

## Supporting information for:

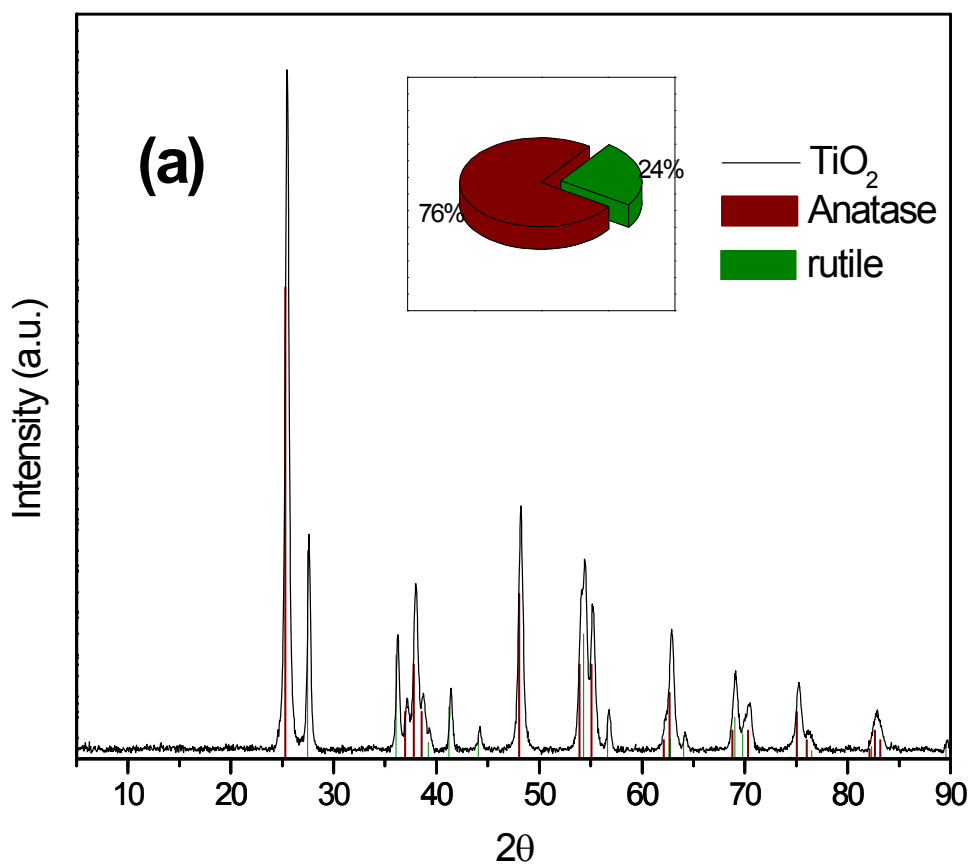
### Difference in the deactivation of Au catalysts during the ethanol transformation when supported on ZnO and on TiO<sub>2</sub>

