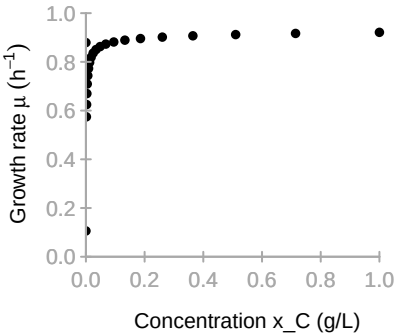
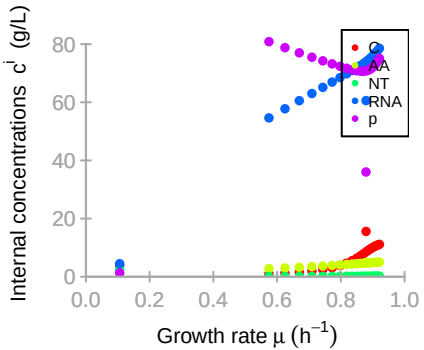
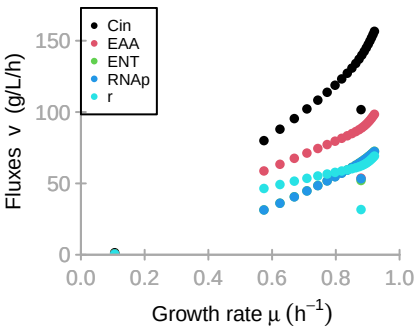
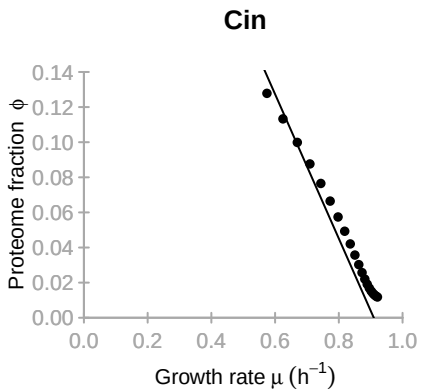
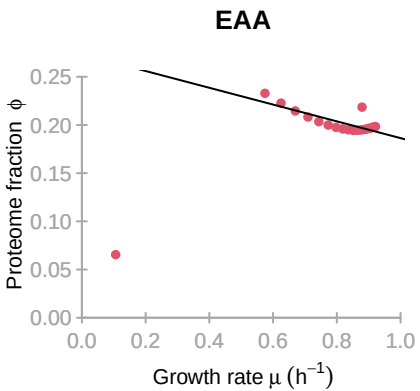
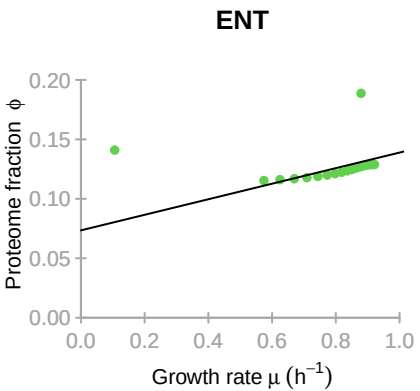

Growth rate μ (h^{-1})
Concentration x_C (g/L)

