10.1071/CH18577_AC

Australian Journal of Chemistry 2019, 72(6), 411-416

Supplementary Material

TiO_2 Films Functionalized with ABDA for Enhanced Photoelectrochemical Performance

Penggang Chen,[A] Lulu Zhang,[A] Bingwen Liu,[B] Peng Chen,[A,C] and Pengfei Yan[A,C]

[A]Key Laboratory of Functional Inorganic Material Chemistry (MOE), School of Chemistry and Materials Science, Heilongjiang University, Harbin, 150080, China.

[B]Laboratory of Theoretical and Computational Chemistry, Institute of Theoretical Chemistry, Jilin University, Changchun, 130021, China.

[C]Corresponding authors. Email: jehugu@gmail.com; yanpf@vip.sina.com

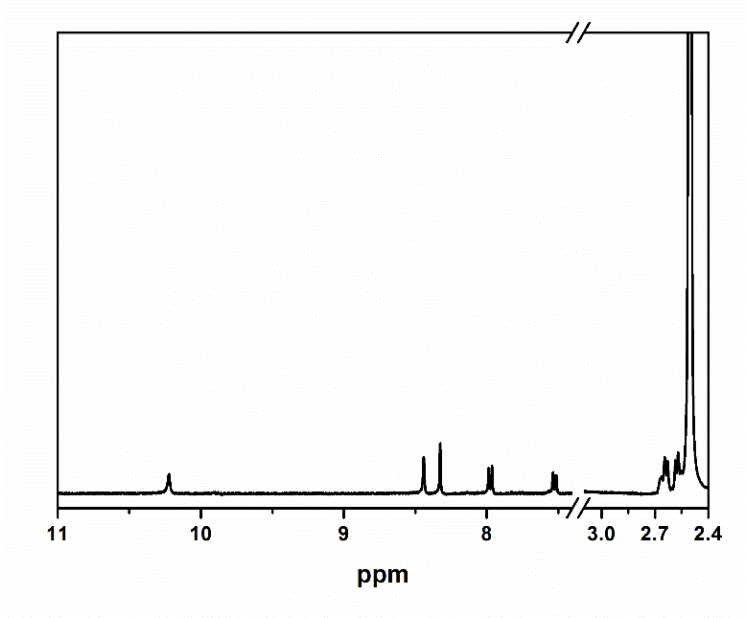

Figure S1 ^{1}H NMR spectrum of ABDA.

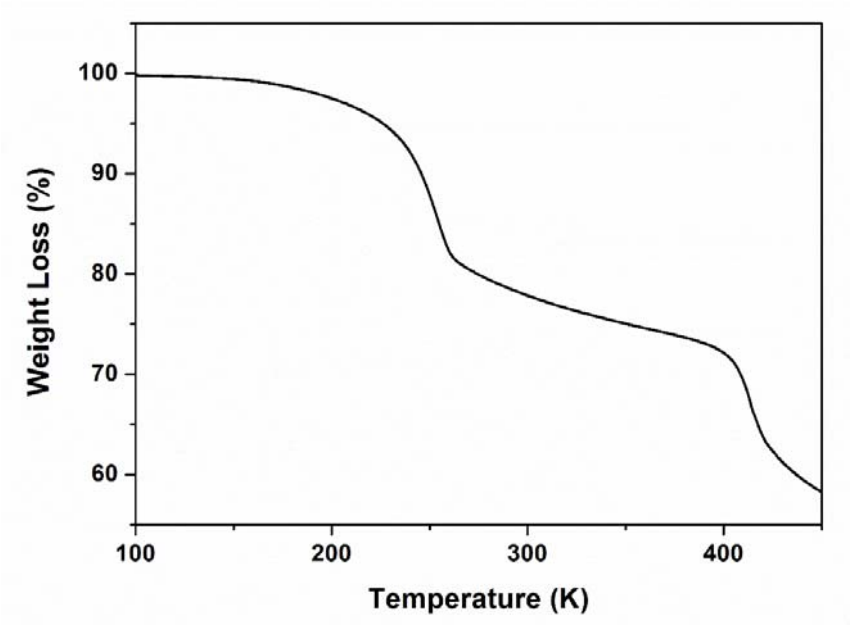

Figure S2 TG curve of ABDA in the range of 100-450 ºC under N_2 atmosphere.

