Supplementary Materials: Transcriptional and Metabolic Response of a Strain of *Escherichia coli* PTS⁻ to a Perturbation of the Energetic Level by Modification of [ATP]/[ADP] Ratio

Table S1. Primer sets used for RT–qPCR assays.

Pathway, group of genes or cellular process	Primer name[1]	Sequence
ATP synthase		
atpA	atpAa	5′ TGCACCAATCGACGGTAAAG 3′
	atpAb	5′ TGCACCAATCGACGGTAAAG 3′
atpD	atpDa	5′ GACCTCGAACACCCGATTGA 3′
	atpDb	5′ TCACCGATCTCGCCTTTCAT 3′
atpG	atpGa	5′ ATGCGCAAAGTGATTGGTCA 3′
	atpGb	5′ GACACCACCAGGTAGCCCAC 3′
atpI	atpIa	5′ CCTGGACATTCGCATTGG 3′
	atpIb	5′ GATCAGCGGCAAGAATACCG 3′
Glucose transport		
ompF	ompFa	5′ TTCGCGGGTCTTAAATACGC 3′
	ompFb	5′ AATTCTGGCAGCATATCGGTG 3′
galP	galPa	5′ CATGTATTACGCGCCGAAAA 3′
	galPb	5′ TGGCAAGTACGTTGGTCAGG 3′
ptsH	ptsHa	5′ TGACTTCCAACGGCAAAAGC 3′
	ptshb	5′ TTCGCCTTCTGCGGAGATAG 3′
ptsG	ptsGa	5′ AAAAGCGACAGGTACCAGCG 3′
	ptsGb	5′ CGCGCAGACGGGTAATACAT 3′
Acetate transport		
actP (*yjcG*)	actPa	5′ ATCACTGGCTTCCAGAACGG 3′
	actPb	5′ CCGTCATAGCCGGAGGTAAAC 3′
Glycolysis and gluconeogenesis		
glk	glka	5′ GAAGCGGTCATTCGCGTTTA 3′
	glkb	5′ GAAGCGGTCATTCGCGTTTA 3′
pgi	pgia	5′ ACTAACGGTCAGCACGCGTT 3′
	pgib	5′ TCAGAGAGCGGGTTATGGGT 3′
pgk	pgka	5′ TGGACAGGGTTTCGTCGTCT 3′
	pgkb	5′ AGATTACCTCGACGGCGTTG 3′
fbaA	fbaAa	5′ GGAAATCGAACTGGGTTGCA 3′
	fbaAb	5′ CGTAATCAACGTCTTCCGGC 3′
fbaB	fbaBa	5′ GTACAACACCGGGCGTCTG 3′
	fbaBb	5′ GCGGGTTAGCAGCAAATGAA 3′
fbp	fbpAa	5′ AAACAGGTTGCGGCAGGTTA 3′
	fbpAb	5′ CCGAGCGAAGGATCGTAAGT 3′

gapA	gapAa	5′ GGCTCCGCTGGCTAAAGTTA 3′
	gapAb	5′ GGCCATCAACGGTTTTCTGA 3′
eno	enoa	5′ GTTTCGTCGGTATGGCAGCT 3′
	enob	5′ GCCTTTACCCAGGAAACGG 3′
gpmA	gpmAa	5′ AGGCGTAAGCGAAGCAAAAG 3′
	gpmAb	5′ GGGTATGGATAGCGCGTTTC 3′
gpmB	gpmBa	5′-GGTATTGCACTGGGATGCCT-3′
	gpmBb	5′TAATCCACGCGCGAAATAGA 3′
pykA	pykAa	5′ CGTTACCACGTTAGGCCCAG 3′
	pykAb	5′ GCGAGCCGTGAGAAAAGTTC 3
pfkA	pfkAa	5′ CCATGTAGGAACCGTCACCG 3′