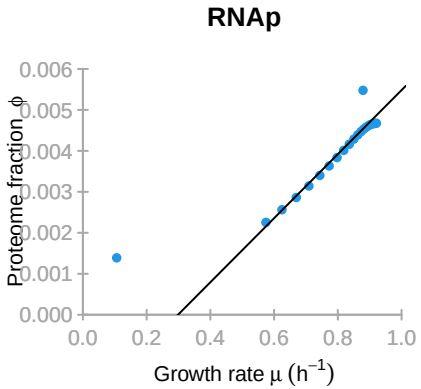

Internal concentrations c^i (g/L)
Growth rate μ (h^{-1})
C
AA
NT
RNA
p

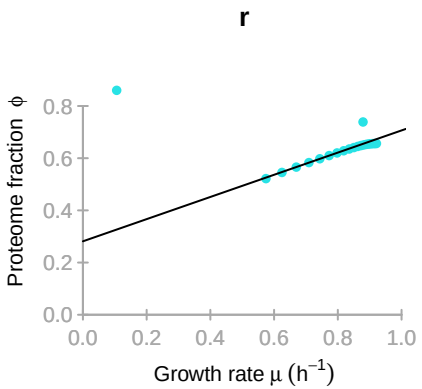

Fluxes v (g/L/h)
Growth rate μ (h^{-1})
Cin
EAA
ENT
RNAp
r

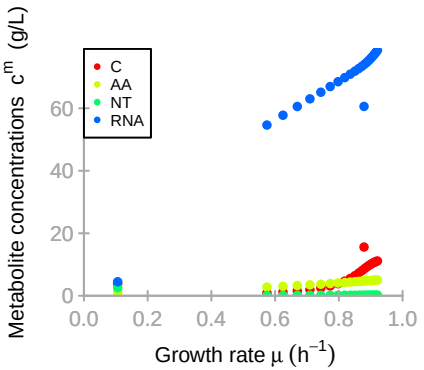

Cin
Proteome fraction ϕ
Growth rate μ (h^{-1})

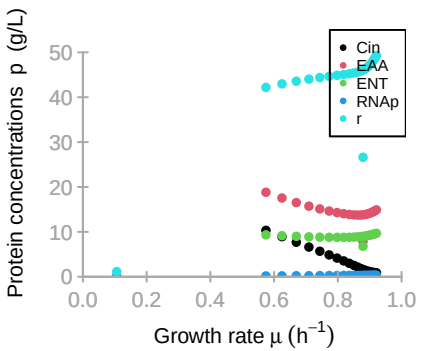

EAA
Proteome fraction ϕ
Growth rate μ (h^{-1})

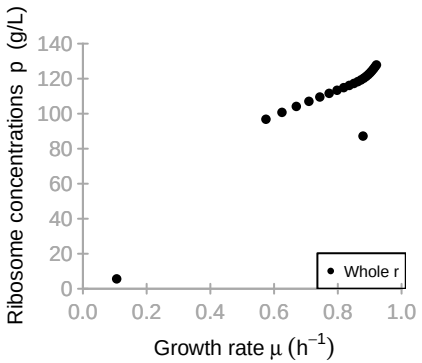

ENT
Proteome fraction ϕ
Growth rate μ (h^{-1})

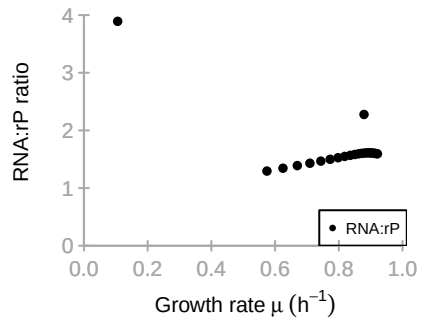

RNAp
Proteome fraction ϕ
0.006
0.005
0.004
0.003
0.002
0.001
0.000
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

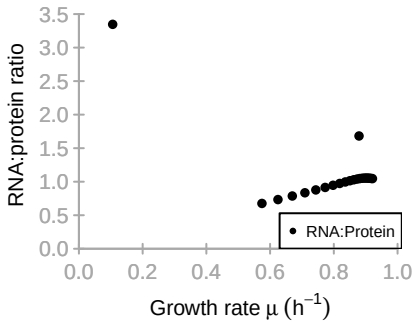

r
Proteome fraction ϕ
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

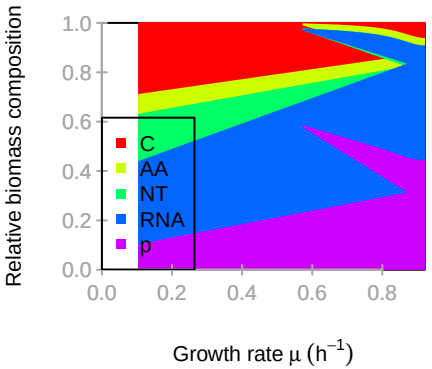

Metabolite concentrations cm (g/L)
C
AA
NT
RNA
60
40
20
0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

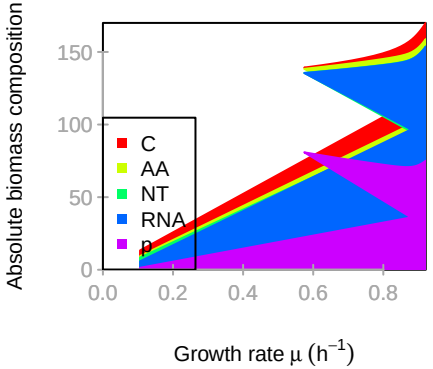

Protein concentrations p (g/L)
Cin
EAA
ENT
RNAp
r
50
40
30
20
10
0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

