Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

In-Situ DRIFTS Mechanistic Study of CeO_2-Catalyzed Acetylene Semihydrogenation Reaction

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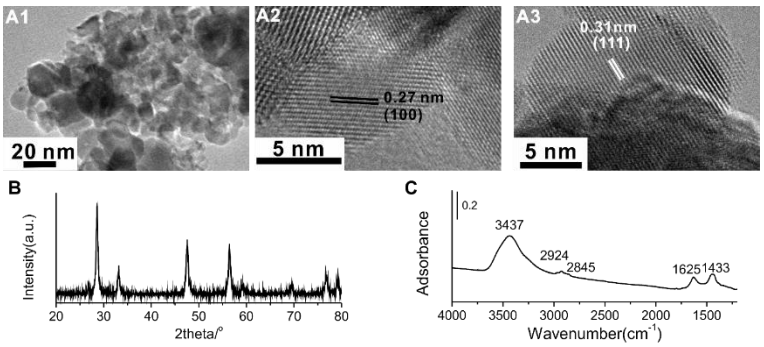

Figure S1. (A1-A3) TEM and HRTEM images, (B) XRD pattern, and (C) infrared spectra of as-purchased CeO_2 catalyst.

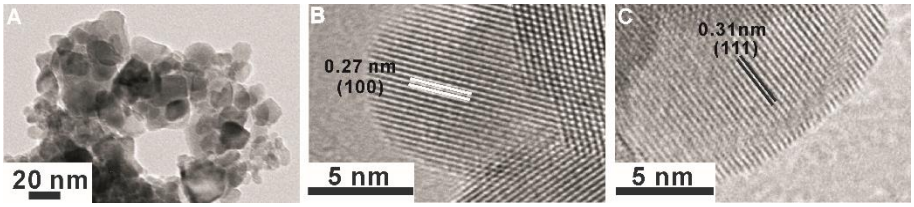

Figure S2. TEM and HRTEM images of CeO_2 catalyst after the acetylene hydrogenation catalytic reaction.

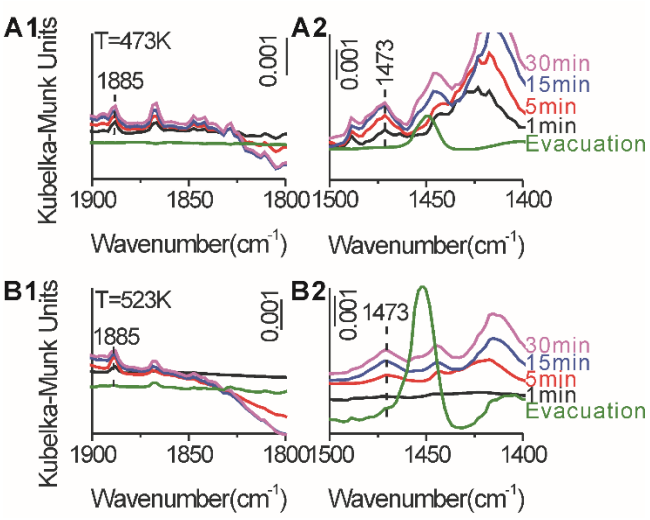

Figure S3. In-situ time-resolved DRIFTS spectra of C_2H_2 hydrogenation reaction on CeO_2 catalyst with enlarged parts of gas-phase C_2H_4 signals at (A) 473 and (B) 523 K.