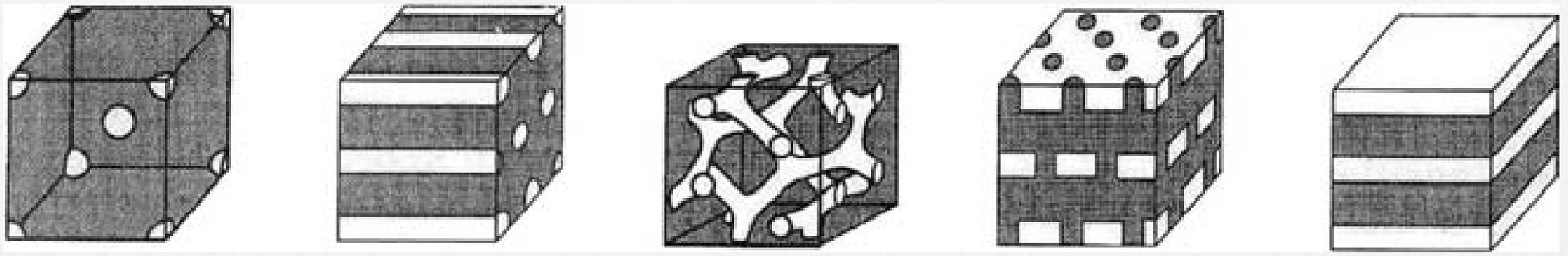
Block Copolymers

block copolymer morphologies



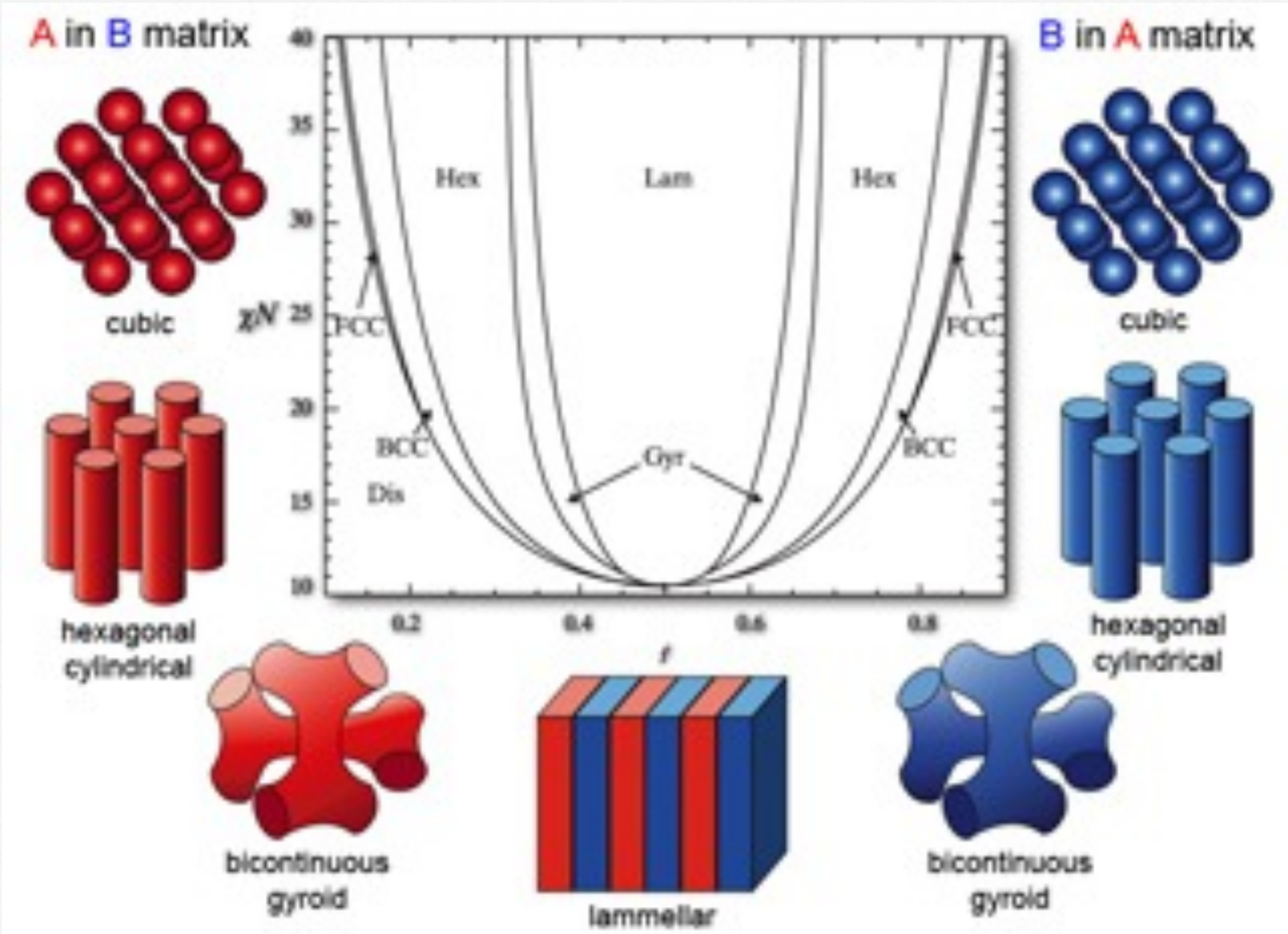
body-centred cubic spherical phase

gyroid or perforated layers

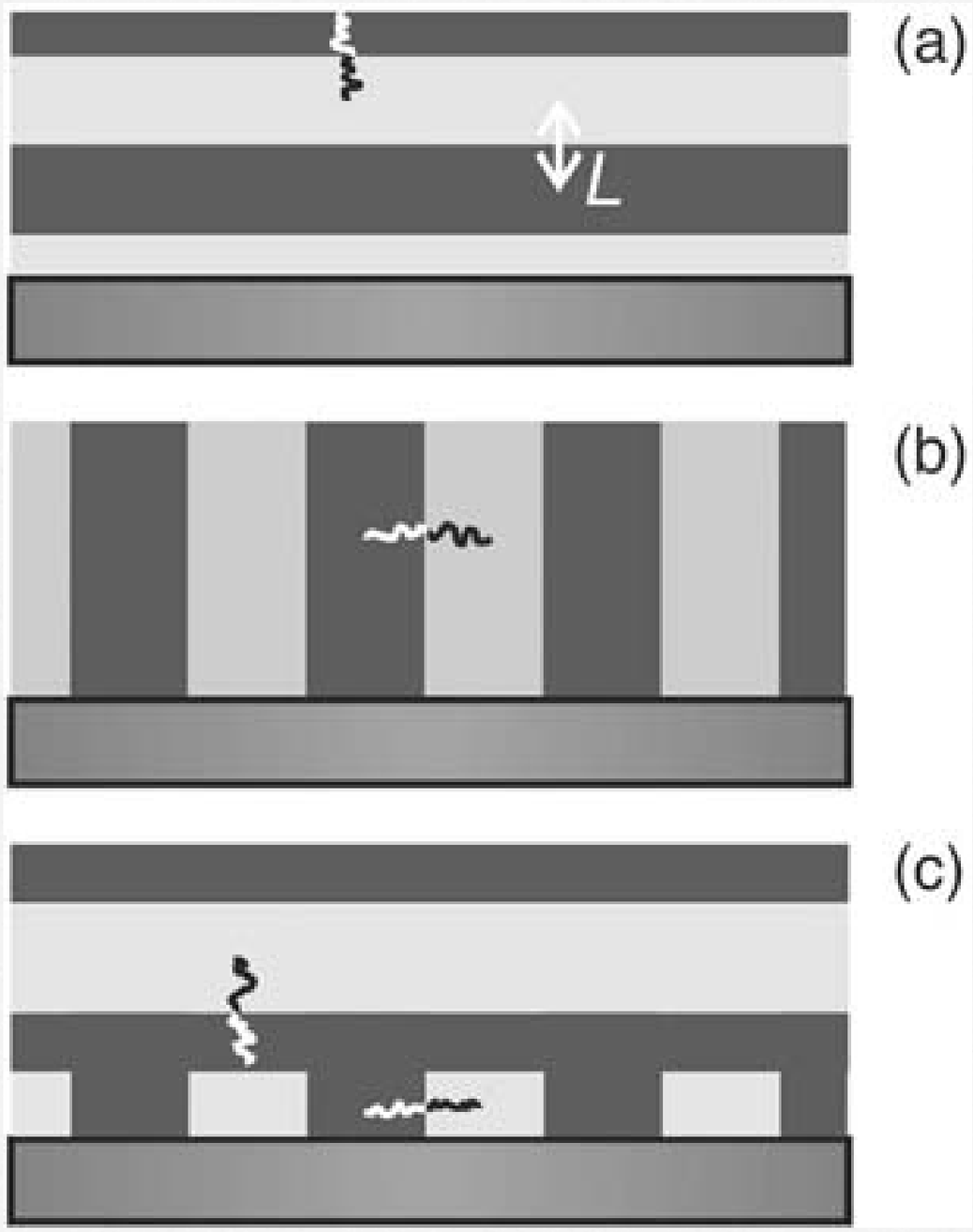
Alternating lamellae

hexagonally packed cylinders

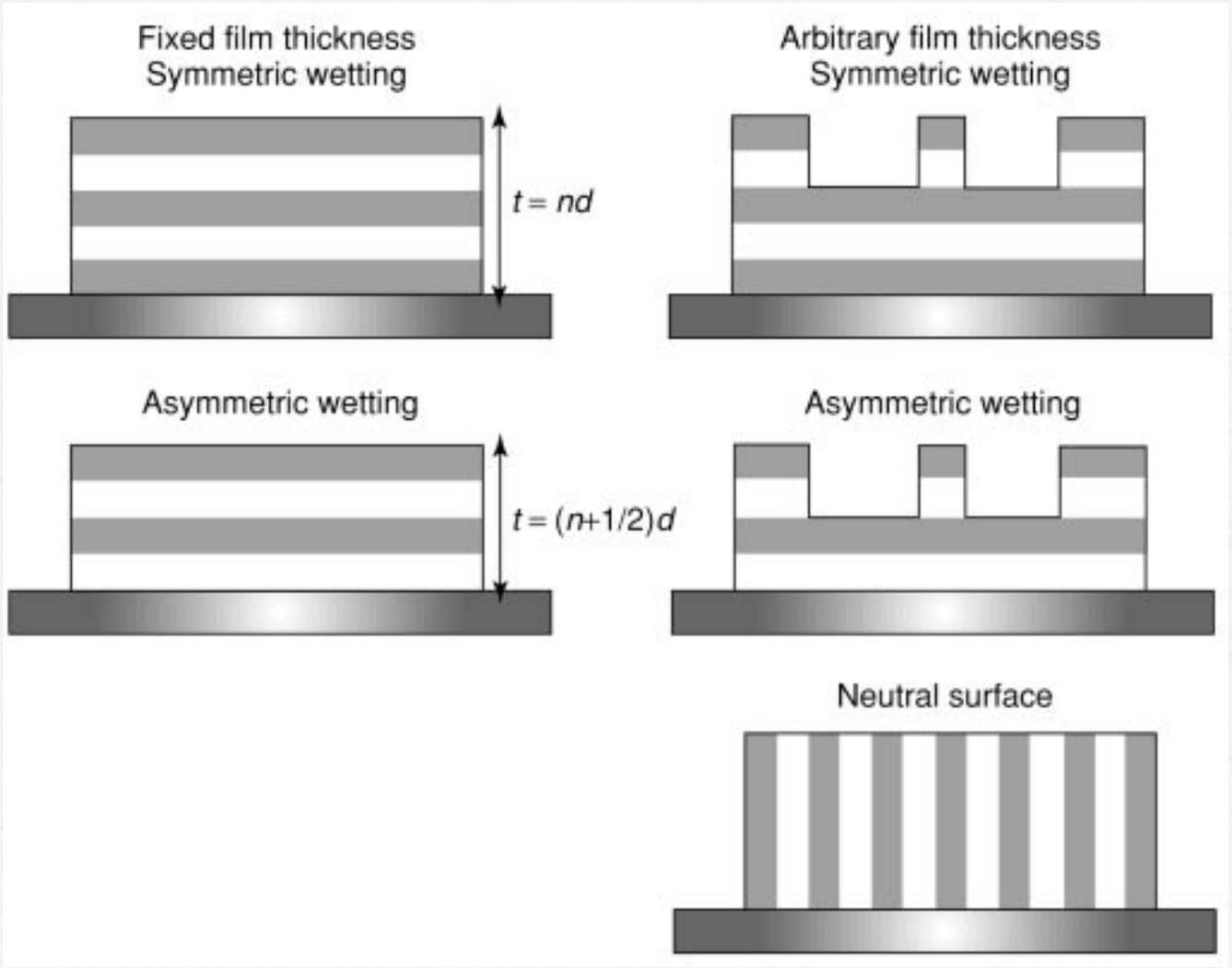
block copolymer morphologies

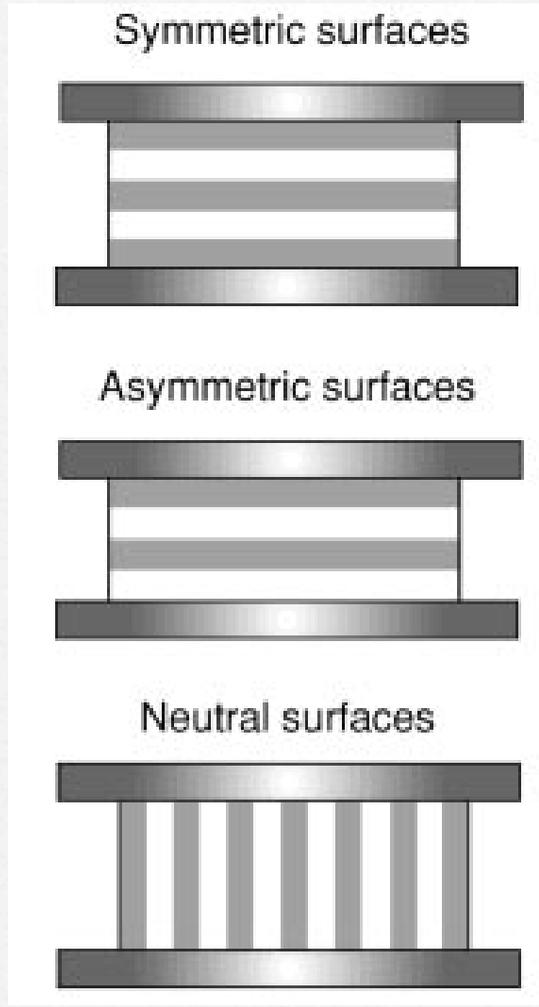


block copolymer morphologies

