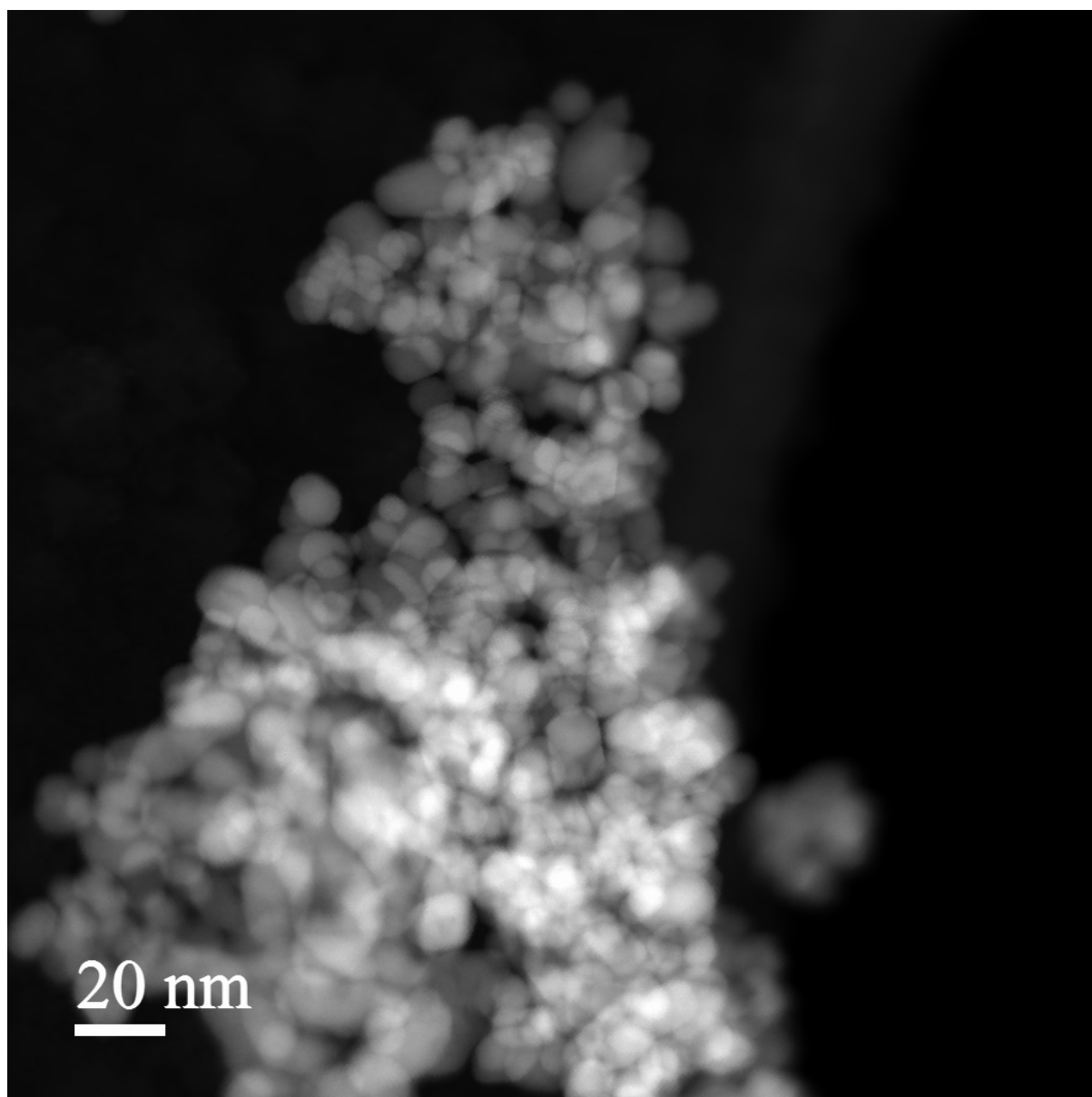


**Electronic Supporting Information for**

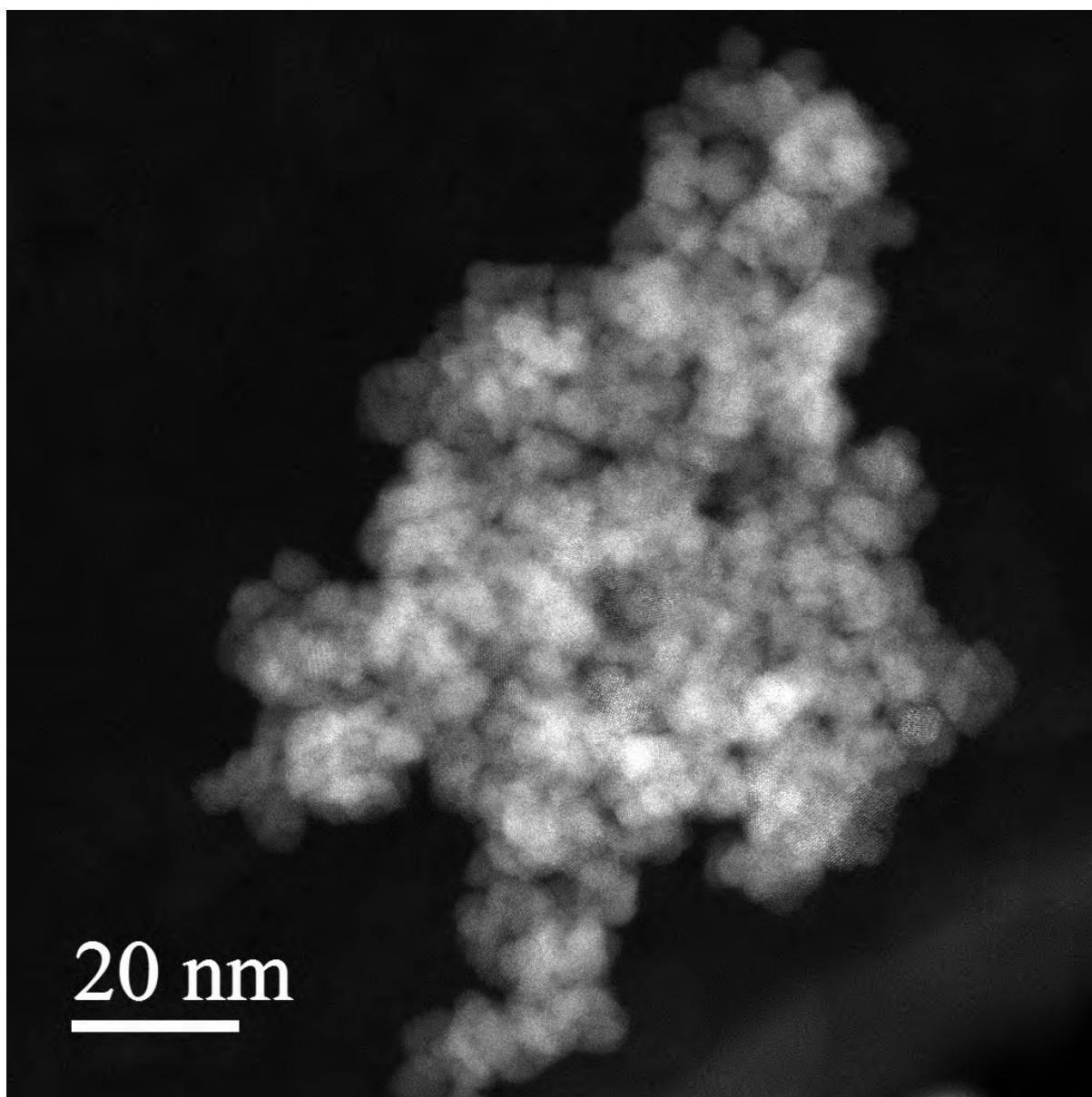
**“Incorporation of  $\text{Sb}^{5+}$  into  $\text{CeO}_2$ : Local Structural Distortion of the Fluorite Structure From a Pentavalent Substituent”**

Craig I. Hiley, Janet M. Fisher, Reza J. Kashtiban, Giannantonio Cibir, David Thompsett and Richard I. Walton

