

SUPPORTING INFORMATION FOR:

**Structural Studies of *Bombyx mori* Silk Fibroin
during Regeneration from Solutions and Wet Fiber Spinning**

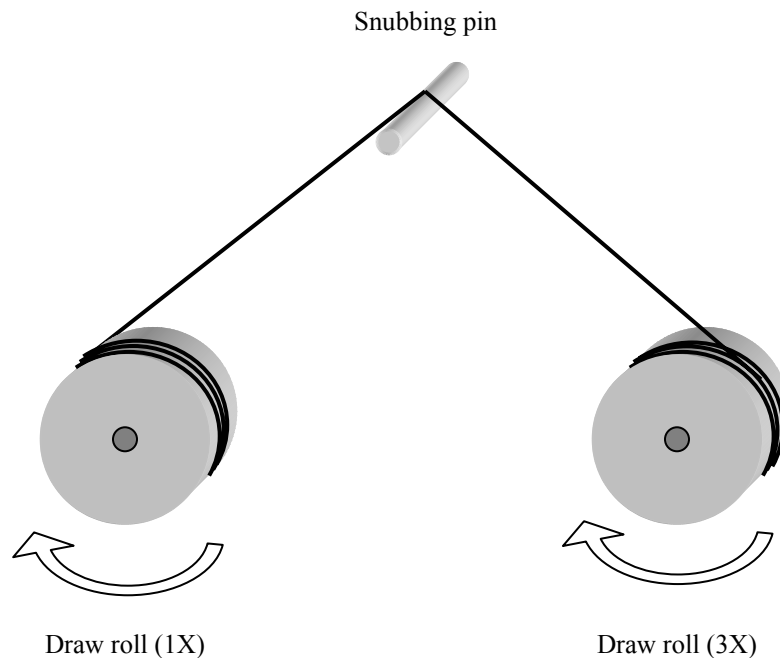
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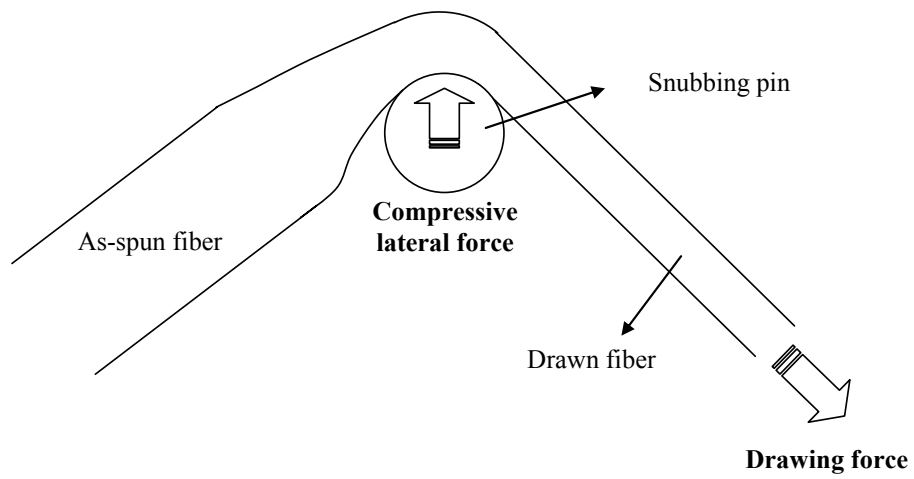
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Experimental Details

Improving the Fiber Drawing Technique with a Snubbing Pin. Unlike other as-spun fibers, it seems very important to apply a compressive lateral force to the regenerated fibroin fiber during drawing for enhancing the fiber's mechanical properties. We tried to improve the hand drawing technique, replacing it with a snubbing pin for use in continuous fiber processing. Figure S-1 shows the schematic of the apparatus for drawing with a snubbing pin. Even though the tensile properties of the regenerated fibroin fibers drawn by this method were not as good as hand-drawn fibers (data not shown here), possibly due to insufficient compressive lateral force applied during drawing with the snubbing pin, it showed the possibility that this process can be improved by further development. More research and development are needed both for improving the regenerated silk fibroin fiber's mechanical properties and for achieving continuous fiber production.



a) Drawing apparatus



b) Force distribution in drawing using a snubbing pin

Figure S-1. Schematic of the apparatus for drawing using a snubbing pin