

Rapid AST

Nicolas Blöchliger, Institute of Medical Microbiology, University of Zurich

24/10/2016

Contents

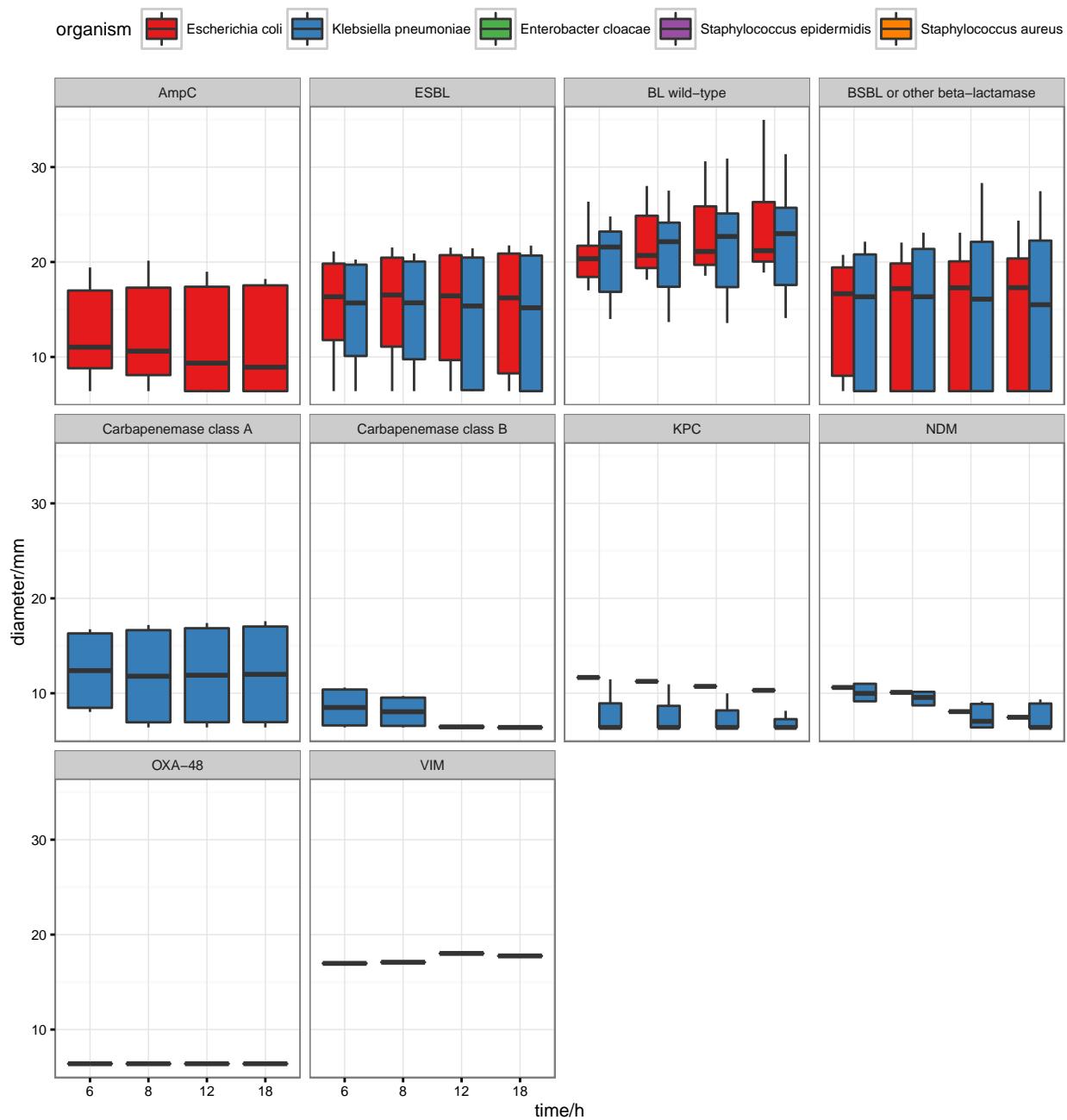
1 Amoxicillin clavulanate	5
1.1 Amoxicillin clavulanate, Escherichia coli	6
1.2 Amoxicillin clavulanate, Klebsiella pneumoniae	8
2 Ampicillin	10
2.1 Ampicillin, Escherichia coli	11
3 Cefepime	13
3.1 Cefepime, Enterobacter cloacae	14
3.2 Cefepime, Escherichia coli	16
3.3 Cefepime, Klebsiella pneumoniae	18
4 Cefoxitin	20
4.1 Cefoxitin, Escherichia coli	21
4.2 Cefoxitin, Klebsiella pneumoniae	23
4.3 Cefoxitin, Staphylococcus aureus	25
4.4 Cefoxitin, Staphylococcus epidermidis	27
5 Cefpodoxime	29
5.1 Cefpodoxime, Enterobacter cloacae	30
5.2 Cefpodoxime, Escherichia coli	32
5.3 Cefpodoxime, Klebsiella pneumoniae	34
6 Ceftriaxone	36
6.1 Ceftriaxone, Enterobacter cloacae	37
6.2 Ceftriaxone, Escherichia coli	39
6.3 Ceftriaxone, Klebsiella pneumoniae	41
7 Cefuroxime	43
7.1 Cefuroxime, Enterobacter cloacae	44
7.2 Cefuroxime, Escherichia coli	46
7.3 Cefuroxime, Klebsiella pneumoniae	48

8 Ciprofloxacin	50
8.1 Ciprofloxacin, Enterobacter cloacae	51
8.2 Ciprofloxacin, Escherichia coli	53
8.3 Ciprofloxacin, Klebsiella pneumoniae	55
8.4 Ciprofloxacin, Staphylococcus aureus	57
8.5 Ciprofloxacin, Staphylococcus epidermidis	59
9 Clindamycin	61
9.1 Clindamycin, Staphylococcus aureus	62
9.2 Clindamycin, Staphylococcus epidermidis	64
10 Erythromycin	66
10.1 Erythromycin, Staphylococcus aureus	67
10.2 Erythromycin, Staphylococcus epidermidis	69
11 Fusidic acid	71
11.1 Fusidic acid, Staphylococcus aureus	72
11.2 Fusidic acid, Staphylococcus epidermidis	74
12 Gentamicin	76
12.1 Gentamicin, Enterobacter cloacae	77
12.2 Gentamicin, Escherichia coli	79
12.3 Gentamicin, Klebsiella pneumoniae	81
12.4 Gentamicin, Staphylococcus aureus	83
12.5 Gentamicin, Staphylococcus epidermidis	85
13 Kanamycine	87
13.1 Kanamycine, Enterobacter cloacae	88
13.2 Kanamycine, Escherichia coli	90
13.3 Kanamycine, Klebsiella pneumoniae	92
13.4 Kanamycine, Staphylococcus aureus	94
13.5 Kanamycine, Staphylococcus epidermidis	96
14 Levofloxacin	98
14.1 Levofloxacin, Enterobacter cloacae	99
14.2 Levofloxacin, Escherichia coli	101
14.3 Levofloxacin, Klebsiella pneumoniae	103
14.4 Levofloxacin, Staphylococcus aureus	105
14.5 Levofloxacin, Staphylococcus epidermidis	107

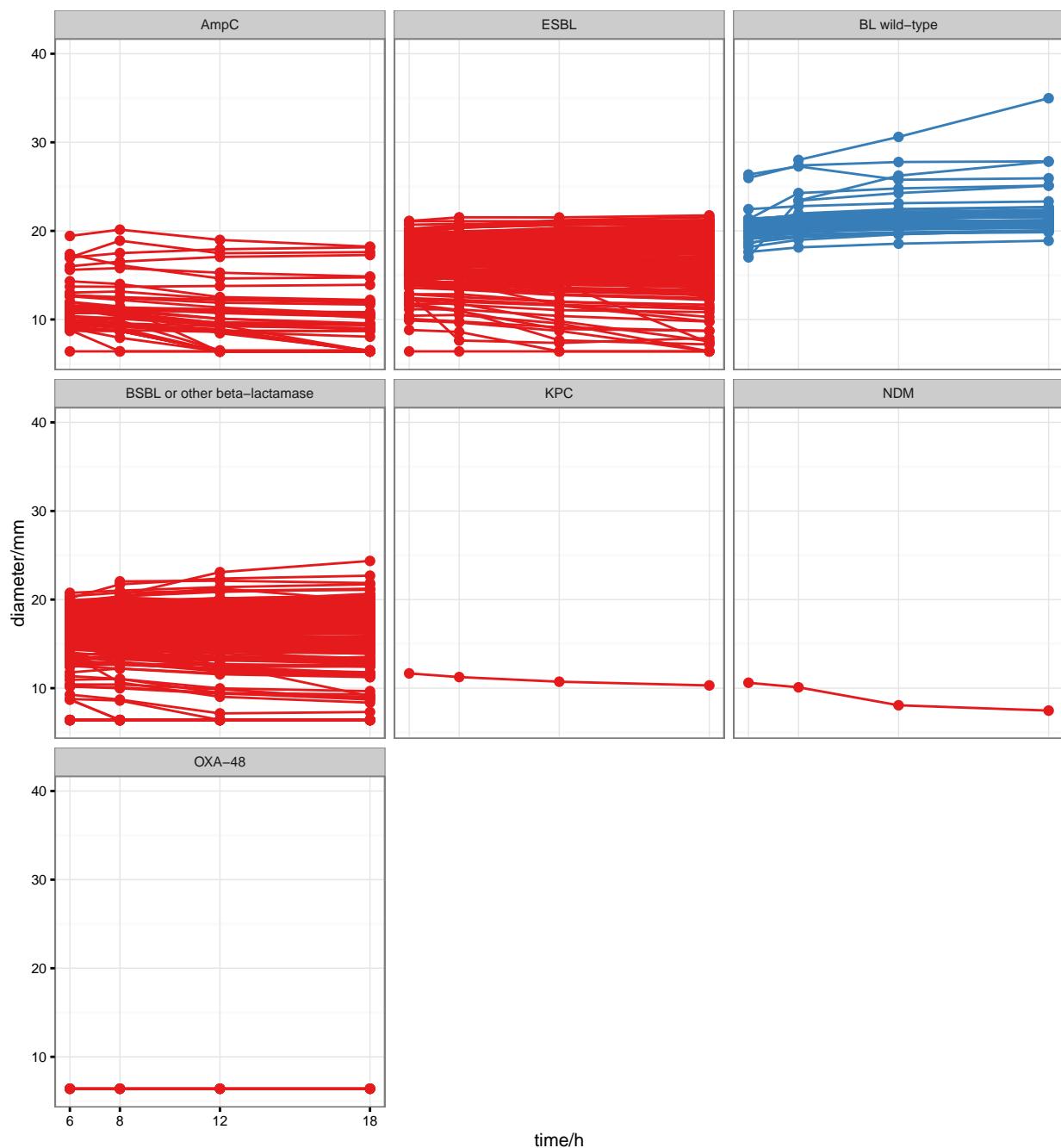
15 Linezolid	109
15.1 Linezolid, <i>Staphylococcus aureus</i>	110
15.2 Linezolid, <i>Staphylococcus epidermidis</i>	111
16 Meropenem	112
16.1 Meropenem, <i>Enterobacter cloacae</i>	113
16.2 Meropenem, <i>Escherichia coli</i>	115
16.3 Meropenem, <i>Klebsiella pneumoniae</i>	117
17 Minocyclin	119
17.1 Minocyclin, <i>Enterobacter cloacae</i>	120
17.2 Minocyclin, <i>Escherichia coli</i>	122
17.3 Minocyclin, <i>Klebsiella pneumoniae</i>	124
17.4 Minocyclin, <i>Staphylococcus aureus</i>	126
17.5 Minocyclin, <i>Staphylococcus epidermidis</i>	127
18 Naladixic acid	128
18.1 Naladixic acid, <i>Enterobacter cloacae</i>	129
18.2 Naladixic acid, <i>Escherichia coli</i>	131
18.3 Naladixic acid, <i>Klebsiella pneumoniae</i>	133
19 Norfloxacin	135
19.1 Norfloxacin, <i>Enterobacter cloacae</i>	136
19.2 Norfloxacin, <i>Escherichia coli</i>	138
19.3 Norfloxacin, <i>Klebsiella pneumoniae</i>	140
19.4 Norfloxacin, <i>Staphylococcus aureus</i>	142
19.5 Norfloxacin, <i>Staphylococcus epidermidis</i>	144
20 Penicillin	146
20.1 Penicillin, <i>Staphylococcus aureus</i>	147
20.2 Penicillin, <i>Staphylococcus epidermidis</i>	149
21 Piperacillin/Tazobactam	151
21.1 Piperacillin/Tazobactam, <i>Enterobacter cloacae</i>	152
21.2 Piperacillin/Tazobactam, <i>Escherichia coli</i>	154
21.3 Piperacillin/Tazobactam, <i>Klebsiella pneumoniae</i>	156
22 Rifampicin	158
22.1 Rifampicin, <i>Staphylococcus aureus</i>	159
22.2 Rifampicin, <i>Staphylococcus epidermidis</i>	161

