







	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
С	1	0	-0.02	0	-1	-0.167	-0.18	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	1	-0.167	0	0	0	0	0	0	0	0	0	-0.01	0
NT	0	0	0	-1	0	0.334	0	0	-1	-1	-1	1	1	1	-1	0	0
ADP	0	0	-0.98	1	0	0.666	0.82	1	0	0	0	0	0	0	0	0.05	0.05
ATP	0	0	0.98	0	0	-0.666	-0.82	-1	0	0	0	0	0	0	0	-0.05	-0.05
W	0	-1	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIP	0	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	0	1	0	0	-1	0	0	0	0	0
mRNA	0	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	0	1	0	0	-1	0	-0.94	0.94
DNA	0	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	0.95	-0.95
р	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01

	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
x_C	0.5	0	0	0	0	0	0	0	Ö	Ö	Ö	0	0	0	Ö	0	0
x_W	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
С	11	0	6	0	6	6	6	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	11	6	0	0	0	0	0	0	0	0	0	6	0
NT	0	0	0	5	0	10	0	0	5	5	5	0	0	0	5	0	0
ADP	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0
ATP	0	0	6	0	0	3	3	3	0	0	0	0	0	0	0	3	3
W	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0
mRNA	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
tRNA	0	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	0
TC	0	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	0

	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
x_C	0	0	0	0	0	0	0	0.15	Ö	Ö	Ö	0	0	0	Ö	0	0
x_W	0	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	0
AA	0	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	0
ADP	0	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	0
W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIP	60	60	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	0	36
mRNA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
tRNA DNA	0	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	8	8	8	0	0	0	8	0	0
TC	0	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	0

kcat

	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
kcatf	18	11	1032	9	11	412	56	4	9	1	10	10	10	10	13	14679	792
kcatb	2	1	103	1	1	41	6	0	0	0	0	0	0	0	0	0	0

Keq

[1,]	[,1] 198	[,2] 11	[,3] 50.0970873786408	[,4] 1.8	[,5] 20.1666666666667	[,6] 0.930442637759711	[,7] 15.037037037037	[,8] Inf	[,9] Inf	[,10] Inf	[,11] Inf	[,12] Inf	[,13] Inf	[,14] Inf	[, 15] Inf	[, 16] Inf	[, 17] Inf

phi input

[,8] 0.2486 **[,9]** 0.0426 **[,10]** 0.0213 **[,11]** 0.0071 **[,12]** 0.002 **[,13]** 0.006 **[,15]** 0.002 **[,17]** 0.284

[,5] 0.165

[1,]

[,6] 0.01 **[,7]** 0.031 average saturation input

minimal	phi	constraint
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minimal f constraint

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[,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14] [,15] [,16] [,17] [,0] [,17] [,18] [,18] [,19] [,10] [,11] [,12] [,13] [,14] [,15] [,16] [,17] [,17] [,18