







	tC	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
С	1	-0.02	0	-1	-0.167	-0.18	0	0	Ö	Ö	0	0	0	Ö	0	0
AA	0	0	0	1	-0.167	0	0	0	0	0	0	0	0	0	-0.006	0
NT	0	0	-1	0	0.334	0	0	-1	-1	-1	1	1	1	-1	0	0
ADP	0	-0.98	1	0	0.666	0.82	1	0	0	0	0	0	0	0	0.026	0.026
ATP	0	0.98	0	0	-0.666	-0.82	-1	0	0	0	0	0	0	0	-0.026	-0.026
LIP	0	0	0	0	0	0.18	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	1	0	0	-1	0	0	0	0	0
mRNA	0	0	0	0	0	0	0	0	1	0	0	-1	0	0	0	0
tRNA	0	0	0	0	0	0	0	0	0	1	0	0	-1	0	-0.968	0.968
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	0.974	-0.974
р	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.006

	tC	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
x_C	0.1	0	0	0	0	0	0	Ō	Ō	Ō	0	0	0	Ō	0	0
x_W	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
С	0	9	0	9	9	9	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0
NT	0	0	3	0	0	0	0	3	3	3	0	0	0	3	0	0
ADP	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATP	0	0	0	0	2	2	2	0	0	0	0	0	0	0	2	2
LIP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	19	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	2	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	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
x_C	0	0	0	0	0	0	0.03	Ō	0	Ō	0	0	0	0	0	0
x_W	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
LIP	30	0	0	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	60
mRNA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
mRNA 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	5	5	5	0	0	0	5	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

	tC	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
kcatf	21	1105	8	10	141	52	76	9	1	14	10	10	10	12	17182	1043
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

# phi input

**[,8]** 0.0426 **[,9]** 0.0213 **[,10]** 0.0071 **[,11]** 0.002

**[,12]** 0.006

**[,14]** 0.002

**[,15]** 0.023

**[,16]** 0.284

**[,7]** 0.2546

**[,6]** 0.031

**[,1]** 0.11

[1,]

**[,3]** 0.005 **[,4]** 0.165 **[,5]** 0.023

# average saturation input

#### minimal phi constraint

**[,10]** 0 **[,11]** 0.002 **[,12]** 0.006 **[,13]** 4e-04 **[,14]** 0 **[,15]** 0 **[,16]** 0

[,**5]** [,**6]** 0

**[,4]** 0

[,1] [,2] [,3] 0 0 0

[1,]

**[,7]** 0

#### minimal f constraint

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

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

[1,]