Supplementary Materials

Dy(III) Doped BiOCl Powder with superior highly Visible-Light-Driven Photocatalytic Activity for Rhodamine B Photodegradation

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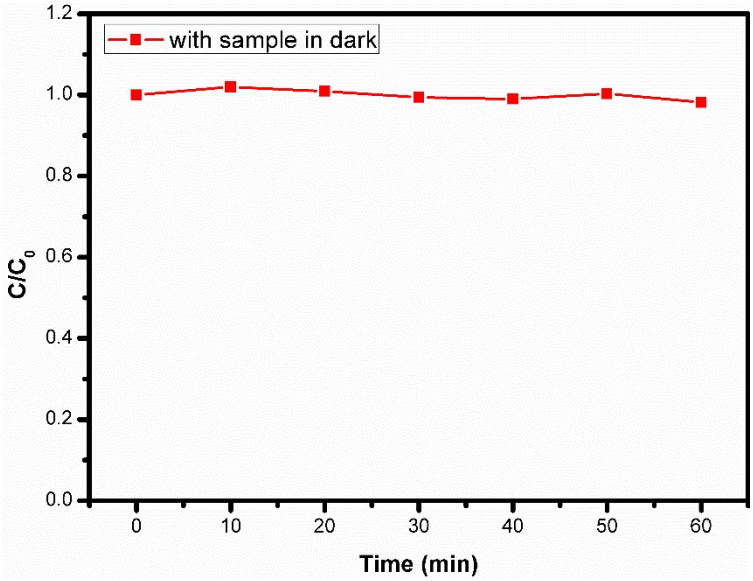

Figure S1. The degradation ratio of RhB with BiDy2.0OCl in dark.

As shown in Figure S1, after reaching to the adsorption – desorption equilibrium via stirring for 1h in the dark, the solution was kept stirring for 1 h, and the absorbance was measured every 10 mins. The results showed that the absorbance of RhB did not change

significantly with the increase of time after reaching adsorption–desorption equilibrium, indicating that RhB would not degrade in the presence of a photocatalyst without light irradiation.

Table S1. Comparison of photodegradation ratio using different photocatalysts under visible light irradiation (reported in the last two years).

Photocatalysts	Photodegradation Ratio	Photodegradation Reaction Time (min)	Refs.
Dy-doped BiOCl	97.30%	30	This work
Ag_3PO_4 nanoparticles	80.50%	45	[1]
g-C_3N_4 with sacrificial KIT-6 template	100%	50	[2]
P-doped g-C_3N_4	100%	50	[3]
Copper fiber@ZnO/CdS	90%	60	[4]
Square-sharped BiOCl nanosheets	98%	60	[5]
2D MoS_2/Red phosphorus heterojunction	97.50%	80	[6]
Zero Valent $Bi^{(0)}$ incorporated bismuth terephthalate	97%	80	[7]
CdS/Ag/a-TiO_2	82%	80	[8]
MIL-88A(Fe)/grapheme oxide composite	100%	100	[9]
Zero Valent $Fe^{(0)}$ doped g-C_3N_4/MoS_2	98.20%	150	[10]
Hexagonal/monoclinic-WO_3	91%	180	[11]
Fluorinated Bi_2WO_6	98%	210	[12]
TiO_2 with interface defects	75%	300	[13]

It is worth mentioning that the photocatalytic activity of 2% Dy-doped BiOCl for Rhodamine B (RhB) photodegradation was outstanding. To the best of our knowledge, the photodegradation ratio of

RhB could reach 97.3% after only 30 min of photocatalytic reaction under visible light irradiation. The photocatalytic efficiency was superior to that in existing literature reports.

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