Electronic Supplementary Material (ESI) for RSC Advances.

Construction of Exfoliated *g*-C_3N_4 Nanosheets-BiOCl Hybrids with Enhanced Photocatalytic Performance

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Synthetic procedure of exfoliated g-C_3N_4 (CNs)

CNs was prepared through the thermal oxidation etching of bulk *g*-C_3N_4 in static air, similar to the previous literature.[1] In a typical procedure, melamine (5.0 g) was placed in a covered ceramic crucible and heated at 500 ºC for 2 h in a muffle furnace. Further deammonation was performed at 550 ºC for another 2 h to provide a yellow power, bulk *g*-C_3N_4 (CNb). The resultant CNb (400 mg) was weighed and evenly coated in a ceramic cover and was heated at 500 ºC for 2 h with a heating rate of 5 ºC min^{-1}. A light yellow powder of CNs was finally obtained.

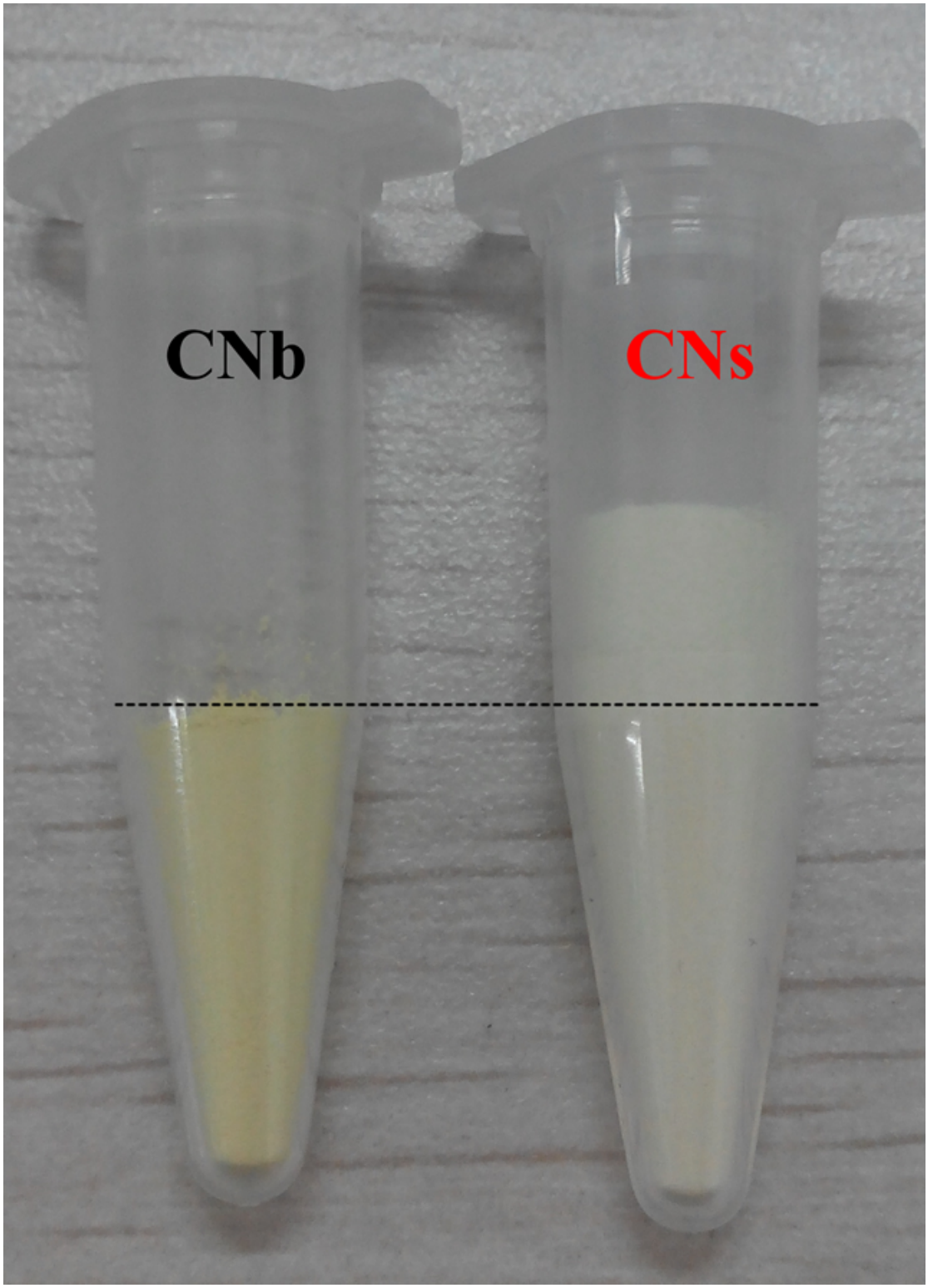

Figure S1 A volume comparison of 50 mg powder of CNb (left) in yellow and CNs (right) in light yellow

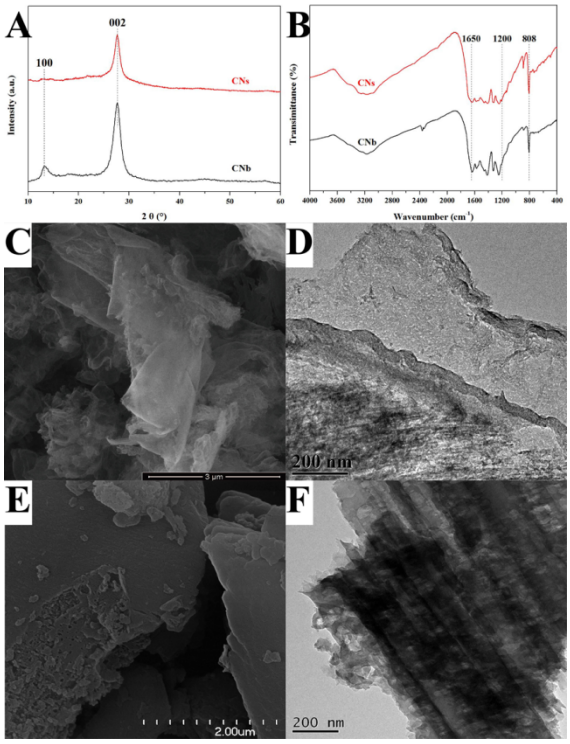

Figure S2 Comparison of CNs and CNb in (A) XRD and (B) FT-IR; SEM image (C) and TEM image (D) of exfoliated CNs, SEM image (E) and TEM image (F) of exfoliated CNs

