





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

maintenance\_fun constant

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

	tC	tC2	RESP	FERM	EAA	ENT	RNAp	DNAp	r
С	1	1	-1	-1	0	0	Ō	Ō	0
I	0	0	0.8	0.4	-1	-0.9	0	0	0
AA	0	0	0	0	1	0	0	0	-0.8
NT	0	0	0	0	0	1	-1	<b>–1</b>	0
ATP	0	0	0.2	0.1	0	-0.1	0	0	-0.2
RNA	0	0	0	0	0	0	1	0	0
DNA	0	0	0	0	0	0	0	1	0
р	0	0	0	0	0	0	0	0	1

	tC	tC2	RESP	FERM	EAA	ENT	RNAp	DNAp	r
x_C	0.1	0	0	0	0	0	Ō	Ō	0
$x_W$	0	0.1	0	0	0	0	0	0	0
С	0	0	1.8	9	0	0	0	0	0
I	0	0	0	0	1	1	0	0	0
AA	0	0	0	0	0	0	0	0	1
NT	0	0	0	0	0	0	1	1	0
ATP	0	0	0	0	0	4	0	0	4
RNA	0	0	0	0	0	0	0	0	0
DNA	0	0	0	0	0	0	0	0	0
р	0	0	0	0	0	0	0	0	0

KA

	tC	tC2	RESP	FERM	EAA	ENT	RNAp	DNAp	r
x_C	0	0	0	0	0	0	Ō	Ō	0
$x_W$	0	0	0	0	0	0	0	0	0
С	0	0	0	0	0	0	0	0	0
I	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	0	0	0
NT	0	0	0	0	0	0	0	0	0
ATP	0	0	0	0	0	0	0	0	0
RNA	0	0	0	0	0	0	0	0	25
DNA	0	0	0	0	0	0	4	4	0
р	0	0	0	0	0	0	0	0	0

#### kcat

	tC	tC2	RESP	FERM	EAA	ENT	RNAp	DNAp	r
kcatf	35.9	11.6	8.7	43.5	4.6	34.8	6.9	9.2	4.6
kcatb	0	0	0	0	0	0	0	0	0

#### Keq



# phi input

[1,]	<b>[,1]</b> 0.06	<b>[,2]</b> 0.005	<b>[,3]</b> 0.065	<b>[,4]</b> 0.004	<b>[,5]</b> 0.248	<b>[,6]</b> 0.035	<b>[,7]</b> 0.119	<b>[,8]</b> 0.003	<b>[,9</b> 0.461

## average saturation input

# minimal phi constraint

[1,]

### minimal f constraint

	[,1]	[,2]	[,3]	[,4]	[,5]	[,6]	[,7]	[,8]	[,9]
[1,]	Ō	Ō	Ō	Ō	Ō	Ō	Ō	Ō	Ō