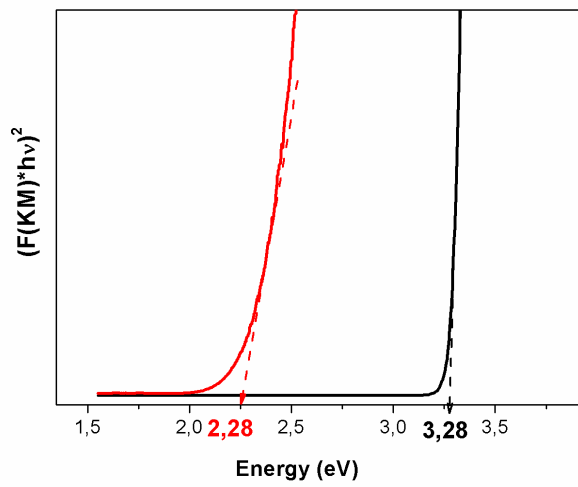


Figure S4. Band gap of samples for ZnO(SA) and V₂O₅(HDA)

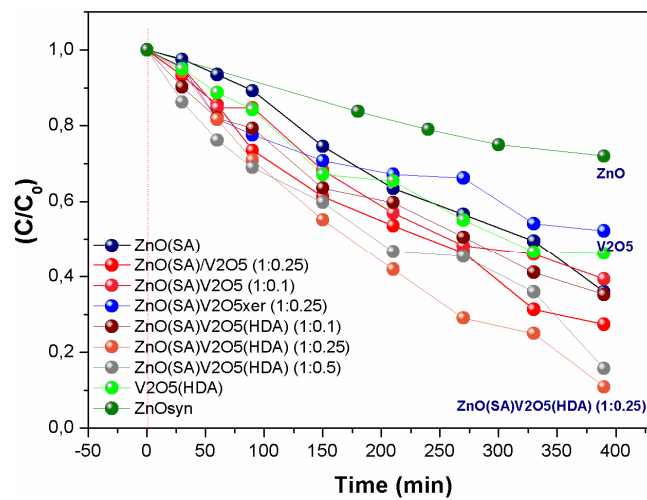


Figure S5. Photocatalytic performance of the samples for the degradation of MB solution

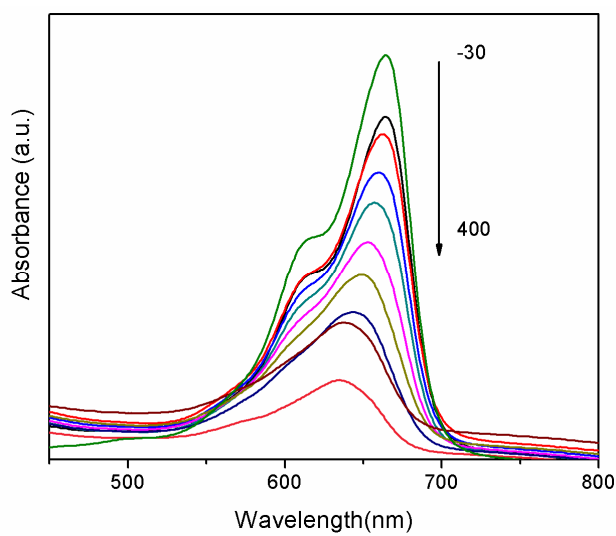


Figure S6. Absorption spectra with time of visible light exposure sample ZnO(SA)/V₂O₅(HDA) (1:0.1)

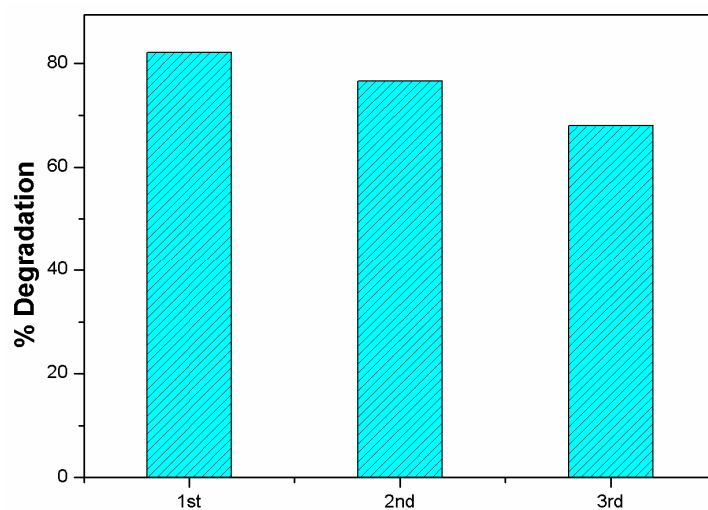


Figure S7. Recycling test of MB photodegradation under visible light of ZnO(SA)/ V₂O₅(HDA) (1:0.25).

Table S1. Molar composition of samples prepared and degradation of MB.

Samples	ZnO-SA	V ₂ O ₅ orthorhombic	V ₂ O ₅ xerogel	V ₂ O ₅ -HDA	% degradation
ZnO(SA)	1	-	-	-	64,1
ZnO(SA)/V ₂ O ₅	1	0,1	-	-	60,1
ZnO(SA)/V ₂ O ₅	1	0,25	-	-	72,6
ZnO(SA)/V ₂ O ₅	1	-	0,25	-	47,8
ZnO(SA)/V ₂ O ₅	1	-	-	0,1	64,8
ZnO(SA)/V₂O₅	1	-	-	0,25	90,0
ZnO(SA)/V ₂ O ₅	1	-	-	0,5	83,3
V ₂ O ₅ (HDA)	1	-	-	-	53,9
ZnO syn	1	-	-	-	28,0

Vis 300 W Xe arc lamp (Newport) with a UVIR-CUT filter at $\lambda \geq 400$ nm.

The luminance of the light source 0.5 W/cm².