

Figure S1

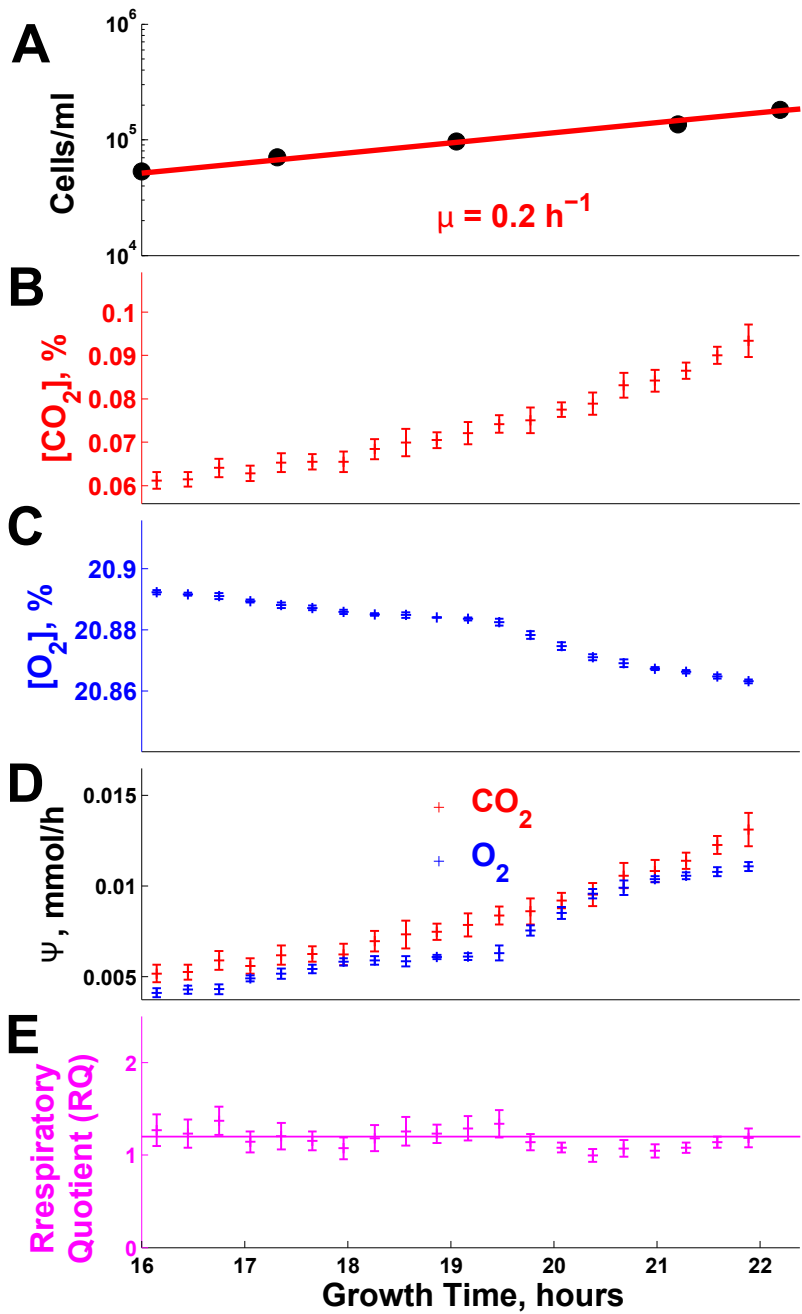


