Supplemental materials

1 References for antibiotic concentrations rationales

Table 1. Antibiotics experimental concentrations and rationales.

Antibiotic	Concentration (mg/L)	Rationale	References
Daptomycin (DAP)	30	$\frac{AUC_{0-24h}}{24h}$	European Committee on Antimicrobial Susceptibility Testing. (2005a). Daptomycin: Rationale for the EUCAST clinical breakpoints, version 1.0. In: http://www.eucast.org. Dvorchik, B. H., Brazier, D., DeBruin, M. F., & Arbeit, R. D. (2003). Daptomycin pharmacokinetics and safety following administration of escalating doses once daily to healthy subjects. *Antimicrob Agents Chemother, 47*(4), 1318-1323. doi:10.1128/aac.47.4.1318-1323.2003
Doxycycline (DOX)	1.5	$\frac{AUC_{0-24h}}{24h}$	European Committee on Antimicrobial Susceptibility Testing. (2009a). Doxycycline: Rationale for the EUCAST clinical breakpoints, version 1.0. In: http://www.eucast.org.
Linezolid (LZD)	5	C_{min}	European Committee on Antimicrobial Susceptibility Testing. (2005b). Linezolid: Rationale for the EUCAST clinical breakpoints, version 1.0. In: http://www.eucast.org.
Moxifloxacin (MXF)	1.5	$\frac{AUC_{0-24h}}{24h}$	European Committee on Antimicrobial Susceptibility Testing. (2007b). Moxifloxacin: Rationale for the EUCAST clinical breakpoints, version 2.3. In: http://www.eucast.org.
Rifampin (RIF)	2.5	$\frac{AUC_{0-24h}}{24h}$	European Committee on Antimicrobial Susceptibility Testing. (2010b). Rifampicin: Rationale for the EUCAST clinical breakpoints, version 1.0. In: http://www.eucast.org.
Vancomycin (VAN)	2	Target trough concentration (20 mg/L)	European Committee on Antimicrobial Susceptibility Testing. (2010c). Vancomycin: Rationale for the EUCAST clinical breakpoints, version 2.1. In: http://www.eucast.org. Osmon, D. R., Berbari, E. F., Berendt, A. R., Lew, D., Zimmerli, W., Steckelberg, J. M., . . . Infectious Diseases Society of, A. (2013). Diagnosis and management of prosthetic joint infection: clinical practice guidelines by the Infectious Diseases

			Society of America. *Clin Infect Dis, 56*(1), e1-e25. doi:10.1093/cid/cis803
Ceftazidime (CEF)	3.8	C_{min}	European Committee on Antimicrobial Susceptibility Testing. (2010). Ceftazidime: Rationale for the EUCAST clinical breakpoints, version 1.0. In: http://www.eucast.org. Luthy, R., Blaser, J., Bonetti, A., Simmen, H., Wise, R., & Siegenthaler, W. (1981). Comparative multiple-dose pharmacokinetics of cefotaxime, moxalactam, and ceftazidime. *Antimicrob Agents Chemother, 20*(5), 567-575. doi:10.1128/aac.20.5.567
Ciprofloxacin (CIP)	1.625	$\frac{AUC_{0-24h}}{24h}$	European Committee on Antimicrobial Susceptibility Testing. (2007a). Ciprofloxacin: Rationale for the EUCAST clinical breakpoints, version 1.9. In: http://www.eucast.org.
Colistin (CST)	2.5	$\frac{AUC_{0-24h}}{24h}$	European Committee on Antimicrobial Susceptibility Testing. (2010a). Colistin: Rationale for the EUCAST clinical breakpoints, version 1.0. In: http://www.eucast.org.
Meropenem (MEM)	0.25	C_{min}	European Committee on Antimicrobial Susceptibility Testing. (2009b). Meropenem: Rationale for the EUCAST clinical breakpoints, version 1.5. In: http://www.eucast.org.

2 Selected post-hoc comparisons

Table 2. ATCC 33591 (MRSA). Log_{10} CFU counts. Tukey HSD results.

