A large-area CMOS detector for high energy synchrotron powder diffraction and total scattering experiments

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Supplementary material

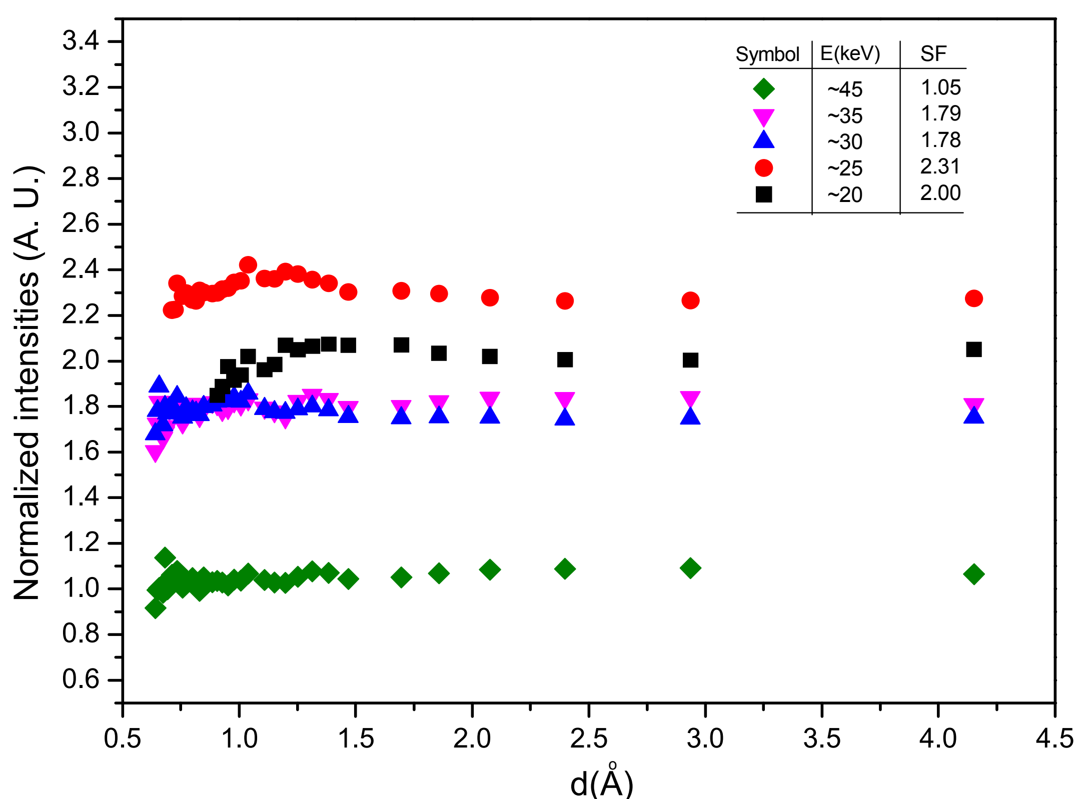


Figure S1 Integrated intensities extracted from the XPD patterns collected at different X-ray energies (■ 20, ● 25, ▼ 30, ▲ 35 and ♦ 45 keV) normalized by the intensities of the pattern collected at E~50 keV. Inset table shows the scale factor (SF) of the intensities (mean values) for the data collected at different X-ray energies (E, keV) with respect to the data collected at E~50 keV.

