## **Supporting Information**

## Catalytic dehydrogenation of isobutane over Co-based catalysts

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Fig. S1 Catalytic performance of sulfided 13Co/SiO<sub>2</sub> catalyst calcined at 560 °C in isobutane dehydrogenation.



**Fig. S2** Catalytic performance of sulfided Co/SiO<sub>2</sub> catalyst calcined at 560 °C within different sulfidation-reaction cycles.