

Research Title Electrospun Cellulose Acetate fiber Containing Para Rubber Extract
Researcher Natthakitta Suwannateep, Ph.D.
Organization Faculty of Science and Technology, Suan Dusit Rajabhat University
Year 2015

This study successfully produced ultra-fine cellulose acetate fiber mats (electrospun fibers) containing extracts of rubber from *Hevea brasiliensis* (HB). Its highly interesting characteristics, such as high surface areas to mass ratio, high porosity, make this results an excellent potential candidate e.g. for wound dressing materials, facial masks, and other innovative products in the field of cosmetics and pharmaceutical industry. HB crude extracts in various concentrations, i.e. 1-5 wt% based on the weight of cellulose acetate (CA) powder, were incorporated by a CA solution (16% w/v in 2:1 v/v acetone:dimethylacetamide) in order to produce electrospun fibers (HB-CA). The morphology of each obtained electrospun HB-CA fibers were investigated by SEM. The average fiber diameters of the HB-CA fibers ranged between 415 and 585 nm. The SEM photographs show the straight and even shaping of the processed HB-CA fibers. The size of the fibers was also found to increase with an increasing amount of HB in the solution to a certain extent, but after increasing of HB extract to 4-5%, the thinner of fibers mat has been obtained, bead-like were formed, although the diameter size of the fibers decrease. In this research, we concluded that, 16% CA solutions containing 1-3% HB extract resulted in a more consistent texture of the white fiber mats.