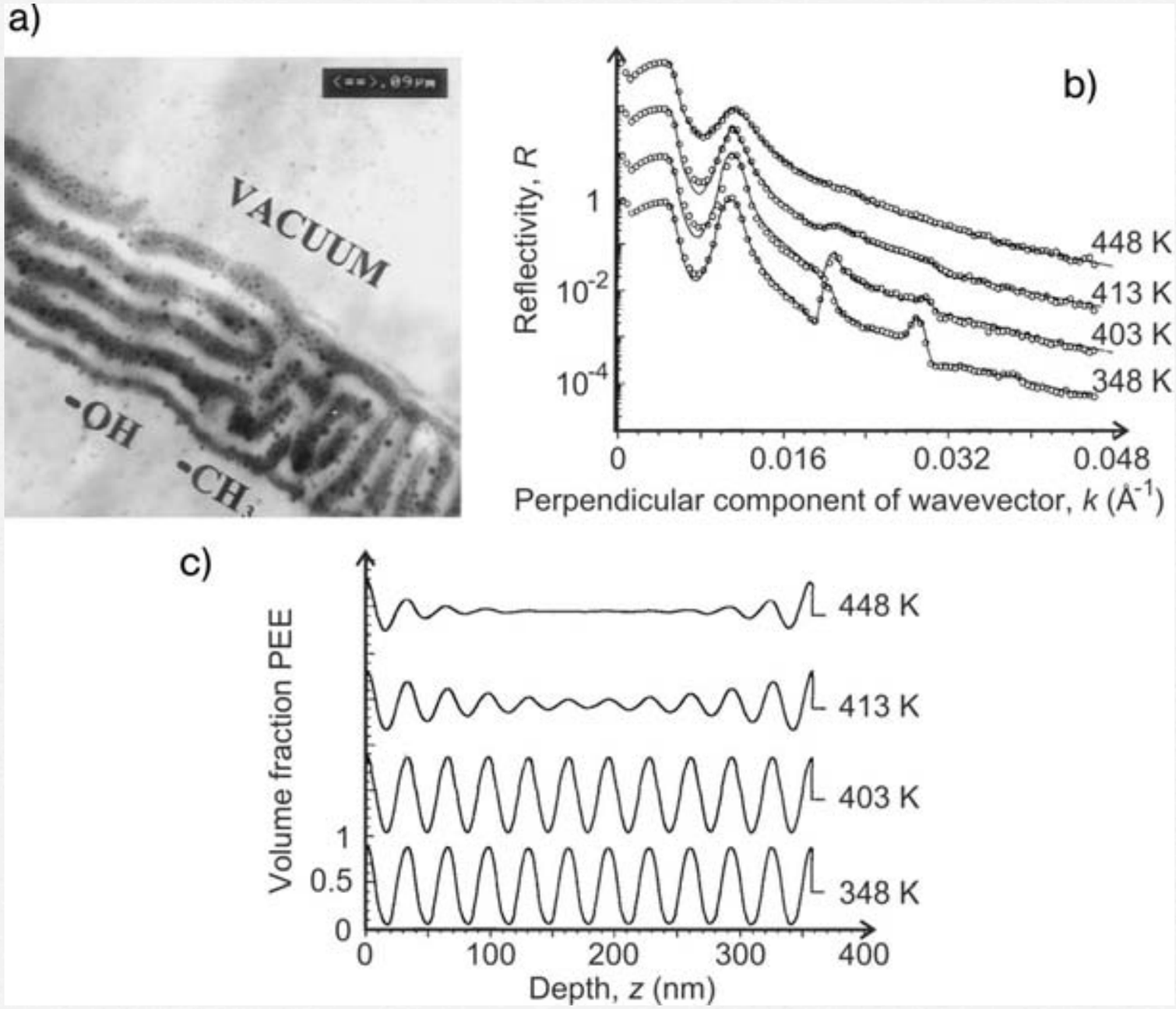


block copolymer morphologies





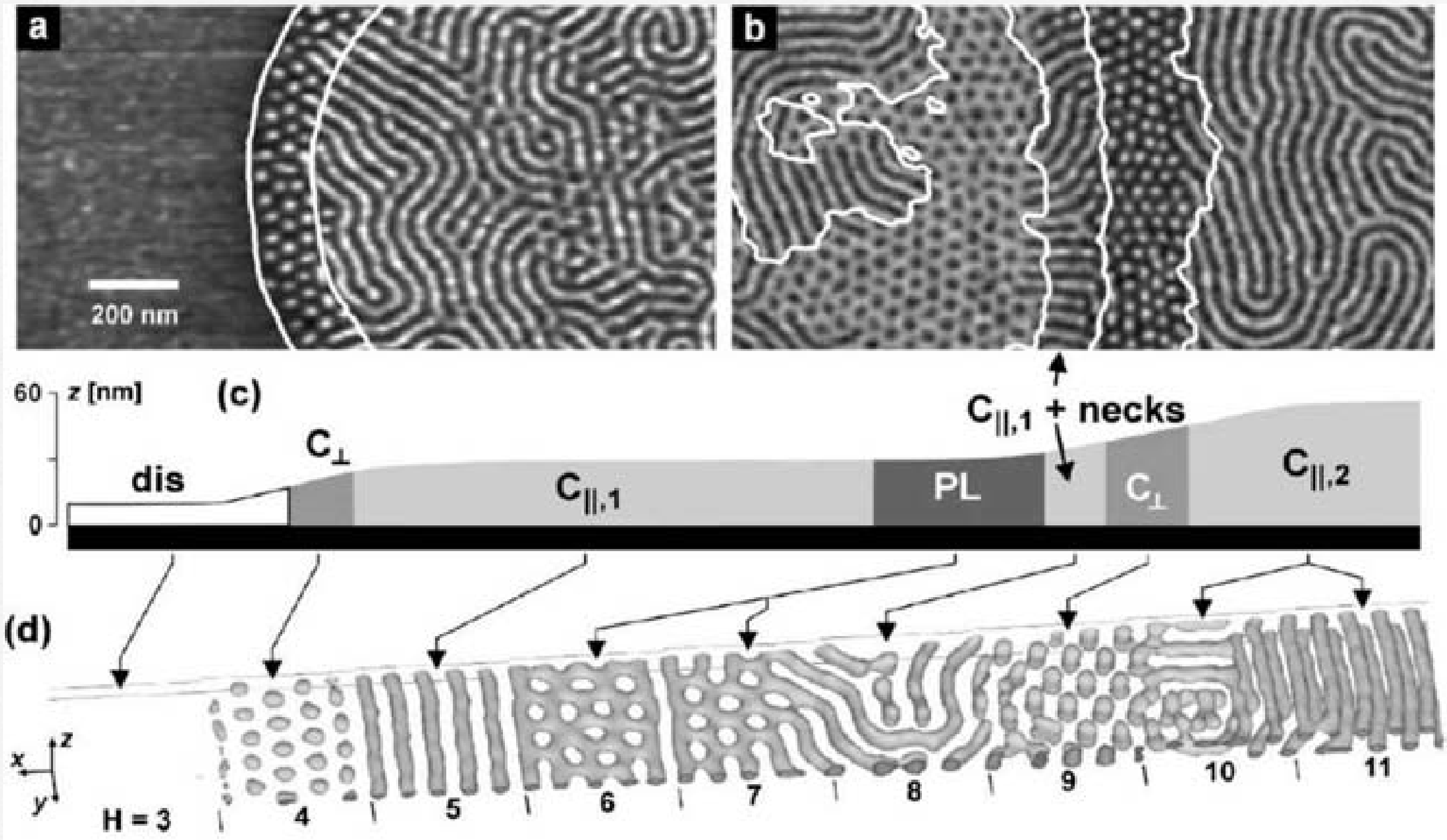
block copolymer morphologies



a) TEM image of a polystyrene-block-poly(2-vinyl pyridine) poly(2-vinyl pyridine) block was stained with iodine to enhance contrast.

Neutron reflectometry data (b) and volume fraction-depth profiles (c) are shown for a block copolymer of poly(ethyl ethylene) and poly(ethylene propylene).
ODT visible