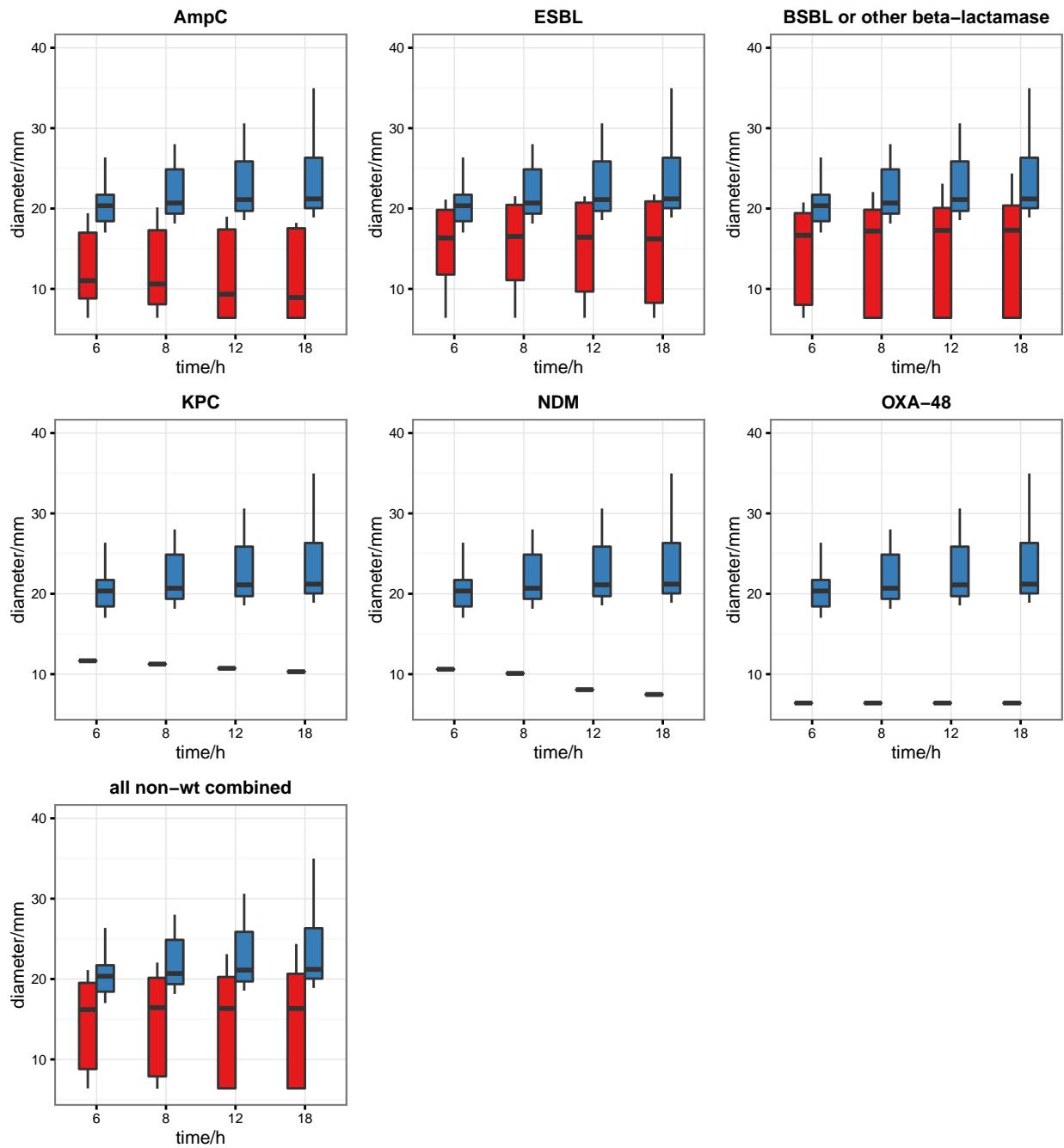
23 Sulfameth./Trimethoprim	163
23.1 Sulfameth./Trimethoprim, Enterobacter cloacae	164
23.2 Sulfameth./Trimethoprim, Escherichia coli	166
23.3 Sulfameth./Trimethoprim, Klebsiella pneumoniae	168
23.4 Sulfameth./Trimethoprim, Staphylococcus aureus	170
23.5 Sulfameth./Trimethoprim, Staphylococcus epidermidis	171
24 Temocillin	173
24.1 Temocillin, Enterobacter cloacae	174
24.2 Temocillin, Escherichia coli	176
24.3 Temocillin, Klebsiella pneumoniae	178
25 Tetracycline	180
25.1 Tetracycline, Enterobacter cloacae	181
25.2 Tetracycline, Escherichia coli	183
25.3 Tetracycline, Klebsiella pneumoniae	185
25.4 Tetracycline, Staphylococcus aureus	187
25.5 Tetracycline, Staphylococcus epidermidis	189
26 Tigecycline	191
26.1 Tigecycline, Enterobacter cloacae	192
26.2 Tigecycline, Escherichia coli	193
26.3 Tigecycline, Klebsiella pneumoniae	194
26.4 Tigecycline, Staphylococcus aureus	195
26.5 Tigecycline, Staphylococcus epidermidis	196
27 Tobramycin	197
27.1 Tobramycin, Enterobacter cloacae	198
27.2 Tobramycin, Escherichia coli	200
27.3 Tobramycin, Klebsiella pneumoniae	202
27.4 Tobramycin, Staphylococcus aureus	204
27.5 Tobramycin, Staphylococcus epidermidis	206
28 Area under the ROC curve	208

1 Amoxicillin clavulanate



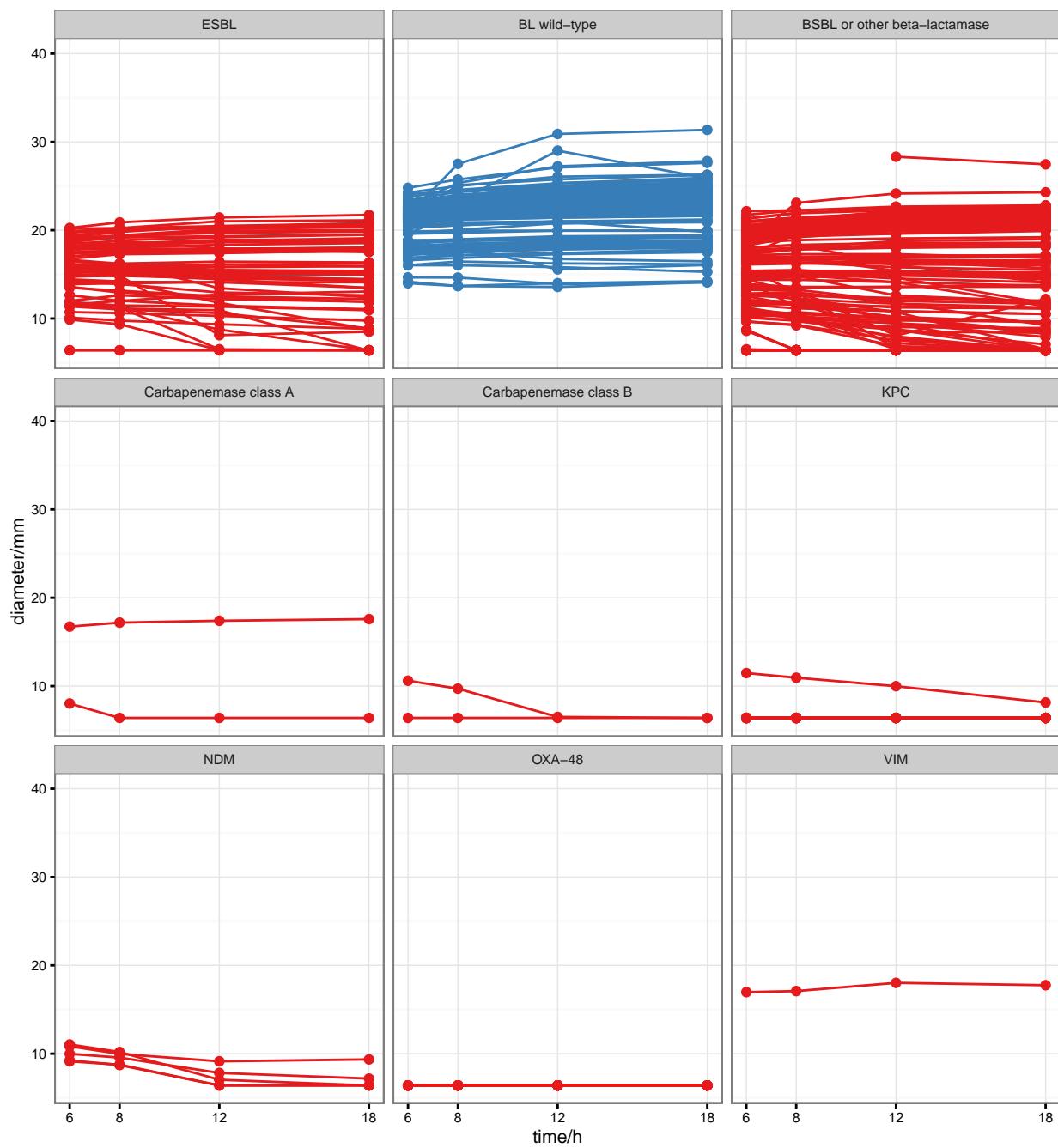
1.1 Amoxicillin clavulanate, Escherichia coli