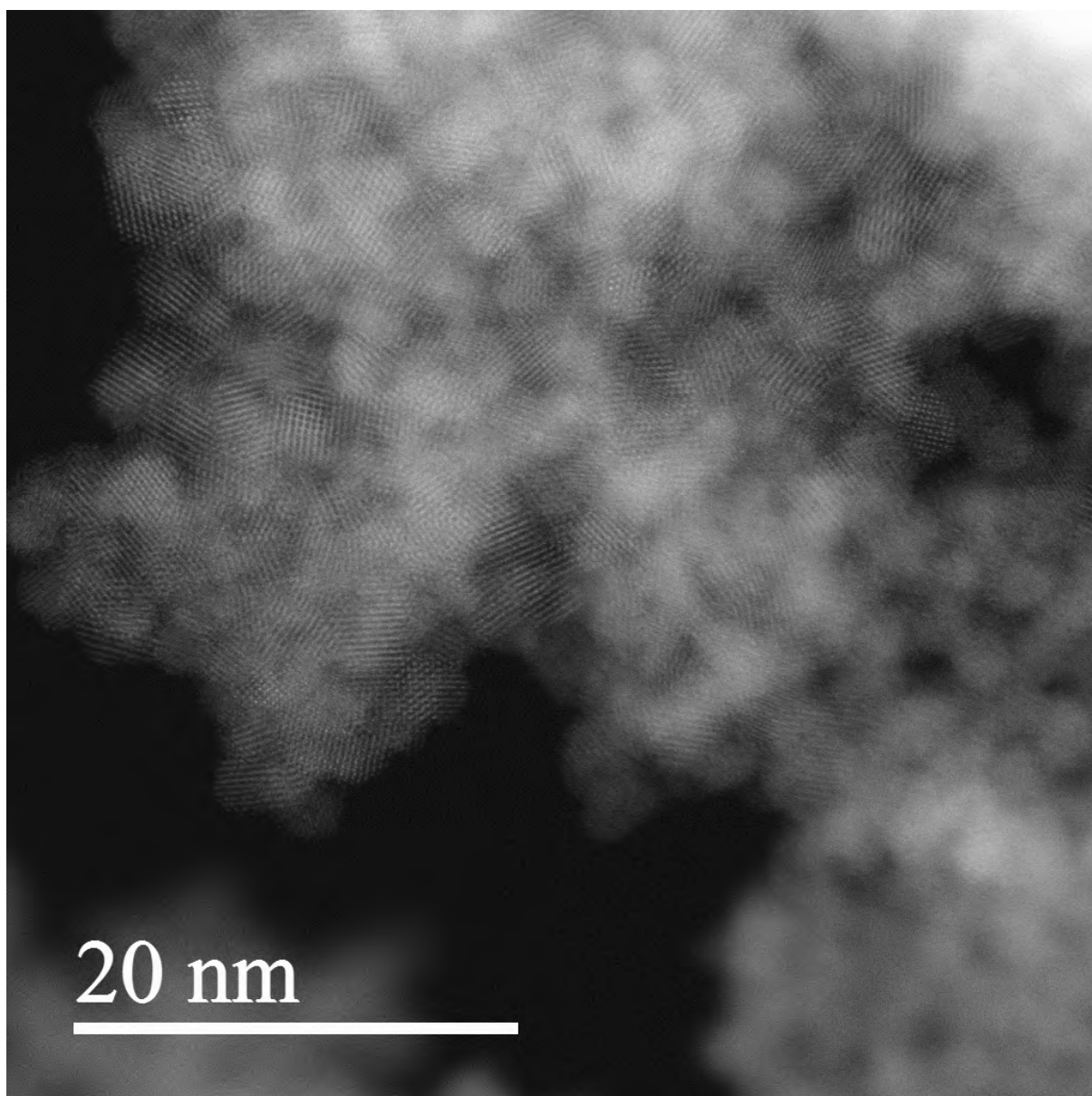
**S1: Low magnification TEM images.