Kinetic of leucrose formation from sucrose by dextransucrase

ARTICLE *in* BIOTECHNOLOGY AND BIOENGINEERING · AUGUST 1994

Impact Factor: 4.13 · DOI: 10.1002/bit.260440319 · Source: PubMed

3 AUTHORS, INCLUDING:

Hans-Joachim Jöerdening
Technische Universität Braunschweig
32 PUBLICATIONS **365** CITATIONS

Errata

Kinetics of Leucrose Formation from Sucrose by Dextransucrase

Mathias Böker, Hans-Joachim Jördening, and Klaus Buchholz*
Sugar Institute, Institut für Technologie der Kohlenhydrate at the Technical University of Braunschweig, Langer Kamp 5, D-38106 Braunschweig, Germany

[Article in *Biotechnol. Bioenging.* 43(9) 856–864 (1994)]

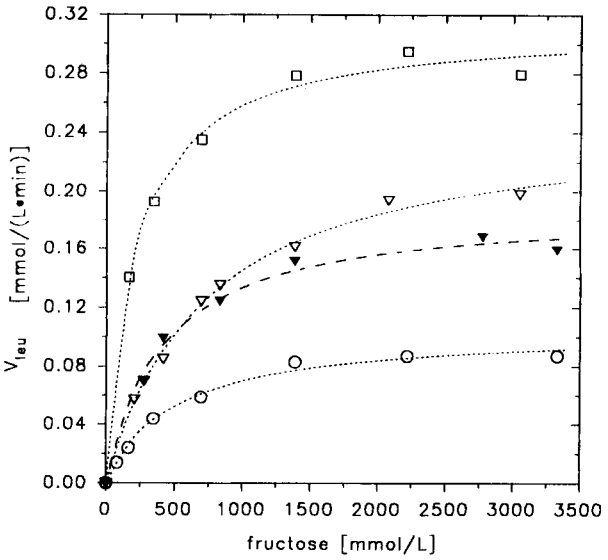

Figure 6. Effect of fructose concentration on V_{leu} at the following sucrose concentrations: (□) 584 mmol/L (immobilized dextransucrase), (▽) 183 mmol/L (immobilized DS), (○) 61.4 mmol/L (immobilized DS), and (▼) 183 mmol/L (free DS).

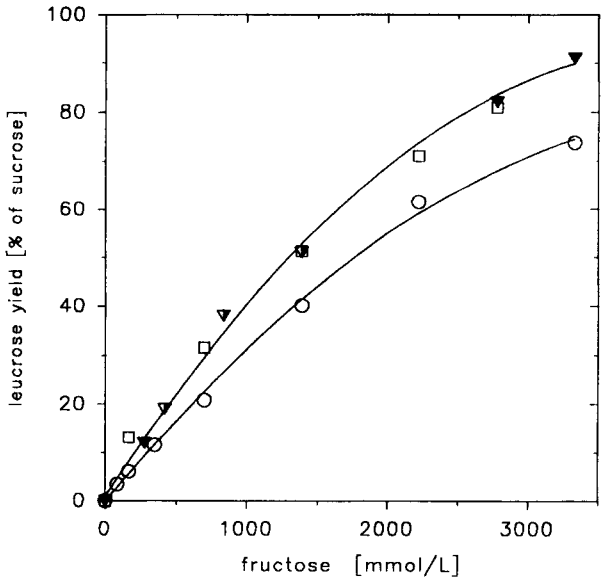

Figure 7. Effect of sucrose and fructose concentration on leucrose yield. Sucrose concentrations are (□) 584 mmol/L (immobilized DS), (▽) 183 mmol/L (immobilized DS), (▼) 183 mmol/L (free DS), and (○) 61.4 mmol/L (immobilized DS).

* To whom all correspondence should be addressed.