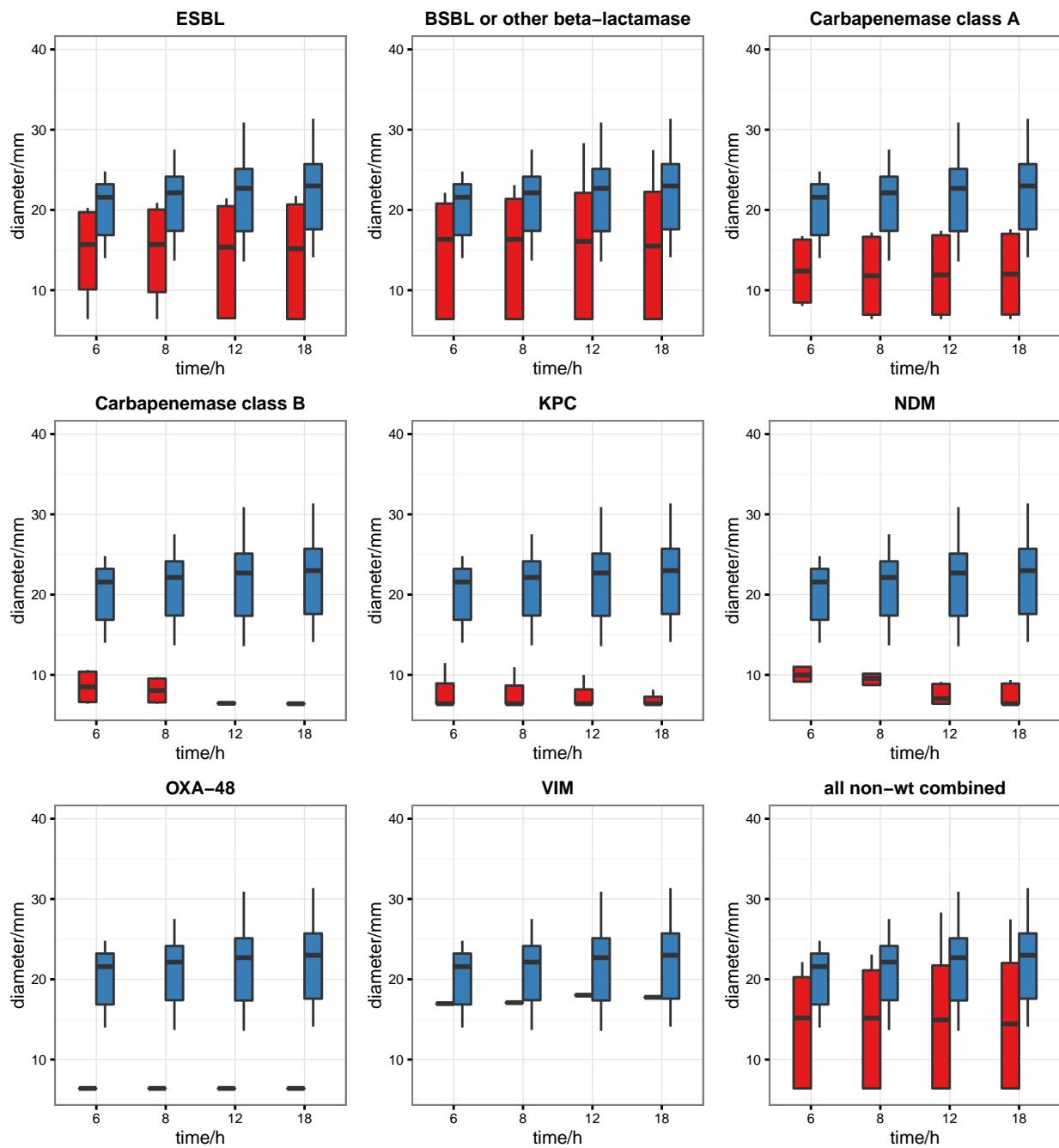




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

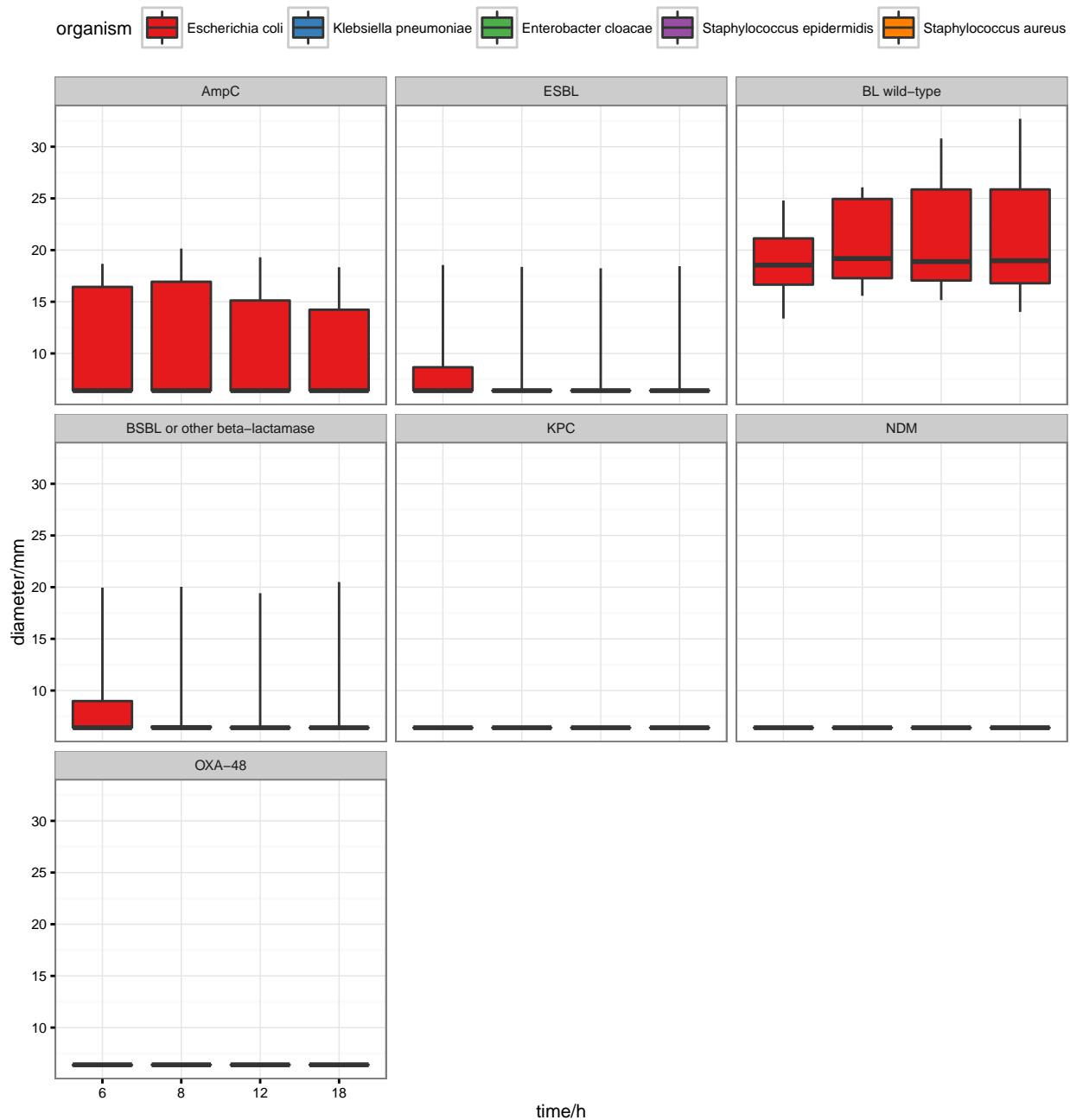
1.2 Amoxicillin clavulanate, Klebsiella pneumoniae