**



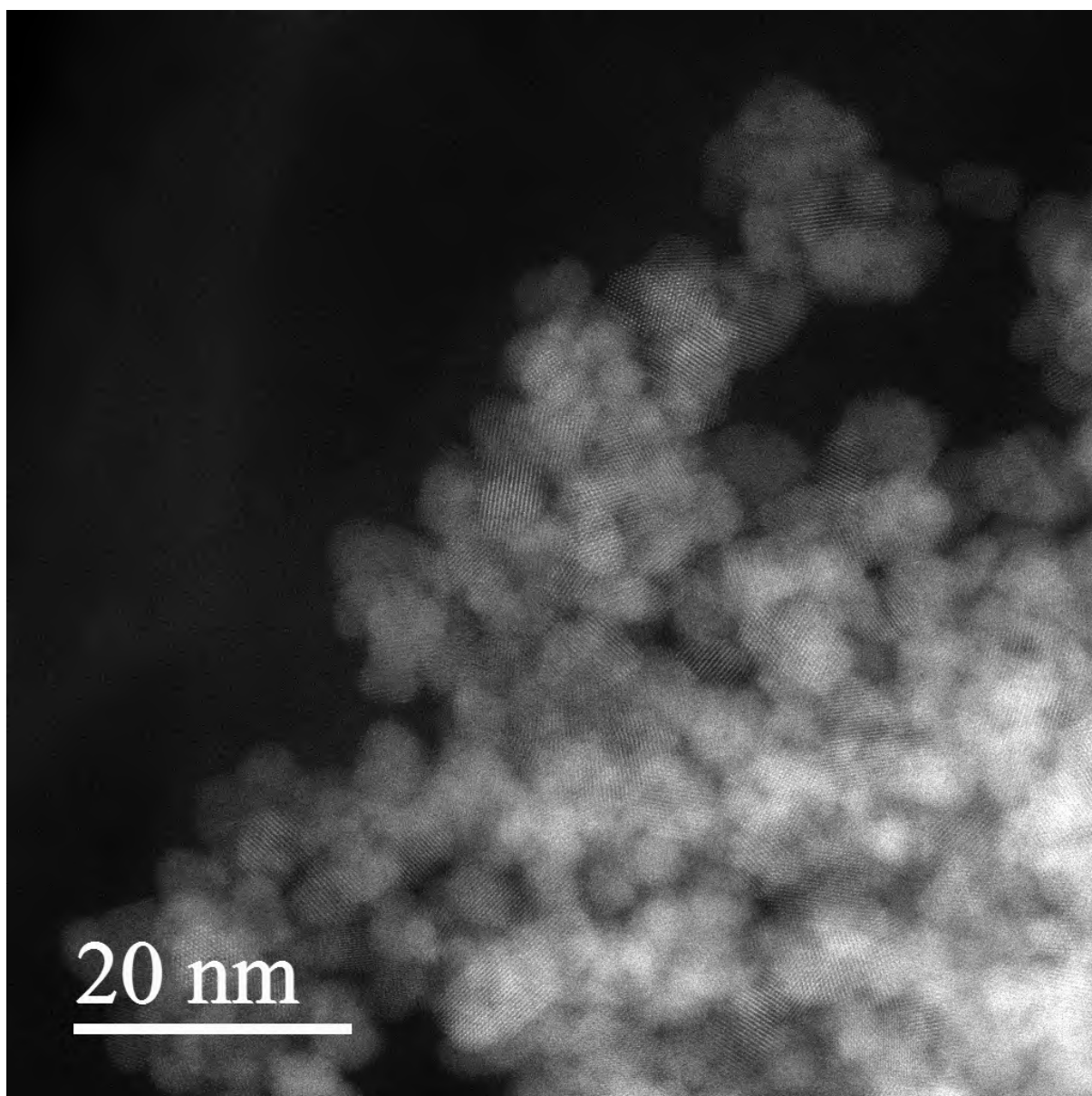
***Figure S1: ADF-STEM image of  $\text{CeO}_2$***



