Supplementary material

Oxidative dissolution mechanism of both undoped and Gd_2O_3-doped UO_2(s) at alkaline to hyperalkaline pH

Sonia García-Gómez[a]*, Javier Giménez[a], Ignasi Casas[a], Jordi Llorca[a], Joan De Pablo[a,b]

[a]Department of Chemical Engineering, EEBE and Barcelona Research Center in Multiscale Science and Engineering, Universitat Politècnica de Catalunya (UPC), 08019 Barcelona, Spain.

[b]EURECAT, Centre Tecnològic de Catalunya, 08243 Manresa, Spain

Corresponding author: *sonia.garcia.gomez@upc.edu

S1. Characterization of Gd_2O_3-UO_2 samples

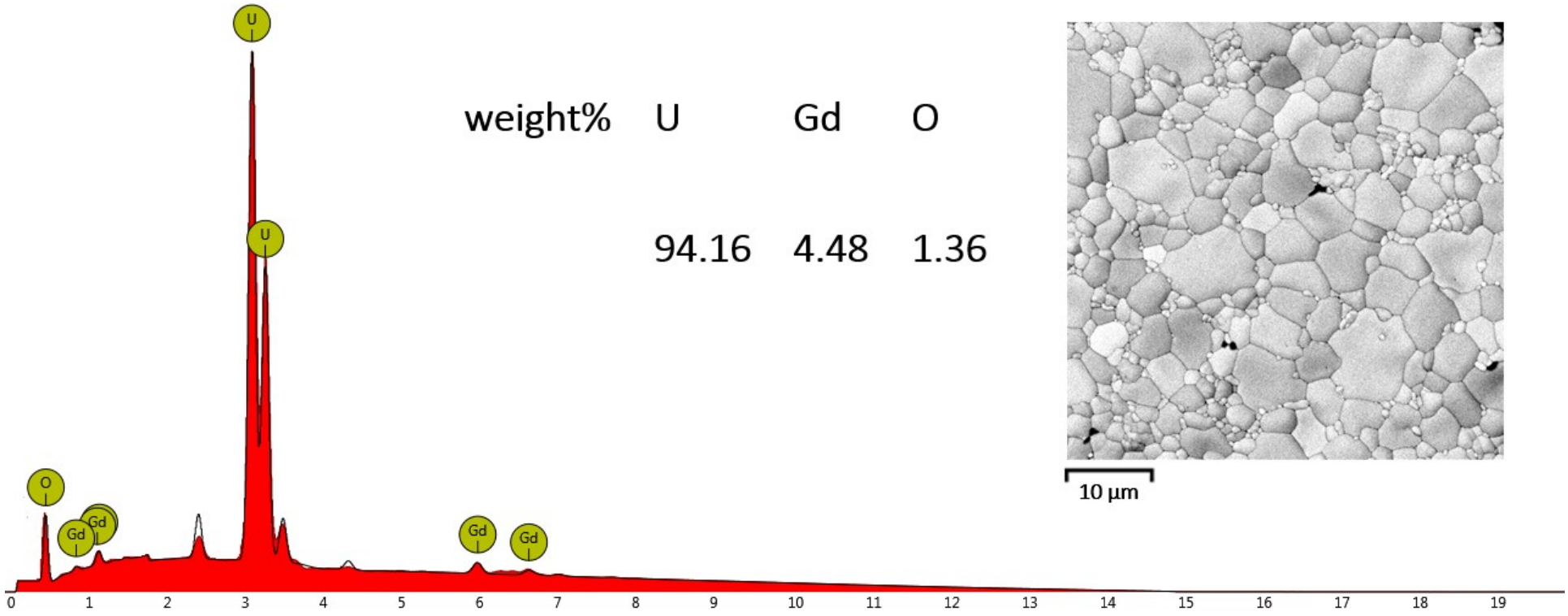

Figure S1. Scanning electron micrograph and energy dispersive X-ray spectrum of UO_2 doped with 5% wt. of Gd_2O_3 after sintering.

