

$$x\eta = \frac{x/b}{b}$$

$$\frac{x/b}{b} \frac{1}{x} = \eta$$

$$x\eta = \frac{x/b}{b}$$

$$b\eta = \frac{x/b}{x}$$

$$b\eta = x\eta$$



Fig 1.

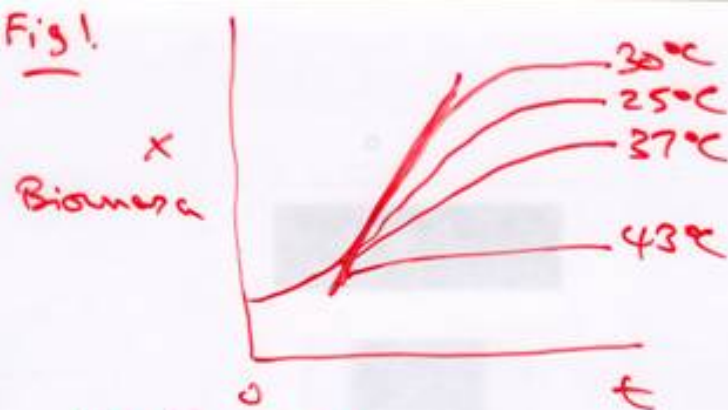
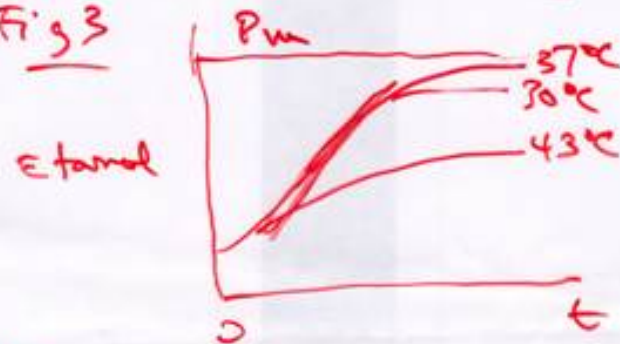


Fig 3



Eq 1)

$$\frac{dx}{dt} = \underbrace{\frac{\mu_{max} S}{K_S + S}}_{\mu} \left(1 - \frac{P}{P_{in}}\right) x$$

$$\frac{dx}{dt} = \mu x$$

↑
inhibition
de alcohol
 $P = P_{in} \quad () = 0$

$$\frac{dP}{dt} = \underbrace{\frac{Y_{P/S}}{\beta}}_{\text{Monod inhibition}} \left(1 - \frac{P}{P_{in}}\right) x$$

$$\frac{dP}{dt} = \beta x \quad Y_{P/S} = \frac{\Delta P}{\Delta S}$$

$$\rightarrow -Y_{P/S} = \frac{dP}{dt} \cdot \frac{dt}{ds} = \boxed{-Y_{P/S} = \frac{dP}{ds}}$$

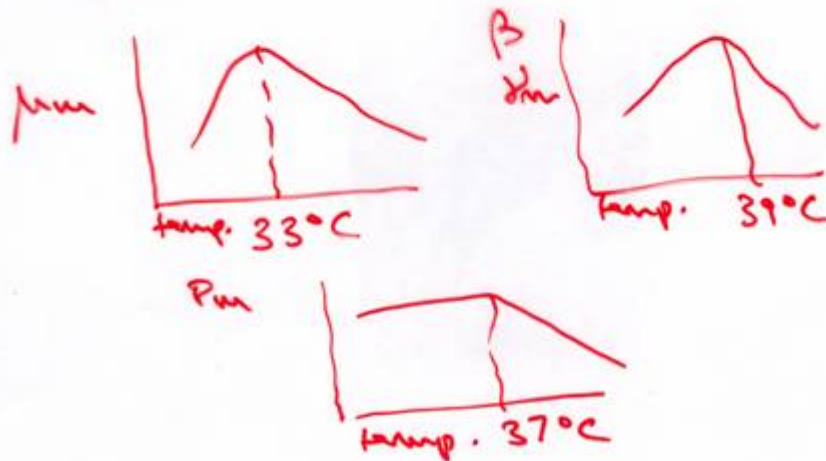
$$\frac{ds}{dt} = -\frac{1}{Y_{P/S}} \frac{dP}{dt}$$

de Fig 1, Fig 2 & Fig 3,
 \Rightarrow parameters Table 1

① μ_{\max} max a 33°C

② $\beta (\gamma_{\max})$ max a 39°C

③ P_{\max}^I max 25- 37°C \searrow



Optimization



Items adicionales,

- Modelos Matemáticos
- Nomenclatura
- Conclusiones apartes en el Resumen.

Material y Métodos,

S.O. ATCC 26602

ATCC: American Type Culture Collection

NRRL - Northern Regional Research Laboratories.

Inglaterra - NCIB

Alemania - DSM

yeast - levadura

$$Y_{\text{ield}} = Y_{P/S} = 0.377$$

$$\mu_{\text{max}} = 0.51$$