



**EUCAST**

European Committee  
on Antimicrobial  
Susceptibility Testing

# ***Pseudomonas aeruginosa***

## **EUCAST rapid antimicrobial susceptibility testing (RAST)**

Calibration of zone diameter breakpoints to MIC  
values.

EUCAST RAST breakpoints version 9.0  
January 2026

# MIC and zone diameter correlates

- The following histograms present inhibition zone diameter distributions from EUCAST rapid antimicrobial susceptibility testing (RAST).
- The reference method is MIC with broth microdilution.
- In addition, SIR interpretations from standard disk diffusion have been used as a reference for isolates for which MICs are lacking.
- In most, the different colours of the bars indicate different MIC values. In some, the colours of the bars indicate a resistance gene or a resistance mechanism. When SIR interpretation from standard disk diffusion have been used as a reference this is shown as striped bars.
- This presentation is based on EUCAST RAST Clinical Breakpoint Table v. 9.0 (based on EUCAST Breakpoint Tables version 16.0).

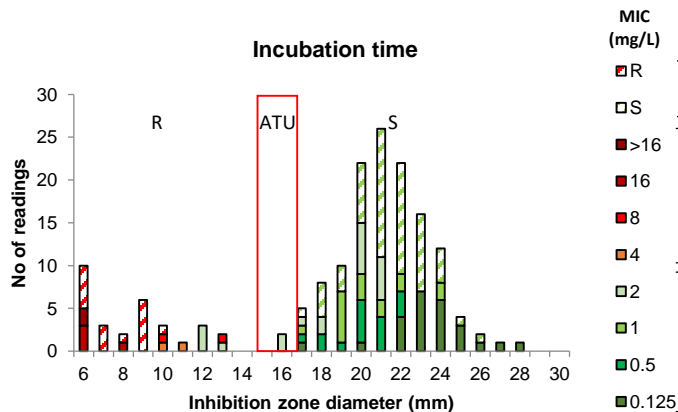
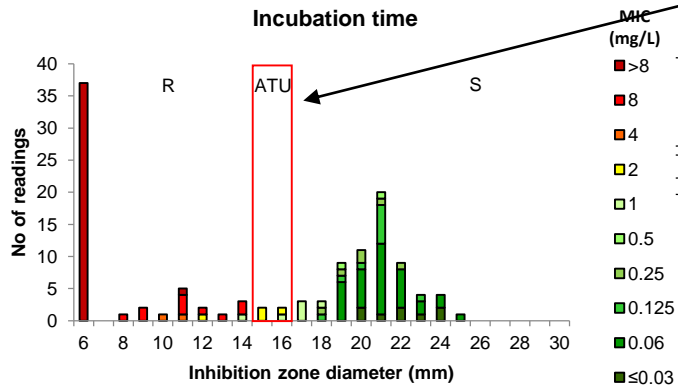
# Changes from previous version

<b>Changes</b>
<ul style="list-style-type: none"><li>• No changes. Breakpoints checked against latest version of EUCAST RAST Breakpoint Tables.</li></ul>

# Explanation of graphs:

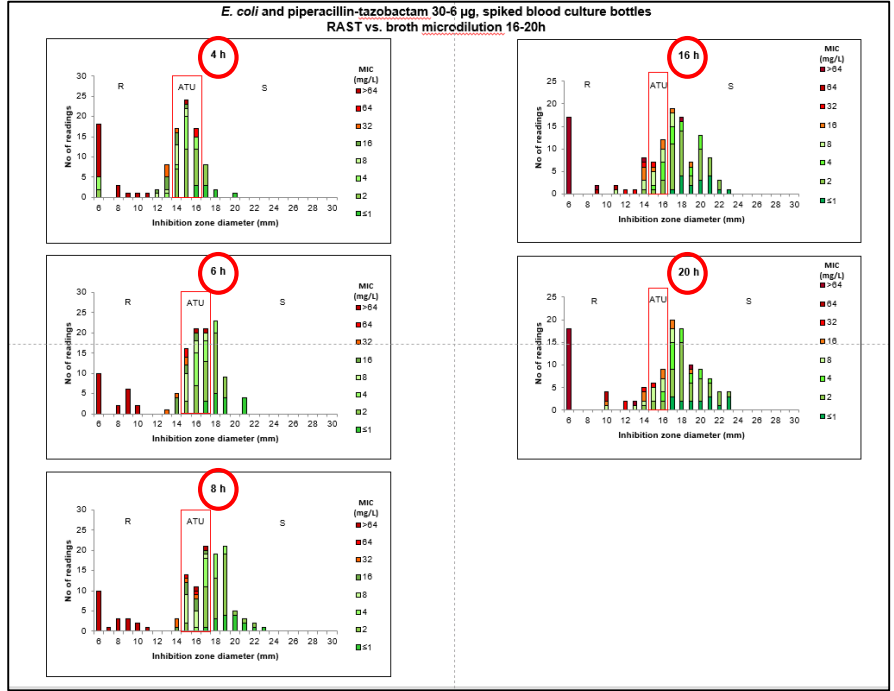
- These graphs show zone diameter distributions with MIC values or resistance mechanisms as coloured bars. Colours are related to current EUCAST MIC breakpoints.

Area of Technical Uncertainty (ATU), inhibition zone diameters above the ATU are interpreted as susceptible (S or I) and those below as resistant (R).



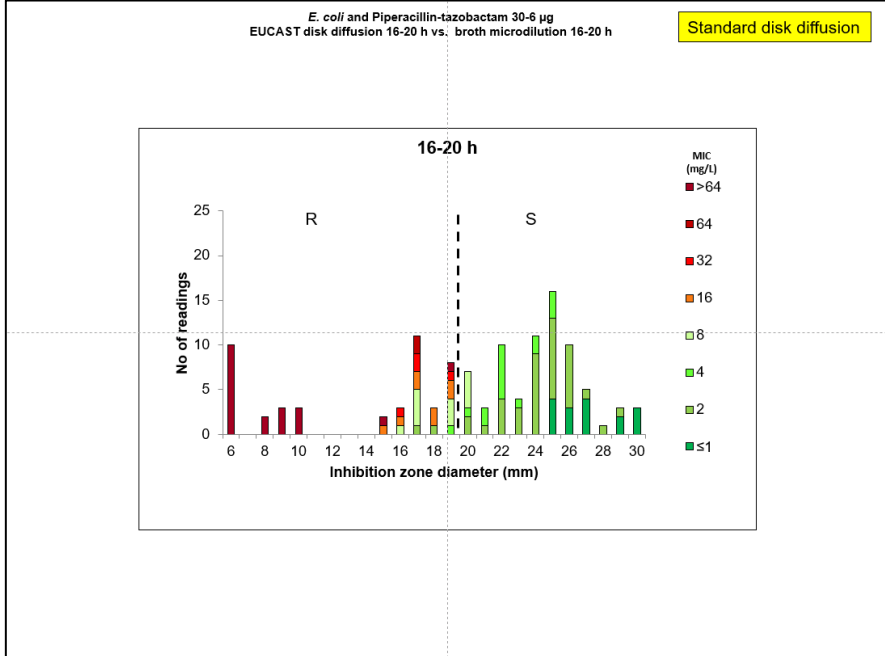
For each species-agent combination, the first slide shows RAST graphs versus reference method and the second slide shows data for the same isolates tested with EUCAST standard disk diffusion method versus reference method\*. Graphs with RAST data are shown per incubation time; data for 16-20 hours incubation are shown as two graphs one for 16 and one for 20 hours.

\*This slide will not be available for species-agent combinations where EUCAST standard disk diffusion is used as the reference.



← RAST versus reference method, one graph per available incubation time.

Standard disk diffusion versus reference method.



# Material and method

- Isolates have been tested from spiked blood culture bottles.
- All isolates have been tested on media agar from two manufacturers. The number of tests are therefore twice the number of isolates except for enterococci where some tests were repeated more than once.

# *Pseudomonas aeruginosa*

## The proportion of readable zone diameters

The proportion of zone diameters (%) which are possible to read\* after 4, 6, 8 and 16-20 h of incubation.

Organism	4 hours (%)	6 hours (%)	8 hours (%)	16-20 hours (%)
<i>Pseudomonas aeruginosa</i> **	-	88	97	100

\*The table displays “possible to read”, not “possible to interpret”, since some of the zone diameters will be in the ATU.

\*\*For some *P. aeruginosa* isolates there is weak growth at RAST, the isolates usually have weak growth at standard disk diffusion 16-20 hours incubation as well.

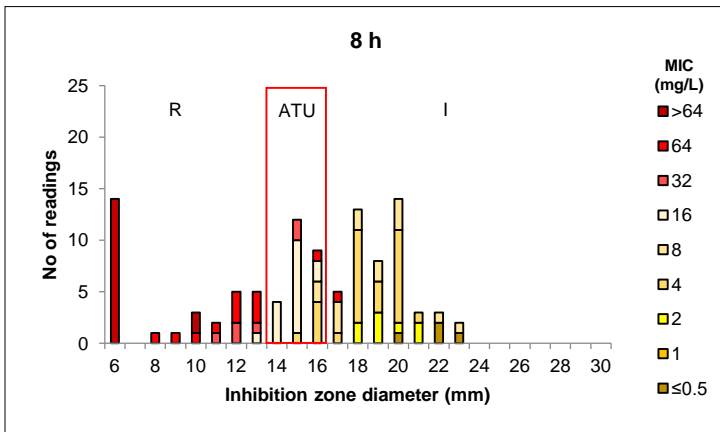
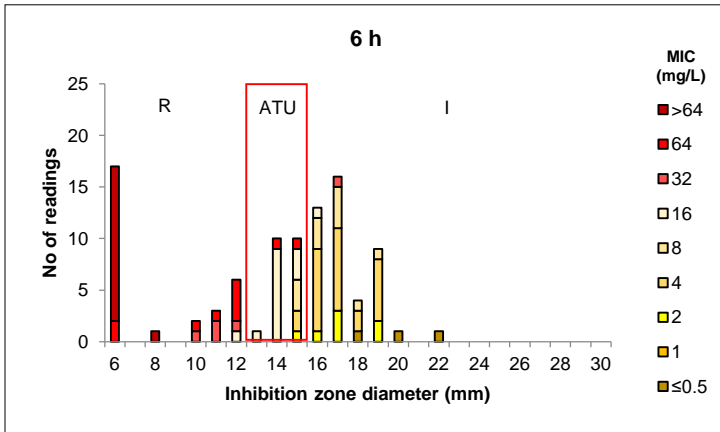
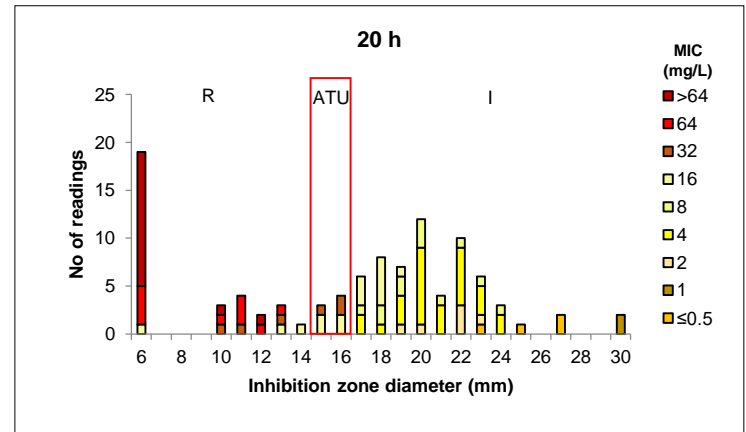
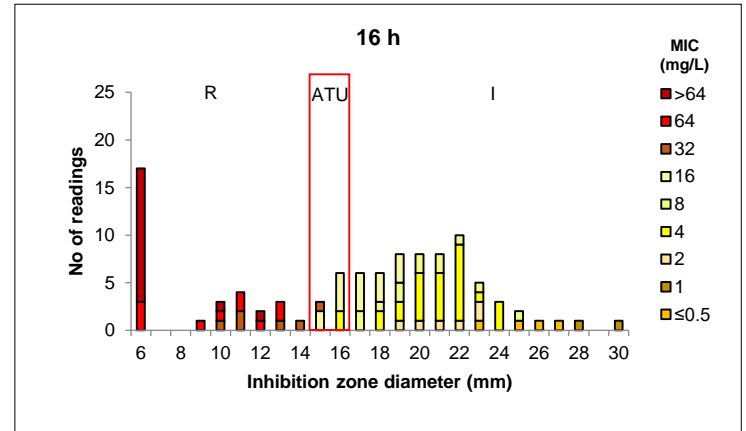
# *Pseudomonas aeruginosa*