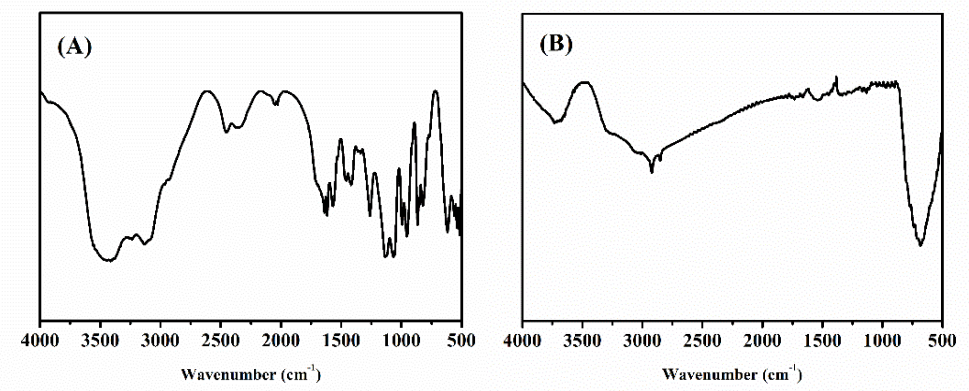

Figure S3 IR spectra of ABDA (A) and ABDA/TiO_2 (B).

The thermogravimetric analysis (TG) indicated that ABDA was stable enough under N_2 atmosphere at approximately 200 °C. Therefore, we preferred to calcine the FTO glass for the preparation of ABDA/TiO_2 films at 150 °C in a tube furnace under N_2. The peak intensity of IR spectra of ABDA/TiO_2 was poor, which might be owing to the low content of ABDA and interference of TiO_2.

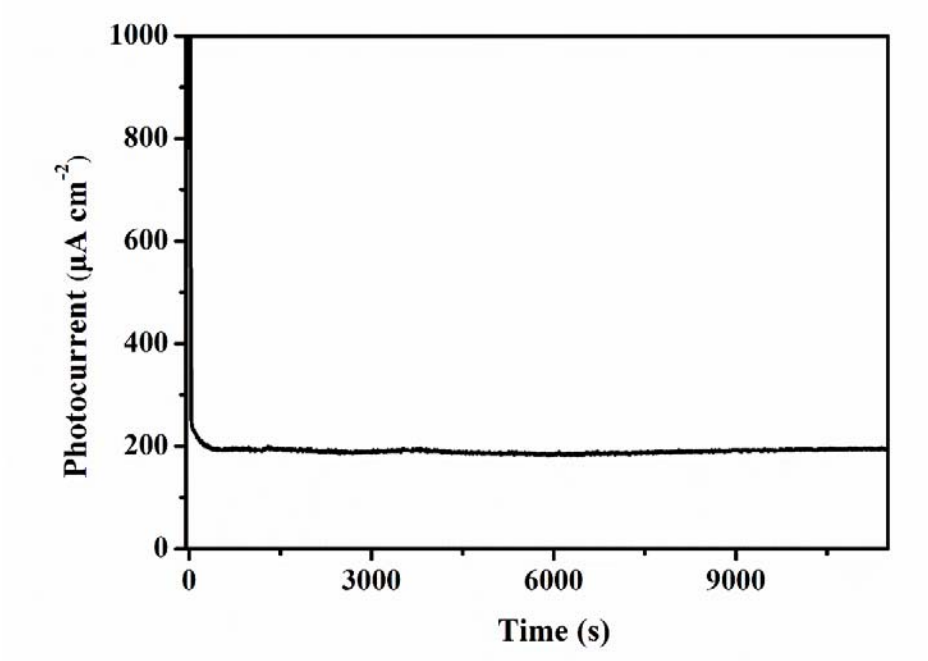

Figure S4 The chronoamperometry results under AM 1.5 for 12000 seconds.

