Title:	Study of Torsional Super-Elasticity, Fatigueless Response and Femtosecond Pulses Based Micromachining of Spider Silks
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Abstract:	Orb weaving spider's also known as garden spiders; produce many types of silk, typically seven, each of which has specific properties that appears to be optimized to perform key functional roles. Dragline silk produced by the major ampullate glands, makes the spoke of the wheel-like orb web, locomotion, mooring thread and web frame construction. The spiders also produce minor ampullate silk to accompany the dragline silk in the web which is used to form a temporary spiral during the web construction [1, 2]. The flagelliform silk form the core fi aments of the orb web's in which flying animals are caught and often called as capture thread. The web threads are anchored to the vegetation and affixed to one another by silk cement originating in the pyriform glands; the eggs are encased in very fine filaments from the tubulifirm or cylindriform and one type of aciniform glands, while another type of aciniform filaments is used for multitude of other purposes such as strengthening the cement matrix. The orb weavers use two kinds of capture threads to capture prey either cribeller silk or viscid silk [3, 4]. Capture silk is extremely elastic and can be stretched up to 500-1000% of the original length [5-7]. Caribellate capture silk is relatively ancient and utilized by many type of web spinning spiders while viscid silk evolved more recently and is used by most modern orb-weaving spiders [8].
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