

**Supporting information**

**Highly dispersed, ultra-small and noble metal-free Cu nanodots supported on porous SiO<sub>2</sub> and their excellent catalytic hydrogenation of dimethyl oxalate to methyl glycolate**

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Ref	Reaction temperature (°C)	H <sub>2</sub> /DMO Ratio mol mol <sup>-1</sup>
This work Cu/SiO <sub>2</sub> (Sonochem)	220	200
This work Cu/SiO <sub>2</sub> (Hydrotherm)	210	200
3	210	300
6	180	150
11	200	80
13	80	17.5
14	220	110
5	220	80

Table. S1. Reaction condition of the catalysts used in the comparison of the catalytic performance(Related to Table 2).

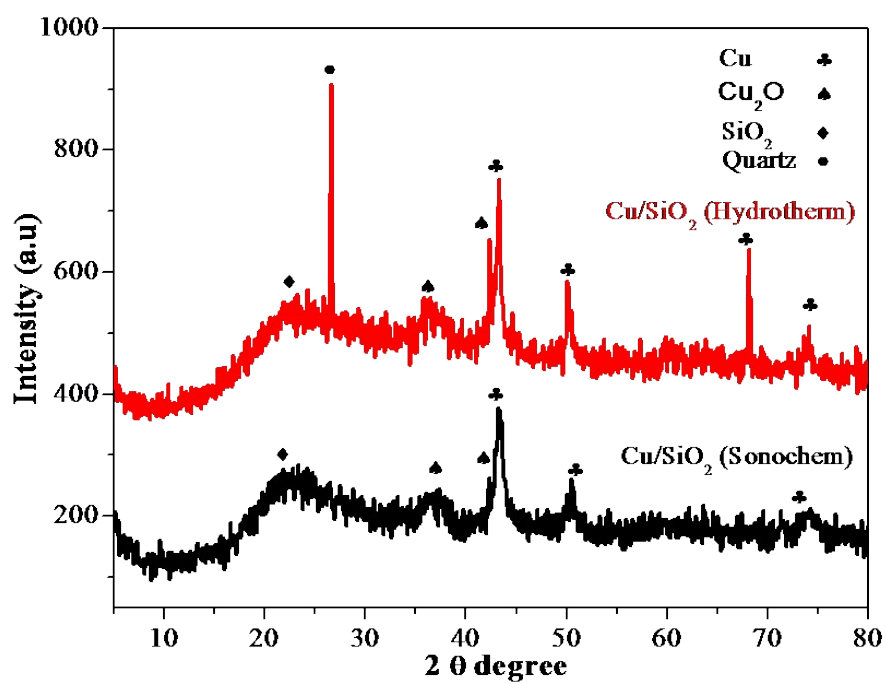


Fig. S1 XRD diffraction pattern for the spent Cu/SiO<sub>2</sub> catalyst synthesized by sonochemical and hydrothermal methods

