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Supplementary Information for

Preparation of LDO@TiO_2 core-shell nanosheets for enhanced photocatalytic degradation of organic pollutions

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Supplementary Figures

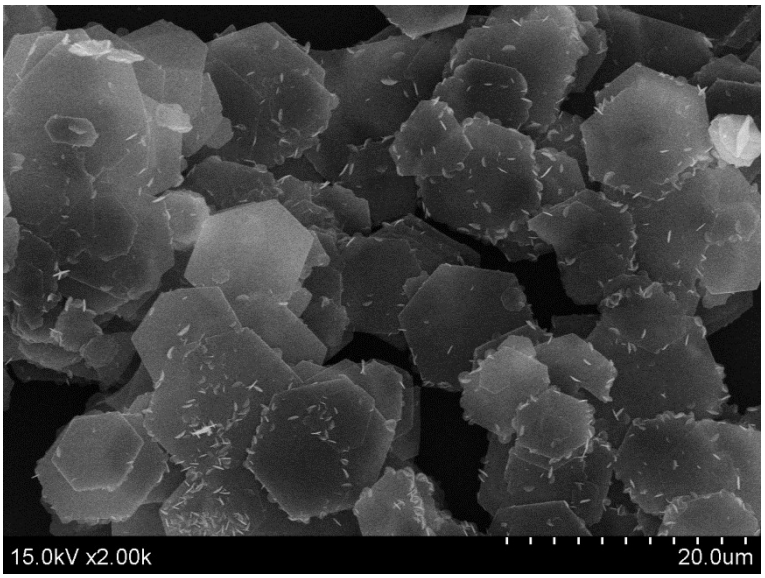

Fig. S1 SEM image of ZnAl-LDO.

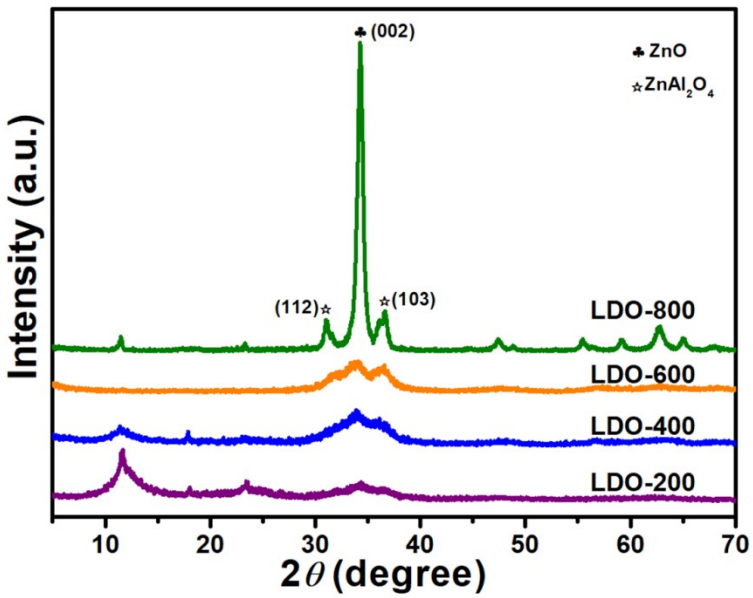

Fig. S2 XRD patterns of ZnAl-LDO-*T* samples.

