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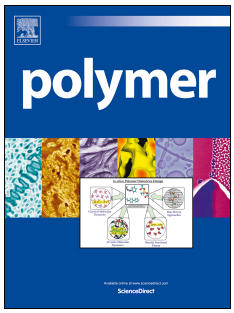

Morphology transformations of electrospun polymer fibers annealed on polymer films with thickness-controlled growth rates of undulation

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PII: S0032-3861(17)31129-1

DOI: 10.1016/j.polymer.2017.11.061

Reference: JPOL 20174

To appear in: *Polymer*

Received Date: 11 September 2017

Revised Date: 10 November 2017

Accepted Date: 23 November 2017

Please cite this article as: Kuo T-Y, Tseng H-F, Chiu Y-J, Chen J-T, Morphology transformations of electrospun polymer fibers annealed on polymer films with thickness-controlled growth rates of undulation, *Polymer* (2017), doi: 10.1016/j.polymer.2017.11.061.

Morphology Transformations of Electrospun Polymer Fibers Annealed on Polymer Films with Thickness-Controlled Growth Rates of Undulation

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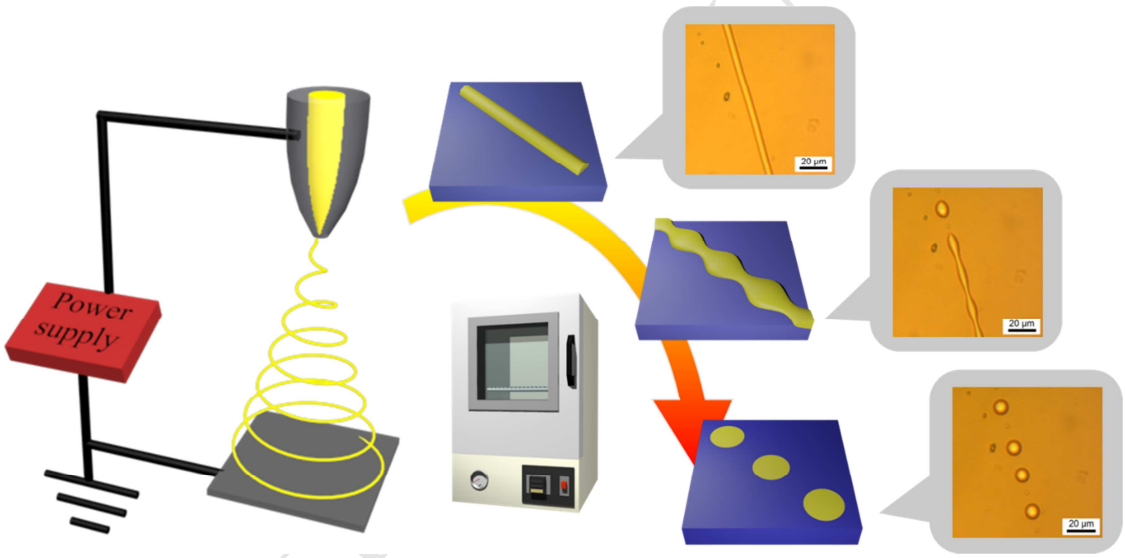
for Graphical Abstract



In this work, we investigate the morphology evolution of electrospun polystyrene (PS) fibers thermally annealed on poly(vinyl alcohol) (PVA) films. Driven by the surface and interfacial tensions, the PS fibers transform to a series of regularly aligned anisotropic particles embedded in the PVA films via a Rayleigh instability-type transformation. From the in-situ observed optical microscopy (OM) images, higher growth rates of undulated amplitude can be obtained for thinner PVA films, revealing the effect of the underlying glass substrates.