
Supporting Information for

Synthesis of Highly Dispersed CuO Catalyst on CoAl-HT for Epoxidation of Styrene

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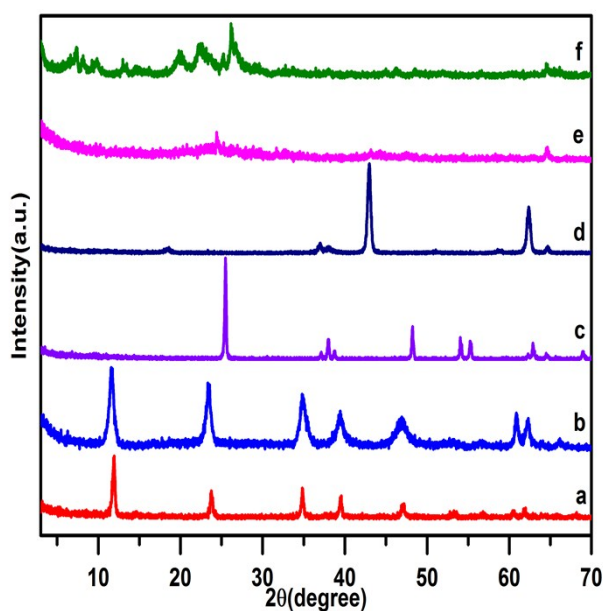


Fig. S1 XRD patterns of the different supported CuO catalysts
CuO/CoAl-HT (a), CuO/MgAl-HT (b), CuO/MgO (c), CuO/TiO₂ (d), CuO/C (e), CuO/MCM-22
(f)

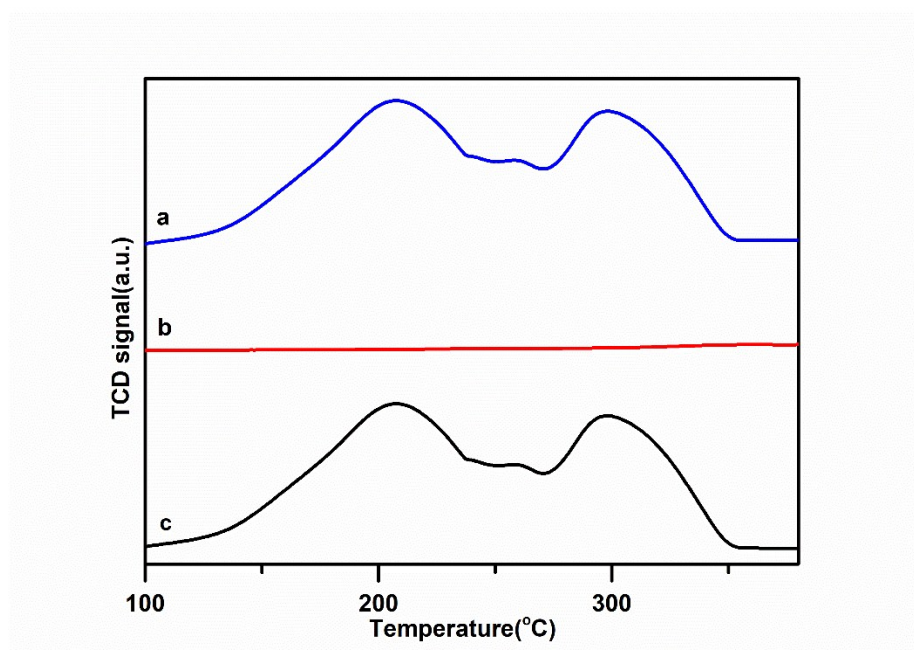


Fig. S2 TPR profiles of (a) CuO/CoAl-HT, (b) CoAl-HT support (c) CuO species in CuO/CoAl-HT