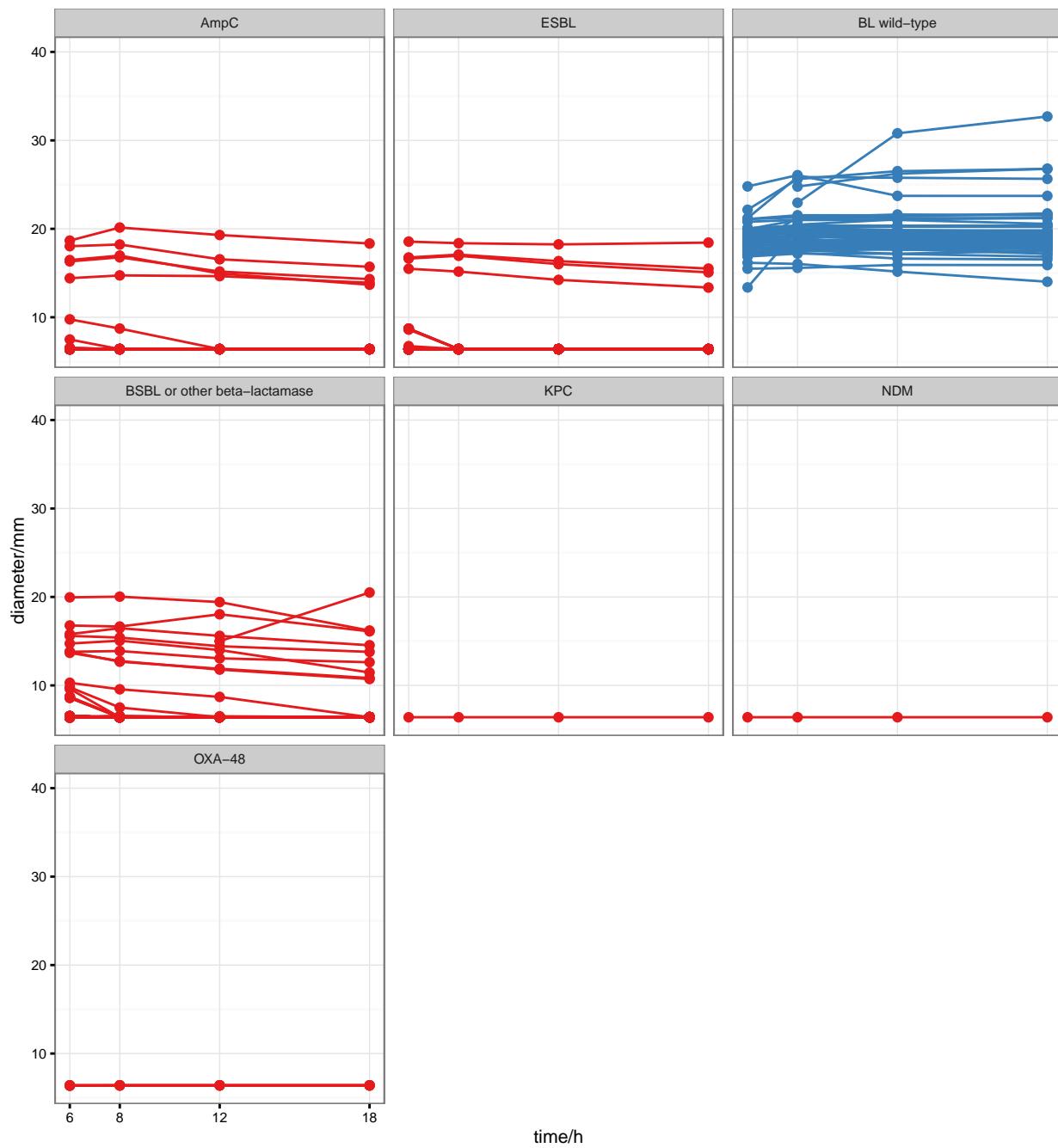


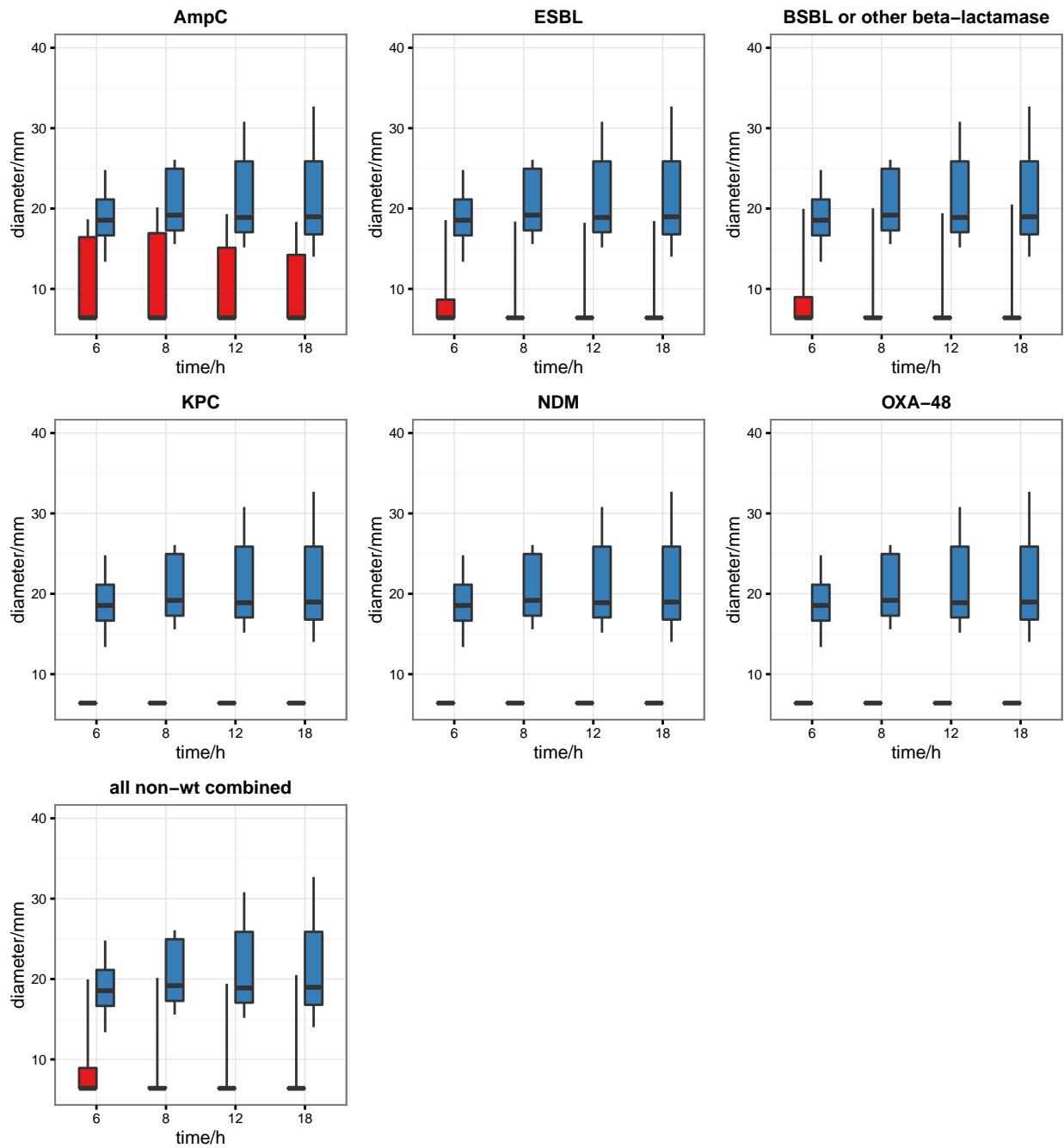
phenotypes	n
ESBL	61
BL wild-type	155
BSBL or other beta-lactamase	129
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1

