

عنوان مقاله:

Enzymatic Conversion of Glucose to Fructose in a Bioreactor Pilot Plant Scale

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

Isomerization of glucose to fructose has been studied experimentally in a pilot plant packed bed bioreactor (PBB) using immobilized Sweetzyme IT. The objective of this work is understanding the parameters' effects on the performance of enzymatic bioreactor in pilot plant scale. The reactor's diameter and height are 10 cm and 140 cm respectively, and it is filled with Sweetzyme IT as glucose isomerase enzyme. The experiments have been carried out at 60 °C with glucose solution with 20 and 40% wt concentrations and different flow rates. The results show that the structure of bioreactor in large scale and operating conditions were satisfactory. Also, at lower flow rates and concentrations, the higher conversion of glucose is obtained, but the higher rate of production of fructose is observed at higher flow rates and concentrations

کلمات کلیدی:

Isomerization, Sweetzyme IT, packed bed bioreactor, pilot plant scale

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/341148>

