

**S3 Table. Mean values for each data set**

Figure	Strain Name	Mean	Figure	Strain Name	Mean
Fig 1A	Parent	1.08E-01	S2 Fig	PilT x PilT	1.67E+02
Fig 1A	$\Delta$ pilA	1.22E-08	S2 Fig	PilU x PilT	6.10E+01
Fig 1A	$\Delta$ pilU	5.78E-02	S2 Fig	PilT <sup>K136A</sup> x PilT	1.57E+02
Fig 1A	$\Delta$ pilT	3.29E-06	S2 Fig	PilU <sup>K134A</sup> x PilT	8.23E+01
Fig 1A	$\Delta$ pilT $\Delta$ pilU	3.91E-06	S2 Fig	PilC x PilT	1.15E+02
Fig 1A	pilT <sup>K136A</sup>	6.22E-02	S2 Fig	vector x PilT	1.13E+00
Fig 1A	pilT <sup>K136A</sup> $\Delta$ pilU	3.89E-06	S2 Fig	PilT x PilU	1.10E+02
Fig 1A	pilT <sup>E204A</sup>	2.55E-02	S2 Fig	PilU x PilU	1.81E+02
Fig 1A	pilT <sup>K136A/E204A</sup>	3.53E-02	S2 Fig	PilT <sup>K136A</sup> x PilU	7.37E+01
Fig 1A	pilT <sup>E204A</sup> $\Delta$ pilU	9.36E-06	S2 Fig	PilU <sup>K134A</sup> x PilU	2.11E+02
Fig 1A	pilT <sup>K136A/E204A</sup> $\Delta$ pilU	4.66E-06	S2 Fig	PilC x PilU	9.71E+01
Fig 1B	Parent	2.12E-01	S2 Fig	vector x PilU	1.04E+00
Fig 1B	$\Delta$ pilU	1.57E-01	S2 Fig	PilT x PilT <sup>K136A</sup>	1.56E+02
Fig 1B	$\Delta$ pilT	3.07E-03	S2 Fig	PilU x PilT <sup>K136A</sup>	7.99E+00
Fig 1B	$\Delta$ pilT $\Delta$ pilU	3.85E-03	S2 Fig	PilT <sup>K136A</sup> x PilT <sup>K136A</sup>	8.06E+01
Fig 1B	pilT <sup>K136A</sup>	4.26E-02	S2 Fig	PilU <sup>K134A</sup> x PilT <sup>K136A</sup>	1.04E+01
Fig 1B	pilT <sup>K136A</sup> $\Delta$ pilU	2.06E-03	S2 Fig	PilC x PilT <sup>K136A</sup>	1.08E+02
Fig 1B	pilT <sup>E204A</sup>	4.82E-02	S2 Fig	vector x PilT <sup>K136A</sup>	7.32E-01
Fig 1B	pilT <sup>E204A/K136A</sup>	6.12E-02	S2 Fig	PilT x PilU <sup>K134A</sup>	7.20E+01
Fig 1B	pilT <sup>E204A</sup> $\Delta$ pilU	3.58E-03	S2 Fig	PilU x PilU <sup>K134A</sup>	1.72E+02
Fig 1B	pilT <sup>E204A/K136A</sup> $\Delta$ pilU	4.09E-03	S2 Fig	PilT <sup>K136A</sup> x PilU <sup>K134A</sup>	4.69E+01
Fig 1C	Parent	1.73E+01	S2 Fig	PilU <sup>K134A</sup> x PilU <sup>K134A</sup>	1.34E+02
Fig 1C	$\Delta$ pilU	3.16E+01	S2 Fig	PilC x PilU <sup>K134A</sup>	1.10E+02
Fig 1C	$\Delta$ pilT	2.93E-02	S2 Fig	vector x PilU <sup>K134A</sup>	7.14E-01
Fig 1C	$\Delta$ pilT $\Delta$ pilU	1.33E-01	S2 Fig	PilT x PilC	8.69E+01
Fig 1C	pilT <sup>K136A</sup>	3.43E+01	S2 Fig	PilU x PilC	5.20E+01
Fig 1C	pilT <sup>K136A</sup> $\Delta$ pilU	8.75E-02	S2 Fig	PilT <sup>K136A</sup> x PilC	7.43E+01
Fig 1C	pilT <sup>E204A</sup>	1.41E-01	S2 Fig	PilU <sup>K134A</sup> x PilC	7.25E+01
Fig 1C	pilT <sup>E204A/K136A</sup>	1.77E+01	S2 Fig	PilC x PilC	2.55E+02
Fig 1C	pilT <sup>E204A</sup> $\Delta$ pilU	5.65E-02	S2 Fig	vector x PilC	8.15E-01
