

0.2 0.4 0.6 0.8 1.0

Growth rate μ (h⁻¹)

0.0 0.2 0.4 0.6 0.8 1.0 1.2

Growth rate μ (h⁻¹)

0.2

0.6

Growth rate μ (h⁻¹)

0.8

1.0

1.2

0.2 0.4 0.6 0.8 1.0

Growth rate μ (h⁻¹)

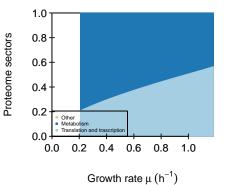
0.8

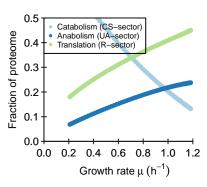
Growth rate μ (h⁻¹)

1.0

0.0

Proteome sectors





	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	rRNAp	mRNAp	tRNAp	DNAp	tRNAc	r
С	1	0	-0.02	0	-1	-0.167	-0.18	0	Ō	Ō	Ō	0	0
AA	0	0	0	0	1	-0.167	0	0	0	0	0	-0.01	0
NT	0	0	0	-1	0	0.334	0	-1	-1	-1	-1	0	0
ADP	0	0	-0.98	1	0	0.666	0.82	0	0	0	0	0.05	0.05
ATP	0	0	0.98	0	0	-0.666	-0.82	0	0	0	0	-0.05	-0.05
W	0	-1	0.02	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	0.18	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	1	0	0	0	0	0
mRNA	0	0	0	0	0	0	0	0	1	0	0	0	0
tRNA	0	0	0	0	0	0	0	0	0	1	0	-0.94	0.94
DNA	0	0	0	0	0	0	0	0	0	0	1	0	0
TC	0	0	0	0	0	0	0	0	0	0	0	0.95	-0.95
р	0	0	0	0	0	0	0	0	0	0	0	0	0.01

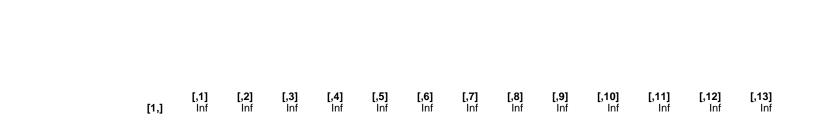
	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	rRNAp	mRNAp	tRNAp	DNAp	tRNAc	r
x_C	0.1	0	0	0	0	0	0	Ō	Ō	Ō	Ō	0	0
x_W	0	3	0	0	0	0	0	0	0	0	0	0	0
С	5	0	1	0	0.5	2	1	0	0	0	0	0	0
AA	0	0	0	0	4	3	0	0	0	0	0	4	0
NT	0	0	0	3	0	3	0	5	5	5	3	0	0
ADP	0	0	1	1	0	1	1	0	0	0	0	0	0
ATP	0	0	3	0	0	2	1	0	0	0	0	4	4
W	0	3	3	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	15	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	0	0	0
mRNA	0	0	0	0	0	0	0	0	0	0	0	0	0
tRNA	0	0	0	0	0	0	0	0	0	0	0	2	0
DNA	0	0	0	0	0	0	0	0	0	0	0	0	0
TC	0	0	0	0	0	0	0	0	0	0	0	0	6
р	0	0	0	0	0	0	0	0	0	0	0	0	0

	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	rRNAp	mRNAp	tRNAp	DNAp	tRNAc	r
x_C	0	0	0	0	0	0	0	Ō	Ō	Ō	Ō	0	0
x_W	0	0	0	0	0	0	0	0	0	0	0	0	0
С	0	0	0	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	0	0	0	0	0	0	0
NT	0	0	0	0	0	0	0	0	0	0	0	0	0
ADP	0	0	0	0	0	0	0	0	0	0	0	0	0
ATP	0	0	0	0	0	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0	0	0	0	0	0
LIP	60	60	0	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	0	0	50
mRNA	0	0	0	0	0	0	0	0	0	0	0	0	3
tRNA	0	0	0	0	0	0	0	0	0	0	0	0	0
DNA	0	0	0	0	0	0	0	9	9	9	8	0	0
TC	0	0	0	0	0	0	0	0	0	0	0	0	0
р	0	0	0	0	0	0	0	0	0	0	0	0	0

kcat

	[,1]	[,2]	[,3]	[,4]	[,5]	[,6]	[,7]	[,8]	[,9]	[,10]	[,11]	[,12]	[,13]
kcatf	120	180	2400	20	10	200	40	18	13	18	42	12000	1200
kcatb	0	0	0	0	0	0	0	0	0	0	0	0	0

Keq



minimal phi constraint

_	-	-	_	 	-	_	

[,9] 0

[,10] 0

[,12] 0

[,13] 0

[,14] 0

[,3] 0

[,1] 0

[1,]

[,4] [,5] [,6] [,7] [,8] 0 0 0 0 0

minimal f constraint

[,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12 0 0 0 0 0 0 0 0 0 0 0										
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[,13] 0