

Supplementary Table 1: Clinical spectrum and outcome of culture confirmed melioidosis cases (n=14)

Code	date	Outcome	Sex	Age	District	Division	exposure to soil	exposure to anti Fever	duration of feve	Septicaemia	Organ Abscess	Skin Abscess	Pneumonia	Prostatic abscess	UTI	Septic Arthritis	CNS	Organ numb	Symptoms num	Dysuria	Cough	CXD	Cellulitis	Others Sign	Blood	Pus	Urine	Sputum	Joint fluid	Sample numb	Sample distr	DM	RBS mmol/L	Sugar	HBA1C%
29-3504	7.9.2014	Survival	Male	43	B.Baria	Chittagong	yes	no	yes	1.5 month	no	No	no	yes	no	No	no	1 organ	3 symptoms	No	yes	No	No	0	No	No	No	Yes	No	1 sample positiv	Other than blood	yes	16.2	Uncontrolled	12.6
36-6889	16.8.2015	Unknown	Male	55	Tangail	Dhaka					No	No	No	no	No	No	No	1 organ	>3 symptoms	No	No	Yes	No	HbA Ag positive,	Yes	No	No	No	No	1 sample positiv	Only blood	yes	Uncontrolled	>8	
41-6495	4.7.2017	Death after 15 d	Female	65	Gazipur	Dhaka	yes	yes	Yes	14 days	Yes	No	No	no	Yes	No	No	2 organ	>3 symptoms	yes	No	yes	No	Yes		No	Yes	No	No	2 samplePositive	Blood and other	yes	Controlled	>8	
44-5337	16.7.2017	Death 27.7.201	Male	32	Cumilla	Chittagong	yes	no	Yes	1.5 month	Yes	No	No	no	No	No	No	3 organ	2 symptoms	No	No	No	No	Hepatosplenom	Yes	No	No	No	No	1 samplePositive	Only Blood	yes (newly dx)	Uncontrolled	>8	
43-5556	22.7.2017	Death 26.7.201	Male	42	Tangail	Dhaka	yes	no	Yes	14 days	yes	yes	No	no	No	No	Yes	3 organ	3 symptoms	No	No	No	No	Disorientation, c	Yes	No	No	No	No	1 samplePositive	Only Blood	yes (newly dx)	Uncontrolled		11.5
45-3087	16.8.2017	Survival	Female	30	Comilla	Dhaka	Yes	Yes	Yes	3 months	No	yes	Yes	No	no	No	Yes (knee)	2 organ	3 symptoms	No	No	No	Yes	leg and foot abs	No	Yes	No	No	No	1 sample positiv	Other than blood	yes	Controlled	<8	
46-5372	23.8.2017	Unknown	Male	57	Gazipur	Dhaka	yes	yes	Yes	14 days	yes	No	No	no	no	yes (shoulder, k	no	2 organ	3 symptoms	No	No	No	No	hyponatraemia	yes	No	no	No	No	1 samplePositive	Only Blood	yes (15yrs)	Uncontrolled	>8	
42-6983	22.10.2017	Unknown	Male	55	Gazipur	Dhaka	yes	no	Yes	6 months	yes	yes	No	no	no	no	no	2 organ	3 symptoms	No	No	Yes	No	splenic abscess	yes	No	No	No	No	1 samplePositive	Only Blood		20.3	uncontrolled	>8
49-4667	7.1.2018	Cured	Male	37	Gopalganj	Dhaka	yes	no	yes	1 month	yes	yes	no	no	no	yes (shoulder)	no	3 organ	2 symptoms	no	no	no	no	rt shoulder joint	yes	no	no	yes	yes	2 samplePositive	blood and other	yes	uncontrolled	>8	
50-5411	10.3.2018	Death (11.3.201	Male	57	Chapainababga	Rajshahi	yes	no	yes	2 months	yes	yes	no	no	yes	yes	no	2 organ	2 symptoms	yes	no	no	no	prostatic absces	yes	no	yes	no	no	2 samplePositive	Blood and other	yes	uncontrolled	>8	
17-6048	23.7.2019	Death	Male	56	Gazipur	Dhaka	yes	no	yes	10 days	yes	yes	yes	no	yes	yes	no	2 organ	2 symptoms	yes	no	no	no	prostatic absces	yes	yes	yes	no	no	3 sample positiv	blood and other	yes	uncontrolled	>8	
4799	31.3.2021	Survival	Male	42	Gazipur	Dhaka	yes	yes	yes	1 month	no	yes	yes	no	no	yes (hip)	no	2 organ	2 symptoms	no	no	no	yes	rt hip joint antidi	no	yes	no	no	no	1 sample positiv	other than blood	yes (11yr)	uncontrolled	>8	
6643	10.7.2021	Death (11.7.202	Male	56	Narsingdi	Dhaka	yes	no	yes	8 days	yes	no	no	yes	no	yes	no	3 organ	>3 symptoms	yes	yes	no	no	pneumonia, ples	yes	no	yes	no	no	2 samplePositive	blood and other	DM (3 yrs)	uncontrolled	>8	
5018	24.7.2021	Survival	Male	49	Cox bazar	Chittagong	yes	no	yes	1 month	no	yes	yes	no	no	yes (knee)	no	3 organ	>3 symptoms		yes	no	no	lung abscess, rt	no	yes	no	yes	yes	3 sample positiv	other than blood	DM (8yrs)	Uncontrolled	>8	

Supplementary Table 2: Genome Accession Number

ASSEMBLY_N	STUDY_ID	SAMPLE_ID	ASSEMBLY_ACC
1-6643-5556	PRJEB102501	ERS27203558	GCA_977020265
12-3568	PRJEB102501	ERS27203567	GCA_977020275
29-3504	PRJEB102501	ERS27203568	GCA_977020385
41-6495	PRJEB102501	ERS27203562	GCA_977020355
42-6983	PRJEB102501	ERS27203559	GCA_977020365
43-5556	PRJEB102501	ERS27203560	GCA_977020395
44-5337	PRJEB102501	ERS27203561	GCA_977020375
45-3087	PRJEB102501	ERS27203563	GCA_977020325
46-5372	PRJEB102501	ERS27203564	GCA_977020285
4799	PRJEB102501	ERS27203570	GCA_977020345
49-4667	PRJEB102501	ERS27203565	GCA_977020305
5018	PRJEB102501	ERS27203569	GCA_977020295
5411	PRJEB102501	ERS27203571	GCA_977020315
36-5689	PRJEB102501	ERS27203566	GCA_977020335

Supplementary Table 3: Assembly Statistics

Assembly	1-6643-5556	12-3568	29-3504	36-5689	41-6996	42-6983	43-5556	44-5337	45-3087	46-5373	4799	49-4667	5018	5411	reference
# contigs	13	42	15	27	34	45	97	15	45	19	57	49	43	29	2
Largest contig	3920451	3704885	3529528	3756239	3329403	3428482	2956976	3324217	3432358	3993686	3548255	3271756	3481286	3765973	3937683
Total length	6912162	6677007	6126352	6660753	5997591	6208041	5397360	5992868	6176519	7212368	6330928	5854053	6269910	6678206	7081111
GC (%)	67.64	67.35	67.3	67.26	66.9	67.07	66.49	66.82	66.74	67.96	67.39	66.62	69.05	67.63	68.25
N50	3920451	3704885	3529528	3756239	3329403	3428482	2956976	3324217	3432358	3993686	3548255	3271756	3481286	3765973	3937683
N90	2877292	2766741	2561742	2787992	2549413	2620316	2194551	2593165	2550902	3123330	2610782	2401134	2748770	2781552	3143428

Supplementary Table 4: Multilocus Sequence Typing (MLST)

	ST		Closest match (6/7)							
1-6643-5556.fasta	bpseudomallei	1124	ace(4)	gltB(4)	gmhD(10)	lepA(2)	lipA(1)	narK(2)	ndh(1)	
12-3568.fasta	bpseudomallei	-	190, 1007, 1357	ace(3)	gltB(1)	gmhD(2)	lepA(1)	lipA(6)	narK(4?)	ndh(1)
29-3504.fasta	bpseudomallei	-	61	ace(1)	gltB(1)	gmhD(2)	lepA(3)	lipA(8)	narK(4?)	ndh(1)
36-5689.fasta	bpseudomallei	-	190, 1007, 1352	ace(3)	gltB(1)	gmhD(2)	lepA(1)	lipA(6)	narK(4?)	ndh(1)
41-6495.fasta	bpseudomallei	56	ace(3)	gltB(1)	gmhD(4)	lepA(1)	lipA(1)	narK(4)	ndh(1)	
42-6983.fasta	bpseudomallei	-	1637	ace(4)	gltB(~1)	gmhD(10)	lepA(2)	lipA(5)	narK(2)	ndh(1)
43-5556.fasta	bpseudomallei	-	Loci matched (2	ace(~4)	gltB(4?)	gmhD(10)	lepA(121?)	lipA(1)	narK(53?)	ndh(93?)
44-5337.fasta	bpseudomallei	-	310, 526, 1544	ace(1)	gltB(2)	gmhD(4)	lepA(1)	lipA(1)	narK(~4)	ndh(1)
45-3087.fasta	bpseudomallei	-	90, 387, 525, 10	ace(1)	gltB(12)	gmhD(6)	lepA(1)	lipA(1)	narK(2?)	ndh(1)
46-5373.fasta	bpseudomallei	-	486, 534, 825	ace(1)	gltB(1)	gmhD(3)	lepA(1)	lipA(6)	narK(4?)	ndh(1)
4799.fasta	bpseudomallei	-	211, 386, 548, 1	ace(3)	gltB(1)	gmhD(3)	lepA(1)	lipA(1)	narK(~4)	ndh(1)
49-4667.fasta	bpseudomallei	-	Loci matched (5	ace(3)	gltB(1)	gmhD(~2)	lepA(1)	lipA(6)	narK(4)	ndh(~1)
5018.fasta	bpseudomallei	-	Loci matched (2	ace(18?)	gltB(174?)	gmhD(6)	lepA(121?)	lipA(1)	narK(148?)	ndh(-)
5411.fasta	bpseudomallei	-	49, 1007	ace(3)	gltB(1)	gmhD(2)	lepA(1)	lipA(6)	narK(4)	ndh(~1)

Supplementary Table 5: Global *Burkholderia pseudomallei* strains used for analysis

Strain Name	Country	Isolation Source	Accession Number
576	Thailand	Unknown	GCA_000756185.1_ASM75618v1
668	Unknown	Unknown	GCA_000015905.1_ASM1590v1
982	Malaysia	clinical	GCA_001277975.1_ASM127797v1
7894	Ecuador	clinical	GCA_000959265.1_ASM95926v1
2002721123	USA	clinical	GCA_002111325.1_ASM211132v1
2002721171	Venezuela	clinical	GCA_002111345.1_ASM211134v1
2002721184	Ecuador	clinical	GCA_002111085.1_ASM211108v1
2002734728	USA	clinical	GCA_002111105.1_ASM211110v1
2008724734	USA	clinical	GCA_002110945.1_ASM211094v1
2008724758	USA	clinical	GCA_002111365.1_ASM211136v1
2008724860	USA	clinical	GCA_002111125.1_ASM211112v1
2010007509	USA	clinical	GCA_002111145.1_ASM211114v1
2011756189	Switzerland	clinical	GCA_002111165.1_ASM211116v1
2011756295	USA	clinical	GCA_002110965.1_ASM211096v1
2013746777	USA	clinical	GCA_002111205.1_ASM211120v1
2013746811	USA	clinical	GCA_002111225.1_ASM211122v1
2013746877	USA	clinical	GCA_002111245.1_ASM211124v1
2013746878	USA	clinical	GCA_002111005.1_ASM211100v1
2013833055	USA	environmental	GCA_002111025.1_ASM211102v1
2013833057	USA	environmental	GCA_002111265.1_ASM211126v1
3000015237	USA	clinical	GCA_002111045.1_ASM211104v1
3000015486	USA	clinical	GCA_002111385.1_ASM211138v1
3000047530	USA	clinical	GCA_002111285.1_ASM211128v1
3000465972	USA	clinical	GCA_002111305.1_ASM211130v1
1026b	Thailand	clinical	GCA_000260515.1_ASM26051v1
1026b	Thailand	clinical	GCA_000959125.1_ASM95912v1
1106a	Thailand	Unknown	GCA_000756145.1_ASM75614v1
1106a	Unknown	Unknown	GCA_000015925.1_ASM1592v1
14M0960418	Hong_Kong	clinical	GCA_002860065.1_ASM286006v1
1710b	Unknown	Unknown	GCA_000012785.1_ASM1278v1
22-10884_31	Guadeloupe	environmental	GCA_964417475.2_22-10884_313#20b
406e	Thailand	Unknown	GCA_000959145.1_ASM95914v1
490f	Thailand	clinical	GCA_050320195.1_UFBP490F
A79A	Papua_New_Guinea	environmental	GCA_000770535.1_ASM77053v1
AW17-22	Singapore	environmental	GCA_018228605.1_ASM1822860v1
AW17-23	Singapore	environmental	GCA_018228565.1_ASM1822856v1
AW44	Singapore	environmental	GCA_018228585.1_ASM1822858v1
AW9	Singapore	environmental	GCA_018228545.1_ASM1822854v1
B03	Papua_New_Guinea	environmental	GCA_000770455.1_ASM77045v1
B03	Papua_New_Guinea	environmental	GCA_009749345.1_ASM974934v1
BD5	Singapore	environmental	GCA_018228385.1_ASM1822838v1
BDP	Australia	clinical	GCA_000755765.1_ASM75576v1
BEK	Pakistan	Unknown	GCA_003445415.1_ASM344541v1
BGR	Thailand	Unknown	GCA_000756085.1_ASM75608v1
Bp1651	USA	clinical	GCA_001318245.1_ASM131824v1
BPC006	China	clinical	GCA_000294635.1_ASM29463v1