Fig 1C	pilT <sup>E204A/K136A</sup> $\Delta$ pilU	3.86E-02	S2 Fig	PilT x vector	6.59E-01
Fig 1F	Parent	1.05E+01	S2 Fig	PilU x vector	7.85E-01
Fig 1F	$\Delta$ pilT	4.93E+00	S2 Fig	PilT <sup>K136A</sup> x vector	6.81E-01
Fig 1F	$\Delta$ pilU	5.08E+00	S2 Fig	PilU <sup>K134A</sup> x vector	7.14E-01
Fig 1F	$\Delta$ pilT $\Delta$ pilU	6.08E+00	S2 Fig	PilC x vector	7.68E-01
Fig 1H	Parent	1.93E-01	S2 Fig	vector x vector	7.22E-01
Fig 1H	$\Delta$ pilT	1.37E-02	S3-A Fig	Parent	1.46E-01

Fig 1H	$\Delta$ pilU	7.23E-02	S3-A Fig	$\Delta$ pilT	6.94E-06
Fig 1H	$\Delta$ pilT $\Delta$ pilU	8.19E-03	S3-A Fig	pilT <sup>K136A</sup> , 6xHis-pilU	1.53E-01
Fig 2A	Parent	1.37E-01	S3-A Fig	6xHis-pilT	1.14E-01
Fig 2A	pilU <sup>L199C</sup>	1.51E-01	S3-A Fig	6xHis-pilU	1.11E-01
Fig 2A	pilT <sup>K136A</sup> pilU <sup>L199C</sup>	9.81E-02	S3-A Fig	pilT <sup>K136A</sup> , 3xFLAG-pilU	1.14E-01
Fig 2A	$\Delta$ pilT pilU <sup>L199C</sup>	6.79E-06	S3-A Fig	3xFLAG-pilT	1.45E-01
Fig 2A	pilT <sup>L201C</sup>	2.04E-01	S3-A Fig	3xFLAG-pilU	1.23E-01
Fig 2A	pilT <sup>L201C</sup> $\Delta$ pilU	6.47E-02	S3-A Fig	pilT <sup>K136A</sup>	1.20E-01
Fig 2A	pilT <sup>K136A</sup>	1.17E-01	S3-B Fig	Parent	3.75E-03
Fig 2A	pilU <sup>K134A</sup>	6.33E-02	S3-B Fig	$\Delta$ pilT	4.46E-07
Fig 2A	pilT <sup>K136A</sup> pilU <sup>K134A</sup>	6.07E-07	S3-B Fig	Ptac-3xFLAG-pilT	4.60E-03
Fig 2A	$\Delta$ pilU	8.80E-02	S3-B Fig	Ptac-3xFLAG-pilT $\Delta$ pilT	4.94E-03
Fig 2B	Parent	2.12E-01	S3-B Fig	Ptac-3xFLAG-pilU	2.78E-03
Fig 2B	$\Delta$ pilU	1.57E-01	S3-B Fig	Ptac-3xFLAG-pilU, pilT <sup>K136A</sup> $\Delta$ pilU	1.66E-03
Fig 2B	pilT <sup>K136A</sup>	4.26E-02	S3-B Fig	Ptac-3xFLAG-pilT <sup>K136A</sup>	5.66E-03
Fig 2B	pilU <sup>K134A</sup>	1.37E-01	S3-B Fig	Ptac-3xFLAG-pilU <sup>K134A</sup>	4.71E-03
Fig 2B	pilT <sup>K136A</sup> pilU <sup>K134A</sup>	4.77E-03	S3-B Fig	Ptac-3xFLAG-pilT <sup>K136A</sup> , $\Delta$ pilU	1.25E-06
Fig 2B	pilT <sup>K136A</sup> pilU <sup>L199C</sup>	3.26E-02	S3-B Fig	P <sub>tac</sub> -3xFLAG-pilU <sup>K134A</sup> , pilT <sup>K136A</sup>	2.00E-06
Fig 2B	pilU <sup>L199C</sup>	1.96E-01	S3-B Fig	$\Delta$ pilU	2.48E-03
Fig 2B	pilT <sup>L201C</sup>	2.11E-01	S3-B Fig	pilT <sup>K136A</sup>	2.24E-03
Fig 2B	pilT <sup>L201C</sup> $\Delta$ pilU	1.28E-01	S3-D Fig	Parent	1.97E-03
Fig 2B	$\Delta$ pilT pilU <sup>L199C</sup>	3.91E-03	S3-D Fig	$\Delta$ pilT $\Delta$ pilU	2.15E-07
Fig 4C	Parent	2.02E-03	S3-D Fig	pilU <sup>K134A</sup>	3.90E-03
Fig 4C	$\Delta$ pilU	2.57E-03	S3-D Fig	pilT <sup>K136A</sup> $\Delta$ pilU	3.62E-08
