Supporting Information

Adsorption and UV/Visible photocatalytic performance of BiOI for methyl orange, Rhodamine B and methylene blue: Ag and Ti-loading effects

Yohan Park,¹ Yulyi Na,¹ Debabrata Pradhan,² Bong-Ki Min,³ and Youngku Sohn¹,*

¹Department of Chemistry, Yeungnam University, Gyeongsan 712-749, Republic of Korea
²Materials Science Centre, Indian Institute of Technology, Kharagpur 721 302, W.B., India
³Instrumental Analysis Center, Yeungnam University, Gyongsan 712-749, Republic of Korea

* Corresponding author e-mail: youngkusohn@ynu.ac.kr
Figure S1: Energy-dispersive X-ray spectroscopy (EDX) of Ti-loaded (50 mol%) BiOI prepared in EG.

Figure S2: FT-IR spectra of undoped and Ag-(left) and Ti-loaded (right) BiOI prepared in water and EG.

Figure S3. Nitrogen adsorption and desorption profiles of BiOI with increasing Ag (left) and Ti (right) loadings.
Figure S4. UV-visible absorption spectra and the corresponding intensities upon adsorption of MO, RhB and MB (10 mg/L, 50 mL) for 2 hour by 10 mg BiOI, Ag-doped BiOI and Ti-doped BiOI in dark condition. The absorption wavelengths (Fig. S5, Supporting Info.) of the dyes were omitted for clarity.

Figure S5. UV-visible absorption spectra of three different dye solutions.
**Figure S6.** Photodegradation of MB solution (10 mg/L, 50 mL) upon adsorption under UV (left column) and visible (right column) light irradiation.

For MB, the fluctuation of the absorption intensity is likely due to adsorption/desorption during photoirradiation.

**Figure S7.** Photoluminescence spectra of terephthalic acid solutions with the three (BiOI, 5% Ag-BiOI and 10% Ti BiOI) selected catalysts after visible light irradiation for 6 hrs.