Supplementary information

Unexpected highly reversible topotacticCO_2 sorption/desorption capacity for potassium dititanate

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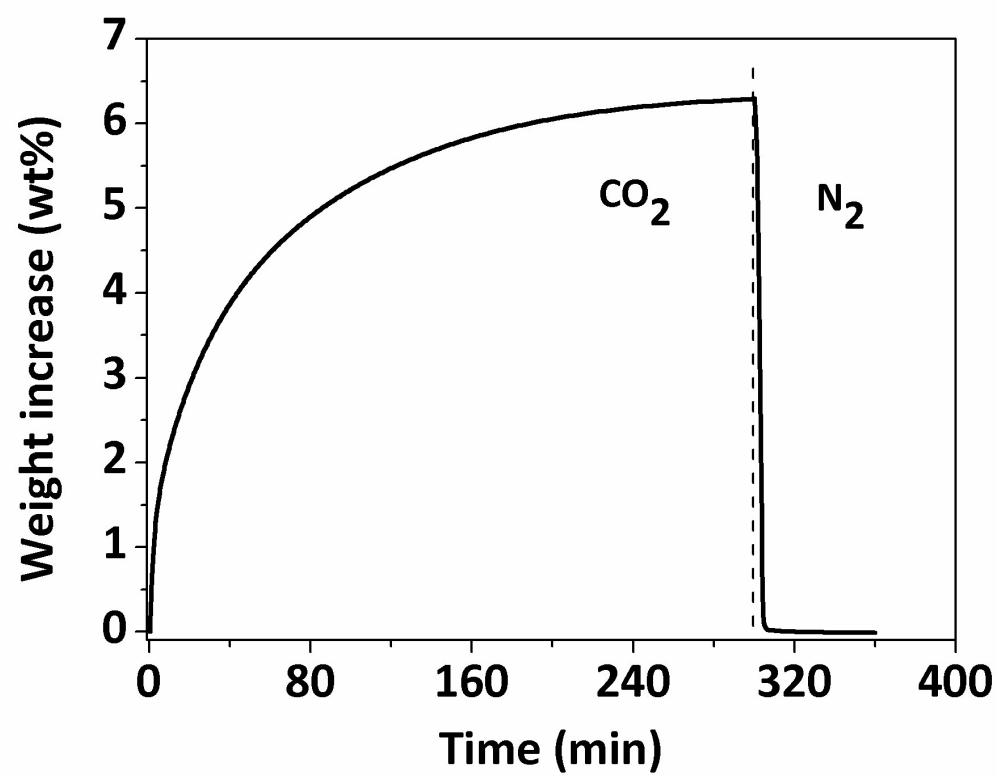

Figure S1. One CO_2 sorption/desorption cycle over $K_2Ti_2O_5$ both tested at 750 ^oC, which clearly indicates that the regeneration of the adsorbent $K_2Ti_2O_5$ in N_2 is very rapid (< 6 min).