block copolymer template



block copolymer thin films

orientation by external fields

a) solvent vapor

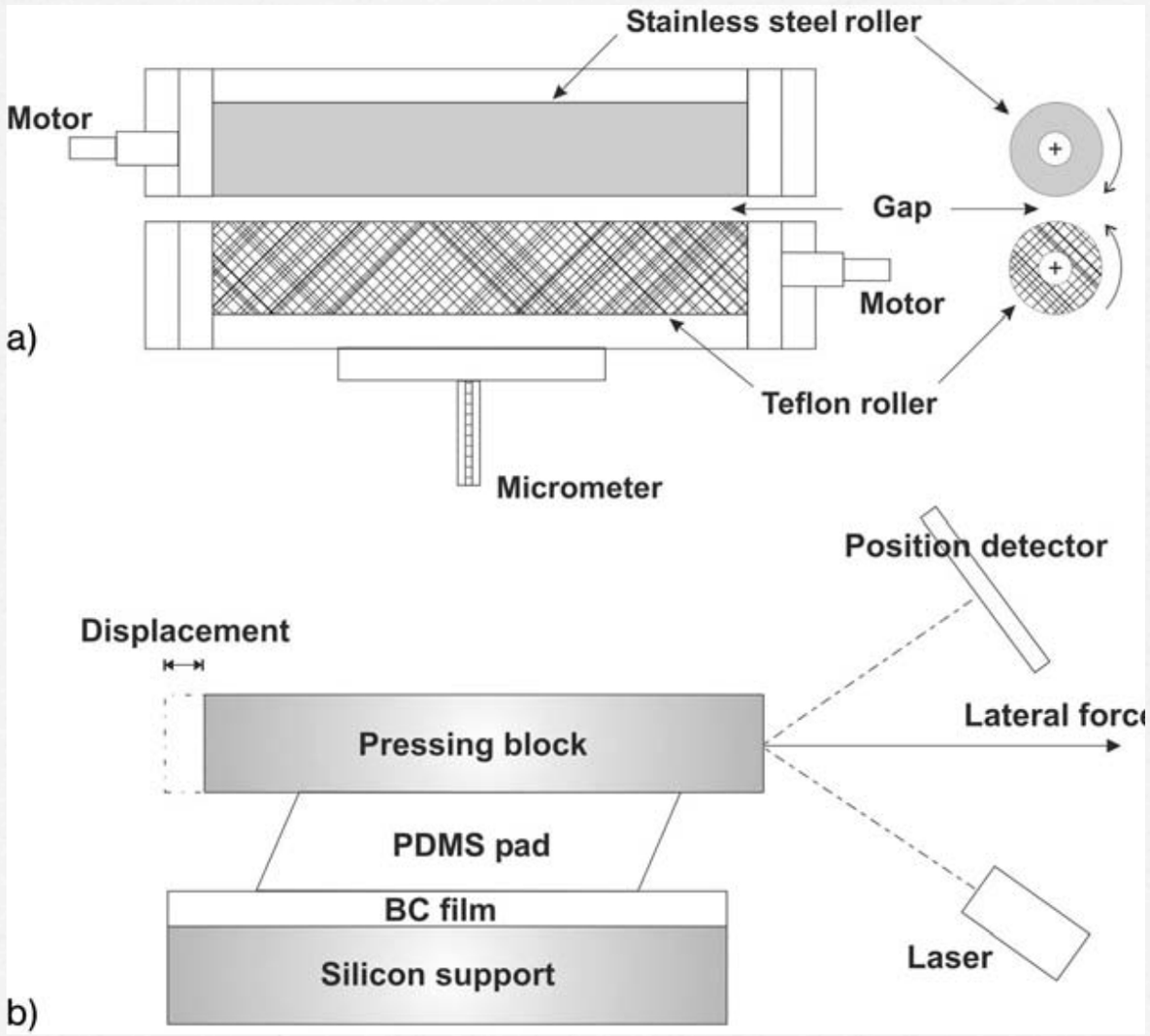
b) mechanical flow fields

c) electric and magnetic fields

block copolymer thin films

orientation by external fields

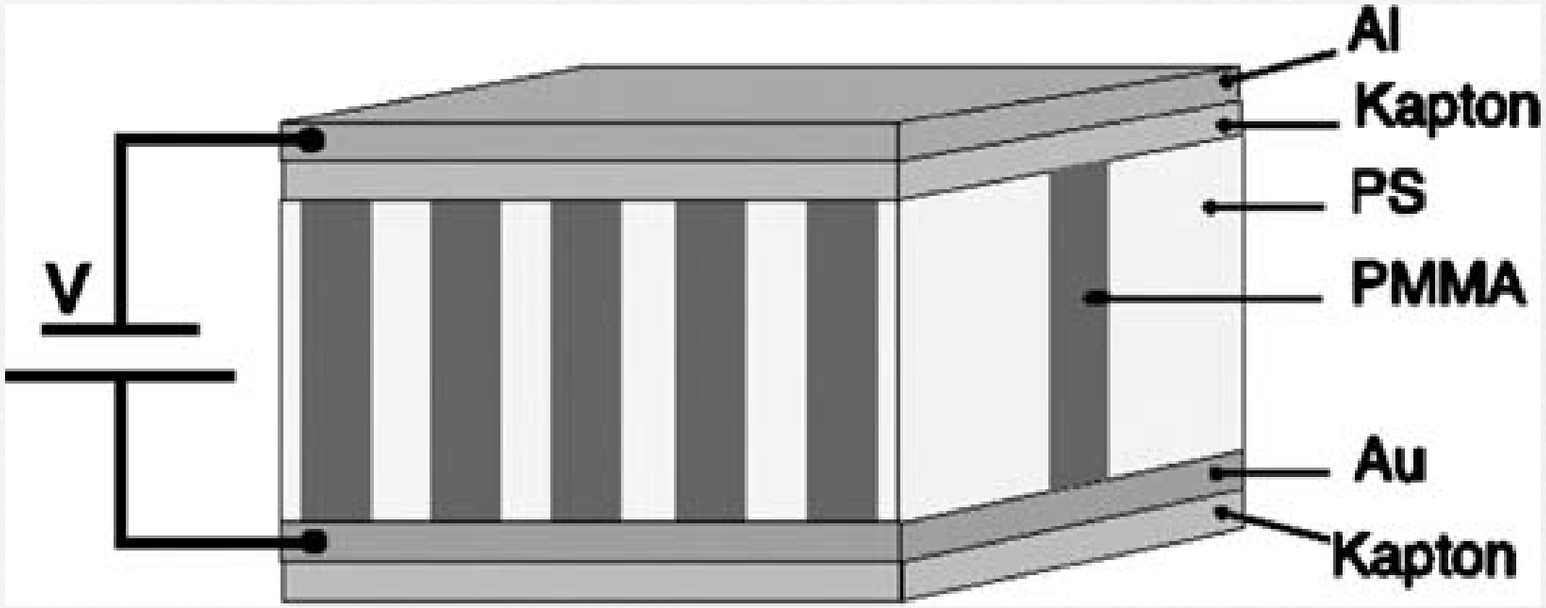
b) mechanical flow fields



block copolymer thin films

orientation by external fields

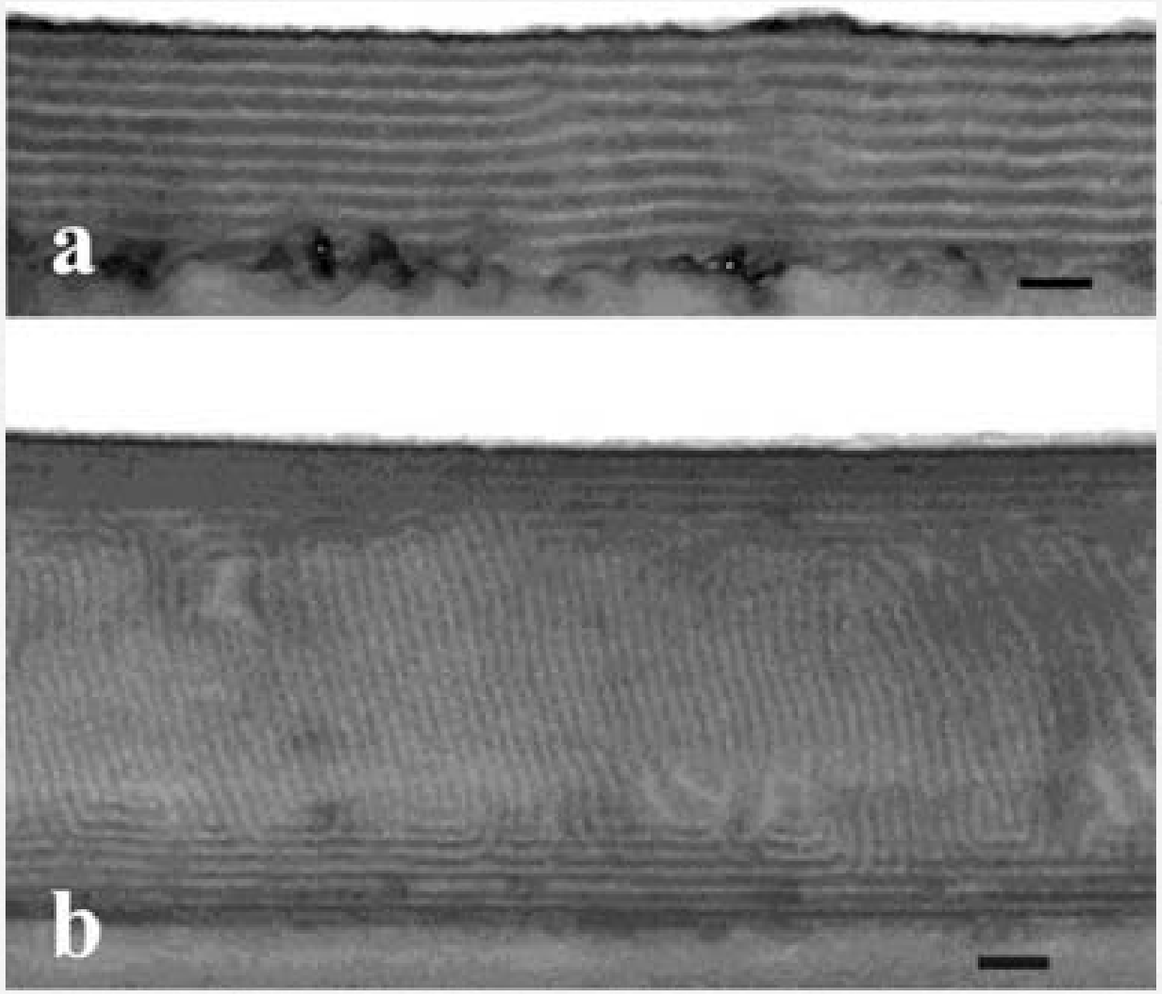
c) electric and magnetic fields

