

**Table 3. List of additional sequence changes from the reference strain MG1655 to ER3413 over and above those in ER2796. [a]**

Type	MG1655 Location	ER2796 Location	Change	Gene	Locus	Codon Change	Type	AA Change	ER2796 ORF	Footnotes
SNP (transition)	98387	98387	C -> T	murD	b0088	GCG -> GTG	MISSENSE	A434V	ER2796_0085	
SNP (transition)	271112	272448	A -> G	-	-	-	INTERGENIC	-	-	
SNP (transition)	1110582	1108371	C -> T	opgH	b1049	GCG -> GTG	MISSENSE	A166V	ER2796_1076	
SNP (transition)	-	1617874	C -> T	-	-	GTT -> ATT	MISSENSE	V266I	ER2796_1591	b
SNP (transition)	-	1618352	T -> C	-	-	CGA -> CGG	SILENT	R106	ER2796_1591	b
SNP (transition)	-	1618367	A -> G	-	-	ATT -> ATC	SILENT	I101	ER2796_1591	b
SNP (transversion)	-	1618574	T -> G	-	-	GCA -> GCC	SILENT	A32	ER2796_1591	b
SNP (transition)	-	1618670	C -> T	-	-	-	INTERGENIC	-	-	b
SNP (transversion)	-	1618694	C -> G	-	-	-	INTERGENIC	-	-	b
SNP (transition)	-	1618730	C -> T	-	-	-	INTERGENIC	-	-	b
SNP (transversion)	-	1618750	T -> G	-	-	-	INTERGENIC	-	-	b
Substitution	-	1618752	CC -> TA	-	-	-	INTERGENIC	-	-	b
SNP (transition)	1913499	1897240	A -> G	proQ	b1831	CGT -> CGC	SILENT	R20	ER2796_1881	
SNP (transition)	3325707	3312982	A -> G	-	-	-	INTERGENIC	-	-	
insertion	bet 3410356-3410357	bet 3381281-3381282	ins CCGG	yhdJ	b3262	-	FRAMESHIFT	-	ER2796_3347	c
insertion	-	3485404	ins C	-	-	-	INTERGENIC	-	-	d
SNP (transition)	3766440	3740074	T -> C	yibG	b3596	TTG -> CTG	SILENT	L81	ER2796_4597	
SNP (transition)	4245102	4219422	G -> A	malK	b4035	GGC -> GAC	MISSENSE	G99D	ER2796_4167	

**Footnotes**

- a Six changes to MG1655 in ER2796 are not present in ER3413; these are noted in Table S1.  
b Probable gene conversion event in IS10 insertion  
c Engineered disruption  
d Within the insertion at dam, but outside the aph ORF