Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2017

## **Supporting information**

## Demonstration of Enhanced Carrier Transport, Charge Separation,

and Long term Stability for Photocatalytic Water Splitting

## by a Rapid Hot Press Process

Wei-Hsuan Hung<sup>a</sup>\*, Kun-Lin Yang<sup>a</sup>, Sz-Nian Lai<sup>a</sup>, Chin-Ru Yang<sup>a</sup>, Jing-Jong Shyue<sup>b</sup>, Ching-Shun Ku<sup>c</sup>, Stephen B. Cronin<sup>d</sup>

<sup>a</sup> Department of Materials Science and Engineering, Feng Chia University, Taichung 407, Taiwan
<sup>b</sup> Research Center of Applied Science, Academia Sinica, Taipei 115, Taiwan
<sup>c</sup> National Synchrotron Radiation Research Center, Hsinchu 30076, Taiwan
<sup>d</sup> Department of Electrical Engineering, University of Southern California, Los Angeles, CA 90089, USA

The hot press process is carried out by our custom designed pressure machine. The detail function is mentioned and indicated in the below figure S1, measured applied pressure range up to 30 psi and temperature is up to 400 C. We also included the figure in the manuscript in Figure 1(a).



Figure S1. The hot press machine.