



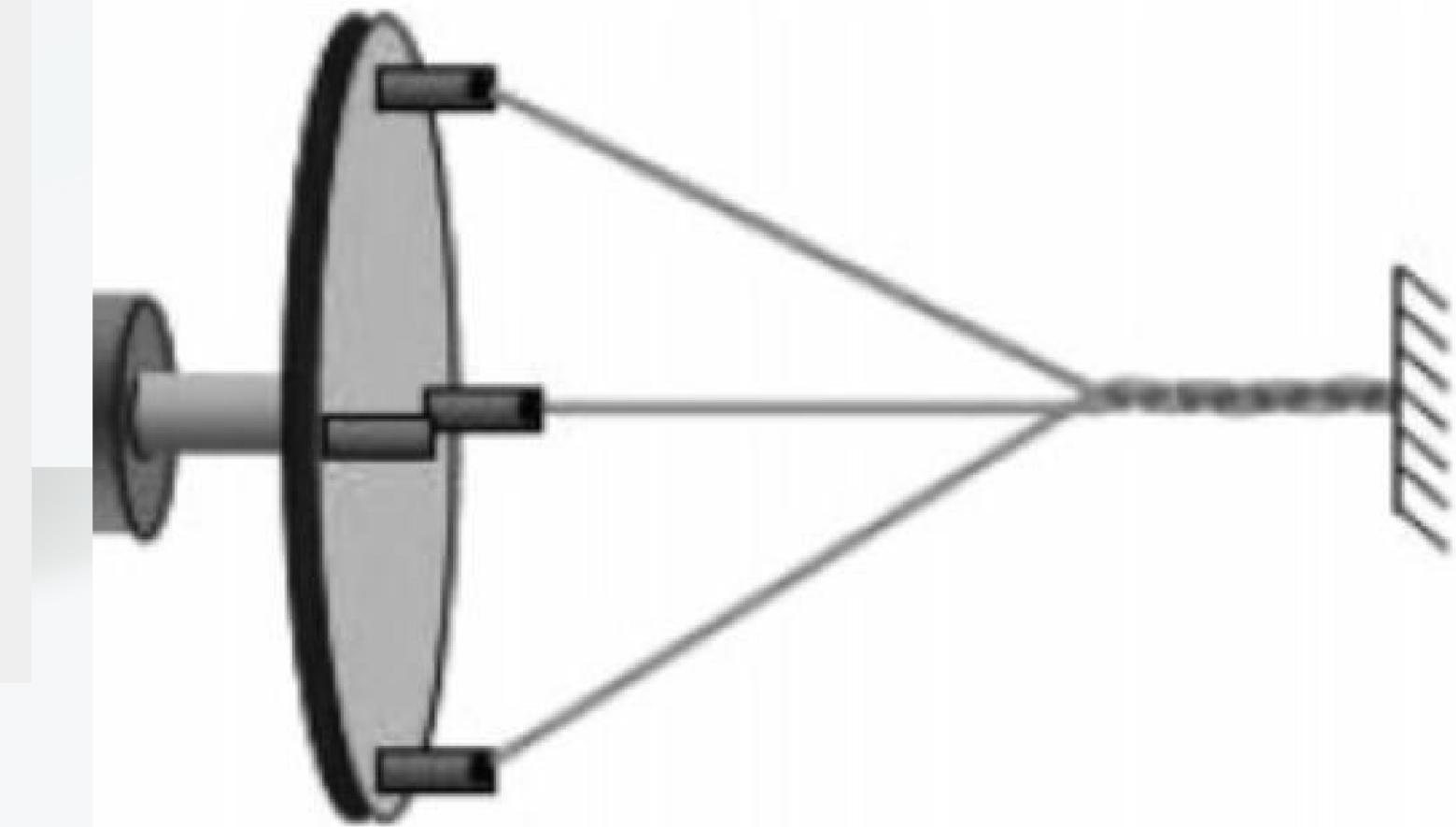
**FABRICATION OF COMPLEX MICROCHANNELS IN PDMS**