2 Ampicillin



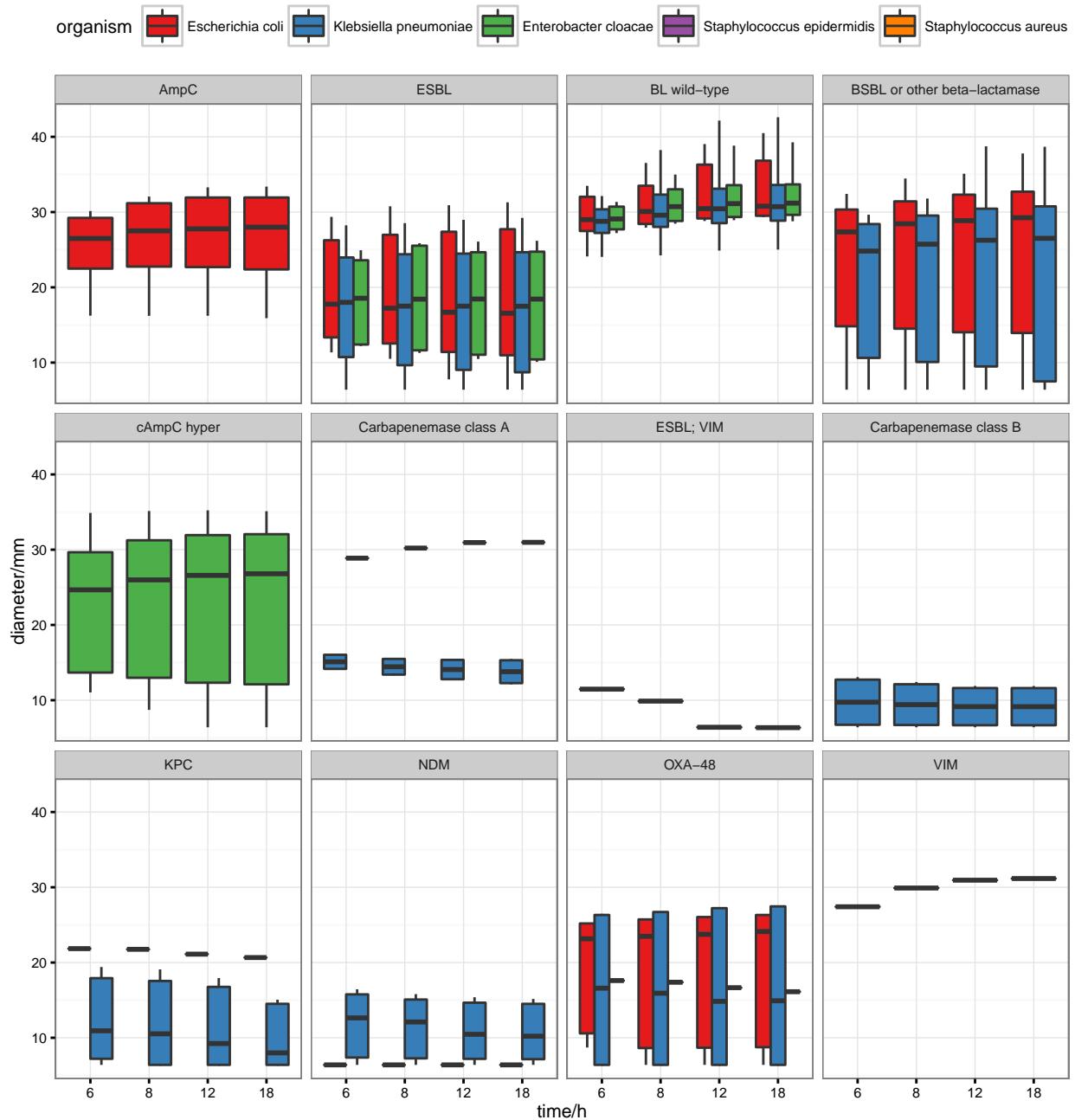
2.1 Ampicillin, Escherichia coli



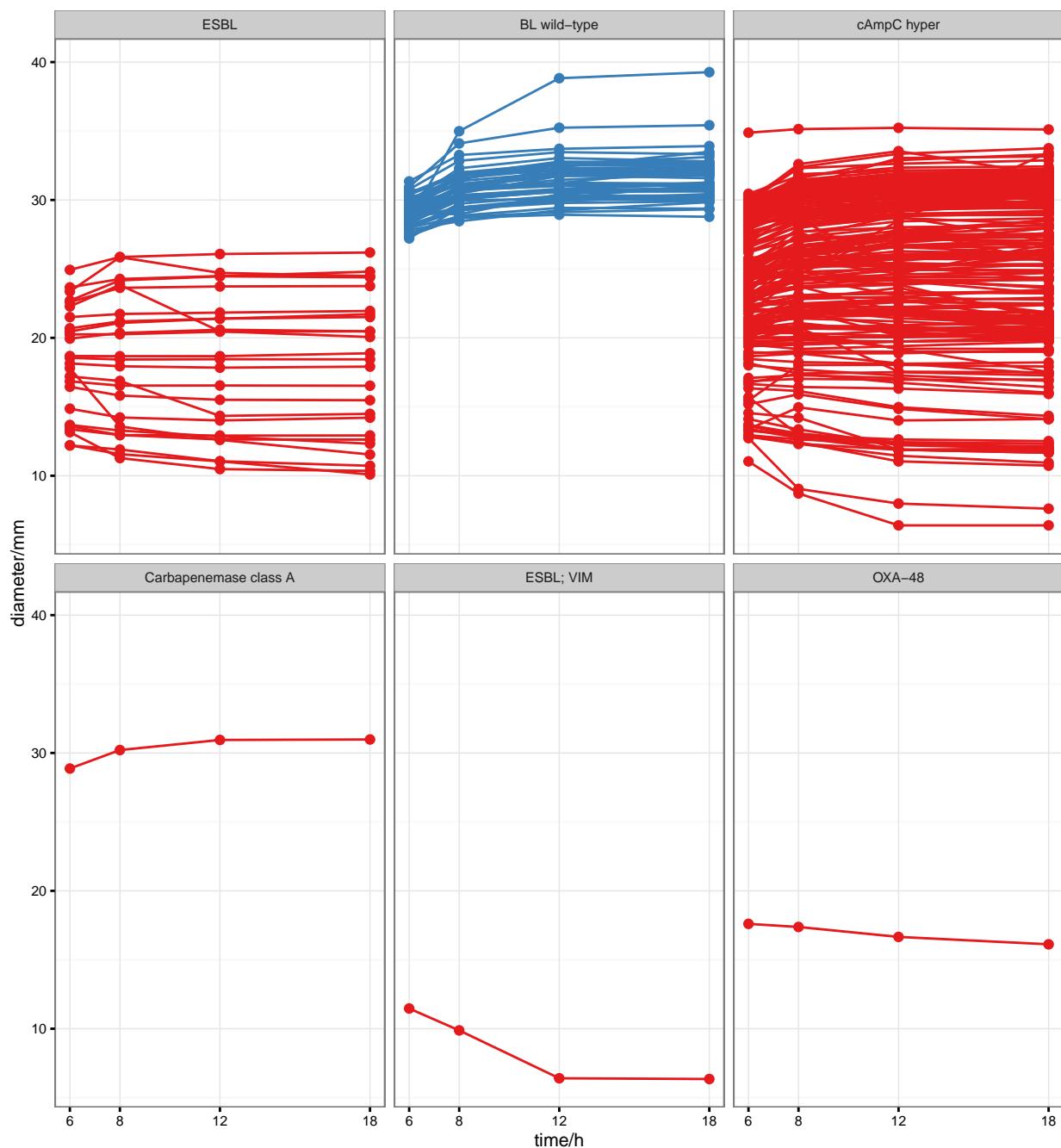


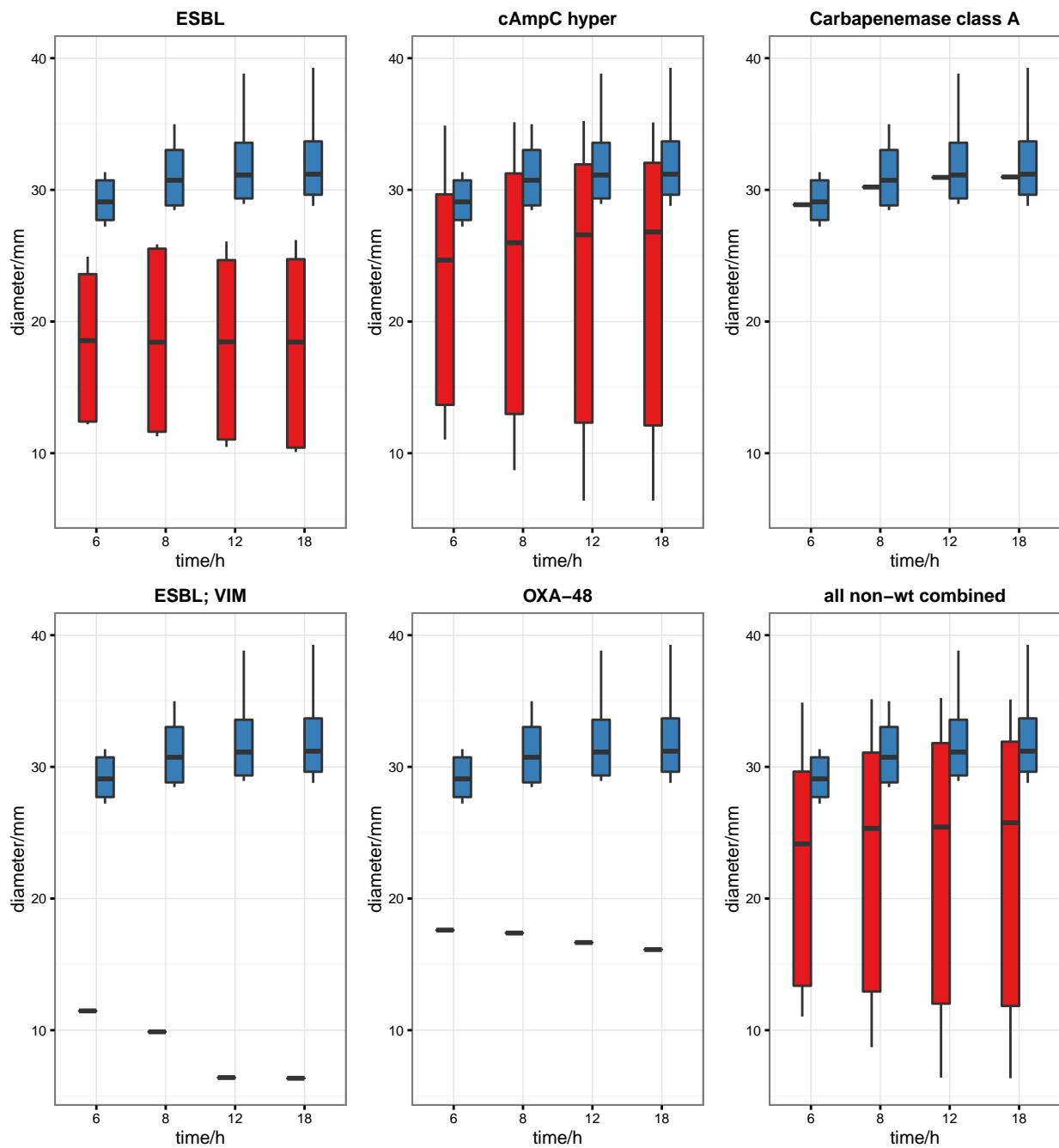
phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

