

Band Gap Engineering in Quadruple-Layered Sillén–Aurivillius Perovskite Oxychlorides $\text{Bi}_7\text{Fe}_2\text{Ti}_2\text{O}_{17}\text{X}$ ($\text{X} = \text{Cl}, \text{Br}, \text{I}$) for Enhanced Photocatalytic Performance

Jikun Chen ^{1,†}, Yan Gu ^{1,†}, Shishi Xu ¹, Yunxiang Zhang ^{1,*}, Zhe Zhang ¹, Lin Shi ¹, Zhichao Mu ¹, Chenliang Zhou ¹, Jiali Zhang ¹ and Qinfang Zhang ^{1,2,*}

¹ School of Materials Science and Engineering, Yancheng Institute of Technology, Yancheng 224001, China

² Jiangsu Provincial Key Laboratory of Eco-Environmental Materials, Yancheng Institute of Technology, Yancheng 224051, China

* Correspondence: chzyx123@163.com (Y.Z.); qfangzhang@gmail.com (Q.Z.)

Figure Captions

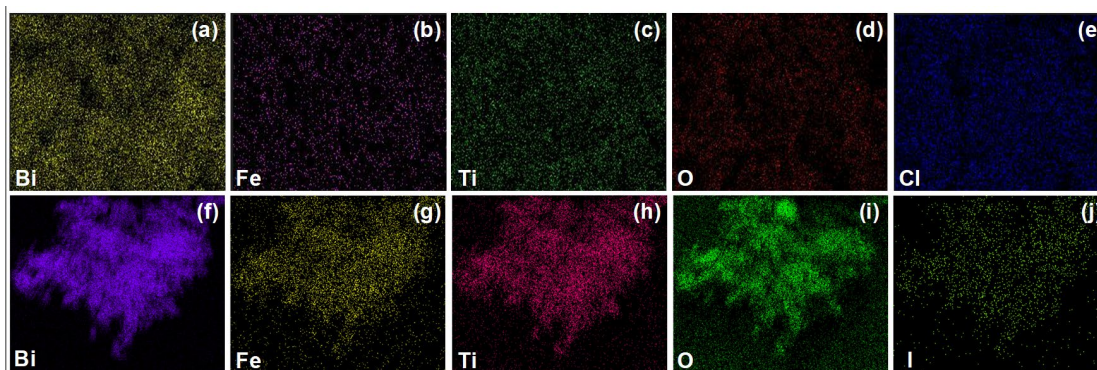


Figure S1. The SEM-EDS elemental mappings of (a) Bi, (b) Fe, (c) Ti, (d) O, and (e) Br for BFTOC sample. The SEM-EDS elemental mappings of (f) Bi, (g) Fe, (h) Ti, (i) O, and (j) Br for BFTOI sample

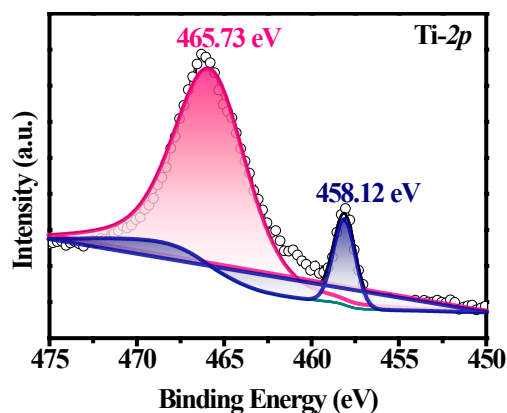


Figure S2. Ti 2p XPS spectrum of the BFTO-Br sample.

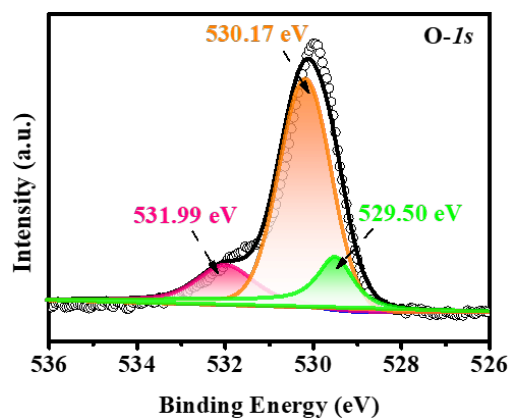


Figure S3. O 1s XPS spectrum of the BFTO-Br sample.

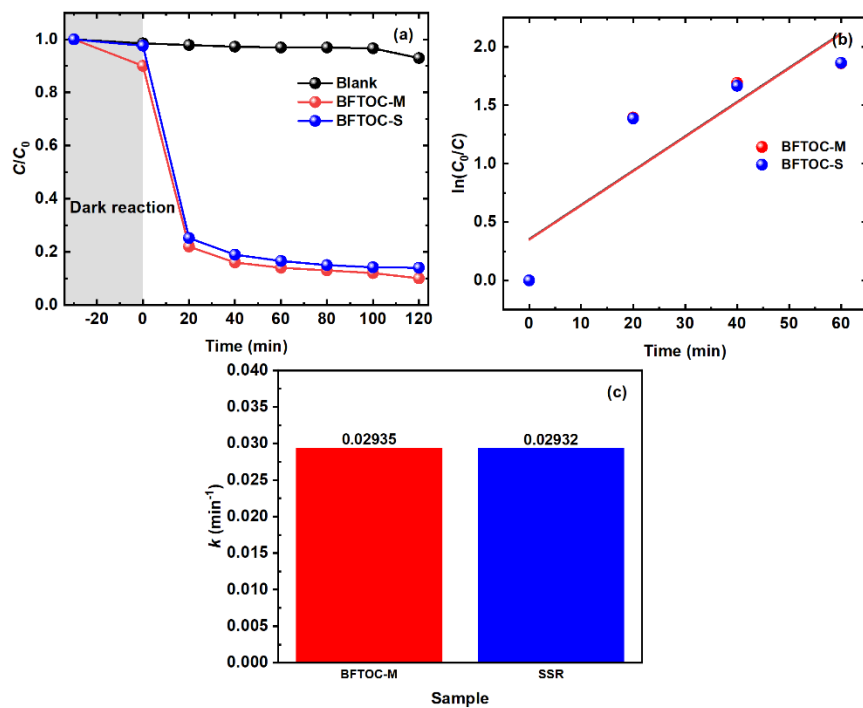


Figure S4. The experiment about tetracycline (TC) degradation over BFTOB.

Table S1 The average CO production rates of BFTOX at different times.

Sample	BFTOC	BFTOB	BFTOI
1	3.74	3.60	2.66
2	3.11	2.98	2.40
3	2.51	2.31	2.10
Average	3.12	2.96	2.39