

Simulation of Polymeric Precursors Production from Wine Industrial Organic Wastes

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Abstract : The production of dimethyl acetal, isovaleraldehyde, and pyridine were simulated using Aspen Plus simulation. Upgrading cleaning water from wine industrial production is the main objective of the project. The winery waste composes of acetaldehyde, methanol, ethyl acetate, 1-propanol, water, isoamyl alcohol, and isobutanol. The project is separated into three parts; separation, reaction, and purification. Various processes were considered to maximize the profit along with obtaining high purity and recovery of each component with optimum heat duty. The results show a significant value of the product with purity more than 75% and recovery over 98%.

Keywords : dimethyl acetal, pyridine, wine, aspen plus, isovaleraldehyde, polymeric precursors

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