Comparisons	Differences	95% confidence intervals		Adjusted p values	
		Lower	Upper		
CDD:T0-Control:T0	-2.04	-3.25	-0.83	0.00004	****
Control:TGN-Control:T0	0.67	-0.54	1.88	0.78924	NS
CDD:TGN-Control:T0	0.56	-0.65	1.77	0.93022	NS
Control:VAN 20-Control:T0	0.90	-0.40	2.21	0.46604	NS
CDD:VAN 20-Control:T0	-3.32	-4.63	-2.02	0.00000	****
Control:RIF 2.5-Control:T0	-1.59	-2.89	-0.28	0.00620	**
CDD:RIF 2.5-Control:T0	-3.42	-4.73	-2.12	0.00000	****
Control:LIN 5-Control:T0	-1.50	-2.81	-0.20	0.01196	*
CDD:LIN 5-Control:T0	-4.02	-5.32	-2.71	0.00000	****
Control:MXF 1.5-Control:T0	-0.31	-1.62	0.99	0.99992	NS
CDD:MXF 1.5-Control:T0	-4.18	-5.48	-2.87	0.00000	****
Control:DAP 30-Control:T0	-4.99	-6.30	-3.69	0.00000	****
CDD:DAP 30-Control:T0	-6.05	-7.36	-4.75	0.00000	****
CDD:TGN-Control:TGN	-0.11	-1.32	1.10	1.00000	NS
CDD:VAN 20-Control:VAN 20	-4.22	-5.62	-2.83	0.00000	****
CDD:RIF 2.5-Control:RIF 2.5	-1.83	-3.23	-0.44	0.00223	**
CDD:LIN 5-Control:LIN 5	-2.51	-3.91	-1.12	0.00001	****
CDD:MXF 1.5-Control:MXF 1.5	-3.87	-5.26	-2.47	0.00000	****
CDD:DAP 30-Control:DAP 30	-1.06	-2.45	0.34	0.31803	NS

Table 3. ATCC 33591 (MRSA). Biomass assay (% of T0 control). Tukey HSD results.

Comparisons	Differences	95% confidence intervals		Adjusted p values	
		Lower	Upper		
CDD:T0-Control:T0	-95.2	-113.7	-76.6	0	****
Control:TGN-Control:T0	24.4	5.9	43.0	0.00213	***
CDD:TGN-Control:T0	5.3	-13.3	23.9	0.99933	NS
Control:VAN 20-Control:T0	22.2	2.2	42.3	0.01804	*
CDD:VAN 20-Control:T0	-89.6	-109.7	-69.5	0	****
Control:RIF 2.5-Control:T0	7.8	-12.3	27.8	0.98545	NS
CDD:RIF 2.5-Control:T0	-88.6	-108.6	-68.5	0.00000	****
Control:LIN 5-Control:T0	13.3	-6.8	33.4	0.53801	NS
CDD:LIN 5-Control:T0	-95.4	-115.5	-75.4	0.00000	****
Control:MXF 1.5-Control:T0	21.8	1.7	41.8	0.02281	*
CDD:MXF 1.5-Control:T0	-85.8	-105.9	-65.7	0.00000	****
Control:DAP 30-Control:T0	-20.2	-38.8	-1.6	0.02187	*
CDD:DAP 30-Control:T0	-87.7	-106.3	-69.1	0.00000	****
CDD:TGN-Control:TGN	-19.1	-37.7	-0.5	0.03864	*
CDD:VAN 20-Control:VAN 20	-111.8	-133.3	-90.4	0	****
CDD:RIF 2.5-Control:RIF 2.5	-96.3	-117.8	-74.9	0	****
CDD:LIN 5-Control:LIN 5	-108.8	-130.2	-87.3	0	****
CDD:MXF 1.5-Control:MXF 1.5	-107.5	-129.0	-86.1	0	****
CDD:DAP 30-Control:DAP 30	-67.5	-86.0	-48.9	0	****

Table 4. ATCC 35984 (MRSE). Log_{10} CFU counts. Tukey HSD results.