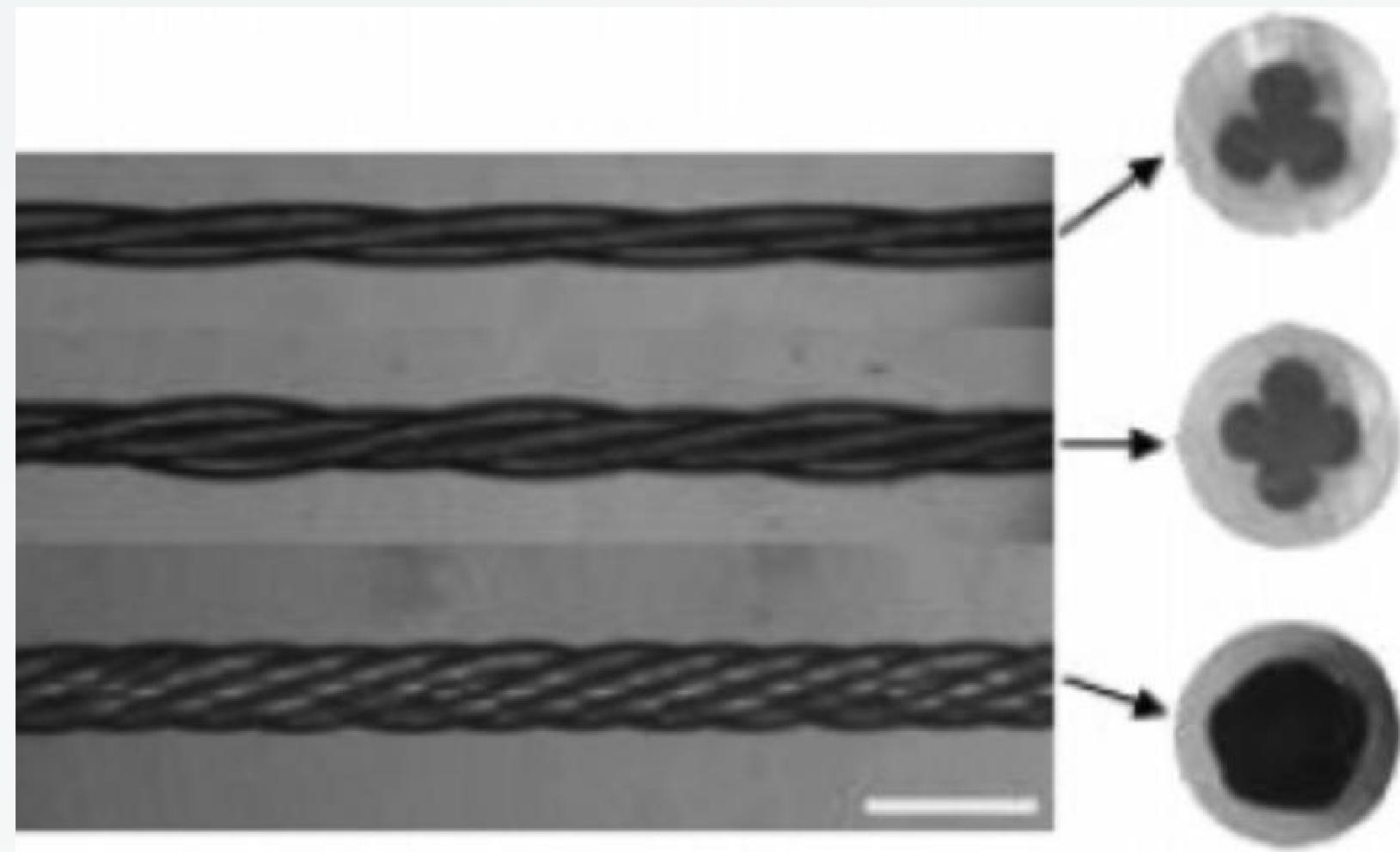
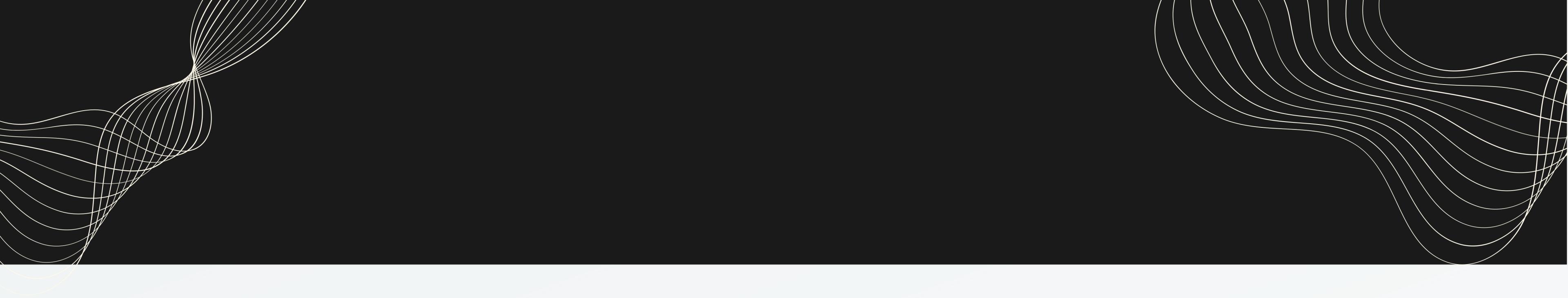
**HELICAL CHANNEL**

