

Abstract Submitted
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Fabrication of Biopolymer Nanofibers of Hyaluronic Acid via Electrospinning DENICE YOUNG¹, North Carolina State University, HAILEY QUEEN², North Carolina State University, WENDY KRAUSE³, North Carolina State University — Electrospinning is a novel technology that uses an electric field to form fibrous materials from a polymer solution. Unlike traditional spinning techniques, electrospinning can produce fibers on the order of 100 nm that can be utilized in applications where nanoscale fibers are necessary for successful implementation, including tissue engineering. Hyaluronic acid (HA) is a widely used biopolymer found in the extracellular matrix and currently marketed in medical applications for joint lubrications and tissue engineering. The high viscosity and surface tension of HA make it an unlikely candidate for electrospinning processes as viscosity is an important parameter in successful electrospinning. To promote HA fiber formation by electrospinning, the effects of salt (NaCl), which is used to reduce the viscosity of aqueous HA solutions; molecular weight of the HA; and an additional biocompatible polymer (e.g., PEO) are under investigation.

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