Supporting Information

Ultrathin Two-dimensional-BiOCl with Oxygen Vacancies Anchored in Three-dimensional-Porous g-C_3N_4 to Construct a Hierarchical Z-Scheme Heterojunction for Photocatalytic Degradation of NO

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S1. XRD spectra and FTIR spectra

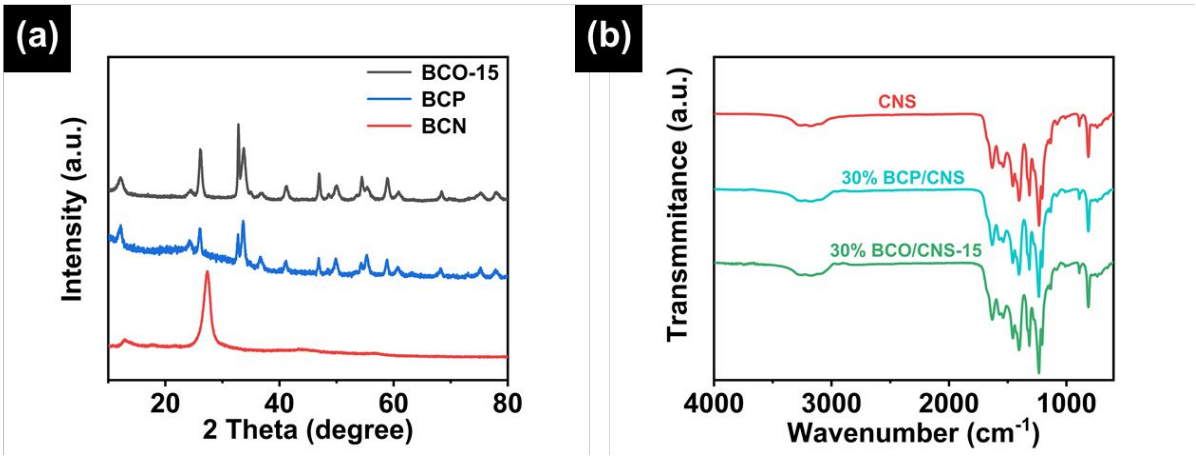

Figure S1. (a) XRD spectra of BCO-15, BCP and BCN, (b) FTIR spectra of CNS, 30% BCP/CNS and 30% BCO/CNS-15.

S2. EIS spectra

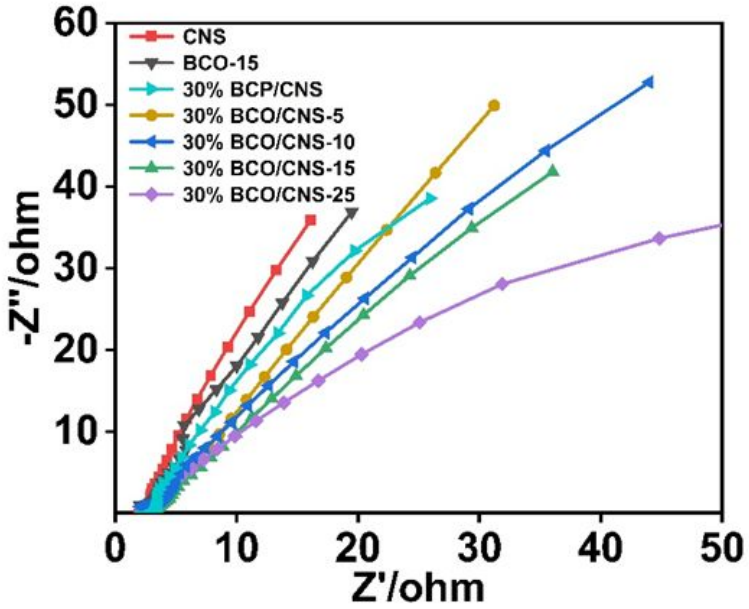

Figure S2. EIS spectra of the synthesized photocatalysts.

