

Supplementary Information

Development of MOF based recyclable photocatalyst for the removal of different organic dye pollutants

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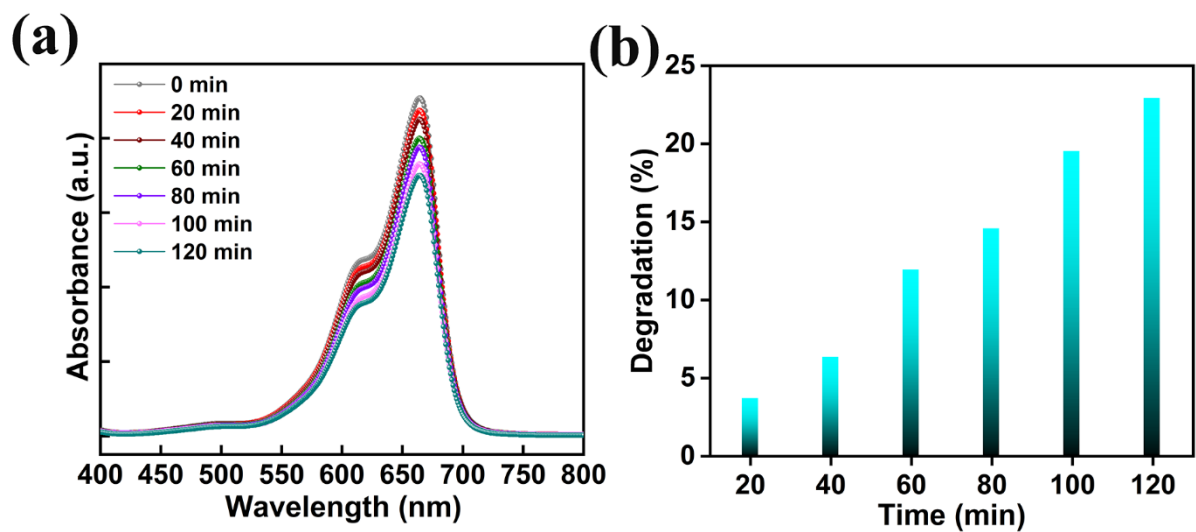


Figure S1. (a) The absorption spectra, and (b) dye removal efficiency histogram of MB dye amassed at regular intervals for 120 min photocatalytic illumination in the absence of photocatalyst.

Table S1. Comparison of photocatalytic activities of AMOF nanosheets with some reported literatures available on photocatalysts in the decomposition of various organic dye pollutants [Methyl Orange (MO), Crystal Violet (CV), and Methylene Blue (MB)]

Sample	Dye	Light source	Photodegradation		Ref.
			Time (min.)	Amount (%)	
Zn-MOF	RhB	UV light	60	55.1	[1]
MIL-88A(Fe)	RhB	Visible light	80	45	[2]
MIL-88A(Fe)/GO	RhB	Visible light	80	94	[2]
Silver vanadate/BiFe-MOF	RhB	Visible light	120	99.4	[3]
Cu doped MOF-235	MB	Visible light	8 h	90	[4]
ZnO@MIL-101(Fe)	RhB	Visible light	300	97.1	[5]
Mn-MOF	MB	UV light	70	90.8	[6]
MIL53Fe@MIL53Sr	RhB	UV light	60	75	[7]
Ni-MOF	CV	Xe lamp	30	93	[8]
Cu-MOF	RhB	Visible light	60	99	[9]
Fe/Ce-MOF	MO	Visible light	30	93	[10]
Bi-MOF	RhB	Visible light	180	99.1	[11]
Co-MOF	MB	Visible light	80	95	[12]
Ni/Co-MOF	MB	Xe lamp	120	80.6	[13]
(TiO ₂ @Cd-MOF)@ZnPp	MO	Visible light	60	94.1	[14]
CdSe@Fe-BDC	RhB	Visible light	240	99.8	[15]
N-TiO@MIL-100(Fe)	RhB	Visible light	180	93.5	[16]
AMOF nanosheets	MO	Xe lamp	120	74.5	This work
	CV			85.5	
	MB			90.7	

