SUPPLEMENTARY INFORMATION

Heterolytic and heterotopic dissociation of hydrogen on ceria-supported gold nanoparticles. Combined inelastic neutron scattering and FT-IR spectroscopic study on the nature and reactivity of surface hydrogen species

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Figure S1. IR spectra of Au/CeO_2 catalysts upon exposure to 50 mbar H_2 (a) or D_2 (b) at 423K. Inset: Expansion of the Au-H IR band after adding 50 mbar H_2 or D_2. Activation of the sample the same in both cases. Spectra normalized to sample weight.

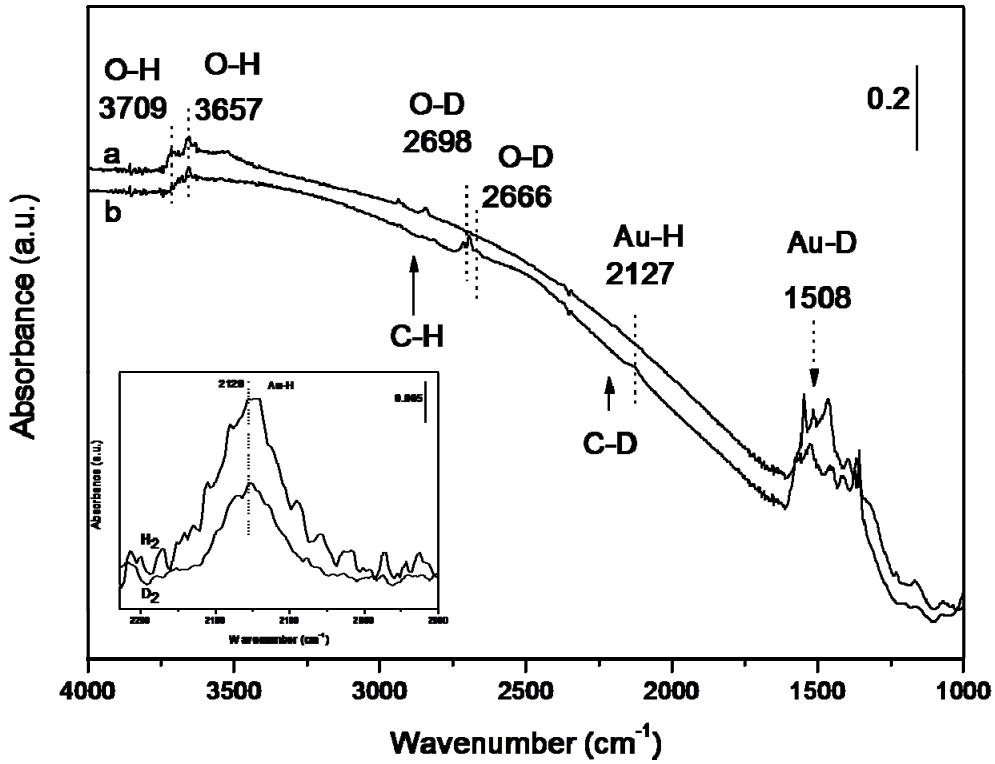

Figure S2. Left: IR spectra of the Au/CeO_2 sample after a) 50 mbar H_2 at 423 K for 2h and evacuated at 323 K; b) subsequent exposure to 50 mbar $^{18}O_2$ at 298 K; c) further evacuation at 423 K. Right: Comparative IR spectra of the Au/CeO_2 sample after 50 mbar $^{16}O_2$ adsorption at 298 K (a) an further evacuation at 423 K (b). The same spectra after adsorption of 50 mbar $^{18}O_2$ (a and b). Activation of the sample the same in both cases.