

Supplementary Information

Thermally induced orientational flipping of cylindrical phase diblock copolymers

F. Ferrarese Lupi,^a T.J. Giammaria,^{a,b} G. Seguni,^a M. Laus,^b E. Enrico,^c N. De Leo,^c L. Boarino,^c C.K. Ober,^d M. Perego^a

^a Laboratorio MDM, IMM-CNR, Via C. Olivetti 2, 20864 Agrate Brianza (MB), Italy; Fax: 0039 039 6881175; Tel: 0039 039 6036383;

E-mail: federico.ferrareselupi@mdm.imm.cnr.it

^b Dipartimento di Scienze e Innovazione Tecnologica (DISIT), Università del Piemonte Orientale “A. Avogadro”, INSTM, UdR Alessandria, Viale T. Michel 11, 1512 Alessandria, Italy

^c NanoFacility Piemonte, Istituto Nazionale Ricerca Metrologica, Strada delle Cacce 91, 10135 Torino, Italy

^d Department of Materials Science and Engineering, Bard Hall, Cornell University, Ithaca, New York 14853

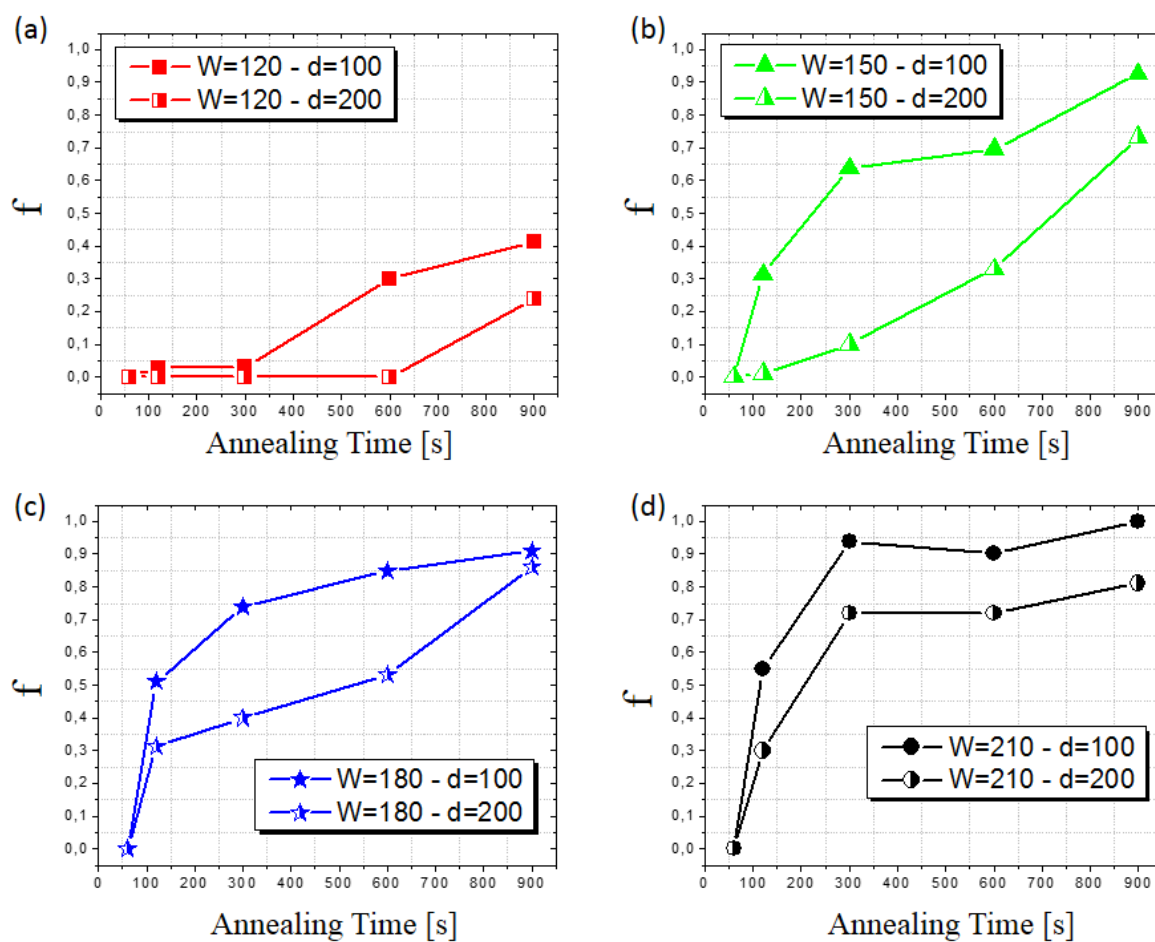


Fig. S1 Fraction of perpendicularly organized areas f for different trench width ($W = 120$ (a), $W = 150$ (b) $W = 180$ (c) and $W = 210$ nm (d)) as a function of the trench distances $d = 100$ nm and $d = 200$ nm. In all the reported graphics, the flipping rate is higher for the group of trenches with smaller d values.

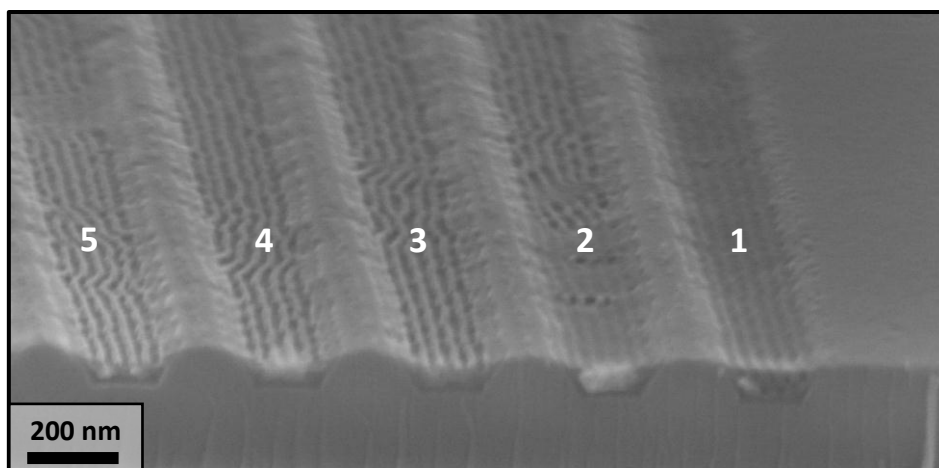


Fig. S2 Cross-sectional scanning electron microscopy (SEM) image of cylinder-forming PS-b-PMMA deposited on a periodic topographic structure. The BCP were spun on the bare oxide without any previous functionalization and annealed at 250°C for 30 s. This process lead to a parallel disposition of the nanometric cylinders with respect to the substrate. A clear decrease of the BCP thickness inside the trenches from the peripheral (trench 1) to the central one (trench 5) is visible.