Figure S2

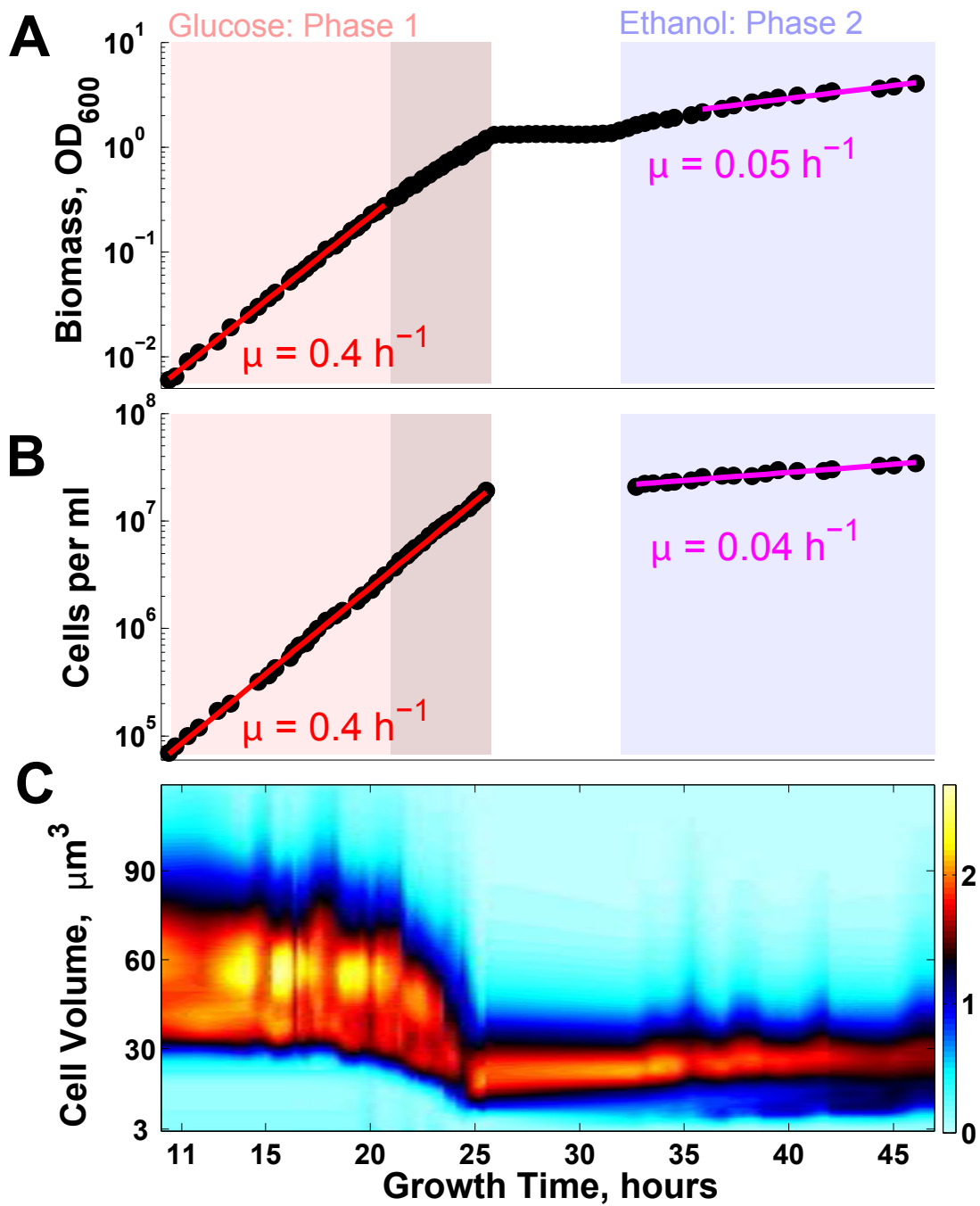


Figure S3

