Supporting Information

Crystal Phase Effects on the Structure and Performance of Ruthenium Nanoparticles for the CO_2 Hydrogenation

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† Electronic Supplementary Information (ESI) available: the characterization data of XRD, Raman, HAADF-STEM, HRTEM and H_2-TPR results. See DOI: 10.1039/b000000x/

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Supporting figures

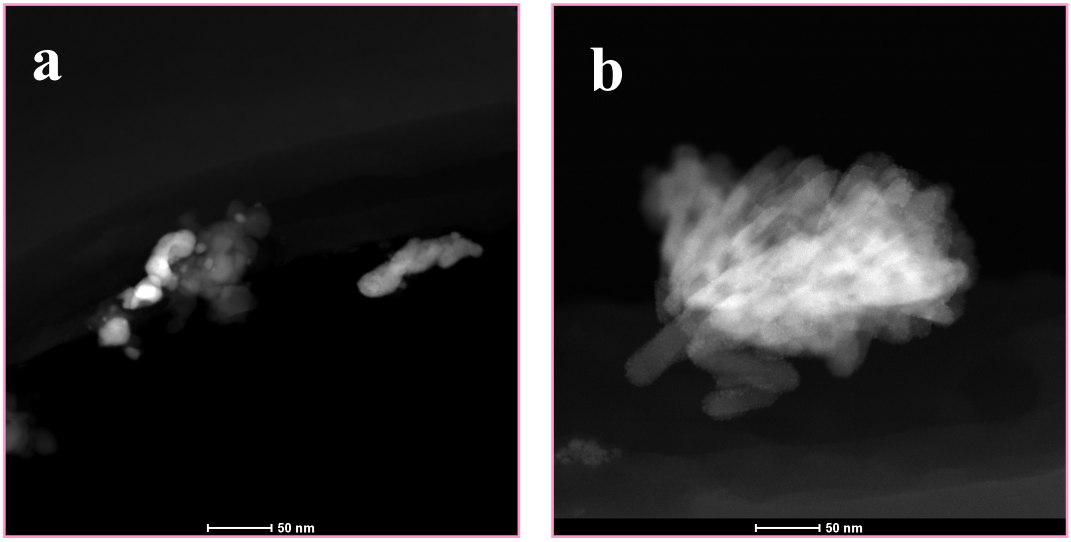

Fig. S1 HAADF-STEM images of Ru catalysts with relatively low magnification

(a), Ru/a-TiO_2; (b), Ru/r-TiO_2.

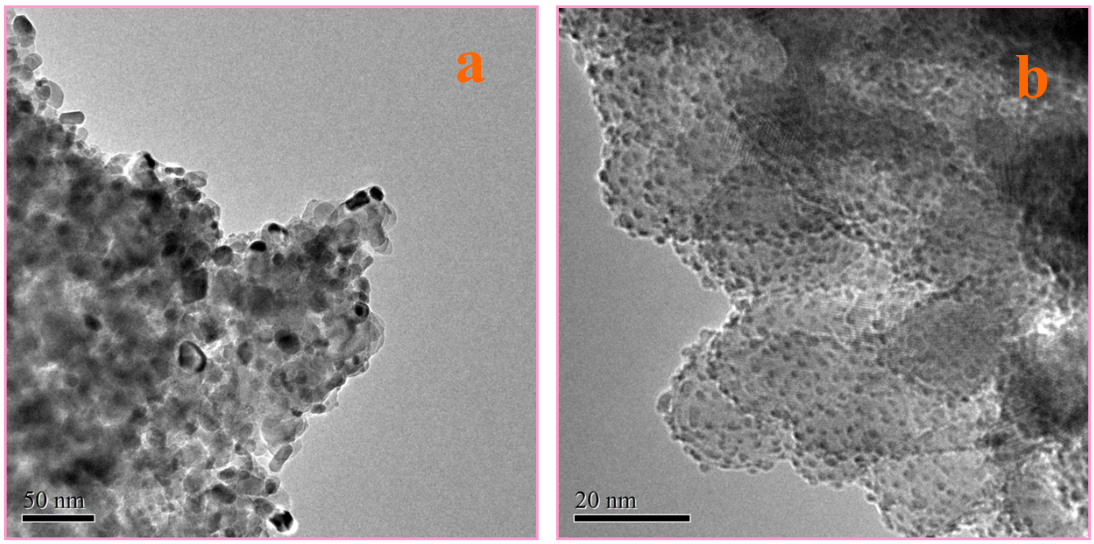

Fig. S2 HRTEM images of (a) Ru/a-TiO_2 and (b) Ru/r-TiO_2 catalysts

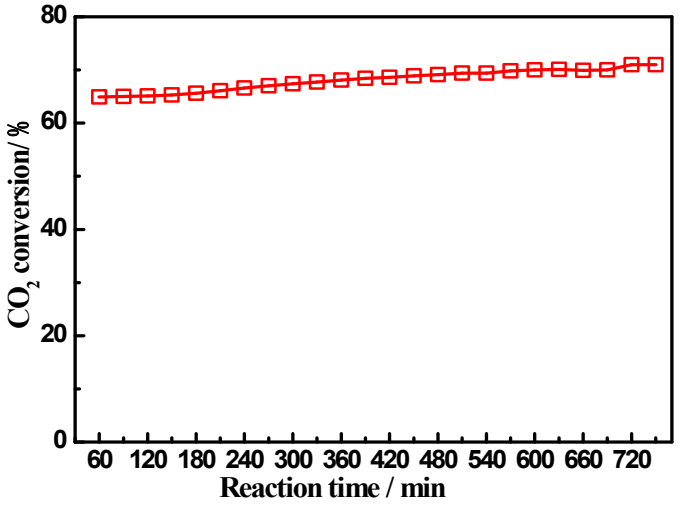

Fig. S3 CO_2 conversion as a function of the reaction time at 300 °C for Ru/r-TiO_2 catalysts

Reaction conditions: 18 vol% CO_2 + 72% H_2 + 10% N_2, catalyst: Each 0.040g diluted with 0.400g SiO_2, total space velocity: 75,000 mL g_{cat}^{-1} h^{-1}.

Table S1 The calculated results of H_2-TPR results

	RuO_x/r-TiO_2	RuO_x/a-TiO_2
H_2 consumption (mL g_{cat}^{-1})	15.4	16.8