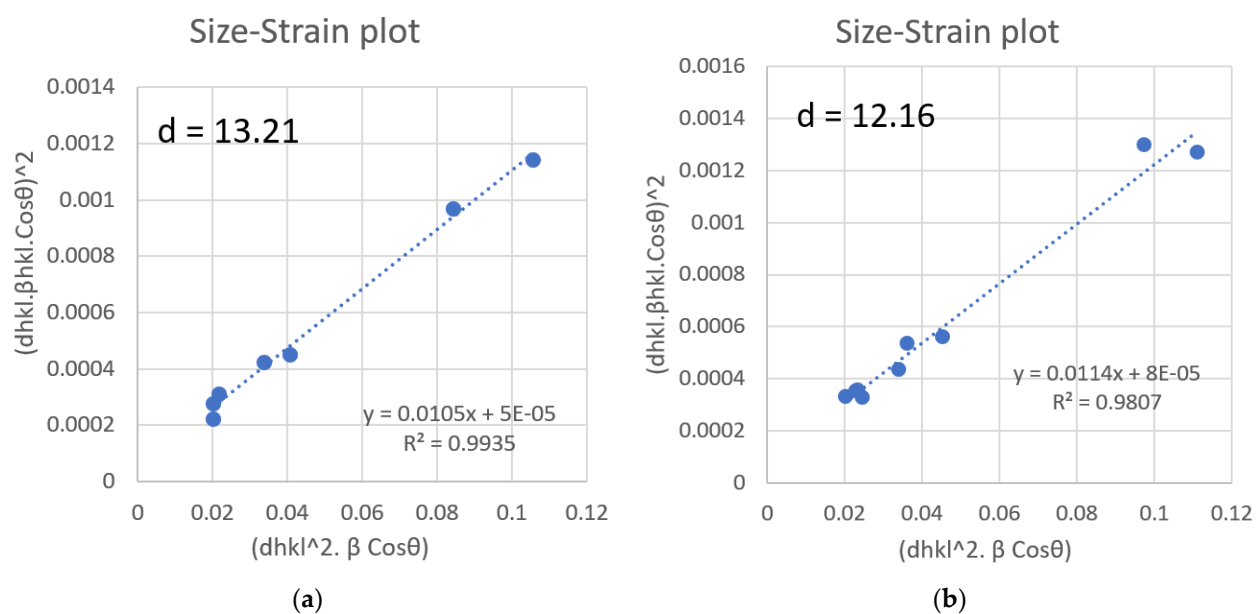
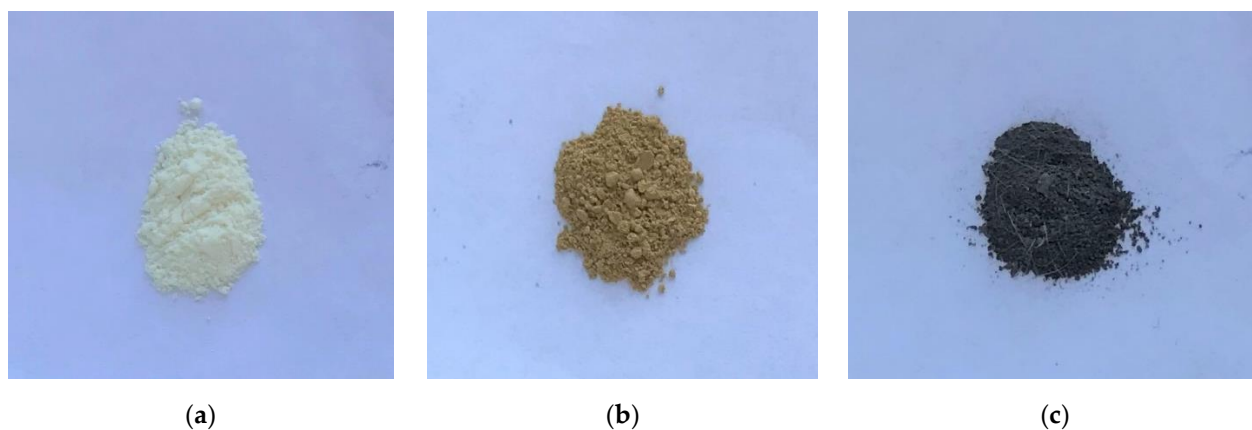