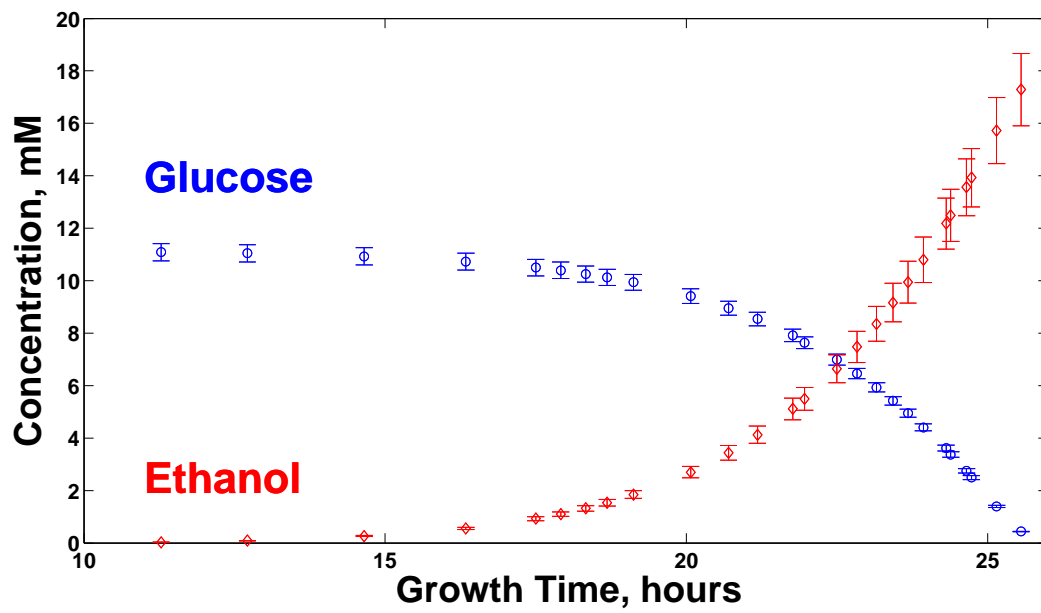
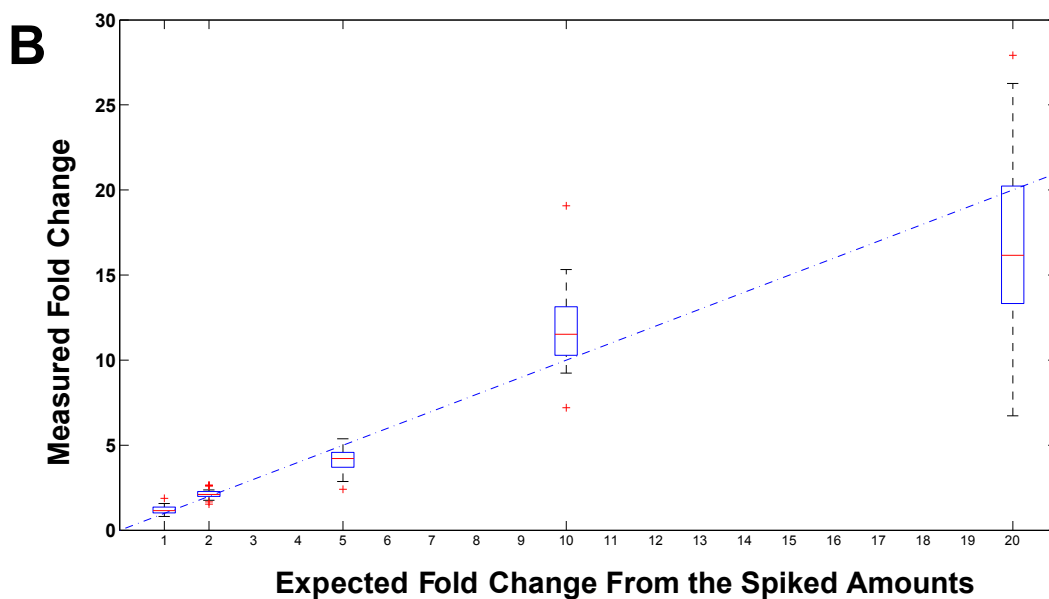
