

Supplementary Information

Antimicrobial susceptibility patterns of respiratory Gram-negative bacterial isolates from COVID-19 patients in Switzerland

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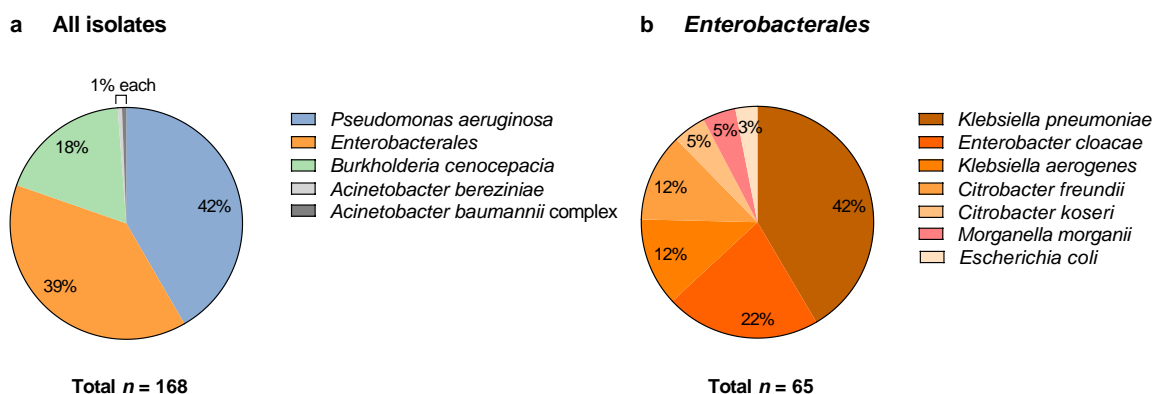


Figure S1. MicrobiotaCOVID cohort species distribution of all identified Gram-negative isolates (a) and within *Enterobacterales* (b).

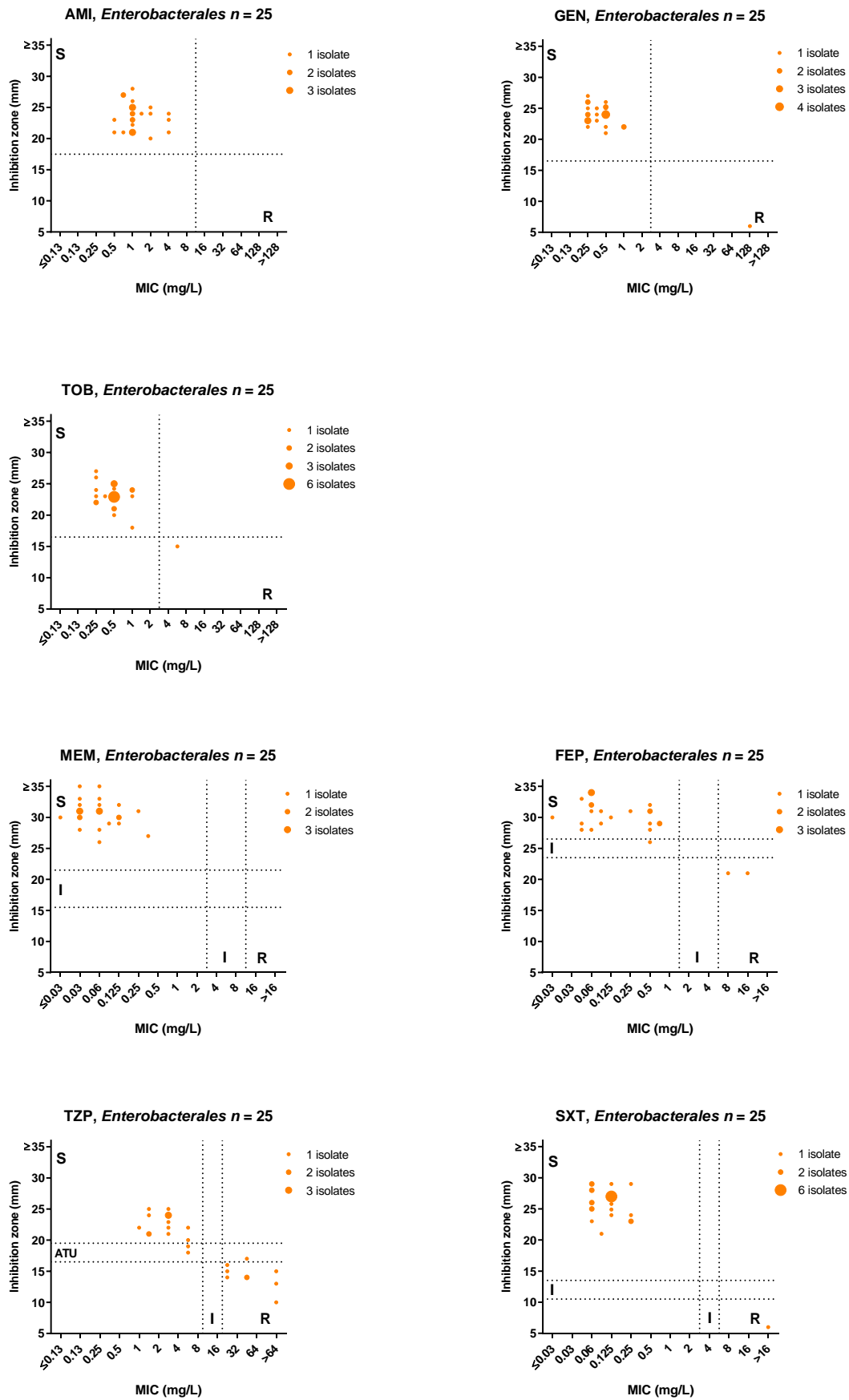


Figure S2. Correlation plots of EUCAST disc diffusion and CLSI broth microdilution testing for *Enterobacteriales*. Amikacin (AMI), gentamicin (GEN), tobramycin (TOB), meropenem (MEM), cefepime (FEP), piperacillin/tazobactam (TZP) and trimethoprim/sulfamethoxazole (SXT).