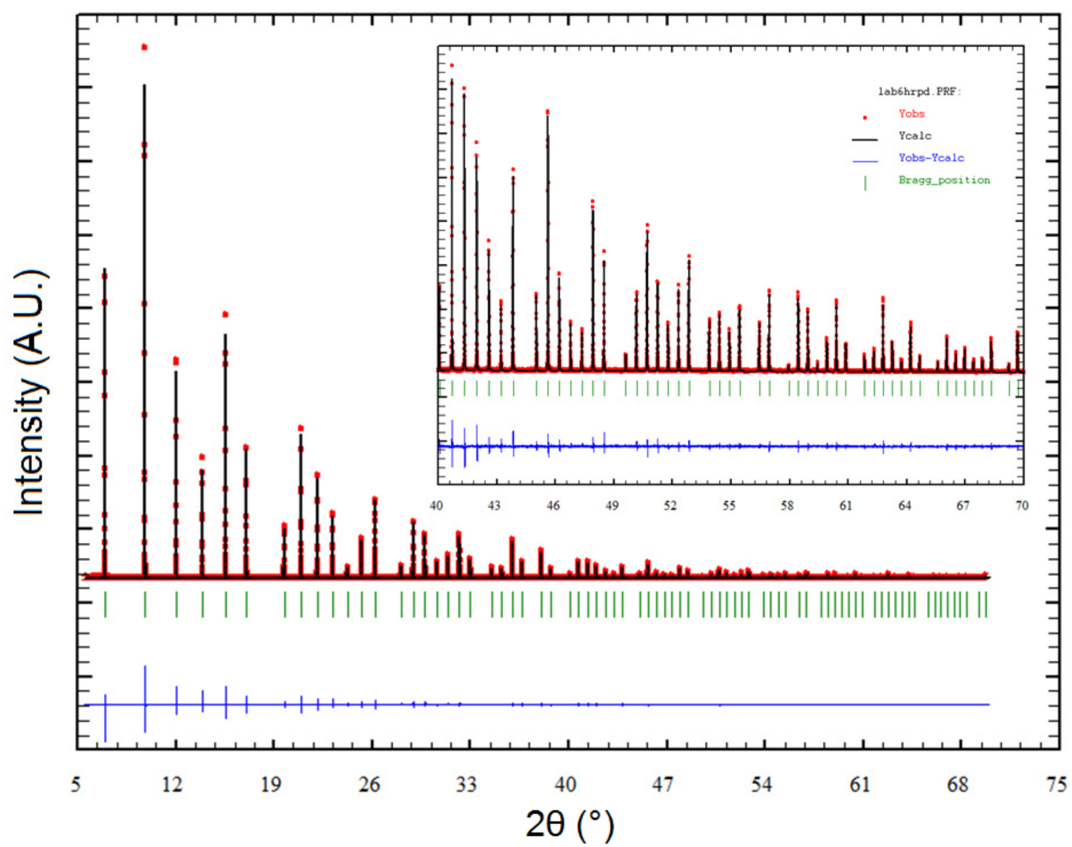


Figure S2 Rietveld refinement plot of the HRPD LaB6 data (λ = 0.505411 Å), the inset is an enlarged view of the data at high angles.

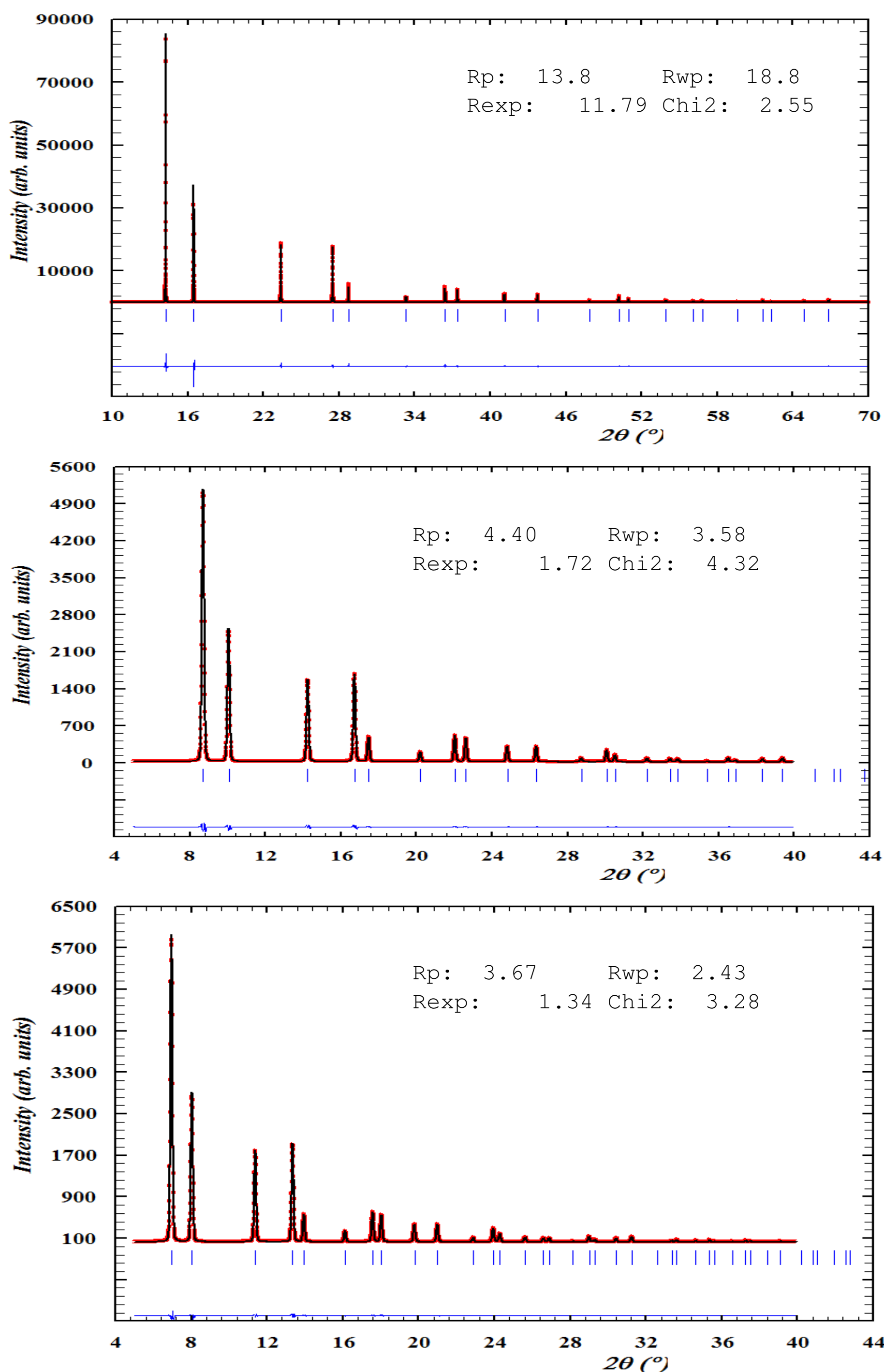
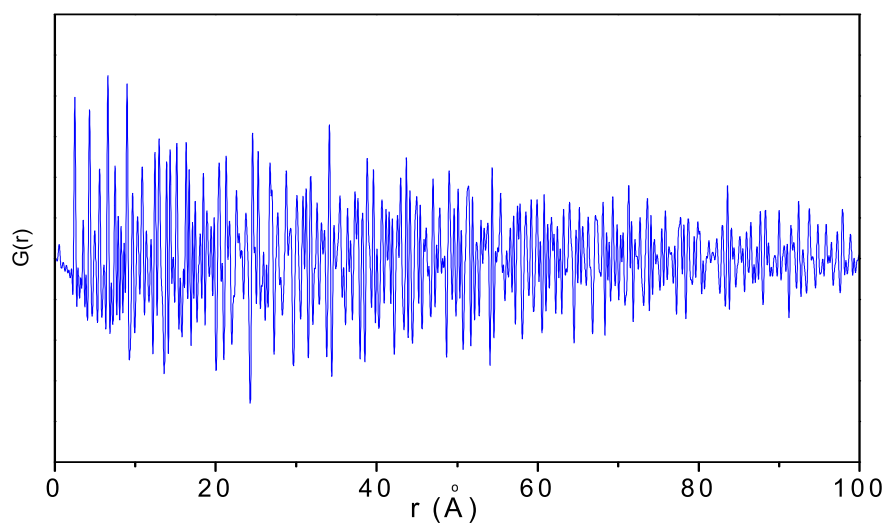


