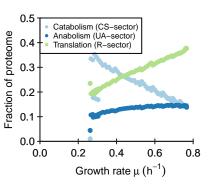
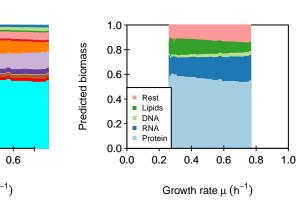


#### Proteome sectors





Relative biomass composition

1.0 -

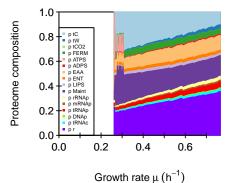
0.8 ±

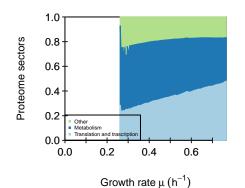
0.0

0.2

0.4

Growth rate  $\mu$  (h<sup>-1</sup>)





	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	1	0	0	0.5	1	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	5	5	0	0	0	0	0	0	6	0
NT	0	0	0	0	0	1	0	10	0	0	4	4	4	6	0	0
ADP	0	0	0	1	2	1	0	1	1	0	0	0	0	0	0	0
ATP	0	0	0	5	5	0	0	3	3	3	0	0	0	0	4	4
CI1	0	1	0	5	2	0	0.5	0	3	0	0	0	0	0	0	0
CI2	0	0	2	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	1	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	2
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	<b>[,1]</b> 800	<b>[,2]</b> 500	<b>[,3]</b> 500	<b>[,4]</b> 2200	<b>[,5]</b> 70	[, <b>6]</b> 14	[ <b>,7]</b> 12	<b>[,8]</b> 220	<b>[,9]</b> 73	[, <b>10]</b> 81	[, <b>11]</b> 15	<b>[,12]</b> 10	[,13]	<b>[,14]</b> 16	<b>[,15]</b> 15000	<b>[,16]</b> 800
	000	300	500	2200	7.0	17	12	220	7.0	01	10	10	_	10	10000	000
kcatb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

# Keq

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

### minimal phi constraint

 	 	 	Г	 	_	 _	 	

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,]