Supplementary Materials for

Effect of dispersed ZnO in Cu-Zn composite oxides on catalytic activity of anisole acetylation

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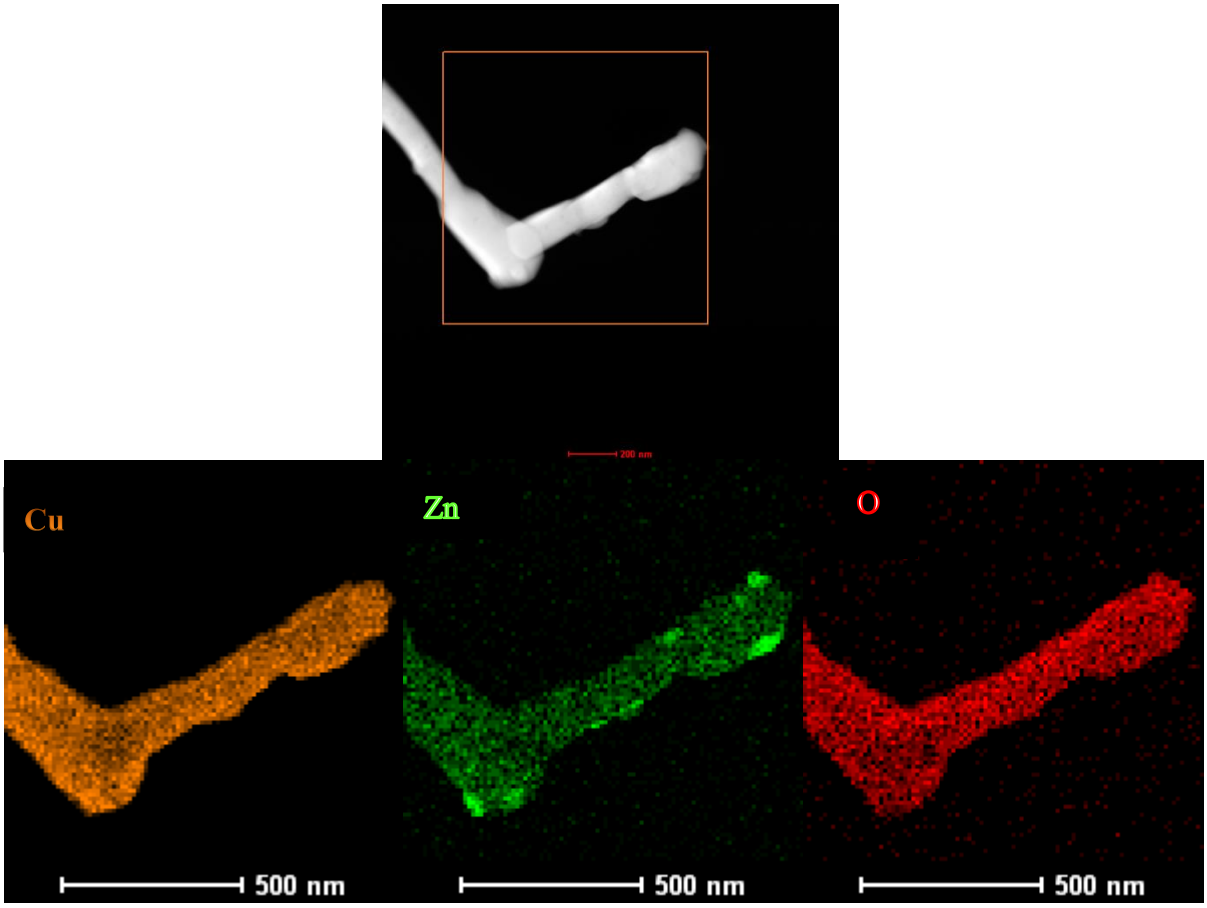

Figure.S1 EDS-mapping patterns of $ZnCu_3O_x$ catalyst

It can be seen from the Fig. S1 that the Cu and Zn elements in the catalyst are uniformly distributed, which indicates that ZnO is well dispersed.