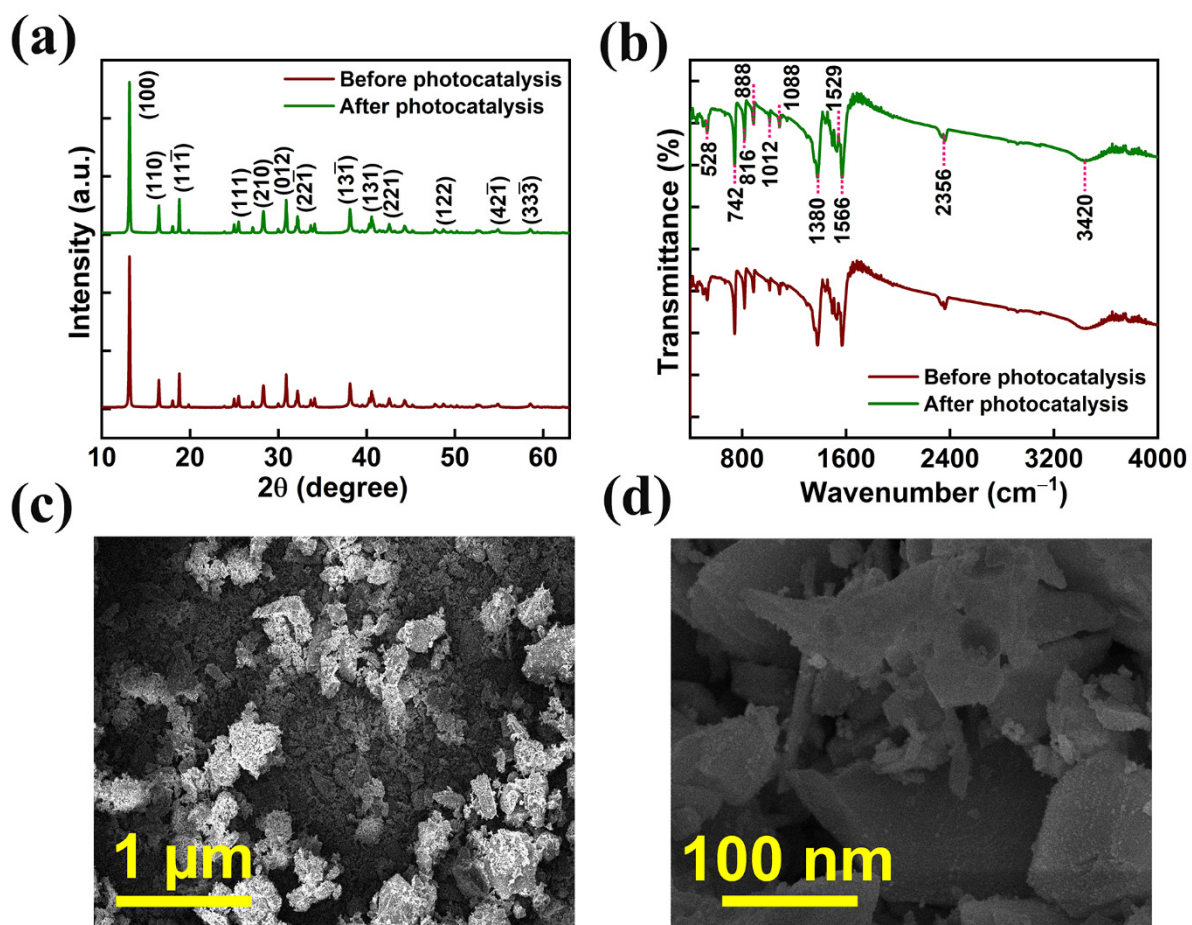


Figure S2. (a) XRD spectra, and (b) FTIR spectra attained from the AMOF nanosheets before and after four repeated photocatalytic decomposition cycles of MB dye. (c, and d) FESEM images obtained from the AMOF nanosheets after four repeated photocatalytic decomposition cycles of MB dye.

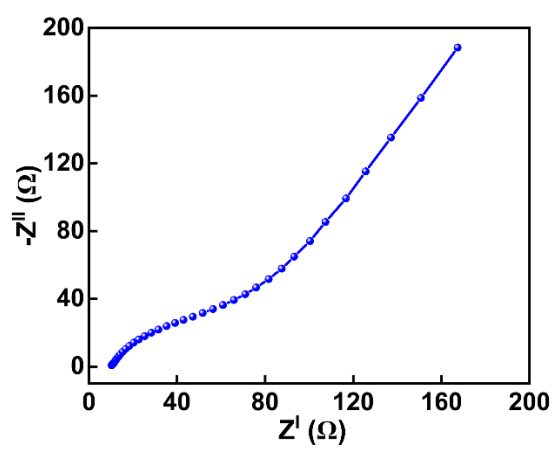


Figure S3. Electrochemical impedance spectroscopy plot of AMOF nanosheets.

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