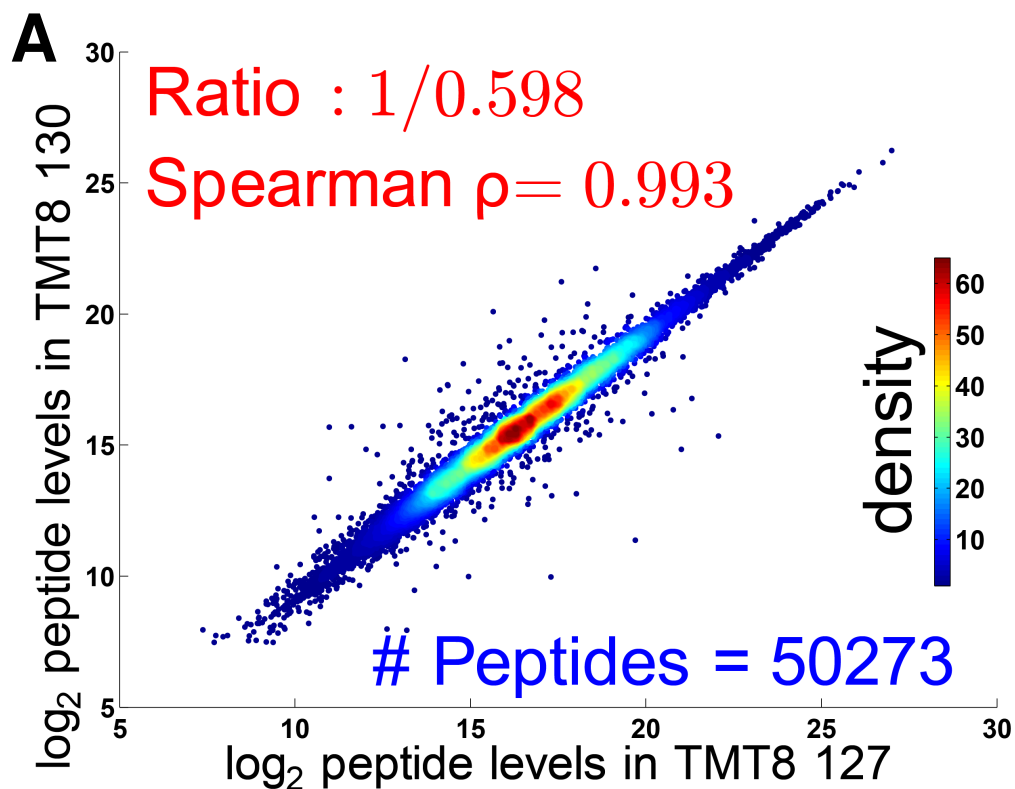