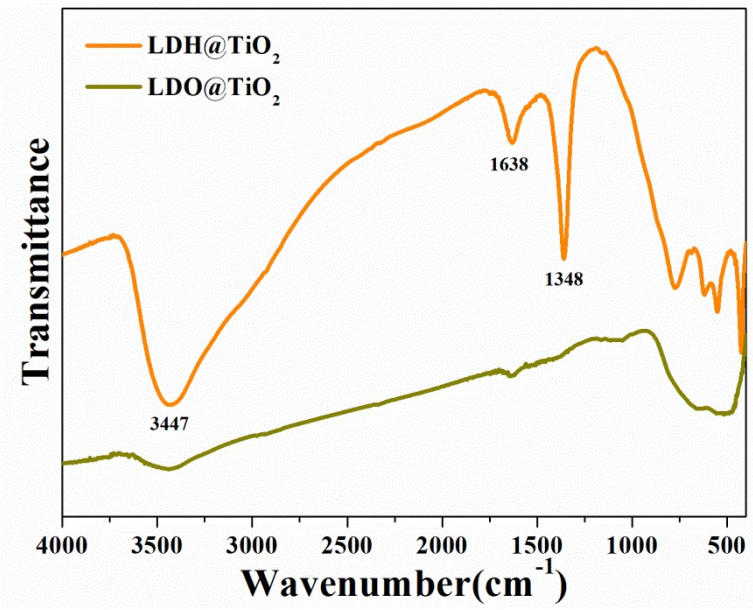

Fig. S3 The infrared spectroscopy of LDH@TiO_2 and LDO@TiO_2.

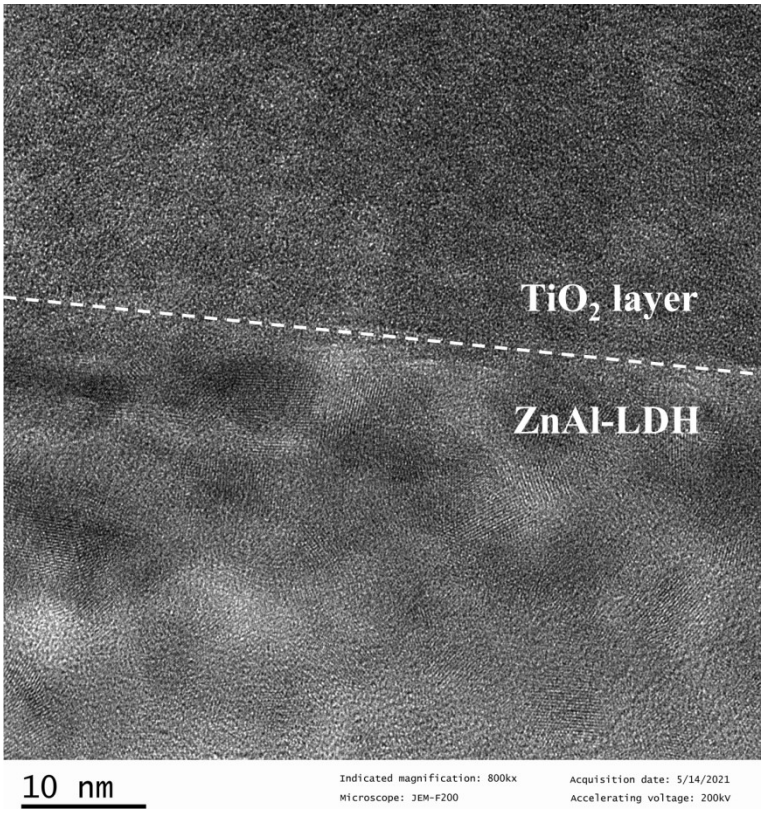

Fig. S4 HRTEM image of a sliced LDH@TiO_2 core-shell nanosheet.

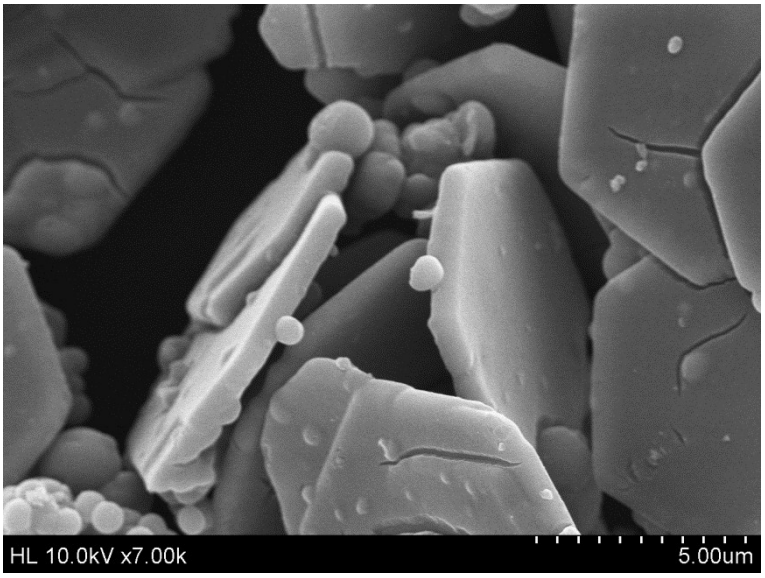

Fig. S5 SEM image of LDH@TiO_2-H.