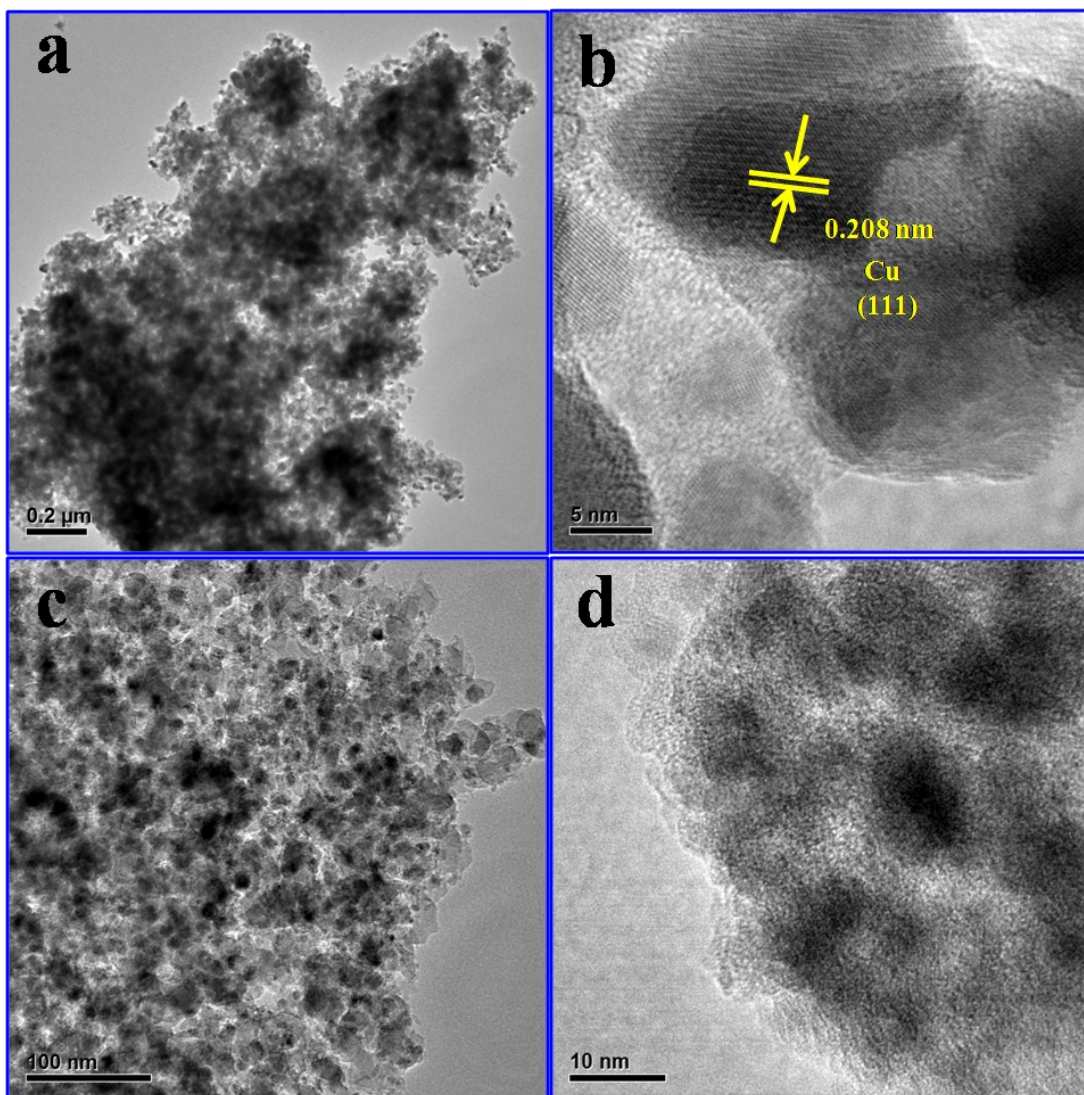


Fig. S2 TEM images of the spent Cu/SiO<sub>2</sub> catalysts synthesized by sonochemical and hydrothermal methods

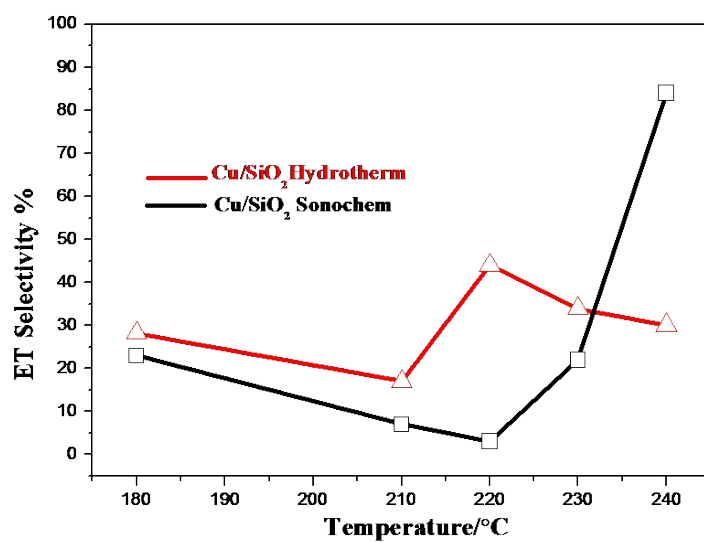


Fig. S3 ETOH selectivity for Cu/SiO<sub>2</sub> catalysts at different reaction temperatures.

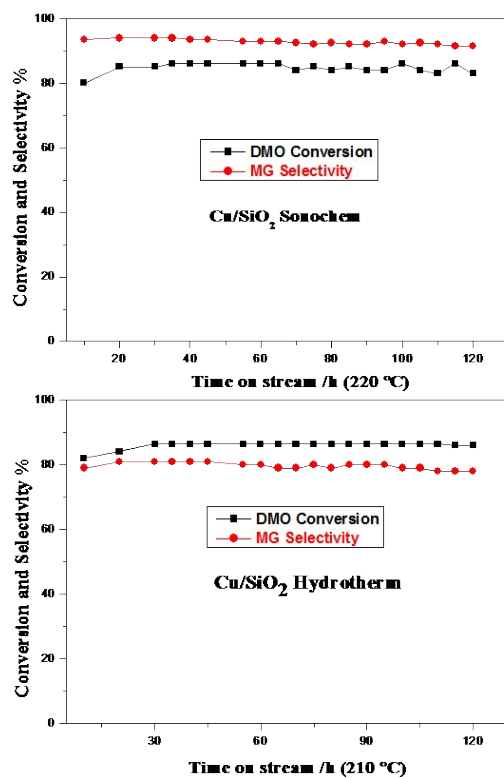


Fig. S4 Catalytic performance for Cu/SiO<sub>2</sub> catalysts at reaction condition of 2.5 MPa, H<sub>2</sub>/DMO of 200 mol mol<sup>-1</sup>, and WLHSV<sub>DMO</sub> of 0.257 g<sub>gatal</sub><sup>-1</sup> h<sup>-1</sup> for a period of 120 h.