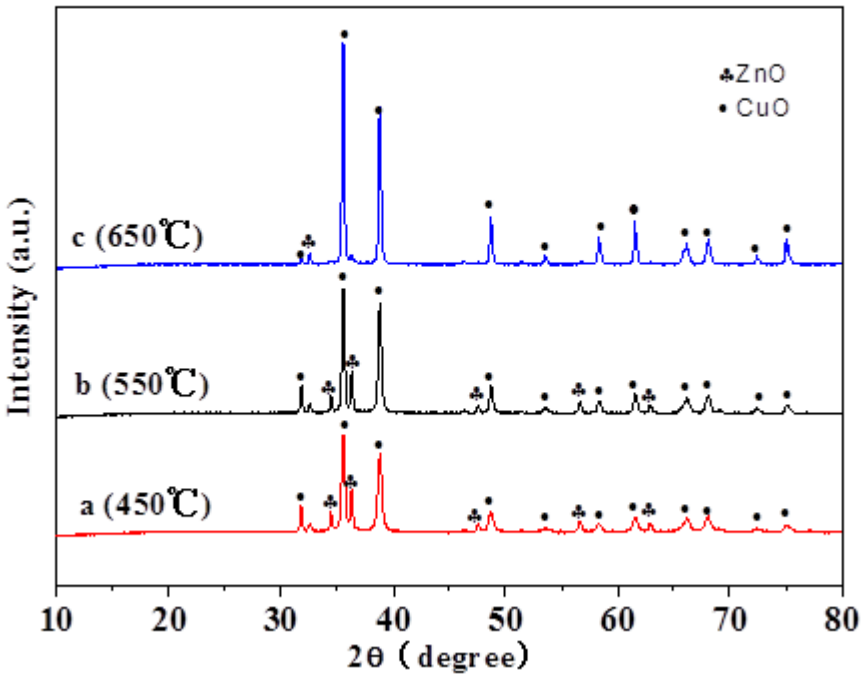

Fig. S2 XRD patterns of different calcination temperatures of $ZnCu_3O_x$ catalyst of (a) 450℃, (b) 550℃, (c) 650℃.

As the calcination temperature increases, the peak intensity of CuO in $ZnCu_3O_x$ catalyst gradually enhances, while the characteristic peak of ZnO is almost disappeared at the calcination temperature of 650 ℃, which shows that ZnO is well-dispersed in CuO phase at this calcination temperature. In addition, when the calcination temperature exceeds 650 ° C, the catalyst decomposes, so 650 ° C is selected as the optimal calcination temperature.

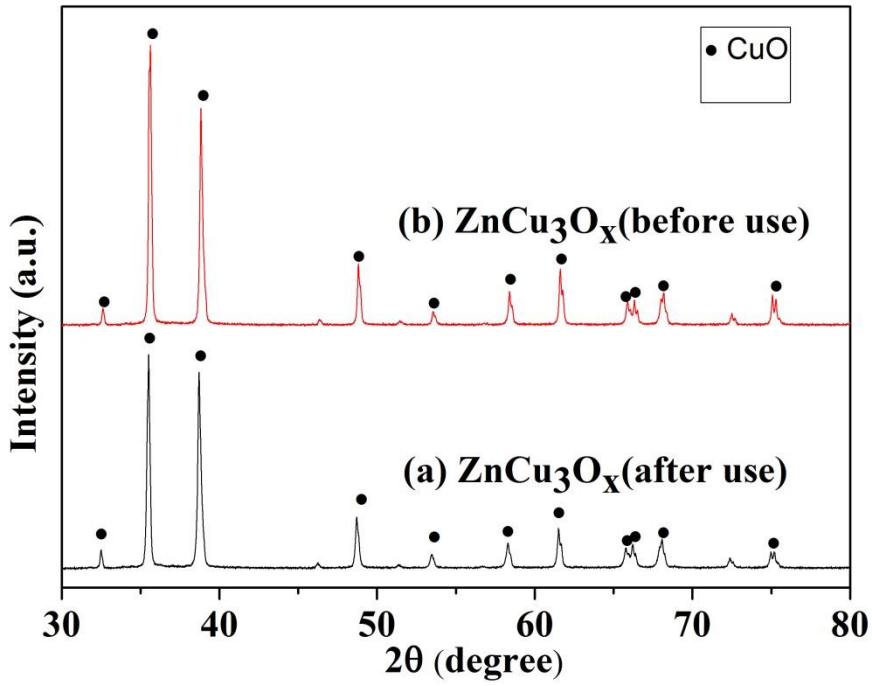

Fig. S3 XRD patterns of $ZnCu_3O_x$ catalyst of (a) after use, (b) before use.

It can be seen from Fig. S3 that after three cycles, the structure of the catalyst (after calcination) hardly changes, only peak intensity changes, which indicates that the catalyst has good stability.