**Lignin-soy protein interactions: electrospun nanofibers based on soy proteins and lignin**

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The applications of lignin different than power generation include those that take advantage of its chemical features as well as its physical and thermal properties when combined with other (bio)polymers, for example in biocomposites. Development of such materials requires a thorough understanding of surface and intermolecular interactions. This work summarizes the results of our investigation on the interactions of lignin and soybean proteins (SPs) and the development of electrospun nanofibers. The adsorption on lignin from aqueous solution of the two main proteins in soybean, glycinin and beta conglycinin, was studied by quartz crystal microgravimetry and surface plasmon resonance under different physicochemical environments (native conditions as well as in denatured forms). Compared to results using cellulose and hydrophilic surfaces, a larger protein adsorption was observed on lignin substrates. The water contact angle (WCA) revealed an increased hydrophilicity of the surface upon protein adsorption, with typical reductions in WCA of≈ 35°. This observation highlights the role of hydrophobic int eractions between lignins and proteins as driving mechanism for adsorption. To exploit further these interactions, electrospinning technique was used to produce nanofibers from lignin and soy proteins. Scanning electron microscope (SEM) imaging revealed that defect-free fibers (171±16 nm) were produced after addition of polyethylene oxide as coadjutant. Overall, these two polymers are proposed as platforms for development of new materials taking advantage of the fact that they are readily available, inexpensive and interact effectively in multicomponent systems.