







	tC	tW	ATPS	ADPS	EAA	ENT	LIPS	Maint	rRNAp	mRNAp	tRNAp	rRNase	mRNase	tRNAse	DNAp	tRNAc	r
С	1	0	-0.2	0	-1	-0.167	-0.18	0	0	0	0	0	0	0	Ō	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	-0.8	1	0	0.666	0.82	1	0	0	0	0	0	0	0	0.05	0.05
ATP	0	0	0.8	0	0	-0.666	-0.82	-1	0	0	0	0	0	0	0	-0.05	-0.05
W	0	-1	0.2	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
С	10	0	2	0	2	2	2	0	0	0	0	0	0	0	0	0	0
AA	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	1	0
NT	0	0	0	2	0	5	0	0	2	2	2	0	0	0	2	0	0
ADP ATP	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0
ATP	0	0	4	0	0	2	2	2	0	0	0	0	0	0	0	2	2
W	0	10	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIP	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0	0	0
rRNA	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0
mRNA	0	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	0	1	0	1	0
DNA TC	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	2	1
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	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	70	70	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	45
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	10	10	10	0	0	0	10	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

kcatf kcatb	[,1] 150 15	[,2] 500 50	[,3] 100 10	[,4] 60 6	[,5] 10 1	[,6] 70 7	[,7] 20 1	[,8] 10 0	[,9] 140 0	[, 10] 100 0	[, 11] 140 0	[,12] 20 0	[,13] 20 0	[,14] 20 0	[,15] 200 0	[,16] 3000 0	[,17] 700 0

Keq

[1,]	[,1] 200	[,2] 1	[,3] 300	[,4] 5	[,5] 10	[,6] 50	[, 7] 320	[,8] Inf	[, 9] Inf	[,10] Inf	[, 11] Inf	[, 12] Inf	[, 13] Inf	[,14] Inf	[,15] Inf	[,16] Inf	[,17] Inf

minimal phi constraint

[,**9]** [,**10]** 0

[,11] 0 [,14] [,15] [,16] 0.001 0 0

[,17] 0

[,8] 0.122

[,2] [,3] [,4] [,5] [,6] [,7] 0 0 0 0 0

[1,]

minimal f	constraint
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[1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10] [,11] [,12] [,13] [,14] [,15] [,16] [,17] [,1] [,1] [,1] [,1]