

## **EXPANDED BED ADSORPTION OF BROMELAIN (E.C. 3.4.22.33) FROM ANANAS COMOSUS CRUDE EXTRACT**

Silveira, E.<sup>1</sup>; Souza-Jr.<sup>2</sup>, M.E.; Chaves, A.C.<sup>2</sup>; Porto, A.L.F.<sup>3</sup>; Tambourgi, E.B.<sup>1</sup>

<sup>1</sup> Faculdade de Engenharia Química – FEQ / Unicamp; <sup>2</sup> Laboratório de Biotecnologia – FFPNM / UPE; <sup>3</sup> Departamento de Morfologia Animal – UFRPE

In the late 50's, expanded bed adsorption (EBA) was reported purificate of streptomycin in cationic resin, although it was not economically feasible. In the past two decades, due to the development of new and denser resins, showed an increase of researchers' interest, by achieving of smooth conditions in fluidisation. This work reports the adsorption of Bromelain in expanded bed conditions, such as the adsorption kinetics parameters. The adsorption kinetics parameters showed that after 40 minutes the equilibrium was achieved and the major adsorption capacity were 5.11 U per resin mL. However, the maximum adsorption capacity was only achieved determining the adsorption isotherm. Only by the Langmuir model the Qm and kd values could be estimated, 9.18 U/mL and 0.591, respectively. A column made of glass with an inner diameter of 1 cm was used for the expanded bed adsorption. The resident time was reduced 10 fold by increasing the expansion degree three times, nonetheless the N value was reduced only 2 fold. After adsorption, the bromelain was eluted in packed bed mode, with a downward flow. The purification factor was about 13 fold and the total protein was reduced 4 fold. EBA showed to be feasible for purification of bromelain.

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