Comparisons	Differences	95% confidence intervals		Adjusted p values	
		Lower	Upper		
CDD:T0-Control:T0	-2.54	-3.85	-1.24	0.00000	****
Control:TGN-Control:T0	0.59	-0.72	1.89	0.95620	NS
CDD:TGN-Control:T0	1.16	-0.15	2.46	0.13330	NS
Control:VAN 20-Control:T0	1.84	0.54	3.15	0.00071	***
CDD:VAN 20-Control:T0	-5.00	-6.30	-3.69	0.00000	****
Control:RIF 2.5-Control:T0	-3.39	-4.69	-2.08	0.00000	****
CDD:RIF 2.5-Control:T0	-6.10	-7.41	-4.80	0.00000	****
Control:LIN 5-Control:T0	-0.62	-1.92	0.69	0.93571	NS
CDD:LIN 5-Control:T0	-3.39	-4.69	-2.08	0.00000	****
Control:MXF 1.5-Control:T0	-2.52	-3.83	-1.22	0.00000	****
CDD:MXF 1.5-Control:T0	-5.09	-6.40	-3.79	0.00000	****
Control:DAP 30-Control:T0	-3.50	-4.80	-2.19	0.00000	****
CDD:DAP 30-Control:T0	-5.45	-6.75	-4.15	0.00000	****
Control:DOX 1.5-Control:T0	-1.06	-2.37	0.24	0.22905	NS
CDD:DOX 1.5-Control:T0	-4.00	-5.30	-2.69	0.00000	****
CDD:TGN-Control:TGN	0.57	-0.74	1.87	0.96787	NS
CDD:VAN 20-Control:VAN 20	-6.84	-8.14	-5.53	0.00000	****
CDD:RIF 2.5-Control:RIF 2.5	-2.72	-4.02	-1.41	0.00000	****
CDD:LIN 5-Control:LIN 5	-2.77	-4.07	-1.46	0.00000	****
CDD:MXF 1.5-Control:MXF 1.5	-2.57	-3.87	-1.26	0.00000	****
CDD:DAP 30-Control:DAP 30	-1.95	-3.26	-0.65	0.00028	***
CDD:DOX 1.5-Control:DOX 1.5	-2.93	-4.24	-1.63	0.00000	****

Table 5. ATCC 35984 (MRSE). Biomass assay (% of T0 control). Tukey HSD results.

Comparisons	Differences	95% confidence intervals		Adjusted p values	
		Lower	Upper		
CDD:T0-Control:T0	-88.5	-118.3	-58.8	0.00000	****
Control:TGN-Control:T0	23.4	-6.3	53.1	0.27459	NS
CDD:TGN-Control:T0	-11.3	-41.0	18.4	0.99056	NS
Control:VAN 20-Control:T0	15.9	-13.8	45.6	0.84551	NS
CDD:VAN 20-Control:T0	-81.6	-111.3	-51.9	0.00000	****
Control:RIF 2.5-Control:T0	4.7	-25.0	34.4	1.00000	NS
CDD:RIF 2.5-Control:T0	-82.7	-112.4	-52.9	0.00000	****
Control:LIN 5-Control:T0	2.3	-27.4	32.0	1.00000	NS
CDD:LIN 5-Control:T0	-77.9	-107.6	-48.2	0.00000	****
Control:MXF 1.5-Control:T0	5.2	-24.5	34.9	1.00000	NS
CDD:MXF 1.5-Control:T0	-78.1	-107.8	-48.4	0.00000	****
Control:DAP 30-Control:T0	21.2	-8.5	50.9	0.42780	NS
CDD:DAP 30-Control:T0	-84.0	-113.7	-54.3	0.00000	****
Control:DOX 1.5-Control:T0	3.3	-26.4	33.0	1.00000	NS
CDD:DOX 1.5-Control:T0	-85.2	-114.9	-55.5	0.00000	****
CDD:TGN-Control:TGN	-34.7	-64.4	-5.0	0.00965	**
CDD:VAN 20-Control:VAN 20	-97.5	-127.2	-67.8	0.00000	****
CDD:RIF 2.5-Control:RIF 2.5	-87.3	-117.0	-57.6	0.00000	****
CDD:LIN 5-Control:LIN 5	-80.3	-110.0	-50.6	0.00000	****
CDD:MXF 1.5-Control:MXF 1.5	-83.2	-112.9	-53.5	0.00000	****
CDD:DAP 30-Control:DAP 30	-105.2	-134.9	-75.5	0.00000	****
CDD:DOX 1.5-Control:DOX 1.5	-88.6	-118.3	-58.9	0.00000	****

Table 6. ATCC 47076 (E. coli). Log_{10} CFU counts. Tukey HSD results.

