Supplementary Information

Understanding crystallization features of P(VDF-TrFE) copolymers under confinement to optimize ferroelectricity in nanostructures

Mari-Cruz García-Gutiérrez,*[a] Amelia Linares,[a] Ignacio Martín-Fabiani,[a] Jaime J. Hernández,[b] Michelina Soccio,[a] Daniel R. Rueda,[a] Tiberio A. Ezquerra[a] and Michael Reynolds[c]

[a] Instituto de Estructura de la Materia (IEM-CSIC), Serrano 121, 28006 Madrid (Spain)

[b] Institut des Sciences de Matériaux de Mulhouse, 15 rue Jean Starcky, Mulhouse, 68057 (France)

[c] ESRF, B.P. 220, F-38043 Grenoble Cedex (France)

[*]e-mail: maricruz@iem.cfmac.csic.es

AAO membrane characterization

Anodic Aluminium Oxide (AAO) membranes were characterized by Scanning Electron Microscopy. SEM reveals that AAO membranes present average pore diameter of about 25 nm, which increases with pore depth reaching up to about 200 nm at the bottom of the membrane (Figure S1).

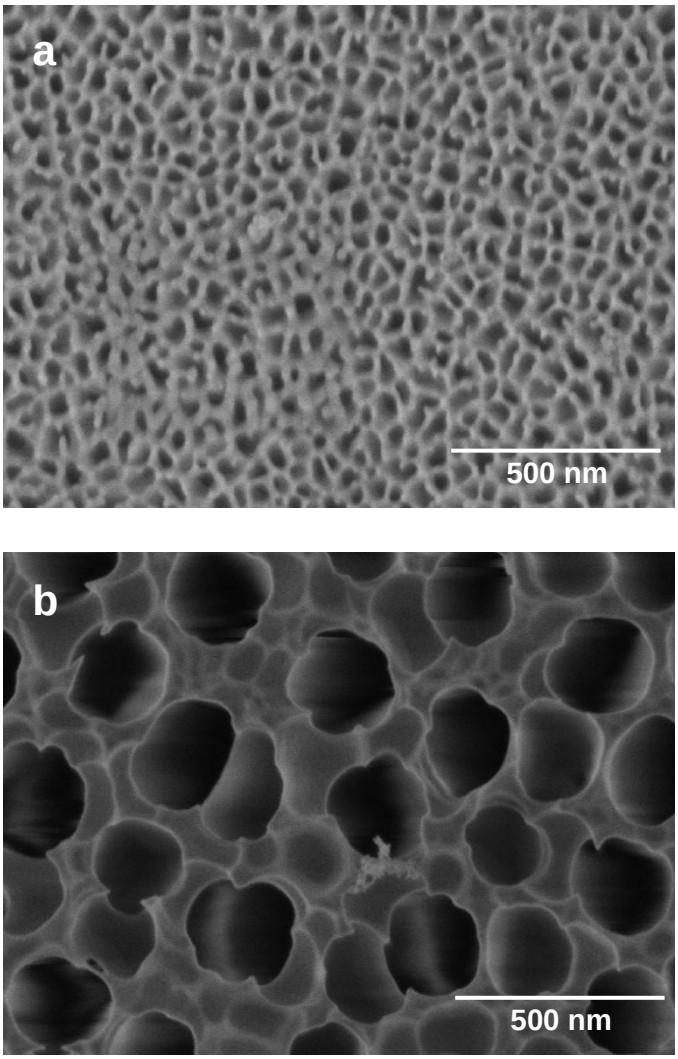

Figure S1: SEM image of AAO membrane. (a) Upper side: average pore diameter is around 25 nm. (b) Bottom side: average pore diameter is around 200 nm.

Diffraction patterns of the P(VDF-TrFE) nanorrods inside porous alumina prepared by melt wetting

Regarding WAXS patterns from the infiltrated polymer material within the AAO membranes, only the ferroelectric phase is observed independent of the copolymer composition and of the infiltration method, as it can be observed in Figure S2.

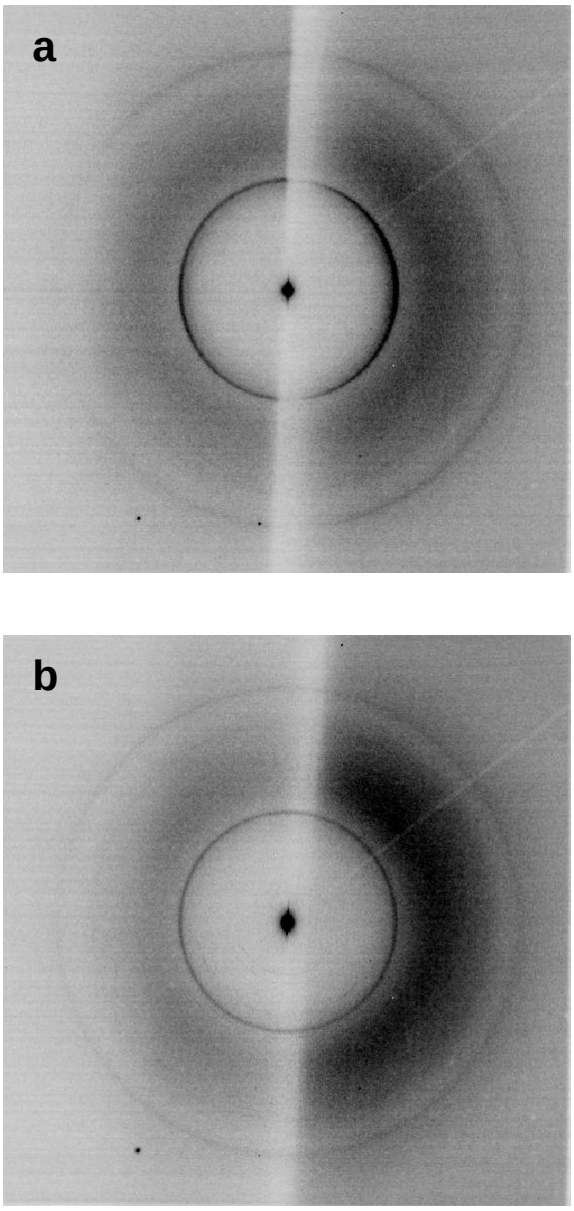

Figure S2: 2D-diffraction patterns of the P(VDF-TrFE) nanorrods inside porous alumina prepared by melt wetting. (a) P(VDF-TrFE) 70/30. (b) P(VDF-TrFE) 80/20.