

Utilization and Characterizations of Olive Oil Industry By-Products

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Abstract : A considerable amount of lignocellulosic by-product could be obtained from olive pulp during olive oil extraction industry. The major constituents of the olive pulp are husks and seeds. The separation of each portion of olive pulp (seeds and husks) was carried out by water flotation where seeds were sediment in the bottom. Both seeds and husks were dignified by 15% NaOH followed by complete lignin removal by using sodium chlorite in acidic medium. The isolated holocellulose, α-cellulose, hydrogel and CMC which prepared from cellulose of both seeds and husk fractions were characterized by FTIR and SEM. The present study focused on the investigation of the chemical components of the lignocellulosic fraction of olive pulp. Biofunctionalization of hydrogel was achieved through loading of silver nanoparticles AgNPs in to the prepared hydrogel. The antimicrobial activity of the loaded silver hydrogel against G-ve, and G+ve, and candida was demonstrated.

Keywords : cellulose, carboxymethyle cellulose, olive pulp, hydrogel

Conference Title : ICCIS 2016 : International Conference on Chemical Industry and Science

Conference Location : Jeddah, Saudi Arabia

Conference Dates : January 26-27, 2016