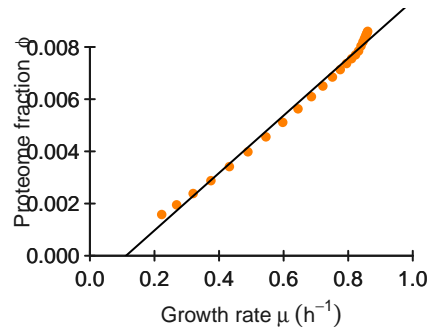
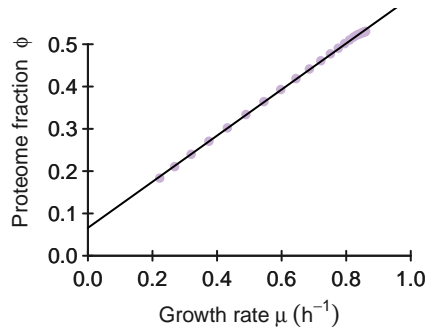
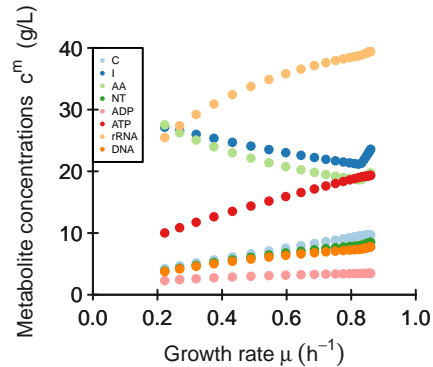
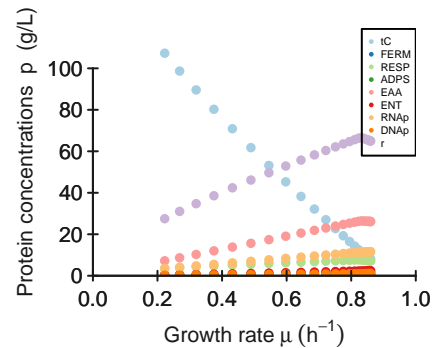
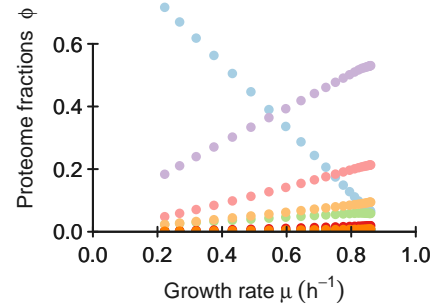
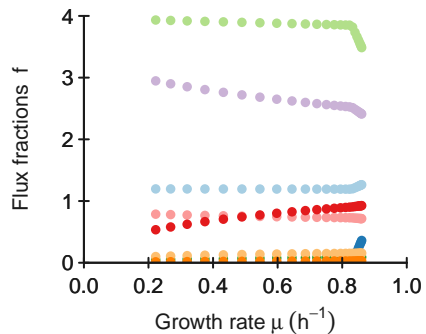
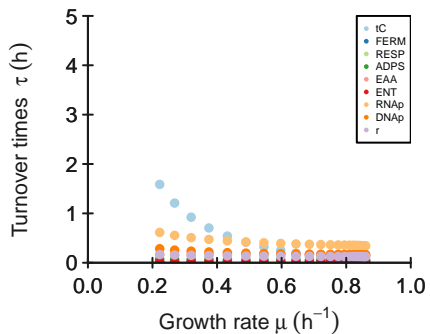
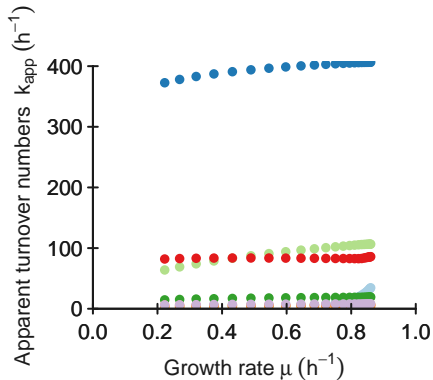


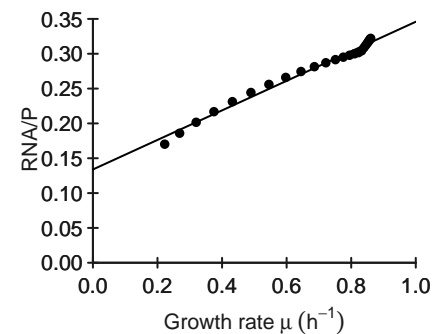
DNAP



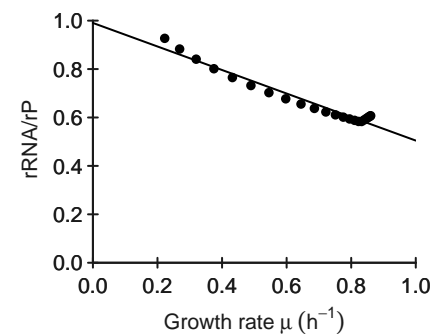
r

Metabolite concentrations  $c^m$  (g/L)Protein concentrations  $p$  (g/L)Proteome fractions  $\phi$ Flux fractions  $f$ Turnover times  $\tau$  (h)Apparent turnover numbers  $k_{app}$  ( $\text{h}^{-1}$ )