3 Cefepime



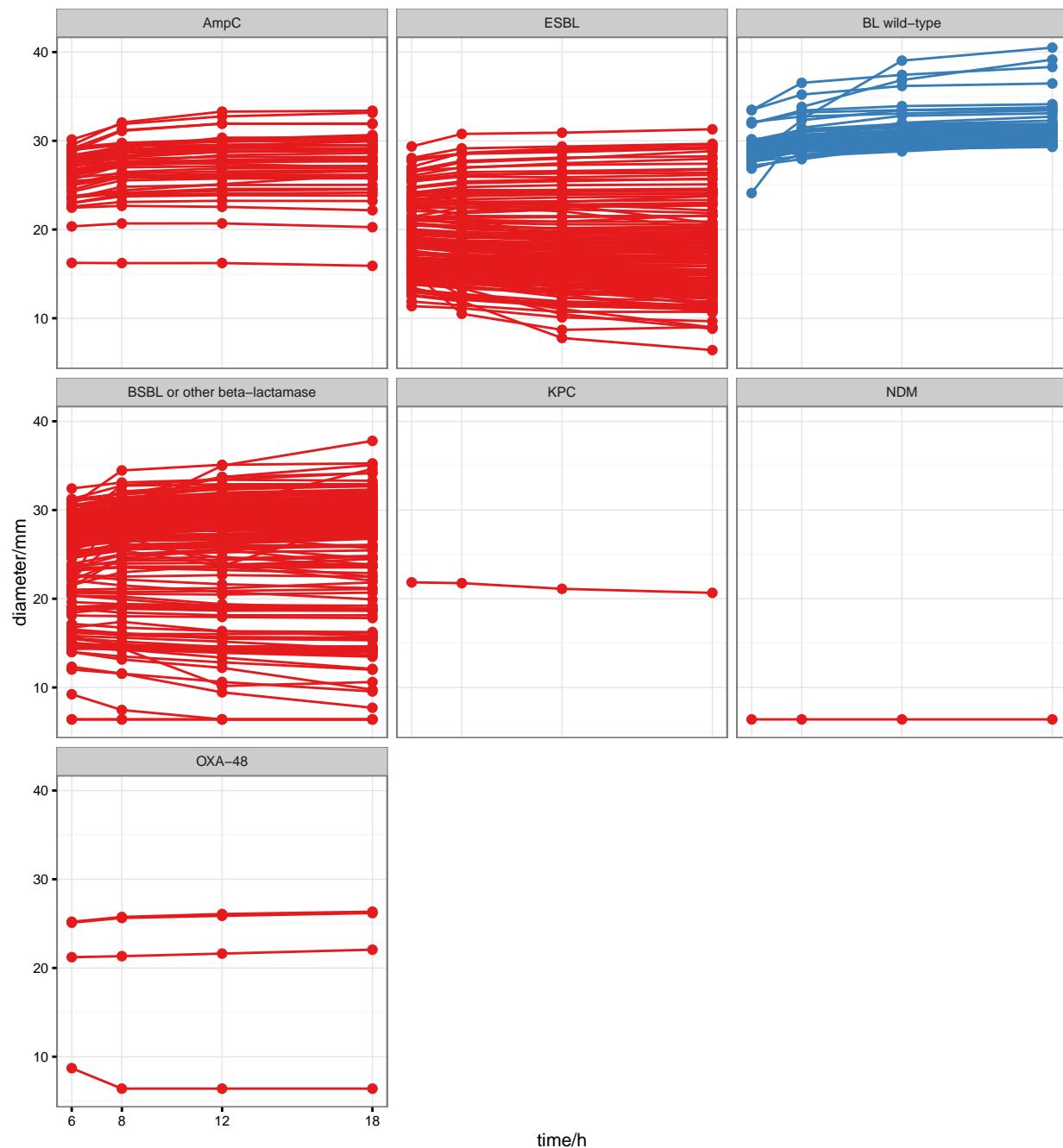
3.1 Cefepime, *Enterobacter cloacae*

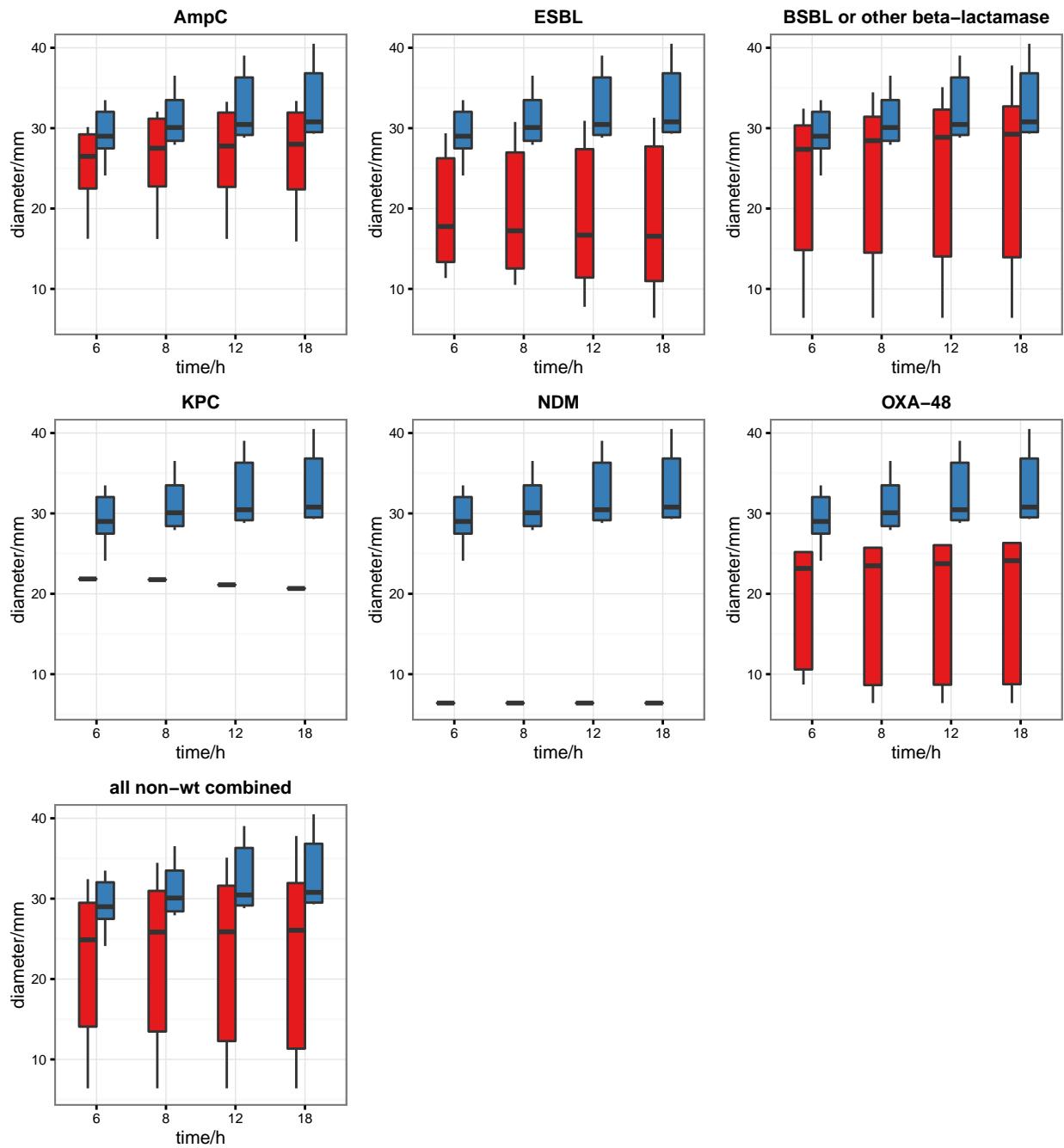




phenotypes	n
ESBL	25
BL wild-type	52
cAmpC hyper	221
Carbapenemase class A	1
ESBL; VIM	1
OXA-48	1

