Supplementary Information

Probing the Redox Capacity of Pt-CeO_2 Model Catalyst for Low-Temperature CO Oxidation

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S1. LEED of CeO_2(111) buffer layers

The representative LEED patterns obtained from clean Ru(0001) and CeO_2(111) buffer layer are shown in Figure S1.

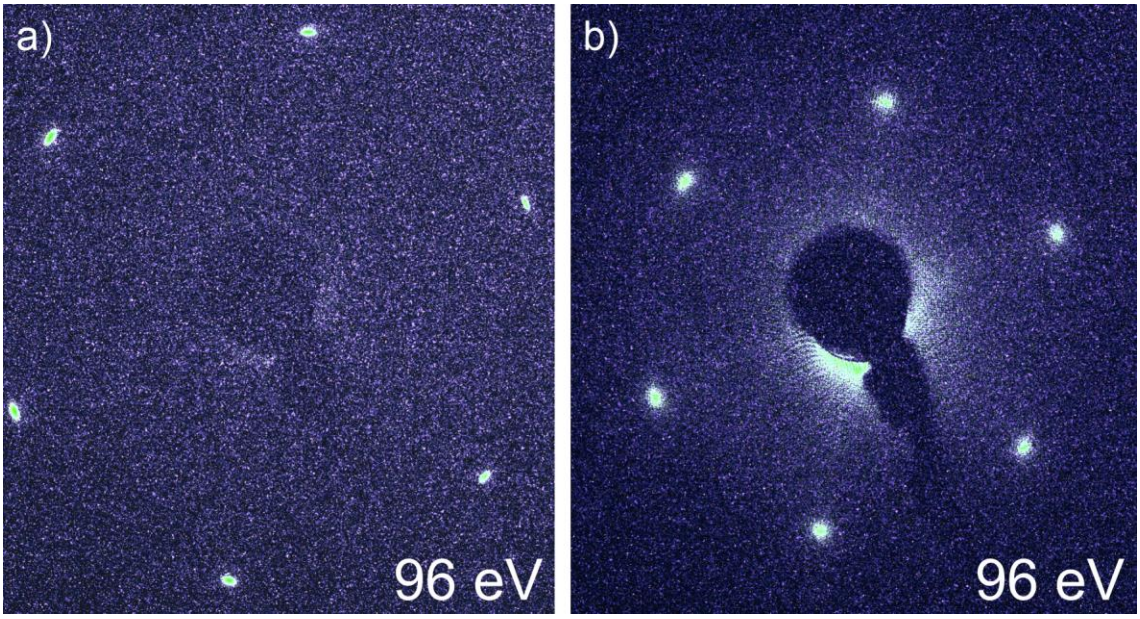

Figure S1. Typical LEED patterns of clean Ru(0001) substrate (a) and the CeO_2(111) buffer layer (b).

S2. XPS of Ce 3d

The representative Ce 3*d* XP-spectra obtained from samples 1.1 and 2.1 before and after the exposure to CO are shown in Figure S2. The spectral components in the Ce 3d core level spectra were fitted with parameters discussed in our previous work.[S1] The assignments of the doublets were also made according to our previous work.[S1]

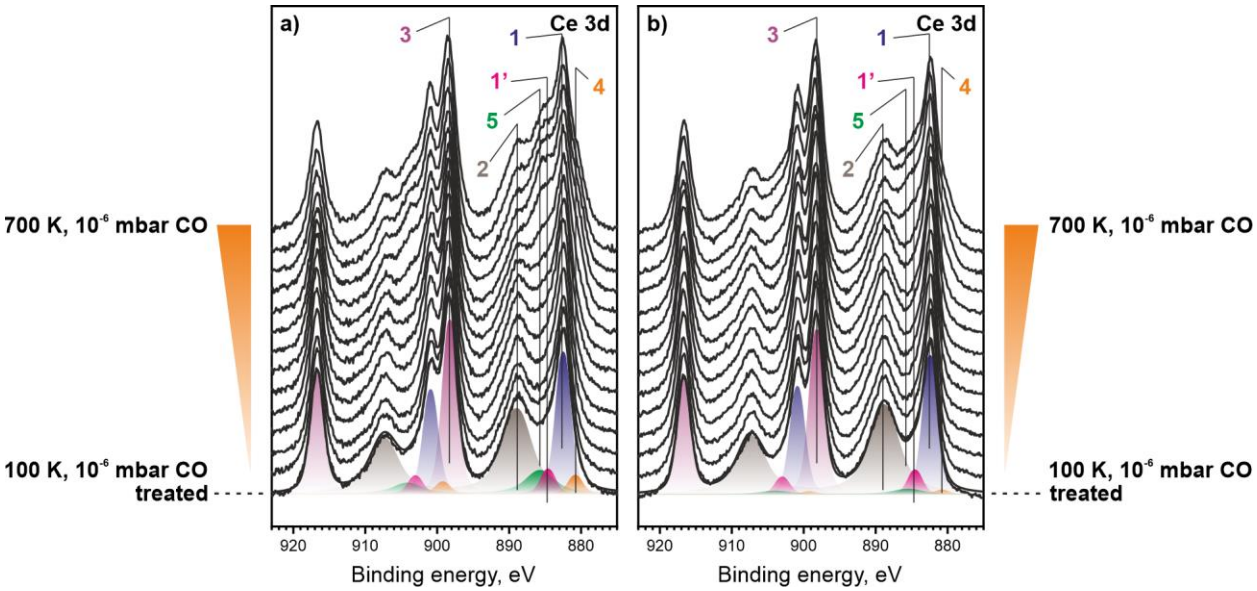

Figure S2. Ce 3d core level spectra obtained from samples 1.1 (a) and 2.1 (b) before and after the exposure to CO at different temperatures. The Ce 3*d* core levels were acquired with Al Kα radiation (1486.6 eV).

References

S1 Y. Lykhach, S. M. Kozlov, T. Skála, A. Tovt, V. Stetsovych, N. Tsud, F. Dvořák, V. Johánek, A. Neitzel, J. Mysliveček, S. Fabris, V. Matolín, K. M. Neyman and J. Libuda, *Nat. Mater.*, 2016, **15**, 284–288.