Title: CHEMICAL COMPOSITION OF ACID HYDROLYSATES OBTAINED FROM RESIDUES OF OPEN MARKET PLACES IN THE CITY OF MANAUS-AM, BRAZIL: POTENCIAL STUDY OF SUCH AS SUBSTRACTS FOR PRODUCTION OF BIOETHANOL.

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Abstract:

Searching for sustainable alternatives to biofuel generation has become a main focus of scientific research. Currently, one of the alternatives used is acid hydrolysis of lignocellulosic biomass from agro-industrial residues. Due to these wastes have great potential for bioethanol production by saccharification, however little is known about the composition of hydrolysates from Amazon. This study used the waste produced in open markets in Manaus city, such as cassava peel (*Manihot esculenta*), peach palm bark (*Bactris gasipaes*), and açaí seed (*Euterpe oleracea*). These wastes were submitted to acid hydrolysis in a H2SO4 solution (2%) and filtered with activated carbon. In chemical analysis we used the DNS method for determination of reducing sugars, the Labtest kit following the manufacturer protocol was used to measure glucose. The quantitation of soluble solids, a sample of 100 ml of each hydrolyzate was heated in an oven for 3 hours at 105 ° C to achieve the co nstant weight, and the determination was evaluated for furans with difference between the absorptivity of 284 to 320 nm according to the equation: (A284 - A320) = 0.127, Furans Total (mg / L) + 0.056. Therefore, hydrolysates studied obtained large amounts of sugars, with the highest concentration of reducing sugars was found in the peach palm bark hydrolyzed, followed by cassava bark and the hydrolyzate of the seed acai, 32.45 g / L, 19, 58 g / L and 13.47 g / L, respectively. Further, total solids showed weight to peach palm about 87. 6 g / L, cassava 69.0 g / L and the açaí 57.8 g / L. Quantitation essay of the samples showed furans greater amount of inhibitors in the cassava hydrolyzate followed by peach palm, Acai showed 60.8 g / L 53.1 g / L and 21.0 g / L, respectively. This study reports the best residue to ethanol production from peach palm peel hidrolyzate. Over all, peach palm presents a potential for bioethanol production and can be used for the saccharification process.

Key words: saccharification, biofuel, peach palm.

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