

Supplementary Materials *for*:

# **Oxidation Catalysis of Au Nano-Particles Immobilized on Titanium(IV)- and Alkylthiol-Functionalized SBA-15 Type Mesoporous Silicate Supports**

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List of contents

Figure S1: N<sub>2</sub> adsorption isotherms of Ti(0.5)-SBA<sup>SH</sup>(*y*).

Figure S2: N<sub>2</sub> adsorption isotherms of Ti(*x*)-SBA<sup>SH</sup>(0.5).

Figure S3: XRD of Ti(0.5)-SBA<sup>SH</sup>(*y*).

Figure S4: XRD of Ti(*x*)-SBA<sup>SH</sup>(0.5).

Figure S5: Distributions of the particle size of the immobilized Au on Ti(0.5)-SBA<sup>SH</sup>(*y*) with *y* = 0.5 (top; (a)) and 1 (bottom; (b)).

Figure S6: Reuse test of Ti(0.5)-SBA<sup>SH</sup>(0.5) on the aerobic oxidation of 1-phenylethanol.

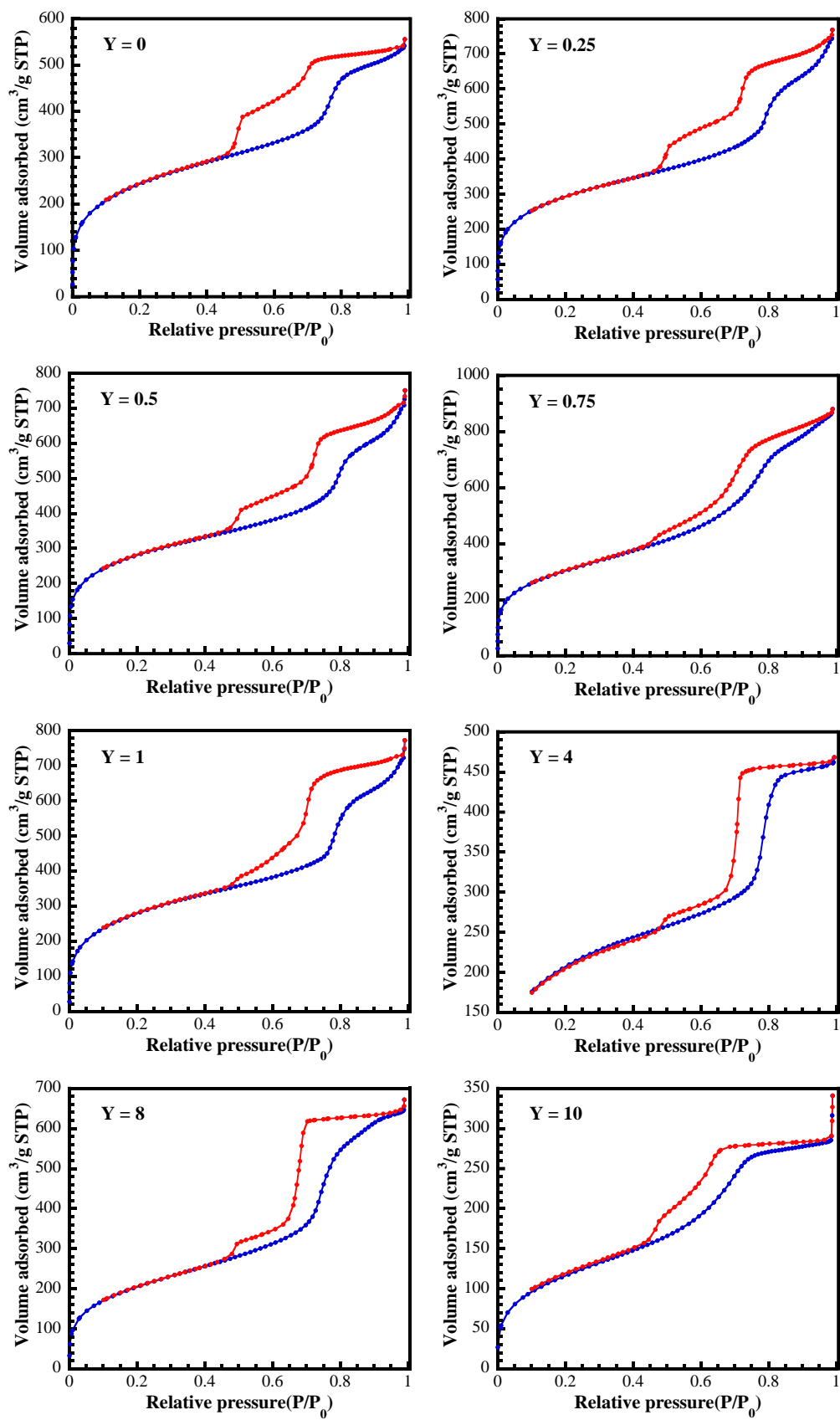


Figure S1.  $N_2$  adsorption isotherms of  $Ti(0.5)-SBA^{SH}(y)$ .

