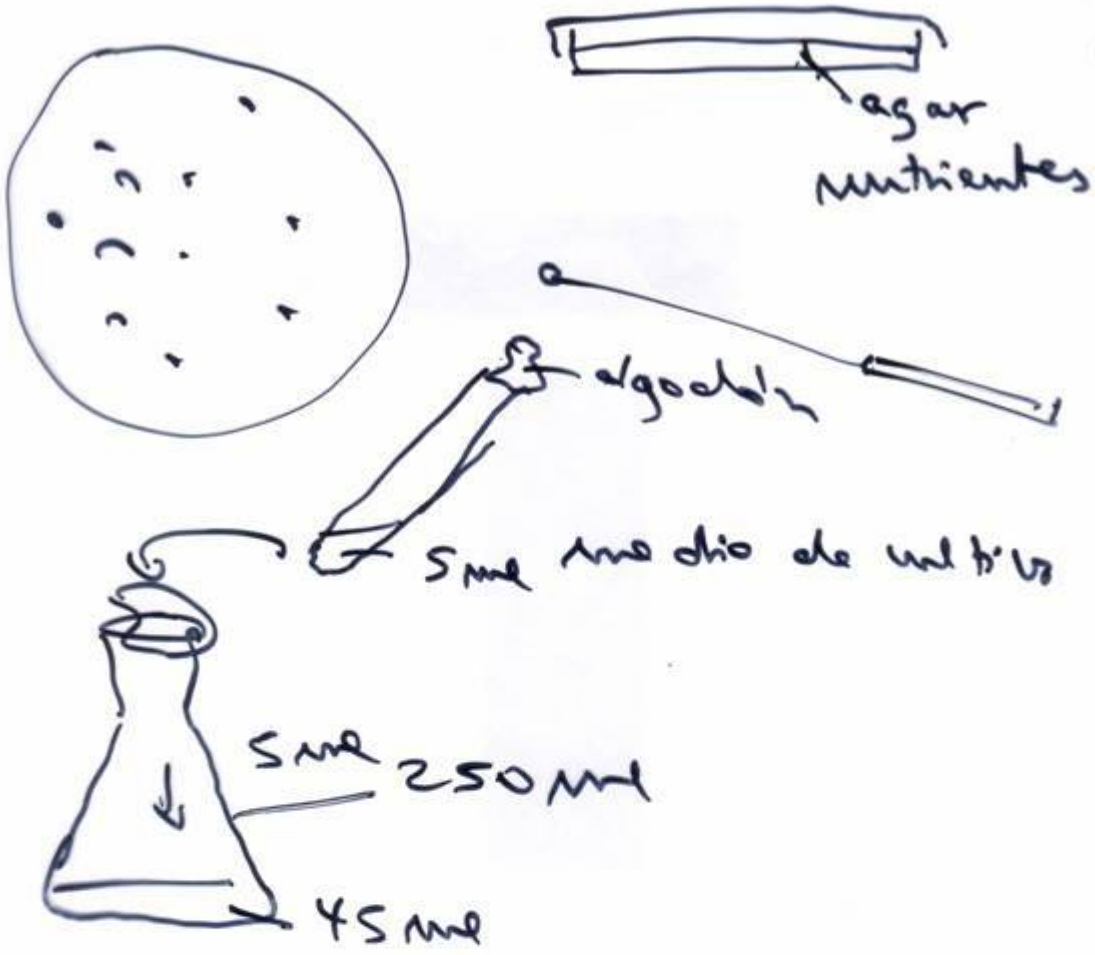
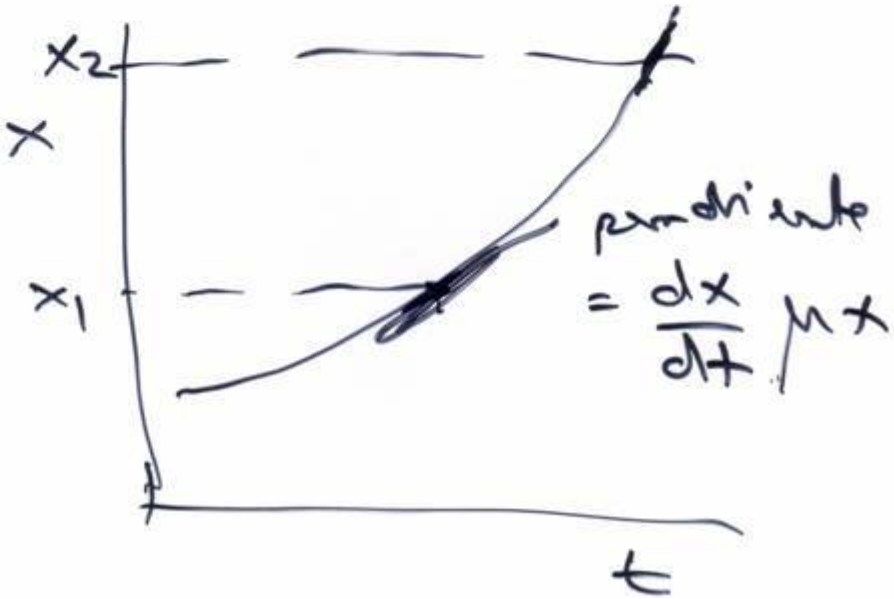