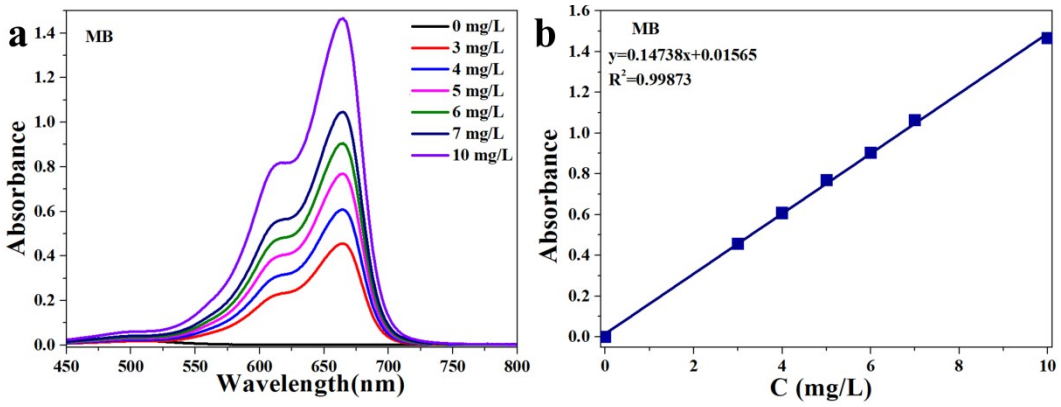

Fig. S6 (a) UV–vis spectra and (b) the corresponding standard concentration line of MB solutions.

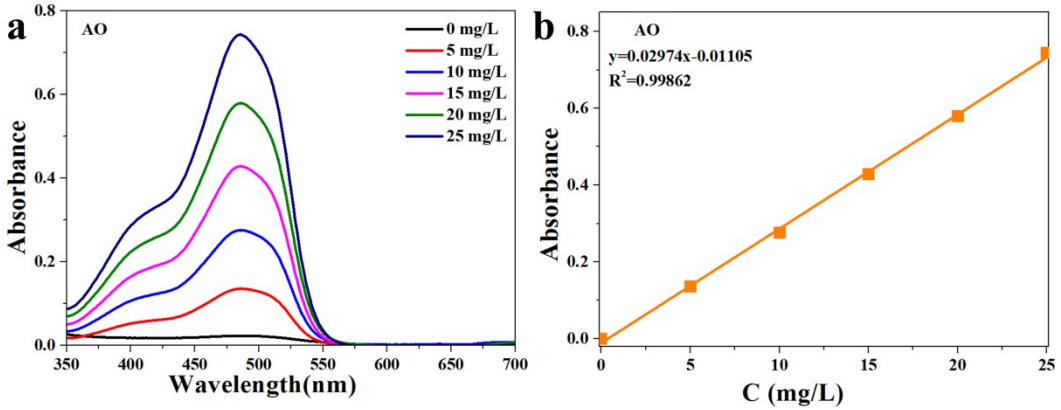

Fig. S7 (a) UV–vis spectra and (b) the corresponding standard concentration line of AO solutions.