	pfkAb	5′ GTTGGCGGATGAAAATGTCC 3′
ppc	ppca	5′CAGAAATCACCGTCAGCAGC 3′
	ppcb	5′ CATAATGCGACGCCAGCTCT 3′
tpiA	tpiA	5′ AACTCCGGCTCAGGCACAG 3′
	tpiAb	5′ AGCCGCCGTACTGAATGATC 3′
Pentose phosphate pathway		
eda	edaa	5′ ATCCGTGCTATCGCCAAAGA 3′
	edab	5′ AACTGTGCACCCGCTTCAGT 3′
gnd	gnda	5′ GATCGGCGTAGTCGGTATGG 3′
	gndb	5′ TCTTCTCACGGGAACGGTTG 3′
rpiA	rpiAa	5′ GATGGGCGGCACTTCAGTAT 3′
	rpiAb	5′ GCCTTTCATTGTACCGAGCG 3′
rpiB	rpiBa	5′ GAGAGGTTGATGGCGGGATT 3′
	rpiBb	5′ AGGTTCGCTACAGACGACCG 3′
talA	talAa	5′ CTCAAAATCGTACCCGGTCG 3′
	talAb	5′ TACAAGTCCACCAGATGGCG 3′
talB	talBa	5′ ACCGTAGTGGCCGACACTG 3′
	talBb	5′ GGAATCTGCGCTGCGTTAAG 3′
tktB	tktBa	5′ CCCGAAAAGACCTTGCCAAT 3′
	tktBb	5′ AATATCAGCCATGCCCATCG 3′
edd	edda	5′ GTACCGCTGATGGCACGTCT 3′
	eddb	5′ GCTTTGAGCAGTTCACGCAC 3′
zwf	zwfa	5′ GCACGCGTAGTCATGGAGAA 3′
	zwfb	5′ CGGTAAACCTGGCACTCCTC 3′
TCA and glyoxylate shunt		
aceB	aceBa	5′ GAACTGGCTTTCACAAGGCC 3′
	aceBb	5′ TGTGGCGTAAAATGCGTCAC 3′
aceA	aceAa	5′ ACATGGGCGGCAAAGTTTTA 3′
	aceAb	5′ AACCAGCAGGGTTGGAACG 3′
aceK	aceKa	5′ GCGTTATCAGCGACCTACCG 3′
	acekb	5′ GTTGTCTGTCCCCAGCGTTT 3′
aceE	aceEa	5′ CGTGAAGAAGGTGTTGAGCG 3′
	aceEb	5′ TTGCTGATACCTGTGCCTGC 3′
aceF	aceFa	5′ GTCGTATCCTGCGCGAAGAC 3′
	aceFb	5′ CAGCATGCCAGGGATACCAC 3′
acnB	acnBa	5′ CCTGGTGTTGTTGGTCCGAT 3′
	acnBb	5′ TTACGCGAAGAACCCGTACC 3′

fumA	fumAa	5′ ATGTCGATCAACTGCAAGCG 3′
	fumAb	5′ GAAGCCGCCGTGTTTTTTAC 3′
fumC	fumCa	5′ CCCTAACGACGACGTGAACA 3′
	fumCb	5′ GAGGAATGAGTTGCTTGCGC 3′
fumB	fumBa	5′ GTACCCTCGGTACTGCAGCC 3′
	fumBb	5′ AGCGCTTGCTAACTTGACGG 3′
glcB	glcBa	5′ CTCCAGCACAGTTTGTCGGTT 3′
	glcBb	5′ ATTGGCATCGATTTGCAGCT 3′
icdA	icdAa	5′GACCGAAGCGGCTGACTTAA 3′
	icdaB	5′ GCAGTTTAGCGCCATCCATC 3′
lpd	lpda	5′ GGTGGTGCGATTGTCGGTAC 3′
	lpdb	5′ TGGATGGTCAGTGCGATGTC 3′
mdh	mdha	5′ CGGGTCTGCAACCCTGTCTA 3′
	mdhb	5′ CGTAGGCACATTCGACAACG 3′
sdhC	sdhCa	5′ TGGCGTATCACGTCGTCGTA 3′
