





0.8 - 0.6 - 0.4 - 0.2 - 0.6 - 0.0 - 0.0 0.2 0.4 0.6 0.8 1. Growth rate μ (h⁻¹)

maintenance_fun constant

keep_ribosome_kcat FALSE keep_transport_kcat FALSE

	tC	FERM	RESP	ACT	EAA	ENT	RNAp	DNAp	r
С	1	-1	-1	0	0	0	Ō	Ō	0
I	0	0.4	0.2	-0.5	0	0	0	0	0
Р	0	0	0	1	-1	-0.45	0	0	0
AA	0	0	0	0	1	-0.45	0	0	-0.9
NT	0	0	0	0	0	1	-1	-1	0
ATP	0	0.4	0.8	-0.5	0	-0.1	0	0	-0.1
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	FERM	RESP	ACT	EAA	ENT	RNAp	DNAp	r
0.1	0	0	0	0	0	0	0	0
0	10	20	0	0	0	0	0	0
0	6	12	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0
0	0	0	0	2	2	0	0	0
0	0	0	0	0	3	0	0	3
0	0	0	0	0	0	2	2	0
0	0	0	2	0	2	0	0	2
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
			0.1 0 0 0 10 20	0.1 0 0 0 0 10 20 0	0.1 0 0 0 0 0 10 20 0 0	0.1 0 0 0 0 0 0 10 20 0 0	0.1 0 0 0 0 0 0 0 10 20 0 0 0	0.1 0 0 0 0 0 0 0 0 10 20 0 0 0 0

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tC	FERM	RESP	ACT	EAA	ENT	RNAp	DNAp	r
0	0	0	0	0	0	Ō	Ō	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	40
0	0	0	0	0	0	4	4	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 0 0 0 0	tC FERM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tC FERM RESP 0	tC FERM RESP ACT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tC FERM RESP ACT EAA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tC FERM RESP ACT EAA ENT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tC FERM RESP ACT EAA ENT RNAp 0 0 0 0 0 0 0 0 0	tC FERM RESP ACT EAA ENT RNAp DNAp 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

kcat

	τι	FERIN	KE5P	ACI	EAA	ENI	KNAP	DNAP	r
kcatf	35	76	38	115	7	45	6	13	4
kcatb	0	0	0	0	0	0	0	0	0

Keq



phi input

[1,]	[,1] 0.065	[,2] 0.024	[,3] 0.024	[,4] 0.024	[,5] 0.248	[,6] 0.032	[,7] 0.12	[,8] 0.003	[,9] 0.46

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