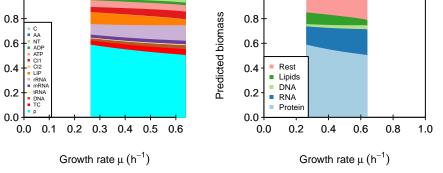
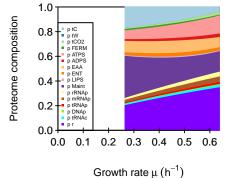
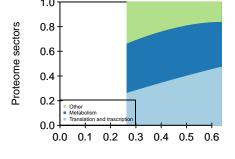


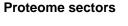
Relative biomass composition 1.0 -1.0_T 1.0_T 1.0 0.8 $0.8 \pm$ 0.8 + 0.6 0.6

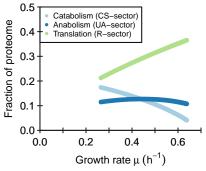






Growth rate μ (h⁻¹)





	tC	tW	tCO2	FERM	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	DNAp	tRNAc	r
С	1	0	0	-0.2	0	0	-0.5	-0.167	0	0	0	Ō	Ö	Ō	0	0
AA	0	0	0	0	0	0	1	-0.167	0	0	0	0	0	0	-0.01	0
NT	0	0	0	0	0	-1	0	0.334	0	0	-1	-1	-1	-1	0	0
ADP	0	0	0	-0.8	-0.98	1	0	0.666	0.82	1	0	0	0	0	0.05	0.05
ATP	0	0	0	0.8	0.98	0	0	-0.666	-0.82	-1	0	0	0	0	-0.05	-0.05
CI1	0	-1	0	0.2	-0.02	0	-0.5	0	-0.18	0	0	0	0	0	0	0
CI2	0	0	-1	0	0.02	0	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	0	0	0.18	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
mRNA	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
tRNA	0	0	0	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	0	0	0	1	0	0
TC	0	0	0	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	0	0	0.01

	tC	tW	tCO2	FERM	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	DNAp	tRNAc	r
x_C	0.05	0	0	0	0	0	0	0	0	0	0	Ö	Ö	Ö	0	0
x_W	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
x_CO2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
С	0.5	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	5	6	0	0	0	0	0	0	6	0
NT	0	0	0	0	0	6	0	10	0	0	6	6	6	6	0	0
ADP	0	0	0	1	2	1	0	5	1	0	0	0	0	0	0	0
ATP	0	0	0	5	5	0	0	4	4	4	0	0	0	0	4	4
CI1	0	1	0	5	6	0	2	0	2	0	0	0	0	0	0	0
CI2	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0
rRNA	0	0	0	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	0	0	0
tRNA	0	0	0	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	0	0	0
TC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
р	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	tC	tW	tCO2	FERM	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	DNAp	tRNAc	r
x_C	0	0	0	0	0	0	0	0	0	0.005	0	0	Ō	0	0	0
x_W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
x_CO2	0	0	0	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	0	0	0
AA	0	0	0	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	0	0	0
ADP	0	0	0	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	0	0	0
CI1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CI2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIP	60	60	60	0	0	0	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	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	0	0	0	3
tRNA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DNA	0	0	0	0	0	0	0	0	0	0	8	8	8	8	0	0
TC	0	0	0	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	0	0	0

kcat

kcatf	[,1]	[,2]	[,3]	[,4]	[,5]	[,6]	[,7]	[,8]	[,9]	[,10]	[,11]	[,12]	[,13]	[,14]	[,15]	[,16]
	1100	100	100	2000	200	14	18	220	73	79	10	2	10	16	15000	800
kcatb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Keq

[1,]	[,1] Inf	[,2] Inf	[,3] Inf	[,4] Inf	[,5] Inf	[,6] Inf	[,7] Inf	[,8] Inf	[,9] Inf	[,10] Inf	[,11] Inf	[,12] Inf	[,13] Inf	[,14] Inf	[,15] Inf	[,16] Inf

minimal phi constraint

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21	

[1,]

[,2] [,3] [,4] [,5] 0 0 0

[,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14] [,15] [,16] 0 0 0 0 0 0 0 0

minimal f constraint

[,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14] [,15] [,16] 0 0 0 0 0 0 0

[,1] [,2] [,3] [,4] [,5] 0 0 0 0 0

[1,]