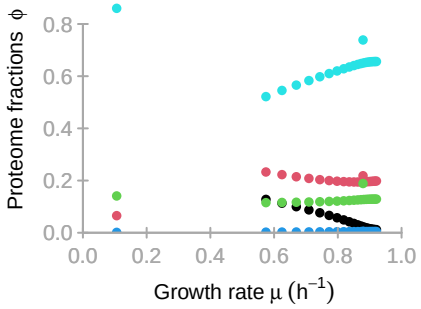

Ribosome concentrations p (g/L)
Whole r
140
120
100
80
60
40
20
0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

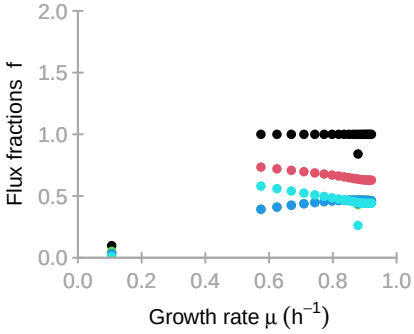

RNA:rP ratio
RNA:rP
4
3
2
1
0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

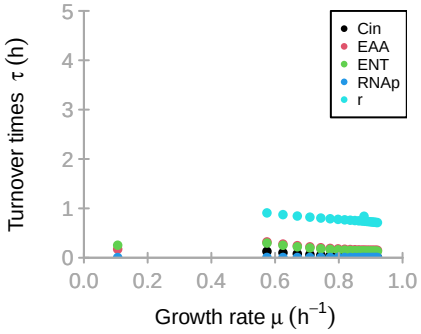

RNA:protein ratio
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
RNA:Protein
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)

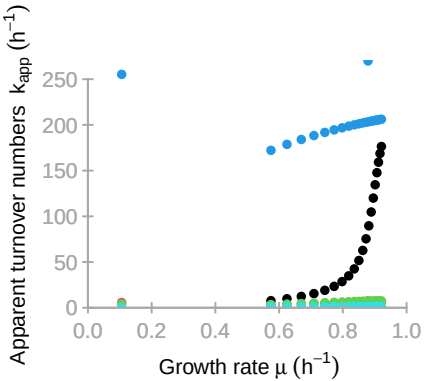

Relative biomass composition
1.0
0.8
0.6
0.4
0.2
0.0
C
AA
NT
RNA
p
0.0
0.2
0.4
0.6
0.8
Growth rate μ (h−1)


Absolute biomass composition
150
100
50
0
C
AA
NT
RNA
p
0.0
0.2
0.4
0.6
0.8
Growth rate μ (h−1)


Proteome fractions ϕ
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)


Flux fractions f
2.0
1.5
1.0
0.5
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)


Turnover times τ (h)
5
4
3
2
1
0
Cin
EAA
ENT
RNAp
r
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h−1)


Apparent turnover numbers k_{app} (h^{-1})
250
200
150
100
50
0
0.0
0.2
0.4
0.6
0.8
1.0
Growth rate μ (h^{-1})

M

	Cin	EAA	ENT	RNAp	r
C	1	−1	−0.66	0	0
AA	0	1	−0.34	0	−1
NT	0	0	1	−1	0
RNA	0	0	0	1	0
p	0	0	0	0	1

K

	Cin	EAA	ENT	RNAp	r
[1,]	0.01	0	0	0	0
[2,]	1	1	1	0	0
[3,]	0	20	1	0	0.05
[4,]	0	0	20	0.05	0
[5,]	0	0	0	0	0
[6,]	0	0	0	0	0

KA

	Cin	EAA	ENT	RNAp	r
[1,]	0	0	0	0	0
[2,]	0	0	0	0	0
[3,]	0	0	0	0	0
[4,]	0	0	0	0	0
[5,]	0	0	0	0	120
[6,]	0	0	0	0	0

kcat

	[,1]	[,2]	[,3]	[,4]	[,5]
kcatf	200	7.3846	9.8004	260.2688	3.5828
kcatb	20	1.47692	1.96008	0	0

Keq

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1000	100	100	Inf	Inf