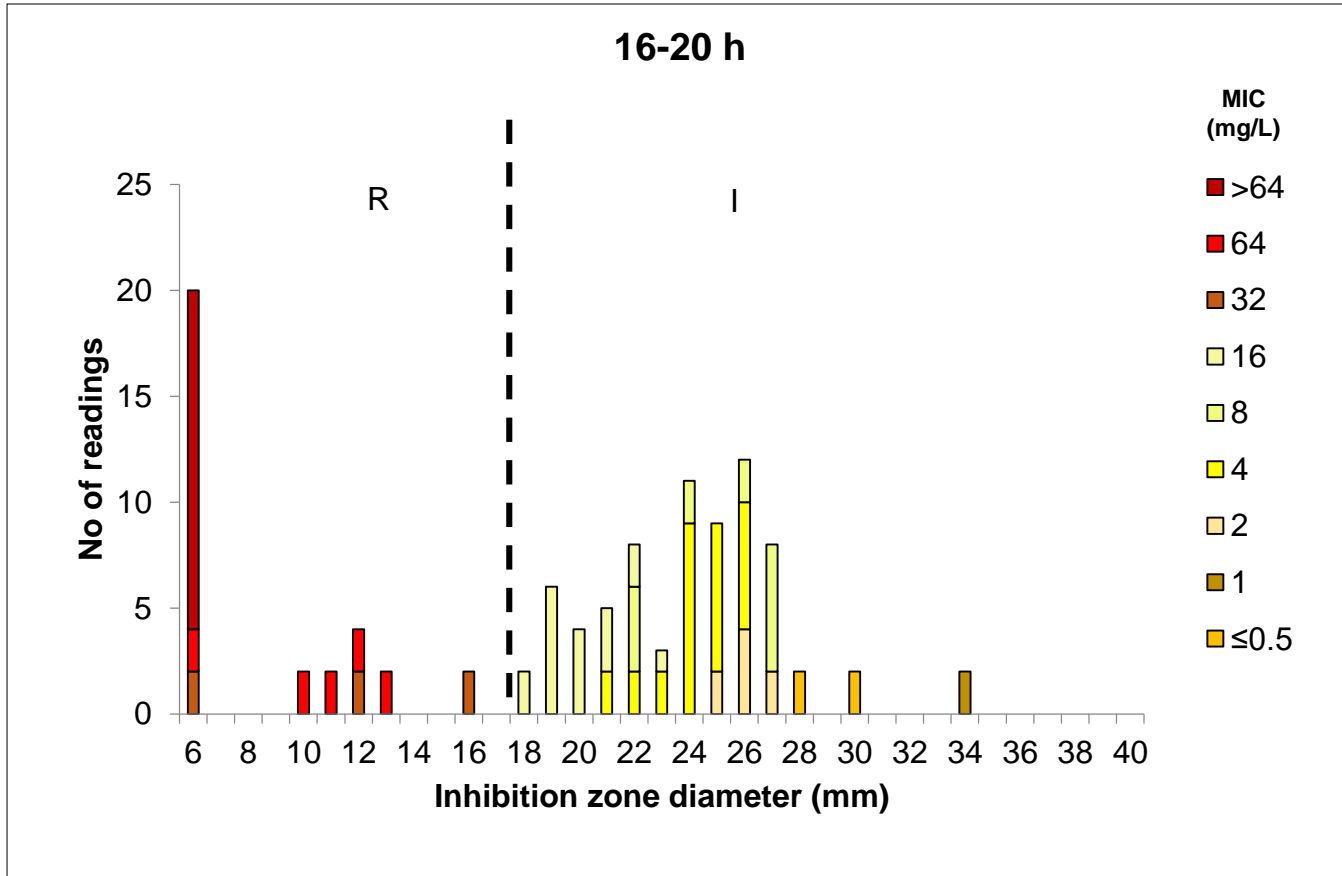
## Antimicrobial agent and number of tested isolates

Antimicrobial agent	Number of tested isolates (number of tests)
Piperacillin-tazobactam	51 (102)
Cefepime	54 (108)
Ceftazidime	51 (102)
Ceftazidime-avibactam	54 (108)
Ceftolozane-tazobactam	54 (108)
Imipenem	51 (102)
Imipenem-relebactam	53 (106)
Meropenem	51 (102)
Meropenem-vaborbactam	53 (106)
Ciprofloxacin	51 (102)
Levofloxacin	54 (108)
Amikacin	54 (108)
Tobramycin	51 (102)

*P. aeruginosa* and piperacillin-tazobactam 30-6 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h

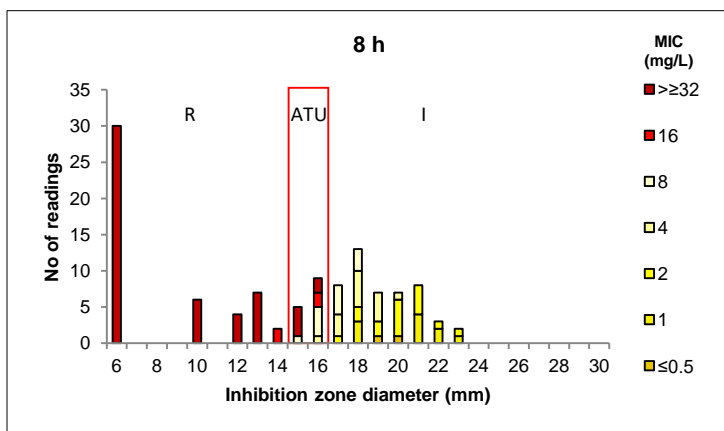
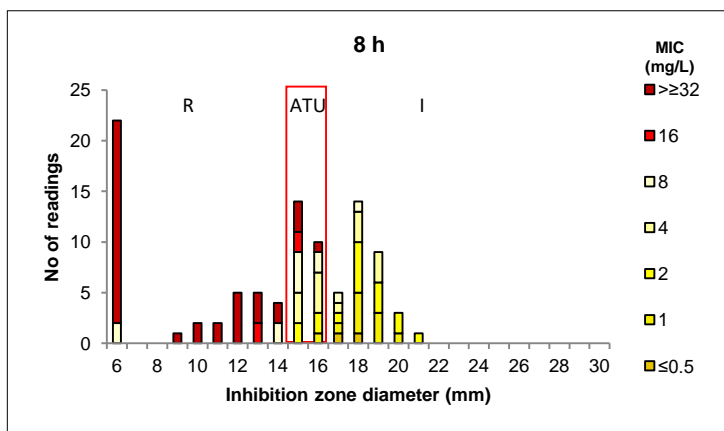
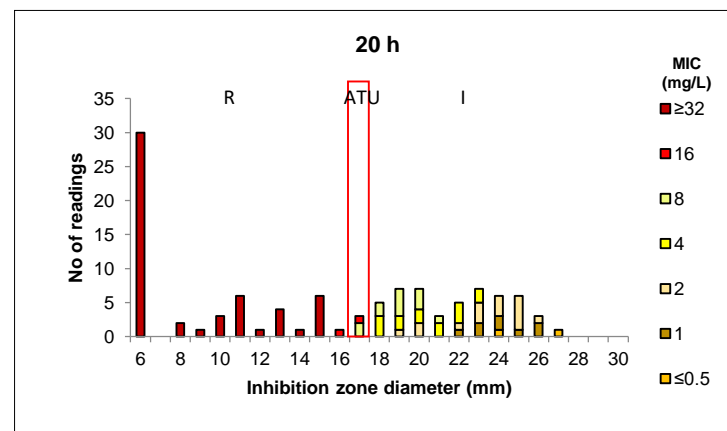
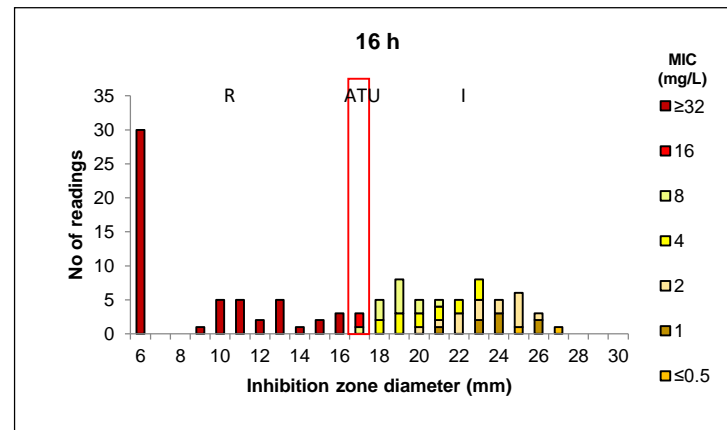
*P. aeruginosa* – no growth after 4 h