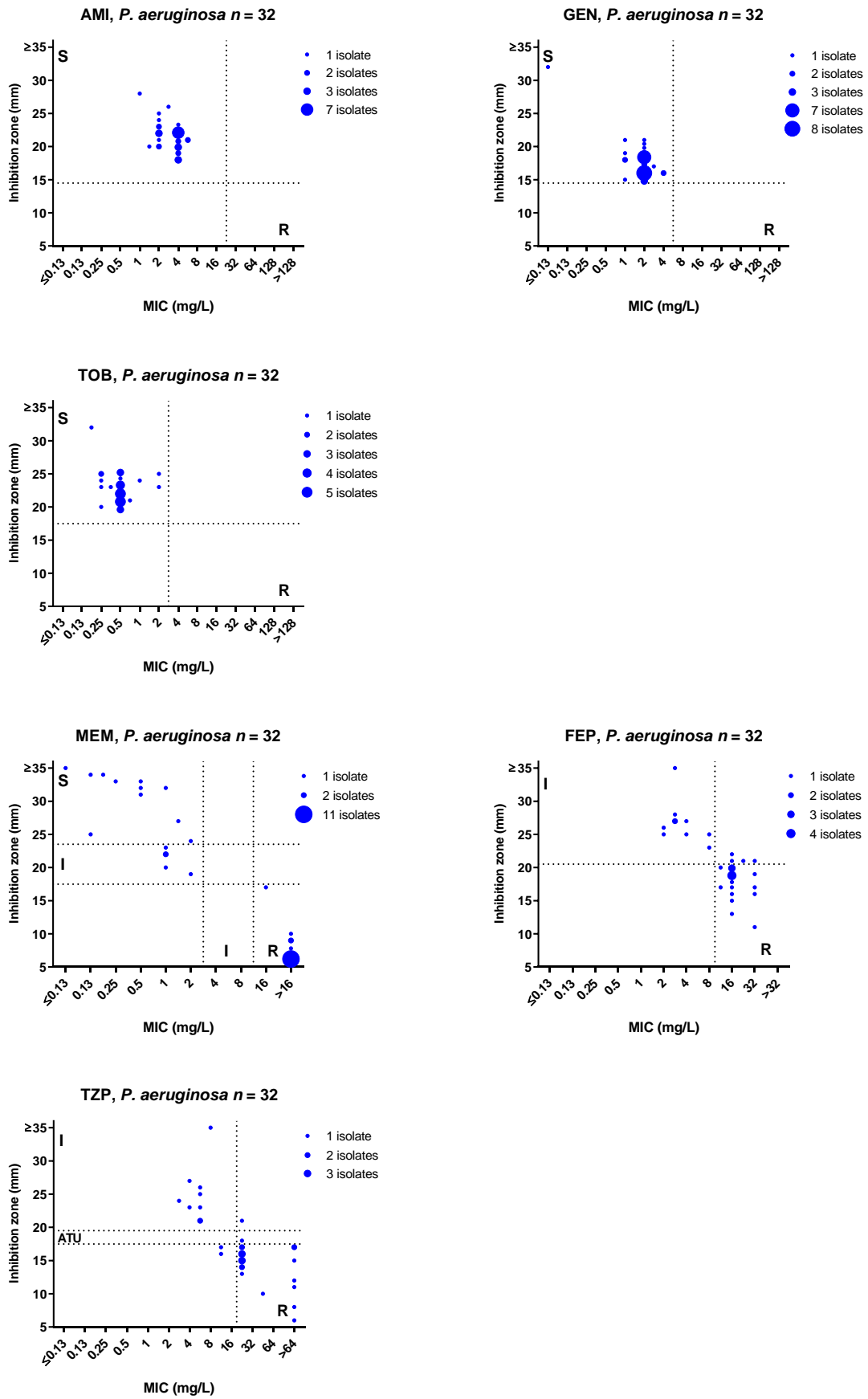
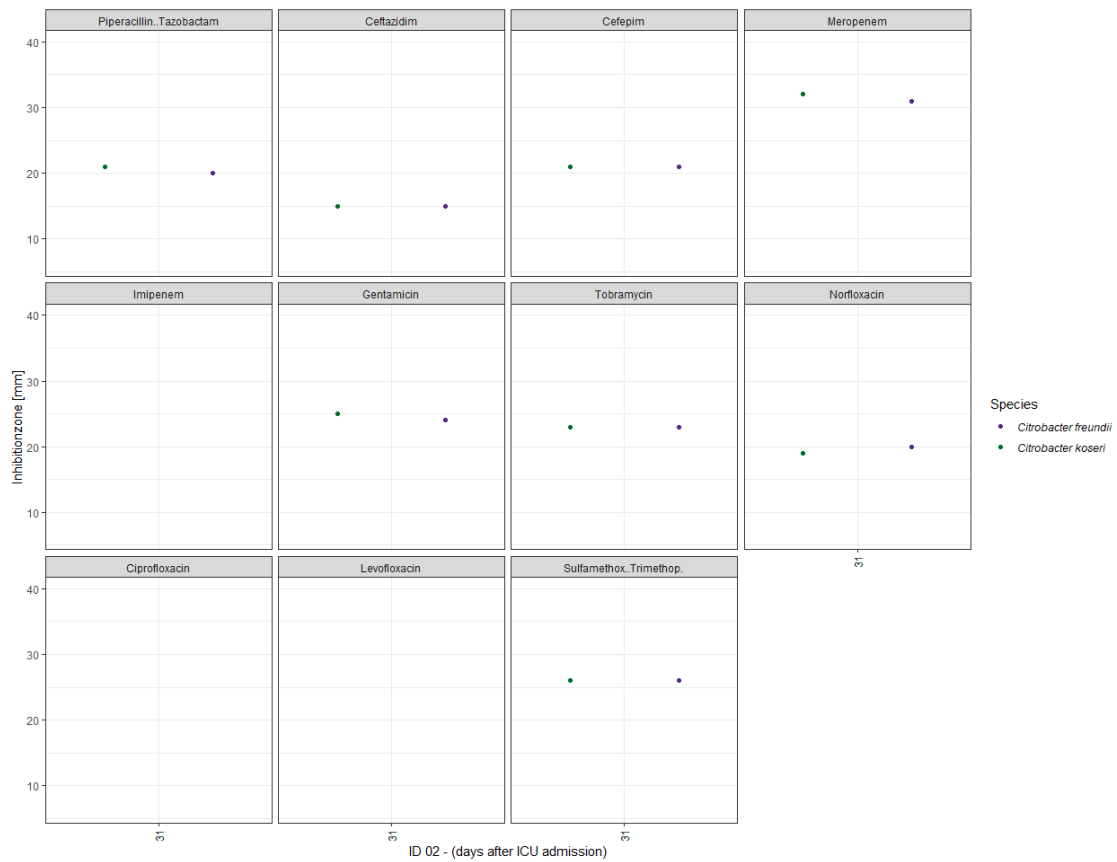
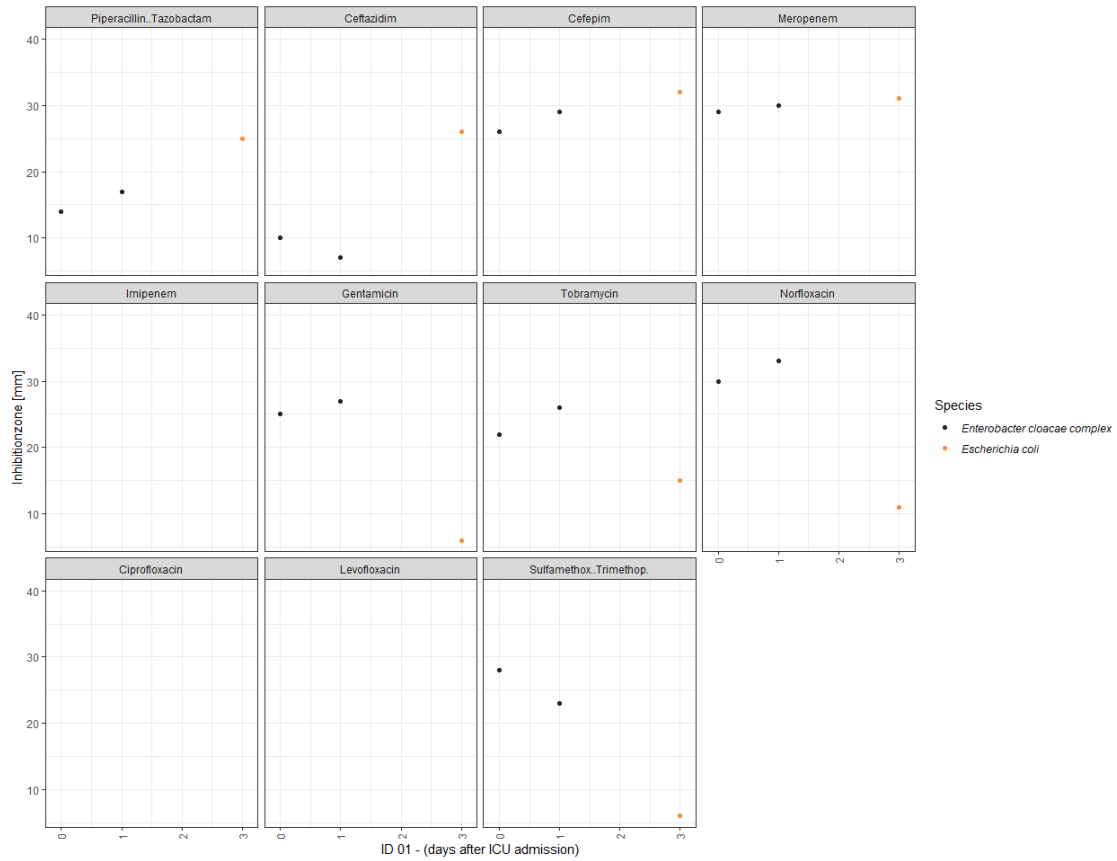
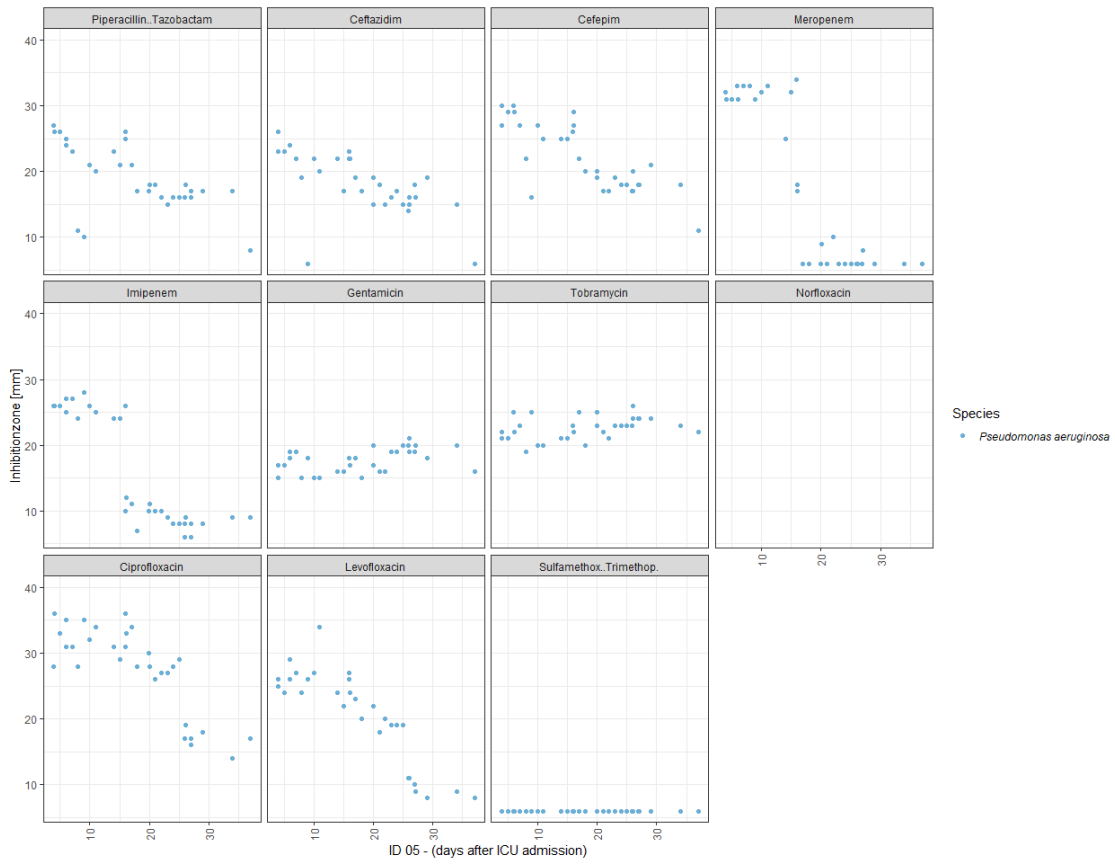
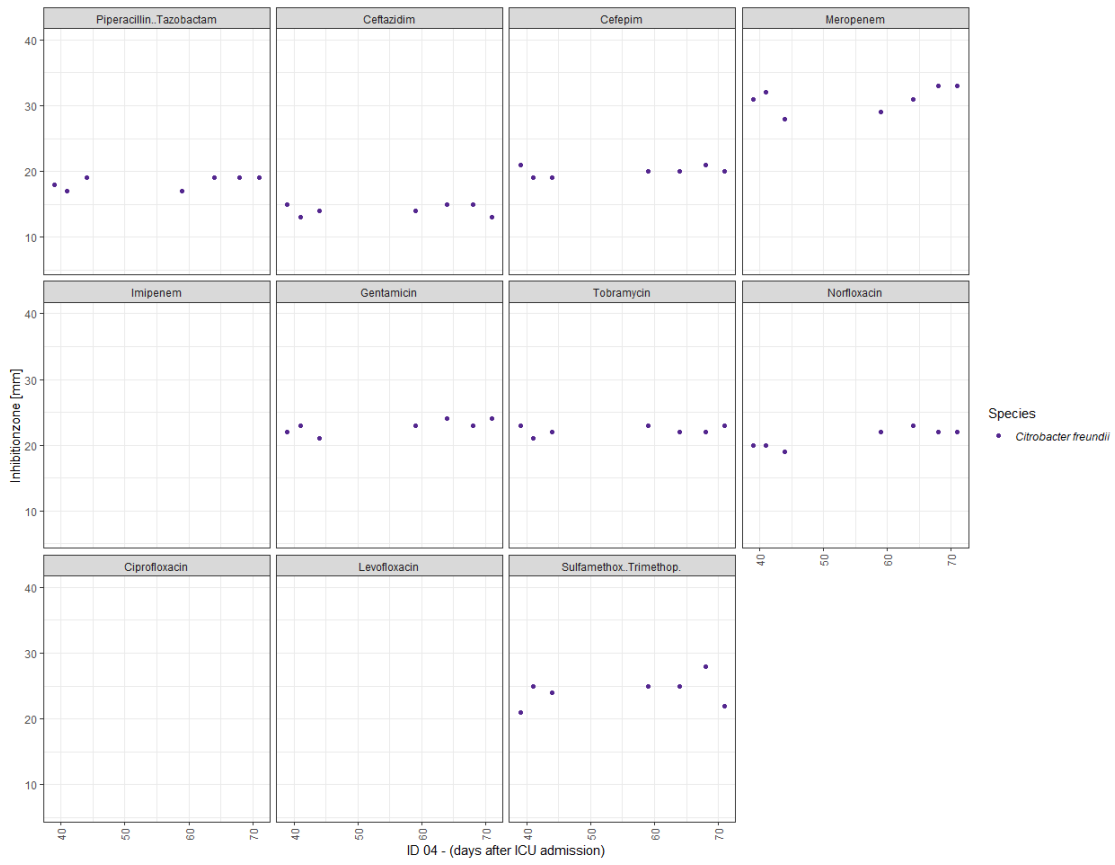