Figure S4



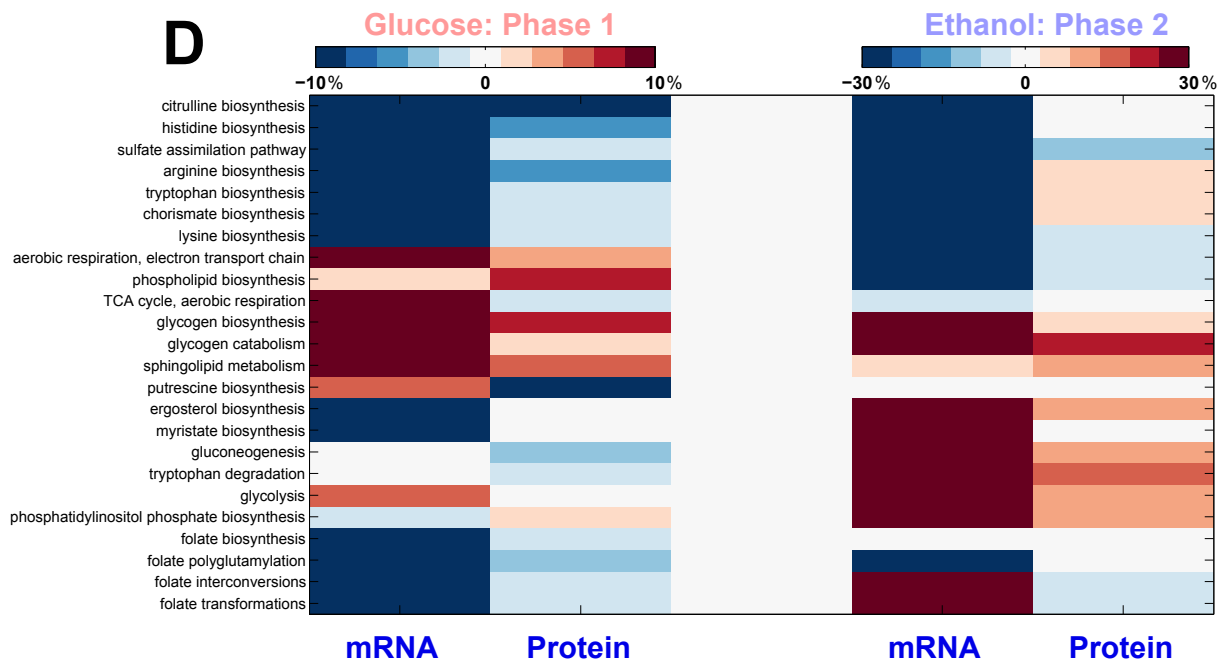
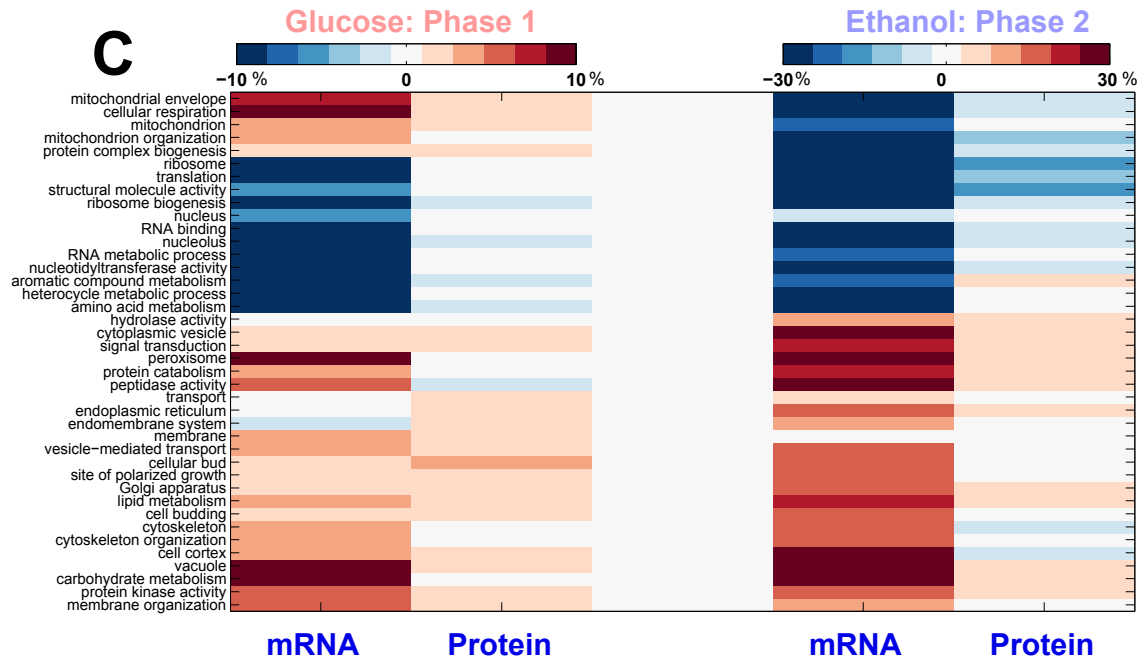
