## **Electronic Supplementary Information (ESI) for:**

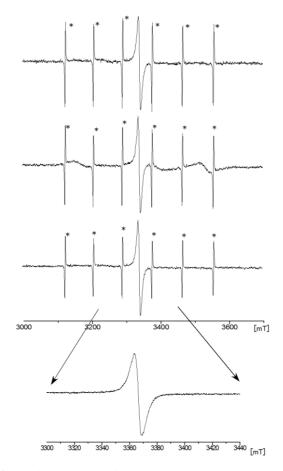
## Hybridization of Au nanoparticle-loaded TiO<sub>2</sub> with BN nanosheets for efficient solar-driven photocatalysis

Yusuke Ide, <sup>a</sup>,\* Fei Liu, <sup>a</sup>, Jun Zhang, <sup>a</sup> Naoyuki Kawamoto, <sup>a</sup> Kenji Komaguchi, <sup>c</sup> Yoshio Bando <sup>a</sup> and Dmitri Golberg <sup>a</sup>

<sup>&</sup>lt;sup>a</sup> World Premier International (WPI) Research Center, International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba 305-0044, Japan.

<sup>&</sup>lt;sup>b</sup> State Key Laboratory of Optoelectronic Materials and Technologies, Guangdong Province Key Laboratory of Display Material and Technology, and School of Physics and Engineering, Sun Yat-sen University, Guangzhou 510275 (PR China).

<sup>&</sup>lt;sup>c</sup> Graduate School of Engineering, Department of Applied Chemistry, Hiroshima University, 1-4-1 Kagamiyama, Higashi-Hiroshima 739-8527, Japan.



**Fig. S1** ESR spectra of  $Au/TiO_2/BN$ .  $Au/TiO_2/BN$  were treated evacuated at 423 K (top), treated with  $O_2$  at room temperature (middle), and finally irradiated by visible light (bottom). The all neasurements were done at 77 K. Inset shows the expanded figure of the bottom panel.