Electrospinning of Chitosan-Xanthan Nanofibers

Electrospun chitosan-xanthan gum nanofibers were produced and the correlation between the rheological properties of chitosan-xanthan solutions and electrospinability were investigated at different xanthan gum concentrations. Uniform chitosan-xanthan nanofibers with diameters ranging from 382±182 to 842±296 nm were developed based on the chitosan-xanthan gum content. Overall chitosan-xanthan gum solutions exhibited shear thinning behavior for all the concentrations tested, which tended to increase with the increase of concentration of xanthan. Furthermore the electrical conductivity of the chitosan-xanthan solutions was observed to increase with the increase of xanthan gum concentrations. We can conclude that the optimal electrospinning process is directed by the apparent viscosity properties and the electrical conductivity of the chitosan-xanthan solutions. We are currently investigating the utilisation of these electrospun chitosan-xanthan nanofibers as a carrier for bioactive compounds.

General information
Publication status: Published
Organisations: National Food Institute, Research group for Nano-Bio Science
Contributors: Shekarforoush, E., Mendes, A. C. L., Chronakis, I. S.
Number of pages: 1
Publication date: 2016
Peer-reviewed: Yes
URLs:
http://www.sustain.dtu.dk/

Bibliographical note
Sustain Abstract H-7
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2016 › Research › peer-review