

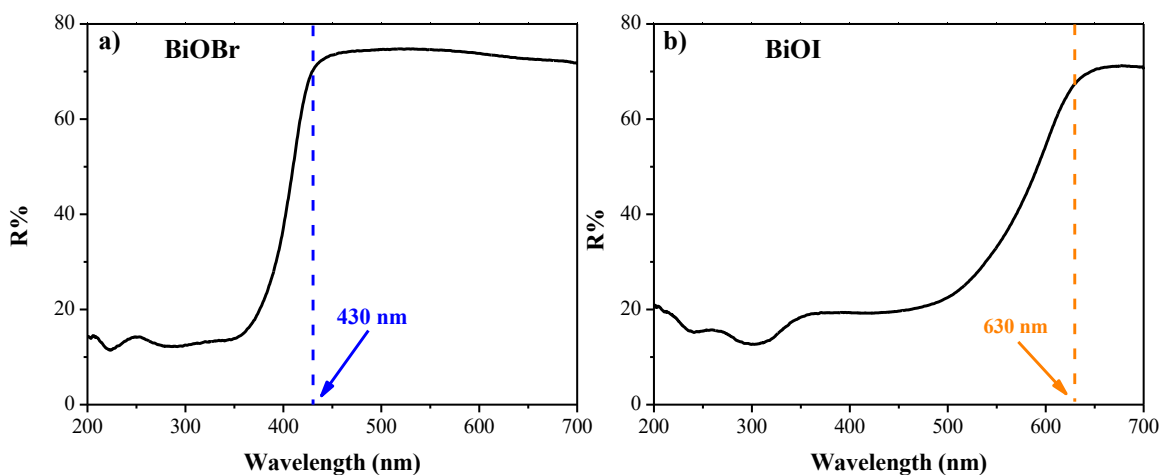
## Supplementary information

# Synergistic photocatalytic effect of BiOBr-BiOI heterojunctions due to proper layer stacking

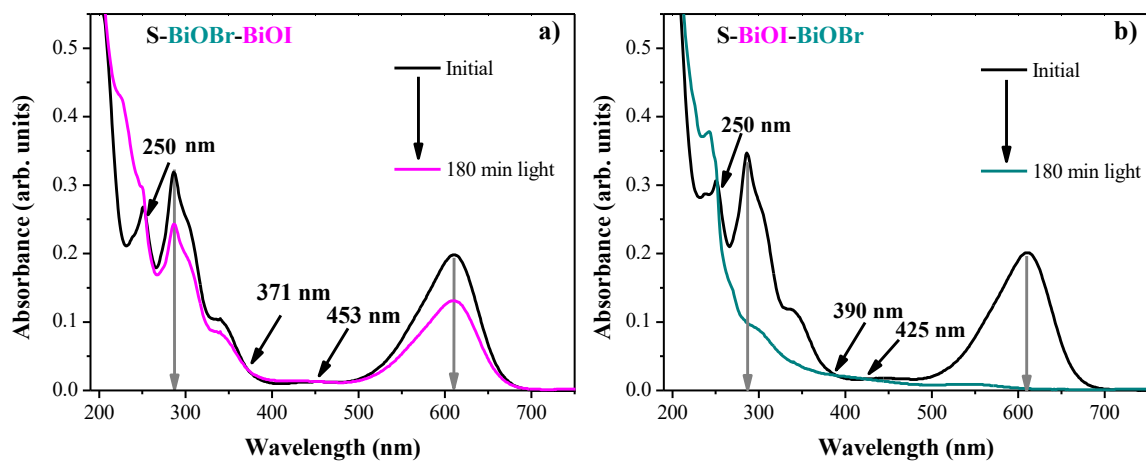
*J. Alejandro Arana-Trenado<sup>a</sup>, David Ramírez-Ortega<sup>b</sup>, Amauri Serrano-Lázaro<sup>a</sup>, Agileo Hernández-Grodillo<sup>a</sup>, Sandra E. Rodil<sup>a</sup>, Monserrat Bizarro<sup>a\*</sup>*

<sup>a</sup> Instituto de Investigaciones en Materiales, Universidad Nacional Autónoma de México. Circuito Exterior S/N, Ciudad Universitaria, Coyoacán, Ciudad de México, 04530, México.