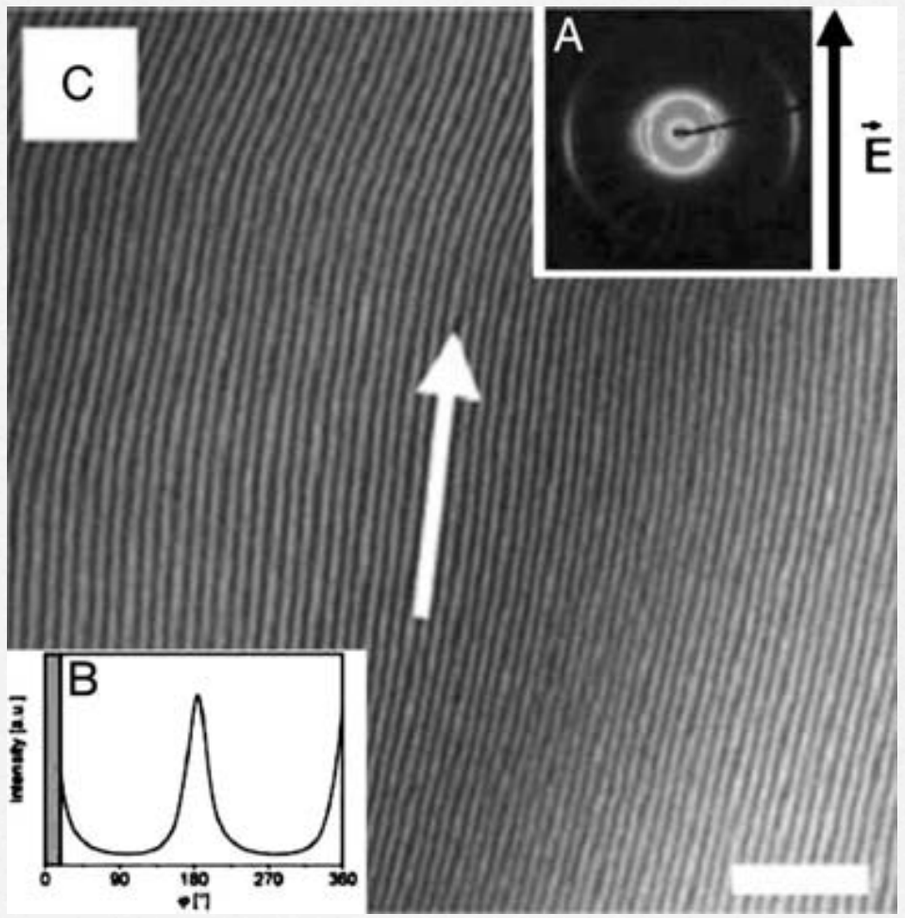


block copolymer thin films

orientation by external fields

c) electric and magnetic fields

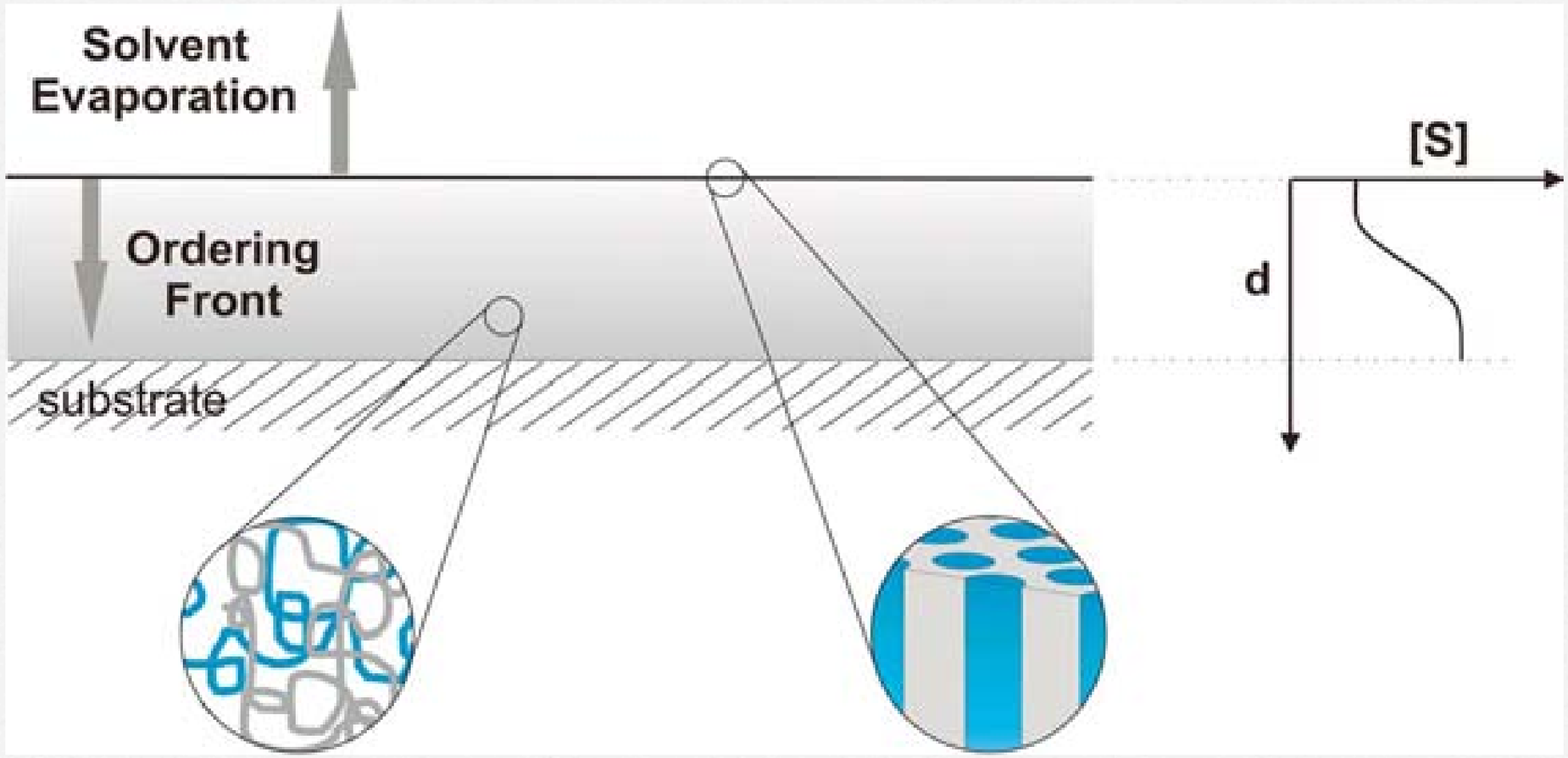




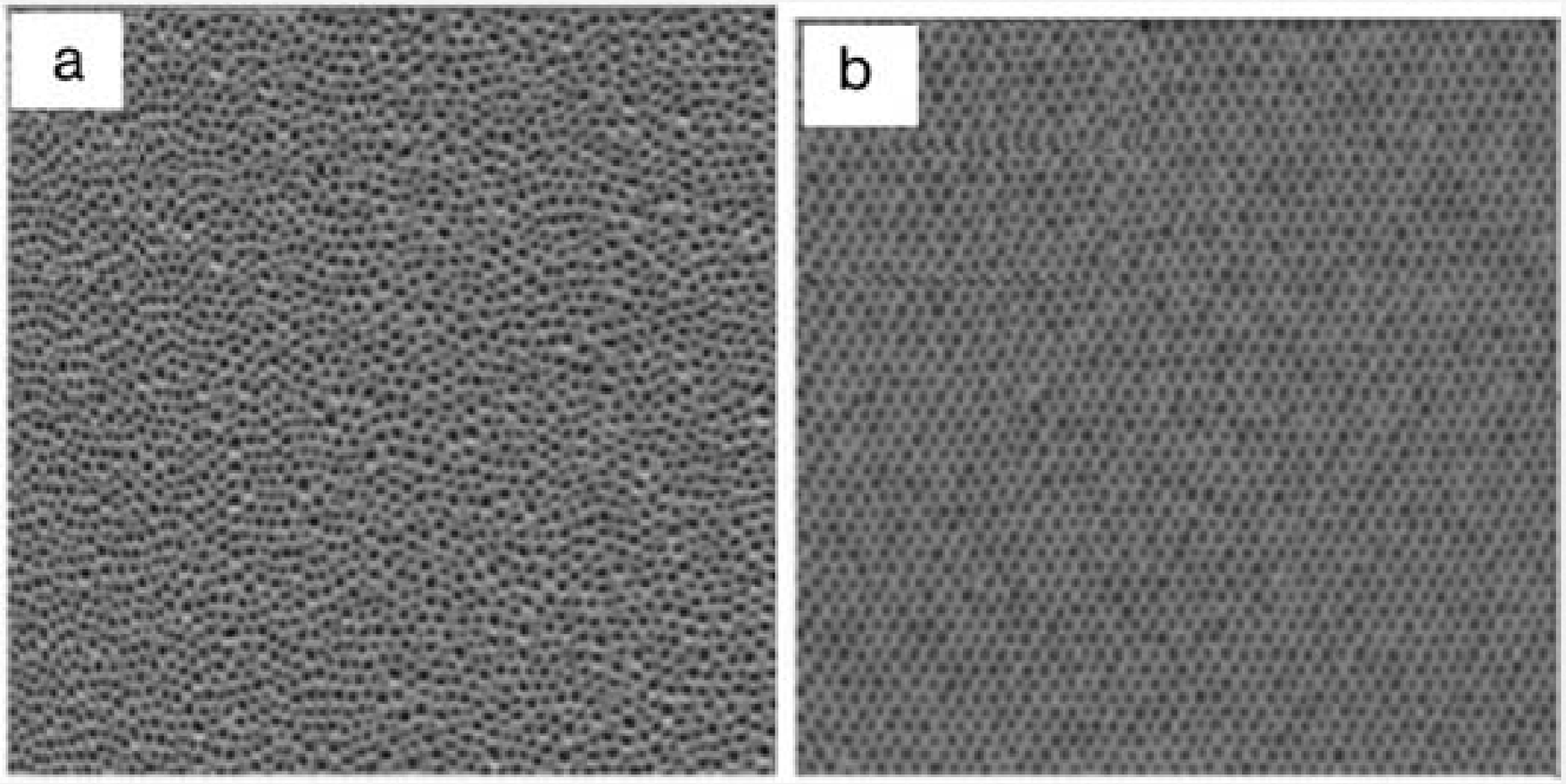
block copolymer thin films

orientation by external fields

a) solvent vapor



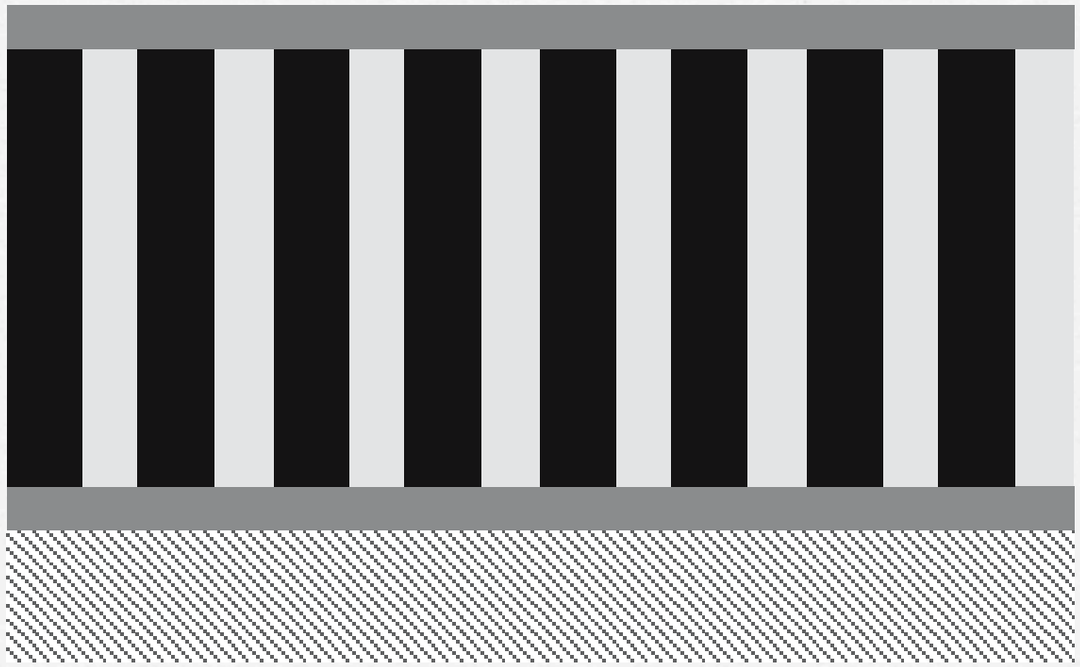
block copolymer template



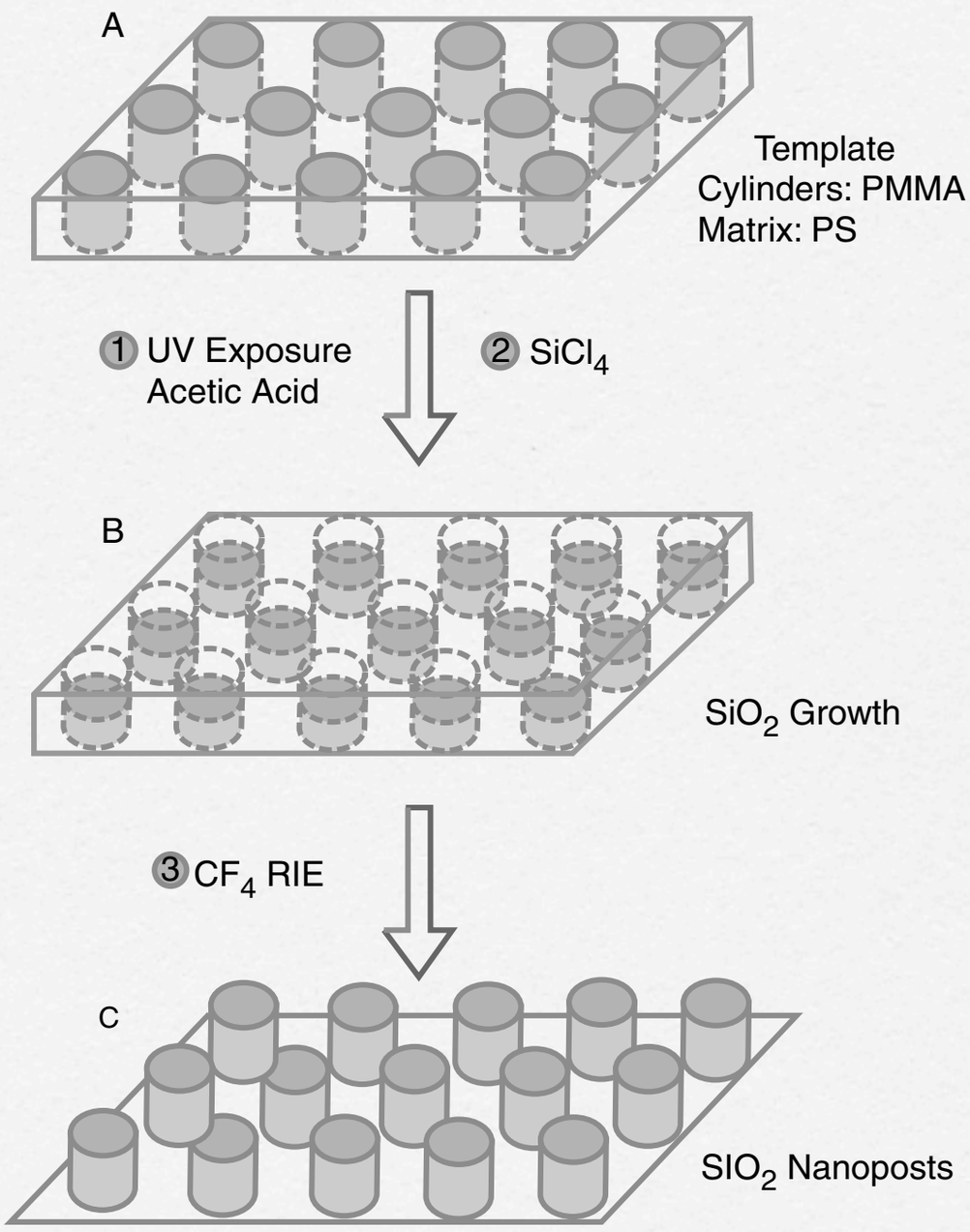
PEO-b-PS film before (a) and after (b) exposure to benzene vapor

