

# Supporting information

## In situ synthesis of novel type II BiOCl/CAU-17 2D/2D heterostructures with enhanced photocatalytic activity

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Table S1 Crystallite size of BiOCl and 70% BiOCl/CAU-17 composite calculated by Debye-Scherrer equation

(hkl) planes	BiOCl				70% BiOCl/CAU-17			
	2θ (degree)	FWHM (degree)	d (nm)	Aver. d (nm)	2θ (degree)	FWHM (degree)	d (nm)	Aver. d (nm)
(001)	12.04	0.327	24.16		12.11	1.019	7.75	
(101)	25.93	0.211	38.21		25.97	0.821	9.82	
(110)	32.54	0.158	51.80	39.88	32.62	0.399	20.51	13.10
(200)	46.72	0.180	47.54		46.81	0.492	17.40	
(212)	58.66	0.239	37.70		58.83	0.902	10.00	

The Debye-Scherrer formula is as follows:

$$D = K\lambda/(\beta\cos\theta)$$

In the above equation,  $D$  (nm) refers to the crystallite size of the particle,  $K$  means the Scherrer constant (0.89),  $\lambda$  represents the wavelength of the X-ray sources (0.15406 nm),  $\beta$  stands for the full-width-at-half-maximum (FWHM) of the plane,  $\theta$  represents the diffraction angle.

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