Supplementary Information

Controllable Synthesis of Bi₄O₃Br₂ Ultrathin Nanosheets for Photocatalytic Removal of Ciprofloxacin and Mechanism Insight

Jun Di, Jiexiang Xia*, Mengxia Ji, Sheng Yin, Hongping Li, Hui Xu, Qi Zhang, Huaming Li*
School of Chemistry and Chemical Engineering, Institute of Energy, Jiangsu University, 301 Xuefu Road, Zhenjiang, 212013, P. R. China

*Corresponding author: Tel.:+86-511-88791108; Fax: +86-511-88791108;
E-mail address: xjx@ujs.edu.cn; lhm@ujs.edu.cn
Figure S1. EDS analysis of the as-prepared BiOBr materials.

Figure S2. Time profiles of adsorption of CIP over Bi$_4$O$_3$Br$_2$ and BiOBr materials.
**Figure S3** The decrease of TOC during photocatalytic degradation of CIP on Bi$_4$O$_5$Br$_2$ ultrathin nanosheets under visible light irradiation.

**Figure S4** Cycling runs for the photodegradation of CIP in the presence of Bi$_4$O$_5$Br$_2$ ultrathin nanosheets under visible light irradiation.
**Figure S5** Photocatalytic degradation of TC in the presence of Bi$_4$O$_5$Br$_2$ ultrathin nanosheets and BiOBr materials under visible light irradiation.

**Table S1** Pseudo-first-order rate constant for CIP photocatalytic oxidation under different photocatalysts

<table>
<thead>
<tr>
<th>Series</th>
<th>Photocatalyst</th>
<th>The first order kinetic equation</th>
<th>$k$ (min$^{-1}$)</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BiOBr</td>
<td>-ln(C/C$_0$) = 0.0059t</td>
<td>0.0059</td>
<td>0.9998</td>
</tr>
<tr>
<td>2</td>
<td>Bi$_4$O$_5$Br$_2$</td>
<td>-ln(C/C$_0$) = 0.0113t</td>
<td>0.0113</td>
<td>0.9993</td>
</tr>
</tbody>
</table>