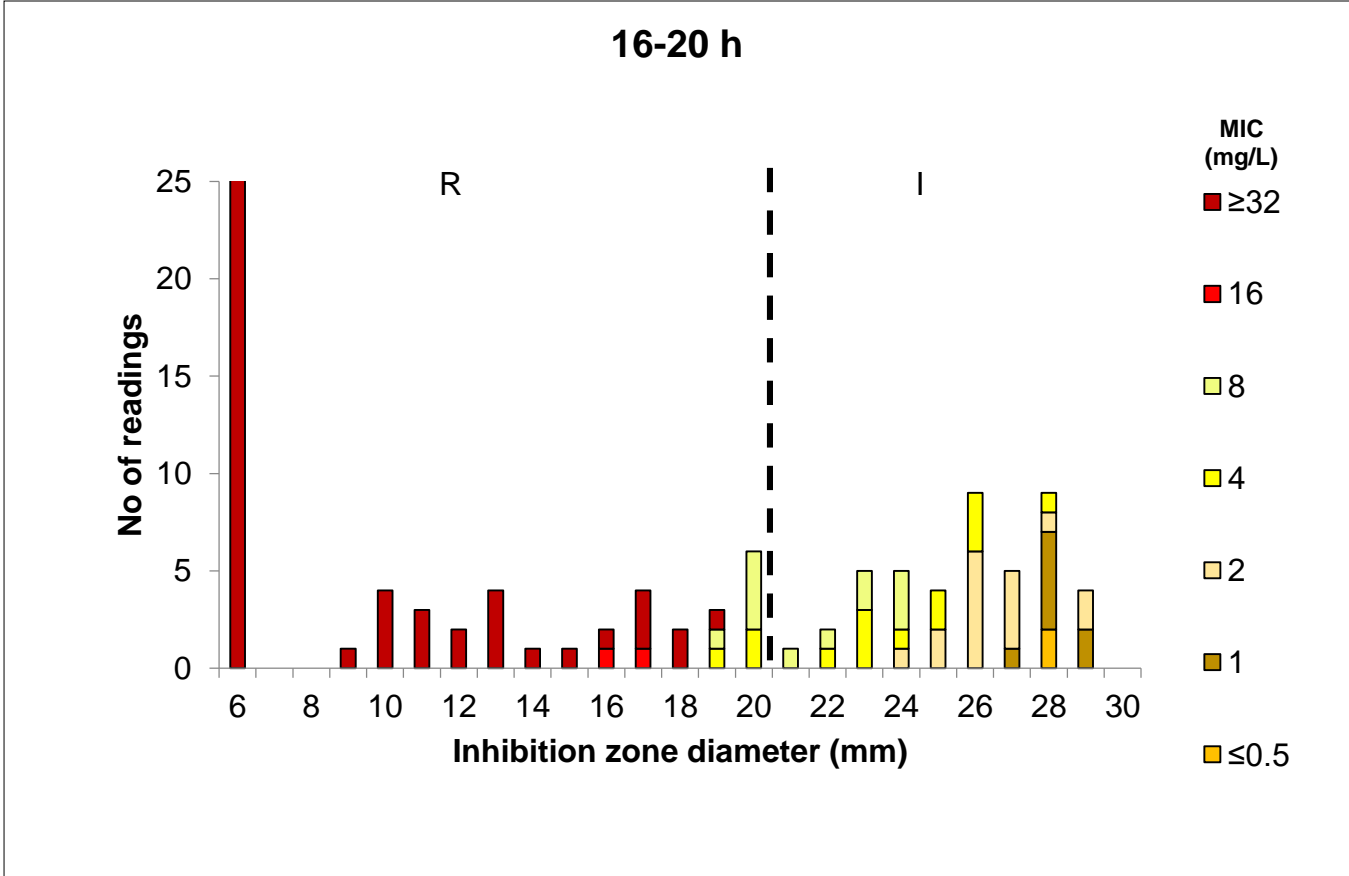




*P. aeruginosa* and cefepime 30 µg, spiked blood culture bottles  
 RAST vs. broth microdilution 16-20h

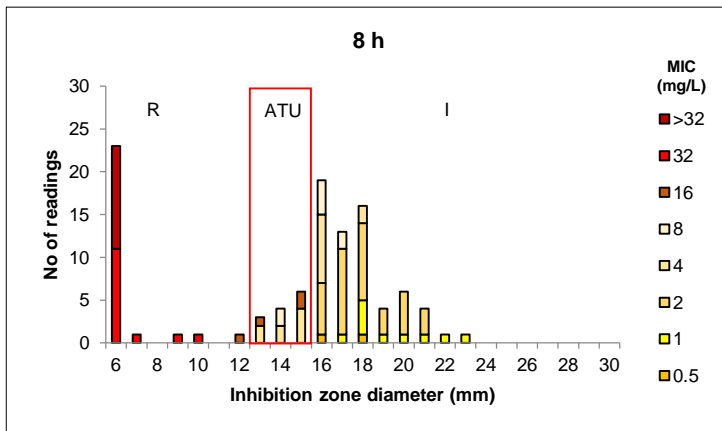
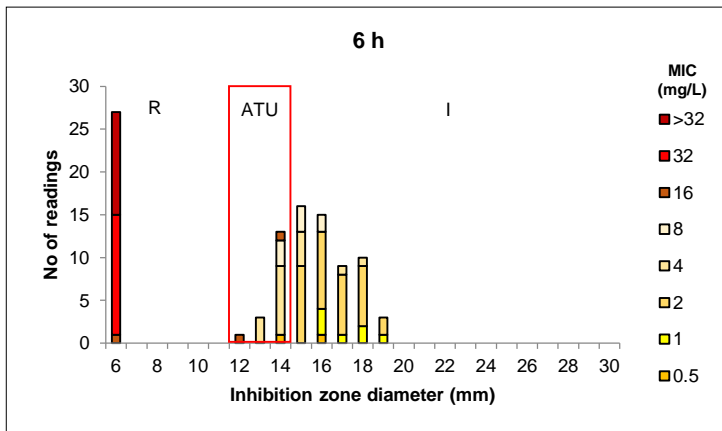
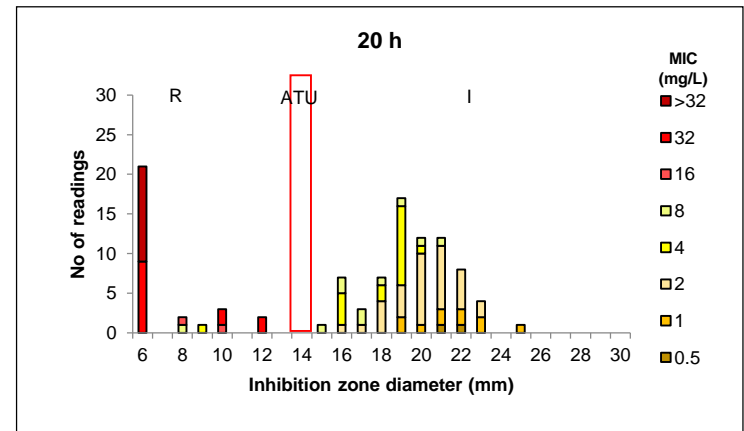
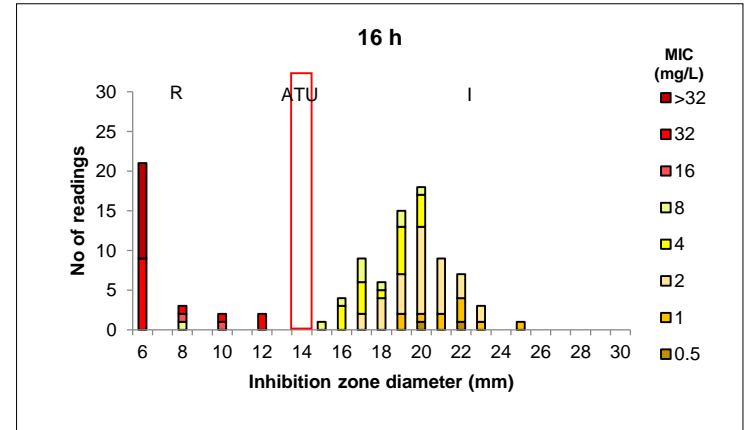
*P. aeruginosa* – no growth after 4 h





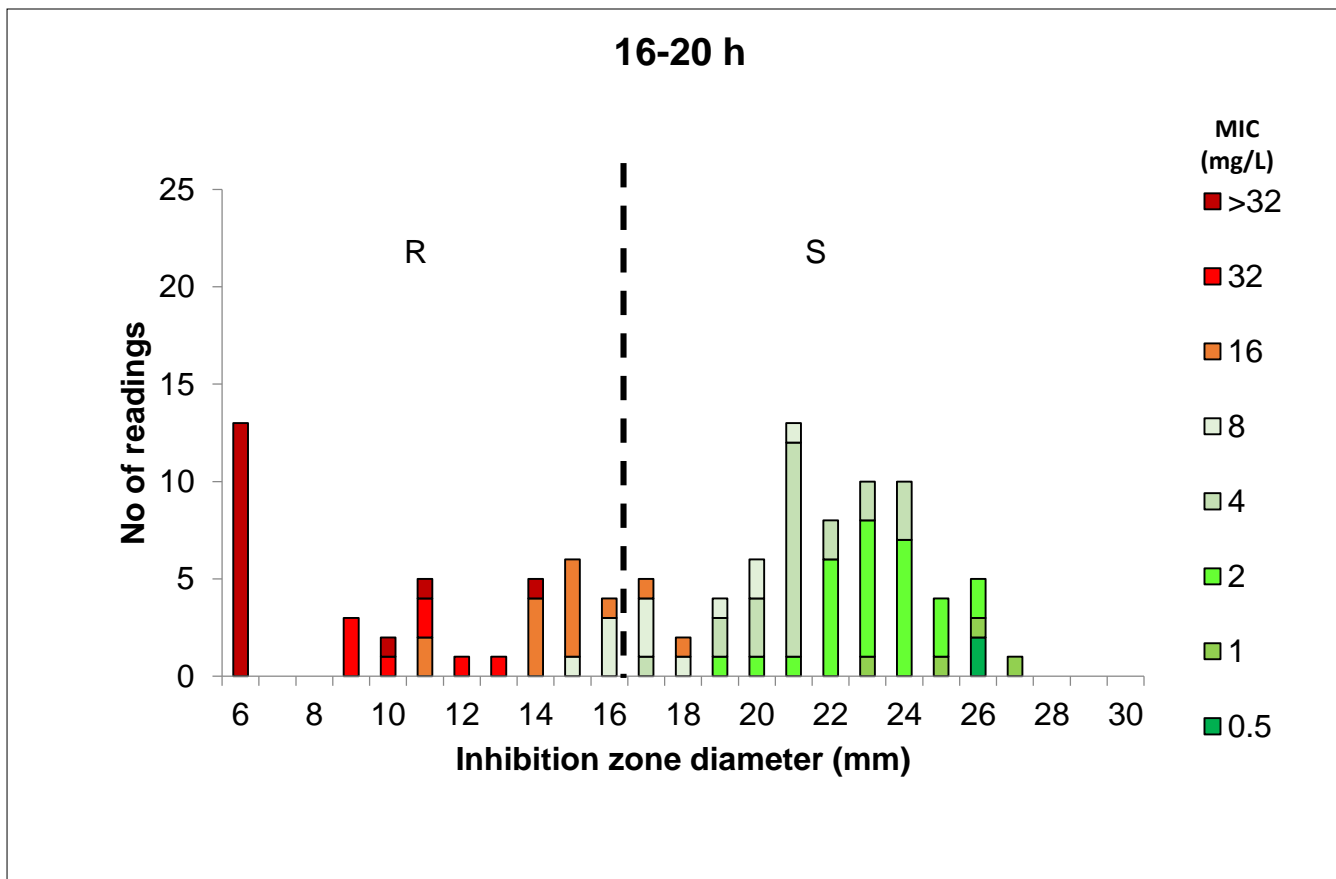
***P. aeruginosa* and ceftazidime 10 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h**