Figure S3 Rietveld refinement plots for Ni powder for a) data collected with high resolution diffractometer (λ=0.505411), b) data collected with CMOS detector (λ=0.30988), c) data collected with CMOS detector (λ=0.24720).



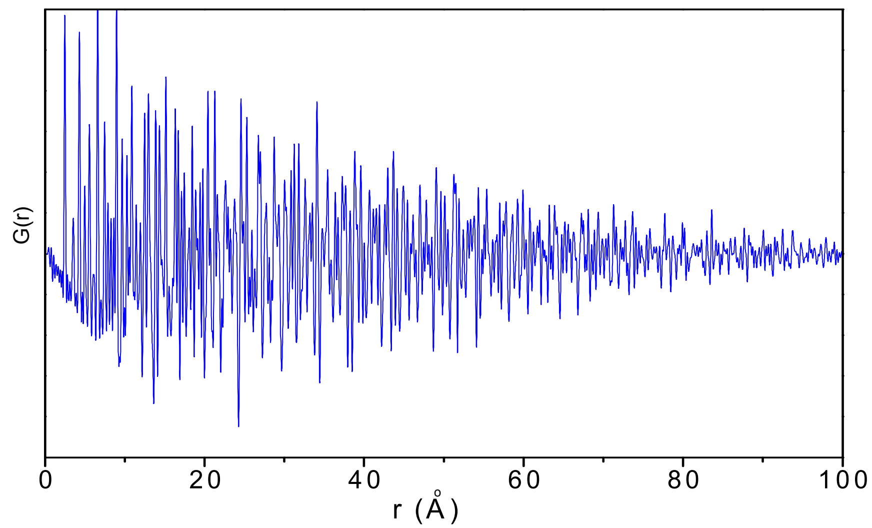


Figure S4 The experimental PDF up to r =100 Å on nickel data collected at a) λ=0.30988 and b) λ=0.24720.

