Supporting Information

Facile synthesis of ordered mesoporous zinc alumina catalysts and dehydrogenation behavior

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S1. NH_3-TPD analysis

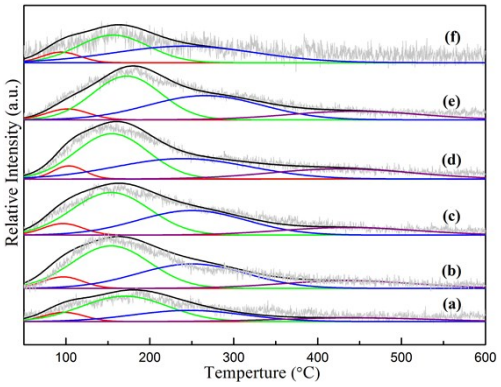

Fig. S1. The NH_3-TPD profiles of the as-synthesized xZn/Al_2O_3 catalysts and Al_2O_3: (a) Al_2O_3; (b) $3\%Zn/Al_2O_3$; (c) $5\%Zn/Al_2O_3$; (d) $7\%Zn/Al_2O_3$; (e) $10\%Zn/Al_2O_3$; (f) $15\%Zn/Al_2O_3$.

S2. NH_3-TPD profiles

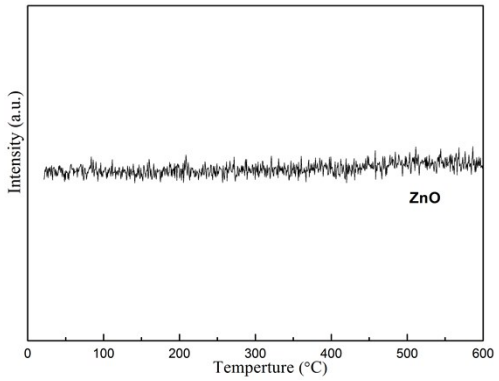

Fig. S2. The NH_3-TPD profile of ZnO.

S3. The catalytic dehydrogenation of isobutane over the ordered mesoporous Al_2O_3 and commercial ZnO.

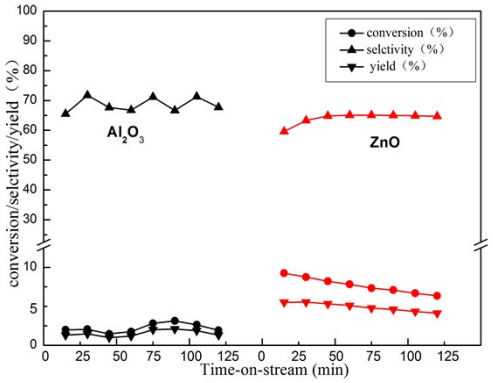

Fig. S3. The catalytic dehydrogenation of isobutane over the ordered mesoporous Al_2O_3 and commercial ZnO. Reaction condition: T = 580 °C, GHSV = 300 h^{-1}.

S4. Nitrogen adsorption–desorption analysis

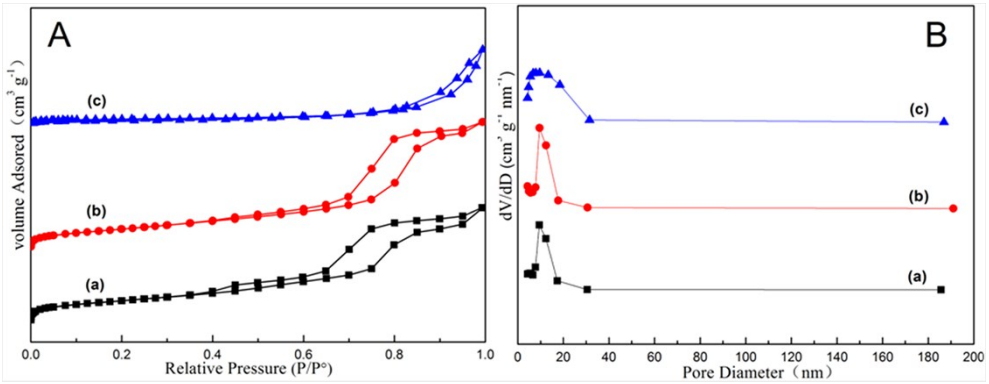

Fig. S4. The nitrogen adsorption–desorption analysis of the catalysts: (a) the spent10%Zn/Al_2O_3; (b) the fifth regenerated 10%Zn/Al_2O_3; (c) the spent 15%Zn/Al_2O_3.