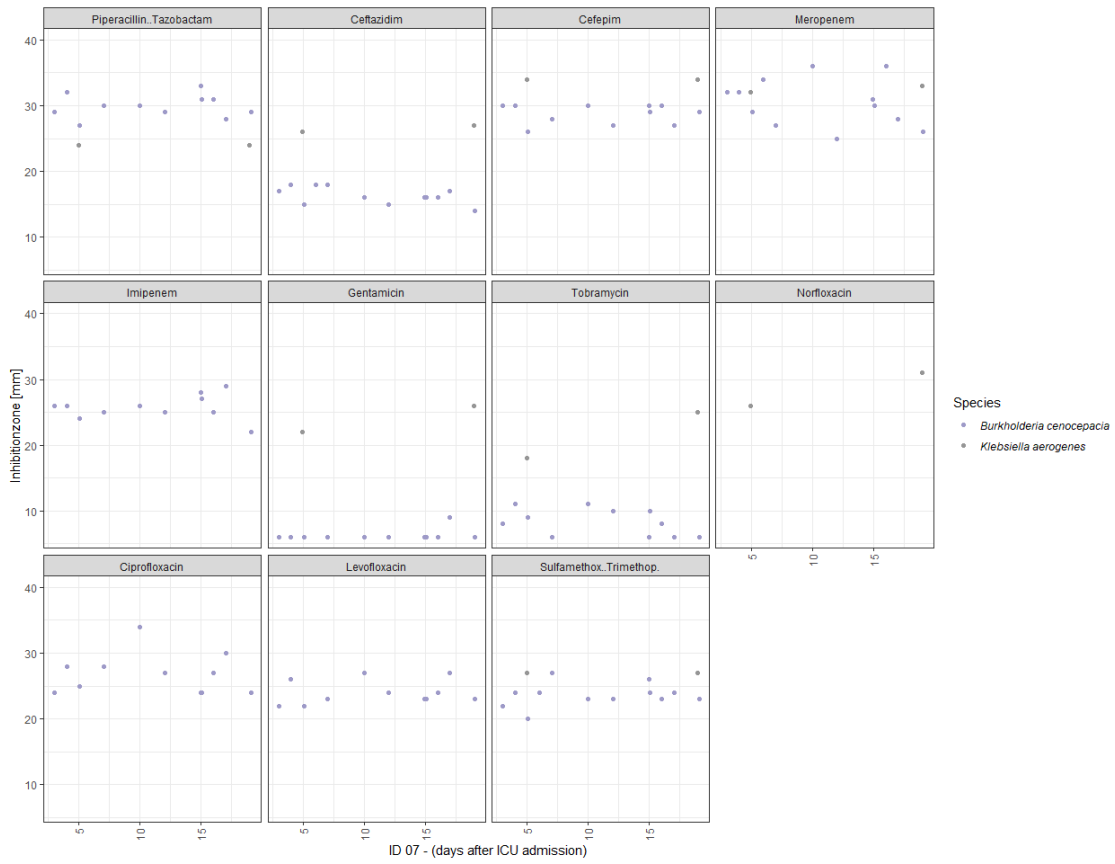
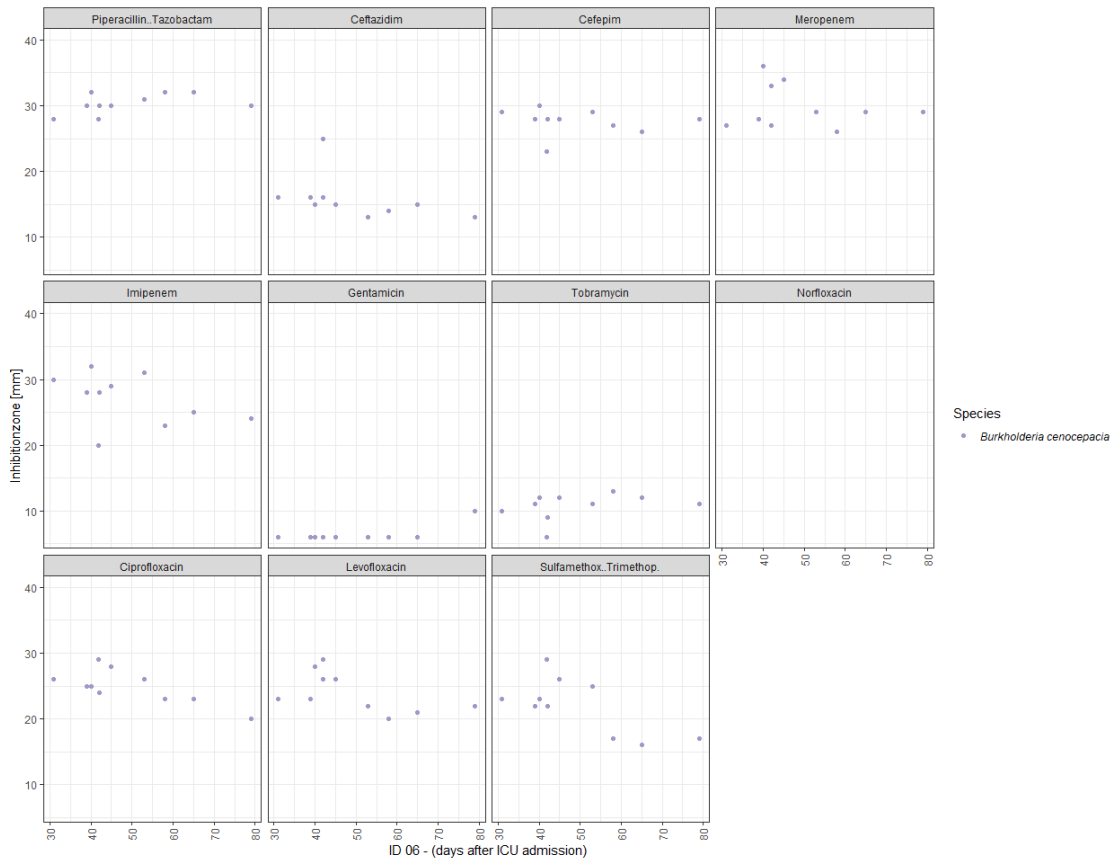
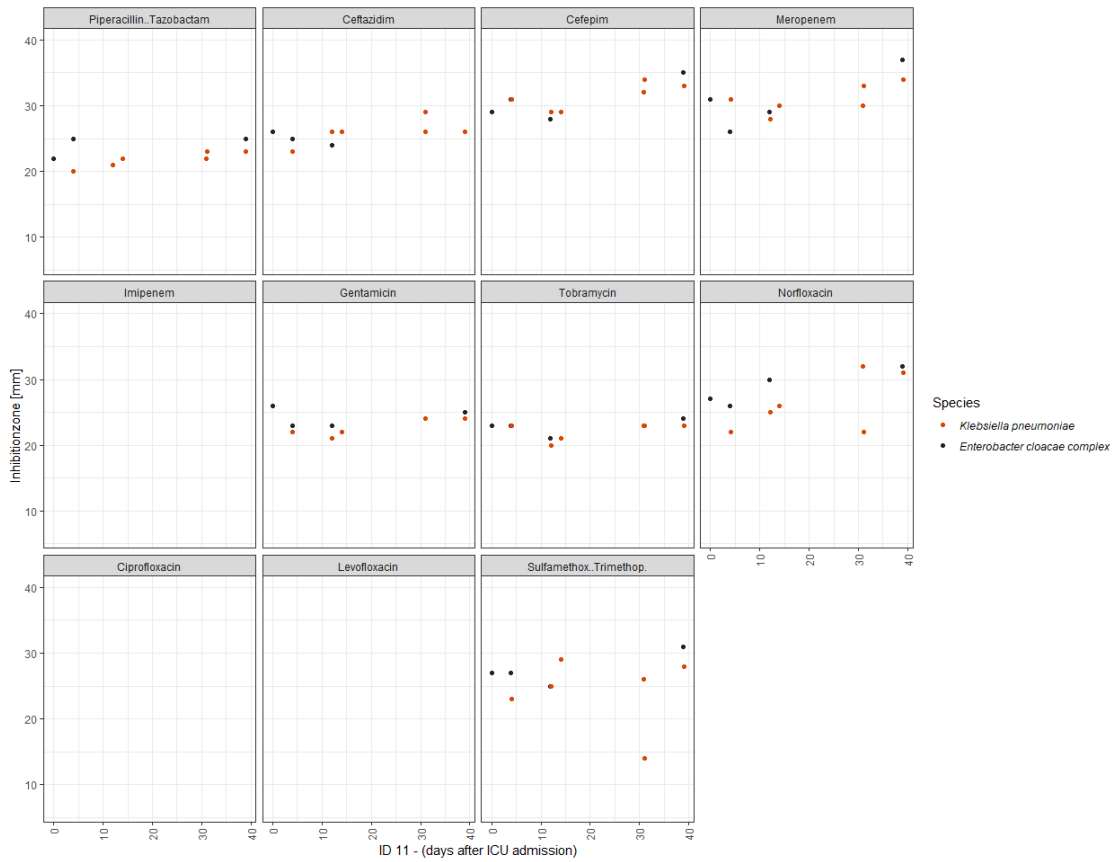
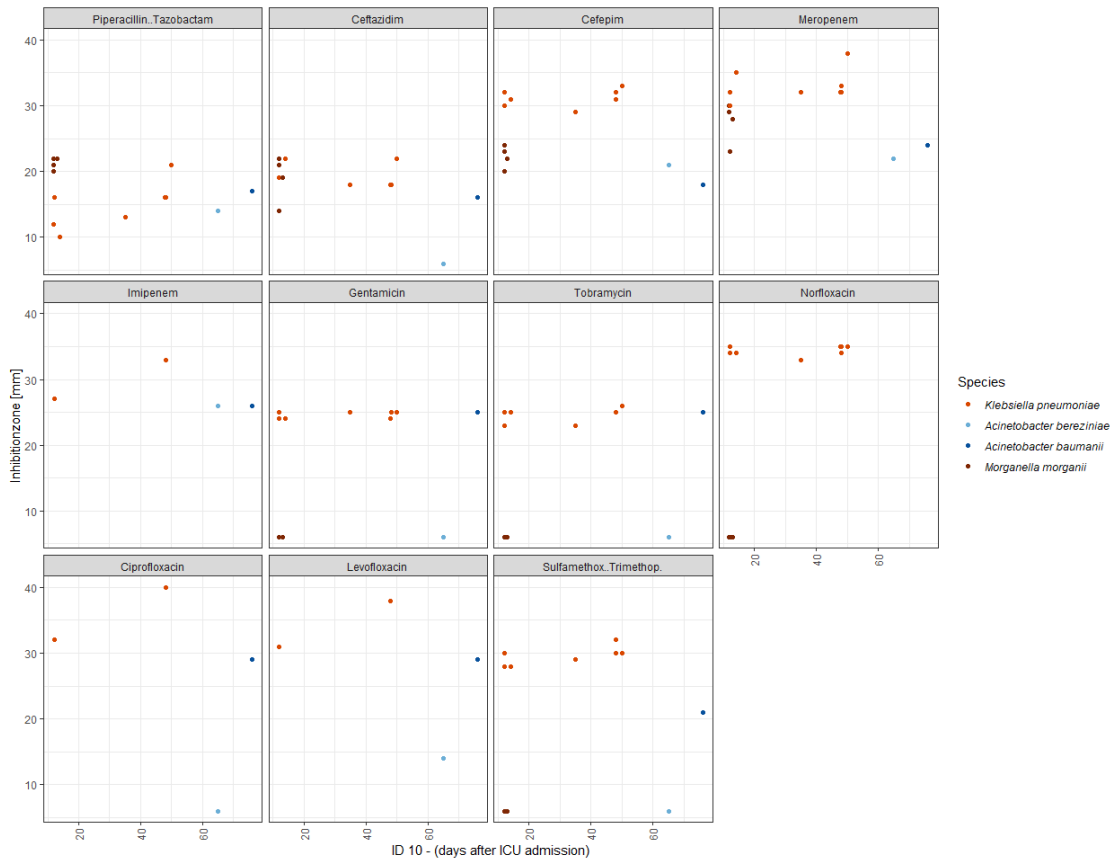


