Supporting Information

Multifunctional Prussian Blue Analogous@Polyaniline Core-Shell Nanocubes for Lithium Storage and Overall Water Splitting

Lu Zhang, Tao Meng, Baoguang Mao, Donglei Guo, Jinwen Qin* and Minhua Cao*

Key Laboratory of Cluster Science, Ministry of Education of China, Beijing Key Laboratory of Photoelectronic/Electrophotonic Conversion Materials, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing, 100081, P. R. China.
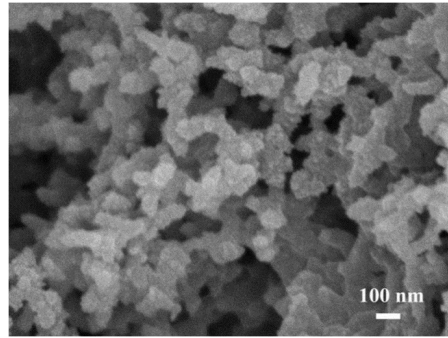
*E-mail: caomh@bit.edu.cn
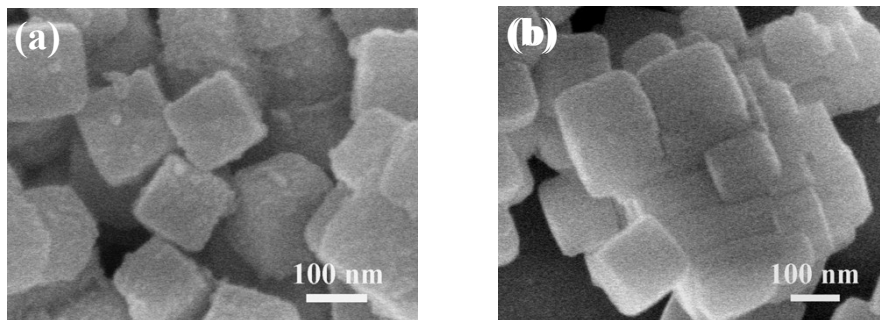
Fig. S1 FE-SEM image of pure PANI.

Fig. S2 FE-SEM images of PBAs@PANI nanocubes (a) and bare PBAs (b) after being heated at 150 ^{o}C for 24 h under vacuum condition.
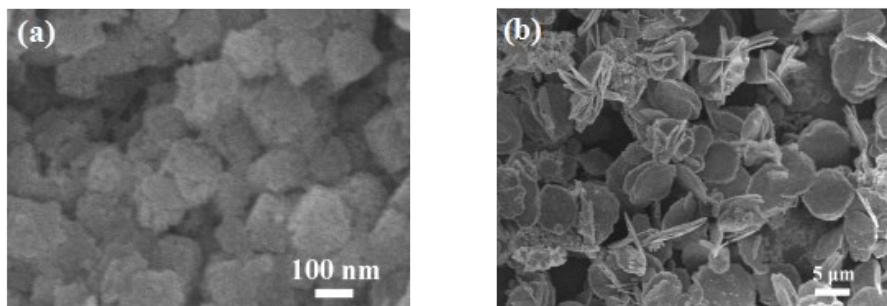

Fig. S3 FE-SEM images of PBAs@PANI (a) and bare PBAs (b) after being soaked in 1.0 M KOH for 12 h.
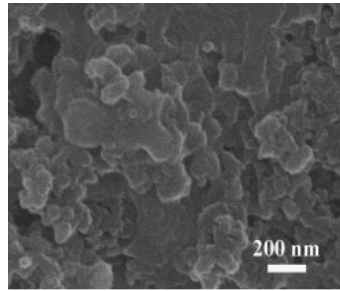
Fig. S4 FE-SEM images of bare PBAs electrode after being tested for 100 cycles at the current density of 100 mA g^{-1}.
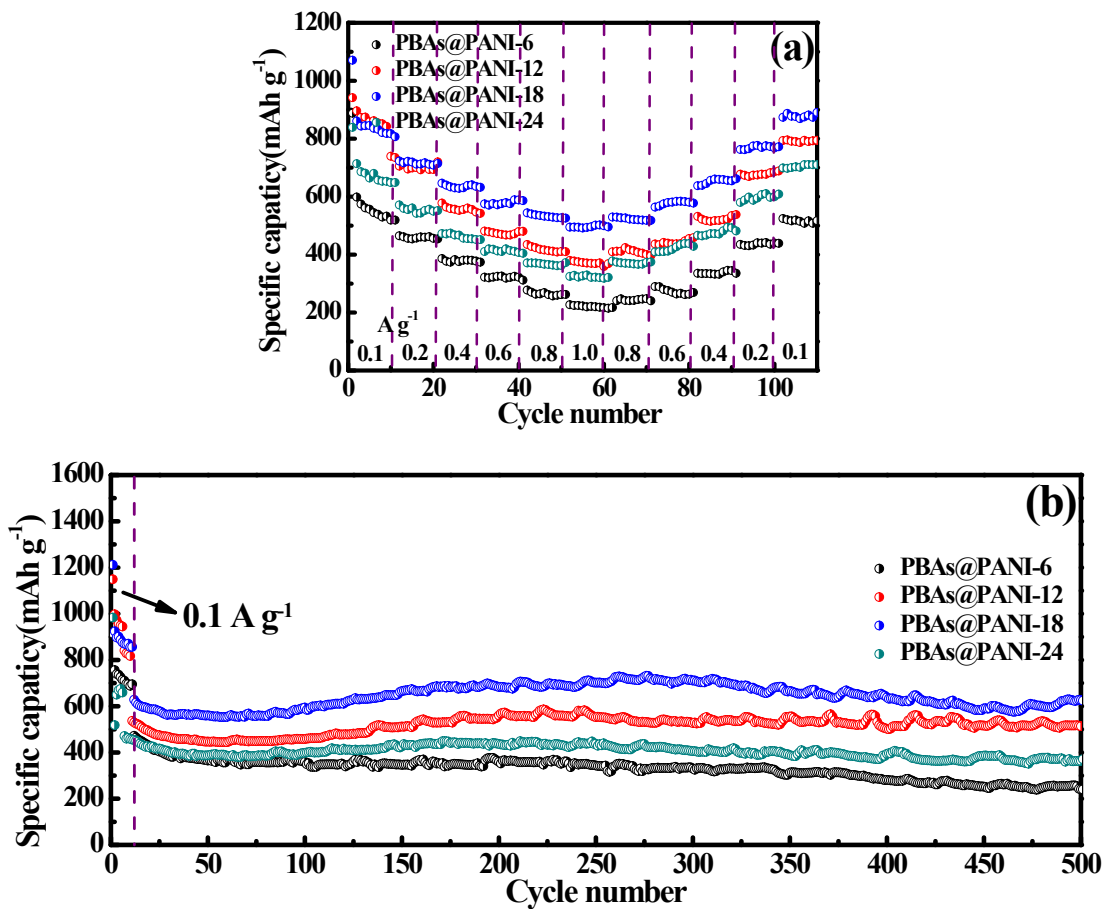