*P. aeruginosa* – no growth after 4 h



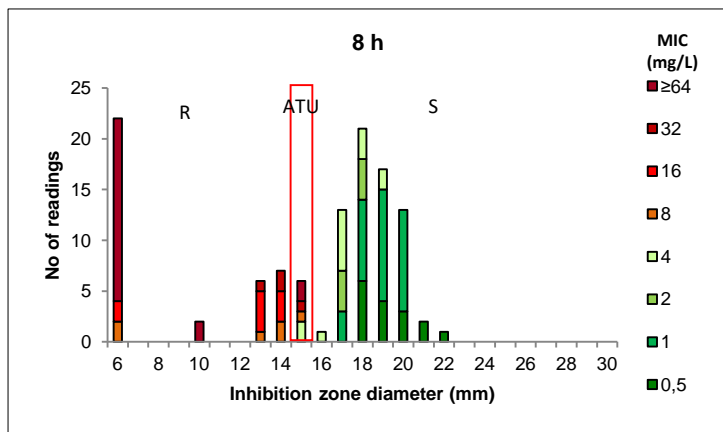
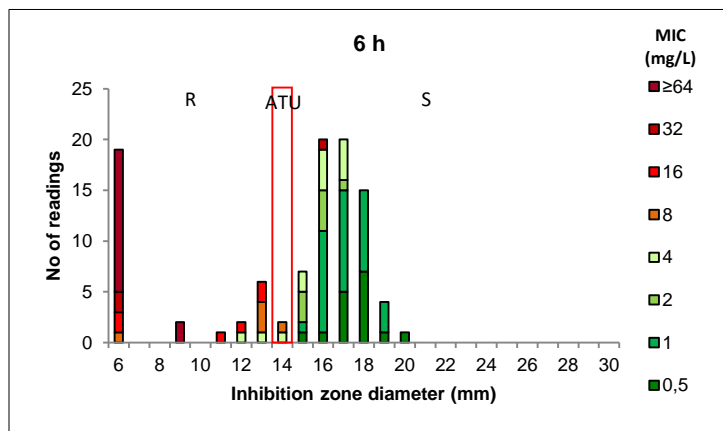
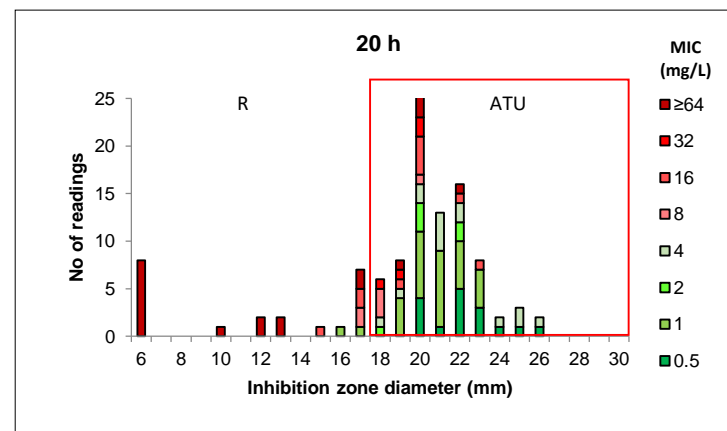
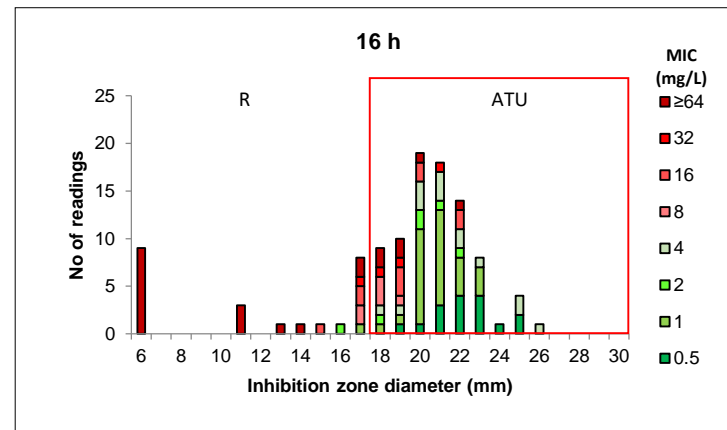






***P. aeruginosa* and ceftolozane-tazobactam 30-10 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h**

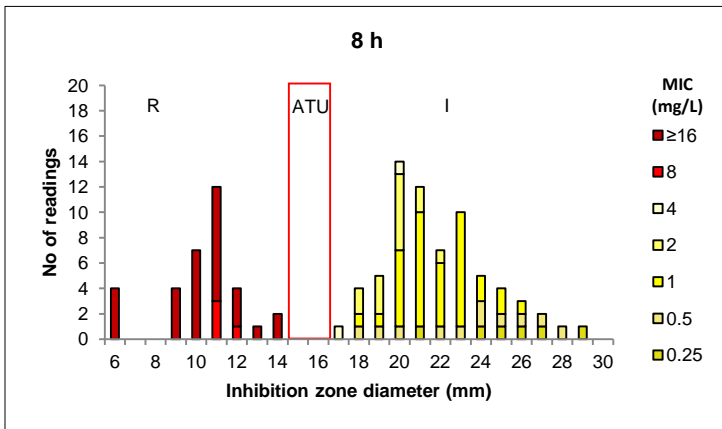
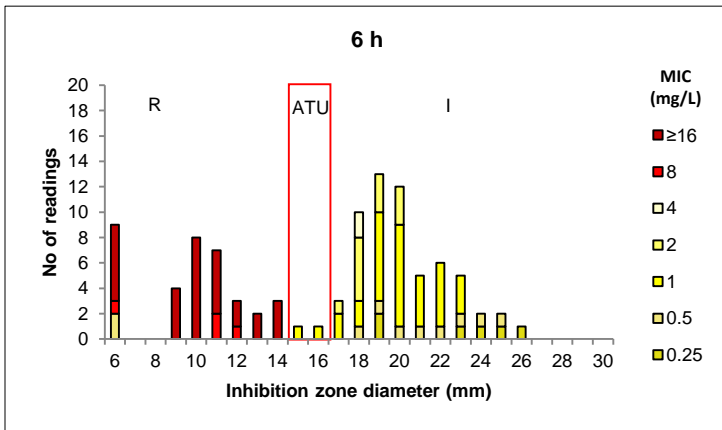
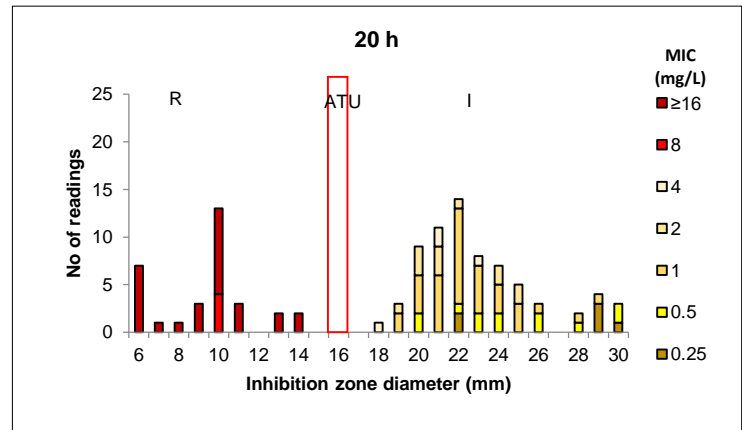
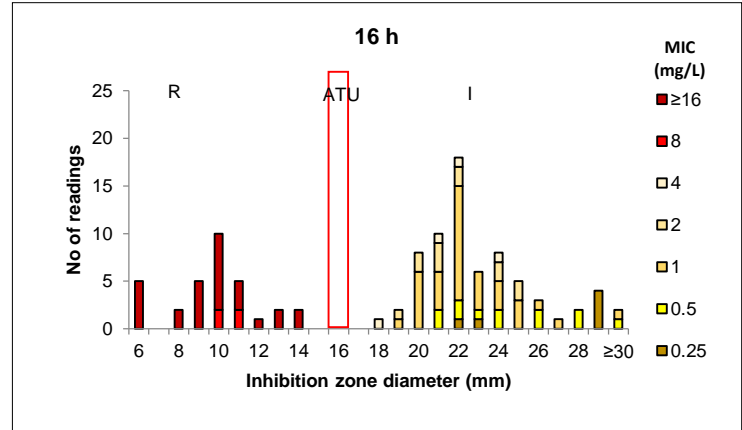
*P. aeruginosa* – no growth after 4 h