BPHN1	China	clinical	GCA_003606245.1_ASM360624v1
BPs110	Sri_lanka	clinical	GCA_004323015.1_ASM432301v1
BPs111	Sri_lanka	clinical	GCA_004323035.1_ASM432303v1
BPs112	Sri_lanka	clinical	GCA_004367705.1_ASM436770v1
BPs114	Sri_lanka	clinical	GCA_004367665.1_ASM436766v1
BPs115	Sri_lanka	clinical	GCA_004348055.1_ASM434805v1
BPs116	Sri_lanka	clinical	GCA_004348075.1_ASM434807v1
BPs122	Sri_lanka	clinical	GCA_004526325.1_ASM452632v1
BPs123	Sri_lanka	clinical	GCA_004367685.1_ASM436768v1
BPs133	Sri_lanka	clinical	GCA_004367725.1_ASM436772v1
BSR	Unknown	Unknown	GCA_000755825.1_ASM75582v1
Burk178-Typ	Australia	clinical	GCA_001887555.1_ASM188755v1
Burk178-Typ	Australia	clinical	GCA_001887575.1_ASM188757v1
C1	Thailand	clinical	GCA_000953095.1_BP_3921g
D286	Malaysia	clinical	GCA_003547035.1_ASM354703v1
FDAARGOS_	Thailand	Unknown	GCA_003798265.1_ASM379826v1
FDAARGOS_	Unknown	Unknown	GCA_003798245.1_ASM379824v1
FDAARGOS_	Thailand	Unknown	GCA_003798365.1_ASM379836v1
GTC3P0019	Singapore	Unknown	GCA_030297195.1_ASM3029719v1
GTC3P0050	Unknown	Unknown	GCA_030297215.1_ASM3029721v1
GTC3P0054	Unknown	Unknown	GCA_030297235.1_ASM3029723v1
GTC3P02541	USA	Unknown	GCA_030297255.1_ASM3029725v1
HB PUB10134	USA	clinical	GCA_000755925.1_ASM75592v1
HB PUB10301	USA	clinical	GCA_000755905.1_ASM75590v1
HNBP001	China	clinical	GCA_004842085.1_ASM484208v1
K42	Papua_New_	environmenta	GCA_000770515.1_ASM77051v1
K96243	Thailand	clinical	GCA_000959285.1_ASM95928v1
K96243	Unknown	Unknown	GCA_000011545.1_ASM1154v1
Kanagawa	Japan	Unknown	GCA_030297275.1_ASM3029727v1
KM376	Unknown	Unknown	GCA_030297315.1_ASM3029731v1
KM390	Unknown	Unknown	GCA_030297335.1_ASM3029733v1
KM391	Unknown	Unknown	GCA_030297355.1_ASM3029735v1
M1	Malaysia	unknown	GCA_001695715.1_ASM169571v1
Mahidol-1110	Thailand	Unknown	GCA_000756125.1_ASM75612v1
MS	Malaysia	Unknown	GCA_001695735.1_ASM169573v1
MSHR1435	Australia	environmenta	GCA_002843645.1_ASM284364v1
MSHR146	Australia	clinical	GCA_000521645.1_ASM52164v1
MSHR1464	Australia	clinical	GCA_026315045.1_ASM2631504v1
MSHR1655	Unknown	Unknown	GCA_000756165.1_ASM75616v1
MSHR1713	Australia	clinical	GCA_026315025.1_ASM2631502v1
MSHR2543	Australia	Unknown	GCA_000959225.1_ASM95922v1
MSHR305	Australia	clinical	GCA_000439695.1_ASM43969v1
MSHR3763	Australia	Unknown	GCA_001975145.1_ASM197514v1
MSHR4083	Australia	Unknown	GCA_001975125.1_ASM197512v1
MSHR491	Australia	environmenta	GCA_000959205.1_ASM95920v1
MSHR5087	Malaysia	Unknown	GCA_028201395.1_ASM2820139v1
MSHR5089	Malaysia	Unknown	GCA_001980585.2_ASM198058v2
MSHR511	Australia	clinical	GCA_000520895.1_ASM52089v1

MSHR520	Australia	clinical	GCA_000583835.1_ASM58383v1
MSHR5848	Australia	clinical	GCA_000755965.1_ASM75596v1
MSHR5855	Australia	clinical	GCA_000756065.1_ASM75606v1
MSHR5858	Australia	clinical	GCA_000755945.1_ASM75594v1
MSHR5864	Australia	clinical	GCA_001975105.1_ASM197510v1
MSHR62	Australia	clinical	GCA_000770395.1_ASM77039v1
MSHR668	Australia	clinical	GCA_000959305.1_ASM95930v1
MSHR6755	Australia	clinical	GCA_001975085.1_ASM197508v1
MSHR7744	Australia	clinical	GCA_026315005.1_ASM2631500v1
MSHR7929	Australia	clinical	GCA_001975065.1_ASM197506v1
MSHR840	Australia	clinical	GCA_000959185.1_ASM95918v1
N2	Singapore	environmental	GCA_018228525.1_ASM1822852v1
NAU20B-16	Australia	environmental	GCA_000511915.1_ASM51191v1
NAU35A-3	Australia	environmental	GCA_000764575.1_ASM76457v1
NCTC13178	Australia	clinical	GCA_000511895.1_ASM51189v1
NCTC13179	Australia	clinical	GCA_000494855.1_ASM49485v1
Pasteur 5223'	Vietnam	Unknown	GCA_000757035.2_ASM75703v2
PB08298010	USA	clinical	GCA_000959345.1_ASM95934v1
PHLS 112	Thailand	Unknown	GCA_000757015.2_ASM75701v2
PMC2000	Malaysia	Unknown	GCA_003547055.1_ASM354705v1
R15	Malaysia	Unknown	GCA_003547015.1_ASM354701v1
SCBP001	Thailand	clinical	GCA_038983225.1_ASM3898322v1
SCBP007	Thailand	clinical	GCA_038983115.1_ASM3898311v1
Tokushima	Japan	Unknown	GCA_030297295.1_ASM3029729v1
TSV 48	Australia	environmental	GCA_000770495.1_ASM77049v1
TSV140_S	Australia	unknown	GCA_051560125.1_ASM5156012v1
TSV202	Australia	environmental	GCA_000770565.1_ASM77056v1
TSV268_S	Australia	unknown	GCA_051560065.1_ASM5156006v1
TSV270_S	Australia	unknown	GCA_051560085.1_ASM5156008v1
TSV287_S	Australia	unknown	GCA_051560105.1_ASM5156010v1
TSV82_R	Australia	unknown	GCA_051560145.1_ASM5156014v1
UKMD286	Malaysia	Unknown	GCA_902141795.1_UKMD286
UKMPMC2000	Malaysia	Unknown	GCA_902141835.1_UKMPMC2000
UKMR15	Unknown	Unknown	GCA_902141815.1_UKMR15
VB2514	India	clinical	GCA_005862325.1_ASM586232v1
VB29710	India	clinical	GCA_016864355.1_ASM1686435v1
VB3253	India	clinical	GCA_005853645.1_ASM585364v1
VB976100	Czech_Repul	clinical	GCA_001885195.1_ASM188519v1
VBM21822	India	clinical	GCA_017378155.1_ASM1737815v1
VBM21885	India	clinical	GCA_017378195.1_ASM1737819v1
VBM23831	India	clinical	GCA_017378235.1_ASM1737823v1
VBM364	India	clinical	GCA_017356705.2_ASM1735670v2
VBM399	India	clinical	GCA_017356725.2_ASM1735672v2
VBP21822	India	clinical	GCA_018771365.1_ASM1877136v1
VBP21885	India	clinical	GCA_017378355.1_ASM1737835v1
VBP23831	India	clinical	GCA_017378435.1_ASM1737843v1
VBP364	India	clinical	GCA_017378315.3_ASM1737831v3
VBP399	India	clinical	GCA_017378275.1_ASM1737827v1

vgh07	Taiwan	clinical	GCA_000954175.1_ASM95417v1
vgh16R	Taiwan	clinical	GCA_001277875.1_ASM127787v1
vgh16W	Taiwan	clinical	GCA_001277895.1_ASM127789v1
WC19	Singapore	environmental	GCA_018228345.1_ASM1822834v1
Yap1	Micronesia	clinical	GCA_008728375.1_ASM872837v1
Yap2a	Micronesia	clinical	GCA_008728355.1_ASM872835v1
Yap3a	Micronesia	clinical	GCA_008728335.1_ASM872833v1
Yap4	Micronesia	clinical	GCA_008728315.1_ASM872831v1
Yap5	Micronesia	clinical	GCA_008728295.1_ASM872829v1
Yap6	Micronesia	clinical	GCA_008728255.1_ASM872825v1
Yap7	Micronesia	clinical	GCA_008728275.1_ASM872827v1

Supplementary Table 7: Antimicrobial Screening using AMR Database

#FILE	SEQUENCE	START	END	STRAND	GENE	COVERAGE	COVERAGE_M2	GAPS	%COVERAGE	%IDENTITY	DATABASE	ACCESSION	PRODUCT	Resistance
1-6643-5556.fasta	Scaffold_1	2444190	2444999	-	(Bla)blaOXA-57	1-810/810	=====	0/0	100	99.88	argannot	AJ631966:1-810	(Bla)blaOXA-57	
12-3568.fasta	Scaffold_2	402755	403564	+	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.88	argannot	AJ632249:1-810	(Bla)blaOXA-59	
29-3504.fasta	Scaffold_1	2197390	2198199	-	(Bla)blaOXA-59	1-810/810	=====	0/0	100	98.39	argannot	AJ632249:1-810	(Bla)blaOXA-59	
36-5689.fasta	Scaffold_1	2377154	2377963	-	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.88	argannot	AJ632249:1-810	(Bla)blaOXA-59	
42-6983.fasta	Scaffold_2	382837	383611	+	(Bla)blaOXA-57	1-775/810	=====	0/0	95.68	100	argannot	AJ631966:1-810	(Bla)blaOXA-57	
43-5556.fasta	Scaffold_1	350459	351194	+	(Bla)blaOXA-57	1-736/810	=====	0/0	90.86	99.86	argannot	AJ631966:1-810	(Bla)blaOXA-57	
44-5337.fasta	Scaffold_1	376940	377749	+	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.88	argannot	AJ632249:1-810	(Bla)blaOXA-59	
45-3087.fasta	Scaffold_2	2141471	2142280	-	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.88	argannot	AJ632249:1-810	(Bla)blaOXA-59	
46-5373.fasta	Scaffold_2	435784	436593	+	(Bla)blaOXA-57	1-810/810	=====	0/0	100	99.75	argannot	AJ631966:1-810	(Bla)blaOXA-57	
4799.fasta	Scaffold_1	2223139	2223948	-	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.88	argannot	AJ632249:1-810	(Bla)blaOXA-59	
49-4667.fasta	Scaffold_2	2042763	2043572	-	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.14	argannot	AJ632249:1-810	(Bla)blaOXA-59	
5018.fasta	Scaffold_2	399787	400596	+	(Bla)blaOXA-43	1-810/810	=====	0/0	100	99.88	argannot	AJ488303:1-810	(Bla)blaOXA-43	
5411.fasta	Scaffold_2	419124	419933	+	(Bla)blaOXA-59	1-810/810	=====	0/0	100	99.88	argannot	AJ632249:1-810	(Bla)blaOXA-59	
1-6643-5556.fasta	NODE_1543_lei	59	1407	-	opcM	129-1474/1536	=====/=		7-Sep	87.43	85.87	card	U38944.1:0-1536	OpcM is an outer membrane fa aminoglycoside;fluoroquinolone
1-6643-5556	NODE_178_	676	1829	+	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.35	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
1-6643-5556	NODE_178_	1967	5046	+	ceoB	1-3080/3084	=====	0/0	99.87	92.05	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
1-6643-5556	NODE_359_	2008	3129	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
1-6643-5556	NODE_701_	1849	2658	+	OXA-57	1-810/810	=====	0/0	100	99.88	card	AJ631966:0-810	OXA-57 is a beta-lactam: cephalosporin;penam	
12-3568.fast	NODE_106_	4580	5389	-	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
12-3568.fast	NODE_243_	2570	3723	-	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.35	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
12-3568.fast	NODE_614_	745	1866	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
29-3504.fast	NODE_1345_	22	831	-	OXA-59	1-810/810	=====	0/0	100	98.39	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
29-3504.fast	NODE_550_	743	1864	-	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.82	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
36-5689.fast	NODE_104_	4774	5583	-	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
36-5689.fast	NODE_326_	1996	3149	-	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.35	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
36-5689.fast	NODE_344_	121	3200	+	ceoB	1-3080/3084	=====	0/0	99.87	91.95	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
36-5689.fast	NODE_367_	869	1990	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
41-6495.fast	NODE_242_	223	3302	-	ceoB	1-3080/3084	=====	0/0	99.87	91.98	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
41-6495.fast	NODE_680_	766	1887	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
41-6495.fast	NODE_97_le	3856	4665	-	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
42-6983.fast	NODE_1148_	4	1133	-	ceoA	1-1131/1218	=====/=		5-Sep	92.45	88.72	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
42-6983.fast	NODE_519_	1812	2586	+	OXA-57	1-775/810	=====	0/0	95.68	100	card	AJ631966:0-810	OXA-57 is a beta-lactam: cephalosporin;penam	
42-6983.fast	NODE_521_	772	1893	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.64	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
43-5556.fast	NODE_154_	104	3183	+	ceoB	1-3080/3084	=====	0/0	99.87	91.98	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
43-5556.fast	NODE_1778_	8	1057	+	ceoA	105-1155/12	=====/=		3-Mar	86.12	89.54	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
43-5556.fast	NODE_470_	1462	2197	+	OXA-57	1-736/810	=====	0/0	90.86	99.86	card	AJ631966:0-810	OXA-57 is a beta-lactam: cephalosporin;penam	
43-5556.fast	NODE_515_	346	1467	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.38	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
44-5337.fast	NODE_1315_	522	1331	+	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
44-5337.fast	NODE_714_	761	1882	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.47	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
45-3087.fast	NODE_1869_	62	1077	-	ceoA	139-1155/12	=====/=		3-Mar	83.33	89.29	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
45-3087.fast	NODE_453_	3	2556	-	ceoB	1-2554/3084	=====	0/0	82.81	91.46	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
45-3087.fast	NODE_702_	216	1337	-	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.82	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
45-3087.fast	NODE_79_le	4725	5534	-	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
46-5373.fast	NODE_111_	6047	6856	-	OXA-57	1-810/810	=====	0/0	100	99.75	card	AJ631966:0-810	OXA-57 is a beta-lactam: cephalosporin;penam	
46-5373.fast	NODE_252_	4682	5993	-	opcM	166-1474/15	=====/=		7-Sep	85.03	86.01	card	U38944.1:0-1536	OpcM is an outer membr aminoglycoside;fluoroquinolone
46-5373.fast	NODE_51_le	749	1870	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
46-5373.fast	NODE_83_le	571	1724	+	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.35	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
46-5373.fast	NODE_83_le	1862	4941	+	ceoB	1-3080/3084	=====	0/0	99.87	92.08	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
4799.fasta	NODE_23_le	5978	6787	-	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
4799.fasta	NODE_38_le	343	3422	-	ceoB	1-3080/3084	=====	0/0	99.87	91.98	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
4799.fasta	NODE_38_le	3560	4713	-	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.27	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
4799.fasta	NODE_73_le	4148	5269	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
49-4667.fast	NODE_1324_	505	1314	+	OXA-59	1-810/810	=====	0/0	100	99.14	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	
49-4667.fast	NODE_228_	81	3160	+	ceoB	1-3080/3084	=====	0/0	99.87	92.01	card	U97042:1263-4347	ceoB is a cytoplasmic me aminoglycoside;fluoroquinolone	
49-4667.fast	NODE_323_	1093	2214	-	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
49-4667.fast	NODE_941_	1	1148	-	ceoA	1-1149/1218	=====/=		5-Sep	93.92	88.29	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
5018.fasta	NODE_103_	4518	5671	-	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.35	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
5018.fasta	NODE_301_	1740	3184	+	opcM	33-1474/153	=====/=		7-Sep	93.68	86.12	card	U38944.1:0-1536	OpcM is an outer membr aminoglycoside;fluoroquinolone
5018.fasta	NODE_486_	55	3186	-	amrB	1-3132/3132	=====	0/0	100	99.94	card	BX571965.1:2150949-2147817	amrB is the membrane fi aminoglycoside	
5018.fasta	NODE_725_	1262	2071	-	OXA-43	1-810/810	=====	0/0	100	99.88	card	AJ488303:0-810	OXA-43 is a beta-lactam: cephalosporin;penam	
5411.fasta	NODE_414_	745	1866	+	Burkholderia_pseudomalle	1-1122/1122	=====	0/0	100	99.55	card	AY312416:0-1122	Heterologous expression carbapenem;cephalosporin;cephamycin;monobactam;penam;penem	
5411.fasta	NODE_736_	517	1670	+	ceoA	1-1155/1218	=====/=		5-Sep	94.42	88.27	card	U97042:0-1218	ceoA is a periplasmic link aminoglycoside;fluoroquinolone
5411.fasta	NODE_76_le	618	1427	+	OXA-59	1-810/810	=====	0/0	100	99.88	card	AJ632249:0-810	OXA-59 is a beta-lactam: cephalosporin;penam	