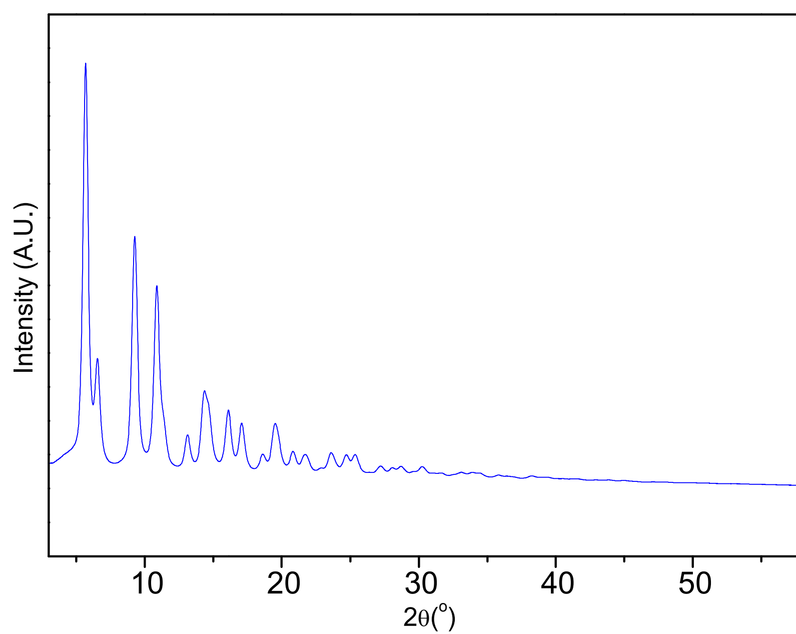


Figure S5 XPD pattern of nano-YDC (λ=0.30988 Å).

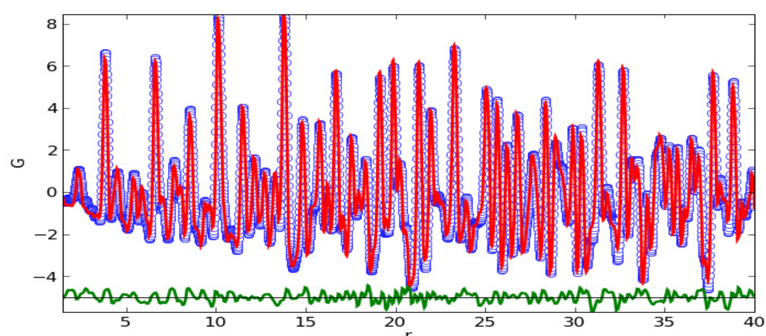


Figure S6 The experimental (empty blue dots) and the calculated PDF (solid red line) for the microcrystalline CeO_2 sample. The difference curve is shown below (solid green line).

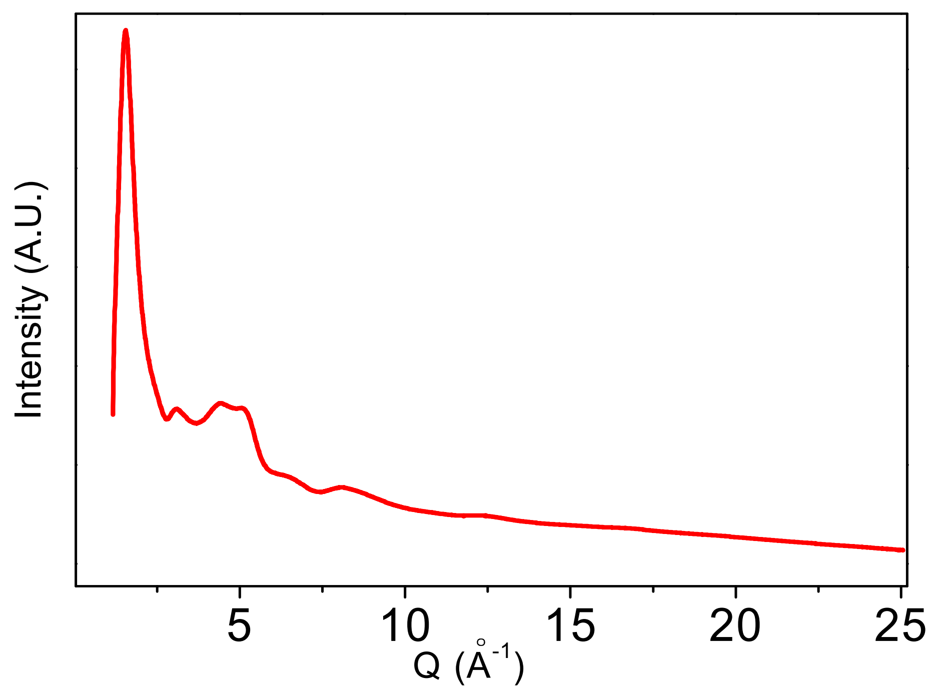


Figure S7 XPD pattern of amorphous SiO_2 (λ=0.24720 Å).