

In these Supplementary Tables the following abbreviations for the participating laboratories were used.

APHA Animal and Plant Health Agency UK

BfR Consultant Laboratory for *Vibrio* spp. in Food, Department Biological Safety, German Federal Institute for Risk Assessment, Berlin, Germany

Cefas Centre for Environment, Fisheries and Aquaculture Science, UK

CMV-OAS Center for Veterinary Medicine Office of Research Division of Applied Veterinary Research U. S. Food and Drug Administration, US

IMT Institute of Microbiology and Epizootics Centre of Infection Medicine Department of Veterinary Medicine Freie Universität Berlin Berlin, Germany

MBA Mycoplasmaology-Bacteriology and Antimicrobial Resistance Unit of Ploufragan-Plouzané-Niort Laboratory of the French Agency for Food, Environmental and Occupational Health & Safety, France.

NParks Animal and Veterinary Service, National Parks Board, Singapore

WADDL Washington Animal Disease Diagnostic Lab U.S.

The acronym **EUCAST** indicates the combined distributions from 2 laboratories accessed from (www.eucast.org/mic_distributions_and_ecoffs/).

Table S1. Range of MIC values ($\mu\text{g}/\text{mL}$) recorded at 35°C for the reference strain *Escherichia coli* ATCC 25922 by the participating laboratories

	APHA	BfR	Cefas	CVM-OAS	IMT	MBA	NParks	WADDL
Ampicillin (AMP)	Acceptable range 2 $\mu\text{g}/\text{mL}$ – 8 $\mu\text{g}/\text{mL}$							
	2	4	4	8	2 - 4	8	4	4 - 8
Ceftazidime (CTZ)	Acceptable range 0.06 $\mu\text{g}/\text{mL}$ – 0.5 $\mu\text{g}/\text{mL}$							
	0.25	0.125	0.25 – 0.5	0.25 – 0.5	0.25 – 0.5	0.25 – 0.5	0.25 – 0.5	0.5
Enrofloxacin (ENR)	Acceptable range 0.008 $\mu\text{g}/\text{mL}$ – 0.03 $\mu\text{g}/\text{mL}$							
	0.015	0.015	0.008-0.015	0.015 - 0.03	0.03	0.015	0.015	0.015 - 0.03
Florfenicol (FLO)	Acceptable range 2 $\mu\text{g}/\text{mL}$ – 8 $\mu\text{g}/\text{mL}$							
	4	2	4	4	4 - 8	4	4 - 8	4 - 8
Gentamicin (GEN)	Acceptable range 0.25 $\mu\text{g}/\text{mL}$ – 1 $\mu\text{g}/\text{mL}$							
	0.5	0.125	0.5 - 1	0.25 - 1	0.5 - 1	0.5	0.5 - 1	0.5 - 1
Meropenem (MER)	Acceptable range 0.008 $\mu\text{g}/\text{mL}$ – 0.06 $\mu\text{g}/\text{mL}$							
	0.03	0.015	0.03 – 0.015	0.03 – 0.015	0.015 - 0.03	0.03	0.015 - 0.03	0.015 - 0.03
Oxolinic acid (OXO)	Acceptable range 0.06 $\mu\text{g}/\text{mL}$ – 0.025 $\mu\text{g}/\text{mL}$							
	0.25	0.125	0.125 - 0.25	0.25	0.25	0.25	0.125 - 0.25	0.125 - 0.25
Oxytetracycline (OXY)	Acceptable range 0.5 $\mu\text{g}/\text{mL}$ – 4 $\mu\text{g}/\text{mL}$							
	0.5	1	1	1	0.5 - 2	2	1	1
Sulfamethoxazole (SME)	No Acceptable ranges available							
	8	128	2 - 128	4 - 8	16 - 64	16 - 32	16 - 32	>512
Trimethoprim/ Sulfamethoxazole (TRS)	Acceptable range $\leq 0.5/9.5 \mu\text{g}/\text{mL}$							
	0.03	0.06	0.06 – 0.25	0.03	0.06	0.125	0.06	0.06

Table S2. Range of MIC values ($\mu\text{g/mL}$) recorded at 28°C for the reference strain *Escherichia coli* ATCC 25922 by the participating laboratories