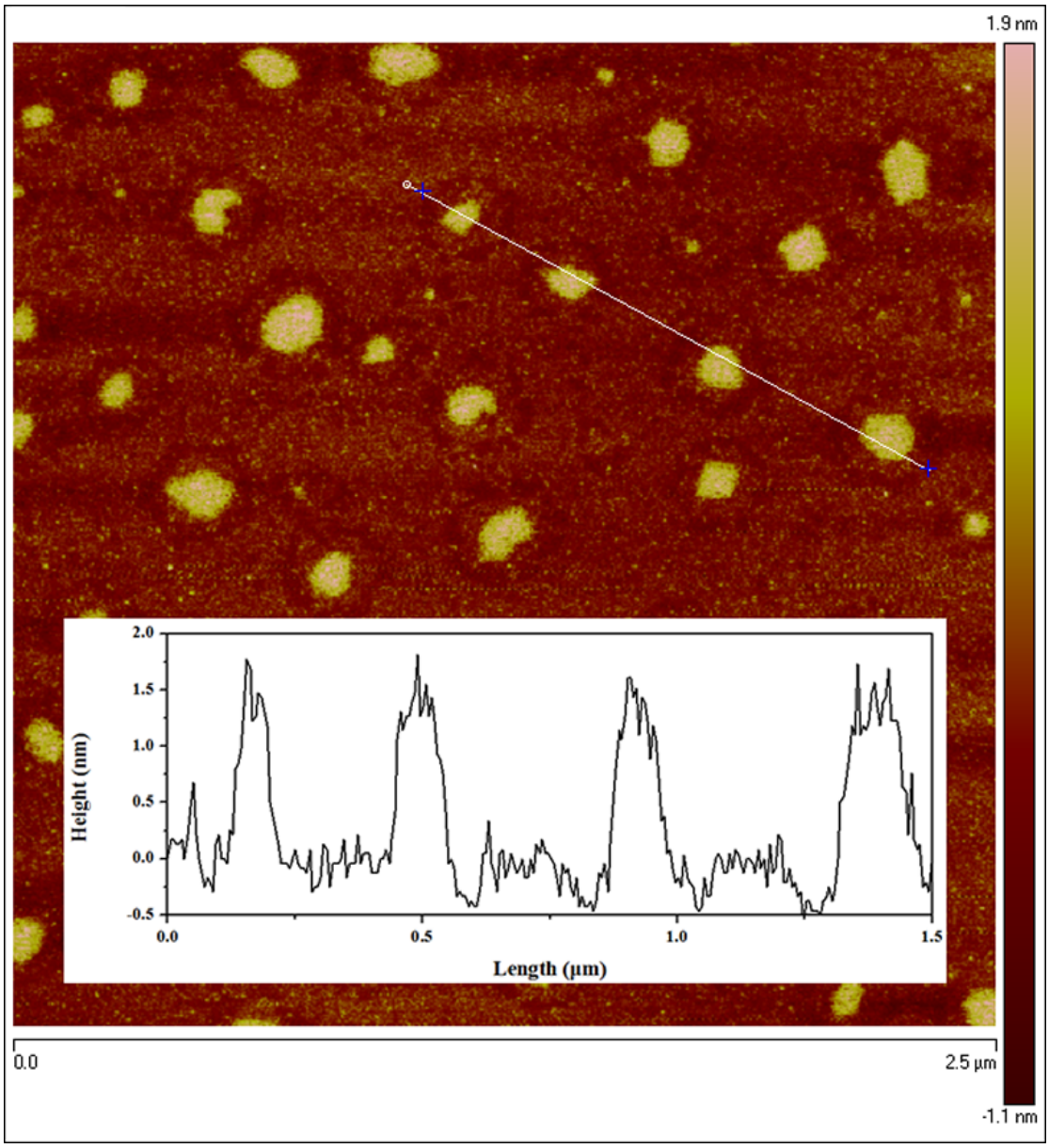

Figure S3 AFM image of CNs (the inset is the height curve determined along the line)