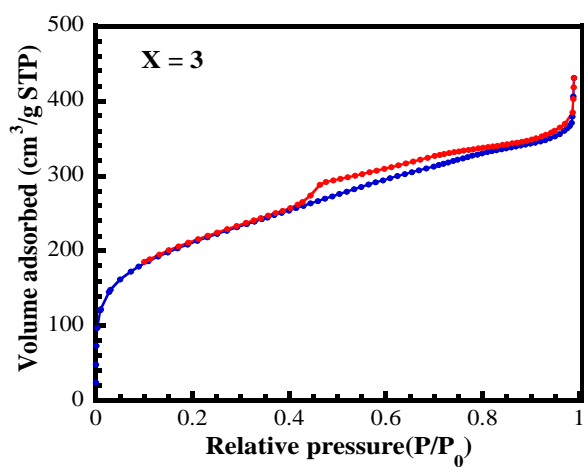
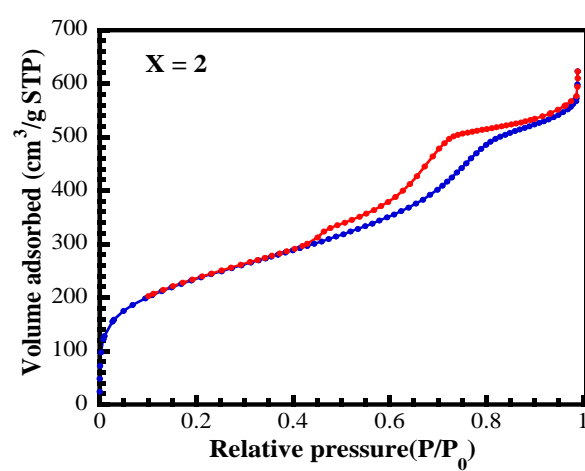
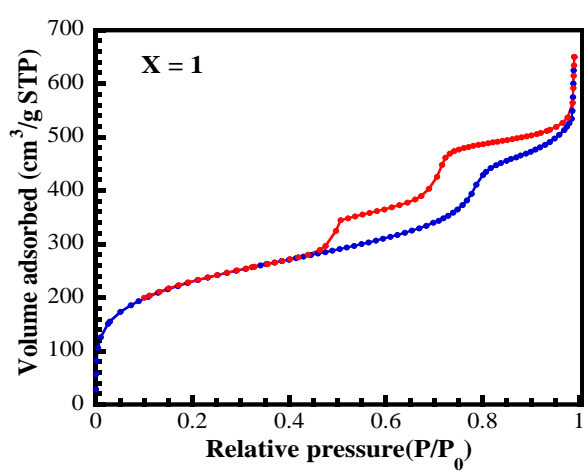
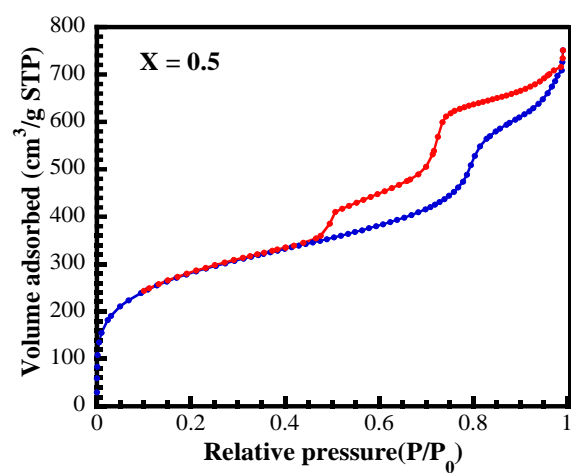
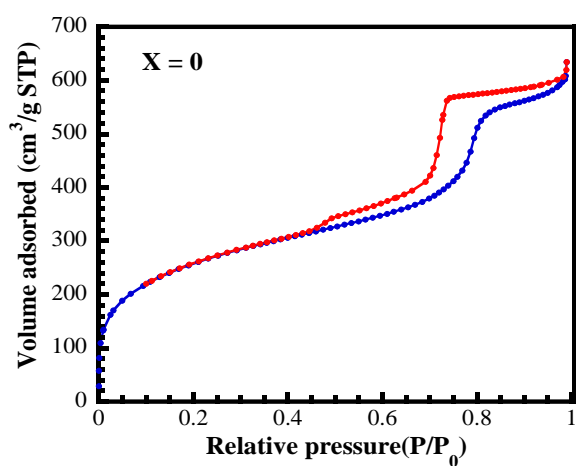
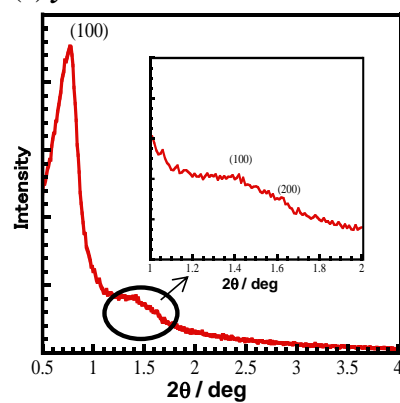
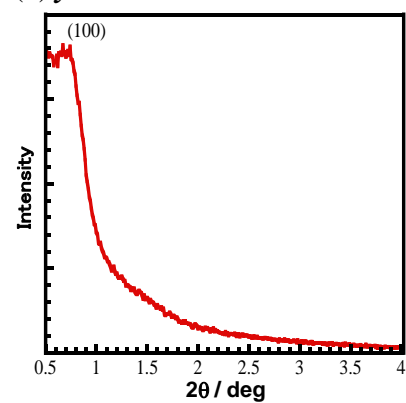