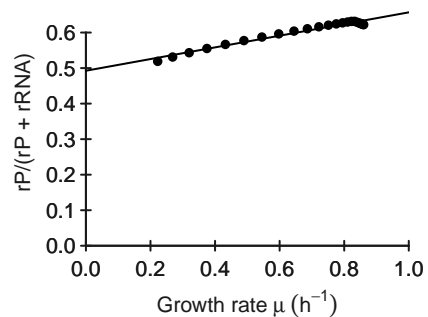
RNA/P



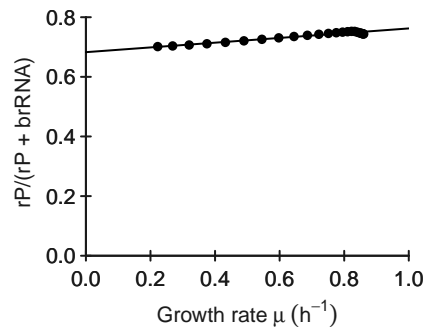
rRNA/rP



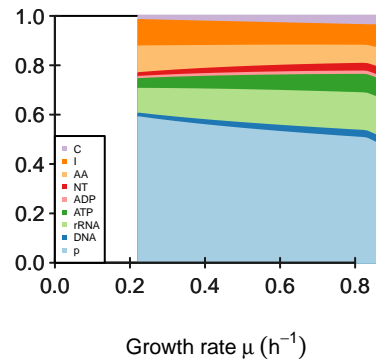
$rP/(rP + rRNA)$



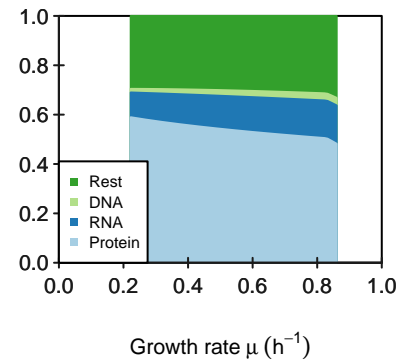
Protein mass fraction in ribosome



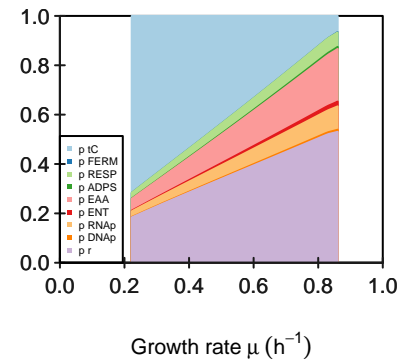
Relative biomass composition



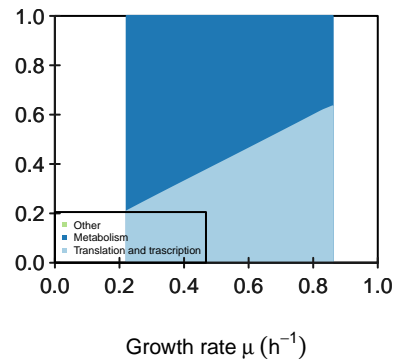
Predicted biomass



Proteome composition



Proteome sectors



keep\_ribosome\_kcat FALSE  
keep\_transport\_kcat FALSE  
maintenance\_fun constant

## M

[illegible]

**K**

[illegible]







**Keq**

|             |                    |                    |                    |                    |                    |                    |                    |                    |                    |
|-------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>[1,]</b> | <b>[,1]</b><br>Inf | <b>[,2]</b><br>Inf | <b>[,3]</b><br>Inf | <b>[,4]</b><br>Inf | <b>[,5]</b><br>Inf | <b>[,6]</b><br>Inf | <b>[,7]</b><br>Inf | <b>[,8]</b><br>Inf | <b>[,9]</b><br>Inf |
|-------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|

## phi input

|      |       |       |       |       |       |       |       |       |      |
|------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| [1,] | [,1]  | [,2]  | [,3]  | [,4]  | [,5]  | [,6]  | [,7]  | [,8]  | [,9] |
|      | 0.065 | 0.035 | 0.035 | 0.003 | 0.248 | 0.032 | 0.119 | 0.003 | 0.46 |

**average saturation input**

3



### minimal f constraint

[illegible]