Fig 4C	$\Delta$ pilT	1.57E-06	S3-D Fig	pilT <sup>K136A</sup> pilU <sup>K134A</sup>	2.12E-07
Fig 4C	pilT <sup>K136A</sup>	3.08E-03	S3-D Fig	P <sub>tac</sub> -pilT	4.18E-03
Fig 4C	Ptac-pilT <sup>K136A</sup>	5.94E-03	S3-D Fig	$\Delta$ pilT Ptac-pilT	4.08E-03

Fig 4C	Ptac-pilT <sup>K136A</sup> ΔpilU	2.41E-06	S3-D Fig	P <sub>tac</sub> -pilU	4.07E-03
Fig 4C	Ptac-pilU <sup>K134A</sup>	5.55E-03	S3-D Fig	pilT <sup>K136A</sup> ΔpilU Ptac-pilU	1.39E-03
Fig 4C	Ptac-pilU <sup>K134A</sup> pilT <sup>K136A</sup>	2.46E-05	S3-D Fig	ΔpilA	6.49E-09
Fig 4C	Ptac-pilT <sup>K136A</sup> Ptac-pilU <sup>K134A</sup>	4.82E-06	S3-D Fig	pilT <sup>K136A</sup>	1.75E-03
Fig 5	pilT <sup>K136A</sup> ΔpilU	8.95E-09	S4 Fig	Parent pmmB-pilT	2.23E-02
Fig 5	pilT <sup>K136A</sup> pilU <sup>K137A</sup>	7.00E-09	S4 Fig	ΔpilTU pmmB-pilT	2.05E-03
Fig 5	pilT <sup>K136A</sup>	1.17E-03	S4 Fig	ΔpilT pmmB-pilT	1.80E-02
Fig 5	pilU <sup>K137A</sup>	2.34E-03	S4 Fig	ΔpilU pmmB-pilT	3.24E-03
Fig 5	Parent	4.10E-02	S4 Fig	pilT <sup>K136A</sup> pmmB-pilT	1.68E-02
Fig 5	ΔpilT	8.52E-09	S4 Fig	pilT <sup>K136A</sup> ΔpilU pmmB-pilT	2.30E-03
Fig 5	ΔpilU	3.17E-03	S4 Fig	pilU <sup>K137A</sup> pmmB-pilT	1.63E-03
Fig 5	ΔpilTU	8.48E-09	S4 Fig	pilT <sup>K136A</sup> pilU <sup>K137A</sup> pmmB-pilT	2.19E-03
Fig 5	ΔcomP	6.53E-09	S4 Fig	Parent pmmB-pilU	8.67E-02
S1 Fig	ΔpilT ΔpilU Ptac-PilT	7.05E-02	S4 Fig	ΔpilTU pmmB-pilU	2.04E-07
S1 Fig	ΔpilT ΔpilU Ptac-PilU	7.26E-06	S4 Fig	ΔpilT pmmB-pilU	1.55E-07
S1 Fig	pilT <sup>K136A</sup> ΔpilU Ptac-PilT	6.53E-02	S4 Fig	ΔpilU pmmB-pilU	2.48E-02
S1 Fig	pilT <sup>K136A</sup> ΔpilU Ptac-PilU	6.27E-02	S4 Fig	pilT <sup>K136A</sup> pmmB-pilU	7.66E-04
S1 Fig	pilT <sup>K136A</sup> pilU <sup>K134A</sup> Ptac-PilT	4.21E-02	S4 Fig	pilT <sup>K136A</sup> ΔpilU pmmB-pilU	8.35E-04
S1 Fig	pilT <sup>K136A</sup> pilU <sup>K134A</sup> Ptac-PilU	4.65E-02	S4 Fig	pilU <sup>K137A</sup> pmmB-pilU	1.07E-02
S1 Fig	Parent Ptac-PilT	6.74E-02	S4 Fig	pilT <sup>K136A</sup> pilU <sup>K137A</sup> pmmB-pilU	9.52E-04
S1 Fig	Parent Ptac-PilU	8.85E-02	S4 Fig	Parent pmmB-pilU	2.66E-02
S1 Fig	ΔpilT Ptac-PilT	6.55E-02	S5 Fig	Parent	3.12E-01
S1 Fig	ΔpilT Ptac-PilU	3.13E-06	S5 Fig	ΔMSHA ΔTCP	3.73E-01
S1 Fig	pilT <sup>K136A/E204A</sup> ΔpilU Ptac-PilT	6.32E-02	S5 Fig	ΔpilTU	1.59E-05
S1 Fig	pilT <sup>K136A/E204A</sup> ΔpilU Ptac-PilU	4.05E-02	S5 Fig	ΔpilTU ΔMSHA ΔTCP	3.34E-05
S1 Fig	pilT <sup>E204A</sup> ΔpilU Ptac-PilT	6.02E-02			
S1 Fig	pilT <sup>E204A</sup> ΔpilU Ptac-PilU	7.81E-02			