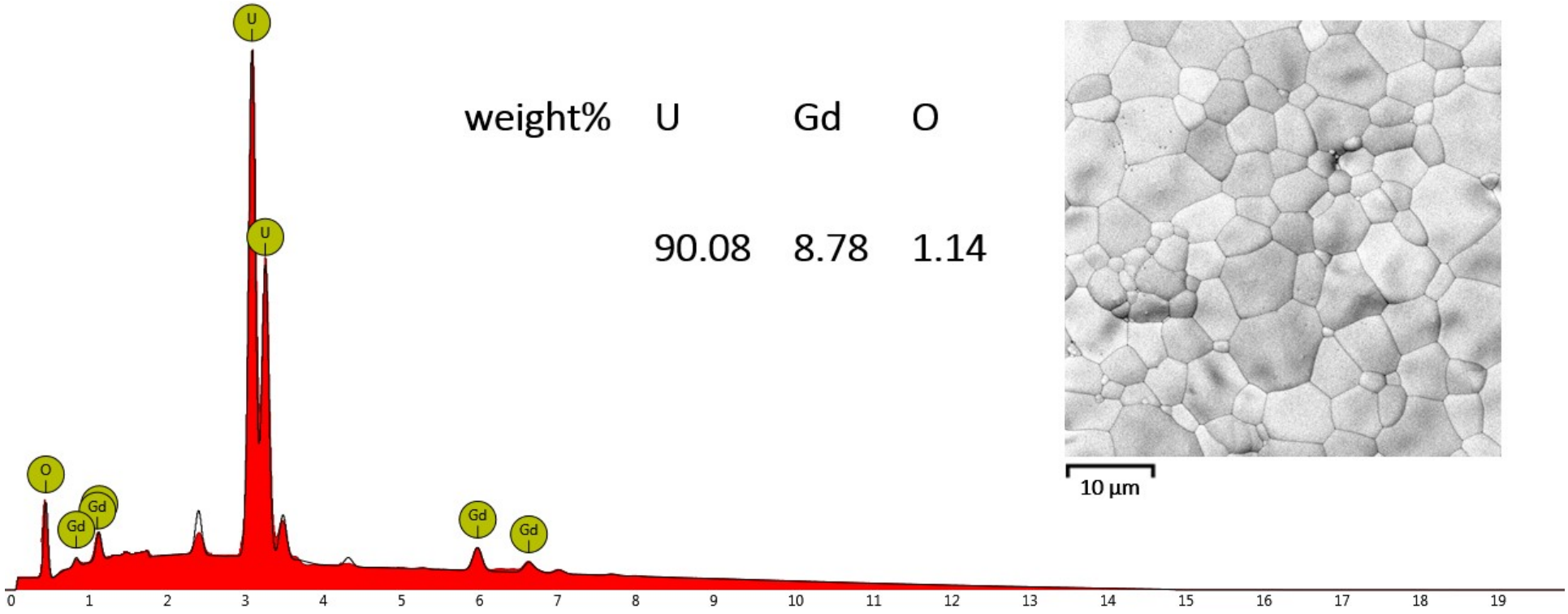

Figure S2. Scanning electron micrograph and energy dispersive X-ray spectrum of UO_2 doped with 10% wt. of Gd_2O_3 after sintering.

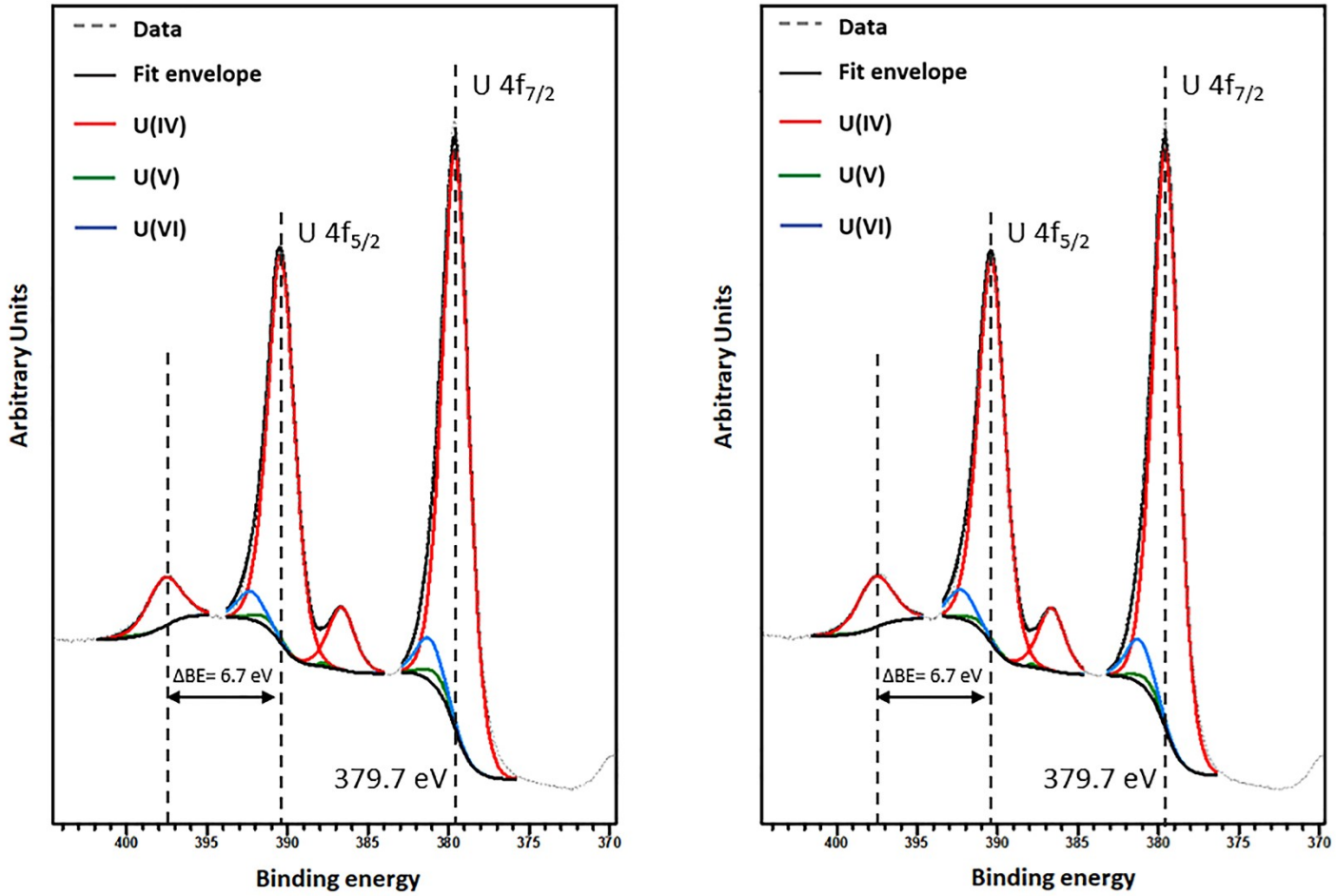

Figure S3. U4$f_{5/2}$ and U4$f_{7/2}$ regions of the XPS spectra corresponding to the samples doped with 5% wt. of Gd_2O_3 (left) and doped with 10% wt. of Gd_2O_3 (right) after sintering. Both spectra exhibited the characteristic spectrum of UO_2