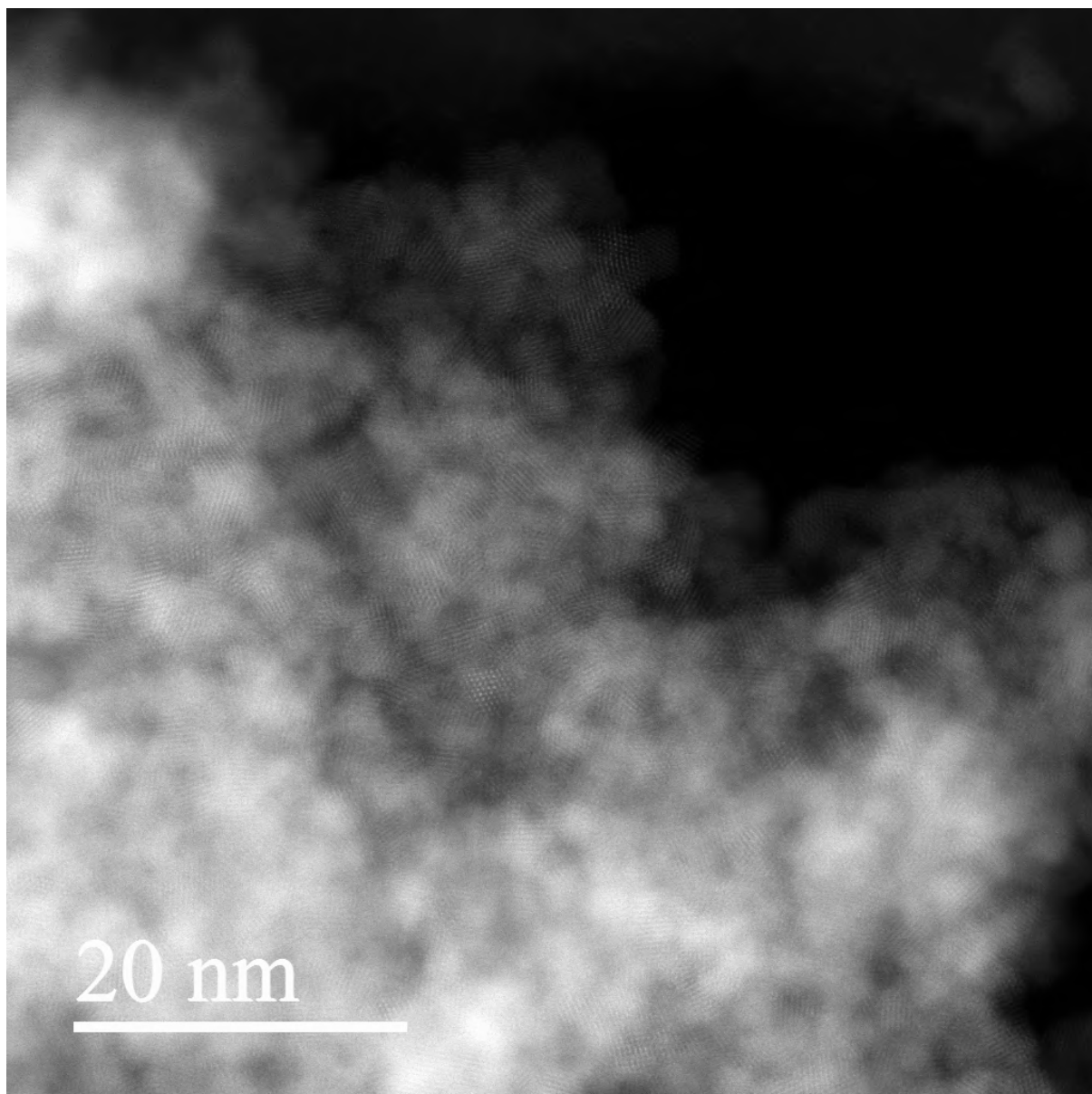
*Figure S2: ADF-STEM image of  $\text{Sb-CeO}_2$   $x = 0.05$  prepared from  $\text{SbCl}_5$*



*Figure S3: ADF-STEM image of Sb-CeO<sub>2</sub>  $x = 0.3$  prepared from SbCl<sub>5</sub>*