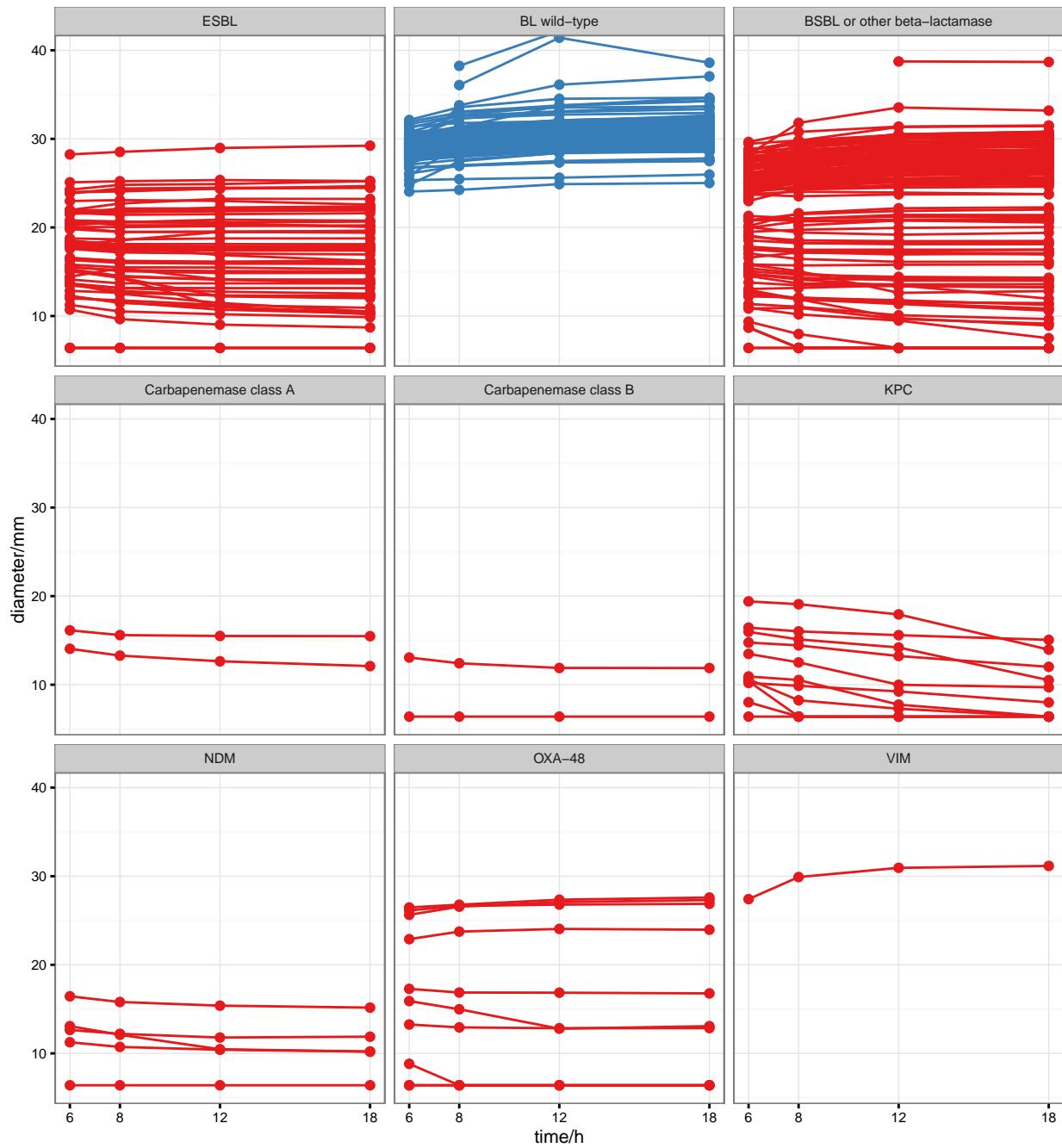
3.2 Cefepime, *Escherichia coli*

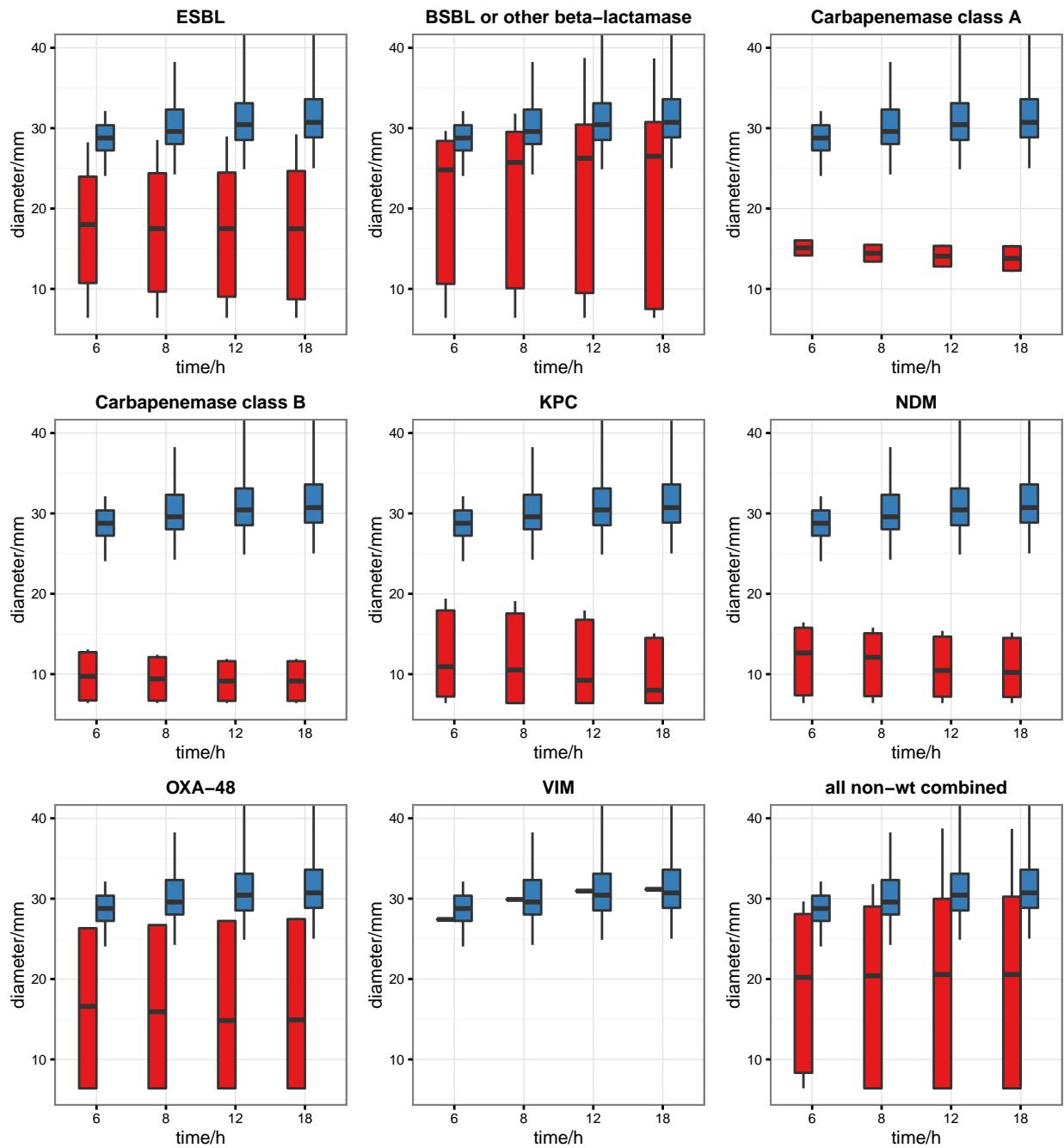




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

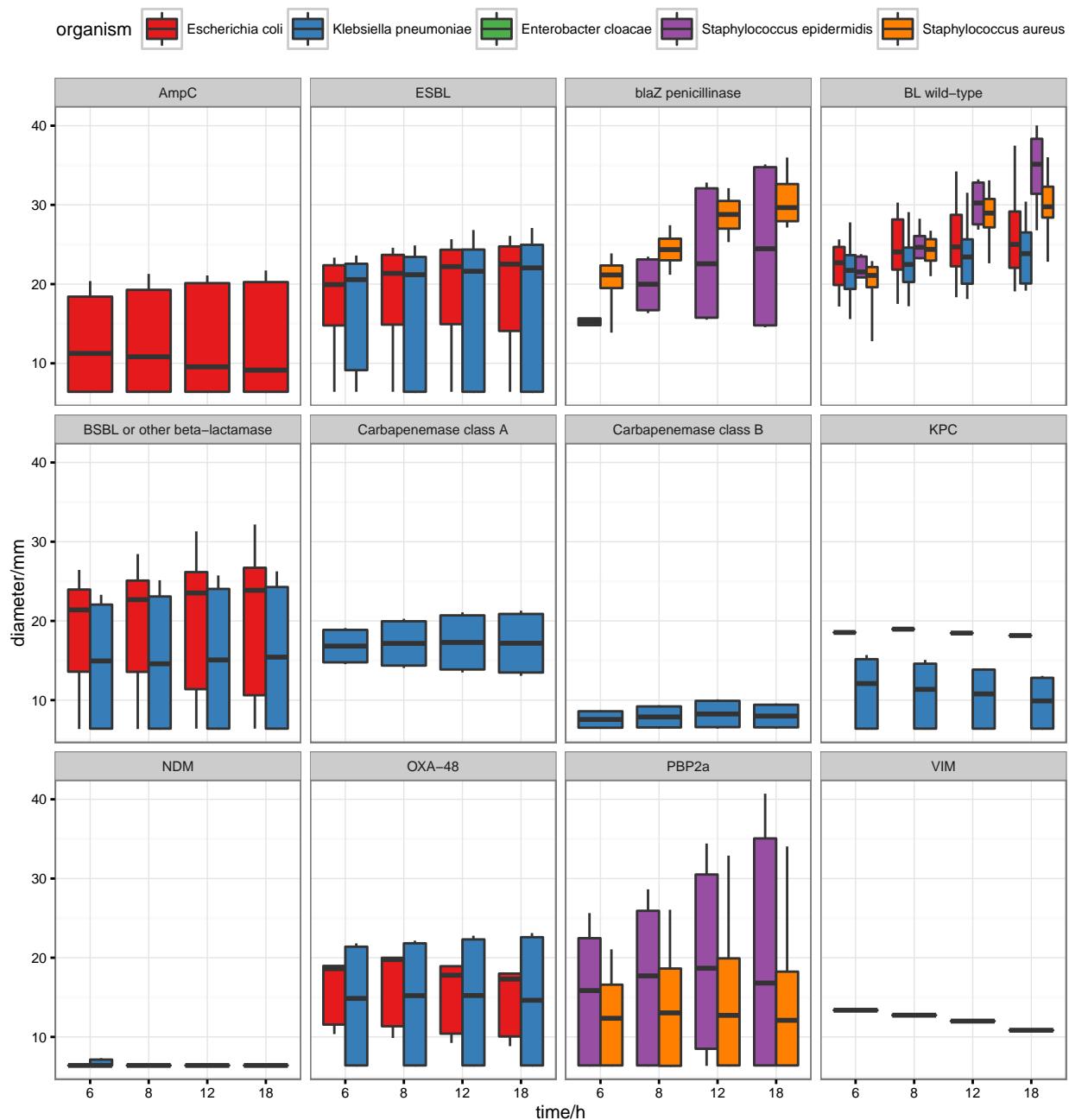
3.3 Cefepime, *Klebsiella pneumoniae*



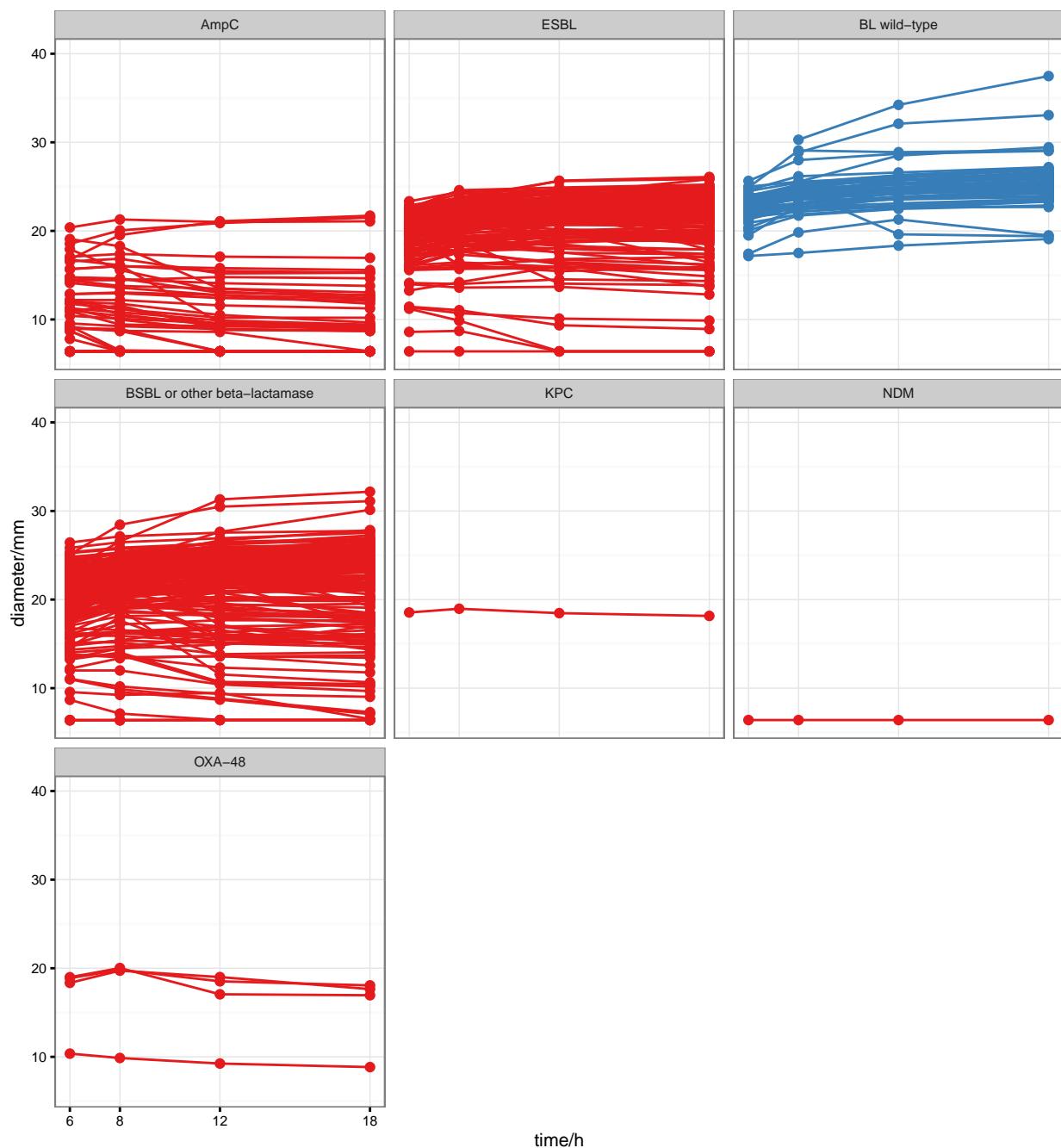


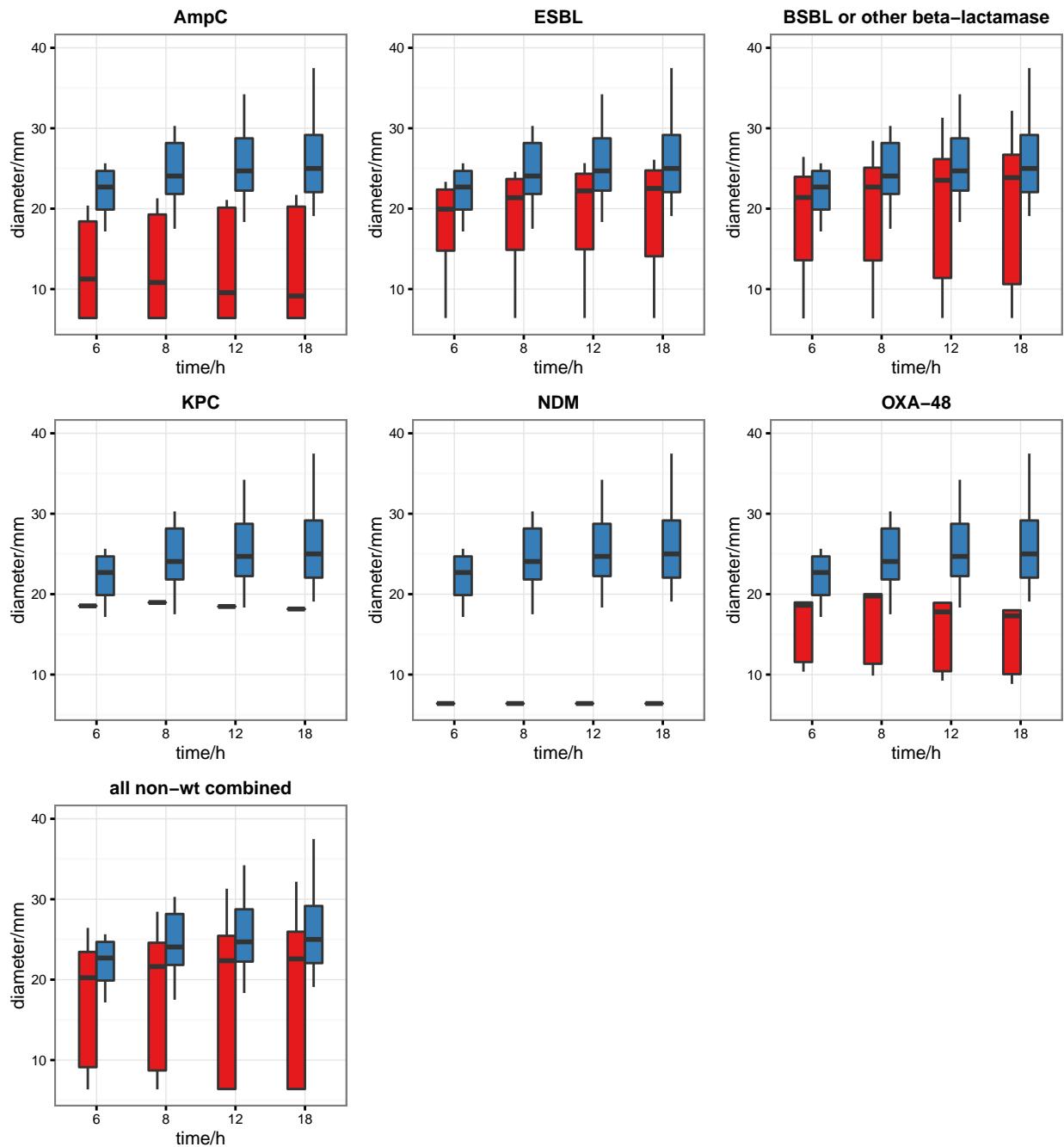
phenotypes	n
ESBL	61
BL wild-type	163
BSBL or other beta-lactamase	121
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1

