***Suppotring Information for***

**A polar mineral tourmaline enables synthesis of 0D/2D CuO photocatalyst with enhanced photocatalytic activity**

Changqiang Yu1, Min Wen1, Zhen Tong1, Shuhua Li1, Yanhong Yin\*,1,2,3, Xianbin Liu1, Yesheng Li1, Tongxiang Liang1, Ziping Wu1 and Dionysios D. Dionysiou\*,2

1 School of Materials Science and Engineering, Jiangxi University of Science and Technology, Ganzhou 341000, China

2 Environmental Engineering and Science Program, Department of Chemical and Environmental Engineering, University of Cincinnati, Cincinnati, OH 45221, United States

3 Chongyi Zhangyuan Tungsten Co., Ltd., Ganzhou 341000, China

\*Corresponding authors. E-mail: yinyanhong@jxust.edu.cn (Y. H. Yin), dionysios.d.dionysiou@uc.edu (D. D. Dionysiou).



**Figure S1:** PL spectra of the CuO and CuO/tourmaline composite.



**Figure S2:** Photocatalytic degradation curves of MB by the CuO/tourmaline composite with different synthesis temperatures.



**Figure S3:** (a) XRD patterns and (b) FTIR spectra of the fresh and reused CuO/tourmaline composite.