agar nutrientes
algodón
5 ml medio de cultivo
5 ml
250 ml
45 ml


X_2
X
X_1
pendiente
$= \frac{dx}{dt} \mu x$
t

$x_2 = 2x_1$

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

$\ln x = \mu t$

μ

log x

t

Fig 1

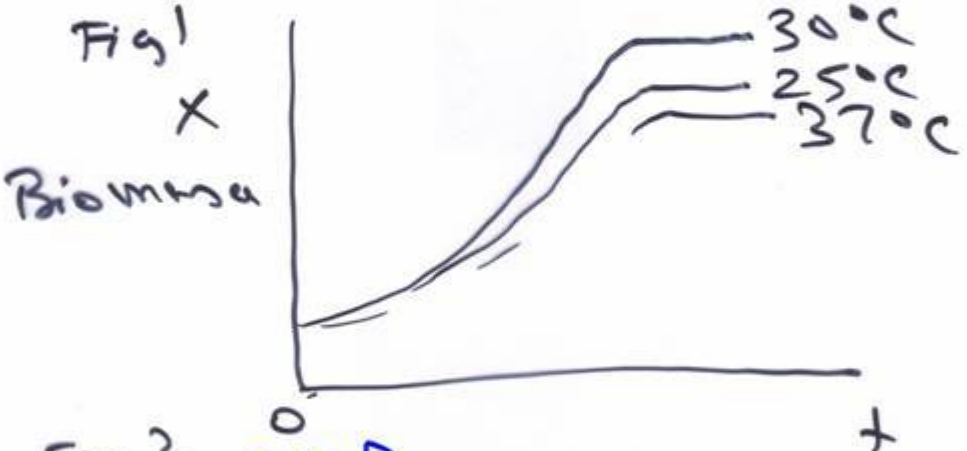
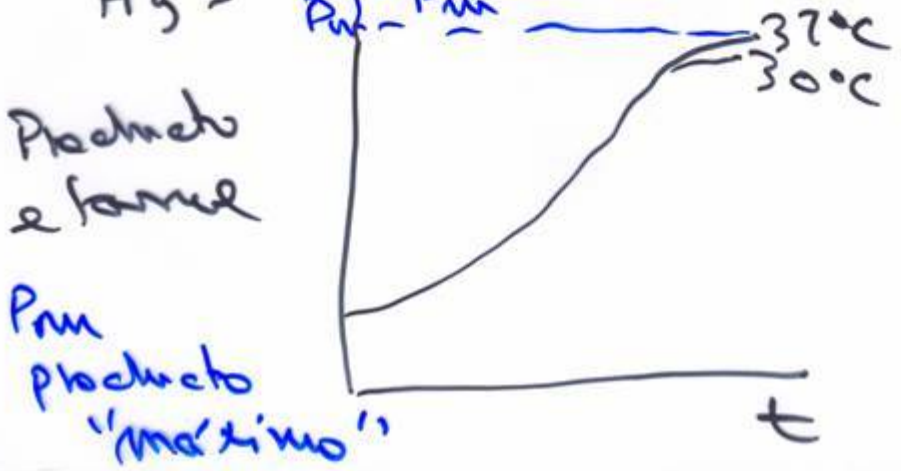


Fig 3



Ec 1) $\frac{dx}{dt} = \frac{\mu_m \cdot S}{K_s + S} \cdot \left(1 - \frac{P}{P_m}\right) \cdot X$

μ

inhibición por alcohol

$P = P_m$

$\frac{dx}{dt} = 0$

Ec 2)

$\frac{dP}{dt} = \nu_m$ (~~Monod~~) (inhibición) $\cdot X$

$Y_{P/S} = \frac{\Delta P}{\Delta S}$

$-Y_{P/S} = \frac{dP}{dt} \cdot \frac{dt}{dS} = \frac{dP}{dS}$

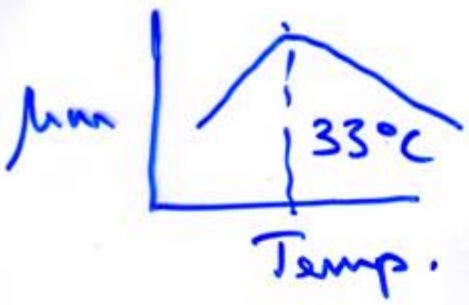
$\frac{dS}{dt} = -\frac{1}{Y_{PS}} \cdot \frac{dP}{dt}$

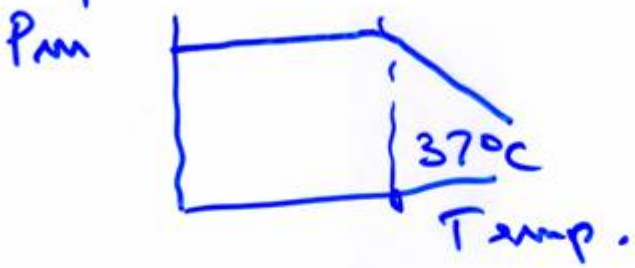
p 143.

$\mu_m \rightarrow 33°C$ crecimiento

$\beta(\nu_m) \rightarrow 38.5°C$ ← velocidad formación producto

P_m' de. hasta 37°C → conc. max. etanol





Optimización

K_S = Monod

$Y_{P/S} = 0,377$

Items adicionales

- Modelo Matemático
- Nomenclatura
- Conclusiones aparecen en el Resumen.

Material y Métodos

S.c. ATCC 26602
American Type Culture Collection
NRRL - Northern Regional Research Laboratories
Peoria, Illinois
Inglaterra - NCIB
Alemania - DSM
yeast - levadura
dry weight - peso seco