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$_2$O$_3$ catalysts and Al$_2$O$_3$: (a) Al$_2$O$_3$; (b) 3\%Zn/Al$_2$O$_3$; (c) 5\%Zn/Al$_2$O$_3$; (d) 7\%Zn/Al$_2$O$_3$; (e) 10\%Zn/Al$_2$O$_3$; (f) 15\%Zn/Al$_2$O$_3$.

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$_2$O$_3$ and commercial ZnO.

Fig. S3. The catalytic dehydrogenation of isobutane over the ordered mesoporous Al$_2$O$_3$ 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 spent 10%Zn/Al₂O₃; (b) the fifth regenerated 10%Zn/Al₂O₃; (c) the spent 15%Zn/Al₂O₃.