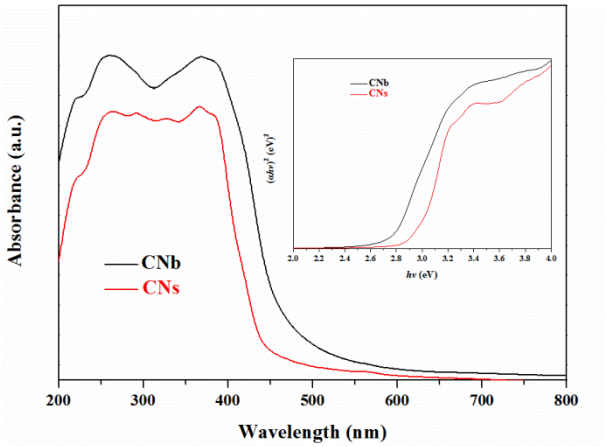

Figure S4 UV-vis diffuse reflectance spectra of CNs and CNb

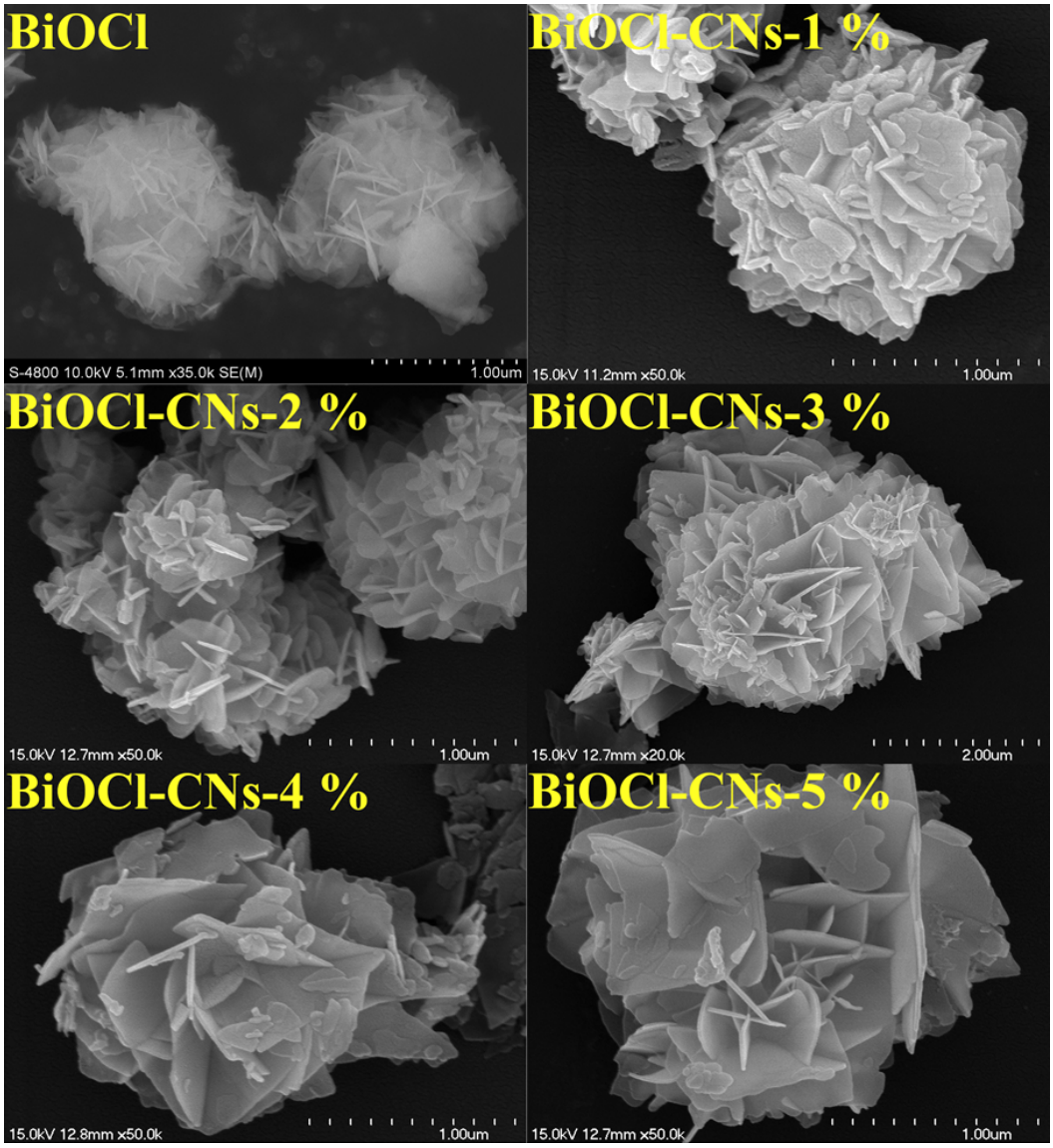

Figure S5 Detail views of SEM images of BiOCl-CNs-x % hybrids and bare BiOCl

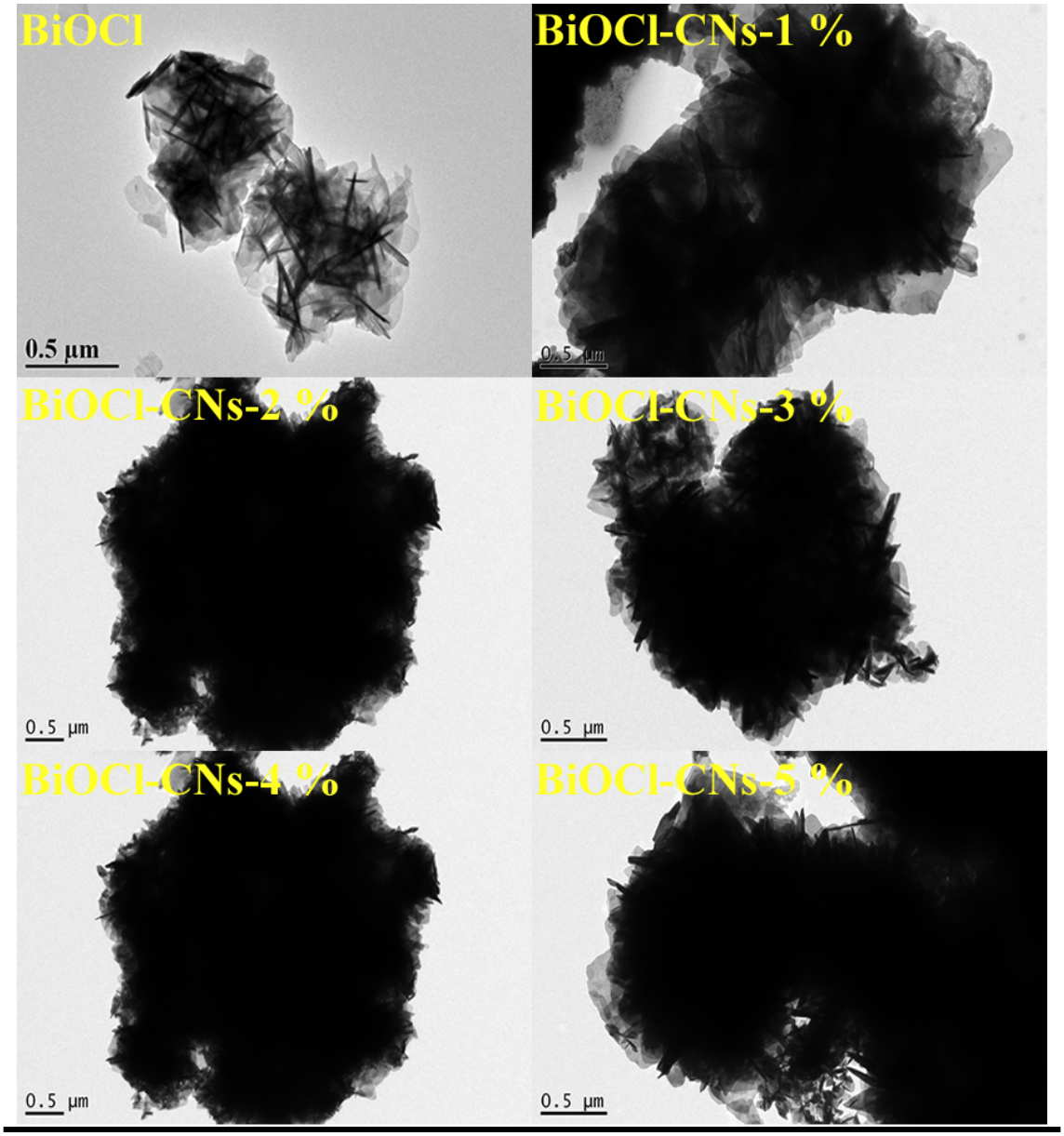

Figure S6 Detail views of TEM images of BiOCl-CNs-x % hybrids and bare BiOCl

