Contribution ID: **263** Type: **Poster**

A facile method for Electrospinning of Chitosan/PVA /Siam weeds Nano fibers

Wednesday 24 May 2017 15:45 (15 minutes)

This research studied the optimal conditions for crafting fiber of PVA / CS / SW by electrospinning techniques. The study was divided into two parts. first, This crafting fibers PVA/CS by spinning PVA/CS ratios of 50/50, 60/40, 70/30, 80/20 and 90/10 at constant feed rate 0.3 ml/h, 10 cm and 15 cm spinning distance at 7 and 8 kV voltage respectively. Part Two, This crafting fibers PVA/CS/SW by spinning PVA/CS ratios of 48:48:4, 58/39/3, 69/29/2, 77/20/3 and 88/10/2 at constant feed rate 0.3 ml/h, 10 cm and 15 cm spinning distance at 6.5-8.5 kV voltage. Then, for analyzed their microstructure by scanning microscope (SEM). The chemical structure analyzed by Fourier transform infrared spectrometer (FT-IR).
The results showed that the Optimum conditions for artificial fiber, PVA/CS can be synthetic fibers are best ratios at 50/50 feed rate of 0.3 ml/h 10 cm spinning distance at 7 kV voltage. When adding Siam weed extract edges into synthetic fibers can be best ratio at 58/39/3 (PVA/CS/SW) feed rate of 0.3 ml/h 15 cm spinning distance at 7.5 kV voltage. The smallest fiber diameter 198 ± 51 nm. And, Results from FTIR confirmed that fiber consists of polyvinyl alcohol blend with chitosan and Siam weed their combinations do not interact. Or a new substance. the nanofibers was measured and the antibacterial behavior of the nanofibers against Escherichia coli was studied by bacterial growth inhibition halos and bactericidal kinetic testing. The chitosan/PVA/Siam weeds nanofibers possessed certain antibacterial.

Author: Mr PRANEEKIT, piriya

Presenter: Mr PRANEEKIT, piriya

Session Classification: Poster Presentation I

Track Classification: Nanoscale Physics and Nanotechnology