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

Supplementary Information for:

Cu Supported on Mesoporous Ceria: Water Gas Shift Activity at Low Cu Loadings through Metal-Support Interactions

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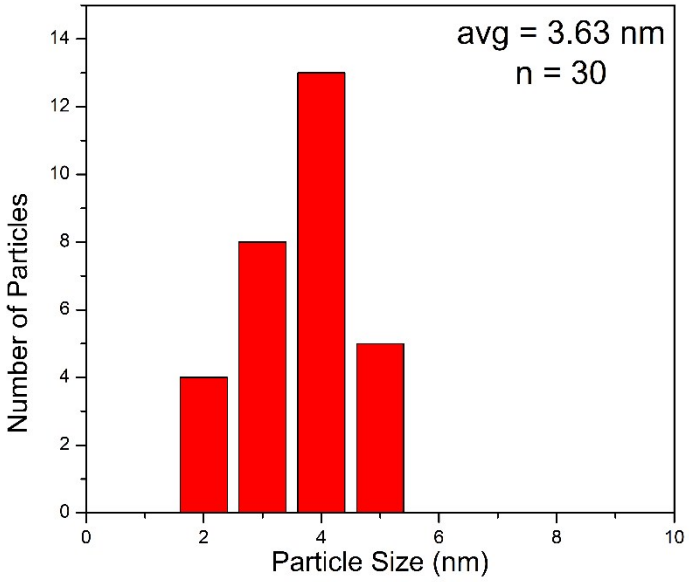

Figure S 1: CuO Particle size distribution for **5CuCe** *via HRTEM*

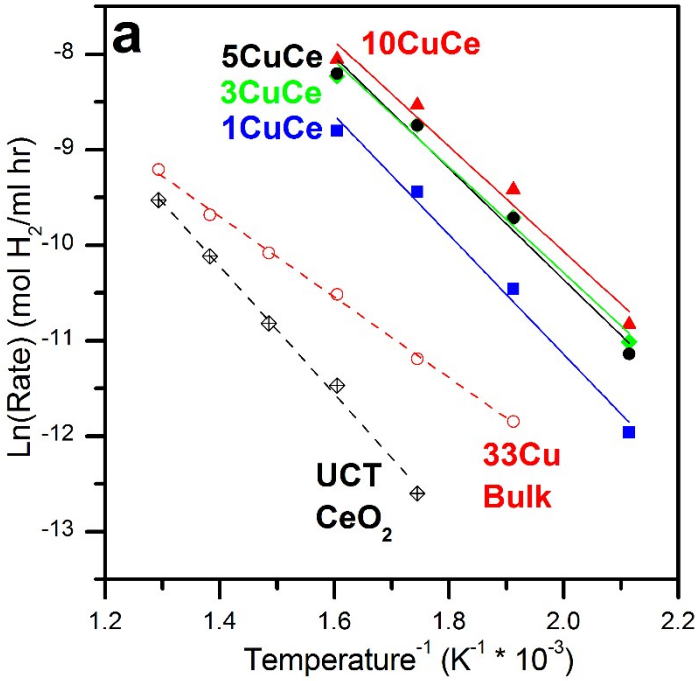

Figure S 2: Arrhenius plot for mesoporous CeO_2 (UCT CeO_2) and Cu/CeO_2 catalysts, as well as 33% Cu impregnated commercial CeO_2. Normalized by surface area.