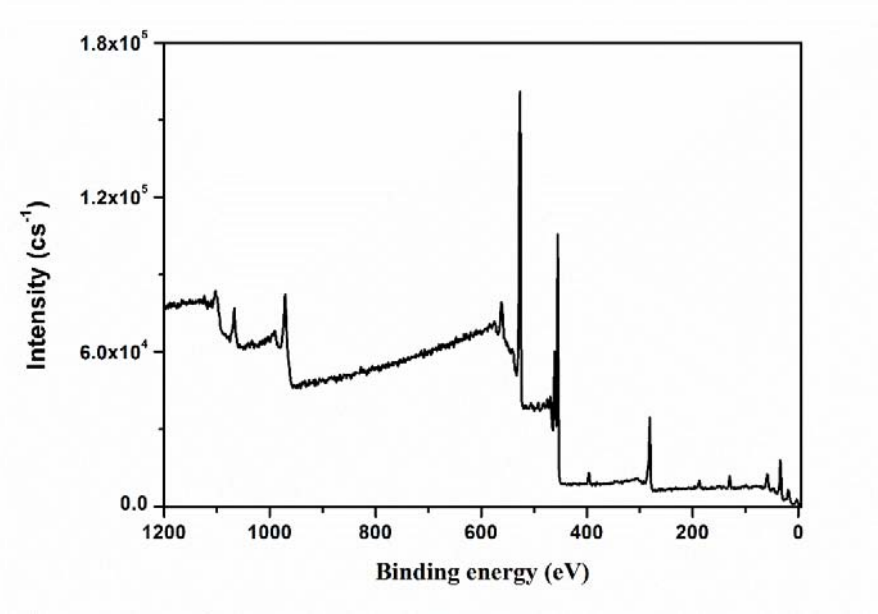

Figure S5 Survey XPS spectrum of ABDA/TiO_2.

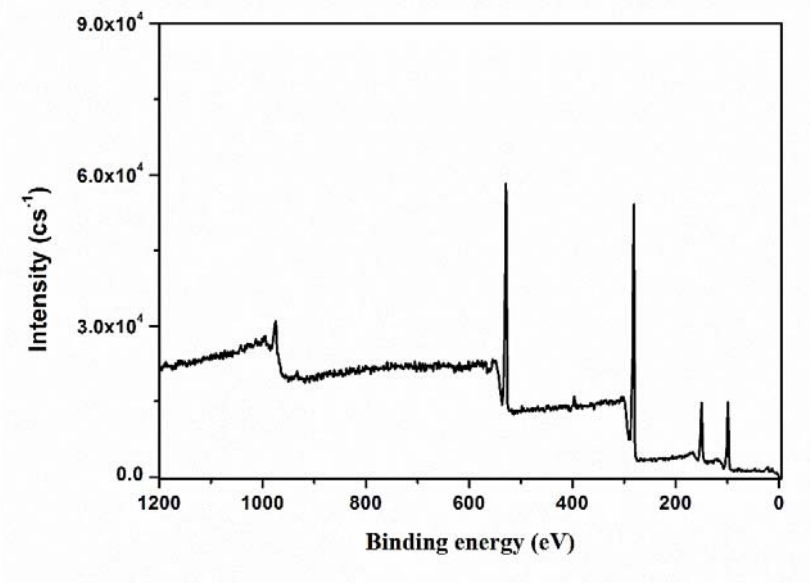

Figure S6 Survey XPS spectrum of ABDA.

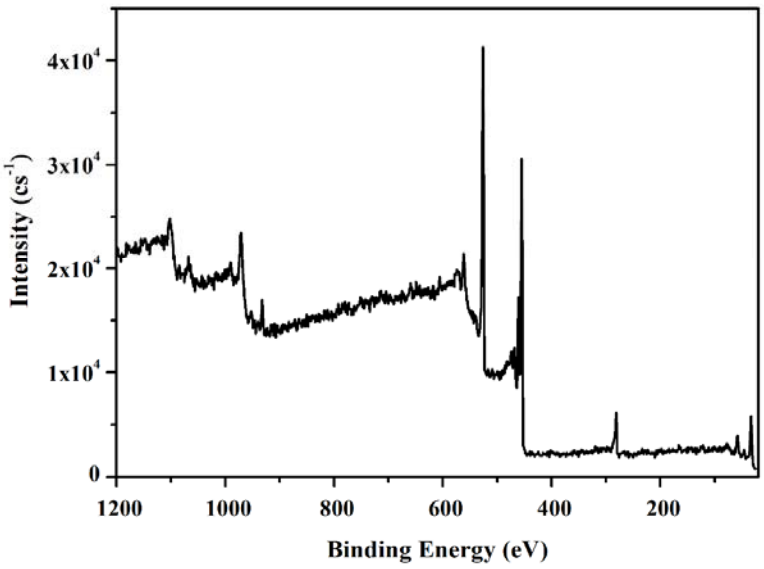

Figure S7 Survey XPS spectrum of TiO_2.