block copolymer template

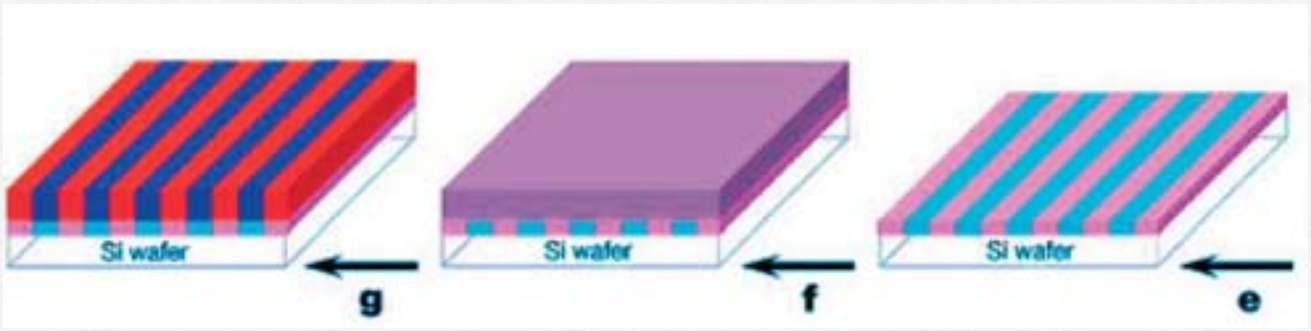
orientation using a neutral layer

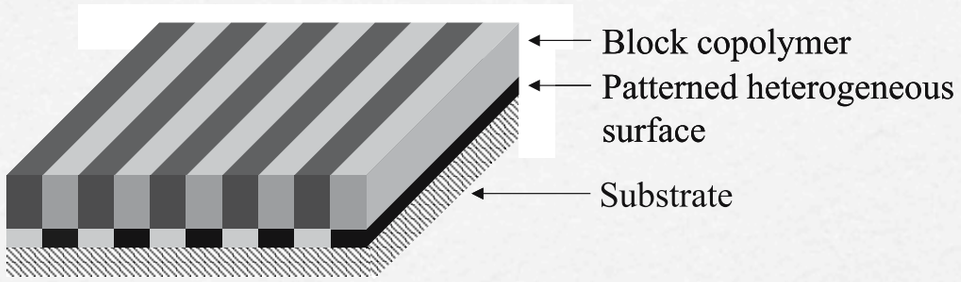


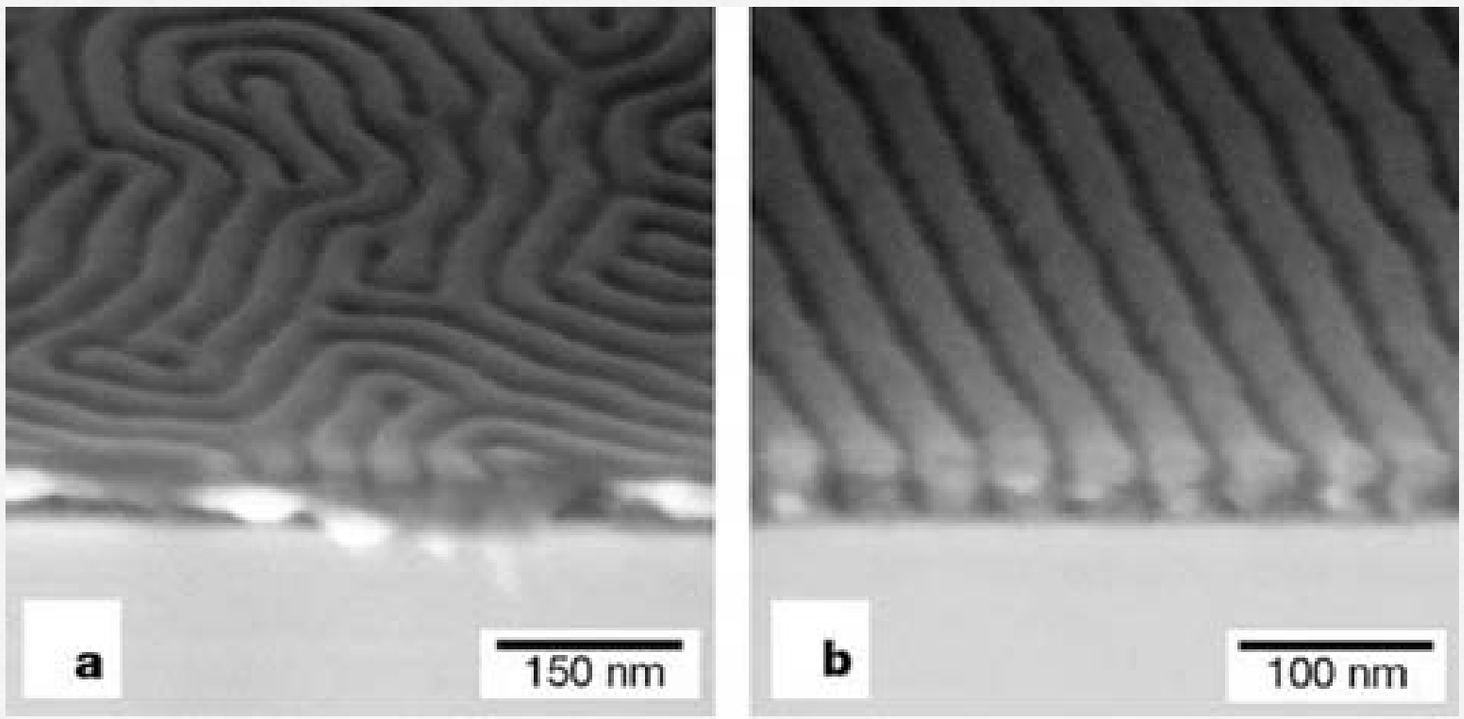
block copolymer template



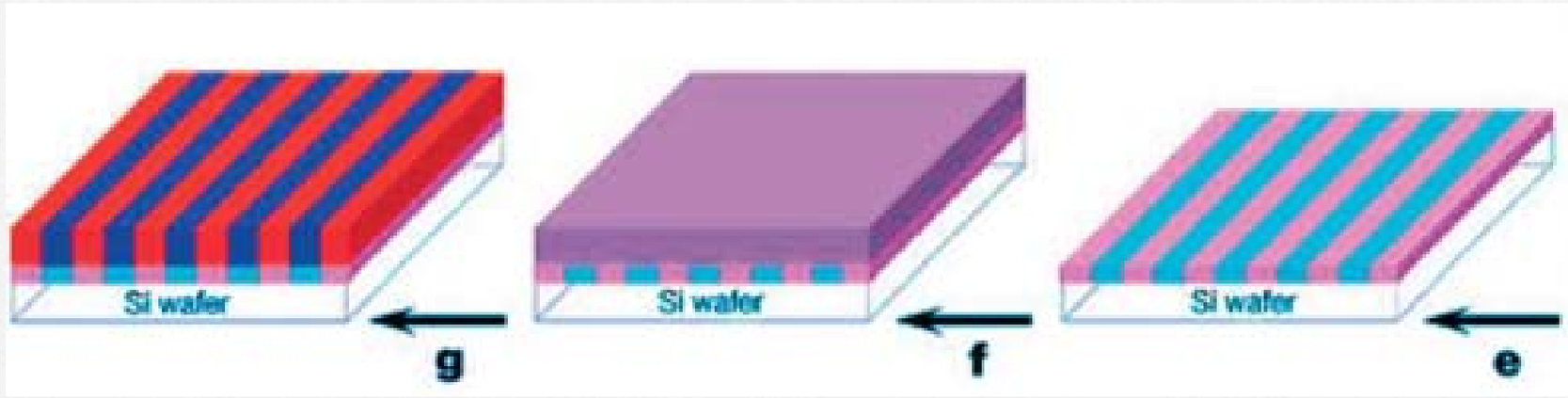