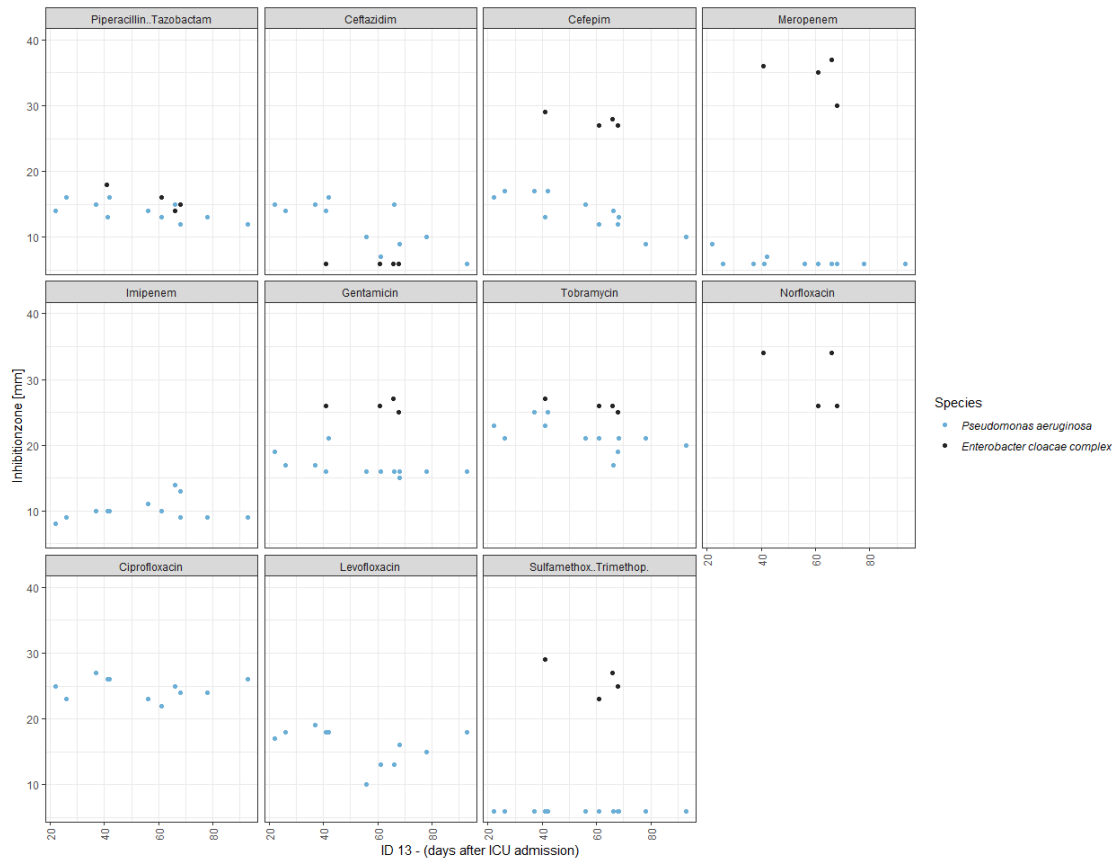
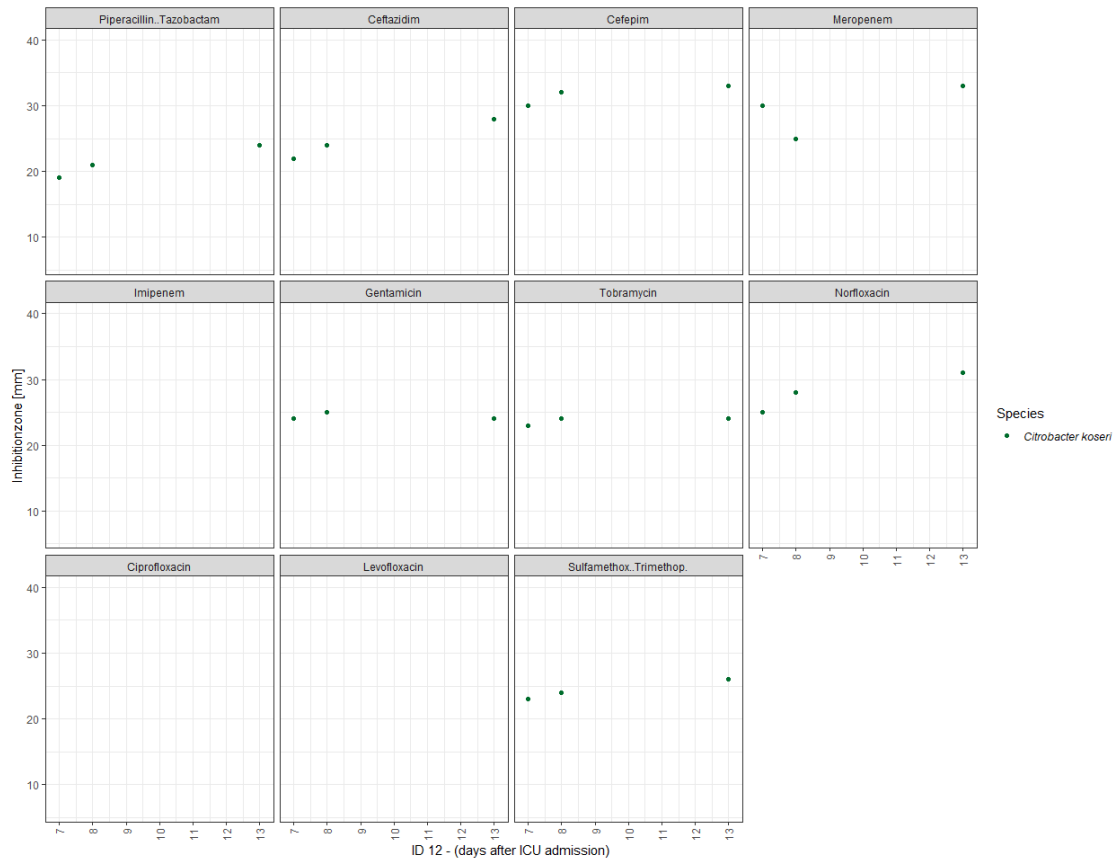
Figure S3. Correlation plots of EUCAST disc diffusion and CLSI broth microdilution testing for *P. aeruginosa*. Amikacin (AMI), gentamicin (GEN), tobramycin (TOB), meropenem (MEM), cefepime (FEP) and piperacillin/tazobactam (TZP).