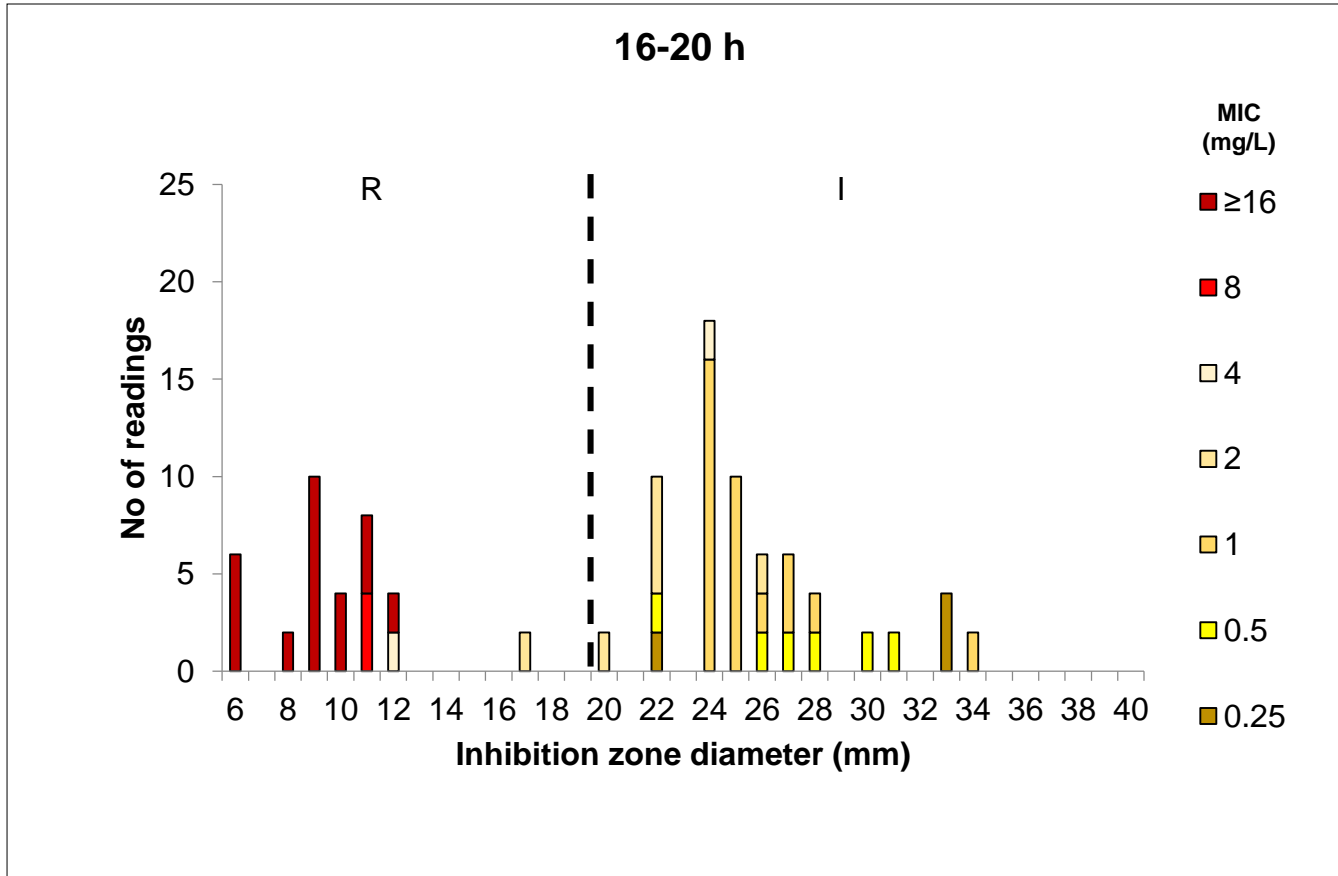




*P. aeruginosa* and imipenem 10 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h

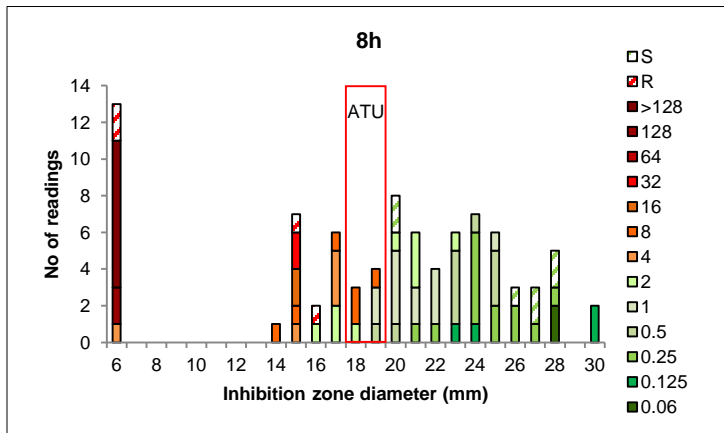
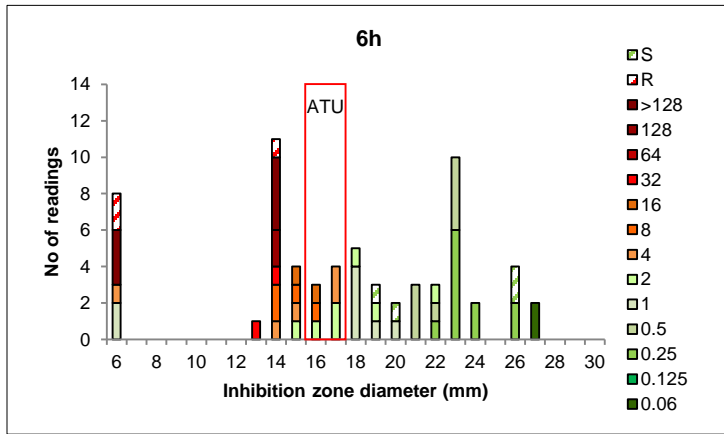
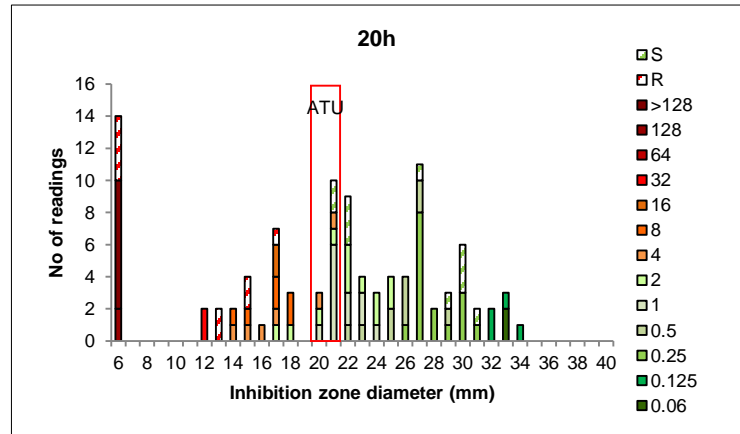
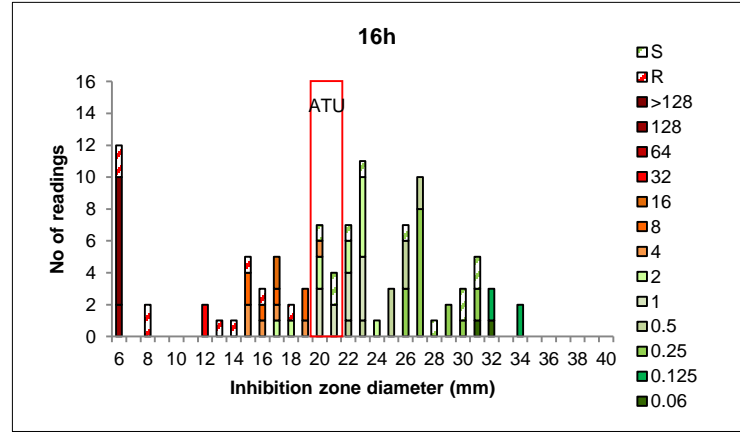
*P. aeruginosa* – no growth after 4 h





***P. aeruginosa* and imipenem-relebactam 10-25 µg, spiked blood culture bottles  
RAST vs. broth microdilution and EUCAST disk diffusion 16-20h**

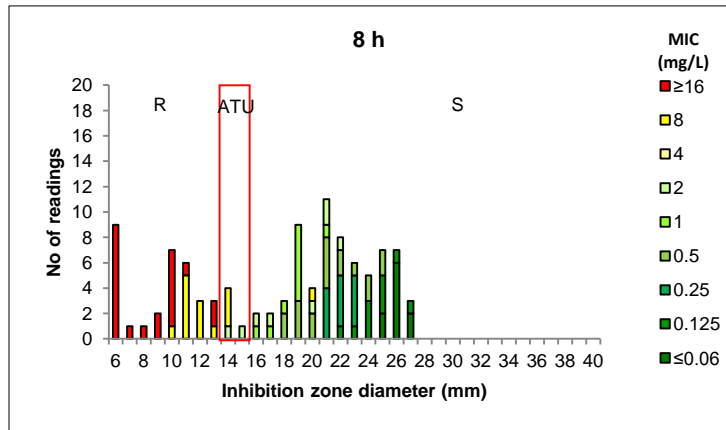
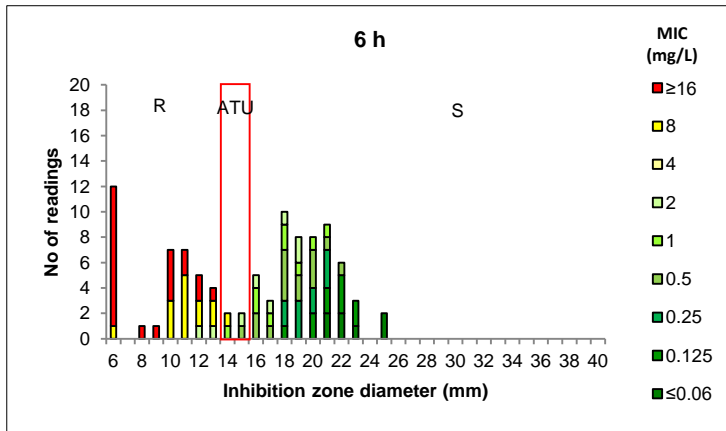
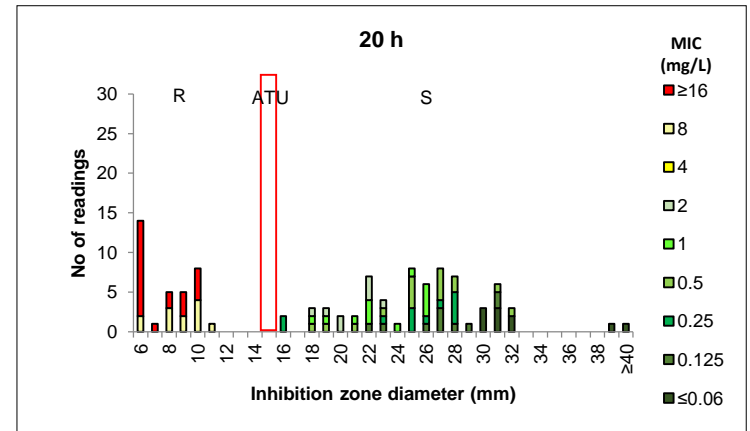
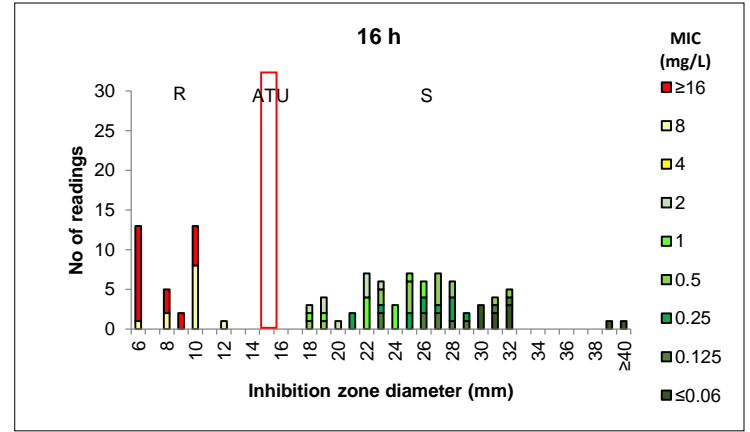
*P. aeruginosa* – no growth after 4 h

