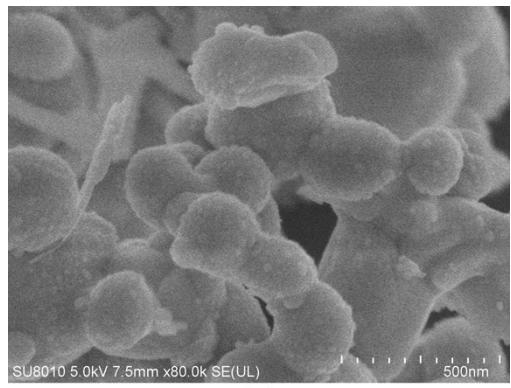


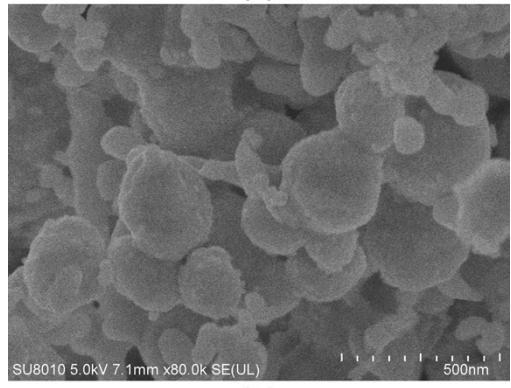
## Electronic Supplementary Information (ESI)

**Synergistic effect between Pt<sup>0</sup> and Bi<sub>2</sub>O<sub>3-x</sub> for efficient room-temperature alcohol oxidation under base-free aqueous conditions**

Juanjuan Liu,<sup>a,b,\*</sup> Shihui Zou,<sup>b,\*</sup> Hui Wang<sup>a</sup>, Liping Xiao<sup>b</sup>, Hongting Zhao<sup>a,\*</sup>, Jie Fan<sup>b,\*</sup>

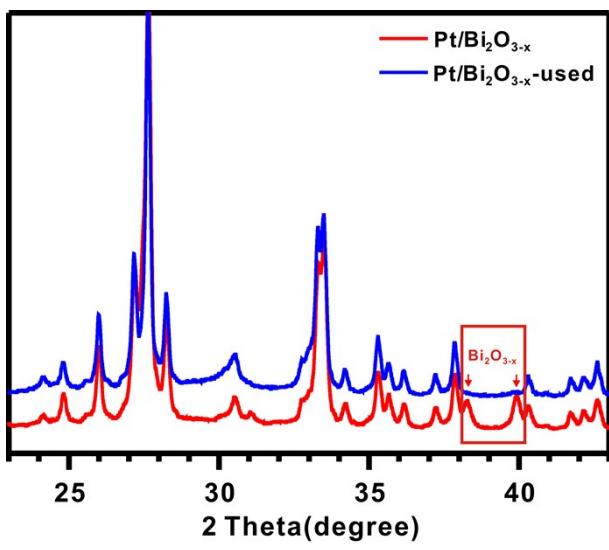


(a)

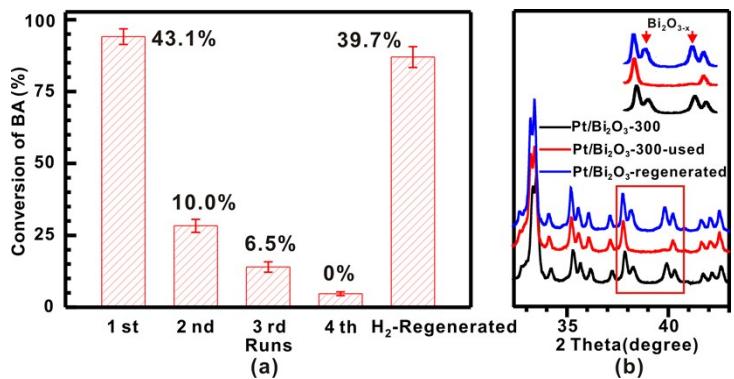


(b)

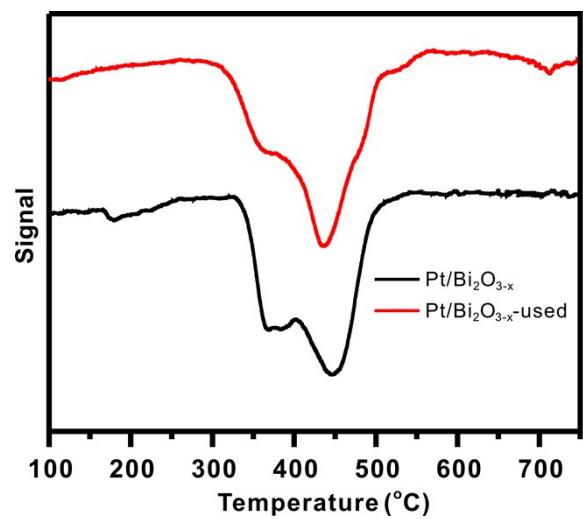
**Fig. S1.** SEM images of (a) Pt/Bi<sub>2</sub>O<sub>3-x</sub> sample; (b) Pt/Bi<sub>2</sub>O<sub>3-x</sub>-used sample.



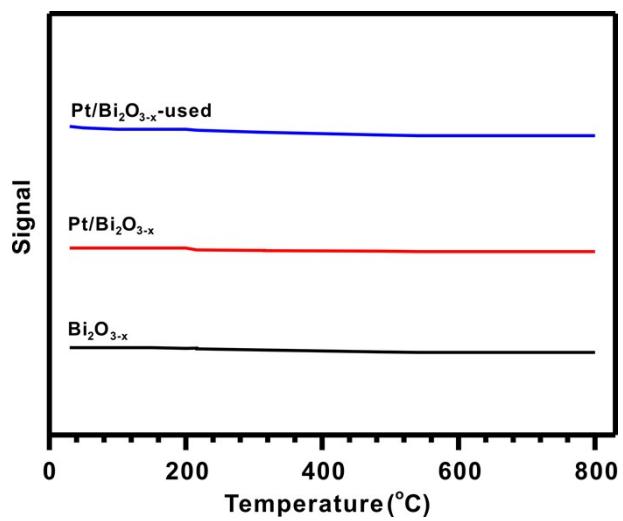
**Fig. S2** XRD data of  $\text{Pt}/\text{Bi}_2\text{O}_{3-x}$  and  $\text{Pt}/\text{Bi}_2\text{O}_{3-x}\text{-used}$  samples.



**Fig. S3** (a) Recycle test on Pt/Bi<sub>2</sub>O<sub>3-x</sub> (the ratio of the partially reduced Bi<sub>2</sub>O<sub>3-x</sub> calculated by XPS peak area inset); (b) WAXRD data.



**Fig. S4** TPD-NH<sub>3</sub> of Pt/Bi<sub>2</sub>O<sub>3-x</sub> and Pt/Bi<sub>2</sub>O<sub>3-x</sub>-used samples.



**Fig. S5** TPD-CO<sub>2</sub> of Bi<sub>2</sub>O<sub>3-x</sub>, Pt/Bi<sub>2</sub>O<sub>3-x</sub> and Pt/Bi<sub>2</sub>O<sub>3-x</sub>-used samples.