

## **Functional nanofibers for enhanced dental applications**

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Recent advancements in nanotechnology have paved the way for the development of advanced materials that can be used in dental applications. Among these groundbreaking techniques, electrospinning has gained significant attention due to its high surface area and the ability to mimic the extracellular matrix. In this study, a natural biocompatible polymer is developed through electrospinning, resulting in nanofibers with controllable morphology and mechanical properties. The electrospinning parameters will be optimized to achieve uniform and bead-free nanofibers. The morphology, chemical composition, and tensile strength of the electrospun nanofibers will be analyzed through scanning electron microscopy (SEM), Fourier-transform infrared spectroscopy (FTIR), and Universal testing machine (UTM). Ultimately, the developed nanofibers in this study can potentially be used as therapeutic mats integrated with desired functionalities for dental applications.