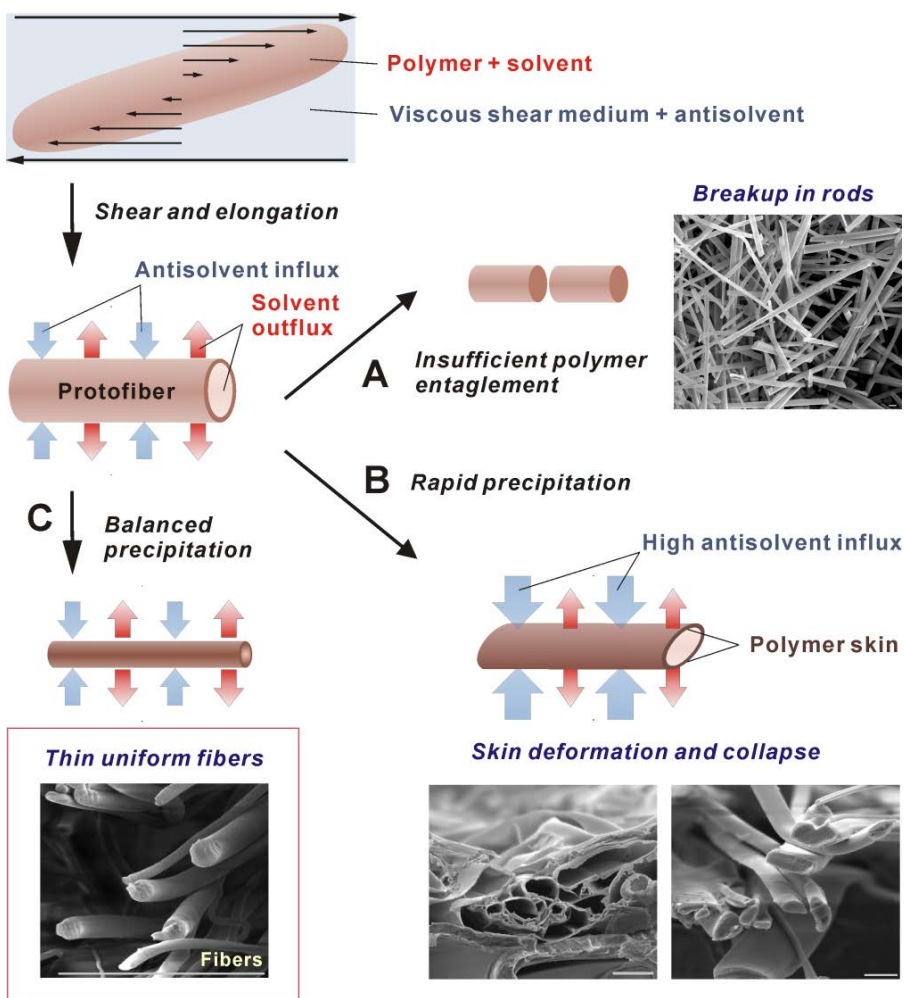


A New Liquid-Based Technology for Scalable Fabrication of Polymer Nanofibers

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NSF support has enabled the team to introduce a novel method for formation of a broad range of polymer nanofibers and nanomaterials. The patented technique, illustrated in the Figure (left), is based on shearing of polymer solution inside viscous medium. It is extremely simple, efficient and readily scalable and can be applied to the fabrication of nanofibers from most types of commercial and special use polymers. The team has scaled up the process to a continuous production of polymer nanofibers at rates of kgs/hour and has begun their commercial fabrication in the startup company Xanofi. The new nanomanufacturing process capable of fabricating such large volumes of inexpensive nanofibers could have a disruptive impact in a number of high technologies, including biomedical scaffolding, tissue engineering, materials for batteries and ultra-efficient air and water filtration.