Figure S2.  $\text{N}_2$  adsorption isotherms of  $\text{Ti}(x)\text{-SBA}^{\text{SH}}(0.5)$ .

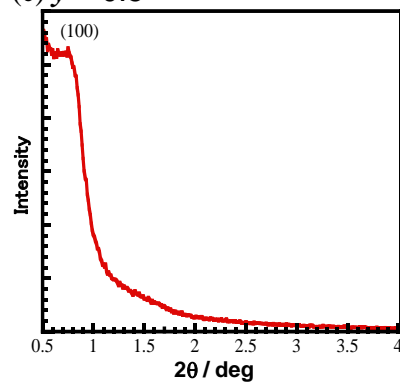
(a)  $y = 0$



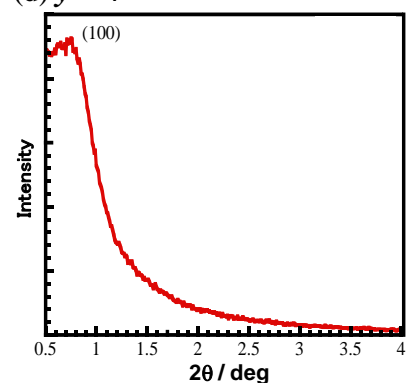
(b)  $y = 0.25$



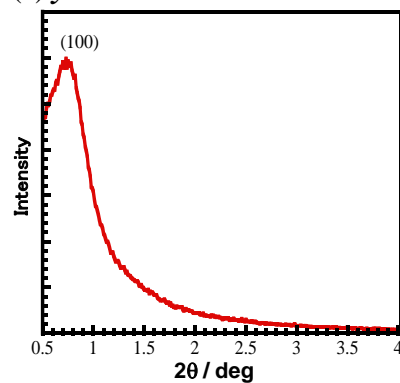
(c)  $y = 0.5$



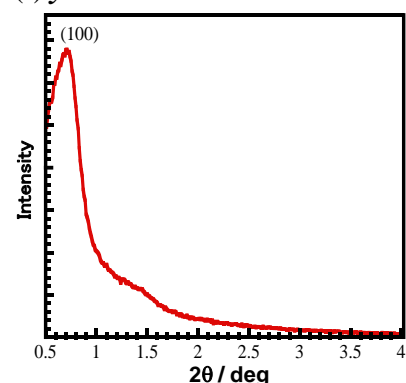
(d)  $y = 1$



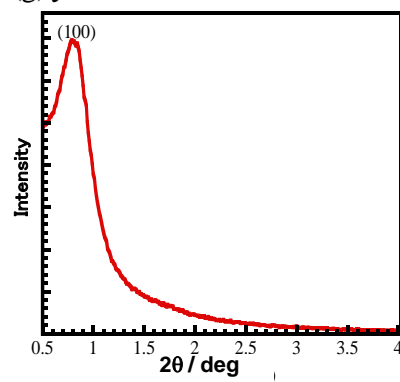
(e)  $y = 2$



(f)  $y = 4$



(g)  $y = 8$