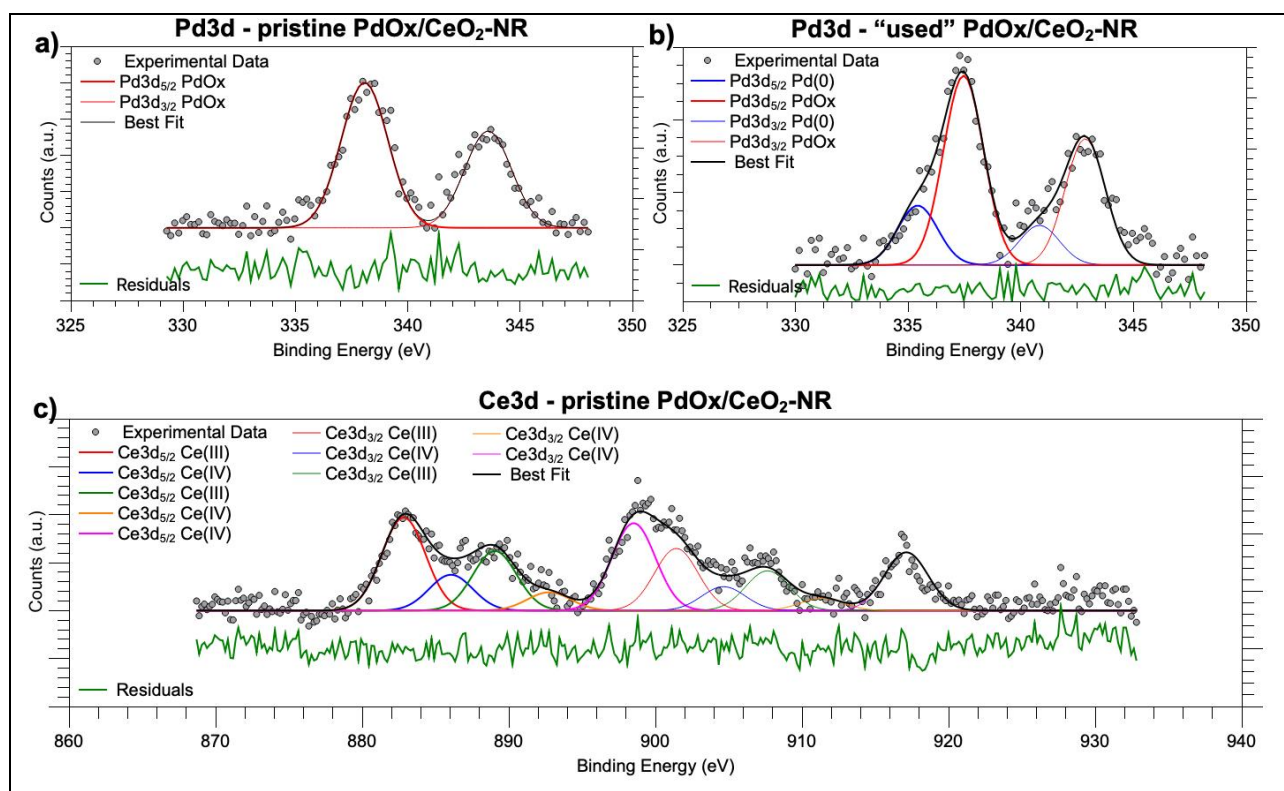
## Supplementary Materials



**Figure S1.** Evaluation of the average particle dimension of ceria particles by the Size-Strain Plot of XRD diffractions of: (a) CeO<sub>2</sub>-NR; (b) PdO<sub>x</sub>/CeO<sub>2</sub>-NR. Abscissa  $x = (d_{hkl})^2 \beta \cos \theta$ , ordinate  $y = (d_{hkl} \beta_{hkl} \cos \theta)^2$ .



**Figure S2.** Images of (a) calcined  $\text{CeO}_2\text{-NR}$ , (b) calcined  $\text{PdO}_x/\text{CeO}_2\text{-NR}$ , (c) used  $\text{PdO}_x/\text{CeO}_2\text{-NR}$ .



**Figure S3.** XPS spectra, with Peak Fitting Residuals (green curve), of pristine  $\text{PdO}_x/\text{CeO}_2\text{-NR}$  (a)  $\text{Pd3d}$  and (c)  $\text{Ce3d}$  core levels, and (b) for the "used"  $\text{PdO}_x/\text{CeO}_2\text{-NR}$   $\text{Pd3d}$  core level.