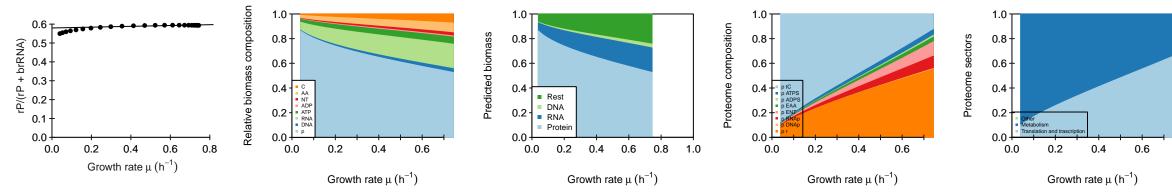


#### Protein mass fraction in ribosome



	tC	<b>ATPS</b>	ADPS	EAA	ENT	RNAp	DNAp	r
С	1	-0.02	0	-1	-0.167	0	Ō	0
AA	0	0	0	1	-0.167	0	0	-0.2
NT	0	0	-1	0	0.334	-1	-1	0
ADP	0	-0.98	1	0	0.666	0	0	0.8
ATP	0	0.98	0	0	-0.666	0	0	-0.8
RNA	0	0	0	0	0	1	0	0
DNA	0	0	0	0	0	0	1	0
р	0	0	0	0	0	0	0	0.2

K

	tC	ATPS	ADPS	EAA	ENT	RNAp	DNAp	r
x_C	0.1	0	0	0	0	0	Ō	0
$x_W$	0	20	0	0	0	0	0	0
С	0	7	0	7	7	0	0	0
AA	0	0	0	0	2	0	0	2
NT	0	0	2	0	0	2	2	0
ADP	0	1	0	0	0	0	0	0
ATP	0	0	0	0	2	0	0	2
RNA	0	0	0	0	0	0	0	0
DNA	0	0	0	0	0	0	0	0
р	0	0	0	0	0	0	0	0

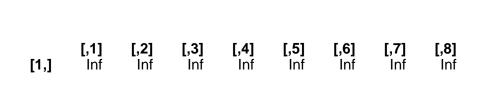
KA

	tC	ATPS	ADPS	EAA	ENT	RNAp	DNAp	r
x_C	0	0	0	0	0	Ō	Ō	0
$x_W$	0	0	0	0	0	0	0	0
С	0	0	0	0	0	0	0	0
AA	0	0	0	0	0	0	0	0
NT	0	0	0	0	0	0	0	0
ADP	0	0	0	0	0	0	0	0
ATP	0	0	0	0	0	0	0	0
RNA	0	0	0	0	0	0	0	75
DNA	0	0	0	0	0	5	5	0
р	0	0	0	0	0	0	0	0

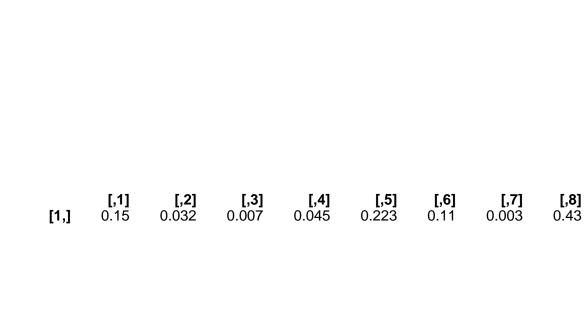
### kcat

	tC	<b>ATPS</b>	ADPS	EAA	ENT	RNAp	DNAp	r
kcatf	13	169	8	40	20	6	16	21
kcatb	0	0	0	0	0	0	0	0

## Keq



# phi input



## average saturation input

## minimal phi constraint

### minimal f constraint