(h)  $y = 10$

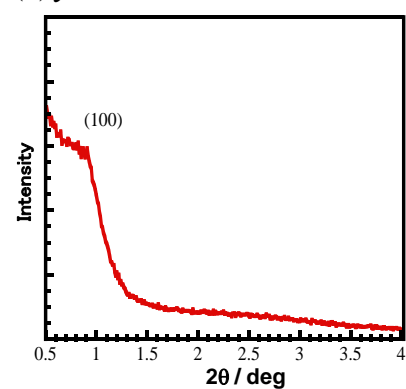
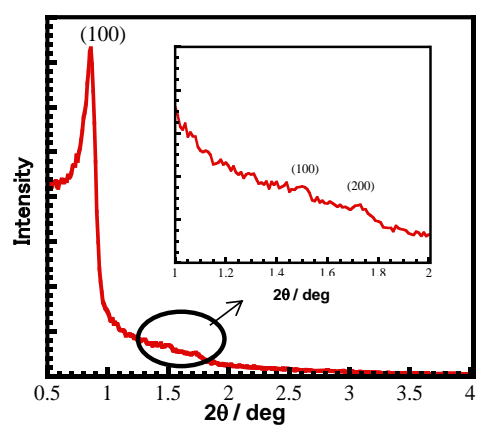
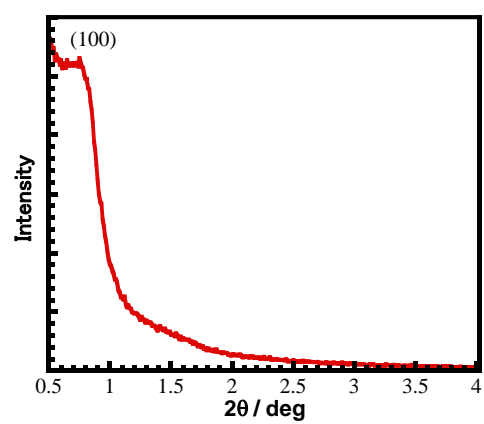


Figure S3. XRD of Ti(0.5)-SBA<sup>SH</sup>( $y$ ).

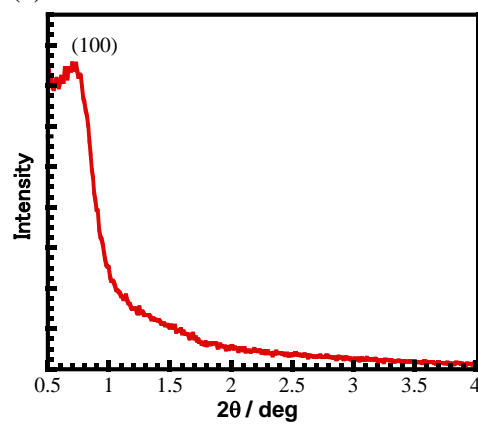
(a)  $x = 0$



(b)  $x = 0.5$



(c)  $x = 1$



(d)  $x = 2$

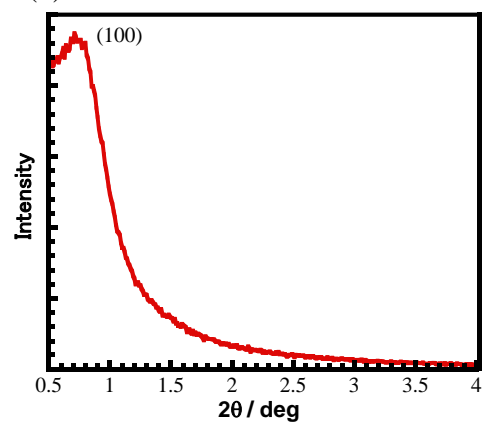


Figure S4. XRD of  $\text{Ti}(x)\text{-SBA}^{\text{SH}}(0.5)$ .