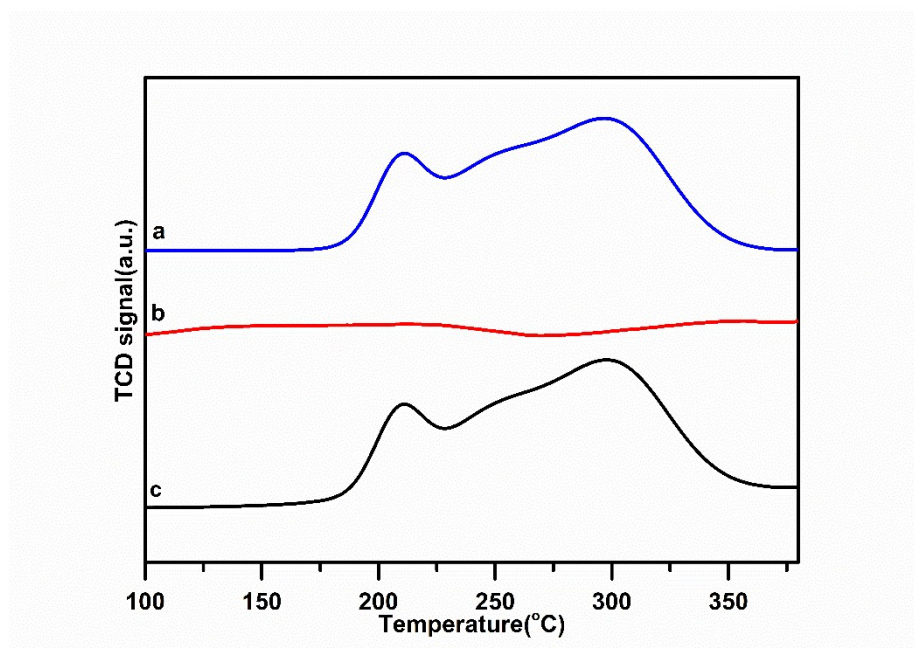


Fig. S3 TPR profiles of (a) CuO/MgAl-HT, (b) MgAl-HT support (c) CuO species in CuO/MgAl-HT