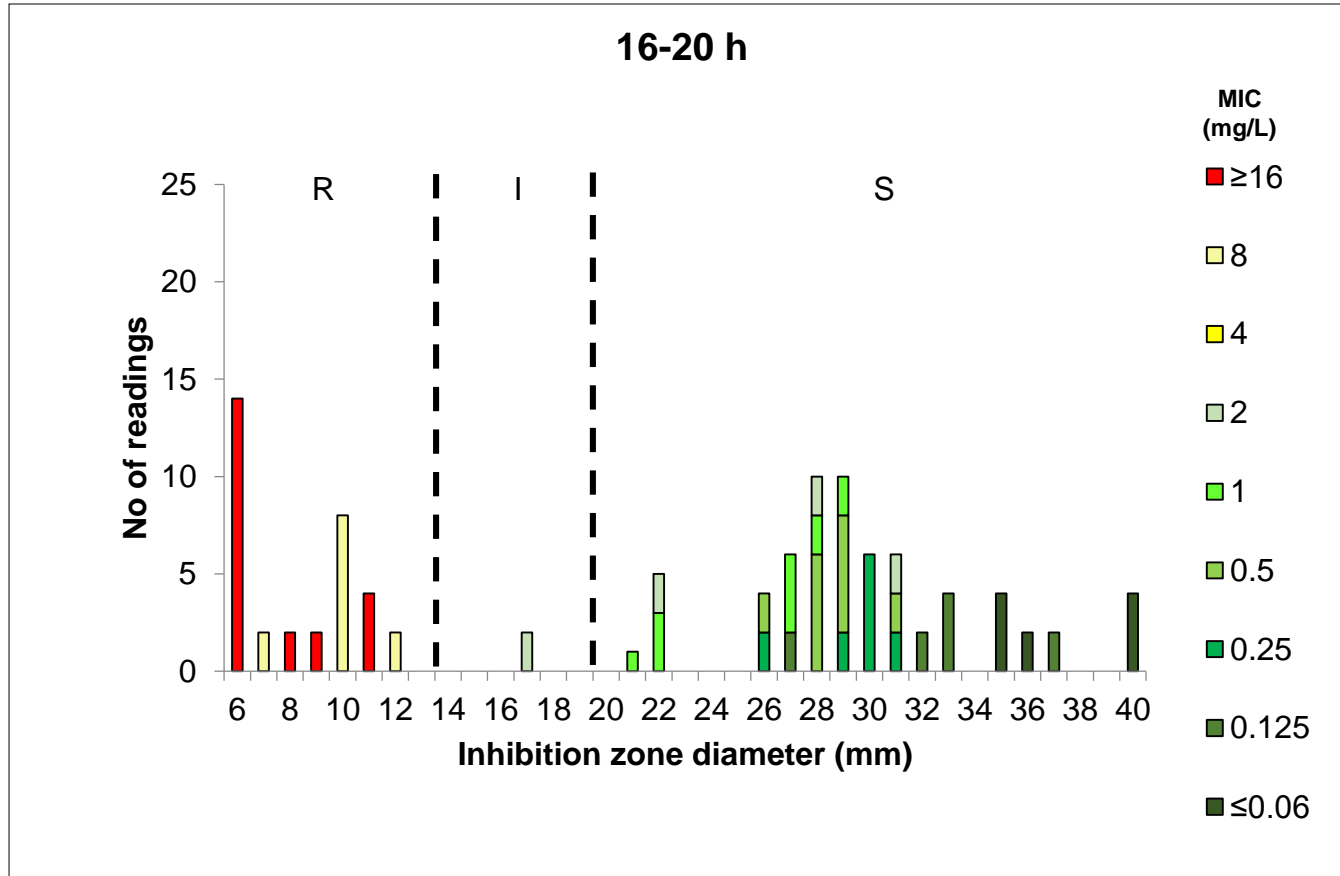




*P. aeruginosa* and meropenem 10 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h

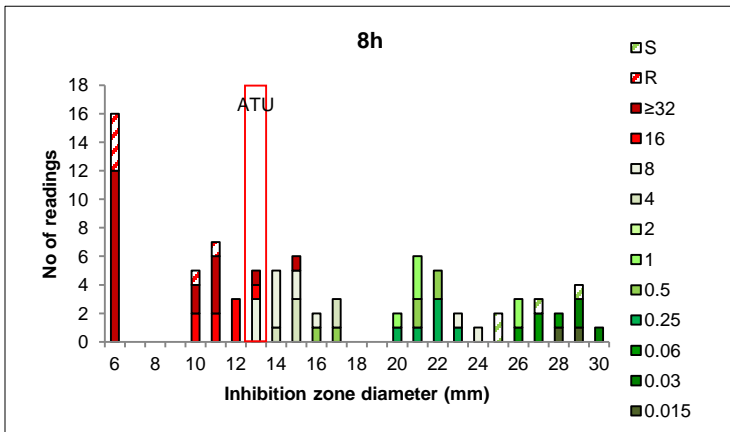
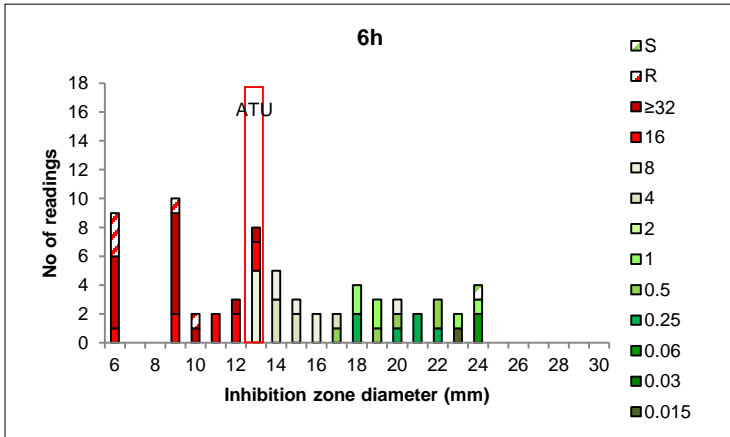
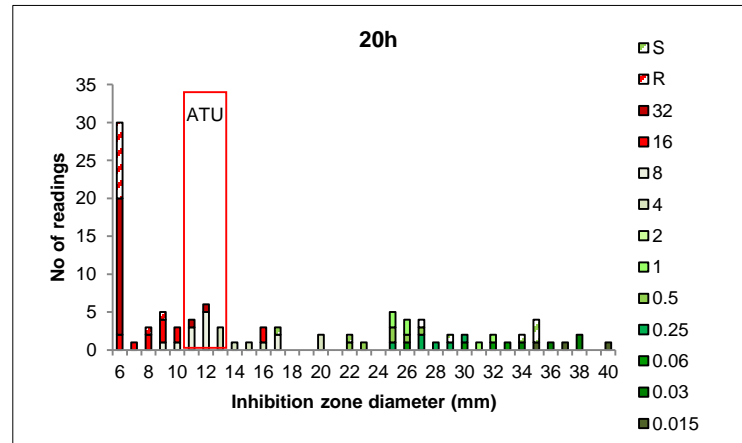
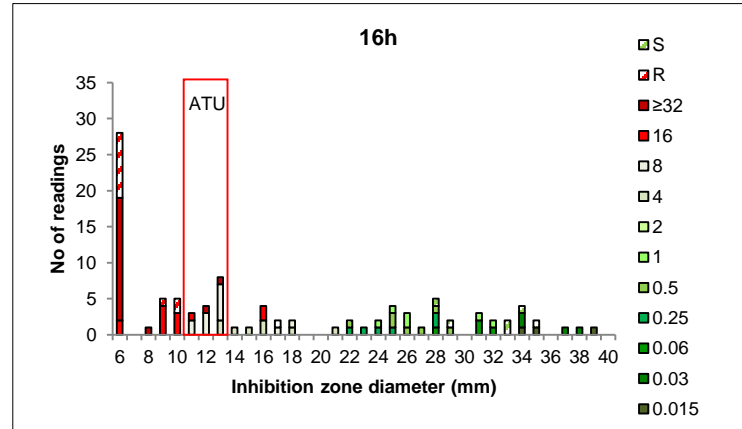
*P. aeruginosa* – no growth after 4 h

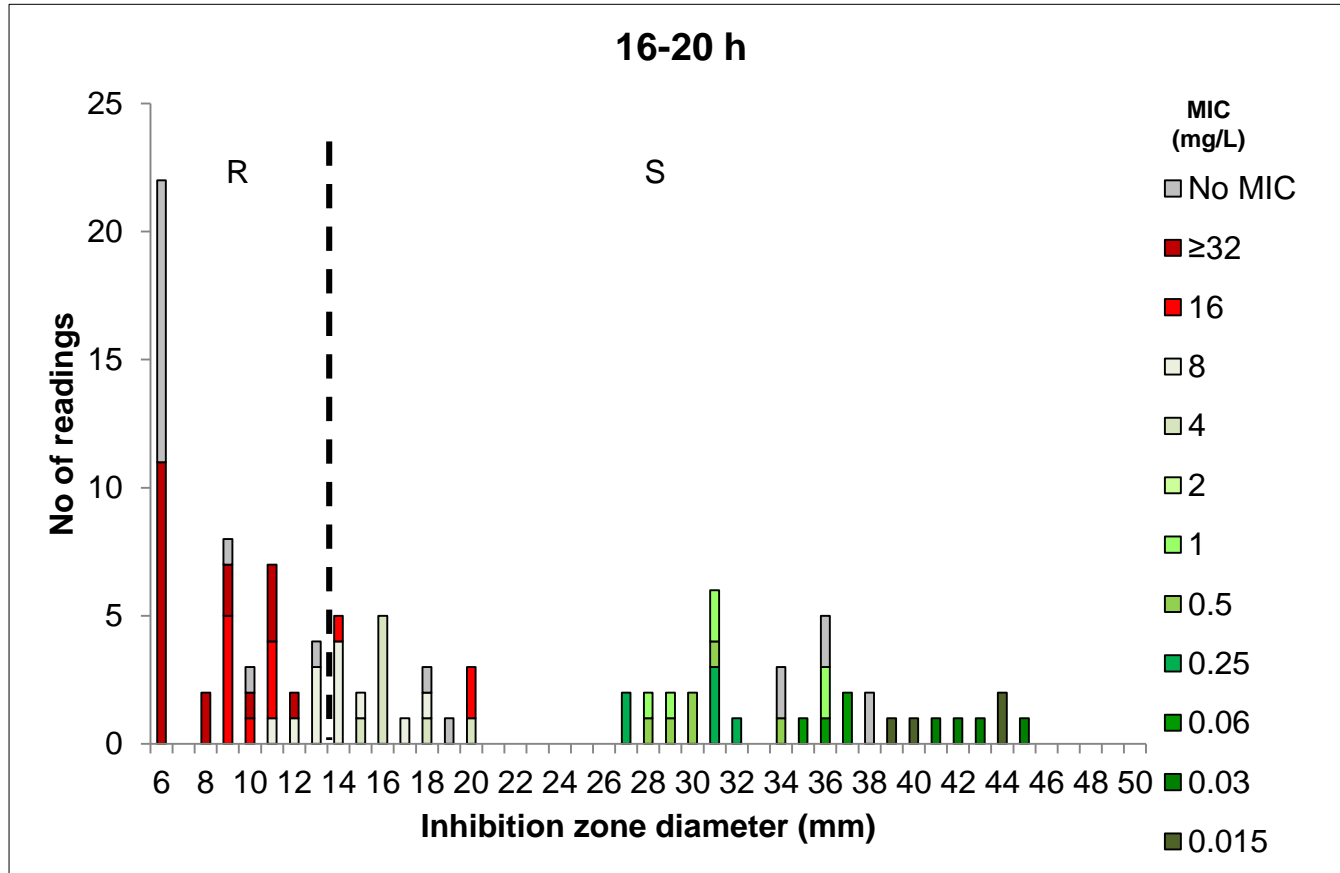




*P. aeruginosa* and meropenem-vaborbactam 20-10 µg, spiked blood culture bottles  
 RAST vs. broth microdilution and EUCAST disk diffusion 16-20 h