block copolymer template



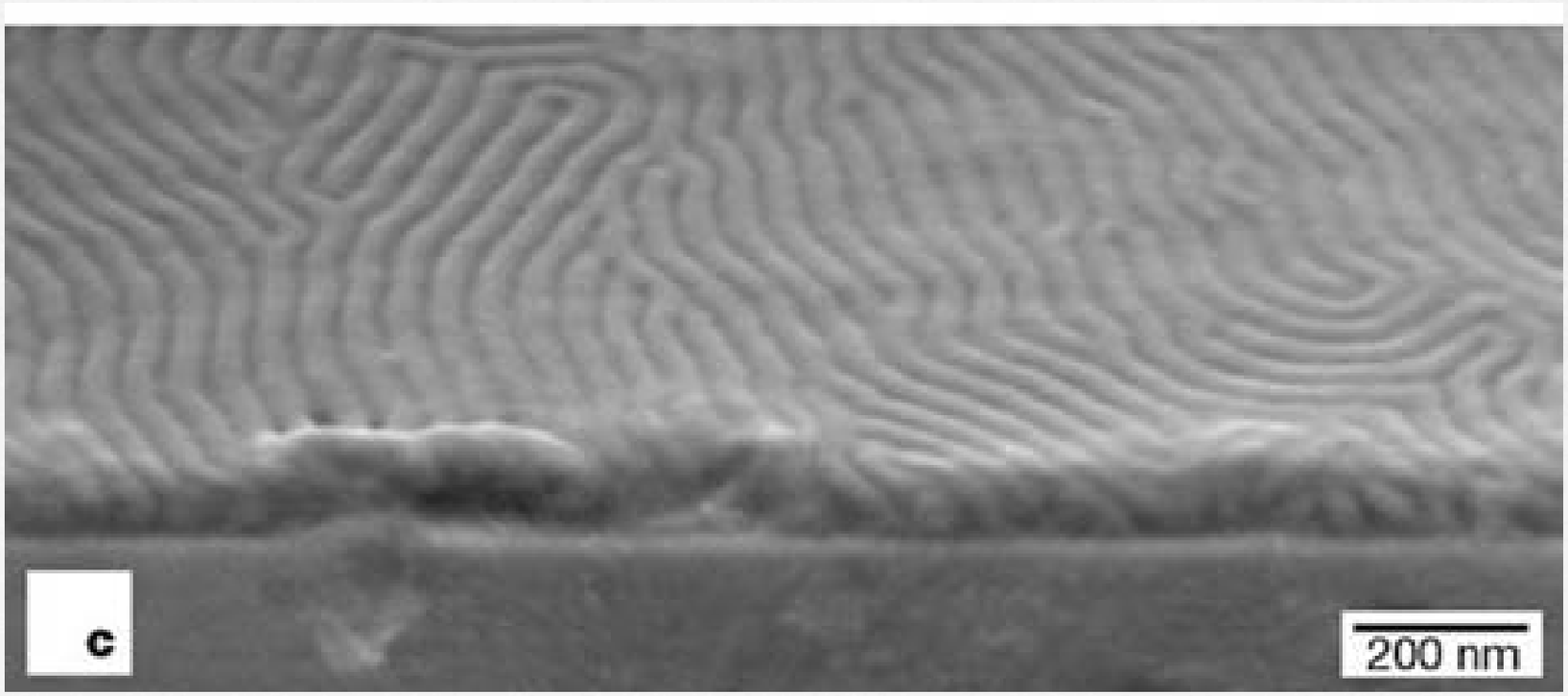




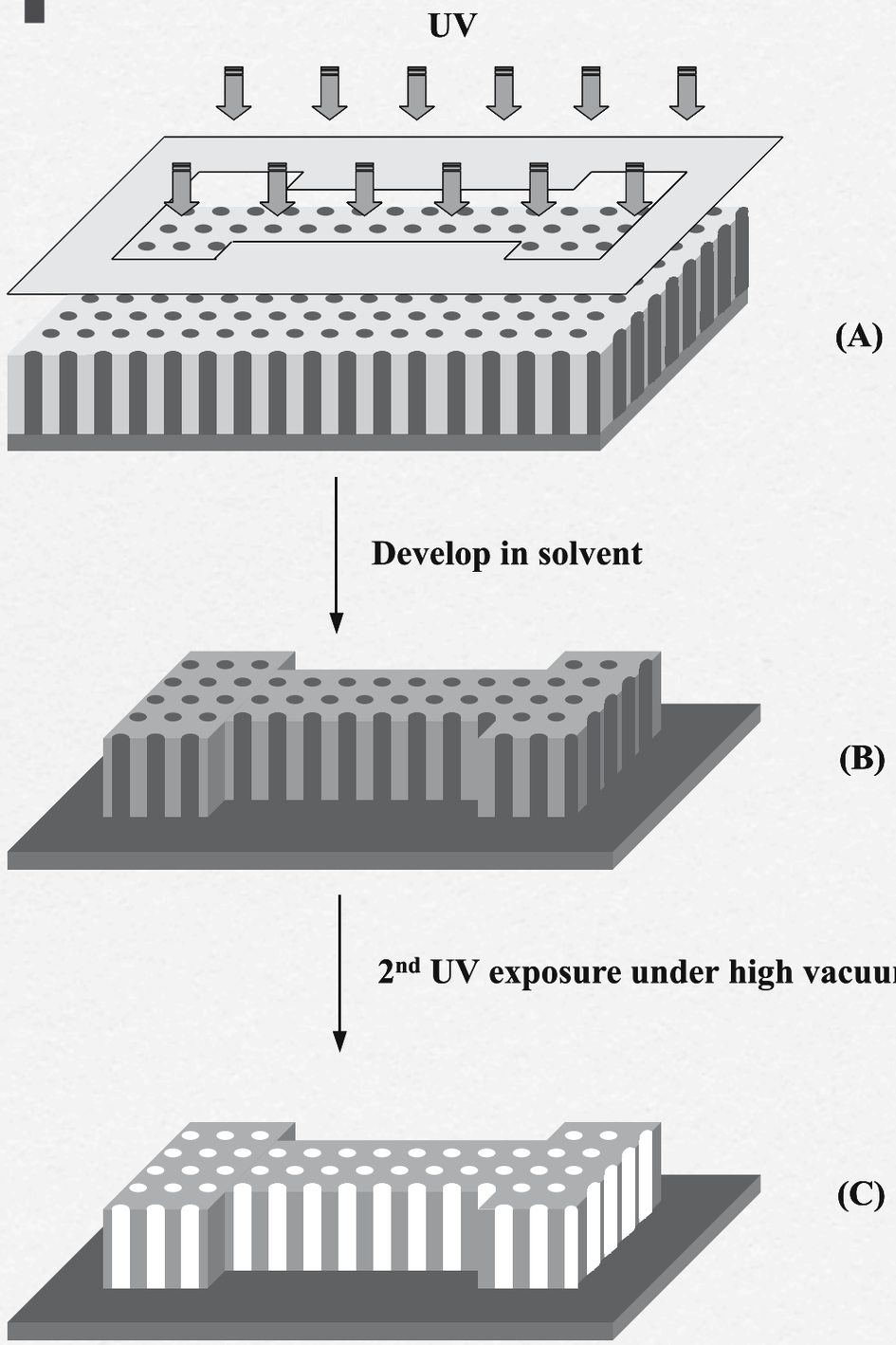
block copolymer template



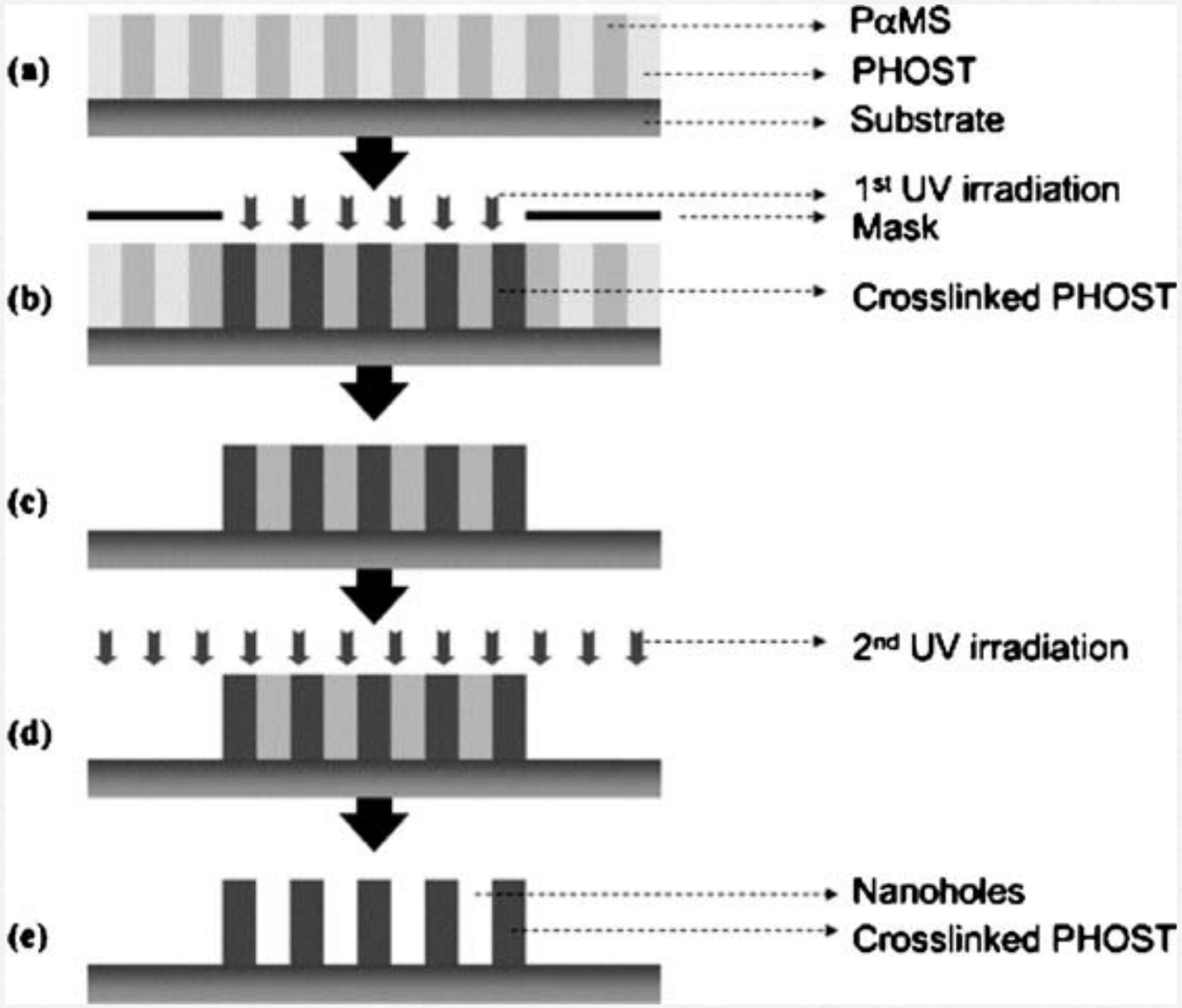
what if pattern is greater than L_o?