Supplementary Table 8: Antibiotic Susceptibility Testing

Code	Sensitive	Resistance
29-3504	caz, amc, cot, m	ak, gen, col
36-5689	caz, amc, mero, i	cot, ak, gen, col
41-6495	caz, amc, cot, m	ak, gen, col
44-5337	caz, amc, cot, m	ak, gen, col
43-5556	caz, amc, cot, m	ak, gen, col
45-3087	caz, amc, cot, m	ak, gen, col
46-5372	caz, amc, cot, m	ak, gen, col
42-6983	caz, amc, cot, m	ak, gen, col
49-4667	caz, amc, cot, m	ak, gen, col
50-5411	caz, amc, cot, m	ak, gen, col
17-6048	caz, amc, mero, c	cot, ak, gen, col
4799 (2)	caz, amc, cot, m	ak, gen, col
6643 (1)	caz, amc, cot, m	ak, gen, col
5018(3)	caz, amc, mero, c	cot, ak, gen, col

Supplementary Table 9: Unbiased Scan

locus_tag	Fatal	Survivor	fatal_freq	survivor_freq	diff
QUF21_RS1909	5	0	1	0	1
QUF21_RS0485	5	1	1	0.2	0.8
QUF21_RS2822	5	1	1	0.2	0.8
QUF21_RS0761	5	1	1	0.2	0.8
QUF21_RS0742	4	0	0.8	0	0.8
QUF21_RS1807	4	1	0.8	0.2	0.6
QUF21_RS0655	5	2	1	0.4	0.6
QUF21_RS0423	5	2	1	0.4	0.6
QUF21_RS1882	5	2	1	0.4	0.6
QUF21_RS0473	3	0	0.6	0	0.6
QUF21_RS2938	5	2	1	0.4	0.6
QUF21_RS2462	3	0	0.6	0	0.6
QUF21_RS2352	3	0	0.6	0	0.6
QUF21_RS0772	5	2	1	0.4	0.6
QUF21_RS2222	5	2	1	0.4	0.6
QUF21_RS1882	5	2	1	0.4	0.6
QUF21_RS0000	5	2	1	0.4	0.6
QUF21_RS0000	5	2	1	0.4	0.6
QUF21_RS0000	5	2	1	0.4	0.6
QUF21_RS0000	5	3	1	0.6	0.4
QUF21_RS0000	4	2	0.8	0.4	0.4
QUF21_RS2222	5	3	1	0.6	0.4
QUF21_RS2222	5	3	1	0.6	0.4
QUF21_RS2222	5	3	1	0.6	0.4
QUF21_RS1777	4	2	0.8	0.4	0.4
QUF21_RS1111	5	3	1	0.6	0.4
QUF21_RS2222	4	2	0.8	0.4	0.4
QUF21_RS2222	5	3	1	0.6	0.4
QUF21_RS3131	4	2	0.8	0.4	0.4
QUF21_RS0000	4	2	0.8	0.4	0.4
QUF21_RS0000	4	2	0.8	0.4	0.4
QUF21_RS0000	2	0	0.4	0	0.4
QUF21_RS2020	2	0	0.4	0	0.4
QUF21_RS1777	4	2	0.8	0.4	0.4
QUF21_RS2020	5	3	1	0.6	0.4
QUF21_RS0000	5	3	1	0.6	0.4
QUF21_RS1010	5	3	1	0.6	0.4
QUF21_RS1111	5	3	1	0.6	0.4
QUF21_RS1515	4	2	0.8	0.4	0.4
QUF21_RS2020	5	3	1	0.6	0.4
QUF21_RS0707	3	1	0.6	0.2	0.4
QUF21_RS1414	3	1	0.6	0.2	0.4
QUF21_RS1515	3	1	0.6	0.2	0.4
QUF21_RS1818	3	1	0.6	0.2	0.4
QUF21_RS0606	3	1	0.6	0.2	0.4
QUF21_RS2121	3	1	0.6	0.2	0.4

QUF21_RS25	3	1	0.6	0.2	0.4
QUF21_RS22	3	1	0.6	0.2	0.4
QUF21_RS16	3	1	0.6	0.2	0.4
QUF21_RS26	4	3	0.8	0.6	0.2
QUF21_RS04	4	3	0.8	0.6	0.2
QUF21_RS03	4	3	0.8	0.6	0.2
QUF21_RS29	4	3	0.8	0.6	0.2
QUF21_RS23	2	1	0.4	0.2	0.2
QUF21_RS26	2	1	0.4	0.2	0.2
QUF21_RS02	1	0	0.2	0	0.2
QUF21_RS07	2	1	0.4	0.2	0.2
QUF21_RS01	1	0	0.2	0	0.2
QUF21_RS27	2	1	0.4	0.2	0.2
QUF21_RS21	2	1	0.4	0.2	0.2
QUF21_RS30	2	1	0.4	0.2	0.2
QUF21_RS10	1	0	0.2	0	0.2
QUF21_RS28	3	2	0.6	0.4	0.2
QUF21_RS29	3	2	0.6	0.4	0.2
QUF21_RS09	3	2	0.6	0.4	0.2
QUF21_RS14	3	2	0.6	0.4	0.2
QUF21_RS12	3	2	0.6	0.4	0.2
QUF21_RS18	3	2	0.6	0.4	0.2
QUF21_RS19	3	2	0.6	0.4	0.2
QUF21_RS23	3	2	0.6	0.4	0.2
QUF21_RS27	3	2	0.6	0.4	0.2
QUF21_RS28	3	2	0.6	0.4	0.2
QUF21_RS07	3	3	0.6	0.6	0
QUF21_RS28	2	2	0.4	0.4	0
QUF21_RS18	3	3	0.6	0.6	0
QUF21_RS23	3	3	0.6	0.6	0
QUF21_RS19	2	2	0.4	0.4	0
QUF21_RS29	1	1	0.2	0.2	0
QUF21_RS26	3	3	0.6	0.6	0
QUF21_RS24	1	1	0.2	0.2	0
QUF21_RS09	2	3	0.4	0.6	-0.2
QUF21_RS22	2	3	0.4	0.6	-0.2
QUF21_RS04	1	2	0.2	0.4	-0.2
QUF21_RS18	0	1	0	0.2	-0.2
QUF21_RS13	0	1	0	0.2	-0.2

Supplementary Table 10: LysR Mutation detection

locus_tag	product	aa_pos	mutation	Fatal	Survivor	fatal_freq		survivor_freq	diff	p_value	
QUF21_RS1197	LysR family tran	157	T157.OC		5	1	1	0.2	0.8	0.047619048	
QUF21_RS0485	LysR substrate-l	1	A1.0G		5	1	1	0.2	0.8	0.047619048	
QUF21_RS0761	LysR family tran	231	A231.0G		5	1	1	0.2	0.8	0.047619048	
QUF21_RS2973	LysR family tran	246	A246.OC		4	0	0.8	0	0.8	0.047619048	
QUF21_RS2037	LysR substrate-l	72	A72.0G		5	1	1	0.2	0.8	0.047619048	
QUF21_RS1909	LysR family tran	184	C184.OT		4	0	0.8	0	0.8	0.047619048	
QUF21_RS0361	LysR substrate-l	130	T130.OC		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS0361	LysR substrate-l	132	T132.OC		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS0361	LysR substrate-l	178	C178.OT		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS0423	LysR family tran	106	A106.0G		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS2264	LysR substrate-l	25	T25.OC		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS3118	LysR family tran	33	T33.OC		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS1791	LysR substrate-l	64	A64.0G		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS3118	LysR family tran	33	A33.0G		4	1	0.8	0.2	0.6	0.206349206	
QUF21_RS31	LysR family t	25	T25.OC		4	1	0.8	0.2	0.6	0.20634921	
QUF21_RS31	LysR family t	22	G22.0A		4	1	0.8	0.2	0.6	0.20634921	
QUF21_RS31	LysR family t	12	T12.OC		4	1	0.8	0.2	0.6	0.20634921	
QUF21_RS31	LysR family t	10	A10.0G		4	1	0.8	0.2	0.6	0.20634921	
QUF21_RS31	LysR family t	1	T1.OC		4	1	0.8	0.2	0.6	0.20634921	
QUF21_RS07	LysR family t	206	A206.0G		5	2	1	0.4	0.6	0.16666667	
QUF21_RS19	LysR family t	208	T208.OC		3	0	0.6	0	0.6	0.16666667	
QUF21_RS04	LysR substra	185	G185.0A		3	0	0.6	0	0.6	0.16666667	
QUF21_RS28	LysR family t	126	C126.OT		3	0	0.6	0	0.6	0.16666667	
QUF21_RS06	LysR family t	189	G189.0A		5	2	1	0.4	0.6	0.16666667	
QUF21_RS29	LysR substra	114	G114.0A		5	2	1	0.4	0.6	0.16666667	
QUF21_RS20	LysR substra	100	G100.0A		5	2	1	0.4	0.6	0.16666667	
QUF21_RS11	LysR family t	300	G300.0A		5	2	1	0.4	0.6	0.16666667	
QUF21_RS22	LysR family t	122	A122.OC		2	0	0.4	0	0.4	0.444444444	
QUF21_RS03	LysR substra	89	T89.OC		2	0	0.4	0	0.4	0.444444444	
QUF21_RS03	LysR substra	99	A99.0G		2	0	0.4	0	0.4	0.444444444	

QUF21_RS24 LysR family t	178 T178.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS18 LysR family t	289 A289.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS18 LysR family t	84 G84.0T	2	0	0.4	0	0.4	0.44444444
QUF21_RS23 LysR substra	146 G146.0A	2	0	0.4	0	0.4	0.44444444
QUF21_RS18 LysR family t	93 T93.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS16 LysR family t	25 A25.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS26 LysR family t	265 G265.0A	2	0	0.4	0	0.4	0.44444444
QUF21_RS26 LysR family t	231 G231.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS26 LysR family t	229 T229.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS12 LysR family t	170 A170.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS18 LysR family t	163 T163.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS23 LysR substra	279 A279.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS11 LysR family t	174 T174.0C	5	3	1	0.6	0.4	0.44444444
QUF21_RS10 LysR family t	83 G83.0A	5	3	1	0.6	0.4	0.44444444
QUF21_RS08 LysR family t	85 T85.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS07 LysR family t	221 T221.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS28 LysR family t	255 A255.0G	4	2	0.8	0.4	0.4	0.52380952
QUF21_RS28 LysR family t	76 T76.0C	5	3	1	0.6	0.4	0.44444444
QUF21_RS27 LysR family t	163 C163.0T	2	0	0.4	0	0.4	0.44444444
QUF21_RS29 LysR substra	260 T260.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS22 LysR family t	177 C177.0G	5	3	1	0.6	0.4	0.44444444
QUF21_RS23 LysR substra	140 C140.0T	2	0	0.4	0	0.4	0.44444444
QUF21_RS21 LysR family t	66 G66.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS23 LysR family t	264 A264.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS28 LysR family t	49 G49.0A	2	0	0.4	0	0.4	0.44444444
QUF21_RS20 LysR family t	248 C248.0T	4	2	0.8	0.4	0.4	0.52380952
QUF21_RS03 LysR substra	237 A237.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS06 LysR family t	149 T149.0A	2	0	0.4	0	0.4	0.44444444
QUF21_RS06 LysR family t	39 T39.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS05 LysR family t	305 T305.0C	4	2	0.8	0.4	0.4	0.52380952
QUF21_RS29 LysR substra	135 C135.0T	5	3	1	0.6	0.4	0.44444444
QUF21_RS03 LysR substra	287 C287.0T	2	0	0.4	0	0.4	0.44444444

QUF21_RS00	LysR family t	189	T189.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS05	LysR family t	149	C149.0T	4	2	0.8	0.4	0.4	0.52380952
QUF21_RS24	LysR family t	175	T175.0G	2	0	0.4	0	0.4	0.44444444
QUF21_RS04	LysR family t	116	A116.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS04	LysR family t	140	A140.0C	2	0	0.4	0	0.4	0.44444444
QUF21_RS29	LysR substrat	30	C30.0A	2	0	0.4	0	0.4	0.44444444
QUF21_RS31	LysR family t	6	C6.0T	2	0	0.4	0	0.4	0.44444444
QUF21_RS29	LysR substrat	157	G157.0A	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS29	LysR substrat	53	C53.0T	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS00	LysR family t	261	C261.0T	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS29	LysR substrat	208	C208.0T	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS29	LysR substrat	179	C179.0A	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS03	LysR family t	177	G177.0A	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS05	LysR family t	171	G171.0A	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS05	LysR family t	120	G120.0A	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS07	LysR family t	175	C175.0T	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS00	LysR family t	168	A168.0G	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS03	LysR substrat	34	A34.0G	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS18	LysR family t	177	A177.0C	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS18	LysR family t	212	C212.0T	3	1	0.6	0.2	0.4	0.52380952
QUF21_RS29	LysR substrat	116	A116.0G	4	3	0.8	0.6	0.2	1
QUF21_RS03	LysR substrat	69	G69.0A	2	1	0.4	0.2	0.2	1
QUF21_RS03	LysR substrat	119	C119.0G	2	1	0.4	0.2	0.2	1
QUF21_RS03	LysR substrat	126	G126.0A	2	1	0.4	0.2	0.2	1
QUF21_RS03	LysR substrat	126	T126.0G	1	0	0.2	0	0.2	1
QUF21_RS29	LysR substrat	38	T38.0A	1	0	0.2	0	0.2	1
QUF21_RS03	LysR substrat	131	G131.0A	2	1	0.4	0.2	0.2	1
QUF21_RS29	LysR substrat	37	G37.0T	1	0	0.2	0	0.2	1
QUF21_RS02	LysR family t	259	G259.0C	1	0	0.2	0	0.2	1
QUF21_RS02	LysR family t	260	T260.0G	1	0	0.2	0	0.2	1
QUF21_RS02	LysR family t	263	T263.0G	1	0	0.2	0	0.2	1
QUF21_RS02	LysR family t	266	A266.0C	1	0	0.2	0	0.2	1