	sdhCb	5′ AAAGGAGATTTTGGCGGAGC 3′
sdhB	sdhBa	5′ TGAACGGCAAGAATGGTCTG 3′
	sdhBb	5′ GATCACCGGTAAACCTGGCA 3′
sucA	sucAa	5′ GCGGCAAAGAAACCATGAAA 3′
	sucAb	5′ TTCGGTGCTGGTAATGTGCA 3′
sucB	sucBa	5′ GCAGTACGGTGAAGCGTTTG 3′
	sucBb	5′ CTTCCGGGTAACGTTTCAGG 3′
sucC	sucCa	5′ CCAAAATCTTCATGGGCCTG 3′
	sucCb	5′ GCAAATCAGATCGCCCTGTT 3′
Anaplerotic genes		
pckA	pckAa	5′ ACATGTTTATTCGCCCGAGC 3′
	pcbAb	5′ CTGTTCTTTCCACTGCGGGT 3′
maeB	maeBa	5′ TGGTTTGCGATTCAAAAGGC 3′
	maeBb	5′ GAGGGTACGTTTGCCGTCAT 3′
maeA	maeAa	5′ TGGTTTGCGATTCAAAAGGC 3′
	maeAb	5′ GAGGGTACGTTTGCCGTCAT 3′
ppsA	ppsAa	5′ TCAGCAGGAAACCTTCCTCAA 3′
	ppsAb	5′ GATAAGAGATGGCGCGATCG 3′
Respiratory chain		
cyoD	cyoDa	5′ CCTGGCAATGGCAGTGGTAC 3′
	cyoDb	5′ TGAAGACAAACGCCGTCATG 3′
cyoE	cyoEa	5′ GTGATCGGCTACTGTGCGGT 3′
	cyoEb	5′ GCGATGGCATAGGAGTGAGG 3′
frdB	frdBa	5′ TTGAGGTGGTGCGCTATAACC 3′
	frdBb	5′ GCCCAGCGCATCCAGTAAT 3′
frdD	frdDa	5′ TGGTCGCGTATTCCTGTTCC 3′
	frdDb	5′ CCGCAGGTACGTGGATTTTC 3′
napA	napAa	5′ GATGGGCTGCTATGACGACA 3′
	napAb	5′ GGTTAGTGATGCGCGACCA 3′
narG	narGa	5′ CGATTATCCGGCGACTTACG 3′
	narGb	5′ GCGAGCCGTGAGAAAAGTTC 3′
ndh	ndha	5′ GTCGATCGTAACCACAGCCA 3′
	ndhb	5′ GCATGGGCCAGATAGCTCAA 3′

nuoA	nuoAa	5′ CTGGTGGCCATGTTCTTCGT 3′
	nuoAb	5′ GCTTCCACAAAGCCTACCCA 3′
nuoB	nuoBa	5′ CGTTTTGGCGCAGAAGTATTG 3′
	nuoBb	5′ AGACGCTGAATAACCGGTGC 3′
nuoF	nuoFa	5′ TATCCGTACTCCCGAAACGC 3′
	nuoFb	5′ CGCCTTCGTAACCGTTTTTG 3′
nuoM	nuoMa	5′ CGGTAAAACGCGTATCACGG 3′
	nuoMb	5′ AGTGAACAAAAACCAGCGCC 3′
nuoN	nuoNa	5′ TGTCGCGTTGGGTAAAAACC3′
	nuoNb	5′ GAGAGAGTTTGAAGCCGAGGC 3′
ubiE	ubiEa	5′ GGCAGAATCCATCCGTATGC 3′
	ubiEb	5′ CCCCTGCCGTCAGATTGTAG 3′
Fermentation and acetate production and utilization		
ackA	ackAa	5′ CTGGTTCTGAACTGCGGTAGTTC 3′
	ackAb	5′ GGCAGGTGGAAACATTCGG 3′
acs	acsa	5′ GTGCGTAAAGAGATTGGCCC 3′
	acsb	5′ CGCAGAATACGGCGCATAAT 3′
ldhA	ldhAa	5′ GGCGTGATGATCGTCAATACC 3′
	ldhAb	5′ ACGTCCATACCCAACGAACC 3′