	APHA	Cefas	CVM-OAS	IMT	MBA	NParks	WADDL
Ampicillin	Acceptable range 2 $\mu\text{g/ml}$ – 8 $\mu\text{g/ml}$						
	2	4	8	2 - 4	8	4	4 - 8
Ceftazidime	No Acceptable ranges available						
	0.25	0.25 – 0.5	0.25 – 0.5	0.25 – 0.5	0.25 – 0.5	0.25 – 0.5	0.5
Enrofloxacin	Acceptable range 0.008 $\mu\text{g/ml}$ – 0.03 $\mu\text{g/ml}$						
	0.015	0.015	0.015 – 0.03	0.03	0.015	0.015	0.015 – 0.03
Florfenicol	Acceptable range 4 $\mu\text{g/ml}$ – 16 $\mu\text{g/ml}$						
	4	4	4	4 - 8	4	4 - 8	4 - 8
Gentamicin	Acceptable range 0.25 $\mu\text{g/ml}$ – 1 $\mu\text{g/ml}$						
	0.5	0.5 - 1	0.25 - 1	0.5 - 1	0.5	0.5 - 1	0.5 - 1
Meropenem	No Acceptable ranges available						
	0.03	0.015 - 0.03	0.015 - 0.03	0.015 - 0.03	0.03	0.03	0.015 - 0.03
Oxolinic acid	Acceptable range 0.06 $\mu\text{g/ml}$ – 0.25 $\mu\text{g/ml}$						
	0.125	0.125 – 0.25	0.125 – 0.25	0.125	0.125 – 0.25	0.125	0.125 – 0.25
Oxytetracycline	Acceptable range 0.5 $\mu\text{g/ml}$ – 2 $\mu\text{g/ml}$						
	0.5	1	1	0.5 - 1	1 - 2	1	1
Sulfamethoxazole	No Acceptable ranges available						
	8	64 - 128	4 - 8	16 - 64	16 - 32	>512	>512
Trimethoprim/ Sulfamethoxazole	Acceptable range 0.03 $\mu\text{g/ml}$ – 0.25 $\mu\text{g/ml}$						
	0.06	0.06 – 0.25	0.03	0.06 – 0.125	0.25	0.06	0.06 – 0.125

Table S3. The distribution of MIC values ($\mu\text{g/ml}$) recorded at two temperatures by the participating laboratories and the standard deviations of their WT isolates ($\mu\text{g/ml}$) calculated by NRI and ECOFFinder analysis.

The modal value in each data set is identified in bold type.

NRI sd indicates the standard deviation ($\mu\text{g/ml}$) of the normalised WT distribution calculated by NRI.

ECOFF sd indicates the standard deviation of the best-fit curve of the WT distribution calculated by ECOFFinder.

The NRI sd and ECOFF sd values that exceeded the limits suggested by Smith (2022) are in red type and are highlighted in yellow

Data sets that were excluded from the censored aggregation were indicated in red type.

Table S3.1. Ampicillin

MIC $\mu\text{g/mL}$	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤ 0.015																
0.03																
0.06																
0.125																
0.25																
0.5		1														
1	1				1										1	
\leq	1				1	1							1	1		
4	1	2	4			1					1		2		4	
8	8	6	17		4	1	11		5		1	1	7	2	4	2
16	7	7	17		1	3	12	3	12	11	4	1	9	6	10	7
>16	4	6	1		16	17	7	27	9	15	27	31	10	19	14	25
NRI sd ^a																
ECOFF sd ^a																

^a No values for NRI sd or ECOFF sd were calculated for these data sets

Table S3.2. Ceftazidime

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL		EUCAST	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	
≤0.03																		
0.06			1		1								1	1				1
0.125		2	10		5	7	5	4			6	5	6	5	3	1		12
0.25	6	9	25		6	5	12	13	14	14	5	7	6	9	5	13		55
0.5	16	11	2		10	8	12	11	12	12	17	18	13	13	26	19		51
1			1		1	3		1			5	3	1			1		
2																		
4																		
8																		
>8							1	1										
NRI sd	0.56	0.84	0.64		1.39	0.71	0.89	0.83	0.69	0.69	1.40	1.06	1.48	1.27	1.02	0.80		0.88
ECOFF sd	0.22	0.65	0.49		1.08	1.23	0.76	0.73	0.25	0.25	1.04	0.84	1.22	0.89	0.23	0.51		0.75

Table S3.3. Enrofloxacin

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤0.0005																
0.001																
0.002			1													
0.004											1	1	1			1
0.008					1		2	1			1				1	
0.015		1	1					1							1	
0.03	3		5		1		2	2					1			1
0.06	11		32		5	3	12	1	2	1	2	1	8	4	9	1
0.125	8	20			14	9	14	18	20	14	29	19	18	18	23	26
0.25						11		7	4	11		12		6		5
>0.25		1			2											
NRI sd	0.81	0.41	0.76		1.02	0.94	1.63	1.56	0.48	0.63	1.97	0.66	0.84	0.61	1.17	0.96
ECOFF sd	0.52	nr	0.24		0.41	0.71	0.75	0.64	0.50	0.51	0.03	0.53	0.46	0.54	0.35	0.54

Table S3.4. Florfenicol

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤0.03																
0.06																
0.125								1								
0.25	1	10	24		1	2		21						1	2	1
0.5	20	11	14		15	15	26	8	14	23	18	25	18	26	26	28
1	1	1	1		6	6	4		12	3	15	7	10		6	5
2					1							1		1		
4																
8																
16																
>16																
NRI _{sd}	0.70	0.67	0.59		0.70	0.71	0.37	0.68	0.69	0.37	0.70	0.37	0.60	0.40	0.44	0.40
ECOFF _{sd}	0.26	0.49	0.27		0.44	0.50	0.22	0.41	0.25	NR	0.26	0.23	0.26	0.17	0.40	0.34