QUF21_RS03 LysR substrat	286 C286.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	287 C287.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	231 A231.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	232 C232.0A	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	234 A234.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	234 C234.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	235 T235.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	236 C236.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	237 A237.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	237 C237.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	276 C276.0A	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	309 A309.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	310 A310.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	311 C311.0A	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	34 G34.0T	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	36 T36.0A	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	79 C79.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	80 T80.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	81 C81.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	81 G81.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	82 G82.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	83 A83.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	84 G84.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	85 A85.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	166 G166.0A	2	1	0.4	0.2	0.2	1
QUF21_RS02 LysR family t	254 G254.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	209 A209.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	253 T253.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	269 C269.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	269 G269.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	270 G270.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substrat	279 T279.0G	1	0	0.2	0	0.2	1

QUF21_RS03 LysR family t	194 T194.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	196 A196.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	198 A198.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	200 A200.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	200 C200.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	207 A207.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	215 C215.0A	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	430 A430.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	431 T431.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	252 A252.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substra	289 C289.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR substra	291 A291.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	74 C74.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	77 T77.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	77 T77.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	78 C78.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	112 A112.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	251 T251.0A	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	118 T118.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	119 A119.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	120 T120.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	121 A121.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	122 T122.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	123 A123.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	124 T124.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	125 A125.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	86 T86.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	145 T145.0C	2	1	0.4	0.2	0.2	1
QUF21_RS03 LysR family t	187 A187.0T	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	189 A189.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	189 C189.0G	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	192 T192.0G	1	0	0.2	0	0.2	1

QUF21_RS04 LysR family t	132 A132.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	135 T135.0A	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	137 A137.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	248 G248.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	141 A141.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	207 G207.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	208 C208.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	209 T209.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	211 T211.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	212 A212.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	213 T213.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	93 C93.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	98 A98.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	103 G103.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	109 A109.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	110 G110.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	217 A217.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	218 T218.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	220 A220.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	221 T221.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	223 A223.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	224 T224.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	227 A227.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	227 C227.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	231 A231.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	231 G231.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	19 T19.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	105 T105.0A	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	127 C127.0A	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	127 T127.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	127 T127.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	129 A129.0C	1	0	0.2	0	0.2	1

QUF21_RS02 LysR family t	248 A248.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	230 T230.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	233 G233.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	174 T174.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	170 T170.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	76 A76.0T	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	219 C219.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	221 T221.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	222 C222.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	222 G222.0T	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	225 C225.0T	2	1	0.4	0.2	0.2	1
QUF21_RS29 LysR substrat	228 C228.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	229 A229.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	230 C230.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	230 T230.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	215 G215.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substrat	101 T101.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	106 A106.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	75 A75.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	112 A112.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	116 A116.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	164 C164.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	168 C168.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	171 A171.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	174 G174.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	176 T176.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	207 A207.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	209 T209.0A	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	213 C213.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	216 G216.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	232 T232.0A	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	74 C74.0A	1	0	0.2	0	0.2	1

QUF21_RS03 LysR family t	150 T150.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substra	223 T223.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substra	237 A237.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substra	297 G297.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substra	319 T319.0C	1	0	0.2	0	0.2	1
QUF21_RS03 LysR family t	52 G52.0C	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	162 G162.0A	2	1	0.4	0.2	0.2	1
QUF21_RS05 LysR family t	212 T212.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	237 A237.0T	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	20 G20.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	21 C21.0G	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	22 A22.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	172 G172.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR family t	294 G294.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	298 A298.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substra	82 C82.0T	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	39 G39.0C	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	239 C239.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	241 A241.0C	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	242 G242.0C	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	244 A244.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	90 T90.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	92 A92.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	155 T155.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	169 C169.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	169 T169.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	174 T174.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	176 G176.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	187 A187.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substra	114 G114.0T	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substra	250 T250.0C	1	0	0.2	0	0.2	1
QUF21_RS04 LysR substra	124 C124.0G	1	0	0.2	0	0.2	1

QUF21_RS05 LysR family t	249 T249.0A	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	251 T251.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	254 A254.0C	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	258 A258.0T	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substrat	249 C249.0G	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substrat	247 C247.0A	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	44 C44.0G	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	46 G46.0C	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substrat	225 T225.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	54 T54.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	58 T58.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	75 T75.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	76 A76.0C	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	77 A77.0C	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substrat	149 T149.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	131 C131.0T	2	1	0.4	0.2	0.2	1
QUF21_RS06 LysR family t	291 C291.0G	2	1	0.4	0.2	0.2	1
QUF21_RS06 LysR family t	299 G299.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	44 C44.0T	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	98 A98.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	168 A168.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	169 A169.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	178 A178.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	179 T179.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	119 C119.0G	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substrat	148 A148.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	178 G178.0A	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	259 A259.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	191 G191.0T	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substrat	145 A145.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	198 T198.0G	1	0	0.2	0	0.2	1
QUF21_RS05 LysR family t	245 A245.0T	1	0	0.2	0	0.2	1

QUF21_RS28 LysR family t	290 T290.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	291 A291.0T	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	295 T295.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	113 T113.0A	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	118 C118.0G	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	239 A239.0T	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	241 A241.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	245 A245.0G	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	245 G245.0T	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substra	139 T139.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	178 C178.0A	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	322 T322.0G	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	150 A150.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substra	132 G132.0C	1	0	0.2	0	0.2	1
QUF21_RS06 LysR family t	238 A238.0G	2	1	0.4	0.2	0.2	1
QUF21_RS06 LysR family t	286 A286.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	46 G46.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	58 T58.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	63 T63.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	74 A74.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	237 A237.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	247 G247.0A	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	297 A297.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR substra	312 C312.0T	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	273 G273.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	276 T276.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	277 T277.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	283 A283.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	284 A284.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	286 A286.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	287 A287.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	288 C288.0G	1	0	0.2	0	0.2	1

QUF21_RS07 LysR family t	225 T225.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrate	132 A132.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	155 C155.0A	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrate	130 A130.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	207 C207.0T	2	1	0.4	0.2	0.2	1
QUF21_RS07 LysR family t	293 G293.0T	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	296 T296.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	181 A181.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	183 T183.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	189 C189.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	121 T121.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	127 T127.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	129 A129.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	133 T133.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	134 T134.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	136 C136.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	275 A275.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	275 T275.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrate	40 G40.0C	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	167 T167.0A	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	47 G47.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	48 A48.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	258 T258.0A	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	220 A220.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	258 G258.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	265 T265.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	266 A266.0T	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	268 A268.0C	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	268 T268.0G	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	270 A270.0T	1	0	0.2	0	0.2	1
QUF21_RS28 LysR family t	271 T271.0G	1	0	0.2	0	0.2	1
QUF21_RS01 LysR family t	298 A298.0C	1	0	0.2	0	0.2	1

QUF21_RS08 LysR family t	155	G155.0A	2	1	0.4	0.2	0.2	1
QUF21_RS08 LysR family t	202	T202.0G	1	0	0.2	0	0.2	1
QUF21_RS08 LysR family t	208	A208.0T	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	189	G189.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	192	C192.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	260	T260.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	260	T260.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	261	G261.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	263	G263.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	264	G264.0C	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	265	A265.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	267	A267.0T	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	268	T268.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	270	T270.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	271	T271.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	274	C274.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	123	A123.0C	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	134	T134.0G	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	55	A55.0C	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	57	A57.0C	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	58	T58.0G	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	60	A60.0C	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	69	G69.0C	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	70	T70.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	276	C276.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	277	C277.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	277	T277.0G	1	0	0.2	0	0.2	1
QUF21_RS07 LysR family t	279	T279.0G	1	0	0.2	0	0.2	1
QUF21_RS08 LysR family t	80	A80.0C	1	0	0.2	0	0.2	1
QUF21_RS08 LysR family t	85	G85.0C	1	0	0.2	0	0.2	1
QUF21_RS08 LysR family t	310	T310.0A	1	0	0.2	0	0.2	1
QUF21_RS08 LysR family t	89	T89.0G	1	0	0.2	0	0.2	1

QUF21_RS09 LysR family t	71 A71.0T	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	73 T73.0G	1	0	0.2	0	0.2	1
QUF21_RS09 LysR family t	74 T74.0G	1	0	0.2	0	0.2	1
QUF21_RS0C LysR family t	308 A308.0C	1	0	0.2	0	0.2	1
QUF21_RS1C LysR family t	278 A278.0C	1	0	0.2	0	0.2	1
QUF21_RS1C LysR family t	290 G290.0C	1	0	0.2	0	0.2	1
QUF21_RS1C LysR substrat	261 C261.0A	1	0	0.2	0	0.2	1
QUF21_RS1C LysR substrat	261 T261.0A	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	237 T237.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	238 G238.0C	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	241 T241.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	242 T242.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	243 T243.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	244 G244.0C	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	245 T245.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	116 T116.0G	1	0	0.2	0	0.2	1
QUF21_RS0C LysR family t	286 A286.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	59 C59.0A	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	56 T56.0G	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	165 A165.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	55 G55.0C	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	171 C171.0A	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	234 A234.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	235 C235.0G	1	0	0.2	0	0.2	1
QUF21_RS3C LysR family t	9 C9.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	236 G236.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	237 G237.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	239 T239.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	240 T240.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	305 C305.0G	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	79 A79.0C	1	0	0.2	0	0.2	1
QUF21_RS27 LysR family t	79 G79.0C	1	0	0.2	0	0.2	1

QUF21_RS12 LysR family t	275 T275.0G	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	277 T277.0G	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	282 C282.0G	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	294 A294.0C	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	298 G298.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR substrat	159 G159.0T	2	1	0.4	0.2	0.2	1
QUF21_RS26 LysR substrat	187 G187.0T	2	1	0.4	0.2	0.2	1
QUF21_RS26 LysR family t	208 A208.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	217 A217.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	225 T225.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	226 A226.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	227 T227.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	55 A55.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	231 C231.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	53 G53.0C	1	0	0.2	0	0.2	1
QUF21_RS11 LysR family t	13 A13.0C	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	106 T106.0G	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	176 A176.0C	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	184 G184.0T	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	194 C194.0A	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	265 C265.0G	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	268 T268.0G	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	313 A313.0T	1	0	0.2	0	0.2	1
QUF21_RS14 LysR family t	304 A304.0C	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	177 G177.0C	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	179 G179.0C	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	182 C182.0A	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	187 T187.0A	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	247 A247.0C	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	268 G268.0T	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	274 T274.0G	1	0	0.2	0	0.2	1
QUF21_RS12 LysR family t	275 C275.0G	1	0	0.2	0	0.2	1

QUF21_RS15 LysR substra	273 C273.0G	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	274 C274.0G	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	274 T274.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	75 G75.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	76 C76.0A	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	77 T77.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	79 A79.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	82 A82.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	88 T88.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	91 T91.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	94 T94.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	97 A97.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	246 C246.0T	2	1	0.4	0.2	0.2	1
QUF21_RS02 LysR family t	52 T52.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	267 A267.0G	2	1	0.4	0.2	0.2	1
QUF21_RS14 LysR family t	51 A51.0C	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	28 T28.0G	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	29 T29.0G	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	32 A32.0G	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	39 A39.0T	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	40 T40.0G	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	43 A43.0C	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	144 C144.0G	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	240 T240.0G	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	173 G173.0C	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	174 G174.0C	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	187 A187.0C	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	203 T203.0A	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	213 A213.0T	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	266 C266.0G	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	268 G268.0C	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substra	272 C272.0G	1	0	0.2	0	0.2	1

QUF21_RS17 LysR family t	51 C51.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	54 G54.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	56 G56.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	57 T57.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	60 A60.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	61 G61.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	65 T65.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	66 C66.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	67 C67.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	67 C67.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	69 A69.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	70 C70.0T	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substrate	276 A276.0C	1	0	0.2	0	0.2	1
QUF21_RS15 LysR substrate	307 A307.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	51 T51.0G	1	0	0.2	0	0.2	1
QUF21_RS16 LysR family t	26 G26.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	82 G82.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	262 G262.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	267 T267.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	269 G269.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	270 A270.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	272 A272.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	26 T26.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	27 C27.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	28 C28.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	30 C30.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	31 T31.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	36 T36.0G	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	51 C51.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	60 C60.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	15 A15.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	48 T48.0G	1	0	0.2	0	0.2	1

QUF21_RS17 LysR family t	297 T297.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	6 C6.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	70 G70.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	72 C72.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	73 A73.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	74 G74.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	75 C75.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	75 G75.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	77 A77.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	77 G77.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	79 A79.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	79 A79.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	80 C80.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	80 G80.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	81 C81.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	82 C82.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	71 T71.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	72 C72.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	74 A74.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	74 A74.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	75 T75.0A	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	76 T76.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	77 A77.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	78 A78.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	78 G78.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	79 T79.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	80 G80.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substrat	84 A84.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	86 A86.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	89 G89.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	208 G208.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR family t	294 A294.0C	1	0	0.2	0	0.2	1

QUF21_RS17 LysR substra	85 G85.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	87 T87.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	88 A88.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	89 A89.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	92 T92.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	91 G91.0C	2	1	0.4	0.2	0.2	1
QUF21_RS02 LysR family t	51 T51.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	96 T96.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	109 T109.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	113 T113.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	211 T211.0C	2	1	0.4	0.2	0.2	1
QUF21_RS18 LysR family t	288 T288.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	47 A47.0T	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	66 A66.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	67 C67.0G	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	68 G68.0T	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	59 T59.0A	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	46 T46.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	174 G174.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	301 G301.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	304 A304.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	304 G304.0C	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	65 A65.0C	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	242 T242.0G	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	247 T247.0A	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	247 T247.0G	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	248 G248.0C	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	248 T248.0G	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	250 A250.0C	1	0	0.2	0	0.2	1
QUF21_RS25 LysR substra	251 A251.0C	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	255 A255.0C	1	0	0.2	0	0.2	1
QUF21_RS17 LysR substra	85 A85.0C	1	0	0.2	0	0.2	1

QUF21_RS18 LysR family t	193 A193.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	302 A302.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	91 A91.0T	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	94 G94.0T	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	97 T97.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	99 G99.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	104 T104.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	159 A159.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	222 A222.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	43 T43.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	291 A291.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	291 A291.0T	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	292 G292.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	293 C293.0A	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	293 G293.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	296 C296.0A	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	179 A179.0T	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	180 C180.0G	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	180 G180.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	185 A185.0T	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	187 C187.0G	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	192 G192.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	197 T197.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	197 T197.0G	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	199 T199.0G	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	202 T202.0G	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	231 C231.0G	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	234 A234.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	238 G238.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	180 A180.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	182 T182.0A	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	190 A190.0T	1	0	0.2	0	0.2	1

