Supplementary Information

Thermal stress-assisted annealing to improve the crystalline quality of epitaxial YSZ buffer layer on Si

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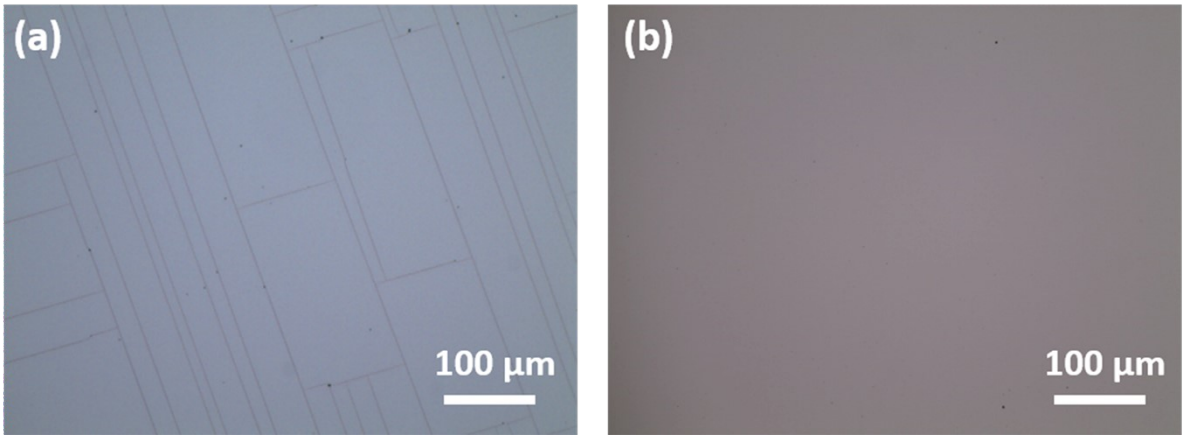

Figure S1. Optical images of (a) epitaxial CeO_2 (35 nm) film on YSZ single crystal, and (b) the most tensile-strained epitaxial YSZ (45 nm) film on Si.

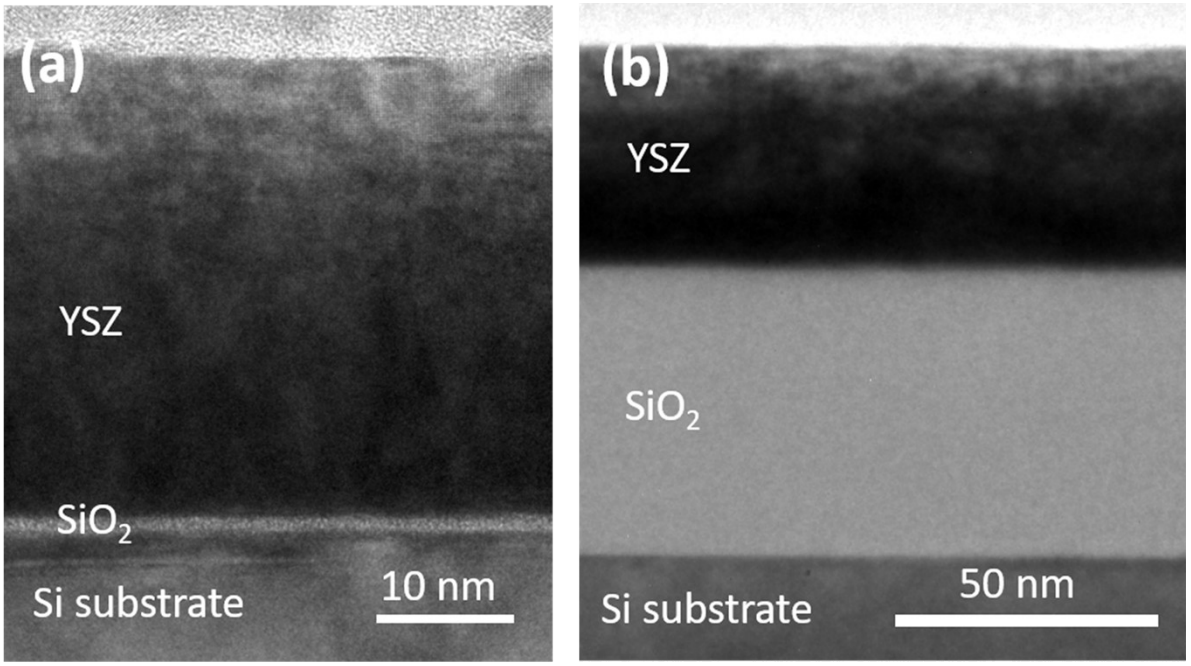

Figure S2. Cross-sectional TEM images of (a) the as-grown and (b) annealed YSZ/Si.

