period. Finally, the process of the invention, consisting in blending copolymers of different molecular weights, makes it possible to carry out the annealing necessary to structure the block copolymers at temperatures lower by 30 to 50°C with respect to the temperature used when just one block copolymer exhibiting the same period that the blended copolymers of low dispersity (typically less than 1.1) is used, or in shorter times.

These advantages are also transposable to blends of block copolymers formed in the form of objects, obtained, for example, by injection into a mold or extrusion in the form of sheets. This makes possible precise refining of the optical, acoustic or mechanical properties and the achievement of a compromise in combined properties, such as good transparency and high impact strength.

Summary ~~of the invention~~:

~~The invention relates to~~In a first aspect, there is provided a process for controlling the period of a nanostructured assemblage of a blend of block copolymers, this blend comprising n block copolymers with different molecular weights but for which at least one of the constituent monomers respectively of each of the blocks of the block copolymers is identical, n being a whole number between 2 and 5, comprising the following stages:

-- blend comprising block copolymers in solution,

- deposition of this solution of blend on a surface or in a mold,

- annealing.

In another aspect, there is provided the use of the process as defined above to generate lithography objects, masks or nanostructured film at nanometer scale.

In another aspect, there is provided a lithography object or mask obtained by the use as defined above.