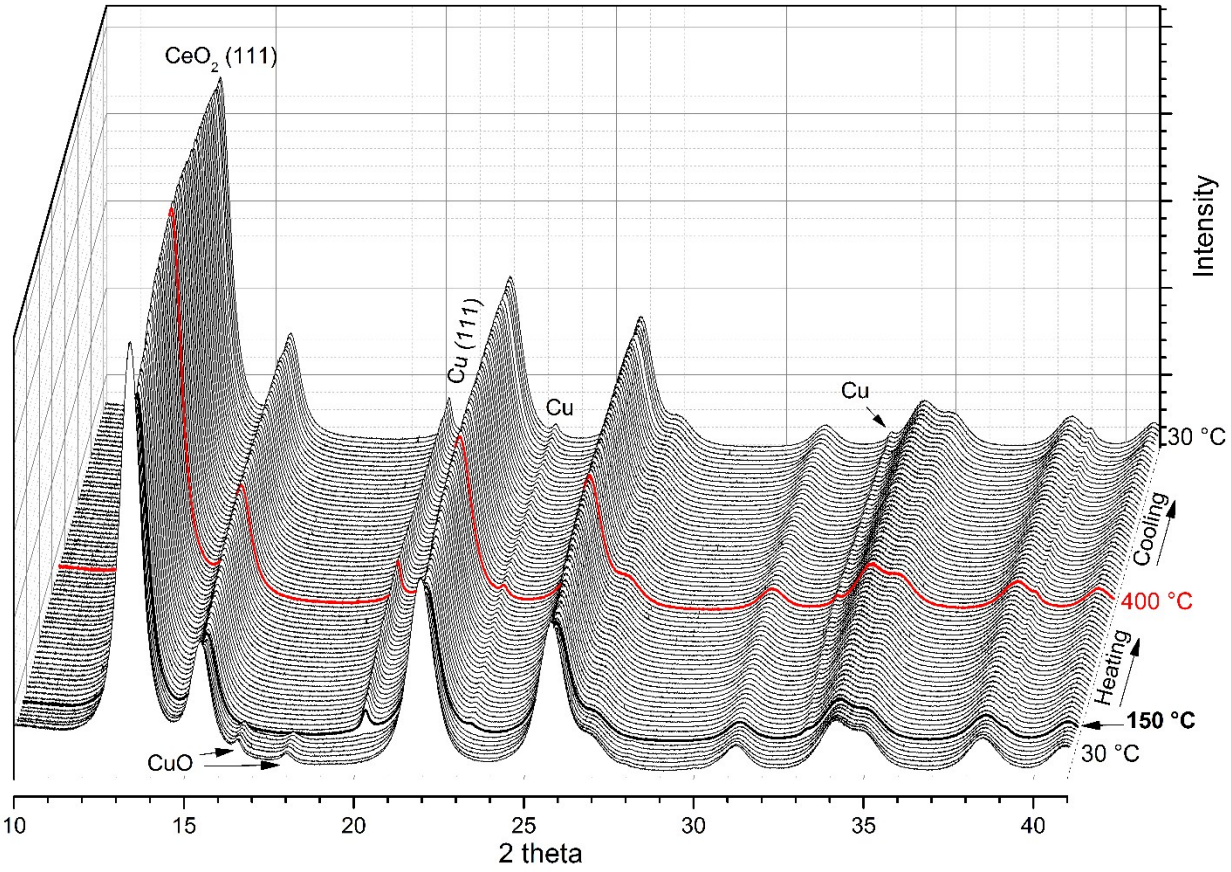

Figure S 3 Operando X-ray Diffraction plot for **10CuCe**.