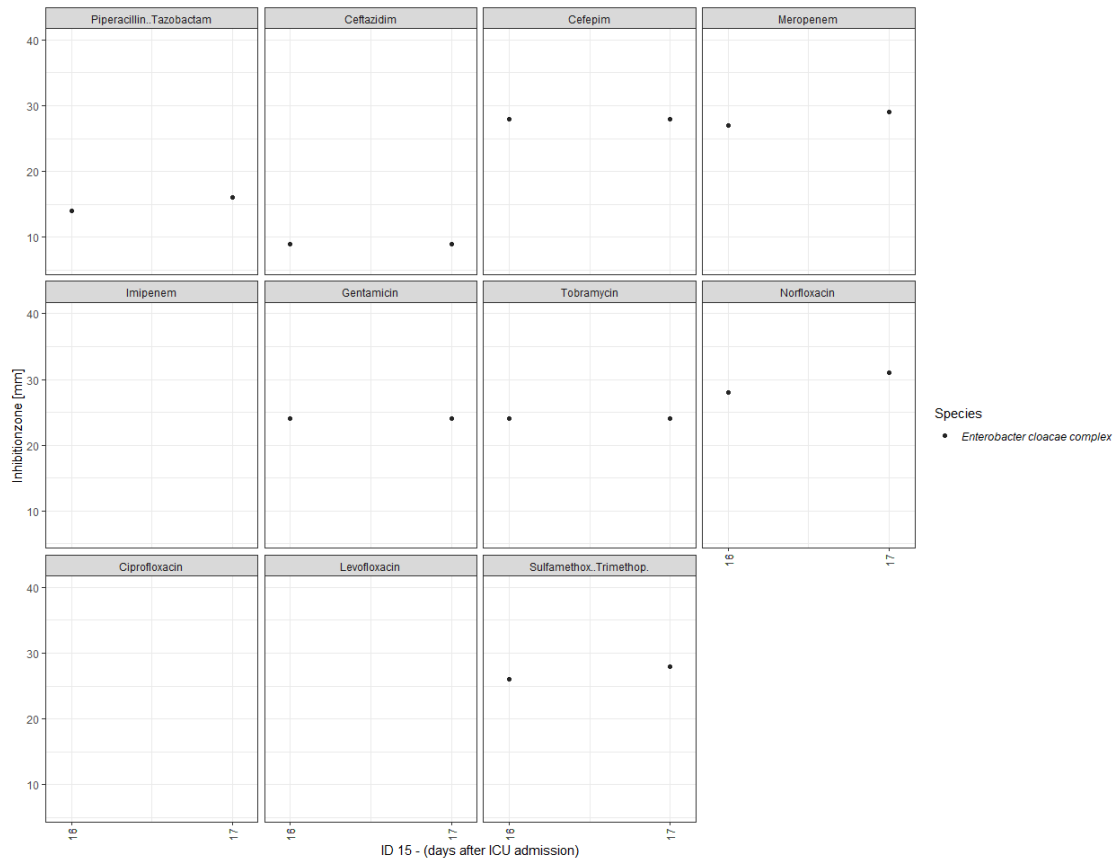
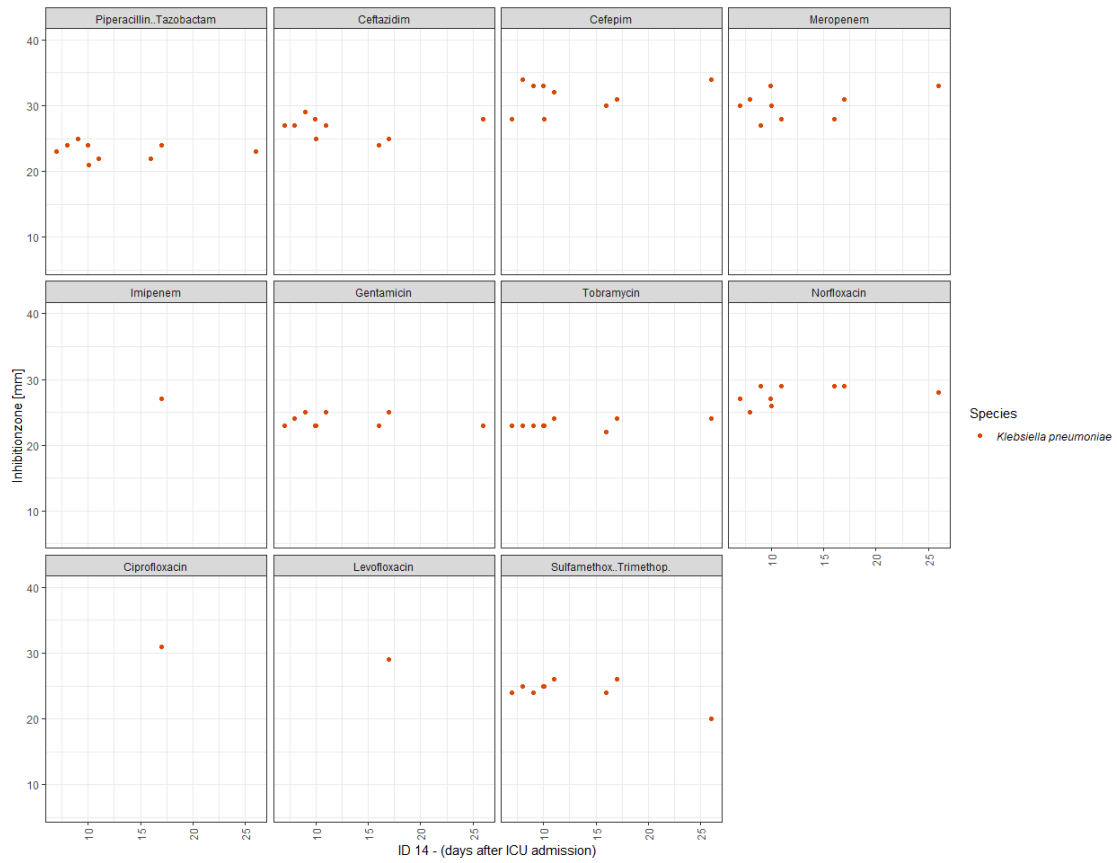