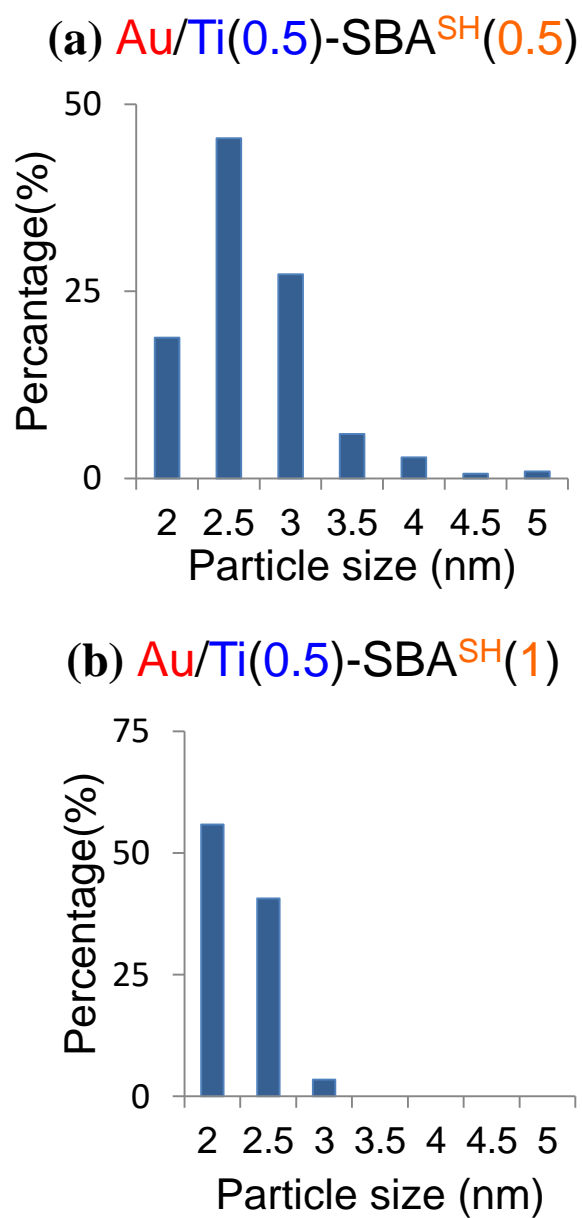


Figure S5. Distributions of the particle size of the immobilized Au on  $\text{Ti(0.5)-SBA}^{\text{SH}}(y)$  with  $y = 0.5$  (top; (a)) and 1 (bottom; (b)).

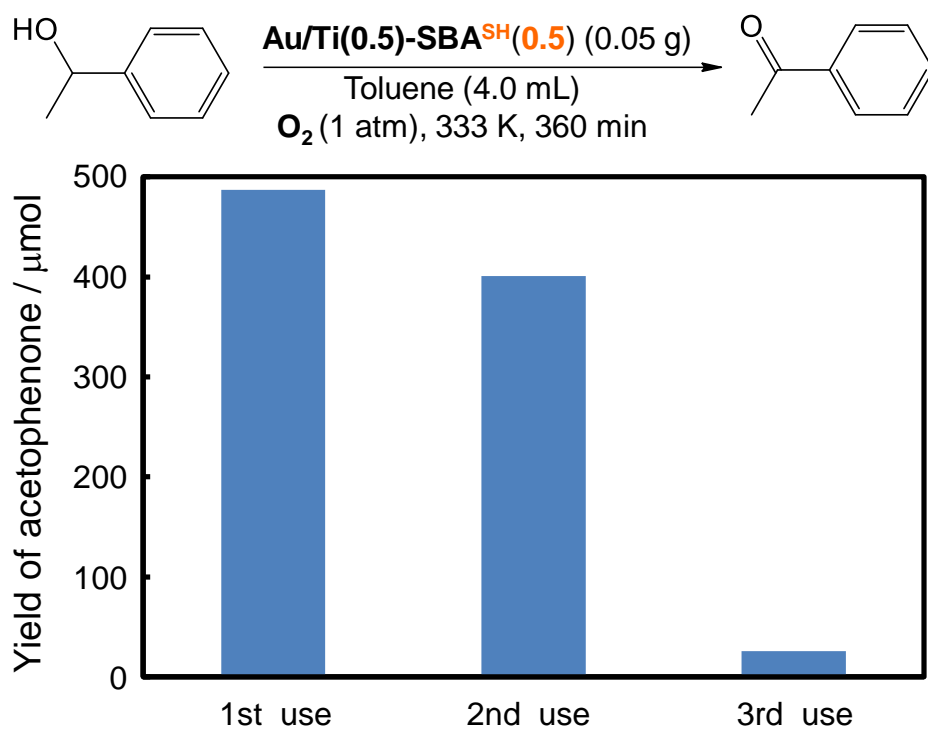


Figure S6: Reuse test of  $\text{Ti(0.5)-SBA}^{\text{SH}}(0.5)$  on the aerobic oxidation of 1-phenylethanol.