QUF21_RS18 LysR family t	174 T174.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	305 T305.0A	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	34 A34.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	90 A90.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	253 A253.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	255 T255.0A	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	258 T258.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	259 C259.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	262 A262.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR substra	299 T299.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	82 A82.0C	2	1	0.4	0.2	0.2	1
QUF21_RS18 LysR family t	150 G150.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	155 A155.0C	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	178 T178.0A	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	41 T41.0A	1	0	0.2	0	0.2	1
QUF21_RS24 LysR family t	179 A179.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	114 A114.0C	1	0	0.2	0	0.2	1
QUF21_RS00 LysR family t	157 A157.0T	1	0	0.2	0	0.2	1
QUF21_RS22 LysR family t	127 A127.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	295 G295.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	301 A301.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	157 A157.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	160 A160.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	160 G160.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	162 C162.0G	1	0	0.2	0	0.2	1
QUF21_RS00 LysR family t	115 C115.0T	2	1	0.4	0.2	0.2	1
QUF21_RS18 LysR family t	165 A165.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	166 A166.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	166 C166.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	172 G172.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	172 T172.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	173 T173.0G	1	0	0.2	0	0.2	1

QUF21_RS19 LysR family t	267 A267.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	268 G268.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	268 T268.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	272 A272.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	274 C274.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	241 T241.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	242 A242.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	243 T243.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	245 C245.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	247 G247.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	249 T249.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	253 T253.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	260 A260.0C	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	276 T276.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	33 C33.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	100 G100.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR substrat	84 C84.0T	2	1	0.4	0.2	0.2	1
QUF21_RS19 LysR substrat	123 T123.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR substrat	125 T125.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR substrat	136 T136.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR substrat	137 A137.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	36 A36.0T	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	38 C38.0G	1	0	0.2	0	0.2	1
QUF21_RS18 LysR family t	312 T312.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	83 A83.0T	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	87 T87.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	96 A96.0G	1	0	0.2	0	0.2	1
QUF21_RS31 LysR family t	16 A16.0G	2	1	0.4	0.2	0.2	1
QUF21_RS30 LysR family t	254 T254.0G	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	220 G220.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	262 A262.0C	1	0	0.2	0	0.2	1
QUF21_RS19 LysR family t	266 T266.0G	1	0	0.2	0	0.2	1

QUF21_RS1 ^ϵ LysR family t	44 T44.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	48 A48.0T	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	284 T284.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	285 G285.0T	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	285 T285.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	287 T287.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	288 G288.0C	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	290 A290.0C	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	291 G291.0C	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	293 G293.0C	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	295 C295.0A	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	297 T297.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	275 A275.0C	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	277 A277.0C	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	280 C280.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	281 T281.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	65 C65.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	71 A71.0C	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	81 C81.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	91 T91.0C	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	97 T97.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	161 T161.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	166 T166.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	168 C168.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	170 A170.0T	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	171 C171.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	173 T173.0G	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	174 C174.0A	1	0	0.2	0	0.2	1
QUF21_RS3 ^ϵ LysR family t	252 A252.0C	1	0	0.2	0	0.2	1
QUF21_RS2 ^Δ LysR family t	178 C178.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	38 T38.0G	1	0	0.2	0	0.2	1
QUF21_RS1 ^ϵ LysR family t	40 C40.0G	1	0	0.2	0	0.2	1

QUF21_RS2C LysR substrat	24 C24.0A	1	0	0.2	0	0.2	1
QUF21_RS1C LysR family t	298 C298.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	63 T63.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	74 C74.0A	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	77 C77.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	78 T78.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	79 T79.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	80 C80.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	80 T80.0A	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	81 G81.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	82 A82.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	85 G85.0C	1	0	0.2	0	0.2	1
QUF21_RS3C LysR family t	250 T250.0A	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	152 C152.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	156 T156.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	64 A64.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	288 T288.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	62 A62.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	65 G65.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	159 T159.0A	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	162 A162.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	162 T162.0A	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	164 C164.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	169 G169.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR family t	302 G302.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	3 C3.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	9 A9.0C	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	16 C16.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	17 T17.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	20 A20.0T	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	20 T20.0G	1	0	0.2	0	0.2	1
QUF21_RS2C LysR substrat	24 A24.0C	1	0	0.2	0	0.2	1

QUF21_RS23 LysR family t	190 T190.0G	1	0	0.2	0	0.2	1
QUF21_RS00 LysR family t	132 T132.0G	1	0	0.2	0	0.2	1
QUF21_RS21 LysR family t	74 A74.0C	1	0	0.2	0	0.2	1
QUF21_RS22 LysR family t	135 A135.0C	1	0	0.2	0	0.2	1
QUF21_RS22 LysR family t	288 A288.0G	1	0	0.2	0	0.2	1
QUF21_RS22 LysR family t	289 C289.0G	1	0	0.2	0	0.2	1
QUF21_RS22 LysR family t	334 T334.0A	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	100 C100.0A	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	100 G100.0C	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	101 A101.0C	1	0	0.2	0	0.2	1
QUF21_RS20 LysR substrat	25 T25.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR family t	186 A186.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR family t	188 A188.0C	1	0	0.2	0	0.2	1
QUF21_RS20 LysR substrat	123 A123.0C	1	0	0.2	0	0.2	1
QUF21_RS20 LysR substrat	159 T159.0G	1	0	0.2	0	0.2	1
QUF21_RS21 LysR substrat	53 G53.0T	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	160 C160.0G	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	164 T164.0G	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	176 C176.0A	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	180 C180.0A	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	183 T183.0G	1	0	0.2	0	0.2	1
QUF21_RS22 LysR family t	16 G16.0C	1	0	0.2	0	0.2	1
QUF21_RS23 LysR substrat	188 A188.0C	1	0	0.2	0	0.2	1
QUF21_RS23 LysR substrat	189 A189.0C	1	0	0.2	0	0.2	1
QUF21_RS00 LysR family t	160 A160.0C	1	0	0.2	0	0.2	1
QUF21_RS00 LysR family t	270 A270.0C	1	0	0.2	0	0.2	1
QUF21_RS23 LysR substrat	283 G283.0C	2	1	0.4	0.2	0.2	1
QUF21_RS23 LysR substrat	284 G284.0T	1	0	0.2	0	0.2	1
QUF21_RS23 LysR family t	3 T3.0A	1	0	0.2	0	0.2	1
QUF21_RS23 LysR family t	29 A29.0C	1	0	0.2	0	0.2	1
QUF21_RS23 LysR family t	185 T185.0A	1	0	0.2	0	0.2	1
QUF21_RS23 LysR family t	189 T189.0A	1	0	0.2	0	0.2	1

QUF21_RS0001 LysR family t	235 T235.0G	1	0	0.2	0	0.2	1
QUF21_RS2221 LysR substrat	45 C45.0T	2	1	0.4	0.2	0.2	1
QUF21_RS2221 LysR substrat	84 C84.0G	1	0	0.2	0	0.2	1
QUF21_RS2221 LysR substrat	84 C84.0T	1	0	0.2	0	0.2	1
QUF21_RS2221 LysR substrat	94 A94.0C	1	0	0.2	0	0.2	1
QUF21_RS2221 LysR substrat	95 T95.0G	1	0	0.2	0	0.2	1
QUF21_RS2221 LysR substrat	100 T100.0G	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR family t	313 G313.0A	2	1	0.4	0.2	0.2	1
QUF21_RS2229 LysR substrat	33 A33.0T	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	38 T38.0G	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	64 G64.0C	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	68 A68.0C	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	68 T68.0G	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	69 G69.0T	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR family t	257 G257.0T	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	170 A170.0C	1	0	0.2	0	0.2	1
QUF21_RS0011 LysR family t	304 T304.0G	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	133 T133.0G	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	135 A135.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	136 A136.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	137 G137.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	140 A140.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	141 T141.0G	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	142 A142.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	145 A145.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	146 A146.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	147 T147.0G	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	150 A150.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	151 G151.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	154 A154.0C	1	0	0.2	0	0.2	1
QUF21_RS0001 LysR family t	156 A156.0C	1	0	0.2	0	0.2	1
QUF21_RS2229 LysR substrat	262 G262.0T	1	0	0.2	0	0.2	1

QUF21_RS30 LysR family t	246 A246.0C	1	0	0.2	0	0.2	1
QUF21_RS01 LysR family t	317 A317.0C	1	0	0.2	0	0.2	1
QUF21_RS01 LysR family t	319 T319.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	28 T28.0G	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	31 T31.0C	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	37 T37.0A	1	0	0.2	0	0.2	1
QUF21_RS02 LysR family t	37 T37.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	252 C252.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	254 G254.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	255 C255.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	255 G255.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	256 T256.0C	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	259 T259.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR family t	267 C267.0G	1	0	0.2	0	0.2	1
QUF21_RS29 LysR substrat	262 C262.0T	1	0	0.2	0	0.2	1
QUF21_RS26 LysR family t	236 C236.0G	1	0	0.2	0	0.2	1
QUF21_RS22 LysR substrat	68 C68.0G	3	2	0.6	0.4	0.2	1
QUF21_RS08 LysR family t	184 A184.0C	3	2	0.6	0.4	0.2	1
QUF21_RS09 LysR family t	68 G68.0A	3	2	0.6	0.4	0.2	1
QUF21_RS07 LysR family t	319 A319.0T	3	2	0.6	0.4	0.2	1
QUF21_RS04 LysR family t	102 T102.0C	3	2	0.6	0.4	0.2	1
QUF21_RS14 LysR family t	191 A191.0G	3	2	0.6	0.4	0.2	1
QUF21_RS29 LysR family t	179 G179.0A	3	2	0.6	0.4	0.2	1
QUF21_RS29 LysR family t	237 A237.0C	3	2	0.6	0.4	0.2	1
QUF21_RS18 LysR substrat	254 A254.0G	3	2	0.6	0.4	0.2	1
QUF21_RS22 LysR family t	300 C300.0A	1	1	0.2	0.2	0	1
QUF21_RS22 LysR family t	287 T287.0G	1	1	0.2	0.2	0	1
QUF21_RS03 LysR substrat	162 C162.0T	1	1	0.2	0.2	0	1
QUF21_RS22 LysR family t	116 G116.0A	1	1	0.2	0.2	0	1
QUF21_RS28 LysR family t	168 A168.0C	1	1	0.2	0.2	0	1
QUF21_RS28 LysR family t	166 A166.0C	1	1	0.2	0.2	0	1
QUF21_RS05 LysR family t	30 A30.0C	1	1	0.2	0.2	0	1

QUF21_RS28 LysR family t	275 T275.0G	1	1	0.2	0.2	0	1
QUF21_RS28 LysR family t	46 A46.0G	2	2	0.4	0.4	0	1
QUF21_RS04 LysR family t	216 T216.0C	2	2	0.4	0.4	0	1
QUF21_RS04 LysR substrat	16 A16.0C	1	1	0.2	0.2	0	1
QUF21_RS05 LysR substrat	34 A34.0C	1	1	0.2	0.2	0	1
QUF21_RS20 LysR substrat	119 T119.0A	1	1	0.2	0.2	0	1
QUF21_RS26 LysR family t	230 T230.0G	1	1	0.2	0.2	0	1
QUF21_RS14 LysR family t	305 T305.0G	1	1	0.2	0.2	0	1
QUF21_RS26 LysR family t	83 T83.0G	1	1	0.2	0.2	0	1
QUF21_RS26 LysR family t	267 G267.0C	1	1	0.2	0.2	0	1
QUF21_RS26 LysR family t	244 T244.0C	2	2	0.4	0.4	0	1
QUF21_RS17 LysR family t	88 A88.0C	1	1	0.2	0.2	0	1
QUF21_RS14 LysR family t	304 T304.0G	1	1	0.2	0.2	0	1
QUF21_RS19 LysR substrat	128 G128.0C	2	2	0.4	0.4	0	1
QUF21_RS19 LysR substrat	67 T67.0C	2	2	0.4	0.4	0	1
QUF21_RS19 LysR substrat	180 C180.0G	2	2	0.4	0.4	0	1
QUF21_RS18 LysR family t	158 G158.0C	1	1	0.2	0.2	0	1
QUF21_RS02 LysR family t	52 T52.0C	1	1	0.2	0.2	0	1
QUF21_RS18 LysR family t	160 A160.0C	1	1	0.2	0.2	0	1
QUF21_RS02 LysR family t	34 A34.0C	1	1	0.2	0.2	0	1
QUF21_RS00 LysR family t	286 A286.0C	1	1	0.2	0.2	0	1
QUF21_RS26 LysR family t	242 T242.0C	2	3	0.4	0.6	-0.2	1
QUF21_RS31 LysR family t	1 A1.0G	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	225 C225.0G	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	224 T224.0G	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	211 A211.0C	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	26 C26.0T	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	164 A164.0C	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	37 A37.0G	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	36 A36.0C	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	34 T34.0A	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	37 A37.0T	0	1	0	0.2	-0.2	1

QUF21_RS22 LysR family t	78 G78.0T	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	78 T78.0A	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	200 T200.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	150 T150.0G	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	237 A237.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substrat	48 G48.0A	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	207 G207.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substrat	94 A94.0G	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR family t	162 A162.0G	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	59 G59.0C	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	60 G60.0T	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	60 T60.0G	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	197 A197.0C	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	200 A200.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	35 G35.0C	0	1	0	0.2	-0.2	1
QUF21_RS25 LysR substrat	56 T56.0G	0	1	0	0.2	-0.2	1
QUF21_RS25 LysR substrat	301 T301.0A	0	1	0	0.2	-0.2	1
QUF21_RS25 LysR substrat	302 G302.0C	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR substrat	291 C291.0G	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	283 G283.0C	0	1	0	0.2	-0.2	1
QUF21_RS19 LysR family t	236 A236.0C	0	1	0	0.2	-0.2	1
QUF21_RS19 LysR substrat	4 G4.0A	0	1	0	0.2	-0.2	1
QUF21_RS19 LysR substrat	112 C112.0T	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	304 T304.0C	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	15 C15.0T	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	159 T159.0G	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	162 G162.0C	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR substrat	288 T288.0G	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	155 T155.0G	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	156 G156.0T	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substrat	108 T108.0G	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	269 C269.0A	0	1	0	0.2	-0.2	1

QUF21_RS17 LysR family t	283 A283.0C	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR substrat	19 T19.0G	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	83 G83.0C	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	39 A39.0C	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	60 T60.0A	0	1	0	0.2	-0.2	1
QUF21_RS16 LysR family t	246 A246.0G	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	296 G296.0T	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	299 G299.0C	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR substrat	112 G112.0C	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	295 A295.0C	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	87 T87.0A	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	92 T92.0C	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	96 T96.0G	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	97 A97.0T	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	173 A173.0C	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substrat	254 T254.0A	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substrat	255 C255.0A	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substrat	255 T255.0A	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substrat	259 T259.0A	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substrat	265 A265.0C	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	86 T86.0G	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	204 A204.0C	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	296 G296.0A	0	1	0	0.2	-0.2	1
QUF21_RS13 LysR family t	286 G286.0T	0	1	0	0.2	-0.2	1
QUF21_RS18 LysR family t	284 T284.0G	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	86 A86.0T	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	87 A87.0C	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	89 T89.0G	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	93 T93.0G	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	100 A100.0C	0	1	0	0.2	-0.2	1
QUF21_RS17 LysR family t	192 C192.0A	0	1	0	0.2	-0.2	1
QUF21_RS21 LysR substrat	297 C297.0A	0	1	0	0.2	-0.2	1

