

Supporting Information for:

**Microtip focused electrohydrodynamic jet printing
with nanoscale resolution**

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1. Effects of substrate speeds on nanofiber patterns

The substrate speed has a significant effect on the physical characteristics of the deposited nanofibers. A variety of PEO nanofiber patterns were deposited as shown in Figure S1 when the substrate speed increased from 0.9 mm/s to 5.5 mm/s. The perturbation in the pattern deposited on the substrate under a lower substrate speed (e.g., 0.9 mm/s) was due to the oscillatory bending instability of jet caused by the combined effects of charge repulsive force, electric field and drag force between the substrate and the jet.¹ As the substrate speed increased, the coiling effects owing to buckling diminished until the substrate speed matched the nanofiber ejection speed (in this case 5 mm/s), and resulted in a straight line (Figure S1).

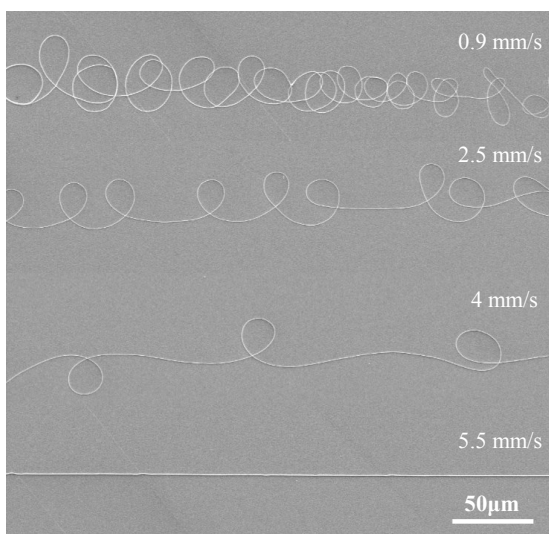


Figure S1 SEM images showing the nanofiber patterns at different substrate speeds

References:

1. Wang, X., Zheng, G., He, G., Wei, J., Liu, H., Lin, Y., Zheng, J. and Sun, D., *MATER LETT*, 2013, **109**, 58-61.