

**Supplementary Data for**

**Exploring partially reduced CeO<sub>2</sub>(111) surface at the  
atomic scale using Scanning Probe Microscopy**

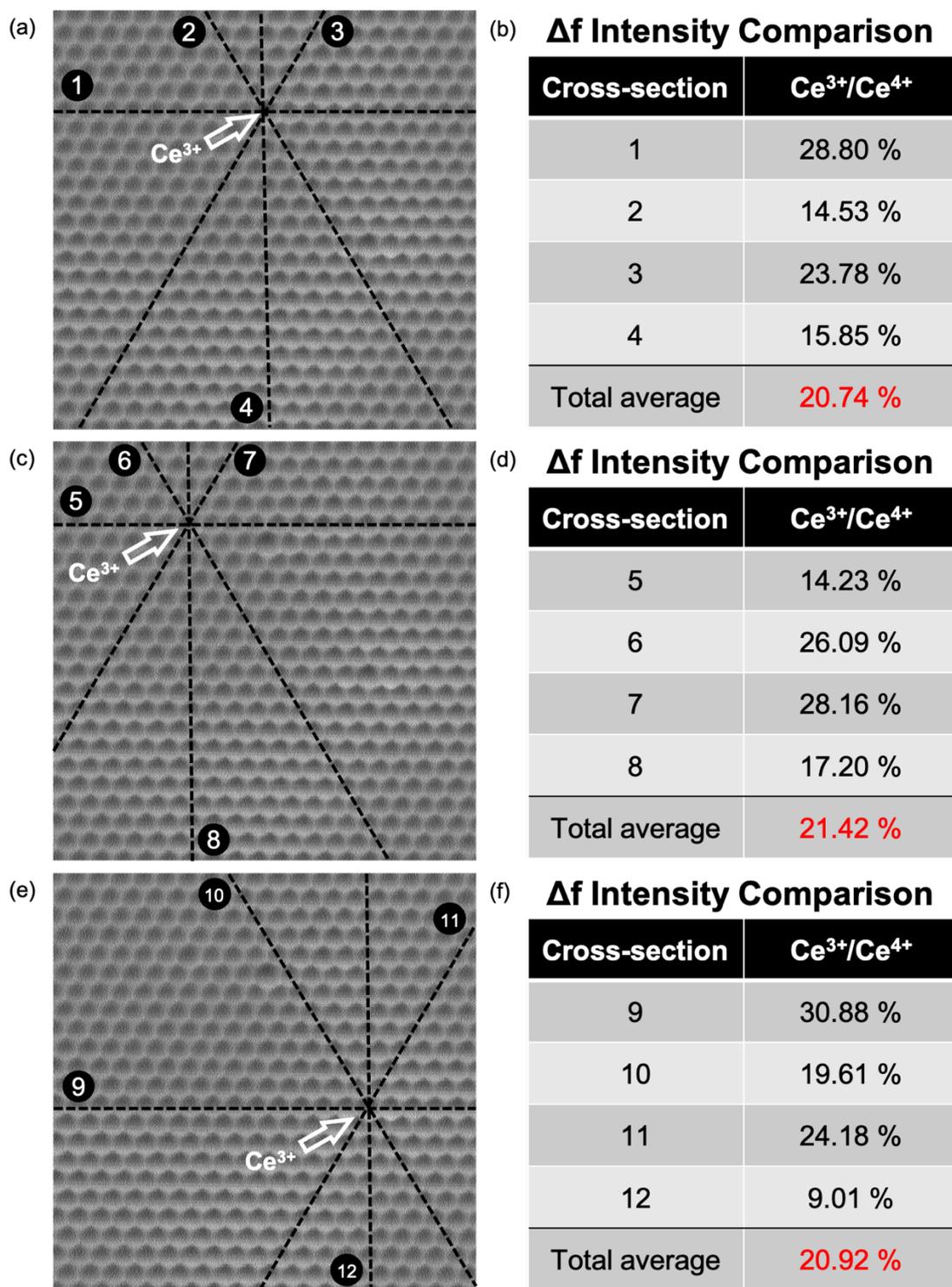
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**Figure. S1** (a) Cross-section analysis of the AFM signal across a Ce<sup>3+</sup> candidate and the Ce<sup>4+</sup> sites. (b) AFM signal intensity comparison on each cross-section line. Experimental parameters:  $A = 60$  pm,  $f_0 = 989098$  Hz.