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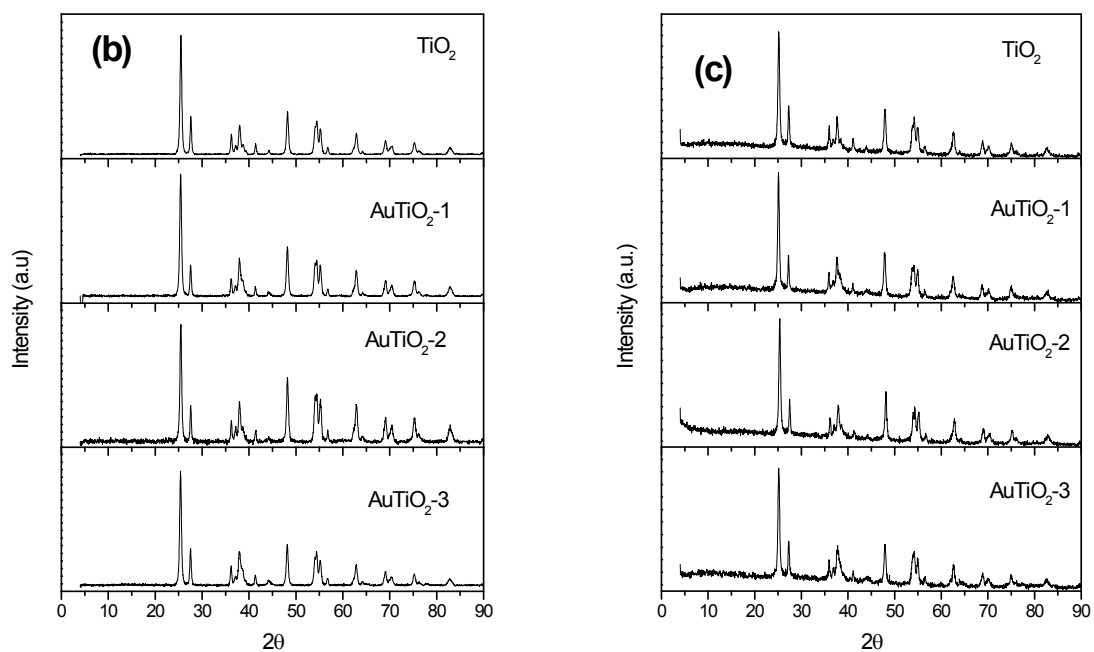


Fig. S1. XRD patterns of (a) support, (b) fresh catalysts and (c) used catalysts of  $\text{TiO}_2$  series.