# ABOUT US

1. This combined translational and rotational sliding of the thread preserved the 3-D structure of the template in the channels

Channels with a large helix angle ( $\theta$ )  $70-80^\circ$ , low pitch =0.4-0.5 mm ,large radius ( $r$ ) 400-500  $\mu\text{m}$ , and long length=15-20mm

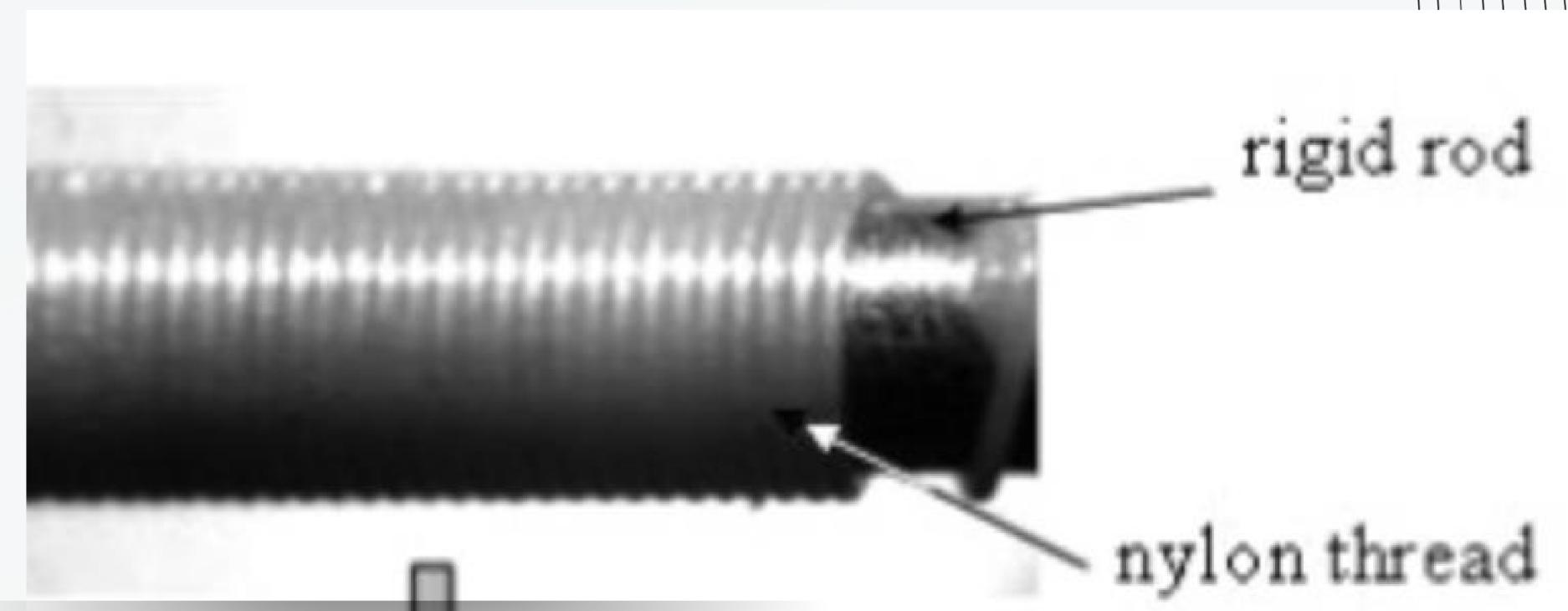




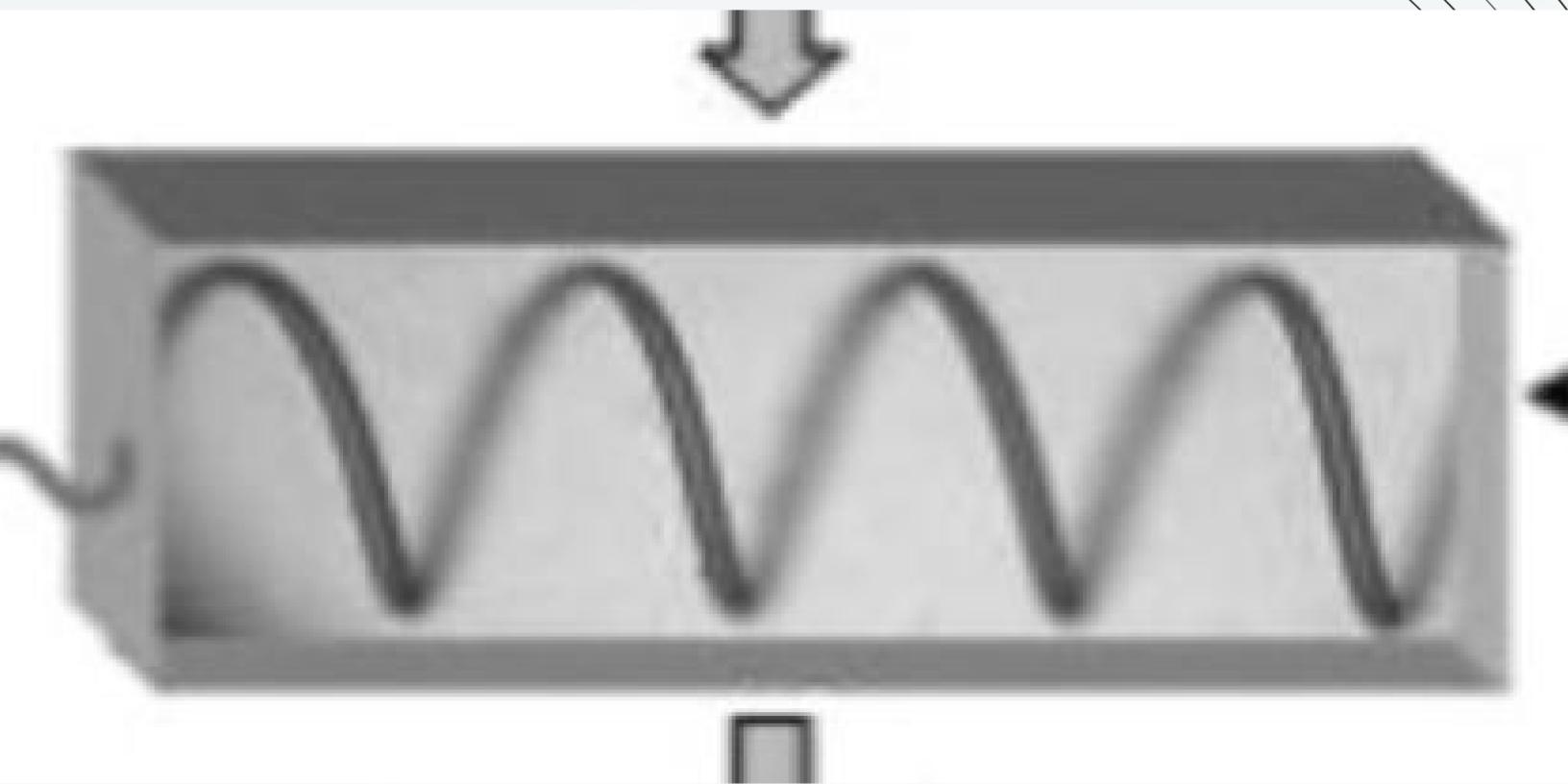
1. Channels generated using braids made of three and four strands, respectively. The magnified images of their cross-sections show the corresponding braided structure with -three to four lobes, the orientation of which rotates with a pitch along the length of the channel

2. central thread that remains stationary and five other threads, which revolve around it. As a result, here the cross-section of the microchannel attains the shape of a pentagon.