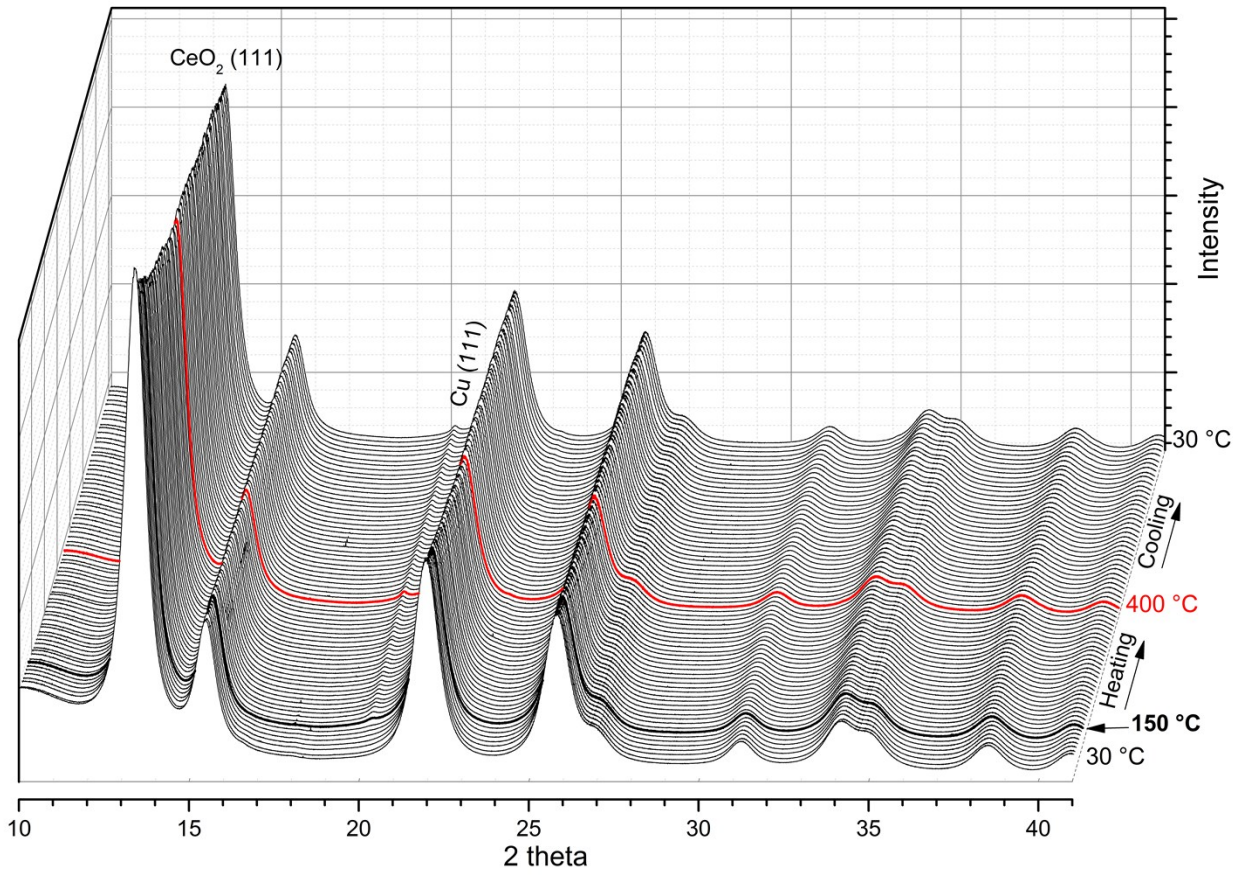

Figure S 4 Operando X-ray Diffraction plot for **3CuCe**.

