Supplementary Materials: Novel $Bi_3O_5I_2$ Hollow Microsphere and Its Enhanced Photocatalytic Activity

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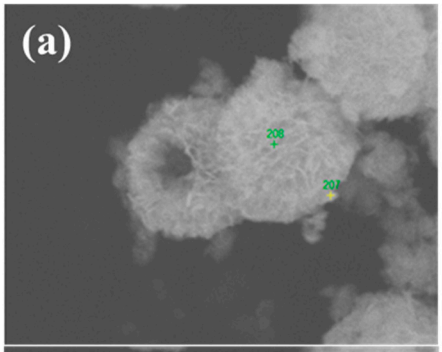

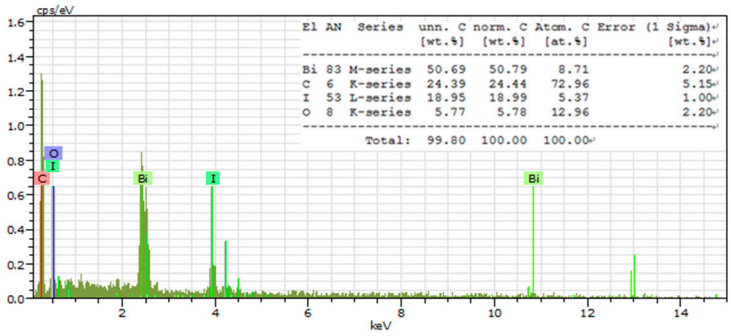

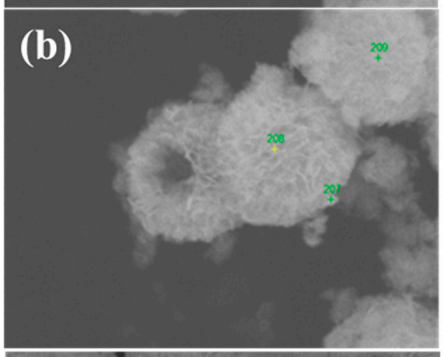

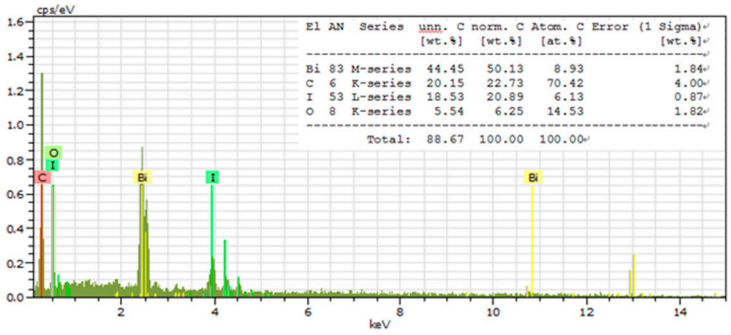

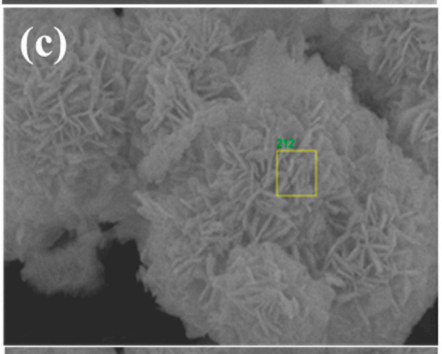

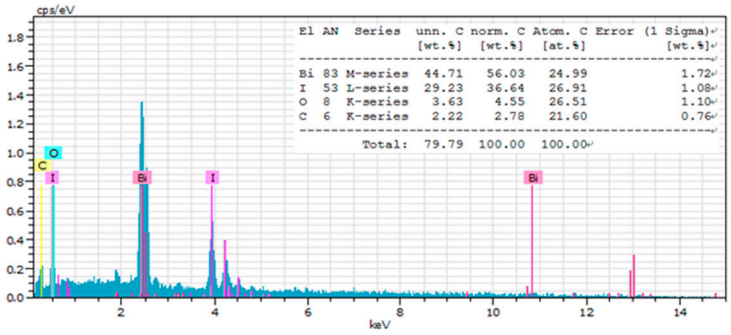

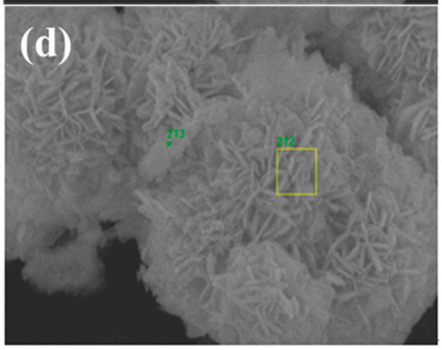

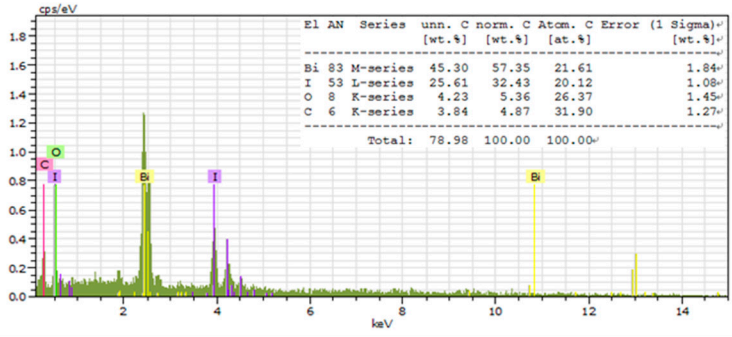

Figure S1. SEM images and EDS analysis of as prepared samples in different locations: (a), (b) I-poor bismuth oxyiodide, (c), (d)BiOI.

Table S1 The elemental composition of I-poor bismuth oxyiodide

N/BiOI	Elements(at%)				
	Bi	O	I	C	Bi:O:I
Location 208	8.71	12.96	5.37	72.96	1.62 : 2.41 :1
Location 209	8.93	14.53	6.25	70.42	1.43 : 2.32 :1

Table S2 The elemental composition of BiOI

BiOI	Elements(at%)				
	Bi	O	I	C	Bi:O:I
Location 212	24.99	26.51	26.91	21.6	1:1.06:1.07
Location 213	21.61	26.37	20.12	31.9	1:1.22:0.93

Table S3 Photocatalytic activity of different researches