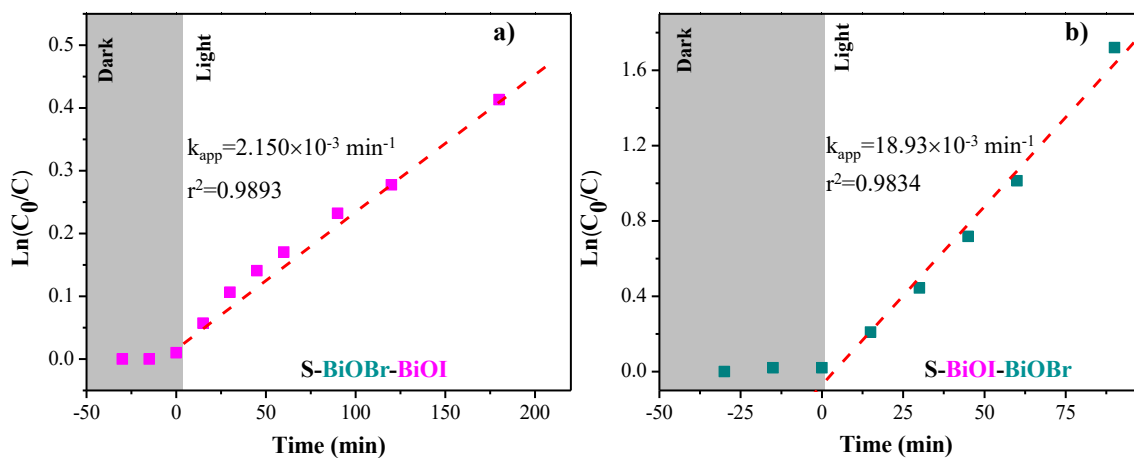
<sup>b</sup> Instituto de Ciencias Aplicadas y Tecnología, Universidad Nacional Autónoma de México. Circuito Exterior S/N, Ciudad Universitaria, Coyoacán, Ciudad de México, 04530, México.



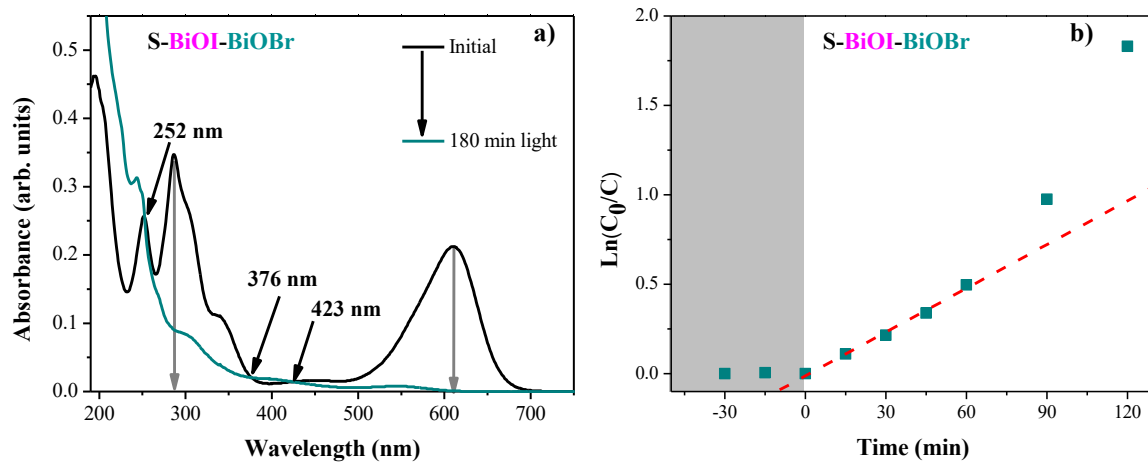
**Figure S1.** Diffuse reflectance spectrum of a) BiOBr film and b) BiOI film. The dotted lines indicate the absorption edge.



**Figure S2.** Absorbance spectra of indigo carmine dye during the photocatalytic reaction using a) S-BiOBr-BiOI and b) S-BiOI-BiOBr heterojunctions.



**Figure S3.** Pseudo-first order kinetics of reaction of a) S-BiOBr-BiOI and b) S-BiOI-BiOBr heterojunctions.



**Figure S4.** Photocatalytic test in anaerobic conditions ( $N_2$  atmosphere) with the S-BiOI-BiOBr heterojunction: a) Absorbance spectra of IC during the reaction, and b) zero-order kinetics adjustment.