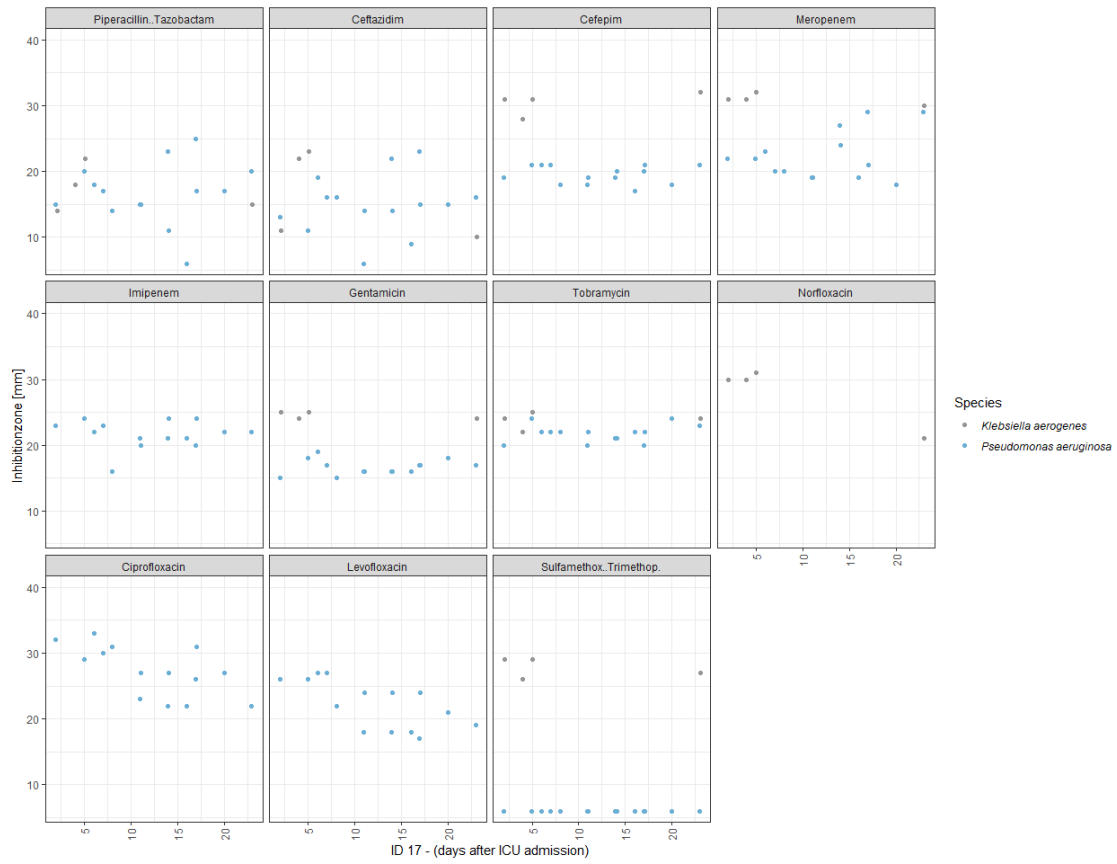
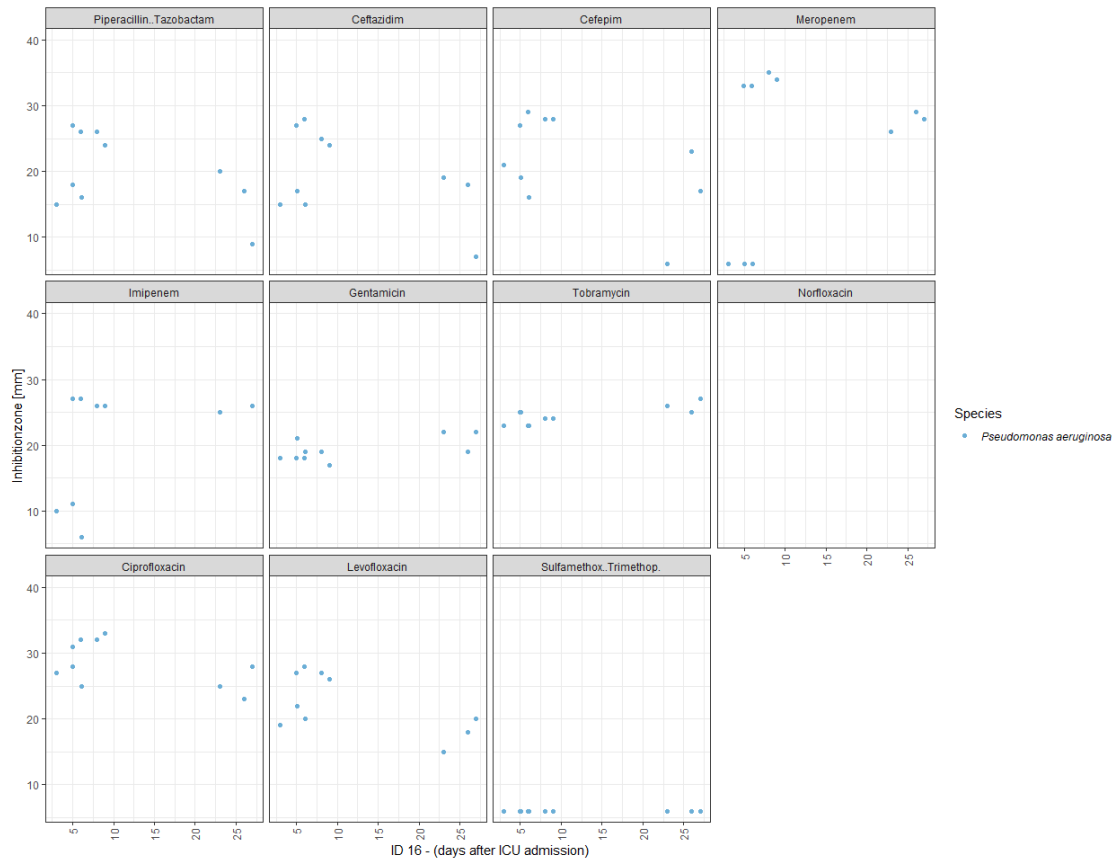












