

## Supplementary Information

### The convenient synthesis and applications of gram scale boron nitride nanosheets

Liancheng Wang<sup>a,b</sup>, Changhui Sun<sup>a</sup>, Liqiang Xu<sup>\*a</sup> and Yitai Qian<sup>a</sup>

<sup>a</sup> Key Laboratory of Colloid and Interface Chemistry (Shandong University), Ministry of Education, Jinan 250100, PR China. E-mail: xulq@sdu.edu.cn; Fax: +86-531-8836-6280; Tel: +86-531-8836-6280.

<sup>b</sup> Hefei National Laboratory for Physical Science at Microscale and Department of Chemistry, University of Science and Technology of China, Hefei, Anhui 230026, People's Republic of China.



Fig. SI 1. The digital images of the as-prepared S<sub>1</sub> (a) and S<sub>2</sub> (b). S<sub>2</sub> (0.66g~1g) was prepared by using 40 mmol B<sub>2</sub>O<sub>3</sub>, 200 mmol zinc powder and 50 mmol N<sub>2</sub>H<sub>4</sub>·2HCl

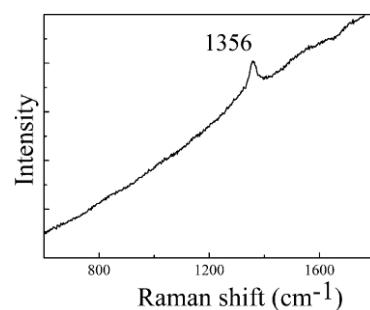


Fig. SI 2. Raman spectrum of the as-prepared S<sub>1</sub>.

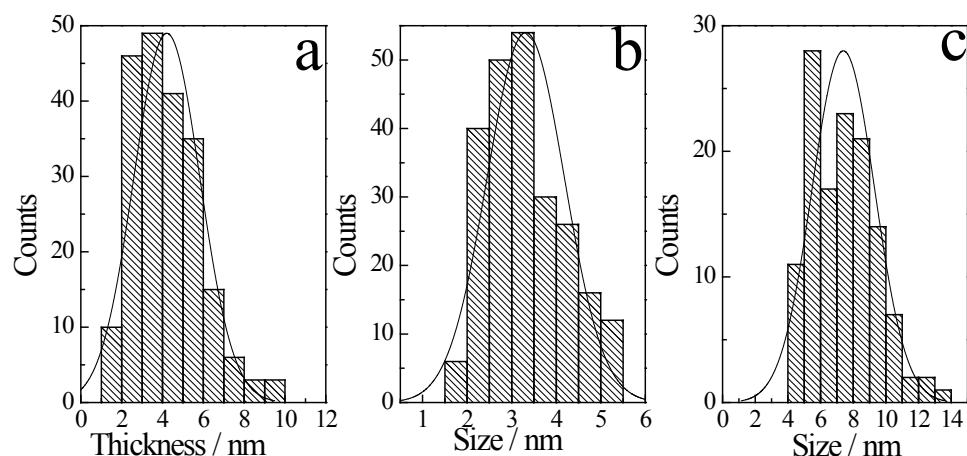


Fig. SI 3. (a) Thickness distribution of S<sub>1</sub>, Au particles sizes distribution on the BNNSs with (b) and without (c) H<sub>2</sub>O<sub>2</sub> treatment.

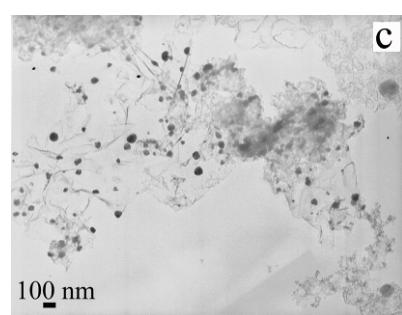


Fig. SI 4. Typical TEM image of 16% Pt/BNNSs

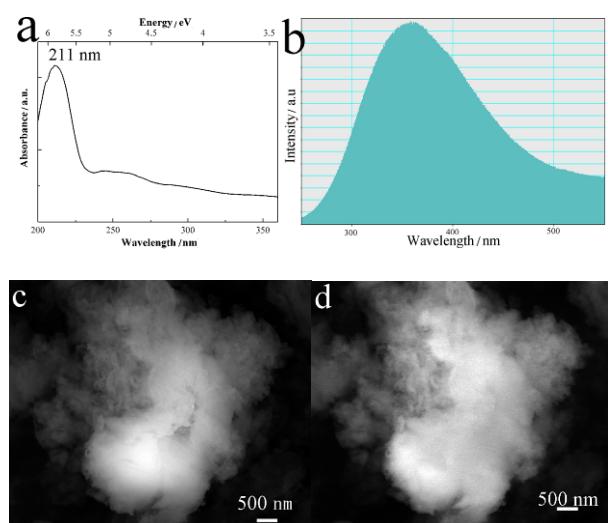


Fig. SI 5. The optical absorption spectrum (a) and CL spectrum (b) of S<sub>1</sub> measured at room temperature. The optical absorption spectrum shows a peak centered at 211 nm (5.9 eV). The strong CL luminescence emission in the ultraviolet range (around 370 nm, 3.35 eV) can be attributed to the deep-level emissions associated with structure defects. SEM image of S<sub>1</sub> (c) and corresponding CL luminescence image (d), indicating the uniform optical properties across the sample.