Comparisons	Differences	95% confidence intervals		Adjusted p values	
		Lower	Upper		
CDD:T0-Control:T0	-1.24	-2.40	-0.08	0.02515	*
Control:TGN-Control:T0	-0.10	-1.26	1.06	1.00000	NS
CDD:TGN-Control:T0	-0.33	-1.49	0.83	0.99942	NS
Control:CEF 3.8-Control:T0	-2.06	-3.31	-0.81	0.00004	****
CDD:CEF 3.8-Control:T0	-7.29	-8.54	-6.04	0.00000	****
Control:CEF 42-Control:T0	-7.05	-8.21	-5.89	0.00000	****
CDD:CEF 42-Control:T0	-7.29	-8.45	-6.14	0.00000	****
Control:CIP 1.625-Control:T0	-3.21	-4.36	-2.05	0.00000	****
CDD:CIP 1.625-Control:T0	-7.19	-8.35	-6.03	0.00000	****
Control:CST 2.5-Control:T0	-1.23	-2.48	0.02	0.05593	NS
CDD:CST 2.5-Control:T0	-6.80	-8.05	-5.55	0.00000	****
Control:MER 0.25-Control:T0	-1.21	-2.46	0.03	0.06433	NS
CDD:MER 0.25-Control:T0	-7.33	-8.58	-6.08	0.00000	****
Control:MER 6.25-Control:T0	-6.81	-7.97	-5.65	0.00000	****
CDD:MER 6.25-Control:T0	-7.27	-8.43	-6.11	0.00000	****
CDD:TGN-Control:TGN	-0.23	-1.39	0.93	0.99999	NS
CDD:CEF 3.8-Control:CEF 3.8	-5.23	-6.56	-3.89	0.00000	****
CDD:CEF 42-Control:CEF 42	-0.24	-1.40	0.92	0.99999	NS
CDD:CIP 1.625-Control:CIP 1.625	-3.98	-5.14	-2.83	0.00000	****
CDD:CST 2.5-Control:CST 2.5	-5.57	-6.90	-4.23	0.00000	****
CDD:MER 0.25-Control:MER 0.25	-6.11	-7.45	-4.78	0.00000	****
CDD:MER 6.25-Control:MER 6.25	-0.46	-1.62	0.70	0.98238	NS

Table 7. ATCC 47076 (E. coli). Biomass assay (% of T0 control). Tukey HSD results.

Comparisons	Differences	95% confidence intervals		Adjusted p values	
		Lower	Upper		
CDD:T0-Control:T0	-80.3	-126.2	-34.3	0.00001	****
Control:TGN-Control:T0	16.1	-29.8	62.0	0.99498	NS
CDD:TGN-Control:T0	13.5	-32.4	59.4	0.99924	NS
Control:CEF 3.8-Control:T0	-61.7	-111.3	-12.1	0.00415	**
CDD:CEF 3.8-Control:T0	-99.1	-148.7	-49.5	0.00000	****
Control:CEF 42-Control:T0	-86.0	-131.9	-40.1	0.00000	****
CDD:CEF 42-Control:T0	-92.5	-138.5	-46.6	0.00000	****
Control:CIP 1.625-Control:T0	-48.3	-94.3	-2.4	0.03043	*
CDD:CIP 1.625-Control:T0	-97.3	-143.2	-51.4	0.00000	****
Control:CST 2.5-Control:T0	-24.6	-70.5	21.4	0.84212	NS
CDD:CST 2.5-Control:T0	-84.9	-130.8	-38.9	0.00000	****
Control:MER 0.25-Control:T0	4.8	-44.8	54.4	1.00000	NS
CDD:MER 0.25-Control:T0	-93.4	-143.0	-43.8	0.00000	****
Control:MER 6.25-Control:T0	-82.9	-128.9	-37.0	0.00001	****
CDD:MER 6.25-Control:T0	-93.8	-139.7	-47.8	0.00000	****
CDD:TGN-Control:TGN	-2.6	-48.5	43.3	1.00000	NS
CDD:CEF 3.8-Control:CEF 3.8	-37.4	-90.4	15.7	0.45113	NS
CDD:CEF 42-Control:CEF 42	-6.6	-52.5	39.4	1.00000	NS
CDD:CIP 1.625-Control:CIP 1.625	-49.0	-94.9	-3.0	0.02665	*
CDD:CST 2.5-Control:CST 2.5	-60.3	-106.2	-14.4	0.00194	**
CDD:MER 0.25-Control:MER 0.25	-98.2	-151.2	-45.2	0.00000	****
CDD:MER 6.25-Control:MER 6.25	-10.8	-56.7	35.1	0.99995	NS