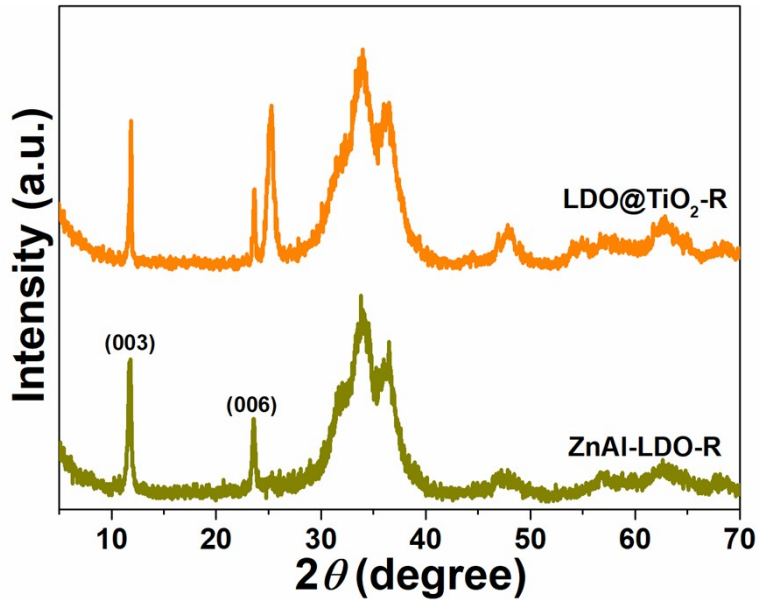

Fig. S8 XRD patterns of ZnAl-LDO-R and LDO@TiO_2-R samples.

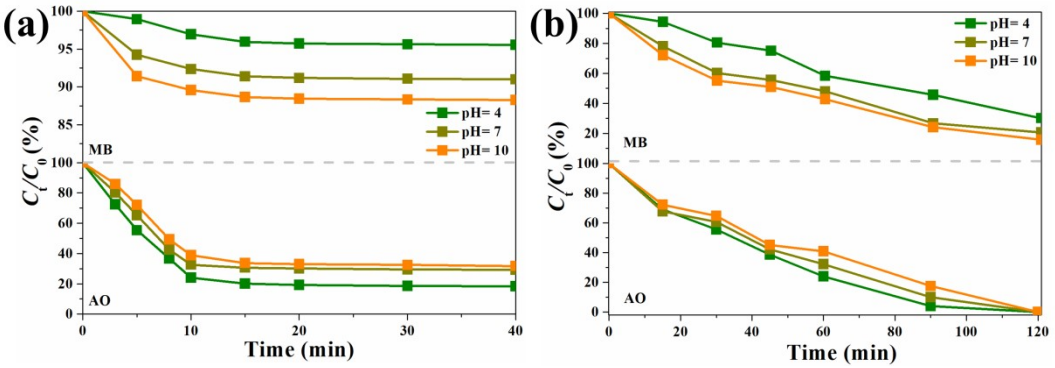

Fig. S9 (a) Absorption percentage and (b) photodegradation efficiency of MB and AO for LDO@TiO_2 at various pH values.

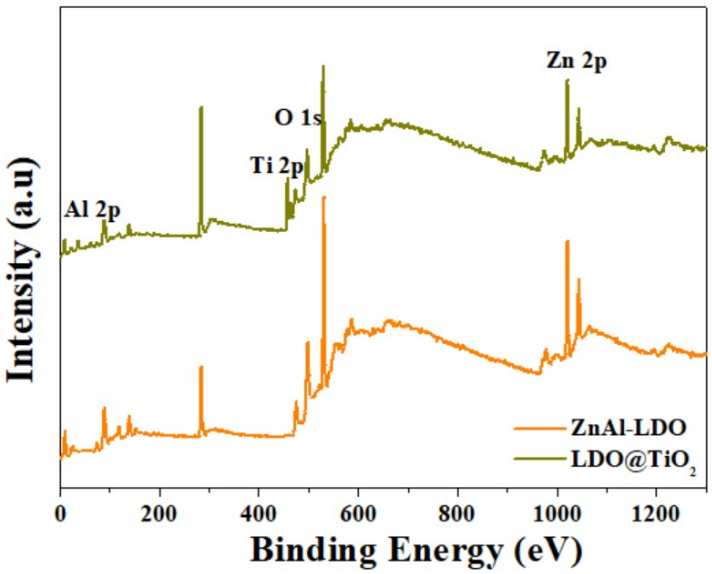

Fig. S10 The full–scale XPS pattern of ZnAl-LDO and LDO@TiO_2.