Biotechnology and Bioengineering, Vol. 44, Pp. 392–394 (1994)

CCC 0006-3592/94/030392-03

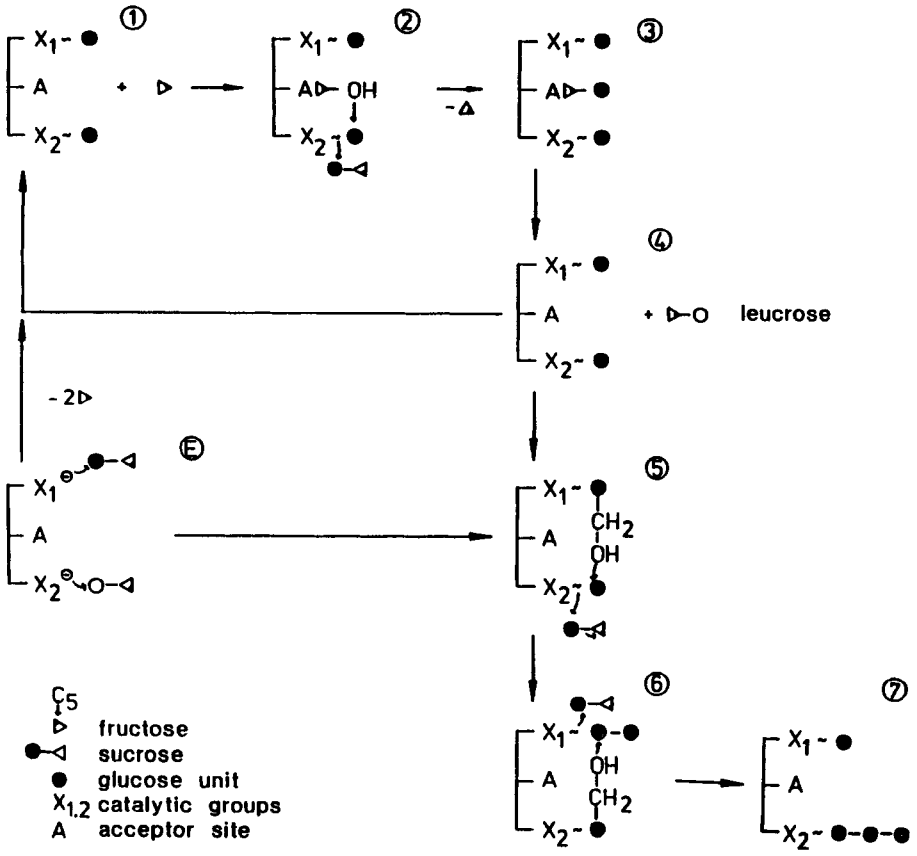

Figure 8. Reaction mechanism of DS with acceptor site.

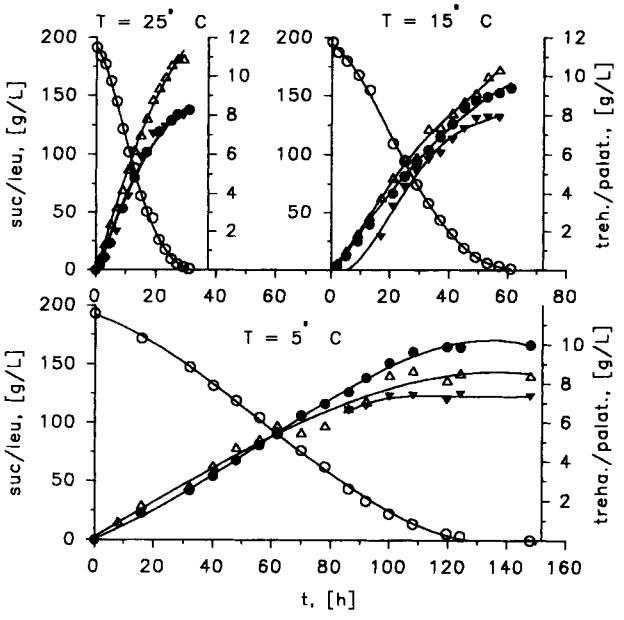

Figure 9. Effect of temperature on the reaction rate and the distribution of product and byproducts. F = 2.22 mol/L and s = 0.58 mol/L. Temperature = 5°, 15°, 25° C, (○) sucrose, (●) leucrose, (△) isomaltulose, and (▼) trehalulose.