QUF21_RS21 LysR family t	44 A44.0C	0	1	0	0.2	-0.2	1
QUF21_RS21 LysR family t	53 A53.0C	0	1	0	0.2	-0.2	1
QUF21_RS21 LysR family t	60 A60.0C	0	1	0	0.2	-0.2	1
QUF21_RS20 LysR substra	7 T7.0G	0	1	0	0.2	-0.2	1
QUF21_RS20 LysR substra	8 G8.0C	0	1	0	0.2	-0.2	1
QUF21_RS20 LysR family t	51 T51.0G	0	1	0	0.2	-0.2	1
QUF21_RS20 LysR family t	59 T59.0G	0	1	0	0.2	-0.2	1
QUF21_RS24 LysR family t	56 G56.0C	0	1	0	0.2	-0.2	1
QUF21_RS19 LysR family t	45 C45.0G	0	1	0	0.2	-0.2	1
QUF21_RS11 LysR family t	59 A59.0C	0	1	0	0.2	-0.2	1
QUF21_RS16 LysR family t	246 G246.0C	0	1	0	0.2	-0.2	1
QUF21_RS16 LysR family t	240 A240.0C	0	1	0	0.2	-0.2	1
QUF21_RS16 LysR family t	240 G240.0C	0	1	0	0.2	-0.2	1
QUF21_RS16 LysR family t	242 A242.0C	0	1	0	0.2	-0.2	1
QUF21_RS16 LysR family t	244 A244.0C	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substra	164 G164.0C	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substra	169 C169.0A	0	1	0	0.2	-0.2	1
QUF21_RS12 LysR family t	248 T248.0G	0	1	0	0.2	-0.2	1
QUF21_RS12 LysR family t	256 A256.0C	0	1	0	0.2	-0.2	1
QUF21_RS13 LysR family t	282 C282.0A	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	304 G304.0T	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	218 A218.0C	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	222 G222.0C	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	223 T223.0G	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	232 A232.0C	0	1	0	0.2	-0.2	1
QUF21_RS11 LysR family t	58 A58.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substra	10 G10.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substra	12 G12.0T	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substra	16 A16.0G	0	1	0	0.2	-0.2	1
QUF21_RS21 LysR substra	46 T46.0G	0	1	0	0.2	-0.2	1
QUF21_RS21 LysR substra	49 A49.0T	0	1	0	0.2	-0.2	1
QUF21_RS11 LysR family t	235 T235.0G	0	1	0	0.2	-0.2	1

QUF21_RS11 LysR family t	239 T239.0G	0	1	0	0.2	-0.2	1
QUF21_RS11 LysR family t	242 T242.0G	0	1	0	0.2	-0.2	1
QUF21_RS11 LysR family t	275 A275.0T	0	1	0	0.2	-0.2	1
QUF21_RS12 LysR family t	96 A96.0C	0	1	0	0.2	-0.2	1
QUF21_RS12 LysR family t	100 T100.0G	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	236 G236.0T	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	240 T240.0A	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	241 C241.0G	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	77 T77.0A	0	1	0	0.2	-0.2	1
QUF21_RS26 LysR family t	284 T284.0G	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	172 G172.0C	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	75 A75.0C	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	173 A173.0C	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	180 C180.0T	0	1	0	0.2	-0.2	1
QUF21_RS15 LysR substrat	148 G148.0T	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	227 A227.0C	0	1	0	0.2	-0.2	1
QUF21_RS10 LysR family t	5 C5.0A	0	1	0	0.2	-0.2	1
QUF21_RS10 LysR family t	10 A10.0C	0	1	0	0.2	-0.2	1
QUF21_RS10 LysR family t	13 A13.0C	0	1	0	0.2	-0.2	1
QUF21_RS10 LysR family t	93 T93.0A	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	91 T91.0C	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	106 A106.0C	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	115 A115.0C	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	127 T127.0G	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	132 C132.0G	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	134 T134.0A	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	218 C218.0G	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	220 T220.0A	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	285 A285.0C	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	296 A296.0C	0	1	0	0.2	-0.2	1
QUF21_RS11 LysR family t	219 T219.0A	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	252 G252.0C	0	1	0	0.2	-0.2	1

QUF21_RS07 LysR family t	206 T206.OA	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	118 G118.OT	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	166 C166.OT	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	283 A283.OC	0	1	0	0.2	-0.2	1
QUF21_RS09 LysR family t	43 A43.OC	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	86 C86.0G	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	203 C203.OA	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	212 T212.0G	0	1	0	0.2	-0.2	1
QUF21_RS08 LysR family t	216 T216.0G	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	195 C195.0G	0	1	0	0.2	-0.2	1
QUF21_RS27 LysR family t	170 A170.OC	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	47 A47.OC	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	81 A81.OT	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	26 G26.OA	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	242 G242.OT	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	83 A83.OC	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	314 T314.0G	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	31 A31.OC	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	249 G249.OA	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	251 G251.OT	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	152 T152.0G	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	83 A83.OC	0	1	0	0.2	-0.2	1
QUF21_RS07 LysR family t	88 A88.OC	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	281 T281.0G	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	56 A56.OC	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	233 T233.OA	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	234 T234.0G	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	236 A236.OC	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	243 T243.0G	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	245 A245.OC	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	248 A248.OC	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	167 G167.OC	0	1	0	0.2	-0.2	1

QUF21_RS28 LysR family t	172	C172.0G	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	237	A237.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR substra	109	T109.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR substra	153	T153.0C	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	191	G191.0C	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	196	A196.0C	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	228	T228.0G	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	231	G231.0C	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	105	T105.0A	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	108	G108.0C	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	109	C109.0A	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	112	T112.0A	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	246	A246.0C	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	268	C268.0A	0	1	0	0.2	-0.2	1
QUF21_RS28 LysR family t	273	A273.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	300	T300.0G	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	302	T302.0G	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	303	G303.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	304	A304.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	200	A200.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	222	C222.0A	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	179	A179.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	223	T223.0G	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	267	A267.0C	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	38	T38.0G	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	41	T41.0A	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	51	C51.0G	0	1	0	0.2	-0.2	1
QUF21_RS06 LysR family t	123	C123.0G	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	24	A24.0G	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	25	T25.0G	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	37	A37.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substra	291	G291.0A	0	1	0	0.2	-0.2	1

QUF21_RS03 LysR substrat	255 C255.0T	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	275 T275.0A	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	276 T276.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	276 T276.0G	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	279 C279.0G	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	279 T279.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	31 A31.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	36 T36.0G	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	66 A66.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	67 A67.0C	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR substrat	309 T309.0G	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR substrat	312 T312.0G	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	1 C1.0G	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	15 C15.0G	0	1	0	0.2	-0.2	1
QUF21_RS05 LysR family t	16 T16.0G	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	39 A39.0T	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	72 C72.0A	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	75 A75.0G	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	252 T252.0A	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	103 G103.0A	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	203 A203.0C	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	208 G208.0T	0	1	0	0.2	-0.2	1
QUF21_RS23 LysR substrat	220 C220.0G	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	75 A75.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	168 C168.0G	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR substrat	213 A213.0C	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	45 A45.0C	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	46 C46.0G	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	72 A72.0T	0	1	0	0.2	-0.2	1
QUF21_RS04 LysR family t	146 G146.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR family t	288 G288.0A	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	31 T31.0G	0	1	0	0.2	-0.2	1

QUF21_RS22 LysR family t	15 C15.0G	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	225 T225.0C	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	226 T226.0A	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	234 A234.0G	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	235 C235.0G	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	271 A271.0C	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	288 T288.0G	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	289 A289.0T	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	32 A32.0C	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	50 G50.0C	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR family t	50 G50.0T	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	187 T187.0G	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	193 A193.0C	0	1	0	0.2	-0.2	1
QUF21_RS30 LysR family t	194 A194.0C	0	1	0	0.2	-0.2	1
QUF21_RS31 LysR family t	2 T2.0C	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR substrat	111 G111.0A	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR family t	282 G282.0T	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	24 G24.0T	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	25 A25.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	25 G25.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	27 G27.0C	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	28 G28.0T	0	1	0	0.2	-0.2	1
QUF21_RS03 LysR substrat	29 G29.0C	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	288 A288.0T	0	1	0	0.2	-0.2	1
QUF21_RS02 LysR family t	295 T295.0G	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR substrat	110 T110.0G	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR substrat	197 T197.0G	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	15 T15.0A	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	18 T18.0A	0	1	0	0.2	-0.2	1
QUF21_RS22 LysR family t	19 C19.0A	0	1	0	0.2	-0.2	1
QUF21_RS00 LysR family t	309 T309.0C	0	1	0	0.2	-0.2	1
QUF21_RS29 LysR substrat	71 C71.0T	0	2	0	0.4	-0.4	0.44444444

QUF21_RS08 LysR family t	300 T300.0C	0	2	0	0.4	-0.4	0.444444444
QUF21_RS29 LysR substra	290 G290.0C	0	2	0	0.4	-0.4	0.444444444
QUF21_RS18 LysR substra	331 T331.0C	0	3	0	0.6	-0.6	0.166666667

Supplementary Table 11: Chaperone Mutation detection

locus_tag	product	aa_pos	mutation	mut_id	Fatal	Survivor	p_value	fatal_freq_%	survivor_freq_%	enrichment_sco
QUF21_RS0931	fimbrial biogene	123	T123C	QUF21_RS0931	5	1	0.04761905	100	20	80
QUF21_RS1188	nitrate reductas	149	G149C	QUF21_RS1188	5	1	0.04761905	100	20	80
QUF21_RS2732	lipase secretion	304	G304A	QUF21_RS2732	5	1	0.04761905	100	20	80
QUF21_RS0504	fimbrial biogene	4	A4G	QUF21_RS0504	3	0	0.16666667	60	0	60
QUF21_RS0504	fimbrial biogene	4	G4A	QUF21_RS0504	3	0	0.16666667	60	0	60
QUF21_RS0504	fimbrial biogene	5	G5C	QUF21_RS0504	3	0	0.16666667	60	0	60
QUF21_RS0504	fimbrial biogene	7	A7G	QUF21_RS0504	3	0	0.16666667	60	0	60
QUF21_RS0504	fimbrial biogene	54	C54T	QUF21_RS0504	3	0	0.16666667	60	0	60
QUF21_RS0049	Spy/CpxP family	161	T161C	QUF21_RS0049	5	2	0.16666667	100	40	60
QUF21_RS1854	fimbria/pilus ch	229	A229G	QUF21_RS1854	5	2	0.16666667	100	40	60
QUF21_RS2407	nitrate reductas	25	C25T	QUF21_RS2407	5	2	0.16666667	100	40	60
QUF21_RS2407	nitrate reductas	98	G98T	QUF21_RS2407	5	2	0.16666667	100	40	60
QUF21_RS1511	co-chaperone G	69	A69G	QUF21_RS1511	4	1	0.20634921	80	20	60
QUF21_RS1333	radical SAM fan	132	A132G	QUF21_RS1333	5	3	0.44444444	100	60	40
QUF21_RS14	molecular ch	624	T624C	QUF21_RS14	5	3	0.44444444	100	60	40
QUF21_RS01	flagellar bas	403	A403C	QUF21_RS01	2	0	0.44444444	40	0	40
QUF21_RS01	flagellar bas	431	G431A	QUF21_RS01	2	0	0.44444444	40	0	40
QUF21_RS13	radical SAM	24	G24A	QUF21_RS13	2	0	0.44444444	40	0	40
QUF21_RS13	radical SAM	265	G265A	QUF21_RS13	2	0	0.44444444	40	0	40
QUF21_RS13	radical SAM	324	A324C	QUF21_RS13	2	0	0.44444444	40	0	40
QUF21_RS15	co-chaperone	60	A60G	QUF21_RS15	2	0	0.44444444	40	0	40
QUF21_RS15	co-chaperone	85	G85A	QUF21_RS15	2	0	0.44444444	40	0	40
QUF21_RS05	fimbrial biog	211	T211C	QUF21_RS05	4	2	0.52380952	80	40	40
QUF21_RS05	fimbrial biog	146	T146C	QUF21_RS05	3	1	0.52380952	60	20	40
QUF21_RS13	chaperonin G	428	T428C	QUF21_RS13	3	1	0.52380952	60	20	40
QUF21_RS16	LPS translocc	81	C81T	QUF21_RS16	3	1	0.52380952	60	20	40
QUF21_RS27	lipase secret	16	G16A	QUF21_RS27	3	1	0.52380952	60	20	40
QUF21_RS27	lipase secret	224	A224T	QUF21_RS27	4	2	0.52380952	80	40	40
QUF21_RS00	Spy/CpxP far	17	C17T	QUF21_RS00	2	1	1	40	20	20
QUF21_RS00	Spy/CpxP far	24	T24G	QUF21_RS00	2	1	1	40	20	20

QUF21_RS06 Spy/CpxP far	34 T34G	QUF21_RS06	1	0	1	20	0	20
QUF21_RS06 Spy/CpxP far	118 T118A	QUF21_RS06	1	0	1	20	0	20
QUF21_RS07 flagellar exp	62 A62C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar exp	66 T66G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	343 T343G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	392 A392T	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	393 C393T	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	395 C395G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	397 T397G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	399 G399C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	399 T399G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	405 G405C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	413 A413C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 flagellar bas	441 C441T	QUF21_RS07	2	1	1	40	20	20
QUF21_RS08 fimbrial biog	16 C16G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	18 A18C	QUF21_RS08	2	1	1	40	20	20
QUF21_RS08 fimbrial biog	81 T81G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	85 C85G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	86 T86G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	87 T87G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	92 C92G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	94 A94C	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	98 A98C	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	152 A152C	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	153 T153G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 molecular ch	175 T175A	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 molecular ch	496 T496G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	65 T65G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	67 G67T	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	69 T69G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	174 A174C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	180 T180G	QUF21_RS07	1	0	1	20	0	20