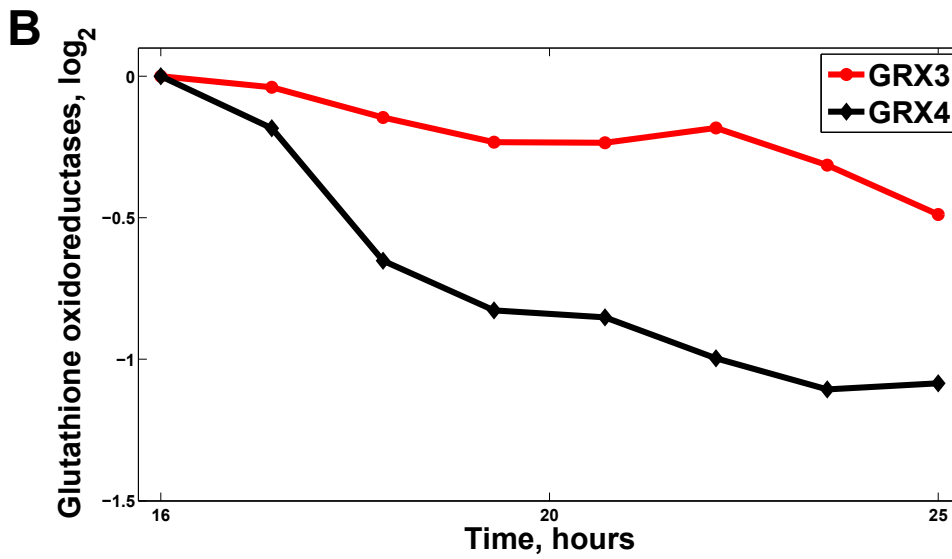
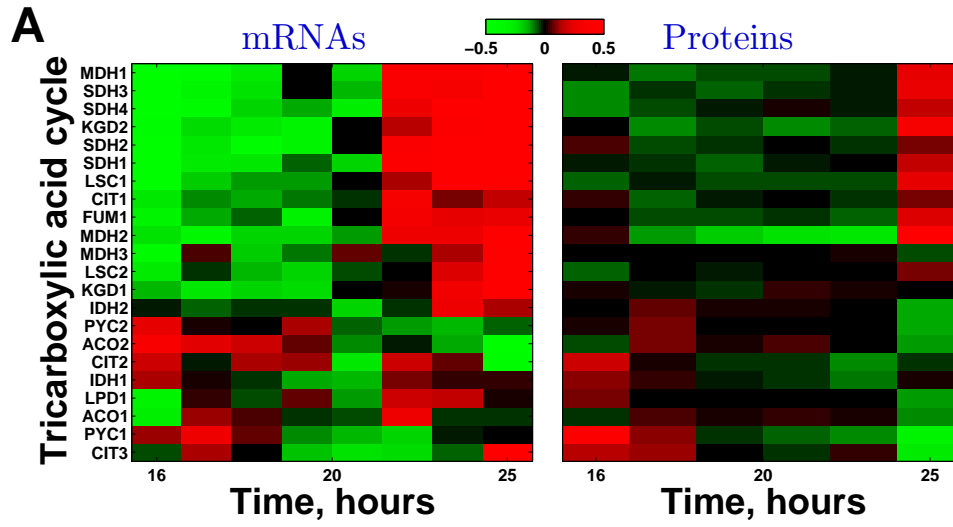


