## Understanding compositions and electronic structures dependent photocatalytic performance of bismuth oxyiodides

Mingce Long\*a, Peidong Hua, Haodong Wub, Yuanyuan Chena, Beihui Tana, Weimin Caia, b

<sup>a</sup>School of Environmental Science and Engineering, Shanghai Jiao Tong University, 800 Dong Chuan

Road, Shanghai 200240, People's Republic of China

<sup>b</sup>Identity Environmental Technology (Shanghai) Co., Ltd., 555 Dong Chuan Road, Shanghai 200241,

People's Republic of China



Fig. S1. ESR spectra for BOI-160, BOI-350 and BOI-400. Inset is the ESR peak for oxygen vacancies in a carbon modified TiO<sub>2</sub> nanocomposite.

## About the measurements:

Electron spin resonance (ESR) spectra were measured at room temperature with an EMX-8 ESR spectrometer (Bruker BioSpin Corp.). About 0.02 g of catalyst powder was applied for each test. The settings for the ESR spectrometer were as follows: center field, 3341.17 G; sweep with 6000 G; modulation frequency, 100 kHz; microwave frequency, 9.84 GHz; power, 10 mW.



Fig. S2. Time dependence TG curve of BOI-160.