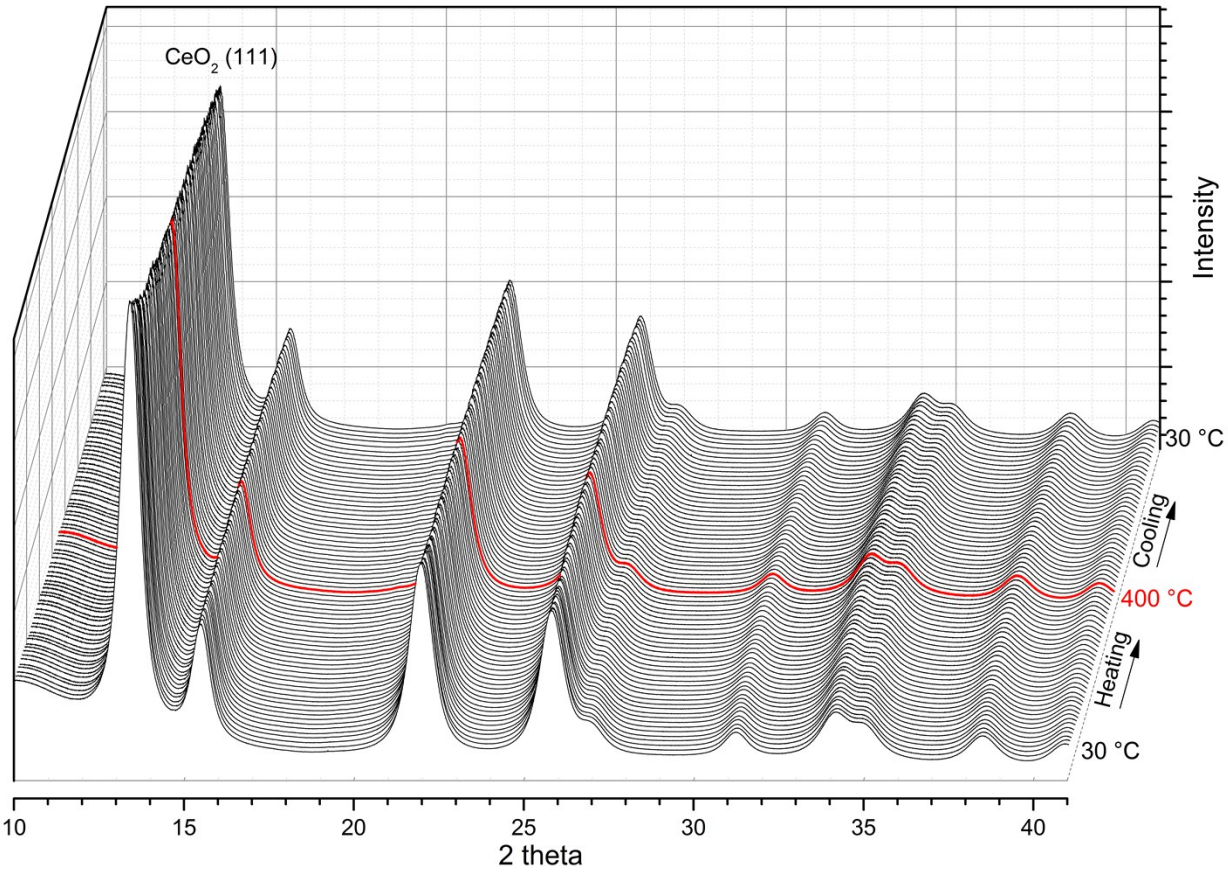

Figure S 5 Operando X-ray Diffraction plot for **1CuCe**.

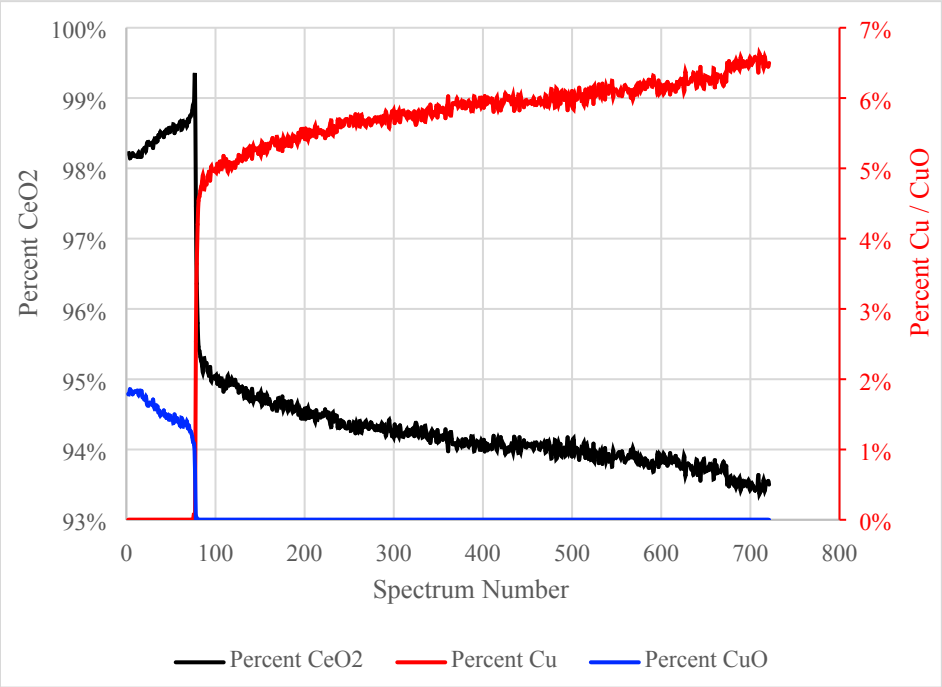

Figure S 6 Phase composition of **5CuCe** *on heating and cooling. From Rietveld model of XRD data.*