S3. Table S1. Data comparison of photocatalytic NO removal over different catalysts.

Catalyst	Catalyst (mg)	NO (ppb)	Light type (Xe lamp)	Time (min)	η (%)	Ref
Ag NCs/TiO_2	50	600	300 W	30	62.0	[1]
Ag-TiO_{2-x}	50	450	300 W	20	44.3	[2]
$Bi_2O_2CO_3$-g-C_3N_4	100	400	300 W	30	34.8	[3]
20-Bi/BiOI	50	500	500 W	30	32	[4]
Bi-g-C_3N_4	200	500	150 W	30	60.8	[5]
O-ACN-Ba	200	500	150 W	30	50.4	[6]
BOC/BOB	108	430	300 W	30	53.2	[7]
$LaFeO_3$-$SrTiO_3$	100	600	300 W	30	45	[8]
Cu^{2+}/g-C_3N_4	50	600	300 W	30	51	[9]
CN-KCl-3%	200	600	300 W	30	53.1	[10]
BiOCl/PPy	200	600	300 W	30	34.1	[11]
BiOBr-3C	100	600	300 W	30	28.0	[12]
CQDs/$ZnFe_2O_4$	200	600	150 w	30	38.7	[13]
Bi/BiOI	50	500	500 W	60	46.5	[14]

30% BCO/CNS-15	**100**	**600**	**300 W**	**30**	**66.5**	**This work**

S4. XRD spectra of 30% BCO/CNS-15 before and after cycling

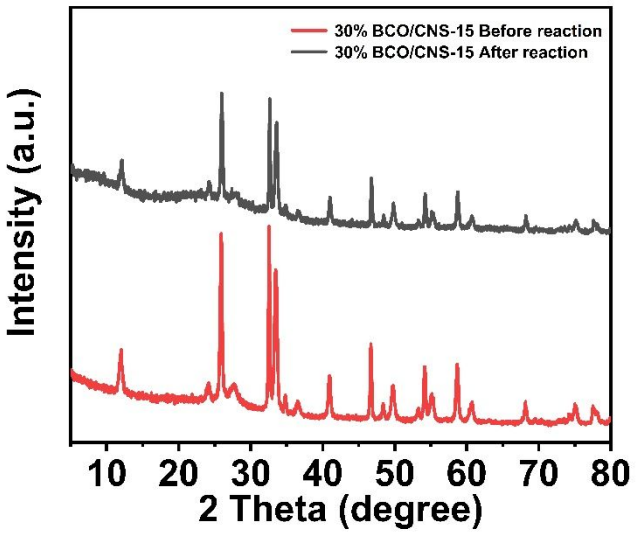

Figure S4. XRD spectra of 30% BCO/CNS-15 before and after cycling.

S5. XPS spectra and TEM image of 30% BCO/CNS-15 after photoreaction

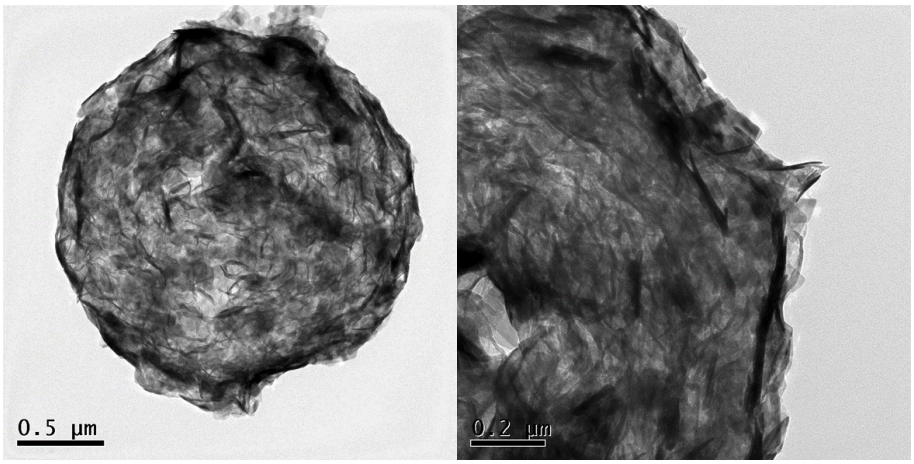

Figure S5. TEM images of 30% BCO/CNS-15 after photoreaction.