Table S3.5. Gentamicin

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤0.06																
0.125																
0.25	1		5													
0.5	7	3	32		3	1	2				1	11	12	1	2	
1	14	17	2		12	7	25	12	5	3	19	18	13	24	26	25
2		2			7	11	3	18	17	18	11	4	2	3	6	9
4					1	4			4	5	2		1			
8																
>8																
NRI _{sd}	0.75	0.56	0.54		0.81	0.83	0.45	0.73	0.57	0.55	0.65	0.70	0.67	0.41	0.44	0.64
ECOFF _{sd}	0.39	0.41	0.36		0.66	0.77	0.36	0.26	0.53	0.48	0.45	0.61	0.55	0.14	0.40	0.25

Table S3.6. Meropenem

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤0.008	22	22	35		18	18	23	24	24	23	18	15	27	27	30	32
0.015			2		5	5	7	6	2	3	15	17	1	1	4	2
0.03			1									1				
0.06			1													
0.125																
0.25																
0.5																
1																
>1																
NRI _{sd} ^a																
ECOFF _{sd} ^a																

^a No values for NRI_{sd} or ECOFF_{sd} were calculated for these data sets

Table S3.7. Oxolinic acid

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤0.002																
0.004																
0.008																
0.015			2		1	1		1						1		
0.03		1	3		1		2	2			1	1	2	1	2	1
0.06	5		17		1		7	1	1	1	1	2		4	1	
0.125	15	9	15		8	5	14	3	4	1	5	1	9	4	10	4
0.25	2	12	2		10	13	7	20	18	19	24	20	14	14	17	26
0.5					2	4		3	3	5	2	9	1	7	1	2
1												1		1		
>1																
NRI _{sd}	0.70	0.86	1.09		1.46	0.90	1.03	1.82	0.79	0.68	0.84	0.90	1.24	1.66	1.26	0.80
ECOFF _{sd}	0.48	0.51	0.77		0.90	0.66	0.88	0.53	0.48	0.44	0.43	0.53	0.82	0.79	0.86	0.40

Table S3.8. Oxytetracycline

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤0.015																
0.03																
0.06						1										
0.125		3	1			4			1				2			
0.25	9	18	10		4	10	3	1	1	20	1	4	3	12	5	5
0.5	13	1	27		14	8	15	24	17	4	17	22	21	14	16	23
1					5		12	5	8	1	15	7	4		12	4
2			1													
4																1
8																
>8															1	1
NRI _{sd}	0.74	0.55	0.62		0.66	1.05	0.73	0.41	0.58	0.41	0.75	0.57	0.53	0.78	0.84	0.60
ECOFF _{sd}	0.28	0.36	0.28		0.59	0.95	0.62	0.36	0.44	0.37	0.51	0.51	0.43	0.57	0.69	0.46

Table S3.9. Sulfamethoxazole

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C
≤1	2	2	2			3							1	2		
2		1	5		3	1							1	1		
4	6	7	28		5	5	1						2	1	1	
8	10	12	2		4	2	13	12		1	1		11	3	1	4
16	4		2		4	9	15	17	1	7			8	11	3	1
32						1	1	1	7	10	1		3	6	4	3
64									16	6	19	14	2		2	
128					2	1			1	2	9	17		3	3	5
256					1				1		2	1			6	4
512					2						1			1	3	7
>512					2						1				11	10
NRI sd	1.44	1.95	0.8		1.19	2.77	0.74	0.75	0.70	1.01	0.68	0.66	1.4	2.81	1.68	na
ECOFF sd	0.94	nr	0.4		1.17	1.86	0.55	0.46	0.47	0.96	0.50	0.47	0.95	1.36	nr	nr

na No NRI sd was calculated as the putative WT distribution identified by NRI analysis contained only 8 observations.
nr indicates that the ECOFFinder algorithm was not able to analyse these data,

Table S3.10. Trimethoprim/sulfamethoxazole

MIC µg/mL	APHA		BfR		Cefas		CVM-OAS		IMT		MBA		NParks		WADDL		EUCAST	
	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	28°C	35°C	
≤0.008		1											1					
0.015	2	1											1	2				1
0.03		2	12		2	3							1	1				1
0.06	20	17	24		6	4	8	9		2	1		1	10	7	9		17
0.125		1	3		10	9	22	21	18	21	24	22	22	15	25	22		78
0.25					3	5			8	3	8	11	2		1	2		21
0.5						1												1
1					2	1										1		
>1															1			
NRI _{sd}	1.00	1.07	0.65		1.13	1.32	0.55	0.60	0.62	0.47	0.69	0.61	1.70	1.16	0.66	0.59		0.73
ECOFF _{sd}	0.21	0.18	0.52		0.84	1.11	0.22	0.22	0.25	0.38	0.39	0.25	0.40	0.67	0.37	0.46		0.53

^bThe MIC values for trimethoprim/sulfamethoxazole given in Table 3.10 are for the trimethoprim component