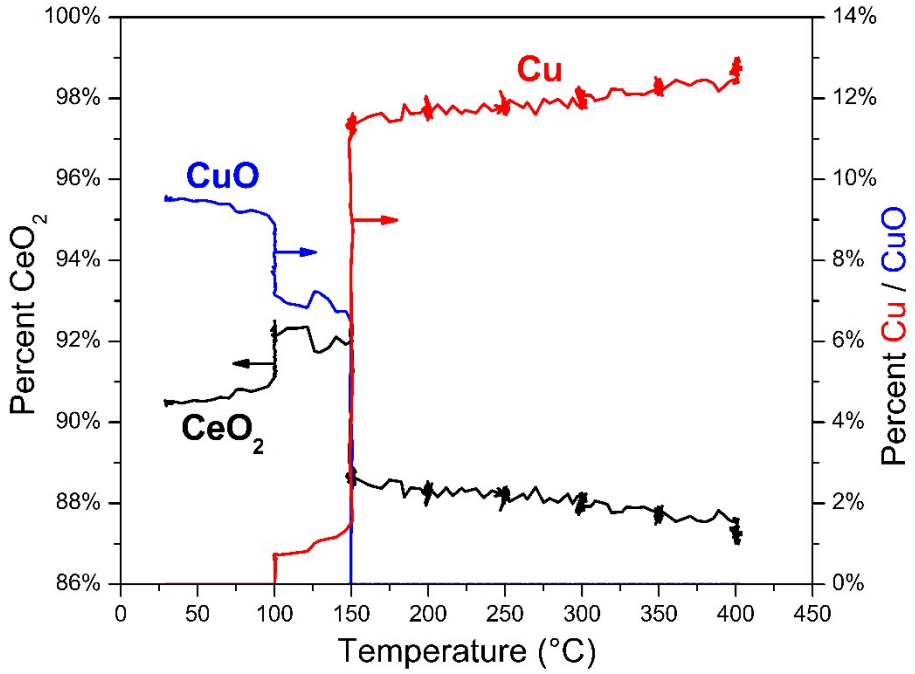

Figure S 7 Phase composition of **10CuCe** *on heating. From Rietveld model of XRD data.*

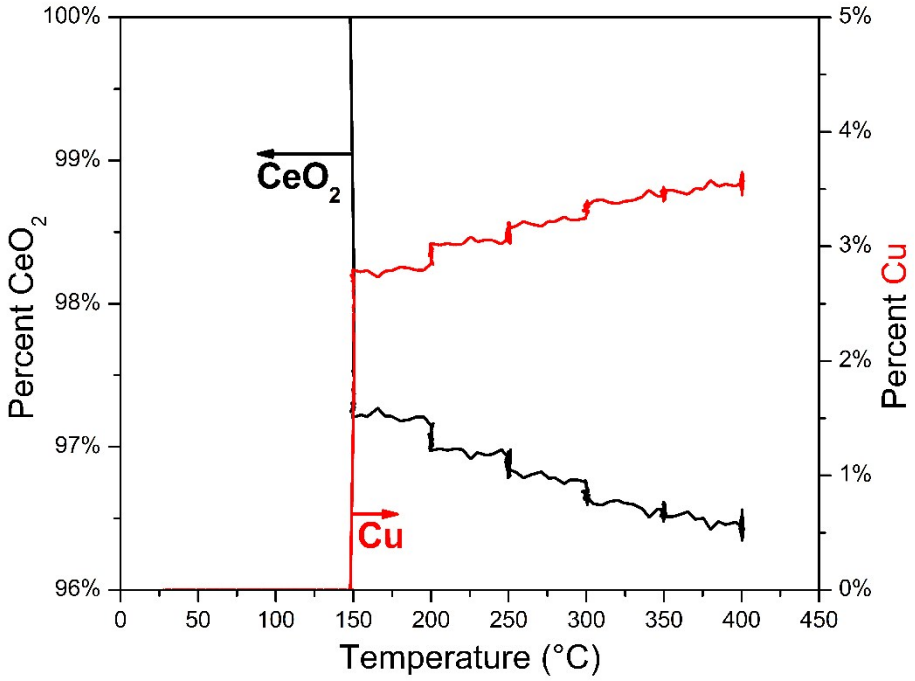

Figure S 8 Phase composition of **3CuCe** *on heating. From Rietveld model of XRD data.*

