

Supporting information

## Insights into Rutile/Brookite Homojunction of Titanium Dioxide: Separated Reactive Sites and Boosted Photocatalytic Activity

Jing Chen,<sup>a</sup> Meili Guan<sup>\*b</sup>, Xuan Zhang<sup>b</sup> and Xuezhong Gong<sup>c</sup>

<sup>a</sup>School of Materials and Chemical Engineering, Anhui Jianzhu University, Hefei 230601, P. R. China

<sup>b</sup>School of Material Science & Engineering, Institute for Energy Research, Jiangsu University, Zhenjiang 212013, PR China

<sup>c</sup>College of Materials Science and Engineering, National Base of International S. & T. Cooperation on Hybrid Materials and Growing Base for State Key Laboratory, Qingdao University, 308 Ningxia Road, Qingdao, 266071, PR China

### Corresponding author:

Correspondence and requests for materials should be addressed to:

[mlguan@ujs.edu.cn](mailto:mlguan@ujs.edu.cn)

### Supplementary Figures

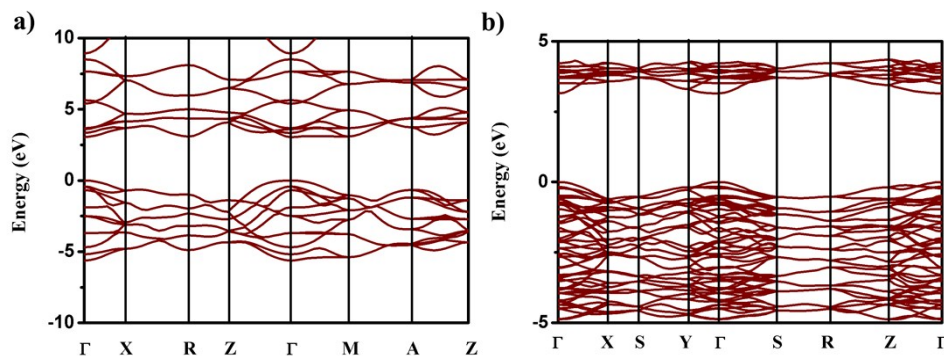


Fig. S1. Results of density of states (DOS) calculations for (a) rutile and (b) brookite TiO<sub>2</sub> by CASTEP.

Table S1. Summary of surface area according to Brunauer–Emmett–Teller (BET) analysis

<b>Samples</b>	<b>S<sub>BET</sub> (m<sup>2</sup>/g)</b>	<b>BJH pore diameter (nm)</b>
Rutile TiO <sub>2</sub>	61	19
Rutile/Brookite TiO <sub>2</sub>	59	26
Brookite TiO <sub>2</sub>	101	16