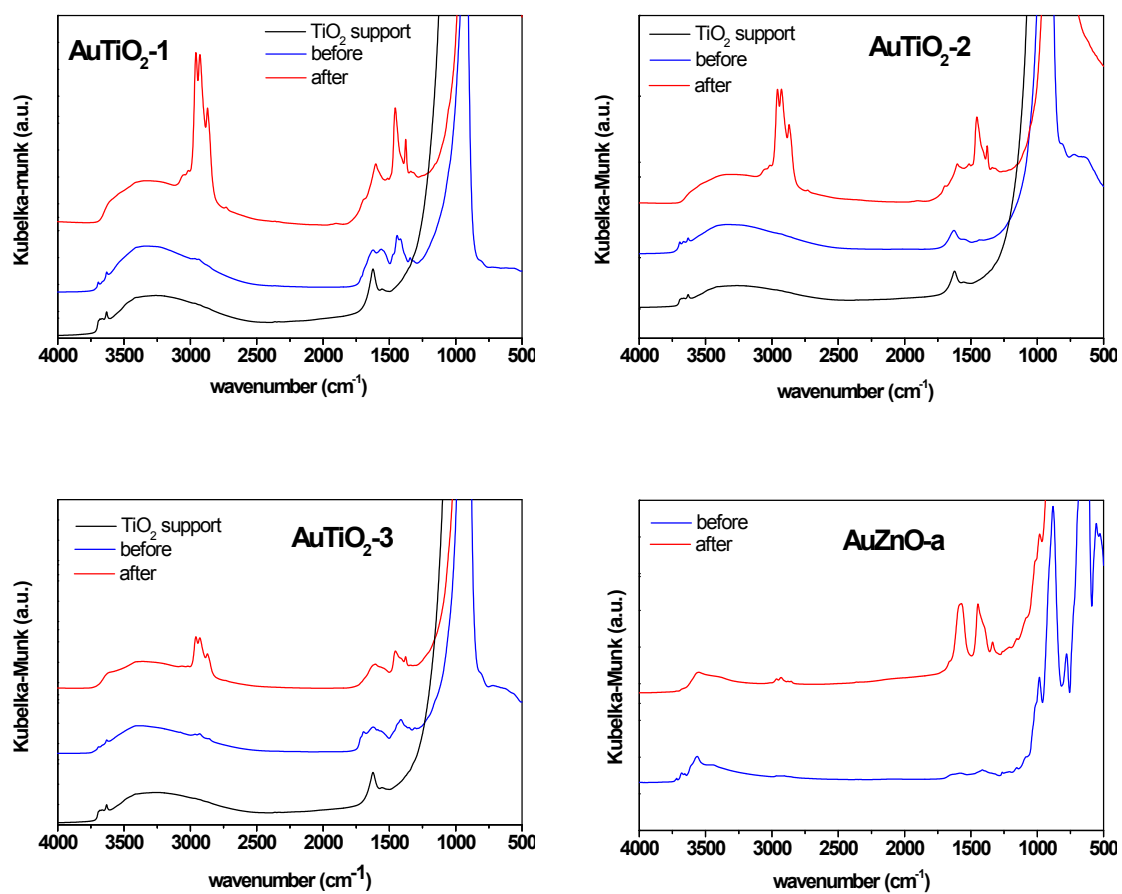


Fig. S2. DRIFT spectra of fresh and used AuTiO<sub>2</sub> and AuZnO catalysts.

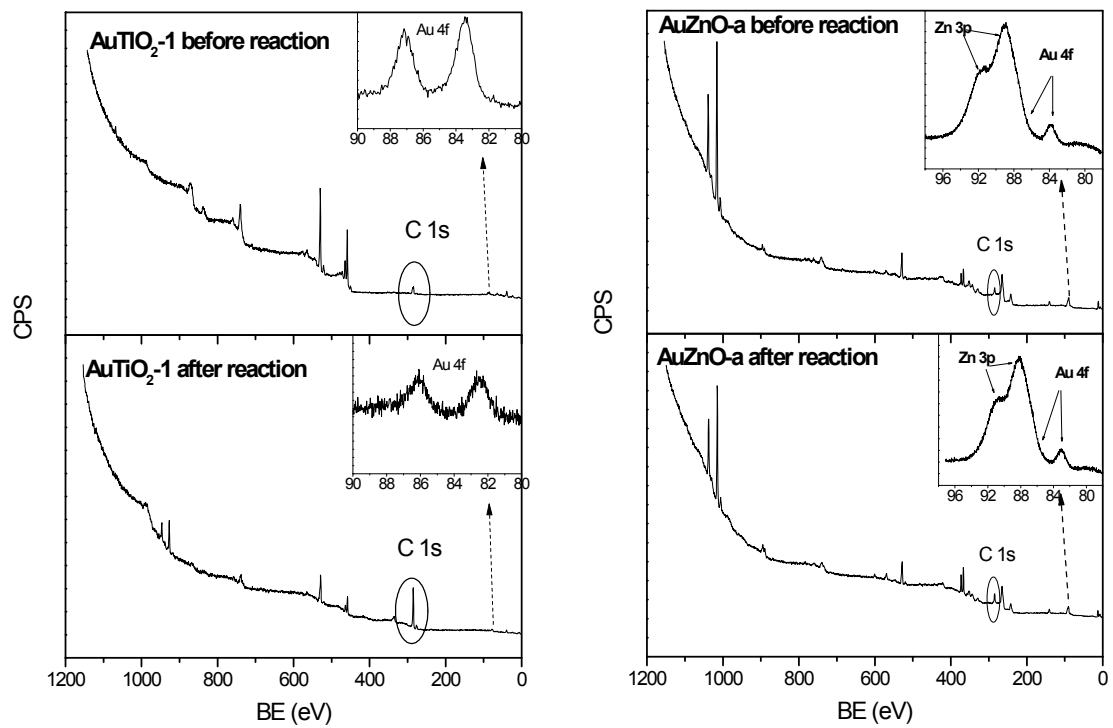


Fig. S3. XPS spectra of fresh and used AuTiO<sub>2</sub>-1 and AuZnO-a samples