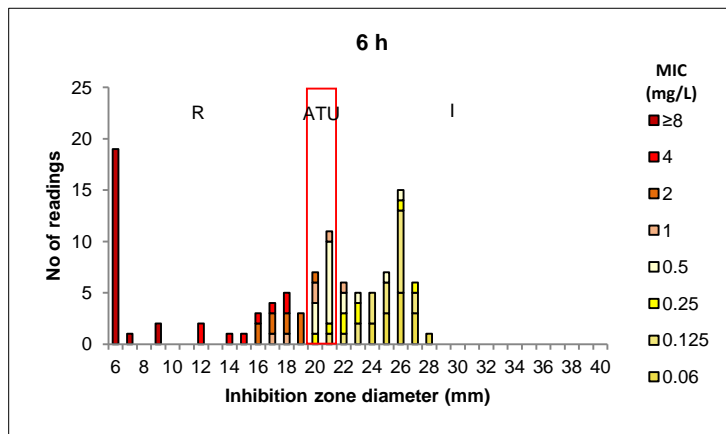
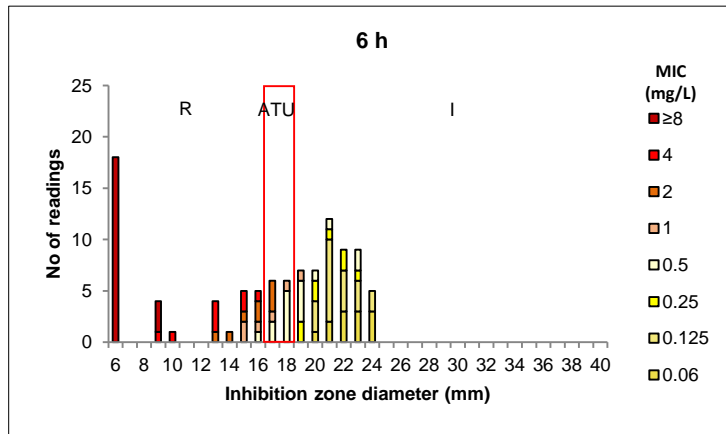
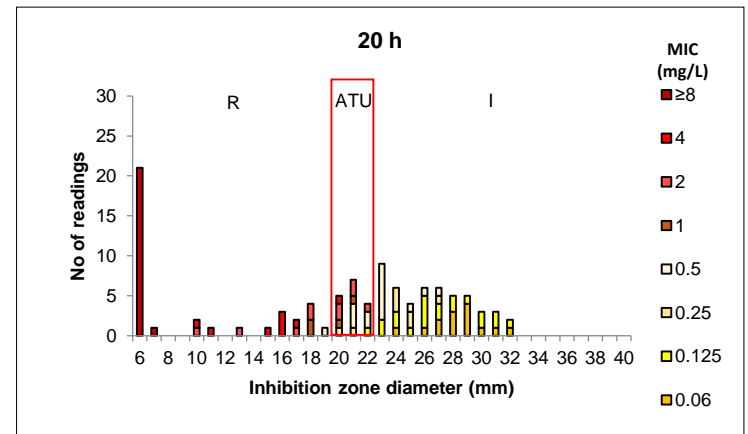
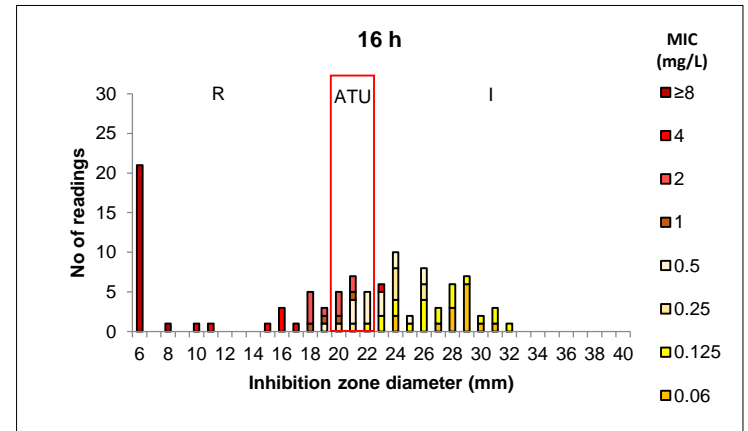
*P. aeruginosa* – no growth after 4 h

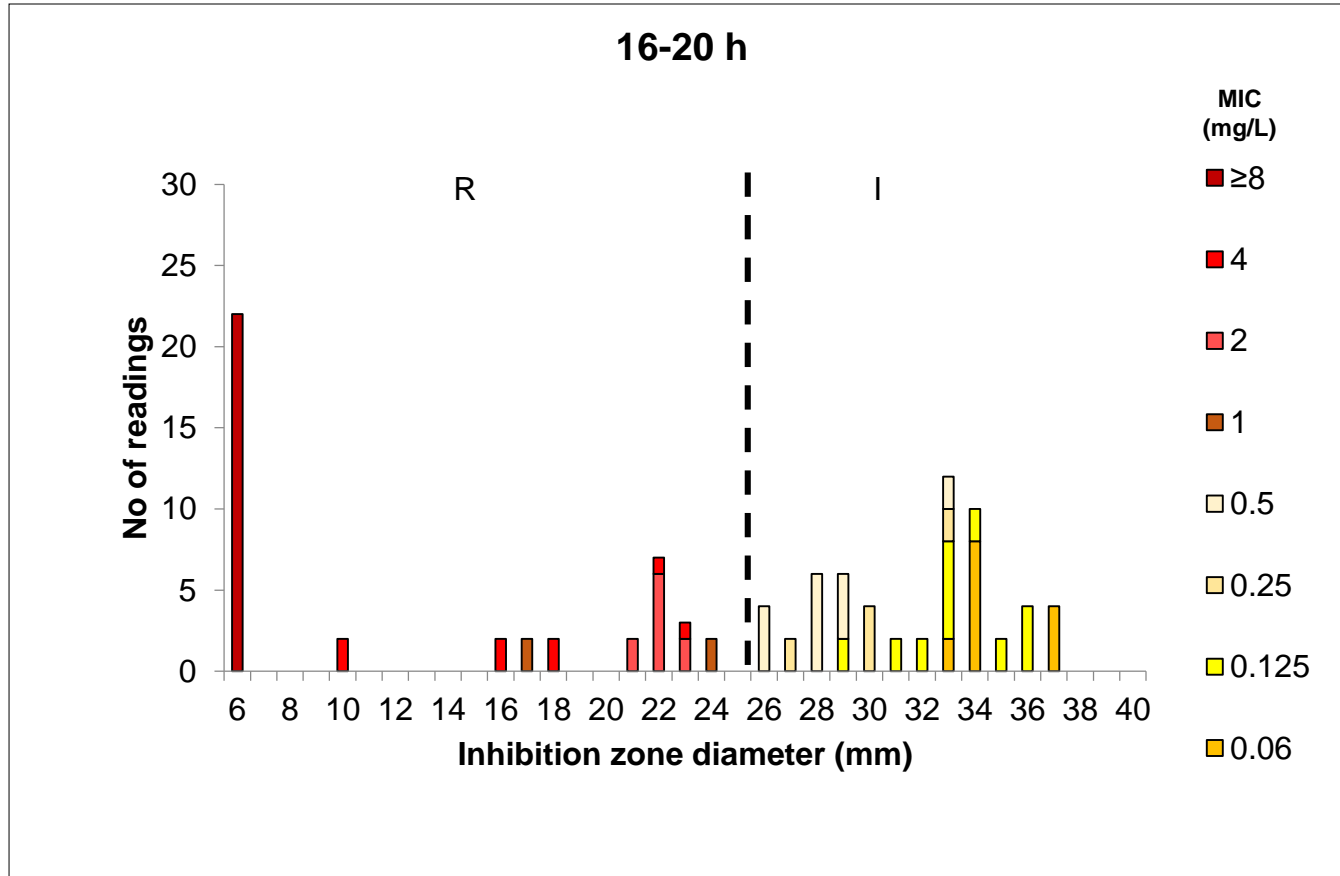




*P. aeruginosa* and ciprofloxacin 5 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h

