

**Table S11** Differentially expressed genes between *E. coli*  $\Delta aceA_1 \Delta pgi_2$  and *E. coli*  $\Delta pgi_1 \Delta aceA_2$  mutants with q-values < 0.05

Name	<i>E. coli</i> $\Delta aceA_1 \Delta pgi_2$	<i>E. coli</i> $\Delta pgi_1 \Delta aceA_2$	Product
<i>arpA</i>	53	1	ankyrin repeat protein
<i>yjbB</i>	75	2	putative Na <sup>+</sup> /Pi-cotransporter
<i>rluF</i>	75	1	23S rRNA pseudouridine(2604) synthase
<i>iclR</i>	74	3	transcriptional repressor
<i>pepE</i>	59	2	(alpha)-aspartyl dipeptidase
-	264	5	antisense: lysC
<i>yjbD</i>	79	1	DUF3811 family protein
<i>lysC</i>	243	4	lysine-sensitive aspartokinase 3
<i>metH</i>	94	3	homocysteine-N5-methyltetrahydrofolate transmethylase, B12-dependent
<i>aceK</i>	85	2	isocitrate dehydrogenase kinase/phosphatase
<i>pgi</i>	1	7	glucosephosphate isomerase
-	213	1570	-
<i>ynbG</i>	30	14	uncharacterized protein
<i>aceA</i>	2	15	isocitrate lyase
<i>rseX</i>	35	12	-
<i>ydcD</i>	39	11	uncharacterized protein
<i>yhhH</i>	52	15	putative immunity protein for putative polymorphic toxin RhsB
<i>yagF</i>	40	12	CP4-6 prophage; dehydratase family protein
<i>yjcF</i>	34	11	pentapeptide repeats protein
<i>ybfC</i>	67	23	putative periplasmic protein
<i>sokA</i>	50	23	-
<i>yagM</i>	43	15	CP4-6 prophage; uncharacterized protein
<i>yibG</i>	49	16	TPR-like repeat protein
<i>ymfE</i>	43	15	e14 prophage; putative inner membrane protein
<i>yibA</i>	44	16	HEAT-domain lethality reduction protein; putative immunity protein for ...
<i>rpiB</i>	79	29	ribose 5-phosphate isomerase B/allose 6-phosphate isomerase
<i>yncH</i>	36	12	IPR020099 family protein
<i>yagH</i>	38	13	CP4-6 prophage; putative xylosidase/arabinosidase
<i>yagL</i>	44	16	CP4-6 prophage; DNA-binding protein
<i>ybbC</i>	66	24	putative immunity protein
<i>psaA</i>	96	73	-
<i>yqeL</i>	47	16	uncharacterized protein
<i>dapB</i>	109	366	dihydrodipicolinate reductase
<i>yhhZ</i>	45	16	putative Hcp1 family polymorphic toxin protein; putative colicin-like ...
<i>phnM</i>	39	15	ribophosphonate triphosphate hydrolase
<i>phnG</i>	37	14	ribophosphonate triphosphate synthase subunit
<i>argF</i>	141	52	ornithine carbamoyltransferase 2, chain F; CP4-6 prophage
-	87	69	antisense: cheY
<i>ythA</i>	64	26	uncharacterized protein
-	756	2377	antisense: ryfD
<i>ryfD</i>	701	2239	-
<i>appY</i>	46	19	global transcriptional activator; DLP12 prophage
<i>rprA</i>	57	26	-
<i>yagG</i>	43	16	CP4-6 prophage; putative sugar transporter
<i>yjbS</i>	51	21	uncharacterized protein
<i>phnN</i>	38	15	ribose 1,5-bisphosphokinase
<i>tdcR</i>	44	18	L-threonine dehydratase operon activator protein
<i>ygeG</i>	51	22	SycD-like chaperone family TPR-repeat-containing protein
<i>phnH</i>	30	12	ribophosphonate triphosphate synthase subunit
<i>ybfK</i>	37	15	uncharacterized protein
<i>ymfD</i>	53	23	e14 prophage; putative SAM-dependent methyltransferase