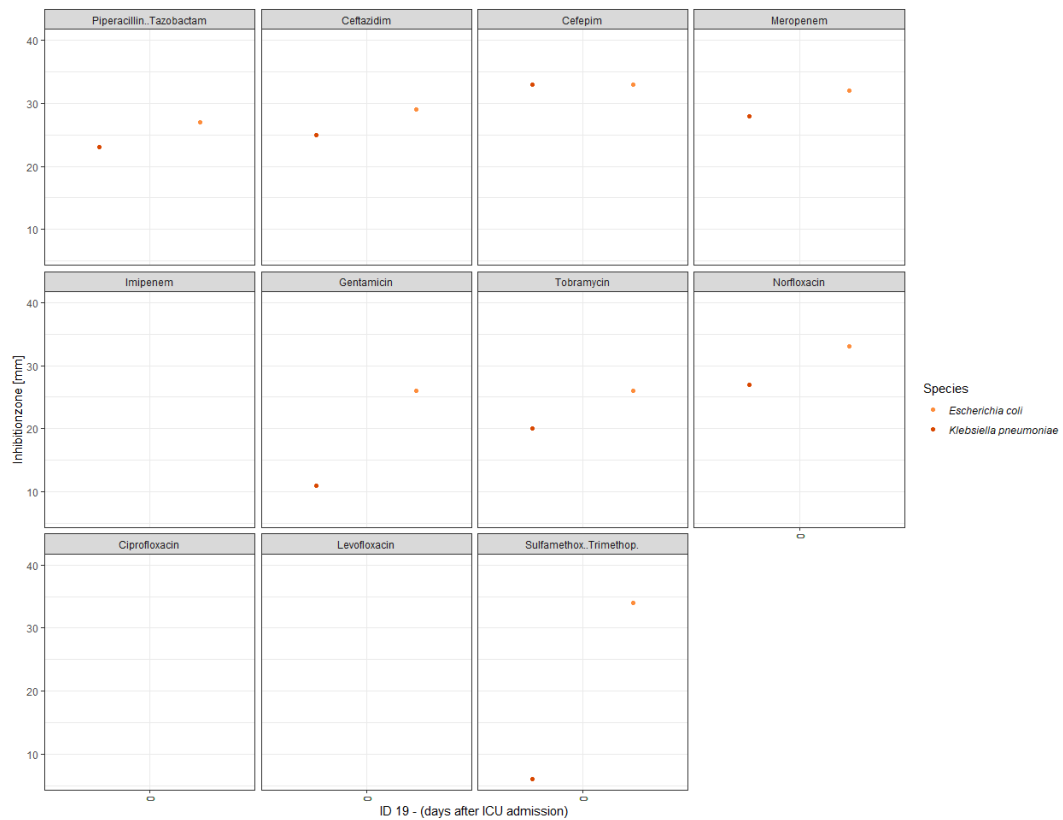
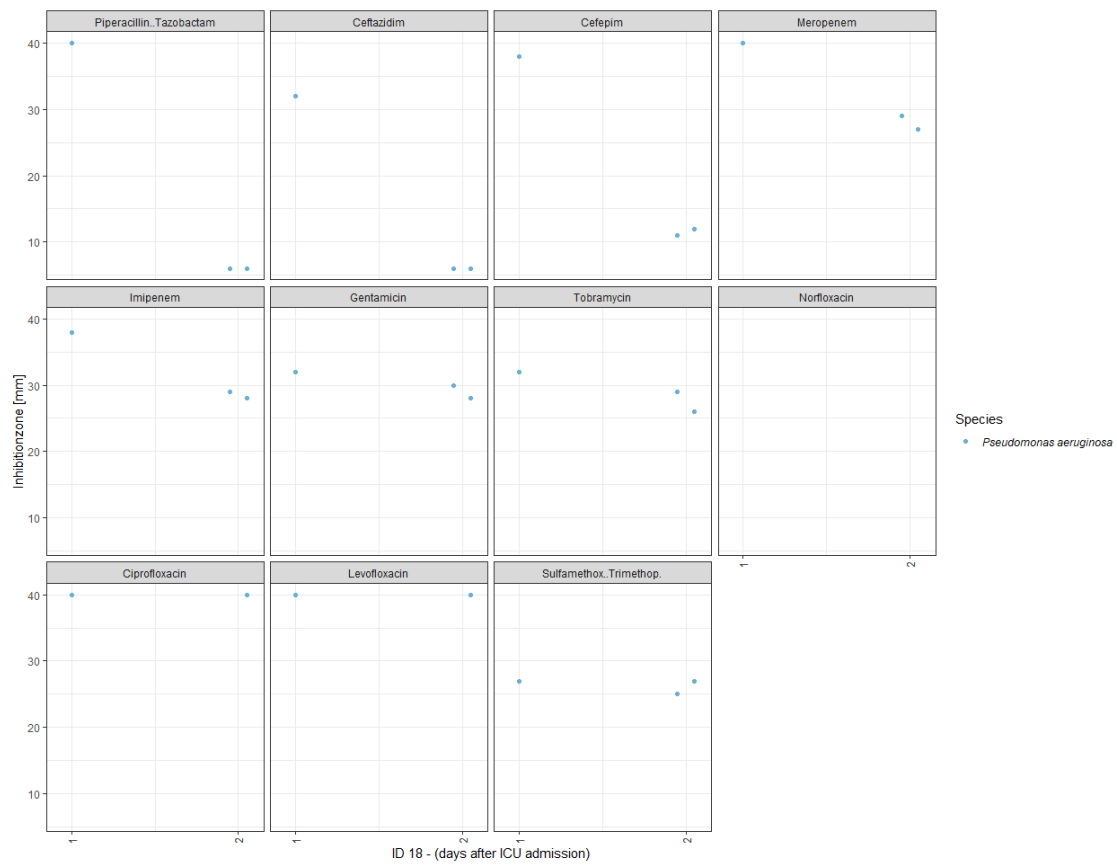