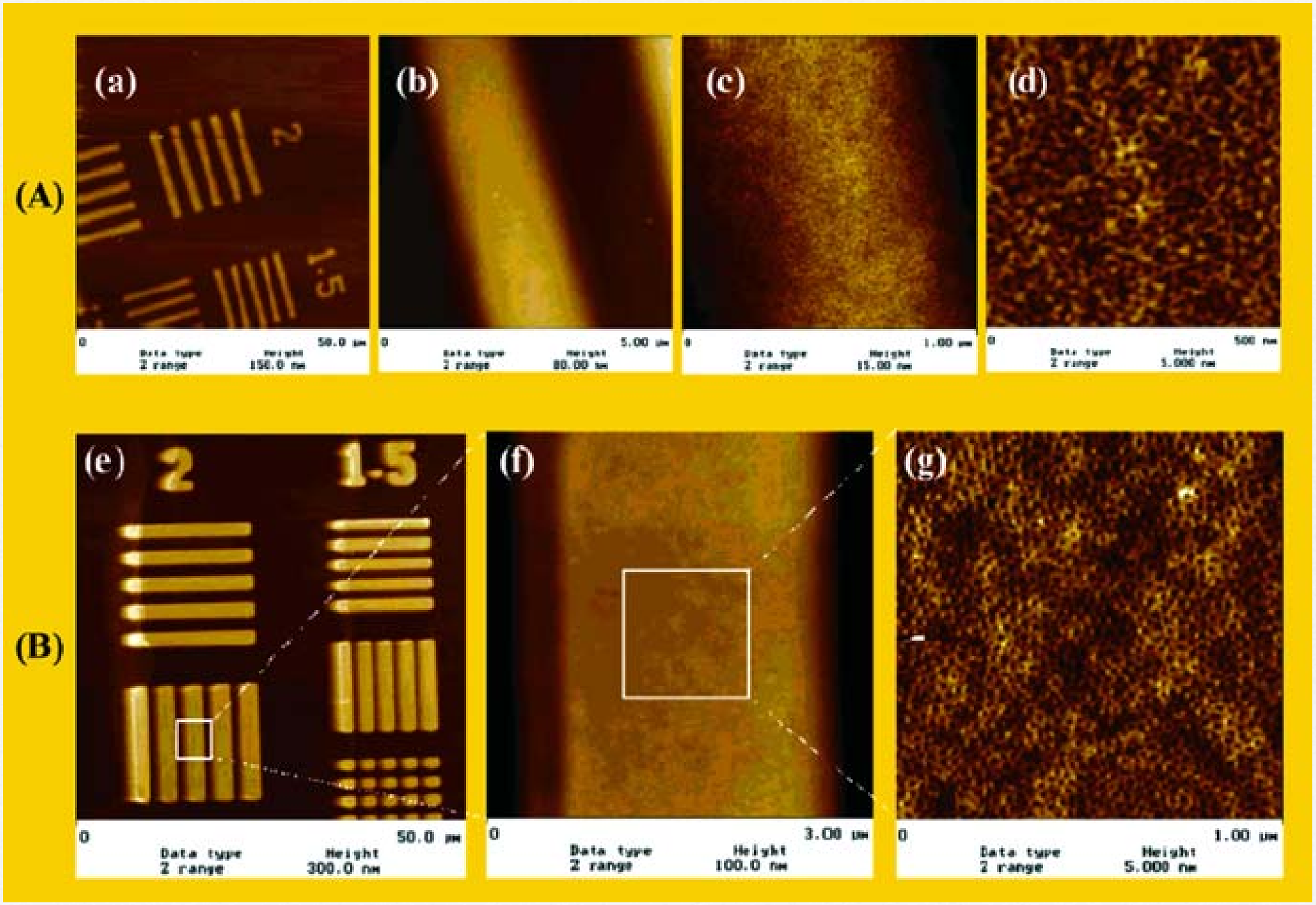
pattern block copolymer films



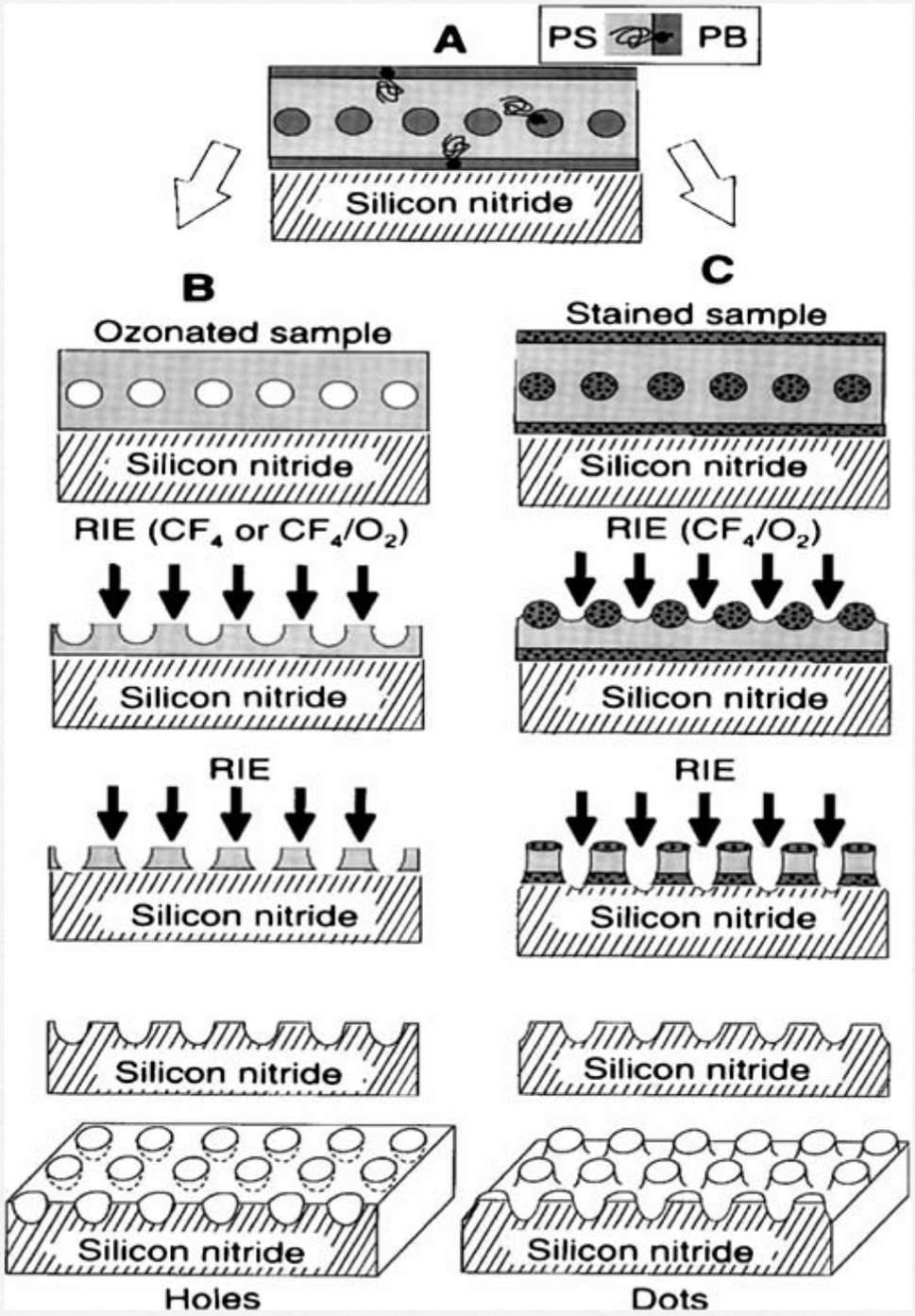
PαMS-PHS



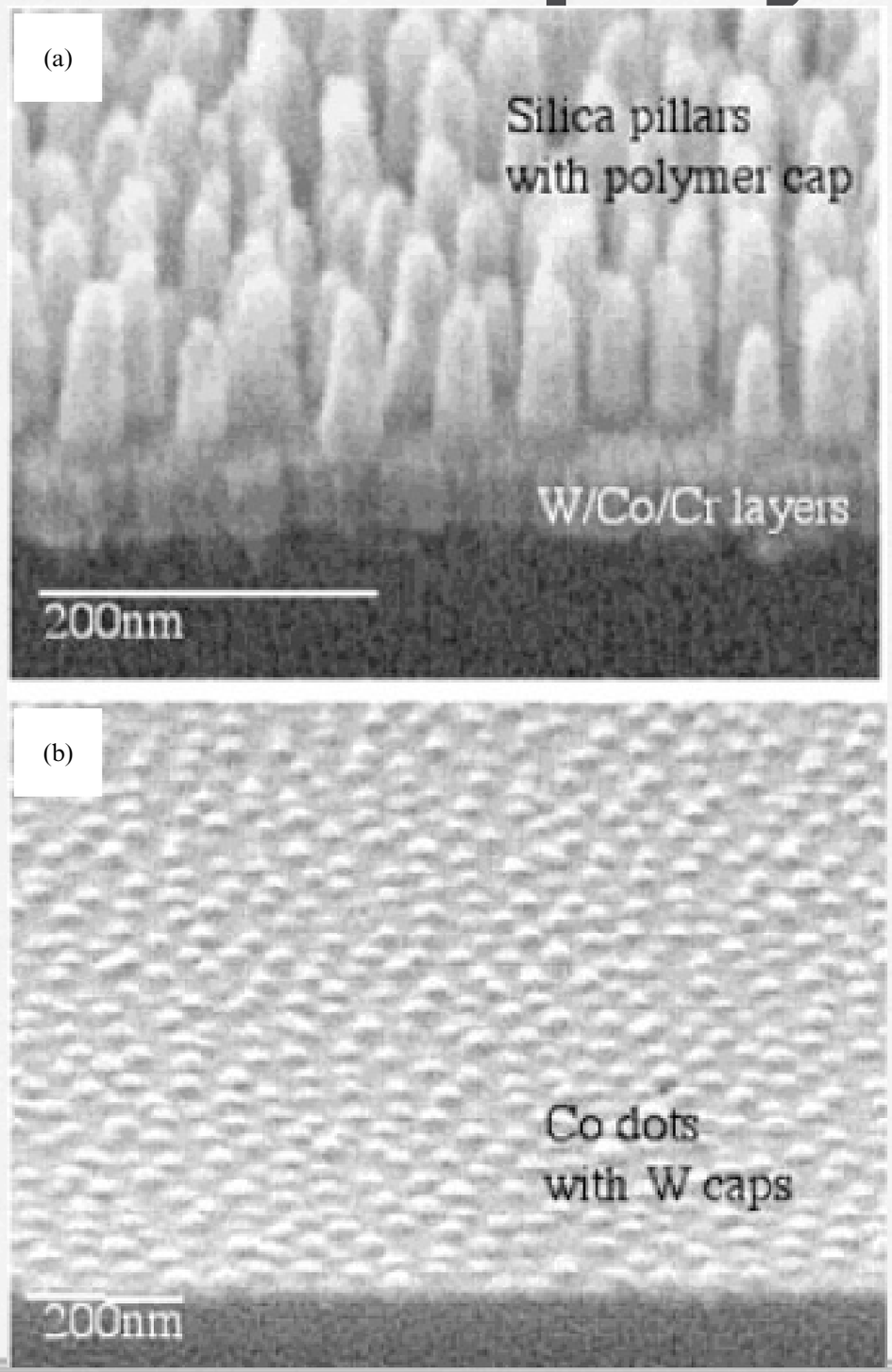
pattern block copolymer films



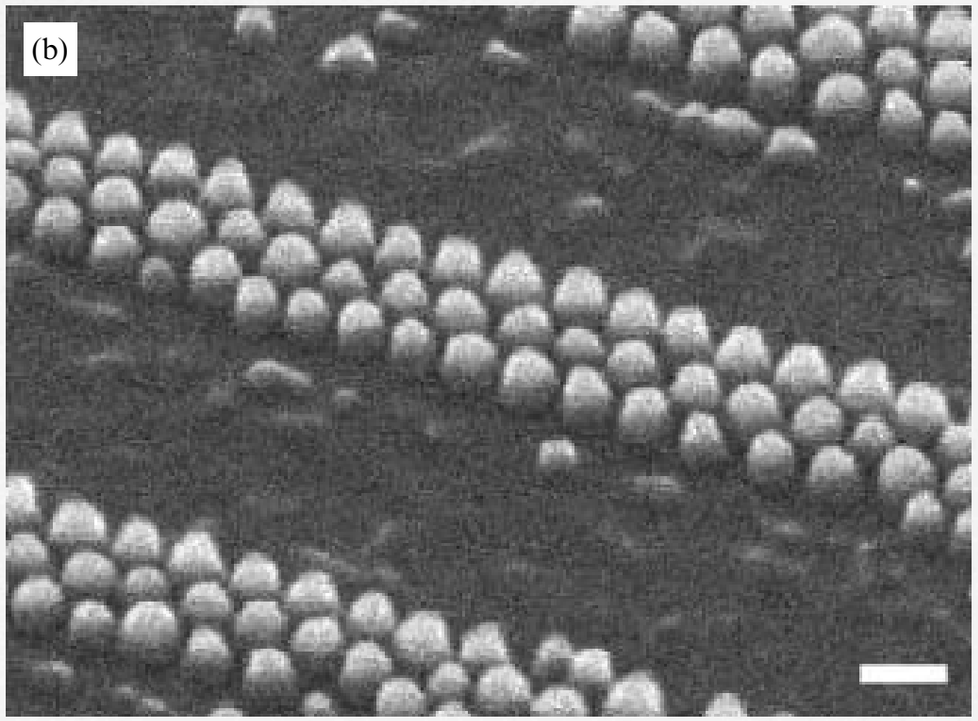
pattern block copolymer films



pattern block copolymer films

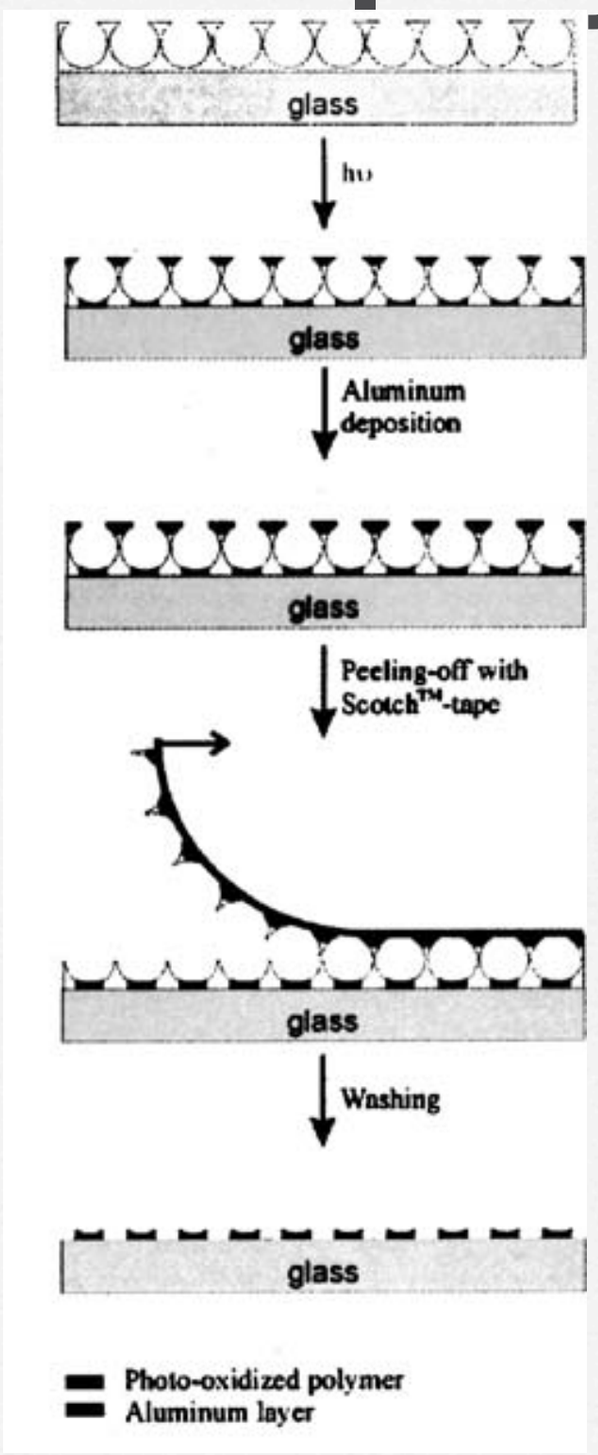


pattern block copolymer films

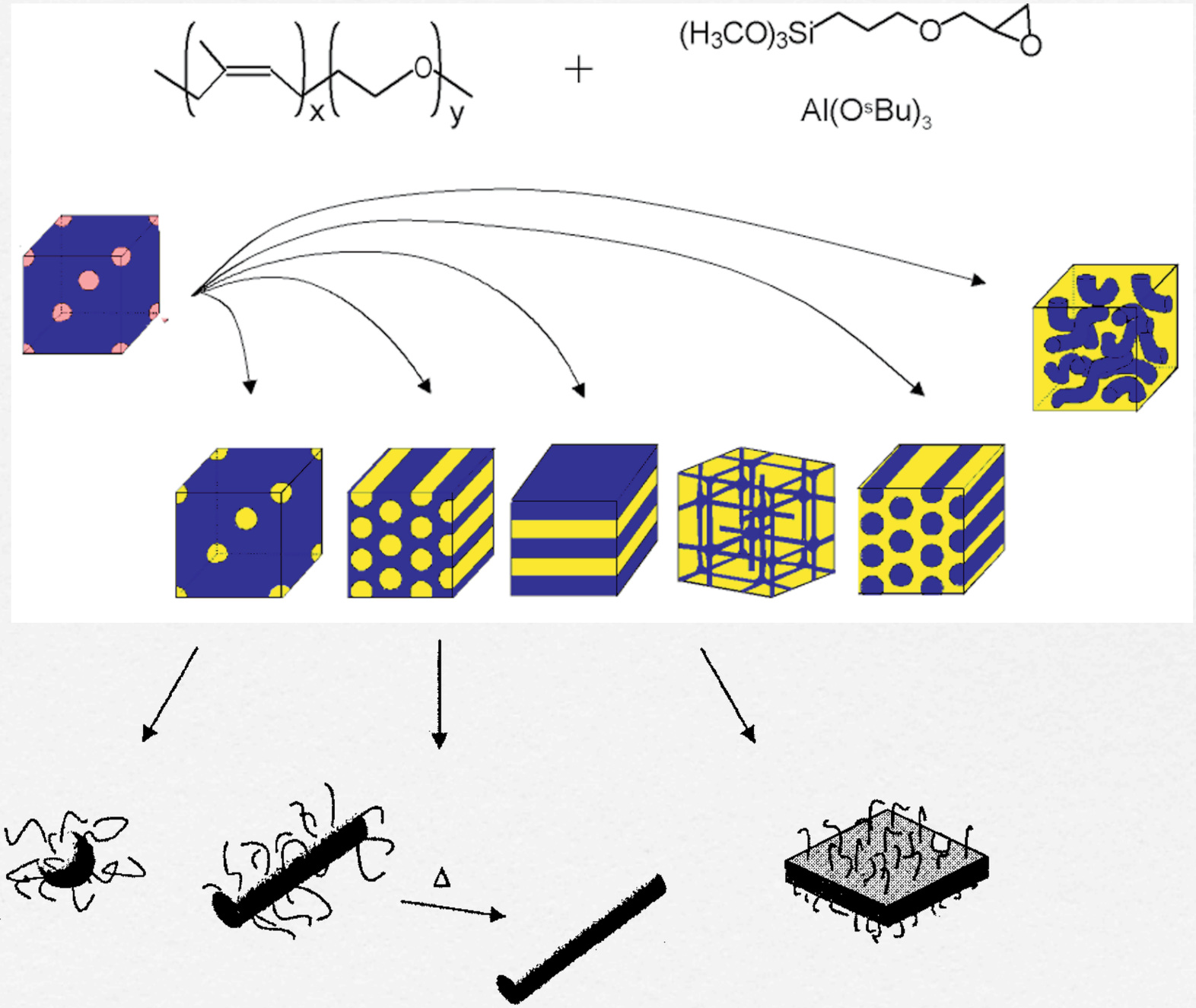


Fabrication strategy employed by researchers at Toshiba. (a) 6.25 cm (2.5 inch) HDD glass plate