





maintenance\_fun constant

keep\_ribosome\_kcat FALSE keep\_transport\_kcat FALSE

	tC	FERM	RESP	ADPS	EAA	ENT	LIPS	Maint	RNAp	DNAp	r
С	1	-0.2	-0.15	0	0	0	0	0	Ō	Ō	0
- 1	0	0.1	0.1	0	-1	-0.17	-0.18	0	0	0	0
AA	0	0	0	0	1	-0.17	0	0	0	0	-0.2
NT	0	0	0	-1	0	0.34	0	0	-1	-1	0
ADP	0	-0.8	-0.85	1	0	0.66	0.82	1	0	0	0.8
ATP	0	0.8	0.85	0	0	-0.66	-0.82	-1	0	0	-0.8
LIP	0	0	0	0	0	0	0.18	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	1	0	0
DNA	0	0	0	0	0	0	0	0	0	1	0
р	0	0	0	0	0	0	0	0	0	0	0.2

	tC	FERM	RESP	ADPS	EAA	ENT	LIPS	Maint	RNAp	DNAp	r
x_C	0.1	0	0	0	0	0	0	0	0	0	0
x_W	0	20	4	0	0	0	0	0	0	0	0
С	0	12	2.4	0	0	0	0	0	0	0	0
I	0	0	0	0	2	2	2	0	0	0	0
AA	0	0	0	0	0	2	0	0	0	0	2
NT	0	0	0	2	0	0	0	0	2	2	0
ADP	0	1	0.2	0	0	0	0	0	0	0	0
ATP	0	0	0	0	0	2	2	2	0	0	2
LIP	0	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	0
DNA	0	0	0	0	0	0	0	0	0	0	0
р	0	0	0	0	0	0	0	0	0	0	0

	tC	FERM	RESP	ADPS	EAA	ENI	LIPS	Maint	RNAP	DNAp	r
x_C	0	0	0	0	0	0	0	0.02	Ō	Ō	0
x_W	0	0	0	0	0	0	0	0	0	0	0
С	0	0	0	0	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	0	0	0	0	0
NT	0	0	0	0	0	0	0	0	0	0	0
ADP	0	0	0	0	0	0	0	0	0	0	0
ATP	0	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	0
DNA	0	0	0	0	0	0	0	0	4	4	0
р	0	0	0	0	0	0	0	0	0	0	0

#### kcat

	tC	FERM	RESP	ADPS	EAA	ENT	LIPS	Maint	RNAp	DNAp	r
kcatf	58	1013.1	202.6	12.4	9.5	133.2	55.2	34.2	5.7	14.3	27.6
kcatb	0	0	0	0	0	0	0	0	0	0	0

# Keq



## phi input



## average saturation input

## minimal phi constraint

.1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]	1 <b>]</b>	<b>[,2]</b>	<b>[,3]</b>	<b>[,4]</b>	<b>[,5]</b>	<b>[,6]</b>	<b>[,7]</b>	<b>[,8]</b>	<b>[,9]</b>	<b>[,10]</b>	<b>[,11]</b>
0 0 0 0 0 0 0.031 0 0	0	0	0	0	0	0	0.031	0	0	O	0

[1,]

#### minimal f constraint

	[.1]	ſ <b>.2</b> 1	[,3]	[.4]	[,5]	<b>[.61</b>	[,7]	[,8]	[,9]	[.10]	[,11]
[1,]	0							4.55437091503269			