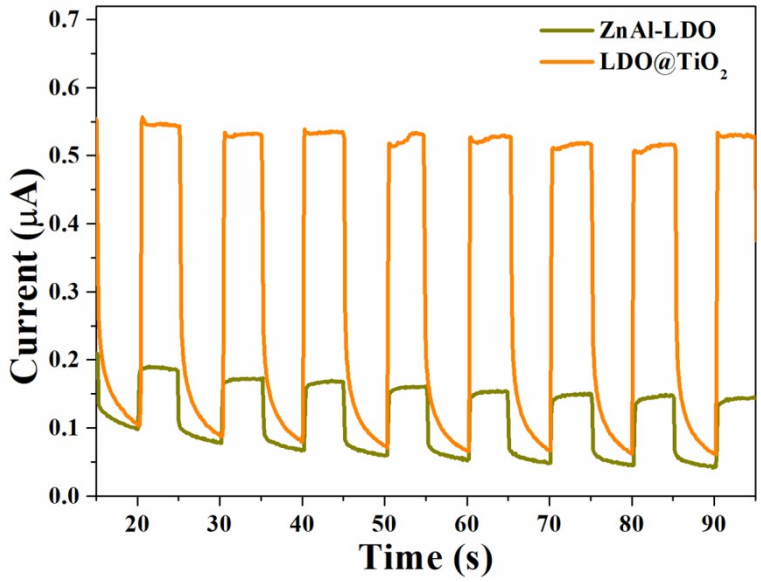

Fig. S11 The photocurrents of ZnAl-LDO and LDO@TiO_2 samples under chopped illumination.

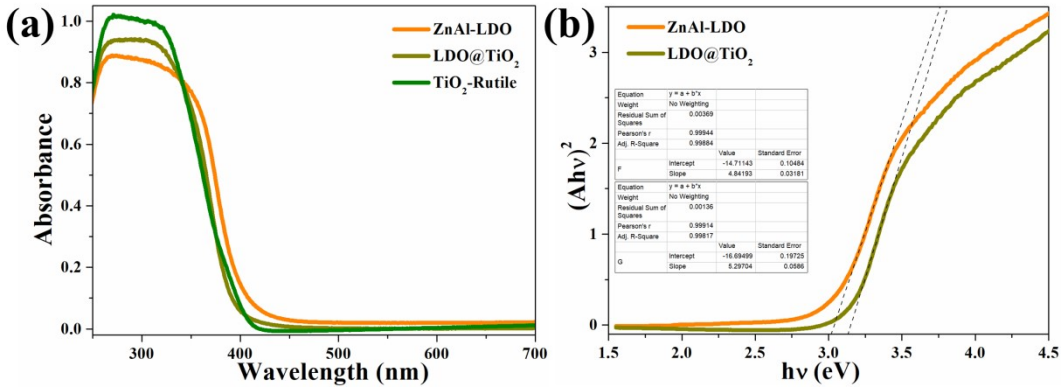

Fig. S12 (a) UV–vis diffuse-reflectance spectra and (b) band gap energy of ZnAl-LDO and LDO@TiO_2.

Tab. S1 The photodegradation performance in reported works

Photocatalysts	Light	Dosage	MB	AO	Degradation	Ref
g-C_3N_4/TiO_2	UV lamp	25mg	10mg/L (100mL)	—	79.9% (180min)	[1]
g-C_3N_4/ZnO	250W UV lamp λmax= 365 nm	25mg	10mg/L (50mL)	—	100% (60min)	[2]
g-C_3N_4/TiO_2	30W visible light lamp	200mg	—	10mg/L (500mL)	100% (300min)	[3]
TiO_2 sphere-S	Xenon lamp 100mWcm^{-2}	20mg	—	30mg/L (50mL)	100% (40min)	[4]
CFs/TiO_2/ Bi_2WO_6	300W Xenon lamp	150mg	—	10mg/L (50mL)	100% (60min)	[5]
P25	150W halogen lamp	20mg	10mg/L (100mL)	—	60.2% (120min)	[6]
P25	UV lamp	150mg	10mg/L (300mL)	—	81.4% (100min)	[7]
P25	eight tubular light sources (3.2 mW cm^{-2} 360 to 380 nm)	25mg	—	5mg/L (100mL)	100% (30min)	[8]
P25	two fluorescent lamps Sylvania 11W	200mg	—	35mg/L (100mL)	25% (120min)	[9]
LDO@TiO_2	Xenon lamp	50mg	10mg/L (100mL)	—	87.1% (120min) 100%	This work
		50mg	—	25mg/L (100mL)	100% (120min)	

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