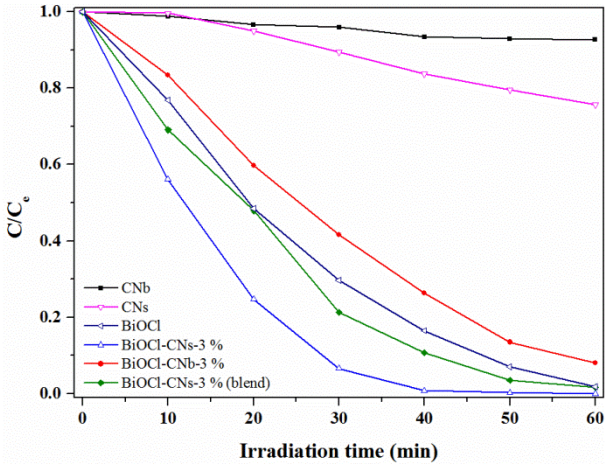

Figure S7 Photocatalytic activity for the degradation of RhB under visible light irradiation over various photocatalysts

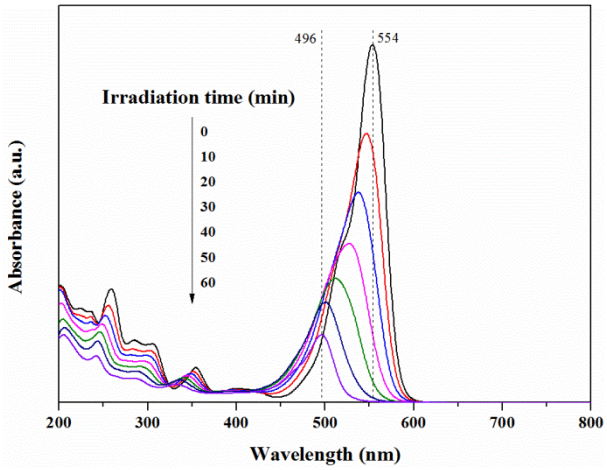

Figure S8 The temporal evolution of the absorbance spectra and photographic image of RhB at given time intervals

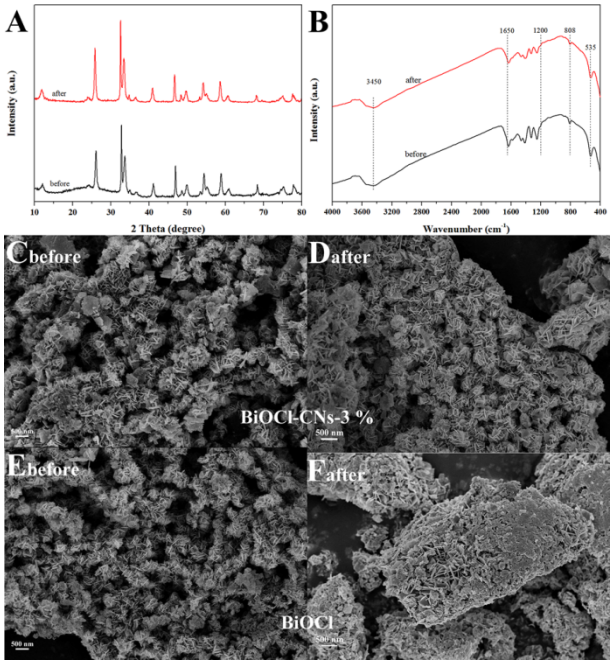

Figure S9 XRD patterns (A) and FT-IR spectra (B) of BiOCl-CNs-3 % hybrid before and after reaction; SEM images of BiOCl-CNs-3 % hybrid before (C) and after (D) reaction; bare BiOCl before (E) and after (F) reaction

References

1 P. Niu, L. Zhang, G. Liu and H.-M. Cheng, *Advanced Functional Materials*, 2012, **22**, 4763-4770.