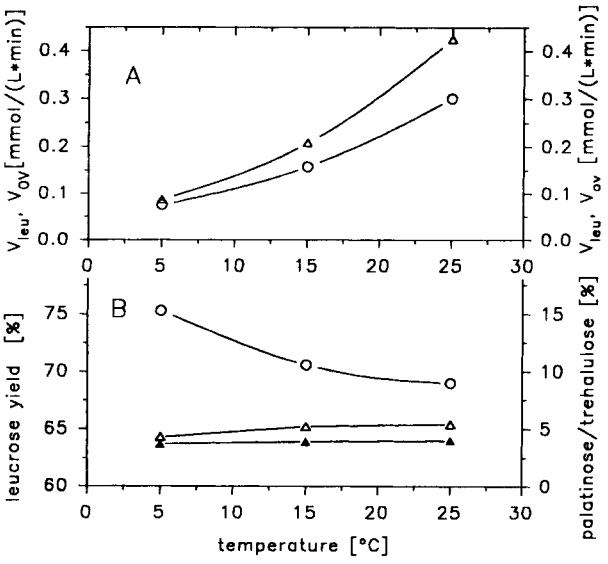

Figure 10. (A) V_{leu} (○) and V_{ov} (△) as function of temperature. (B) Yield of leucrose (○), isomaltulose (△), and trehalulose (▲) as function of temperature.

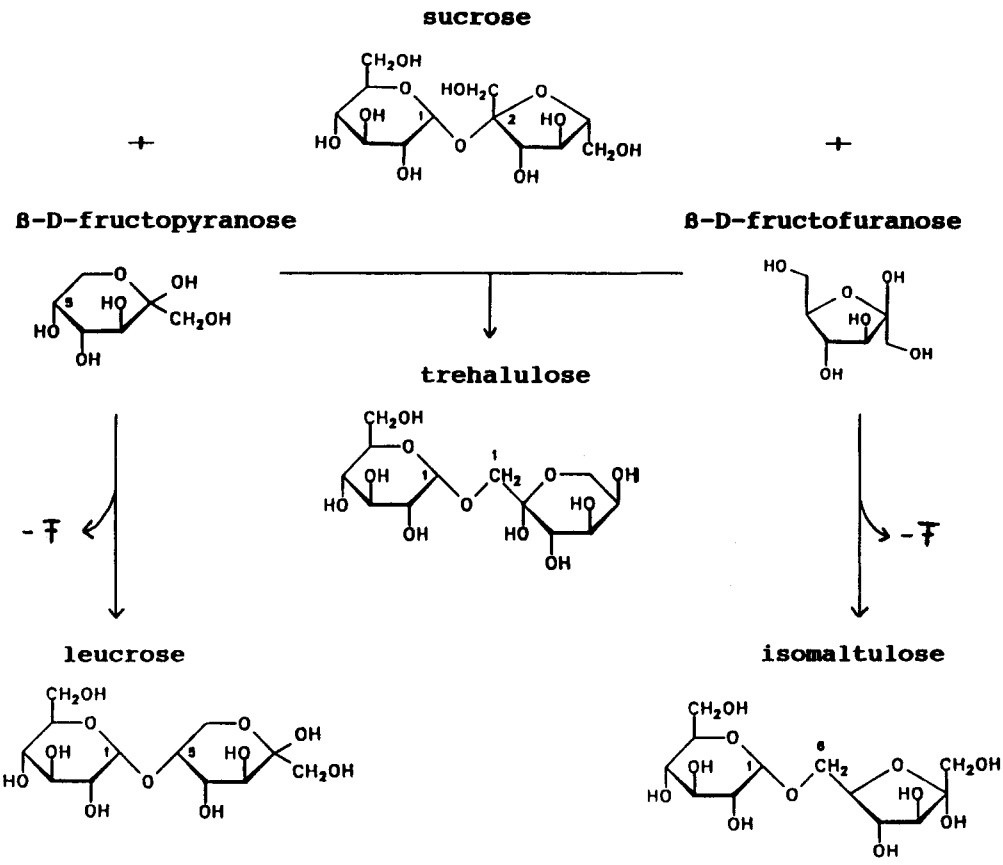

Figure 11. Leucrose and the side products isomaltulose (palatinose) and trehalulose.