

Plasma-modified chitosan and poly(3,4-ethylenedioxythiophene) were blended to obtain conducting nanofibers with polyvinyl alcohol as a supporting polymer at various volumetric ratios by electrospinning method. Chemical compositions and molecular interactions among nanofiber blend components were determined using Fourier transform infrared spectroscopy (FTIR). The conducting blends containing plasma-modified chitosan resulted in a superior antibacterial activity and thinner fiber formation than those containing chitosan without plasma-modification. The obtained nanofiber diameters of plasma-modified chitosan were in the range of 170 to 200 nm and those obtained from unmodified chitosan were in the range of 190 to 246 nm. The electrical and electrochemical properties of nanofibers were also investigated by four-point probe conductivity and cyclic voltammetry measurements.