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Supporting Information

Direct Evidence for the Participation of Oxygen Vacancies in the Oxidation of Carbon Monoxide over Ceria-Supported Gold Catalysts by using Operando Raman Spectroscopy

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cctc_201501129_sm_miscellaneous_information.pdf

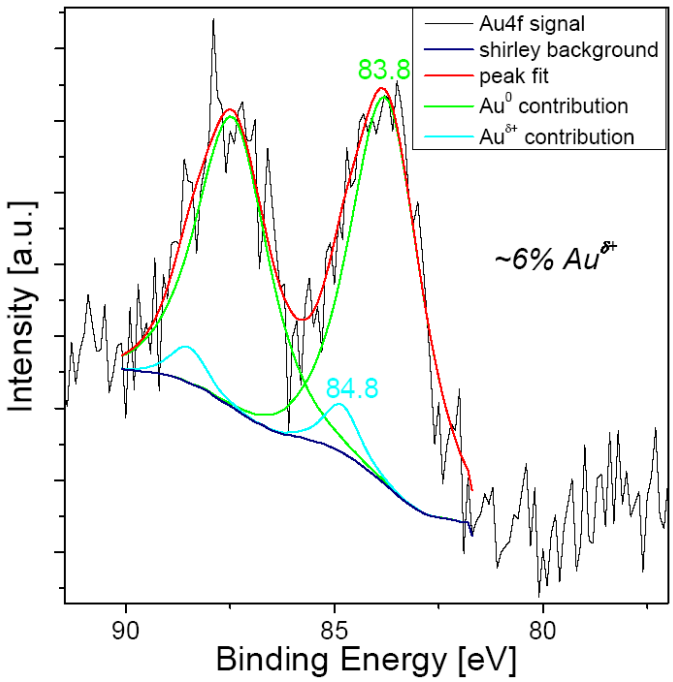

Figure S1. Au 4f photoemission of 0.5 wt% Au/CeO_2. Data analysis included subtraction of a Shirley background and a least-square fitting using Gauss-Lorentz (70:30) product functions.

Detailed analysis of the Ce 3d photoemission of 0.5 wt% Au/CeO_2 revealed a Ce^{3+} surface contribution of 14.6%. Details of the analysis of the Ce 3d emission are given elsewhere.[17]

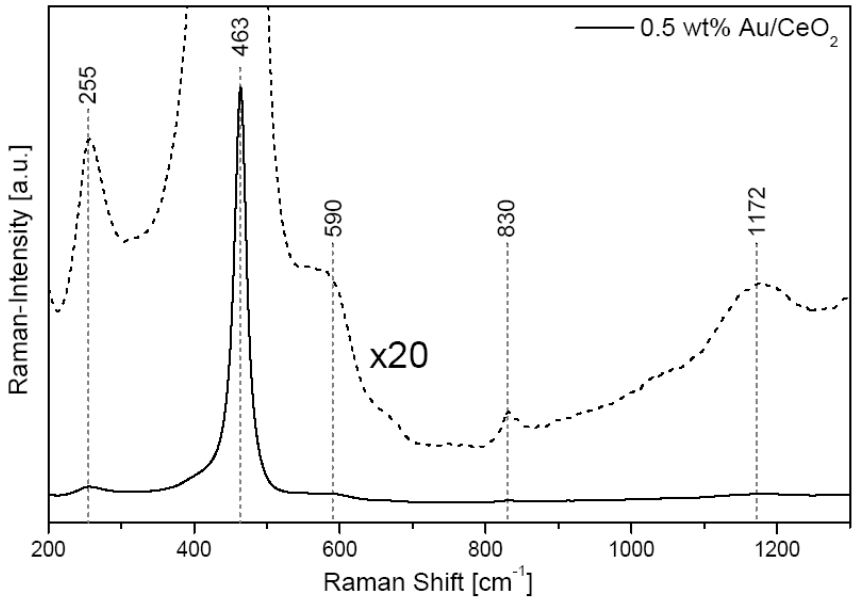

Figure S2. Raman spectrum of 0.5 wt% Au/CeO_2. The dashed curve shows an enlarged view.

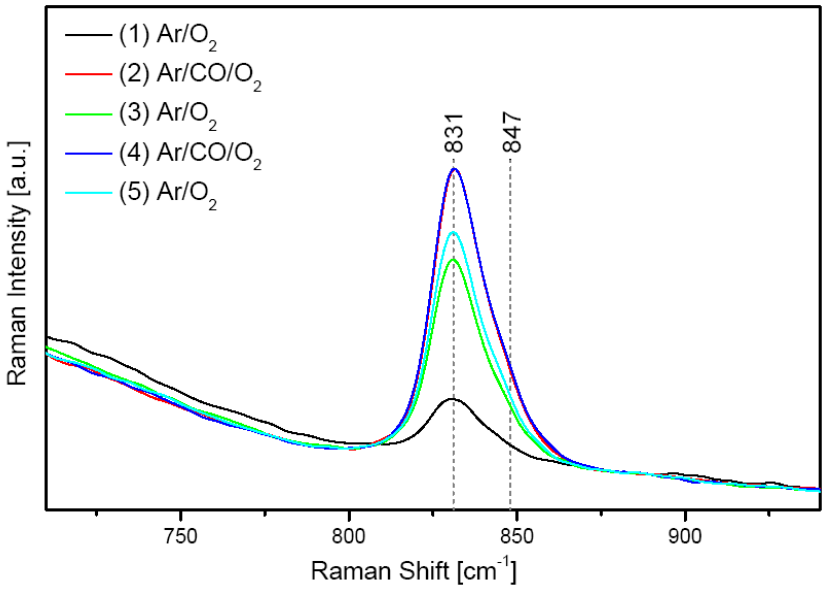

Figure S3. *Operando* Raman spectra of bare ceria taken during cycling between Ar/O_2 (3:1) and $Ar/CO/O_2$ (25:1:5). Spectra were normalized to the intensity at 990 cm^{-1}**.**