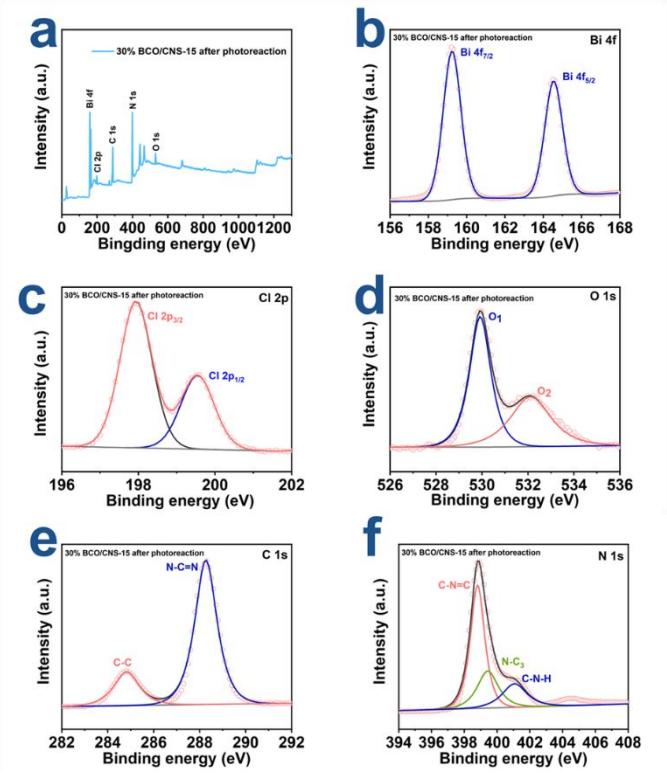

Figure S6. XPS (a) survey scan and high-resolution spectra of (b) Bi 4f, (c) Cl 2p, (d) O 1s, (e) C 1s, and (f) N 1s of 30% BCO/CNS-15 after photoreaction.

S6. The amount of by-product NO_2 produced during irradiation

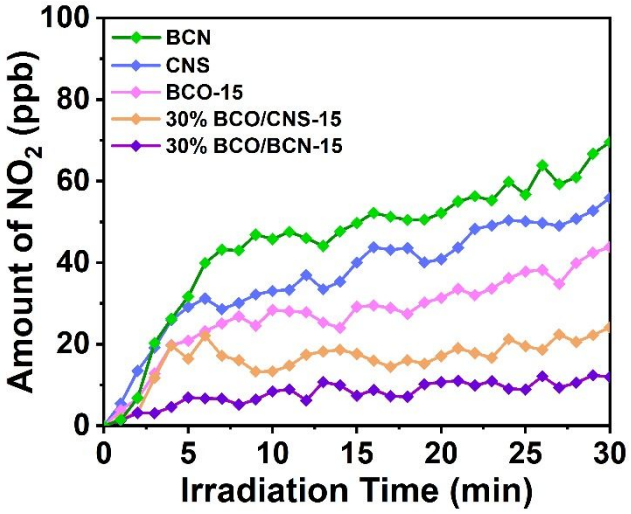

Figure S7. The amount of by-product NO_2 produced during irradiation.

S7. The specific peak content ratio of the fitted data of Bi 4f in XPS

Table S2. Data comparison of specific peak content ratio of the fitted data of Bi 4f in XPS over BCO-15 and 30% BCO/CNS-15 catalysts.

Catalysts	$Bi^{(3-x)+}$	Bi^{3+}
BCO-15	**46.78%**	**53.22%**
30% BCO/CNS-15	**58.97%**	**41.03%**

S8. References:

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