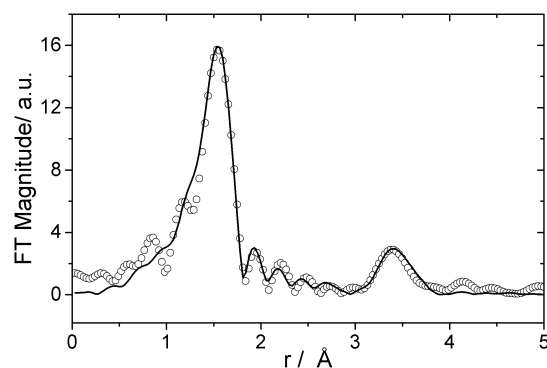
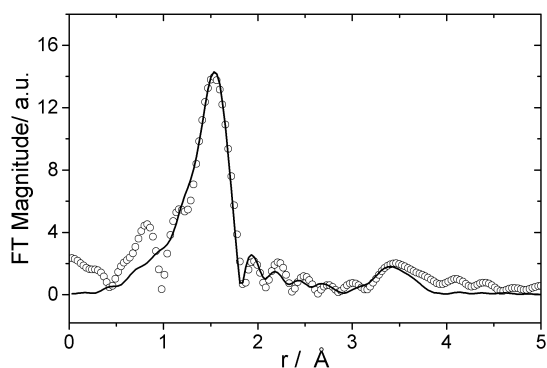
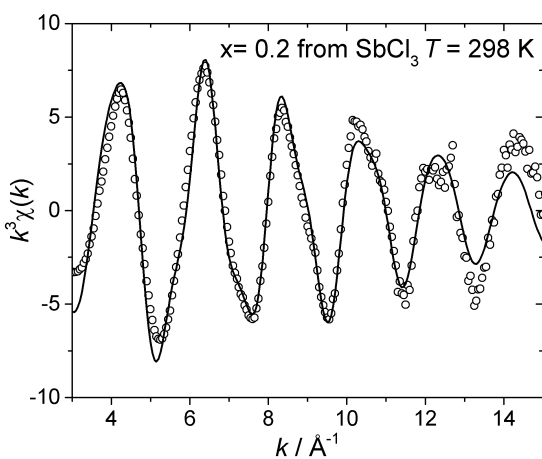
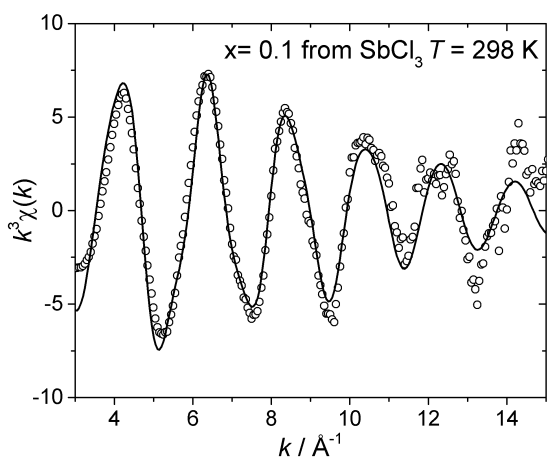
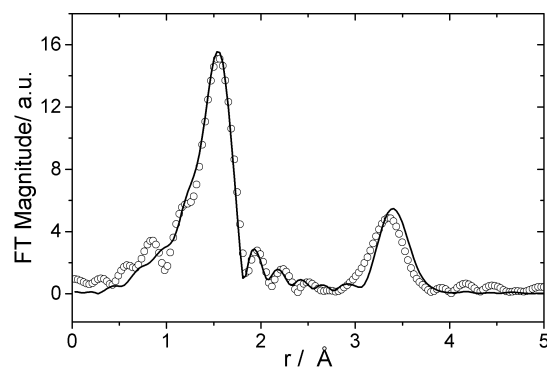
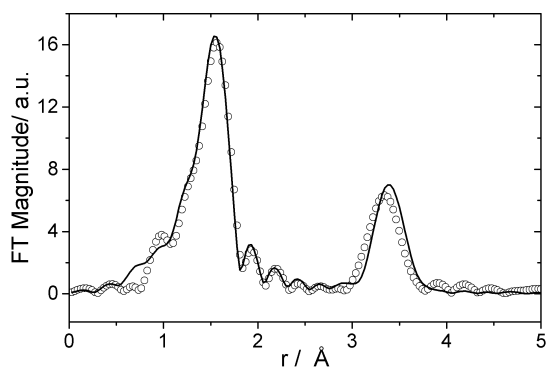
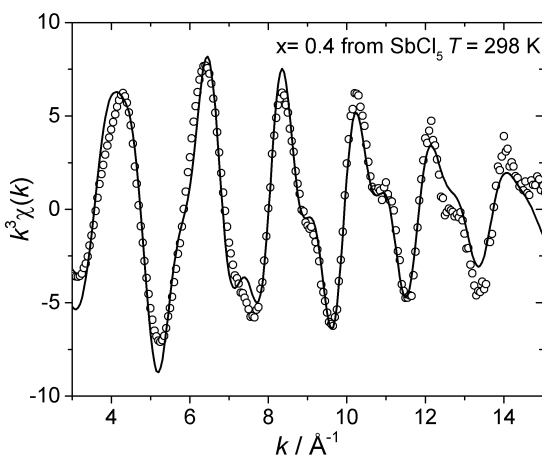
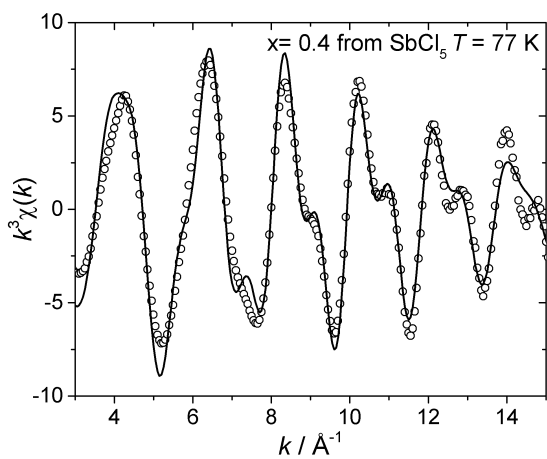
*Figure S4: ADF-STEM image of  $\text{Sb-CeO}_2$   $x = 0.05$  prepared from  $\text{SbCl}_3$*