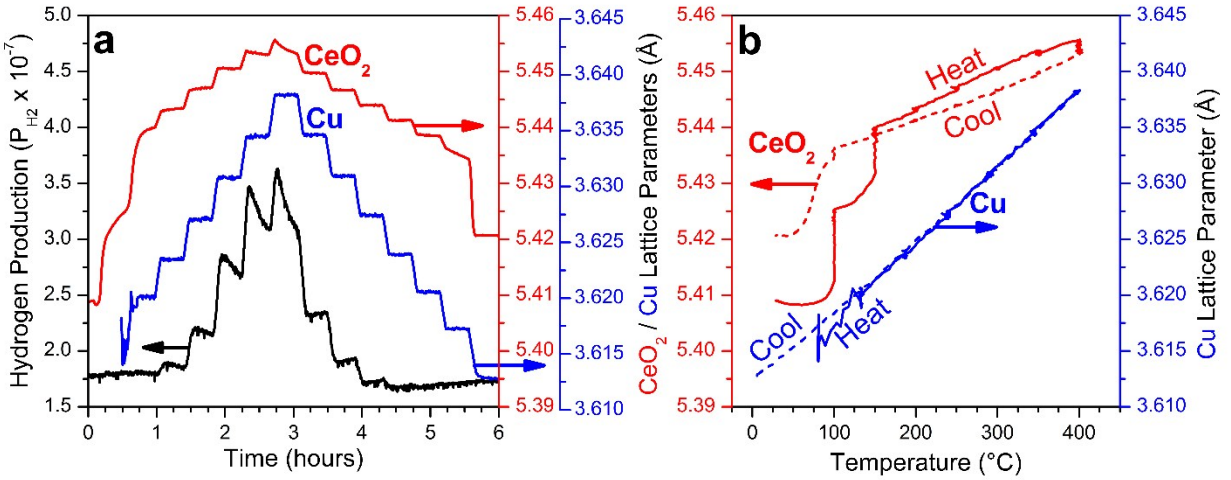

Figure S 9 (a) Cu and CeO_2 lattice parameters from **10CuCe** *with H_2 production. (b) Cu and CeO_2 lattice parameters over temperature.*

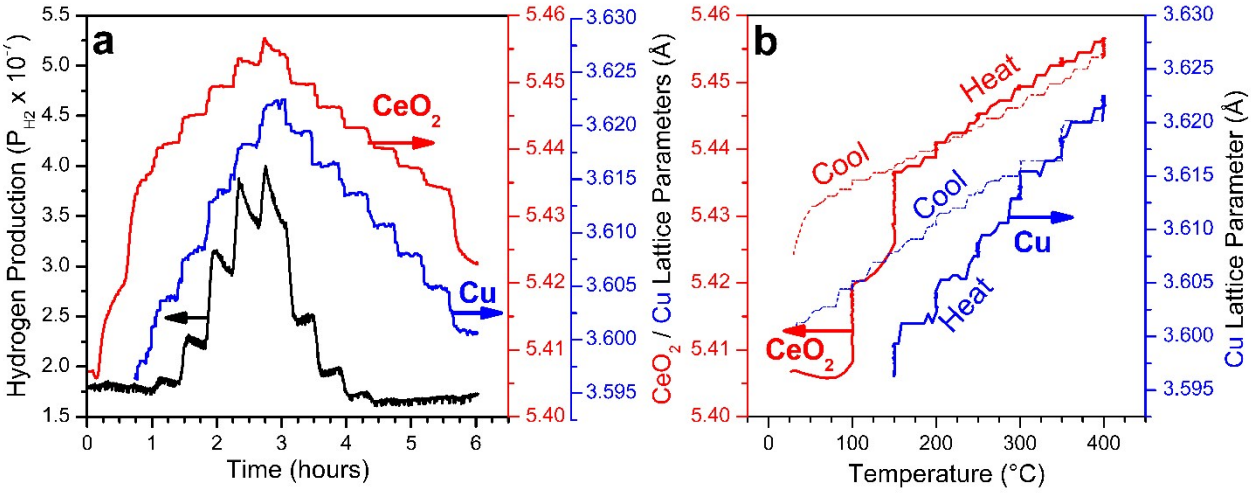

Figure S 10 (a) Cu and CeO_2 lattice parameters from **3CuCe** *with H_2 production. (b) Cu and CeO_2 lattice parameters over temperature.*

