

Supplementary Information

Magneto-Ionic Control of Magnetism in Two-Oxide Nanocomposite Thin Films Comprising Mesoporous Cobalt Ferrite Conformally Nanocoated with HfO₂

Shauna Robbenolt,^{1,a} Pengmei Yu,² Aliona Nicolenco,^{1,3} Pau Mercier Fernandez,¹ Mariona Coll,² Jordi Sort^{1,4,b}

¹ Departament de Física, Universitat Autònoma de Barcelona, E-08193 Cerdanyola del Vallès, Spain

² Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus UAB, E-08193 Cerdanyola del Vallès, Barcelona, Spain

³ Institute of Applied Physics, MD-2028 Chisinau, Moldova

⁴ Institució Catalana de Recerca i Estudis Avançats (ICREA), Pg. Lluís Companys 23, E-08010 Barcelona, Spain

Correspondence: ^aShauna Robbenolt – shauna.r@outlook.com; ^bJordi Sort – jordi.sort@uab.cat

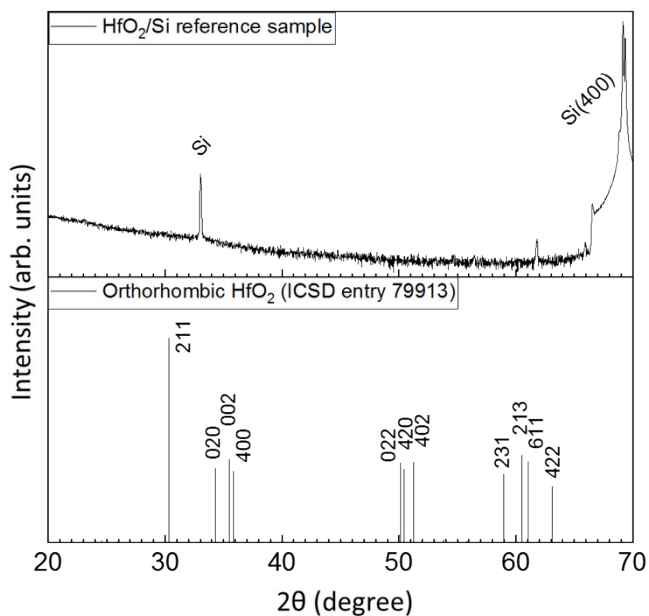


Figure S1. Upper panel: $\theta/2\theta$ XRD pattern of a 40 nm thick HfO₂ reference sample grown by atomic layer deposition. Bottom panel: positions and relative intensities of the diffraction peaks tabulated for the orthorhombic phase of HfO₂ (ICSD stands for “Inorganic Crystal Structure Database”).

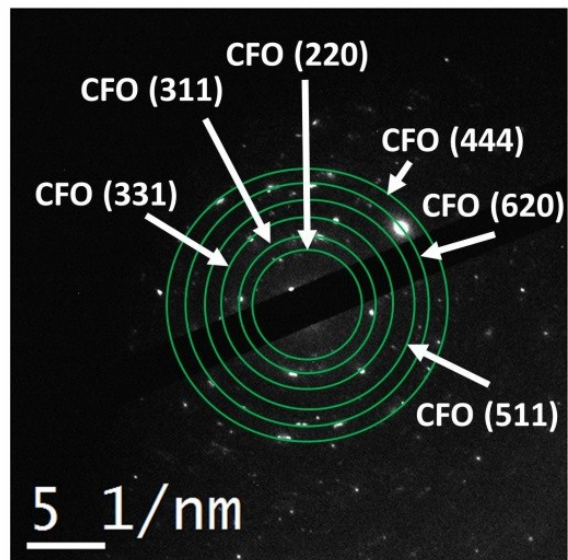


Figure S2. Selected area electron diffraction pattern of CFO-HfO₂ thin film before voltage treatment taken at a cross-sectional area of the composite. The green rings correspond to CFO crystallographic planes which are marked with the white arrows.