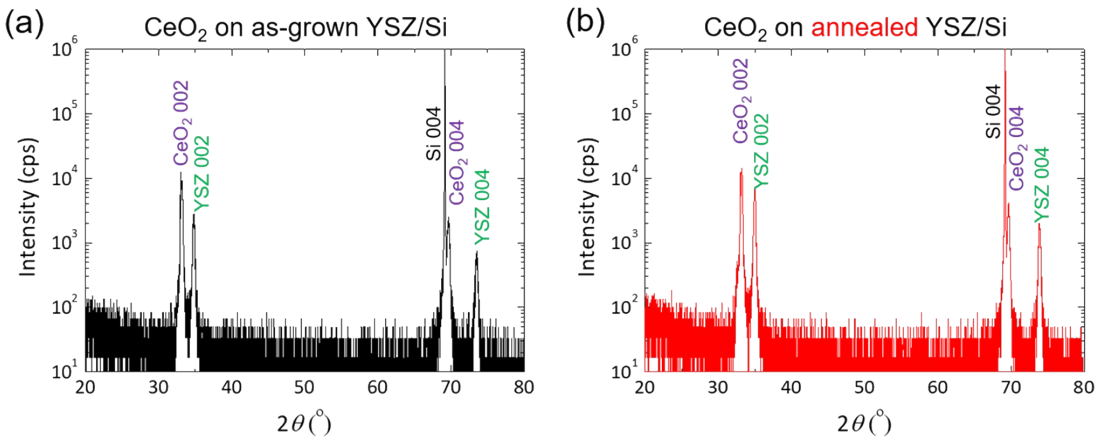

Figure S3. *θ*-2*θ* scan of epitaxial CeO_2 thin films on (a) as-grown and (b) annealed YSZ/Si.

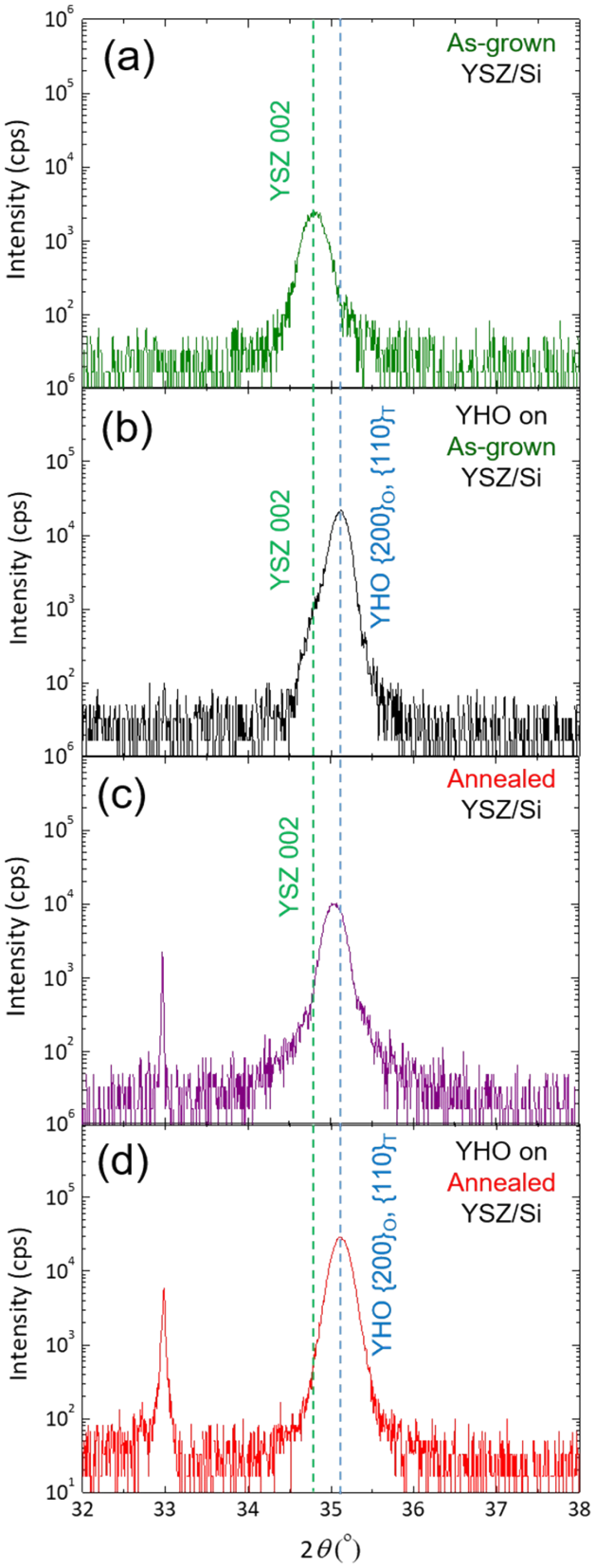

Figure S4. *θ*-2*θ* XRD patterns of (a) as-grown YSZ/Si, (b) Y:HfO_2 on the as-grown YSZ/Si, (c) annealed YSZ/Si, and (d) Y:HfO_2 on the annealed YSZ/Si