used for information storage. Circular lines originate from interference colors of embossed lines. (b) SEM micrograph of CoCrPt dots formed from copolymer template in substrate grooves. Bar 1⁄4 50 nm

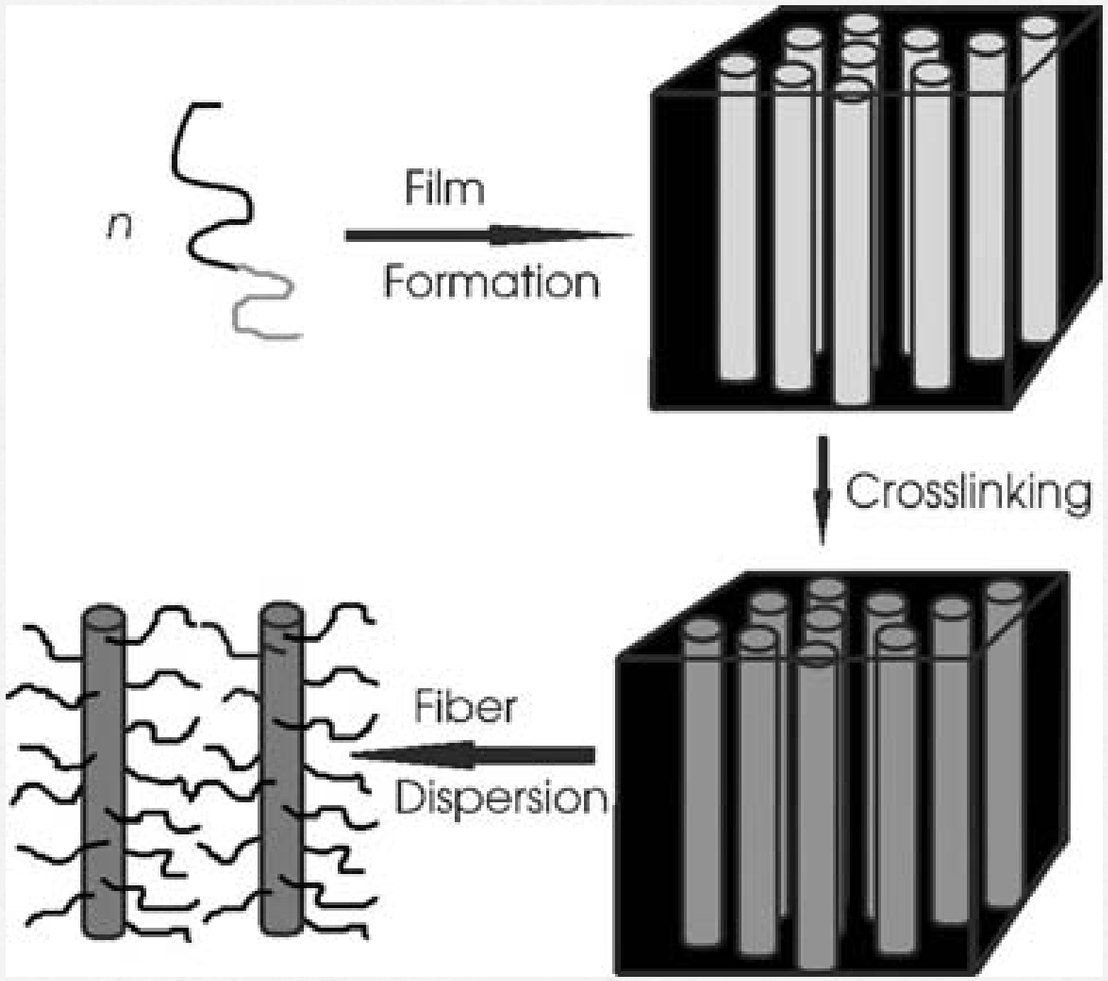
pattern block copolymer films



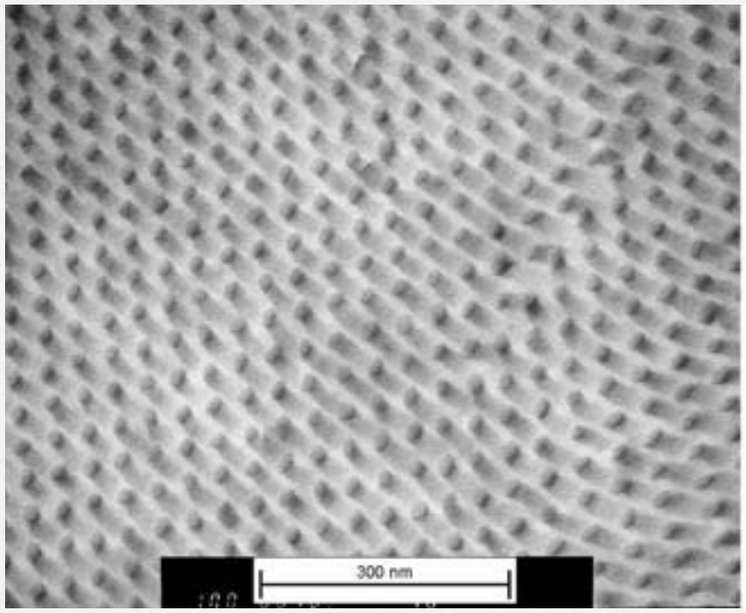
block copolymer template

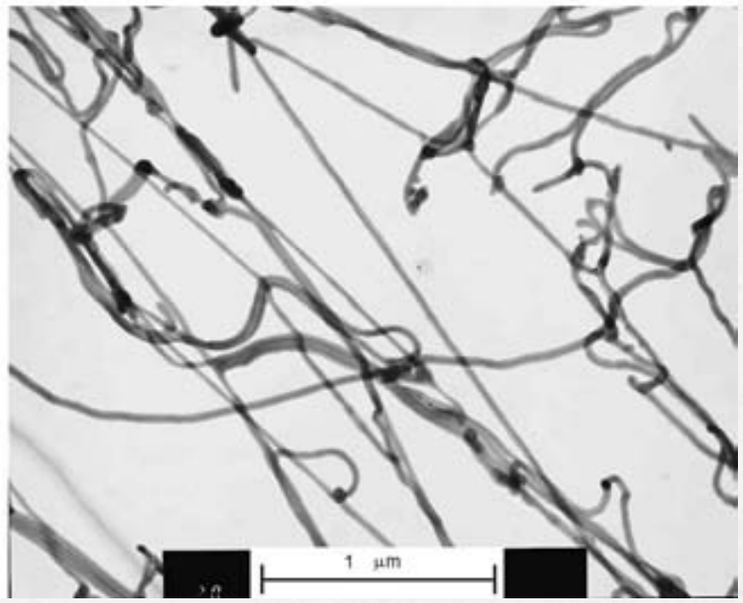


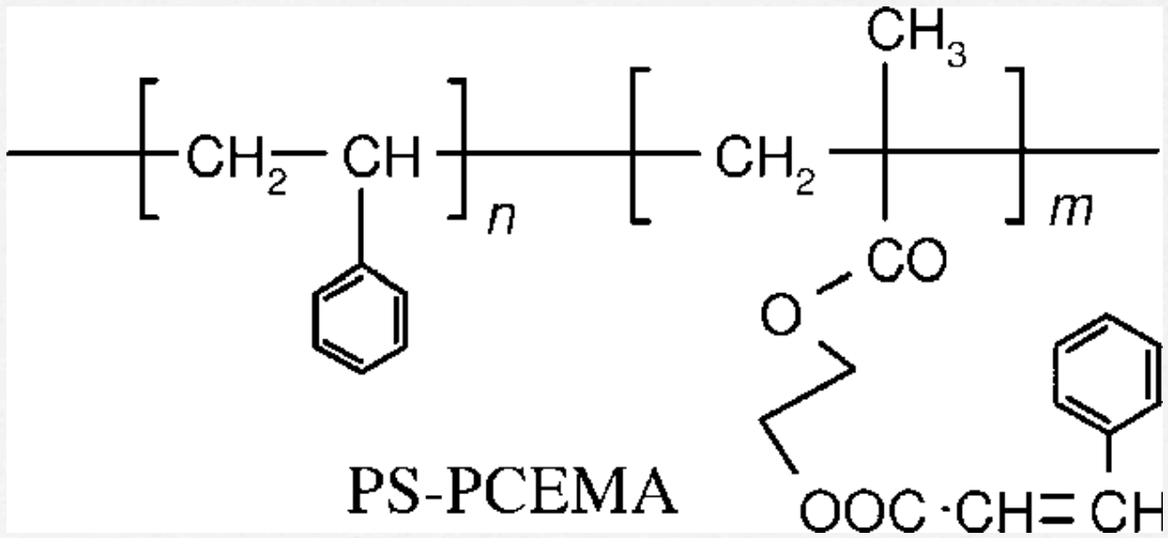
block copolymer nanofibers



block copolymer nanofibers







block copolymer nanofibers

PS-PI