Fig. S5 Rate performances (a) and long cycling performances (b) for a series of PBAs@PANI at 1 A g^{-1} after activation at 100 mA g^{-1} for initial ten cycles.
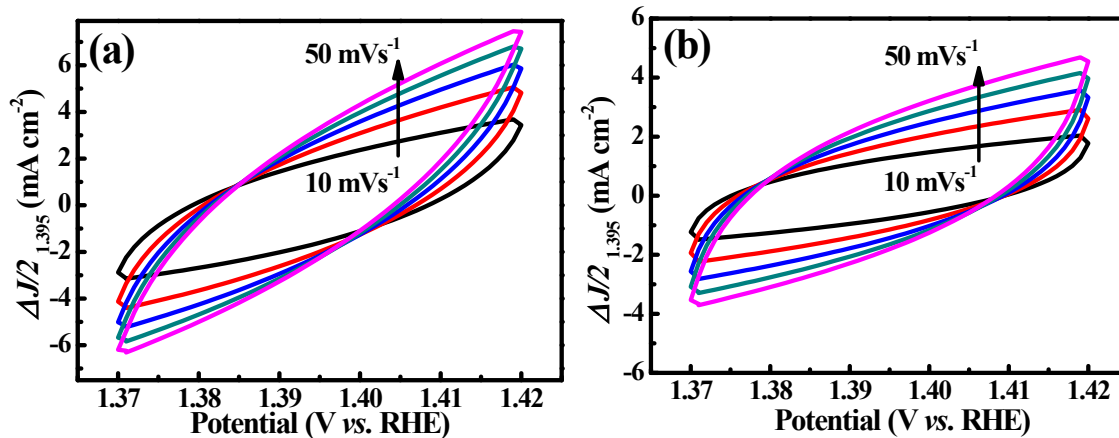
Fig. S6 Typical CVs tested at the potential range of 1.37-1.42 V *vs*. RHE with the scan rates increasing from 10 to 50 mV s^{-1} for PBAs (a) and PBAs@PANI (b).
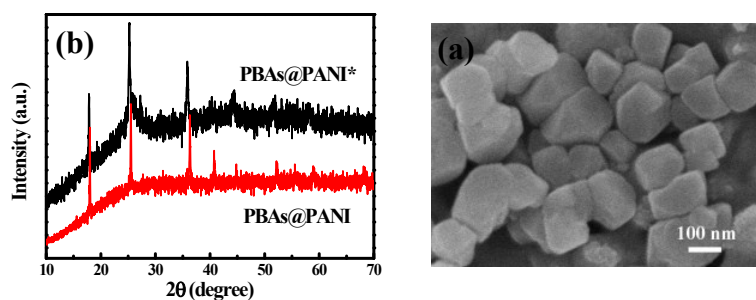

Fig. S7 (a) XRD patterns for PBAs@PANI before and after OER test. (b) FE-SEM image after OER test for PBAs@PANI.
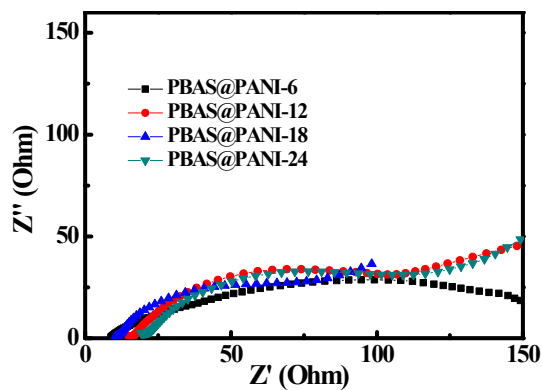

Fig. S8 EIS curves for a series of PBAs@PANI in O$_2$–saturated 1.0 M KOH solution (scan rate of 5 mV s^{-1}).