Figure S4. EUCAST disc diffusion inhibition zones of repetitive microbiotaCOVID cohort isolates. ID numbers refer to patient IDs ($n = 16$, only patients with repetitive isolates are shown).

Table S1. Clinical characteristics of patients in this study (n = 17).

	n = 17
Baseline characteristics	
Age	65 (56-59)
Male sex	14 (82%)
Body mass index (kg/m ²)	27.8 (27.2-34.2)
Clinical data at ICU admission	
Sepsis-related organ failure assessment score (SOFA)	9 (7-10)
Simplified acute physiology score (SAPS) II	42 (28-51)
Outcomes	
Time of pulmonary superinfection detection after ICU admission (days)	7 (3-16)
Duration of ventilation (days)	37 (18-43)
Length of ICU stay (days)	40 (24-51)
Patients died	4 (24%)
Antimicrobial therapy	
Empiric antimicrobial therapy at ICU admission	16 (94%)
Beta-lactam/beta-lactamase inhibitors (at any time)	14 (82%)
Cephalosporins (at any time)	15 (88%)
Carbapenems (at any time)	12 (71%)
Aminoglycosides (at any time)	8 (47%)
Quinolones (at any time)	10 (59%)

The data is presented as median (interquartile range (IQR)) or number and percentage (%).

Table S2. Disc diffusion proportion of drug resistant and intermediate isolates.

	<i>Enterobacterales</i> n = 25		<i>P. aeruginosa</i> n = 32	
	Disc diffusion % resistant (n)	Disc diffusion % intermediate (n)	Disc diffusion % resistant (n)	Disc diffusion % intermediate (n)
FEP	8.0% (2)	4.0% (1)	56.3% (18)	43.8% (14) (r./i.)
TZP	32.0% (8)	12.0% (3)	65.6% (21)	34.4% (11) (r./i.)
SXT	4.0% (1)	0.0% (0)	No break point	No break point
MEM	0.0% (0)	0.0% (0)	50.0% (16)	15.6% (5)
AMI	0.0% (0)	(n. ir.)	0.0%	(n. ir.)
TOB	4.0% (1)	(n. ir.)	0.0%	(n. ir.)
GEN	4.0% (1)	(n. ir.)	0.0%	(n. ir.)
PLZ	No DD results	No DD results	No DD results	No DD results
APR	No DD results	No DD results	No DD results	No DD results
AMC	72.0% (18)	0.0% (0)	No DD results	No DD results
CRO	32.0% (8)	0.0% (0)	No DD results	No DD results
CAZ	36.0% (9)	0.0% (0)	46.9% (15)	53.1% (17)
CIP	No DD results	No DD results	15.6% (5)	84.4% (27) (r./i.)

n.ir.: no intermediate disc diffusion range

r./i.: only resistant and intermediate disc diffusion range

cefepime (FEP), piperacillin/tazobactam (TZP), trimethoprim/sulfamethoxazole (SXT), meropenem (MEM), amikacin (AMI), tobramycin (TOB), gentamicin (GEN), plazomicin (PLZ), apramycin (APR), amoxicillin/clavulanate (AMC), ceftriaxone (CRO), ceftazidime (CAZ), ciprofloxacin (CIP)

Table S3. MIC proportion of drug resistant and intermediate isolates.

	<i>Enterobacterales</i> n = 25		<i>P. aeruginosa</i> n = 32	
	MIC % resistant (n)	MIC % intermediate (n)	MIC % resistant (n)	MIC % intermediate (n)
FEP	8.0% (2)	0.0%	65.6% (21)	34.4% (11) (r./i.)
TZP	30.0% (7.5)	6.0% (1.5)	45.3% (14.5)	54.7% (17.5) (r./i.)
SXT	4.0% (1)	0.0% (0)	No break point	No break point
MEM	0.0% (0)	0.0% (0)	50.0% (16)	0.0% (0)
AMI	0.0% (0)	(n. ir.)	0.0% (0)	(n. ir.)
TOB	4.0% (1)	(n. ir.)	0.0% (0)	(n. ir.)
GEN	4.0% (1)	(n. ir.)	0.0% (0)	(n. ir.)
PLZ	0.0% (0)	0.0% (0)	No break point	No break point
APR	0.0% (0)	(n. ir.)	0.0% (0)	(n. ir.)

n.ir.: no intermediate MIC range

r./i.: only resistant and intermediate MIC range

cefepime (FEP), piperacillin/tazobactam (TZP), trimethoprim/sulfamethoxazole (SXT), meropenem (MEM), amikacin (AMI), tobramycin (TOB), gentamicin (GEN), plazomicin (PLZ), apramycin (APR)

Table S4. MIC proportion of drug resistant and intermediate isolates.

	<i>B. cenocepacia</i> n = 12			
	Disc diffusion % resistant (n)	Disc diffusion % intermediate (n)	MIC % resistant (n)	MIC % intermediate (n)
SXT	0% (0)	0% (0)	0% (0)	(n.ir.)
MEM	0% (0)	0% (0)	8.3% (1)	25% (3)

n.ir.: no intermediate MIC range

trimethoprim/sulfamethoxazole (SXT), meropenem (MEM)