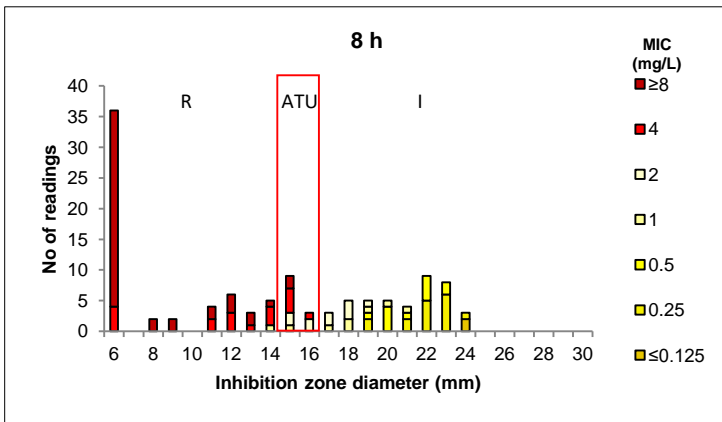
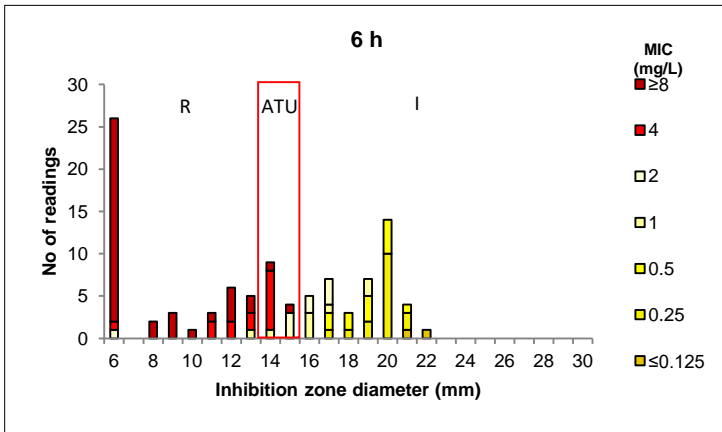
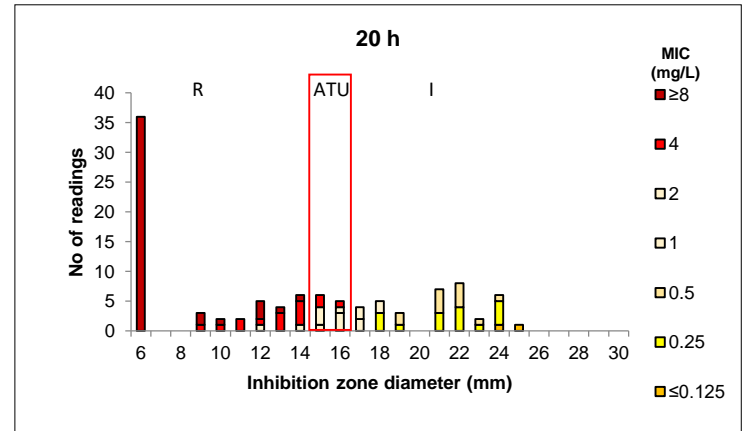
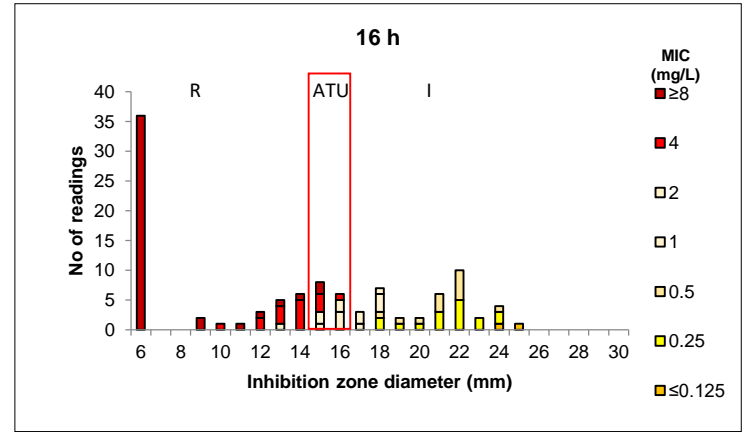
*P. aeruginosa* – no growth after 4 h

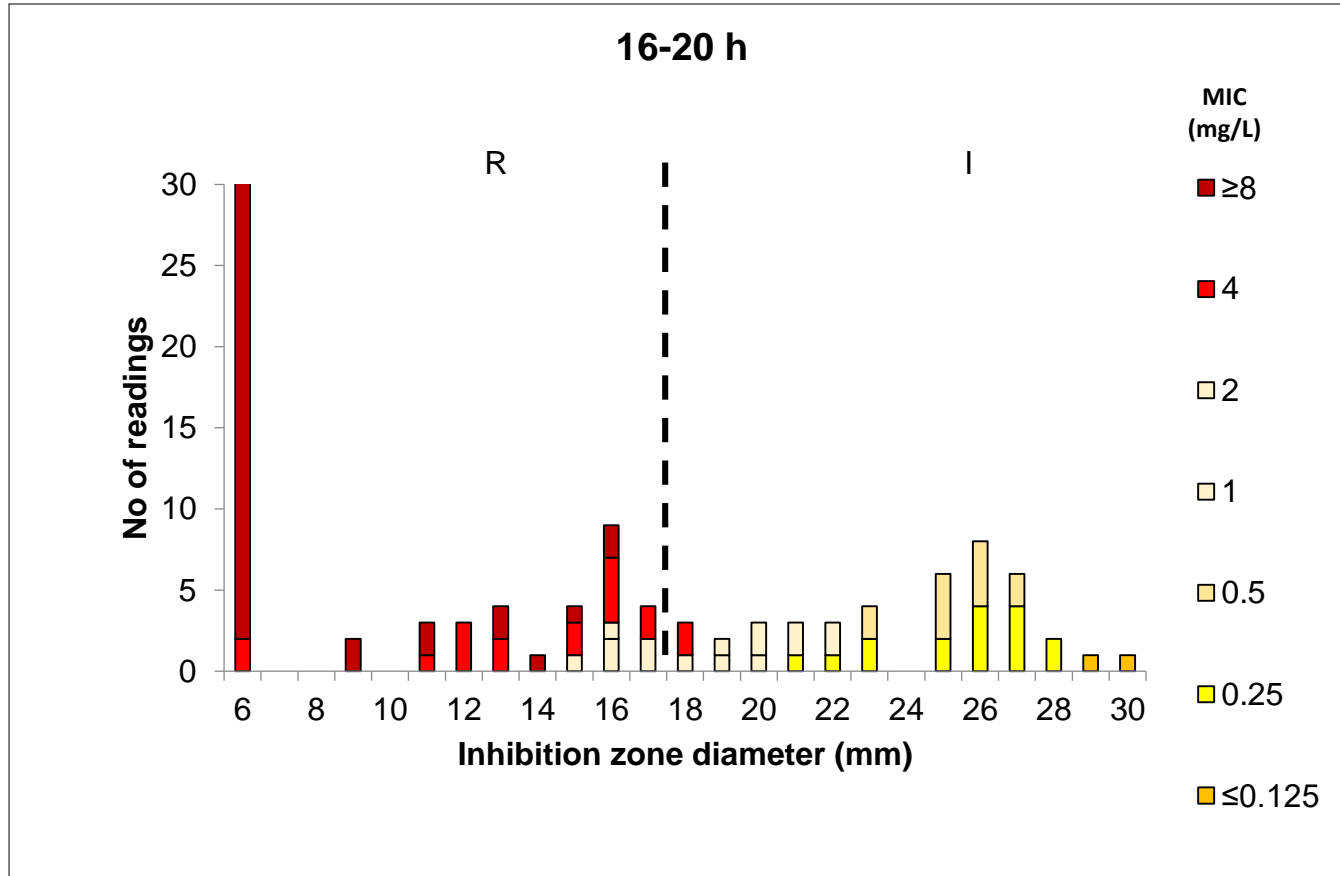




*P. aeruginosa* and levofloxacin 5 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h

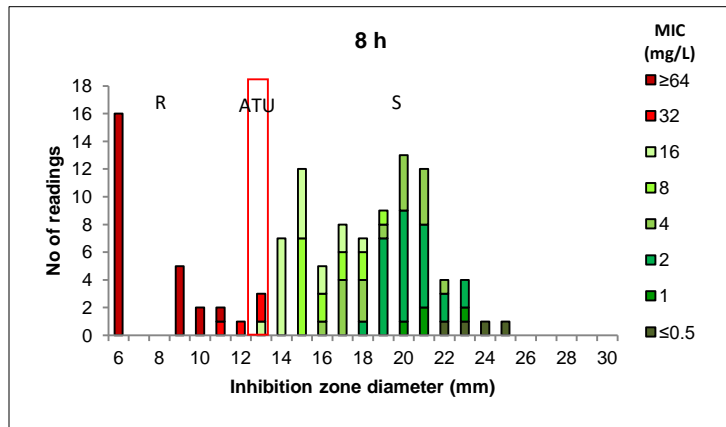
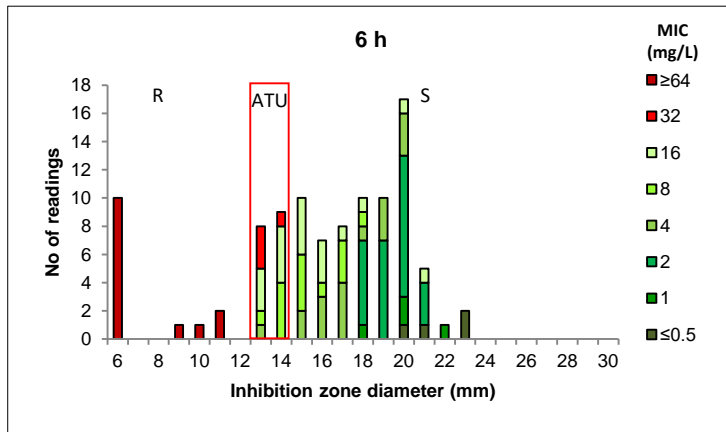
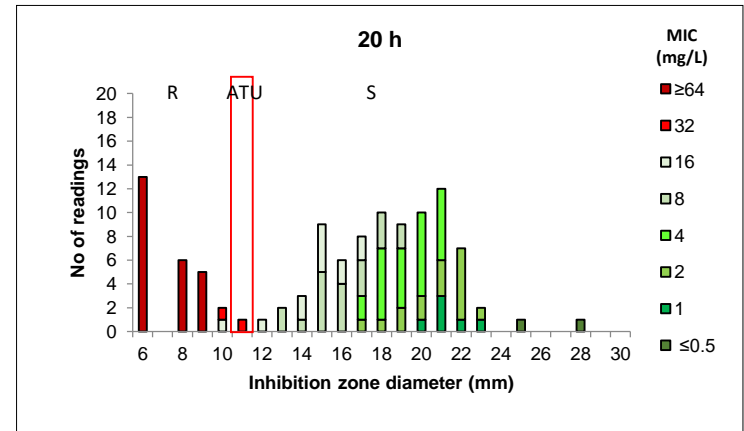
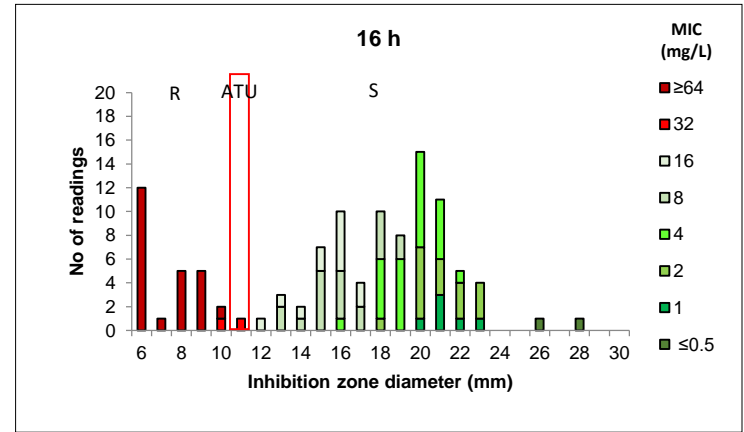
*P. aeruginosa* – no growth after 4 h





***P. aeruginosa* and amikacin 30 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h**

*P. aeruginosa* – no growth after 4 h





*P. aeruginosa* and tobramycin 10 µg, spiked blood culture bottles  
RAST vs. broth microdilution 16-20h

*P. aeruginosa* – no growth after 4 h