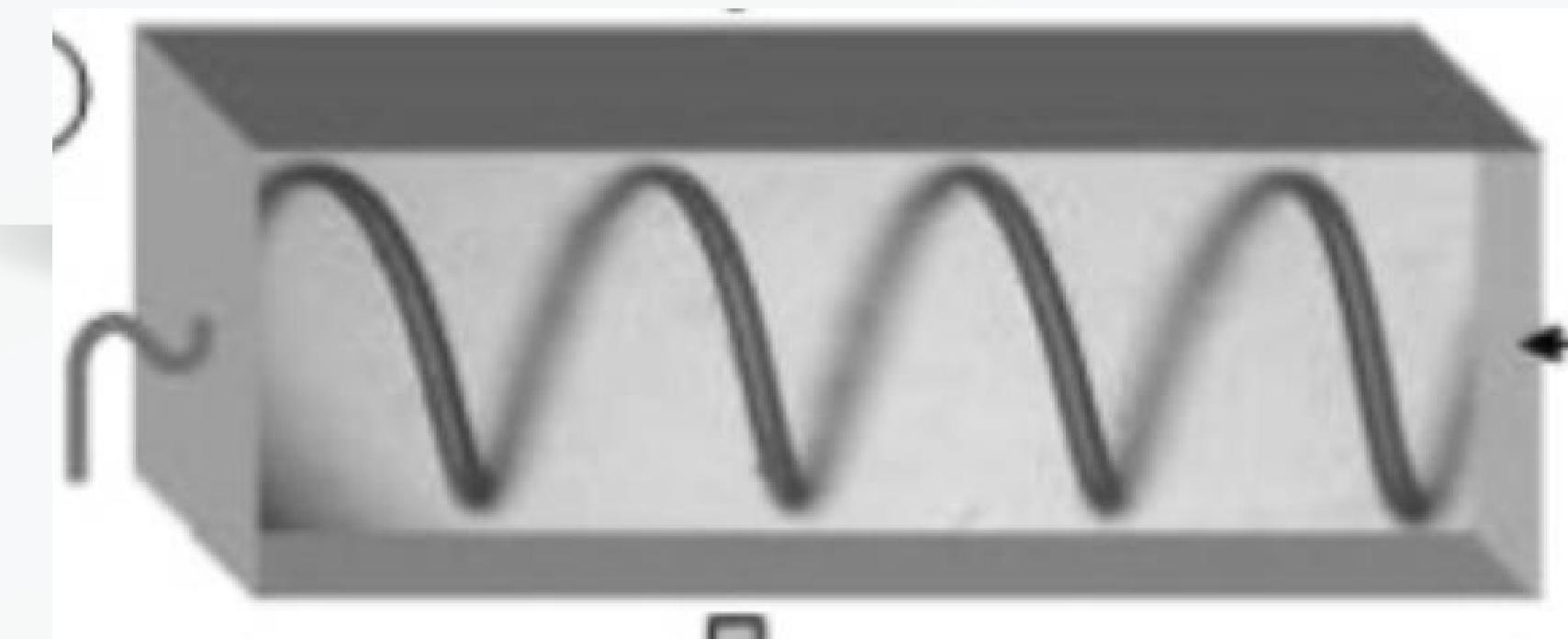
A). A straight piece of nylon thread was spun around a rigid rod at a desired pitch and was hot set at 100 °C



B). Nylon thread embedded in PDMF.



C)Swollen PDMS .



# REMOVE NYLON THREAD

D). We fastened also a small weight (~5 g) to the thread that went over a pulley. The whole arrangement was then placed inside the bath of an ultrasonic cleaner. Under the action of the small tensile load along with the vibration caused by sonication, the thread came out of the network within 10-15 min