QUF21_RS07 fimbrial biog	201 T201G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	204 G204T	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	204 T204G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	211 T211G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	214 T214C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	215 A215C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	219 T219G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	220 A220C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	220 G220C	QUF21_RS07	1	0	1	20	0	20
QUF21_RS07 fimbrial biog	243 C243G	QUF21_RS07	1	0	1	20	0	20
QUF21_RS08 RNA chaperc	123 A123G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	106 A106G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	113 T113G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	115 T115G	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	150 A150C	QUF21_RS08	1	0	1	20	0	20
QUF21_RS08 fimbrial biog	192 A192C	QUF21_RS08	2	1	1	40	20	20
QUF21_RS10 ATP-depende	442 C442A	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	442 G442T	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	738 G738A	QUF21_RS10	2	1	1	40	20	20
QUF21_RS10 ATP-depende	757 C757G	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	772 T772G	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	775 T775G	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	776 T776G	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	777 T777G	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	779 T779G	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	783 C783A	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	783 T783A	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	784 G784T	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	785 C785T	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	786 G786T	QUF21_RS10	1	0	1	20	0	20
QUF21_RS10 ATP-depende	793 C793A	QUF21_RS10	1	0	1	20	0	20
QUF21_RS11 Hsp33 family	2 A2C	QUF21_RS11	1	0	1	20	0	20

QUF21_RS11 Fe-S protein	16 T16G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	22 A22T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	24 A24C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	25 T25C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	26 A26T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	29 T29G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	32 G32T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	33 A33C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	38 T38C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	145 C145T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	153 A153C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	155 A155C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	167 T167G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	168 C168G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	168 T168A	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	168 T168G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	169 T169G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	170 C170G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	170 C170T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	170 G170C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	171 G171C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	173 A173C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	263 T263C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	269 A269C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	271 A271C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	278 A278C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	323 G323T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	326 G326T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	326 T326G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	330 T330G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	339 A339C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	368 T368G	QUF21_RS11	1	0	1	20	0	20

QUF21_RS11 Fe-S protein	523 A523C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	524 T524G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	557 C557T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	559 A559T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	559 G559T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	560 G560T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	561 G561C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	561 T561C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	562 C562G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	563 T563G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	566 C566A	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	566 G566A	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	568 A568G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	568 C568G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	569 T569A	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	570 C570T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	573 C573T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	574 A574C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	575 A575G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	576 C576G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	577 G577C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	583 C583G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	583 T583G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	585 T585G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	586 C586G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	594 A594T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	596 T596G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 Fe-S protein	136 T136G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	57 G57A	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	58 A58G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	125 T125C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	151 T151G	QUF21_RS11	1	0	1	20	0	20

QUF21_RS11 nitrate reduc	163	G163C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	181	C181G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	182	C182G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	185	A185T	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	190	A190C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	192	C192A	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	210	T210G	QUF21_RS11	1	0	1	20	0	20
QUF21_RS11 nitrate reduc	228	G228C	QUF21_RS11	1	0	1	20	0	20
QUF21_RS13 radical SAM	62	A62C	QUF21_RS13	1	0	1	20	0	20
QUF21_RS13 radical SAM	65	A65C	QUF21_RS13	1	0	1	20	0	20
QUF21_RS13 radical SAM	169	C169T	QUF21_RS13	1	0	1	20	0	20
QUF21_RS13 outer membi	8	A8G	QUF21_RS13	1	0	1	20	0	20
QUF21_RS13 outer membi	82	T82G	QUF21_RS13	1	0	1	20	0	20
QUF21_RS13 outer membi	91	C91A	QUF21_RS13	1	0	1	20	0	20
QUF21_RS13 outer membi	134	C134G	QUF21_RS13	1	0	1	20	0	20
QUF21_RS14 molecular ch	152	G152C	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	153	T153G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	157	C157G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	158	T158G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	161	T161G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	162	T162G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	164	T164G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	166	A166C	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	203	A203G	QUF21_RS14	2	1	1	40	20	20
QUF21_RS14 molecular ch	170	T170G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	319	T319A	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	321	C321A	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	416	T416G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	613	T613C	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	614	G614C	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	630	T630A	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	635	T635G	QUF21_RS14	4	3	1	80	60	20

QUF21_RS14 molecular ch	637 T637G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS14 molecular ch	645 T645G	QUF21_RS14	1	0	1	20	0	20
QUF21_RS16 LPS translocc	51 A51C	QUF21_RS16	1	0	1	20	0	20
QUF21_RS16 LPS translocc	60 A60C	QUF21_RS16	1	0	1	20	0	20
QUF21_RS16 LPS translocc	70 T70A	QUF21_RS16	1	0	1	20	0	20
QUF21_RS16 LPS translocc	76 T76G	QUF21_RS16	1	0	1	20	0	20
QUF21_RS16 LPS translocc	77 C77G	QUF21_RS16	1	0	1	20	0	20
QUF21_RS16 LPS translocc	78 A78C	QUF21_RS16	1	0	1	20	0	20
QUF21_RS18 fimbria/pilus	44 A44T	QUF21_RS18	1	0	1	20	0	20
QUF21_RS18 fimbria/pilus	45 A45T	QUF21_RS18	1	0	1	20	0	20
QUF21_RS18 fimbria/pilus	194 A194T	QUF21_RS18	1	0	1	20	0	20
QUF21_RS20 chaperonin G	87 A87C	QUF21_RS20	1	0	1	20	0	20
QUF21_RS20 chaperonin G	95 T95G	QUF21_RS20	1	0	1	20	0	20
QUF21_RS20 chaperonin G	100 T100G	QUF21_RS20	1	0	1	20	0	20
QUF21_RS20 chaperonin G	107 T107G	QUF21_RS20	1	0	1	20	0	20
QUF21_RS20 chaperonin G	426 T426G	QUF21_RS20	1	0	1	20	0	20
QUF21_RS20 chaperonin G	429 T429G	QUF21_RS20	1	0	1	20	0	20
QUF21_RS20 chaperonin G	440 A440C	QUF21_RS20	1	0	1	20	0	20
QUF21_RS24 nitrate reduc	158 T158C	QUF21_RS24	1	0	1	20	0	20
QUF21_RS24 nitrate reduc	203 C203T	QUF21_RS24	2	1	1	40	20	20
QUF21_RS24 nitrate reduc	214 T214G	QUF21_RS24	1	0	1	20	0	20
QUF21_RS24 nitrate reduc	218 T218G	QUF21_RS24	1	0	1	20	0	20
QUF21_RS24 nitrate reduc	220 A220C	QUF21_RS24	1	0	1	20	0	20
QUF21_RS24 nitrate reduc	225 T225G	QUF21_RS24	1	0	1	20	0	20
QUF21_RS26 CesT family t	143 G143T	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 T3SS chaper	111 G111T	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 T3SS chaper	122 T122G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	136 A136G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	138 G138C	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	139 A139C	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	141 C141G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	141 T141G	QUF21_RS26	1	0	1	20	0	20

QUF21_RS26 SycD/LcrH fa	142 C142G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	142 T142G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	144 A144C	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	146 T146G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	147 T147G	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 SycD/LcrH fa	158 A158C	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	19 C19A	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	20 G20C	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	34 C34A	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	36 A36T	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	38 A38T	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	40 A40C	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	43 A43T	QUF21_RS26	1	0	1	20	0	20
QUF21_RS26 CesT family t	139 T139C	QUF21_RS26	2	1	1	40	20	20
QUF21_RS27 lipase secret	31 C31A	QUF21_RS27	1	0	1	20	0	20
QUF21_RS27 lipase secret	34 T34G	QUF21_RS27	1	0	1	20	0	20
QUF21_RS27 lipase secret	82 T82G	QUF21_RS27	1	0	1	20	0	20
QUF21_RS27 lipase secret	226 A226G	QUF21_RS27	1	0	1	20	0	20
QUF21_RS27 lipase secret	230 T230G	QUF21_RS27	1	0	1	20	0	20
QUF21_RS27 lipase secret	231 G231C	QUF21_RS27	1	0	1	20	0	20
QUF21_RS27 lipase secret	233 T233G	QUF21_RS27	1	0	1	20	0	20
QUF21_RS01 flagellar bas	404 A404C	QUF21_RS01	1	1	1	20	20	0
QUF21_RS05 molecular ch	437 A437C	QUF21_RS05	1	1	1	20	20	0
QUF21_RS11 Fe-S protein	589 C589T	QUF21_RS11	1	1	1	20	20	0
QUF21_RS11 nitrate reduc	113 A113G	QUF21_RS11	2	2	1	40	40	0
QUF21_RS16 LPS translocc	67 A67C	QUF21_RS16	1	1	1	20	20	0
QUF21_RS20 co-chaperone	86 C86T	QUF21_RS20	1	1	1	20	20	0
QUF21_RS20 chaperonin G	433 A433C	QUF21_RS20	1	1	1	20	20	0
QUF21_RS00 Spy/CpxP far	13 T13A	QUF21_RS00	0	1	1	0	20	-20
QUF21_RS00 Spy/CpxP far	14 A14C	QUF21_RS00	0	1	1	0	20	-20
QUF21_RS00 Spy/CpxP far	16 T16G	QUF21_RS00	0	1	1	0	20	-20
QUF21_RS00 Spy/CpxP far	18 G18T	QUF21_RS00	0	1	1	0	20	-20

QUF21_RS06 Spy/CpxP far	21 A21G	QUF21_RS06	0	1	1	0	20	-20
QUF21_RS06 Spy/CpxP far	22 A22C	QUF21_RS06	0	1	1	0	20	-20
QUF21_RS06 Spy/CpxP far	26 A26C	QUF21_RS06	0	1	1	0	20	-20
QUF21_RS06 Spy/CpxP far	28 G28A	QUF21_RS06	0	1	1	0	20	-20
QUF21_RS06 Spy/CpxP far	45 C45A	QUF21_RS06	0	1	1	0	20	-20
QUF21_RS07 flagellar exp	56 G56C	QUF21_RS07	0	1	1	0	20	-20
QUF21_RS07 flagellar bas	402 T402G	QUF21_RS07	0	1	1	0	20	-20
QUF21_RS07 flagellar bas	404 C404G	QUF21_RS07	0	1	1	0	20	-20
QUF21_RS07 flagellar bas	418 A418C	QUF21_RS07	0	1	1	0	20	-20
QUF21_RS07 flagellar bas	456 A456G	QUF21_RS07	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	7 C7G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	8 A8C	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	9 A9C	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	92 A92C	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	92 A92G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	93 C93T	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	94 G94T	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	95 C95G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	99 T99A	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	202 C202G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	206 C206A	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	262 T262G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 molecular ch	277 A277T	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 RNA chaperc	66 C66G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 RNA chaperc	69 T69G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 RNA chaperc	82 C82A	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	235 G235C	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	53 T53G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	58 A58C	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	176 T176G	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 fimbrial biog	180 G180T	QUF21_RS08	0	1	1	0	20	-20
QUF21_RS08 Spy/CpxP far	61 A61C	QUF21_RS08	0	1	1	0	20	-20

QUF21_RS1(ATP-depende	281	G281C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	329	A329C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	336	A336C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	392	A392T	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	434	T434G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	574	T574G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	731	T731G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	780	G780C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	782	T782A	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	789	T789G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	798	A798C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	807	T807C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	847	T847A	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	859	A859C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(ATP-depende	860	A860C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Hsp33 family	155	A155C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	120	T120C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	268	A268C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	279	A279C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	283	G283T	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	286	A286C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	317	A317C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	528	A528C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	569	A569C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	571	A571C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	572	A572C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	572	C572G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	573	G573C	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	574	A574G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	589	C589A	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	611	T611G	QUF21_RS1(	0	1	1	0	20	-20
QUF21_RS1(Fe-S protein	115	T115G	QUF21_RS1(	0	1	1	0	20	-20

QUF21_RS11 Fe-S protein	117 G117T	QUF21_RS11	0	1	1	0	20	-20
QUF21_RS11 nitrate reduc	91 A91C	QUF21_RS11	0	1	1	0	20	-20
QUF21_RS11 nitrate reduc	94 A94C	QUF21_RS11	0	1	1	0	20	-20
QUF21_RS12 copper chape	125 T125A	QUF21_RS12	0	1	1	0	20	-20
QUF21_RS13 outer membe	43 A43T	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS13 chaperonin C	55 A55C	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS13 chaperonin C	57 C57A	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS13 chaperonin C	63 C63G	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS13 chaperonin C	227 A227C	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS13 chaperonin C	230 T230A	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS13 chaperonin C	250 T250A	QUF21_RS13	0	1	1	0	20	-20
QUF21_RS14 molecular ch	386 T386G	QUF21_RS14	0	1	1	0	20	-20
QUF21_RS16 LPS transloc	81 A81G	QUF21_RS16	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	184 G184T	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	229 T229G	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	25 A25T	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	27 A27T	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	28 T28G	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	111 A111C	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	147 T147C	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS18 fimbria/pilus	185 C185G	QUF21_RS18	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	193 C193A	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	323 A323G	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	382 G382C	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	465 T465G	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	469 T469G	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	522 A522T	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS20 chaperonin C	531 G531A	QUF21_RS20	0	1	1	0	20	-20
QUF21_RS24 nitrate reduc	223 A223C	QUF21_RS24	0	1	1	0	20	-20
QUF21_RS25 CesT family t	95 G95A	QUF21_RS25	0	1	1	0	20	-20
QUF21_RS26 T3SS chaper	2 A2T	QUF21_RS26	0	1	1	0	20	-20
QUF21_RS26 T3SS chaper	125 A125C	QUF21_RS26	0	1	1	0	20	-20

QUF21_RS26 T3SS chaperon	126 C126G	QUF21_RS26	0	1	1	0	20	-20
QUF21_RS27 lipase secret	11 A11C	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	13 A13C	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	15 A15C	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	25 A25C	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	49 A49C	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	76 G76C	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	241 T241G	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS27 lipase secret	242 T242G	QUF21_RS27	0	1	1	0	20	-20
QUF21_RS00 Spy/CpxP factor	33 A33C	QUF21_RS00	0	2	0.44444444	0	40	-40
QUF21_RS10 ATP-dependent	799 T799G	QUF21_RS10	0	2	0.44444444	0	40	-40
QUF21_RS13 radical SAM	270 A270G	QUF21_RS13	1	3	0.52380952	20	60	-40

Supplementary Table 13: Mobile Genetic Elements (MGE)

#date: 2025-11-25_23:27

#sample: 1-6643-5556

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
	1	ISBps1	predicted	insertion sequer	1289		0	0.995	0.999	1
	2	ISBps2	predicted	insertion sequer	1233		0	0.996	1	0
	3	ISBma1	ISBp2;ISBm1	predicted	insertion sequer	1249	0	0.997	0.957	0
	4	IS407	predicted	insertion sequer	1180		0	0.977	0.955	0
	5	ISRme4	predicted	insertion sequer	2468		0	0.792	0.979	51
3_2	cn_42307_ISBps2		putative	composite trans	42307		0	0.996	1	0

#date: 2025-11-25_23:47

#sample: 12-3568

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
	1	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1196	0	0.997	0.916	0
	2	IS407	predicted	insertion seq	1181		0	0.977	0.956	0
	3	ISBma3	ISBmu10	predicted	insertion seq	1457	0	0.849	0.992	10
	4	ISBps2	predicted	insertion seq	1233		0	0.996	1	0
	5	ISBp1	predicted	insertion seq	1198		0	0.997	0.987	0
2_1	cn_1273_ISBma1		putative	composite tr	1273		0	0.997	0.916	0
3_2	cn_6110_IS407		putative	composite tr	6110		0	0.977	0.956	0