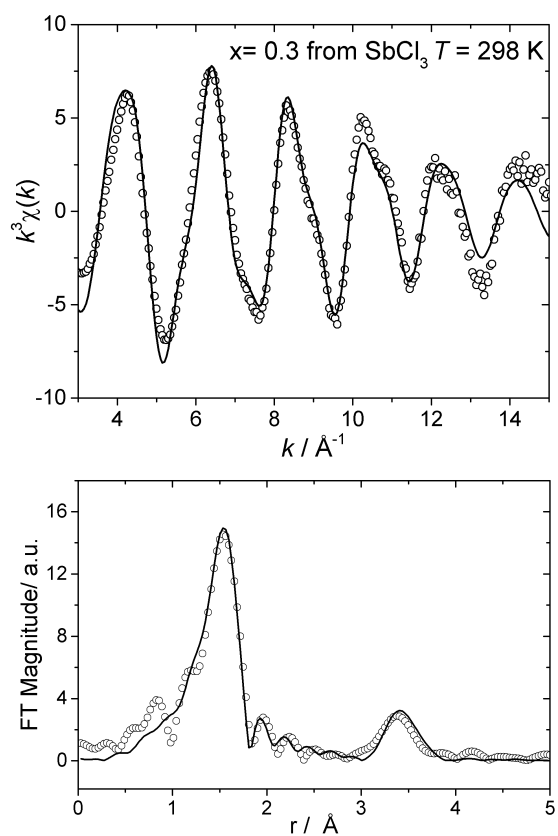


*Figure S5: ADF-STEM image of Sb-CeO<sub>2</sub>  $x = 0.3$  prepared from SbCl<sub>5</sub>*

**S2: EXAFS spectra and their Fourier transforms for Sb-substituted ceria materials.**

In each plot the points are the experimental data and the lines the fitted functions with the refined parameters reported in Table 2 of the main text.





**Figure S6:** EXAFS fits (top  $k^3$ -weighted EXAFS and bottom their Fourier transform) from  $\text{Sb-CeO}_2$  materials reported in Table 2, main text. The data are the points and the fits are the lines (see Table 2 for refined parameters).