- The process of the invention, which consists in using a block copolymer composition with a dispersity of between 1.1 and 2, makes it possible to carry out the annealing necessary to structure the block copolymer composition at temperatures lower by 30 to 50°C with respect to the temperature used when the block copolymer composition exhibits a low dispersity (typically less than 1.1), or in shorter times.

- Such block copolymer compositions are, for example, accessible by simplified anionic polymerization methods, ring opening polymerization, by controlled or uncontrolled radical polymerization, combination of these polymerization technics methods or also by blending block copolymers.

Summary:

There is provided a process for producing thick nanostructured films with a minimum of defects, obtained from a block copolymer composition, the dispersity of which exhibits a value of between 1.1 and 2, comprising the following stages:

- preparation of the block copolymer composition, the dispersity of which exhibits a value of between 1.1 and 2,
- deposition of this composition in solution or not on a surface,
- annealing.

In an aspect, there is provided a process for producing nanostructured films, wherein a number of defects is minimized, obtained from a block copolymer composition in which the block copolymer composition is prepared by blending several block copolymers, the dispersity of which exhibits a value of between 1.1 and 2, comprising the following stages:

Claims

1 A process for producing nanostructured films, wherein a number of defects is minimized, obtained from a block copolymer composition in which the block copolymer composition is prepared by blending several block copolymers, the dispersity of which exhibits a value of between 1.1 and 2, comprising the following stages:

- preparation of the block copolymer composition, the dispersity of which exhibits a value of between 1.1 and 2,

- deposition of this composition in solution or on a surface,

- annealing,

in which the thickness of the film is between 20 and 300 nm.

2 The process as claimed in claim 1, in which defects of orientation, coordination number or distance of the films obtained are minimized, and the films obtained exhibit a large monocrystalline surface.

3 The process as claimed in claim 1 or 2, in which the number-average molecular weight of the block copolymer composition is between 1000 and 300 000 g/mol.

4. The process of claim 1 or 2, in which the composition exhibit multimodal chromatogram.