#date: 2025-11-26_00:05

#sample: 29-3504

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
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	1	ISKpn40	predicted	insertion seq	1207	0	0.739	0.967	40
	2	ISBp1	predicted	insertion seq	1199	0	0.997	0.988	0
	3	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1181	0	0.997	0.905
	4	IS407	predicted	insertion seq	1236	0	0.977	1	0
	5	ISBma3	ISBmu10	predicted	insertion seq	1457	0	0.849	0.992
	6	ISBma2	predicted	insertion seq	1573	0	0.997	1	0
2_1		cn_2769_ISKpn40	putative	composite tr	2769	0	0.739	0.967	40

#date: 2025-11-26_00:09

#sample: 36-5689

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
	1	ISBma2	predicted	insertion seq	1573		0	0.996	1	0
	2	ISBma3	ISBmu10	predicted	insertion seq	1458	0	0.849	0.993	10
	3	IS407	predicted	insertion seq	1156		0	0.976	0.934	1
	4	ISBp1	predicted	insertion seq	1198		0	0.997	0.987	0
4_3		cn_24082_IS407	putative	composite tr	24082		0	0.976	0.934	1

#date: 2025-11-26_00:13

#sample: 41-6996

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
	1	ISBma2	predicted	insertion seq	1573		0	0.996	1	0
	2	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1305	0	0.995	1	0
	3	IS407	predicted	insertion seq	1194		0	0.978	0.966	0
	4	ISBma3	ISBmu10	predicted	insertion seq	1458	0	0.849	0.993	10
	5	ISBps1	predicted	insertion seq	1290		0	0.997	1	0
	6	ISBp1	predicted	insertion seq	1198		0	0.997	0.987	0
5_4		cn_1608_ISBma3	putative	composite tr	1608		0	0.849	0.993	10

#date: 2025-11-26_00:17

#sample: 42-6983

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1187		0	0.997	0.91	0
2	IS407		predicted	insertion seq	1236		0	0.977	1	0
3	ISBps1		predicted	insertion seq	1289		0	0.996	0.999	1
4	ISBma2		predicted	insertion seq	1469		0	0.995	0.934	0

#date: 2025-11-26_00:20

#sample: 43-5556

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	ISBps1		predicted	insertion seq	1289		0	0.995	0.999	1
2	ISBps2		predicted	insertion seq	1233		0	0.996	1	0
3	ISKpn40		predicted	insertion seq	1215		0	0.738	0.954	56
4	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1307		0	0.995	0.998	2
5	IS407		predicted	insertion seq	1236		0	0.976	1	0
6	ISRme4		predicted	insertion seq	2468		0	0.792	0.979	51
7	ISBma2		predicted	insertion seq	1573		0	0.995	1	0
4_3	cn_1799_ISKpn40		putative	composite tr	1799		0	0.738	0.954	56

#date: 2025-11-26_00:23

#sample: 44-5337

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	ISBma3	ISBmu10	predicted	insertion seq	1453		0	0.848	0.99	10
2	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1272		0	0.997	0.975	0
3	IS407		predicted	insertion seq	1146		0	0.978	0.927	0

4	ISBma2	predicted	insertion seq	1573	0	0.996	1	0
5	ISBp1	predicted	insertion seq	1198	0	0.997	0.987	0

#date: 2025-11-26_00:27

#sample: 45-3087

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	IS407		predicted	insertion seq	1236		0	0.867	1	0
2	IS407		predicted	insertion seq	1236		0	0.975	1	0
3	ISBma3	ISBmu10	predicted	insertion seq	1462		0	0.846	0.988	16
4	ISBma2		predicted	insertion seq	1573		0	0.996	1	0
5	ISBps1		predicted	insertion seq	1290		0	0.996	1	0
3_1_2	cn_5701_IS407		putative	composite tr	5701		0	0.867	1	0

#date: 2025-11-26_00:32

#sample: 46-5373

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1305		0	0.995	1	0
2	IS407		predicted	insertion seq	1146		0	0.977	0.927	0
3	ISBma3	ISBmu10	predicted	insertion seq	1458		0	0.849	0.993	10
4	ISBp1		predicted	insertion seq	1198		0	0.997	0.987	0
5	ISBma2		predicted	insertion seq	1573		0	0.997	1	0
2_1	cn_1382_ISBma1		putative	composite tr	1382		0	0.995	1	0

#date: 2025-11-26_00:36

#sample: 4799

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
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1	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1305	0	0.998	1	0
2	IS407		predicted	insertion seq	1195	0	0.978	0.967	0
3	ISBma3	ISBmu10	predicted	insertion seq	1458	0	0.849	0.993	10
4	ISBma2		predicted	insertion seq	1573	0	0.997	1	0
5	ISBp1		predicted	insertion seq	1198	0	0.997	0.987	0

#date: 2025-11-26_17:54

#sample: 49-4667

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	ISBma2		predicted	insertion seq	1573		0	0.996	1	0
2	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1305		0	0.995	1	0
3	IS407		predicted	insertion seq	1146		0	0.977	0.927	0
4	ISBma3	ISBmu10	predicted	insertion seq	1458		0	0.849	0.993	10
5	ISBp1		predicted	insertion seq	1198		0	0.997	0.987	0
4_3	cn_18693_IS407		putative	composite tr	18693		0	0.977	0.927	0

#date: 2025-11-26_18:09

#sample: 5018

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	ISBma2		predicted	insertion seq	1573		0	0.996	1	0
2	ISBma1	ISBp2;ISBm1	predicted	insertion seq	1296		0	0.992	0.99	2

#date: 2025-11-26_19:52

#sample: 5411

#mge_finder version: 1.1.2

#mgedb version: 1.1.1

#blastn version: 2.16.0+

mge_no	name	synonyms	prediction	type	allele_len	depth	e_value	identity	coverage	gaps
1	IS407		predicted	insertion seq	1146		0	0.977	0.927	0

2	ISBma3	ISBmu10	predicted	insertion seq	1457	0	0.849	0.992	10
3	ISBp1		predicted	insertion seq	1198	0	0.997	0.987	0
4	ISBma2		predicted	insertion seq	1573	0	0.996	1	0

substitution	contig	start	end	cigar
	5 Scaffold_1	2556639	2557927	M1282 I1 M7
	5 Scaffold_1	2596889	2598121	M1233
	4 Scaffold_2	2141659	2142907	M1249
	27 Scaffold_2	795030	796209	M1180
468	Scaffold_14	1	2468	M54 D4 M8 I1 M
	5 Scaffold_1	2596888	2639195	

substitution	contig	start	end	cigar
	4 Scaffold_1	2021981	2023176	M1196
	27 Scaffold_1	766536	767716	M1181
211	Scaffold_1	698802	700258	M570 I1 M6
	5 Scaffold_38	9041	10273	M1233
	3 Scaffold_40	1	1198	M1198
	4 Scaffold_1	2021980	2023253	
	27 Scaffold_1	761606	767716	

substitution	contig	start	end	cigar
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281 Scaffold_1	786100	787306	M40 I2 M3 I2
3 Scaffold_2	1082971	1084169	M1199
4 Scaffold_2	1914837	1916017	M1181
29 Scaffold_2	3221050	3222285	M1236
211 Scaffold_2	648622	650078	M570 I1 M6 I
5 Scaffold_9	2	1574	M1573
281 Scaffold_1	786099	788868	

substitution	contig	start	end	cigar
	7 Scaffold_1	458725	460297	M1573
	211 Scaffold_1	1211145	1212602	M570 I1 M6 I
	27 Scaffold_2	758496	759651	M9 D1 M114
	3 Scaffold_41	11	1208	M1198
	27 Scaffold_2	735569	759651	

substitution	contig	start	end	cigar
	7 Scaffold_1	1586604	1588176	M1573
	6 Scaffold_1	1801679	1802983	M1305
	26 Scaffold_1	680321	681514	M1194
	211 Scaffold_1	1911640	1913097	M29 D1 M47
	4 Scaffold_2	1216130	1217419	M1290
	3 Scaffold_27	1	1198	M1198
	211 Scaffold_1	1911639	1913247	

substitution	contig	start	end	cigar
4	Scaffold_1	1906819	1908005	M1187
28	Scaffold_1	732390	733625	M1236
4	Scaffold_7	784	2072	M1282 I1 M7
8	Scaffold_15	1	1469	M1469

substitution	contig	start	end	cigar
6	Scaffold_1	242760	244048	M7 I1 M1282
5	Scaffold_1	172822	174054	M1233
269	Scaffold_1	1545495	1546709	M26 D1 M58
5	Scaffold_2	1215008	1216314	M42 D2 M12
30	Scaffold_2	67349	68584	M1236
468	Scaffold_31	1	2468	M54 D4 M8 I
8	Scaffold_35	2	1574	M1573
269	Scaffold_1	1544910	1546709	

substitution	contig	start	end	cigar
211	Scaffold_1	1046053	1047505	M28 D1 M47
4	Scaffold_2	1779874	1781145	M1272
25	Scaffold_2	669703	670848	M1146

7 Scaffold_4	1	1573	M1573
3 Scaffold_15	1	1198	M1198

substitution	contig	start	end	cigar
164	Scaffold_1	2746862	2748097	M1236
31	Scaffold_1	2751327	2752562	M1236
210	Scaffold_1	2819229	2820690	M28 D1 M47
6	Scaffold_3	2	1574	M1573
5	Scaffold_52	1206	2495	M1290
164	Scaffold_1	2746861	2752562	

substitution	contig	start	end	cigar
6	Scaffold_1	2273166	2274470	M1305
26	Scaffold_1	875703	876848	M1146
211	Scaffold_2	1772919	1774376	M29 D1 M47
3	Scaffold_18	1	1198	M1198
5	Scaffold_28	1	1573	M1573
6	Scaffold_1	2273088	2274470	

substitution	contig	start	end	cigar
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3 Scaffold_2	1965461	1966765	M1305
26 Scaffold_2	770283	771477	M1195
211 Scaffold_2	2078555	2080012	M29 D1 M47
5 Scaffold_40	2	1574	M1573
3 Scaffold_66	1	1198	M1198

substitution	contig	start	end	cigar
	6 Scaffold_1	1858673	1860245	M1573
	6 Scaffold_1	1519071	1520375	M1305
	26 Scaffold_1	2590411	2591556	M1146
	211 Scaffold_1	1404205	1405662	M570 I1 M6
	3 Scaffold_15	11	1208	M1198
	26 Scaffold_1	2590410	2609103	

substitution	contig	start	end	cigar
	6 Scaffold_1	2378900	2380472	M1573
	8 Scaffold_1	1976843	1978138	M42 D2 M12

substitution	contig	start	end	cigar
	26 Scaffold_1	817927	819072	M1146

211 Scaffold_1	746691	748147 M570 I1 M6
3 Scaffold_21	1	1198 M1198
6 Scaffold_23	2	1574 M1573

Supplementary Table 14: TNComp Finder

1-6643-5556	Scaffold_1	2556639	2557927	ET-ID1475 ISBf	1290	1290	1	99.535	1290
1-6643-5557	Scaffold_1	2596889	2598121	ET-ID2704 ISBf	1233	1233	1	99.594	1233
1-6643-5563	Scaffold_1	2556639	2557927	ET-ID1477 ISBf	1290	1290	1	84.574	1290
`12-4075	Scaffold_38	9041	10273	ET-ID2704 ISBf	1233	1	1233	99.594	1233
29-3658	Scaffold_2	3221050	3222285	ET-ID351 IS40i	1236	1	1236	97.654	1236
29-3888	Scaffold_9	2	1574	ET-ID2782 ISBr	1573	1	1573	99.682	1573
36-5689	Scaffold_1	458725	460297	ET-ID2782 ISBr	1573	1573	1	99.555	1573
41-6495	Scaffold_1	1586604	1588176	ET-ID2782 ISBr	1573	1573	1	99.555	1573
41-6495	Scaffold_1	1801679	1802983	ET-ID515 ISBm	1305	1	1305	99.54	1305
41-6495	Scaffold_2	1216130	1217419	ET-ID1475 ISBf	1290	1	1290	99.69	1290
41-6495	Scaffold_2	1216130	1217419	ET-ID1477 ISBf	1290	All	1290	84.419	1290
42-6983	Scaffold_1	732390	733625	ET-ID351 IS40i	1236	1236	1	97.735	1236
42-6983	Scaffold_7	784	2072	ET-ID1475 ISBf	1290	1290	1	99.612	1290
42-6983	Scaffold_7	784	2072	ET-ID1477 ISBf	1290	1290	1	84.341	1290
43-5556	Scaffold_1	242760	244048	ET-ID1475 ISBf	1290	1	1290	99.457	1290
43-5556	Scaffold_1	172822	174054	ET-ID2704 ISBf	1233	1	1233	99.594	1233
43-5556	Scaffold_1	242760	244048	ET-ID1477 ISBf	1290	1	1290	84.496	1290
43-5556	Scaffold_2	67349	68584	ET-ID351 IS40i	1236	1	1236	97.573	1236
43-5556	Scaffold_35	2	1574	ET-ID2782 ISBr	1573	1	1573	99.491	1573
44-5337	Scaffold_2	1779874	1781178	ET-ID515 ISBm	1305	1	1305	99.693	1305
44-5337	Scaffold_4	1	1573	ET-ID2782 ISBr	1573	1573	1	99.555	1573
45-3087	Scaffold_1	2751327	2752562	ET-ID351 IS40i	1236	1	1236	97.492	1236
45-3087	Scaffold_1	2746862	2748097	ET-ID351 IS40i	1236	1	1236	86.731	1236
45-3087	Scaffold_3	2	1574	ET-ID2782 ISBr	1573	1	1573	99.619	1573
45-3087	Scaffold_52	1206	2495	ET-ID1475 ISBf	1290	1290	1	99.612	1290
45-3087	Scaffold_52	1206	2495	ET-ID1477 ISBf	1290	1290	1	84.496	1290
46-5373	Scaffold_1	2273166	2274470	ET-ID515 ISBm	1305	1	1305	99.54	1305
46-5373	Scaffold_28	1	1573	ET-ID2782 ISBr	1573	1	1573	99.682	1573
49-4667	Scaffold_1	1858673	1860245	ET-ID2782 ISBr	1573	1	1573	99.619	1573
49-4667	Scaffold_1	1519071	1520375	ET-ID515 ISBm	1305	1305	1	99.54	1305
4799	Scaffold_2	1965461	1966765	ET-ID515 ISBm	1305	1	1305	99.77	1305
4799	Scaffold_40	2	1574	ET-ID2782 ISBr	1573	1573	1	99.682	1573
5018	Scaffold_1	2378900	2380472	ET-ID2782 ISBr	1573	1573	1	99.619	1573
5411	Scaffold_23	2	1574	ET-ID2782 ISBr	1573	1573	1	99.619	1573