pflD	pflDa	5′ AAAGTCCGCGCTCGCTTAAT 3′
	pfldB	5′ TCTTTGCAGTAGTGGCGCAA 3′
pflB	pflBa	5′ AAGGTTCCTGCAAAGCGTACA 3′
	pflBb	5′ GTAAACGTCGAACACGCCCT 3′
poxB	poxBa	5′ AAAGTCCGCGCTCGCTTAAT 3′
	poxBb	5′ TCTTTGCAGTAGTGGCGCAA 3′
Sigma factors		
rpoA	rpoAa	5′ TCAACCTGAAAGGGCTGGC 3′
	rpoAb	5′ GGTGATATCGGCTGCAGTCA 3′
rpoC	rpoCa	5′ GGCGTTGAAGTGACCCAGAC 3′
	rpoCb	5′ GACGGCAGCGATTTCAGG 3′
rpoD	rpoDa	5′ GATTCTGCGACCACCGAAAG 3′
	rpoDb	5′ TCGATACCGAAACGCATACG 3′
rpoE	rpoEa	5′ GAACTATTGAGTCCCTCCCGG 3′
	rpoEb	5′ CGGACAATCCATGATAGCGG 3′
rpoH	rpoHa	5′ CAGTTGGCAACCTGGATTCC 3′
	rpoHb	5′ GCCATGGTAATGCAGCTTTTC 3′
porN	rpoNa	5′ TGAAACCGATGGTACTGGCC 3′
	rpoNb	5′ GCCTCGTGGACTATGCAGGT 3′
rpoS	rpoSa	5′ GGACGCGACTCAGCTTTACC 3′
	rpoSb	5′ CGACATCTCCACGCAGTGC 3′
rpoZ	rpoZa	5′ TGGCACGCGTAACTGTTCA 3′
	rpoZb	5′ TCCGCCTACCTGCATCTGAC 3′
Regulators		
arcA	arcAa	5′ ATCACCAAACCGTTCAACCC 3′
	arcAb	5′ ACGCTACGACGTTCTTCGCT 3′
arcB	arcBa	5′ AATCTGACGGCGCAGGATAA 3′

	arcBb	5′ TGACCCAGCTGTTGCAGATG 3′
cra (*fruR*)	craa	5′ TCTTGTGATCCCCGATCTGG 3′
	crab	5′ AGCAGGCAATCAGCAGTTGA 3′
cyaA	cyaAa	5′ AGCGCCAATTGCTACAACGT 3′
	cyaAb	5′ ACGGAAGCGGTTTTCATCAA 3′
glcC	glcCa	5′ TCGCCCTATTTGCGAAGTG 3′
	glcCb	5′ CACACAGTCGACGTTCCGAG 3′
iclR	iclRa	5′ CTTTATGGTCGGCAGCAGCT 3′
	iclRb	5′ ATTGACCGTTTCGCCAGACT 3′
ihfA	ihfAa	5′ GGCGAACAGGTGAAACTCTCTG 3′
	ihfAb	5′ GTAATGGGAATATCCTCGCCC 3′
fadR	fadRa	5′ CGCTGGGCTTCTACCACAAA 3′
	fadRb	5′ AATCTCGCCACTCTCATGCC 3′
fnr	fnra	5′ CGGAAAAGCGAATTATACGGC 3′
	fnrb	5′ TTCGTTGAGTGTGAACGGGA 3′
narL	narLa	5′ TGATTGACGATCACCCGATG 3′
	narLb	5′ ACCCTGTTCGCCATTACTCG 3′
Stress		
rsd	rsda	5′ TGGCATTAAGCCTGGCAAAG 3′
	rsdb	5′ TGAAATGTCCGGCAGACAAG 3′
soxR	soxRa	5′ AACAGCTTTCGTCCCAATGG 3′
	soxRb	5′ AAGGCAGCCACAACCAATACA 3′
soxS	soxSa	5′ CGATTACATTCGCCAACGC 3′
	soxSb	5′ GCGAGACATAACCCAGGTCC 3′
spoT	spoTa	5′ ATCCGATCTCTTCCCGGATG 3′
	spoTb	5′ GCACTGCATAAGCGAAGTCG 3′