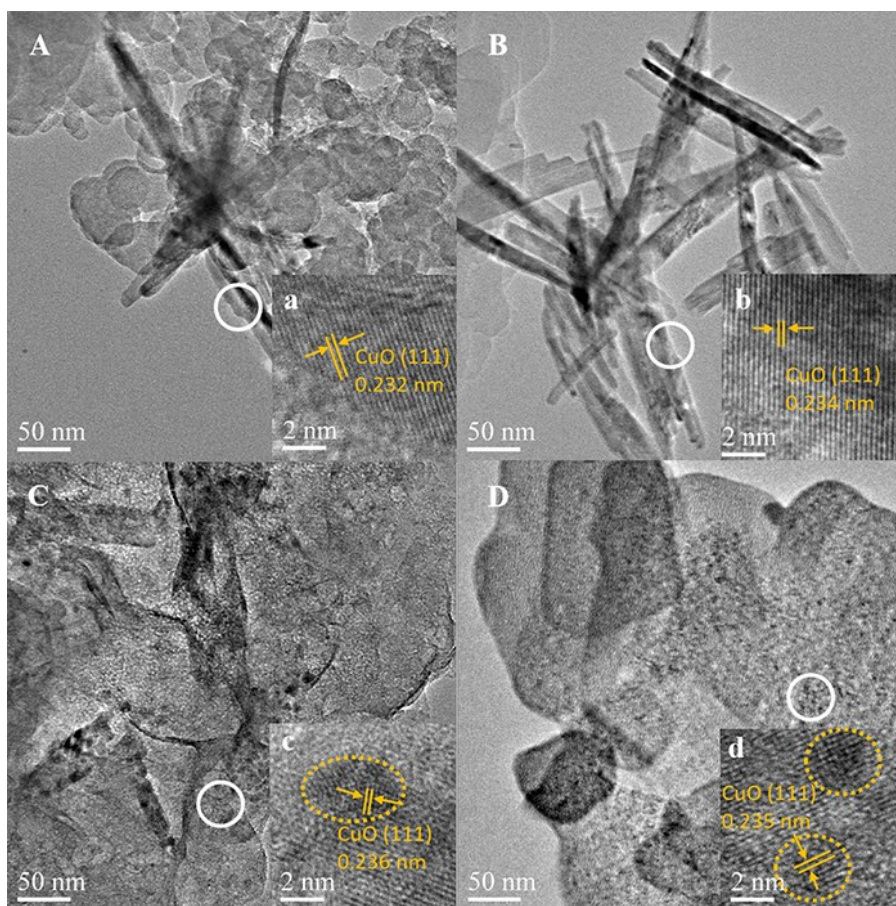


Fig. S4 HRTEM of (A) CuO/C (B) CuO/MCM-22 (C) CuO/MgAl-HT (D) CuO/CoAl-HT, (a), (d), (c) and (d) are the enlargement of (A), (B), (C) and (D), respectively.

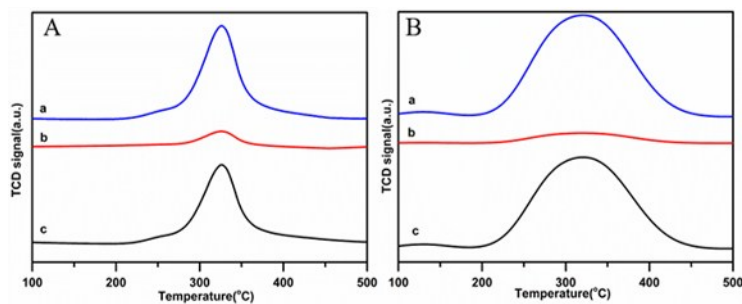


Fig. S5 CO₂-TPD profiles of (Aa) CuO/CoAl-HT and (Ba) CuO/MgAl-HT; TPD profiles without CO₂ adsorption of (Ab) CoAl-HT and (Bb) MgAl-HT; the final CO₂-TPD profiles under the consideration of HT structure change (Ac) CuO/CoAl-HT and (Bc) CuO/MgAl-HT (substrate b from a).

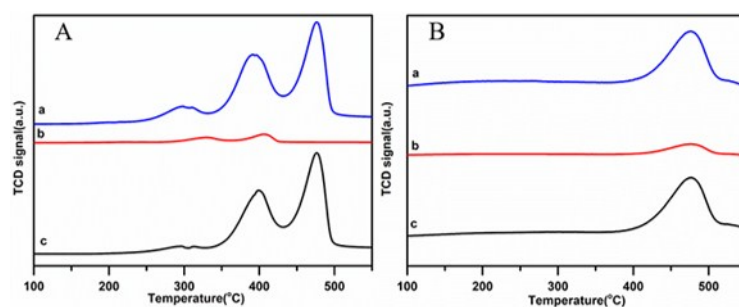


Fig. S6 NH₃-TPD profiles of (Aa) CuO/CoAl-HT and (Ba) CuO/MgAl-HT; TPD profiles without NH₃ adsorption of (Ab) CoAl-HT and (Bb) MgAl-HT; the final NH₃-TPD profiles under the consideration of HT structure change (Ac) CuO/CoAl-HT and (Bc) CuO/MgAl-HT (substrate b from a).

Table S1 The data of reusability of CuO/CoAl-HT catalyst

Reaction Cycles	1 group		2 group		3 group	
	Conv.	Sel.	Conv.	Sel.	Conv.	Sel.
	(%)	SO. (%)	(%)	SO. (%)	(%)	SO. (%)
1 st	99.4	72.3	99.6	71.9	99.5	71.8
2 nd	99.0	73.6	98.4	73.1	99.0	73.4
3 rd	98.9	74.0	99.1	74.9	99.2	75.4
4 th	97.2	70.8	97.3	71.3	97.4	70.9
5 th	95.2	70.0	95.1	69.6	94.5	69.8