Reference	Catalyst mass	Result of degradation	RTC 10^{-7}mol·mg^{-1}·min^{-1}
[1]	100mg	95%MO (20mg/L, 100mL) 60min 300 W Xe	9.67
[2]	500mg	97%MO (10mg/L, 500mL) 60min 300 W	4.94
[3]	50mg	95%MO (10mg/L,100mL) 30min 300 W	19.34
[4]	100mg	81.9%MO (10mg/L, 50mL) 300min 500 W Xe	0.42
[5]	100mg	63.1%MO (10mg/L, 50mL) 300min 500 W	0.32
[6]	100mg	78%MO (10mg/L, 100mL) 240min 500 W	0.99
[7]	100mg	86%MO (10mg/L, 100mL) 240min 400 W	1.09
[8]	100mg	95%MO (10mg/L, 50mL) 360minλ 500 W	0.40
[9]	50mg	88%MO (10mg/L, 50mL) 240min 500 W	1.12
[10]	100mg	87%MO (10mg/L, 50mL) 180min 500 W	0.74
This work	25mg	82% MO (20mg/L,100mL) 180min 300 W	11.13

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(X=Cl, Br and I) hierarchical architectures: facile ionic liquid-assisted solvothermal synthesis and photocatalysis towards organic dye degradation, Materials Letters, 100 (2013) 285-288.
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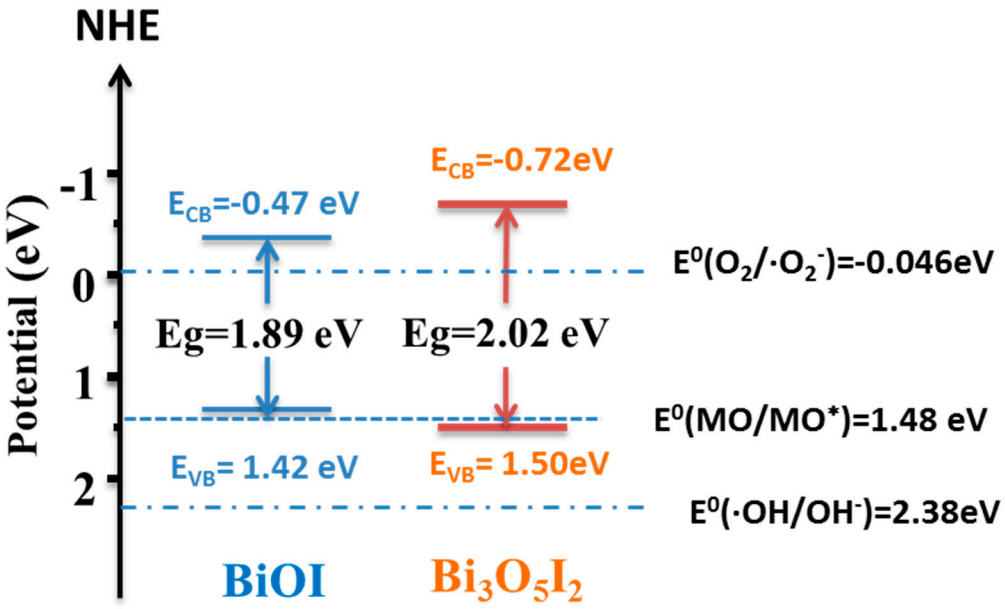

Figure S2. The energy band structure of $Bi_3O_5I_2$ and BiOI.