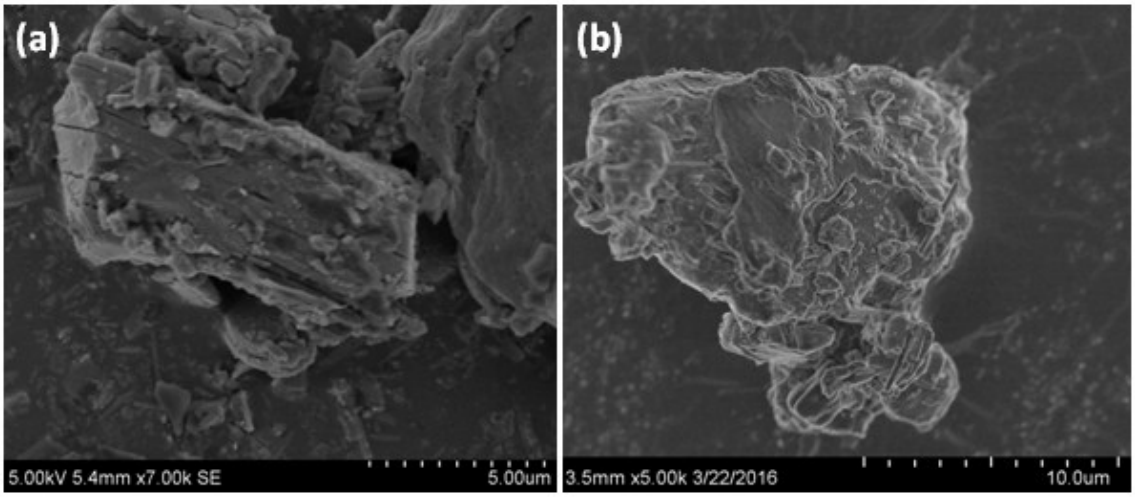

Figure S2. SEM images of (a) fresh $K_2Ti_2O_5$, and (b) $K_2Ti_2O_5$thermally treated at 750 ^oC in N_2 for 10.0 h.

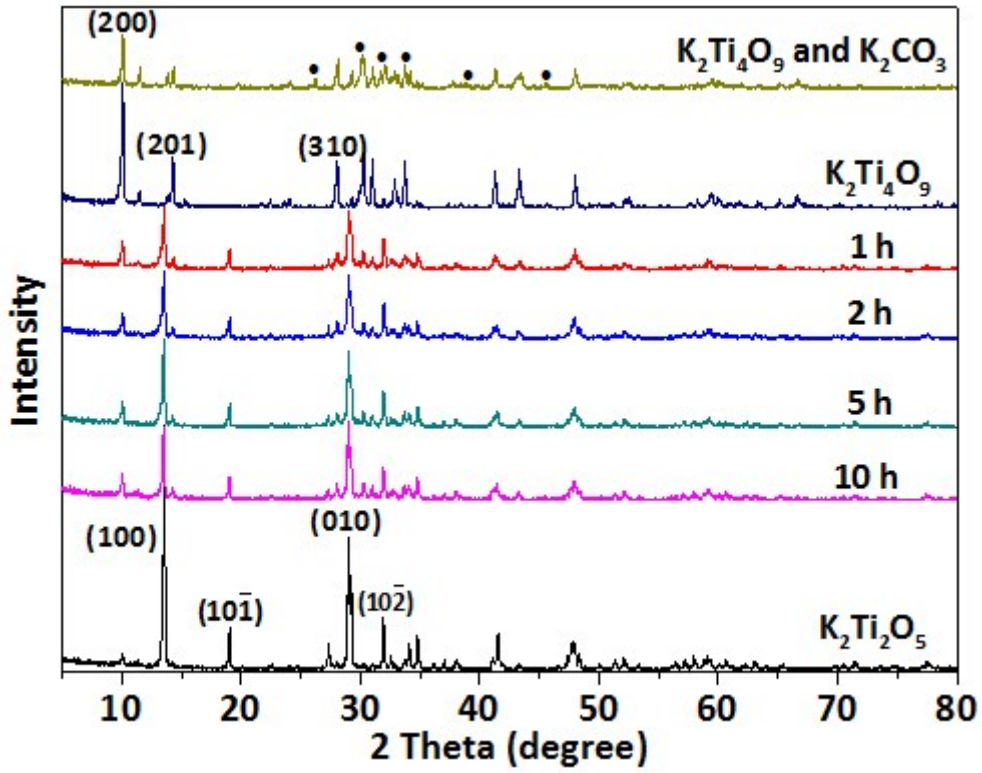

Figure S3. XRD patterns of fresh $K_2Ti_2O_5$, the mixture of $K_2Ti_4O_9$ and K_2CO_3, and the thermally treated mixture of $K_2Ti_4O_9$ and K_2CO_3 with a ratio of 1:1 at 750 ^oC for 1.0, 2.0, 5.0, and 10.0 h, respectively, (•) K_2CO_3.