Figure S5



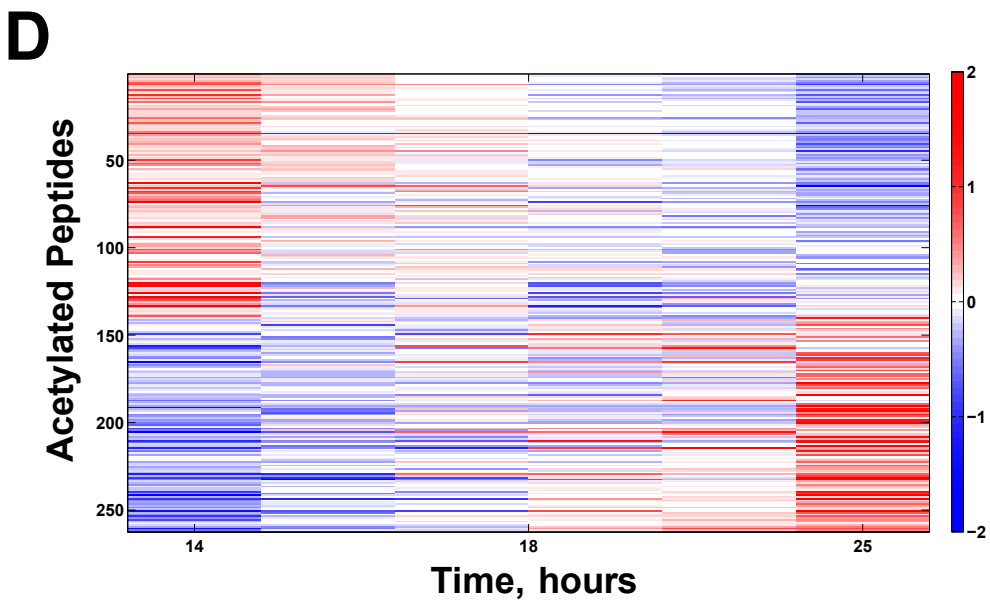
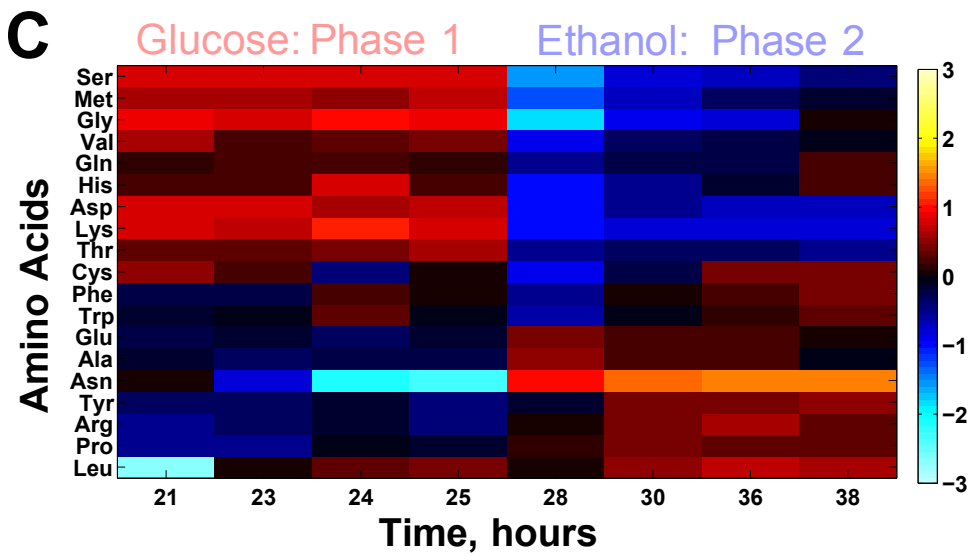


Table S1. Transcription factors (TF) regulating the transcriptional response during the first phase of exponential growth at a constant rate

Gene Set ^a	TF Name	# TF Target Genes ^b	# Overlapping Genes ^c	p value ^d
Repressed Genes (1356)	Gcn4p	152	74	$< 10^{-20}$
	Fhl1p	143	63	$< 10^{-9}$
	Bas1p	34	21	$< 10^{-7}$
	Met4p	11	8	$< 10^{-4}$
	Met32p	21	12	$< 10^{-4}$
	Aab1p	241	74	$< 10^{-3}$
	Gln3p	67	26	$< 10^{-3}$
	Sfp1p	32	14	$< 10^{-3}$
	Arg81p	15	8	$< 10^{-3}$
	Leu3p	21	10	$< 10^{-3}$
	Rap1p	105	37	$< 10^{-3}$
	Induced Genes (1163)	Fkh2p	100	37
Msn4p		73	27	$< 10^{-4}$
Msn2p		89	30	$< 10^{-3}$
Aft2p		89	28	$< 10^{-3}$
Aft1p		66	21	$< 10^{-3}$

^aSets of genes (number in the set shown in parentheses) whose mRNA levels either increase or decrease during the first phase of exponential growth at FDR $< 1\%$

^bNumber of genes regulated by the TF according to [MacIsaac et al. \(2006\)](#).

^cNumber of TF target genes found in the gene set.

^dProbability for observing this or larger number of overlapping genes by chance.