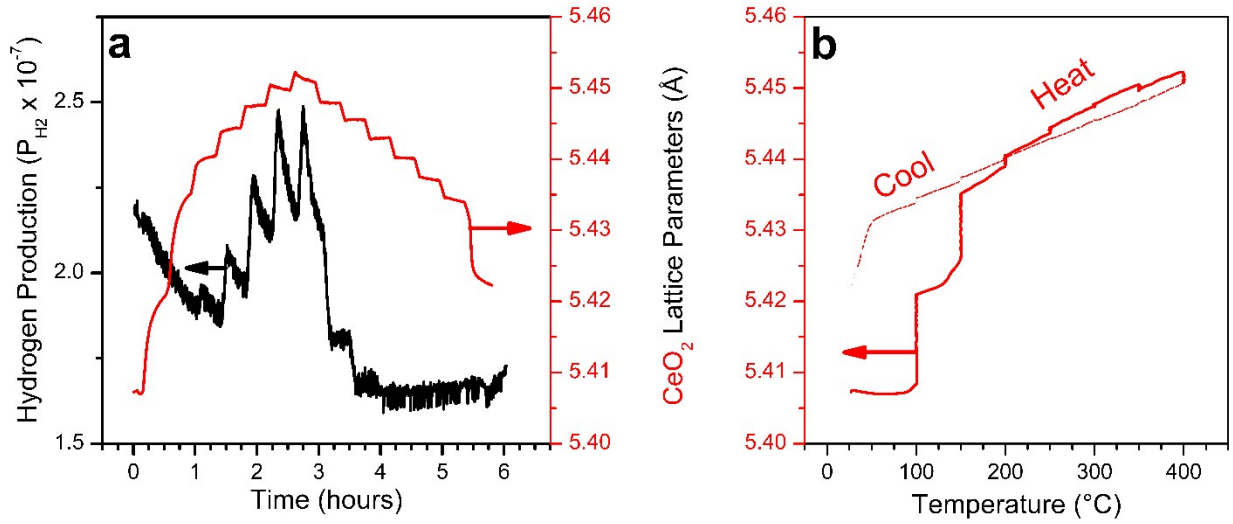

Figure S 11 (a) CeO_2 lattice parameter from **1CuCe** *with H_2 production. (b) CeO_2 lattice parameter over temperature.*

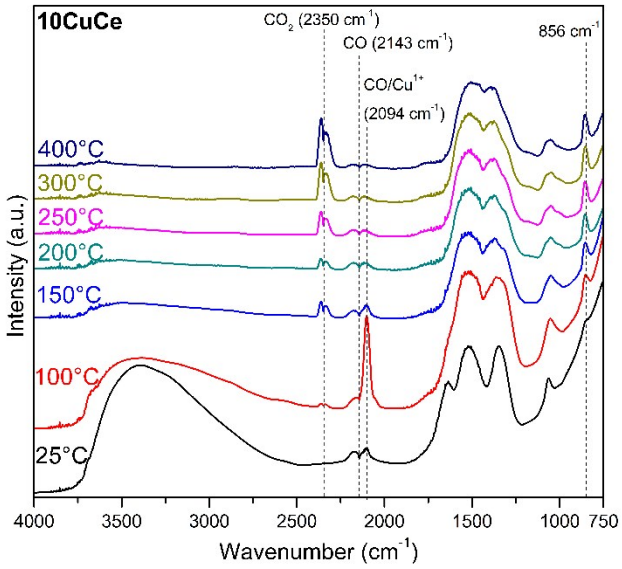

Figure S 12 In-situ DRIFTS: **10CuCe** *under WGS conditions.*