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Electrospinning of Hyaluronic acid (HA) and HA/Gelatin Blends[1] AIHUA HE, JUNXING LI, CHARLES HAN, Institute of Chemistry, Chinese Academy of Sciences, DUFEI FANG, BENJAMIN HSIAO, BENJAMIN CHU, StonyBrook Technology and Applied Research, INSTITUTE OF CHEMISTRY, CHINESE ACADEMY OF SCIENCES COLLABORATION, STONYBROOK TECHNOLOGY AND APPLIED RESEARCH COLLABORATION — It was found that the processability of HA solution with high viscosity had been improved greatly by using a DMF-water solvent mixture or/and by adding gelatin(GE) into the HA solution. Nano-fibrous membranes with different average fiber diameters and different HA/GE compositions could be obtained. Measurements on viscosity indicated that the HA solution in DMF-water mixed solvent still showed high viscosity. The decrease in surface tension contributed to the fiber formation of HA and HA/GE by electrospinning. Therefore, this study not only provided a novel and simpler way to electrospin the natural polyanion HA solution, but also provided the fundamental physical insight and solution to this spinning difficulty. The HA-GE nanofibrous membranes at different HA/GE compositions are expected to be useful in the biomedical field as novel scaffolds for many applications.

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