3 Two-way ANOVAs results

Table 8

ATCC 33591 (MRSA). Two-way ANOVA results using the log_{10} CFU counts as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	1449.57	1	1449.57	8707.75	.000		
CDD exposure	59.28	1	59.28	356.11	.000	.92	[.86, .94]
Antibiotics exposure	147.16	6	24.53	147.34	.000	.97	[.93, .97]
CDD exposure x Antibiotics exposure	21.22	6	3.54	21.25	.000	.80	[.63, .83]
Error	5.33	32	0.17				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table 9

ATCC 33591 (MRSA). Two-way ANOVA results using the biomass (% of T0 control) as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	212225.00	1	212225.00	5587.20	.000		
CDD exposure	90525.70	1	90525.70	2383.25	.000	.99	[.98, .99]
Antibiotics exposure	24406.45	6	4067.74	107.09	.000	.95	[.91, .96]
CDD exposure x Antibiotics exposure	13014.65	6	2169.11	57.11	.000	.91	[.83, .92]
Error	1291.46	34	37.98				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table 10

ATCC 35984 (MRSE). Two-way ANOVA results using the log_{10} CFU counts as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	661.86	1	661.86	3992.47	.000		
CDD exposure	88.73	1	88.73	535.24	.000	.94	[.91, .96]
Antibiotics exposure	147.56	7	21.08	127.16	.000	.97	[.93, .97]
CDD exposure x Antibiotics exposure	42.68	7	6.10	36.78	.000	.89	[.78, .90]
Error	5.30	32	0.17				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table 11

ATCC 35984 (MRSE). Two-way ANOVA results using the biomass (% of T0 control) as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	221395.68	1	221395.68	2275.06	.000		
CDD exposure	83023.52	1	83023.52	853.15	.000	.96	[.94, .97]
Antibiotics exposure	10680.41	7	1525.77	15.68	.000	.77	[.57, .81]
CDD exposure x Antibiotics exposure	4683.78	7	669.11	6.88	.000	.60	[.30, .65]
Error	3114.06	32	97.31				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table 12

ATCC 47076 (E. coli). Two-way ANOVA results using the log_{10} CFU counts as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	801.94	1	801.94	3518.29	.000		
CDD exposure	142.93	1	142.93	627.07	.000	.95	[.92, .97]
Antibiotics exposure	178.80	5	35.76	156.89	.000	.96	[.93, .97]
CDD exposure x Antibiotics exposure	53.17	5	10.63	46.65	.000	.89	[.78, .91]
Error	6.84	30	0.23				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.

Table 13

ATCC 47076 (E. coli). Two-way ANOVA results using the biomass (% of T0 control) as the criterion

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{partial}\eta^2$	$_{partial}\eta^2$ 90% CI [LL, UL]
(Intercept)	127753.01	1	127753.01	355.84	.000		
CDD exposure	33719.94	1	33719.94	93.92	.000	.75	[.59, .81]
Antibiotics exposure	47008.62	5	9401.72	26.19	.000	.80	[.64, .84]
CDD exposure x Antibiotics exposure	8678.67	5	1735.73	4.83	.002	.43	[.12, .52]
Error	11488.71	32	359.02				

Note. LL and UL represent the lower-limit and upper-limit of the partial η^2 confidence interval, respectively.