4 Cefoxitin



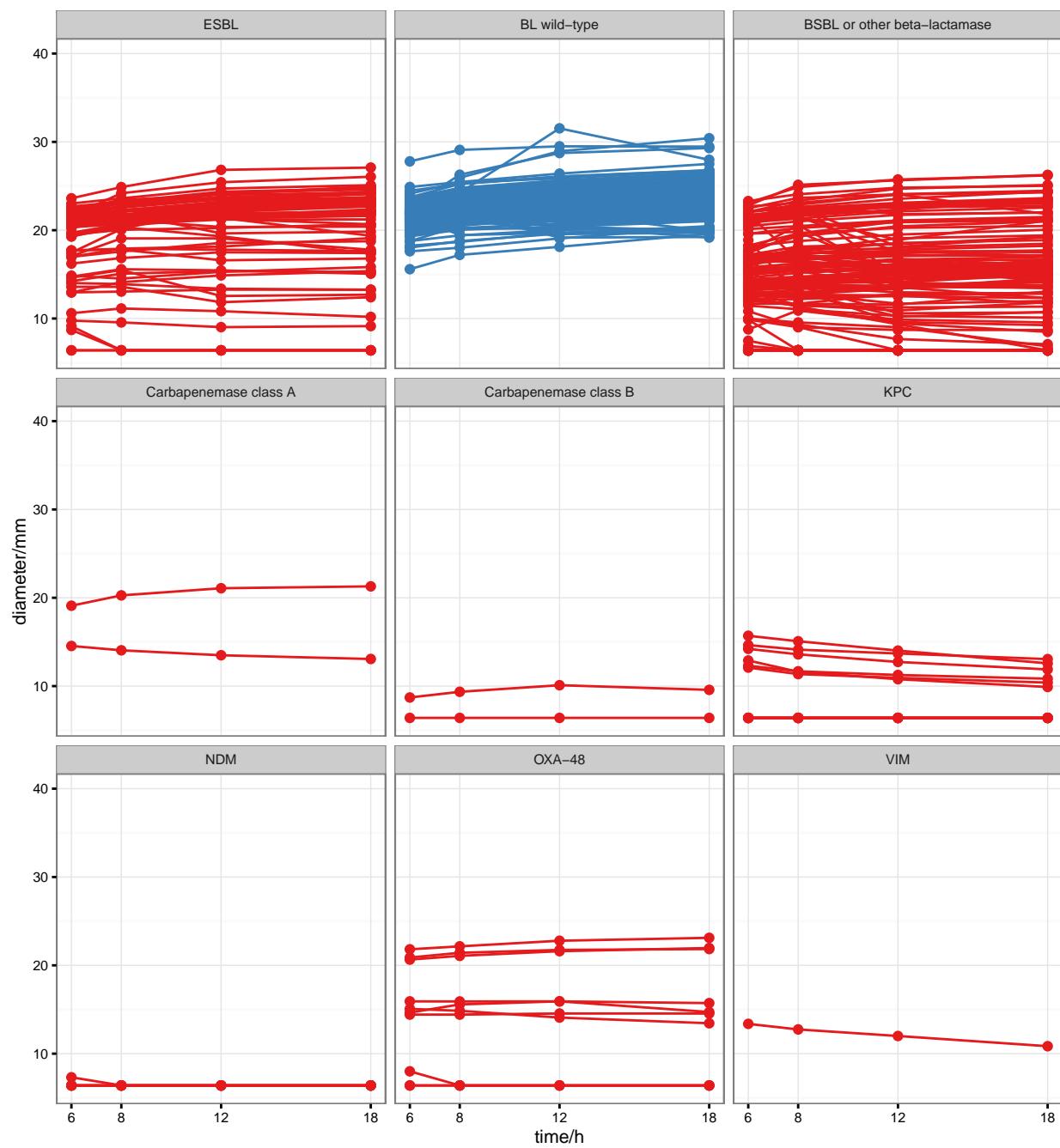
4.1 Cefoxitin, Escherichia coli

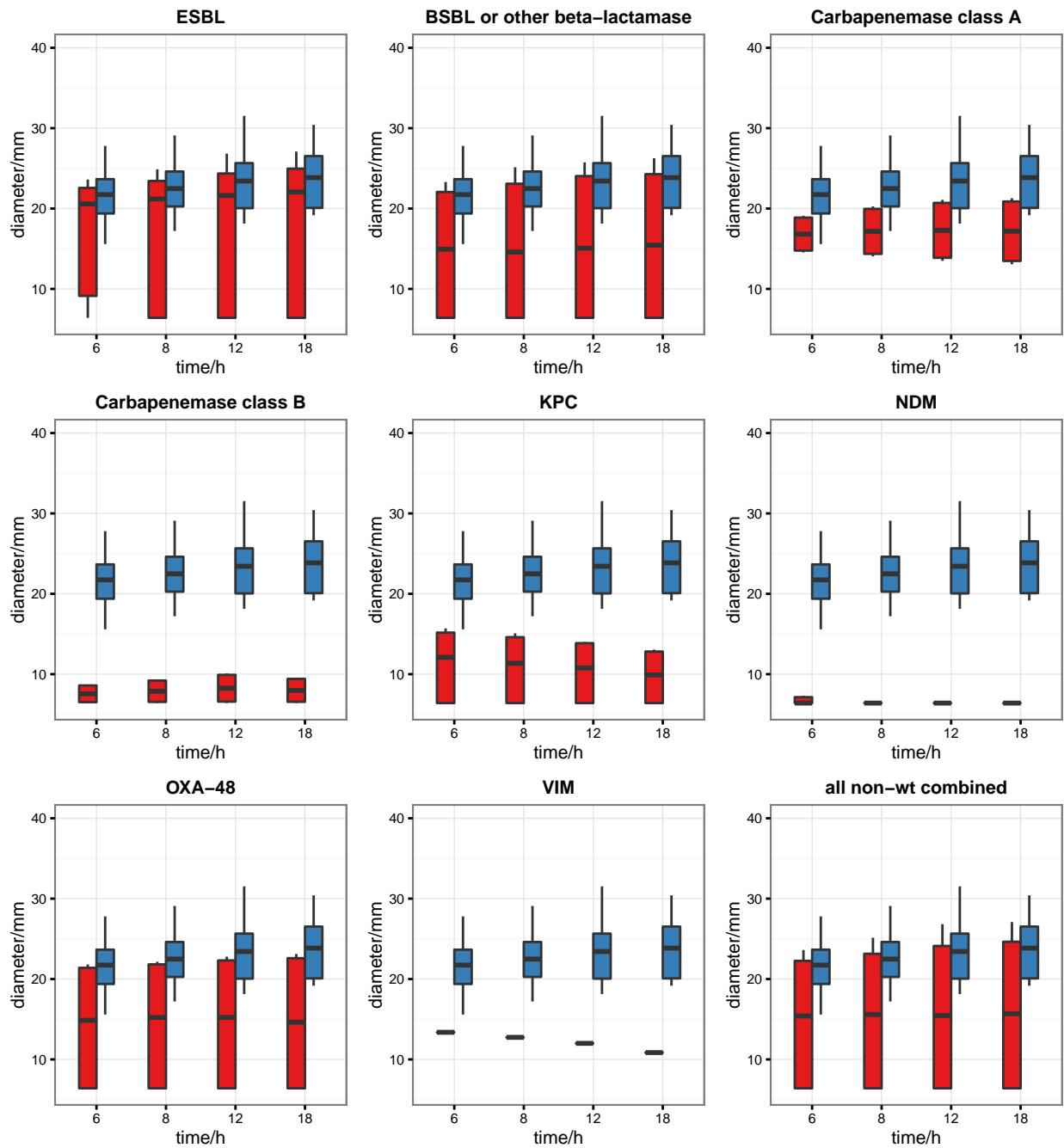




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

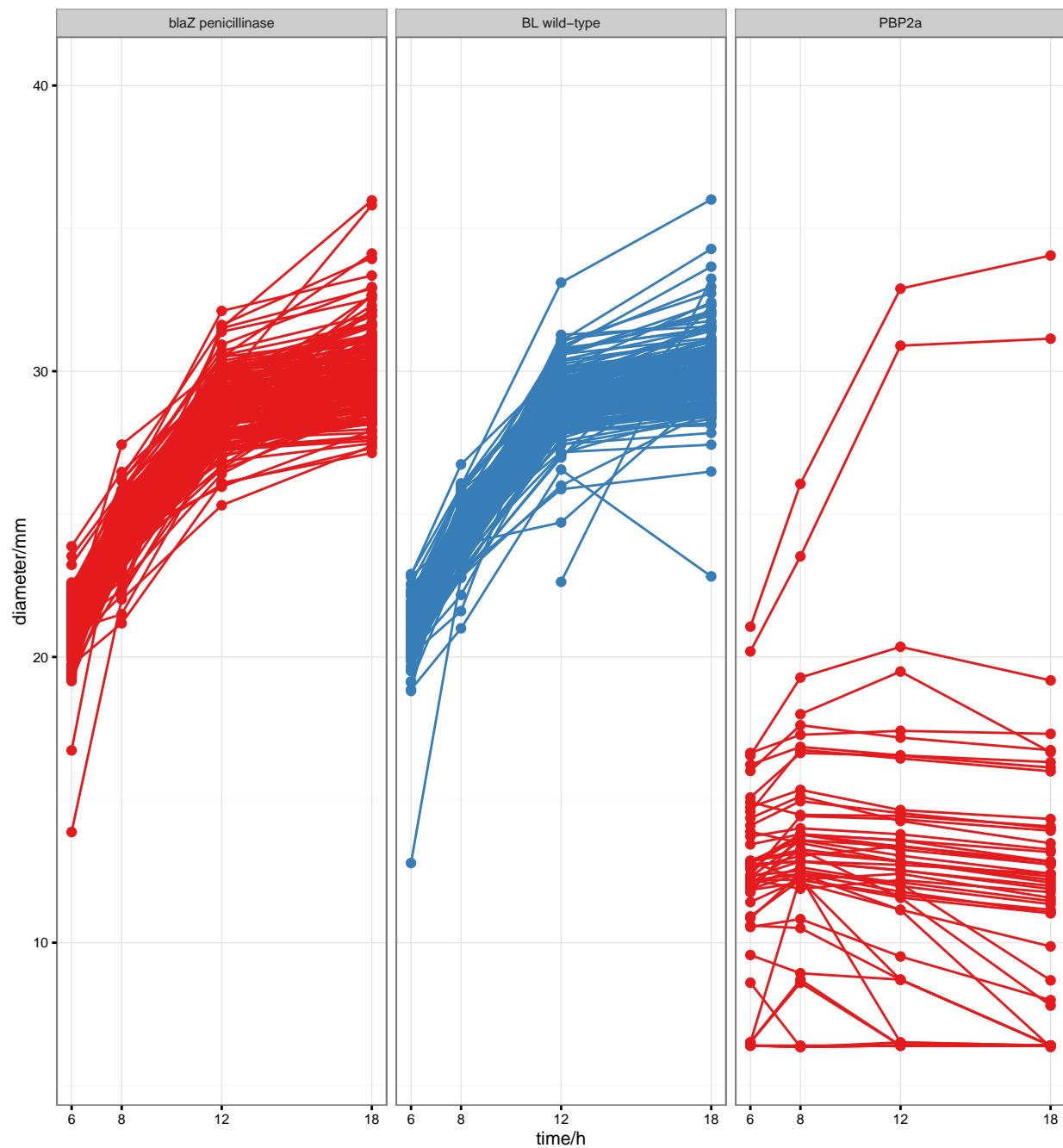
4.2 Cefoxitin, *Klebsiella pneumoniae*

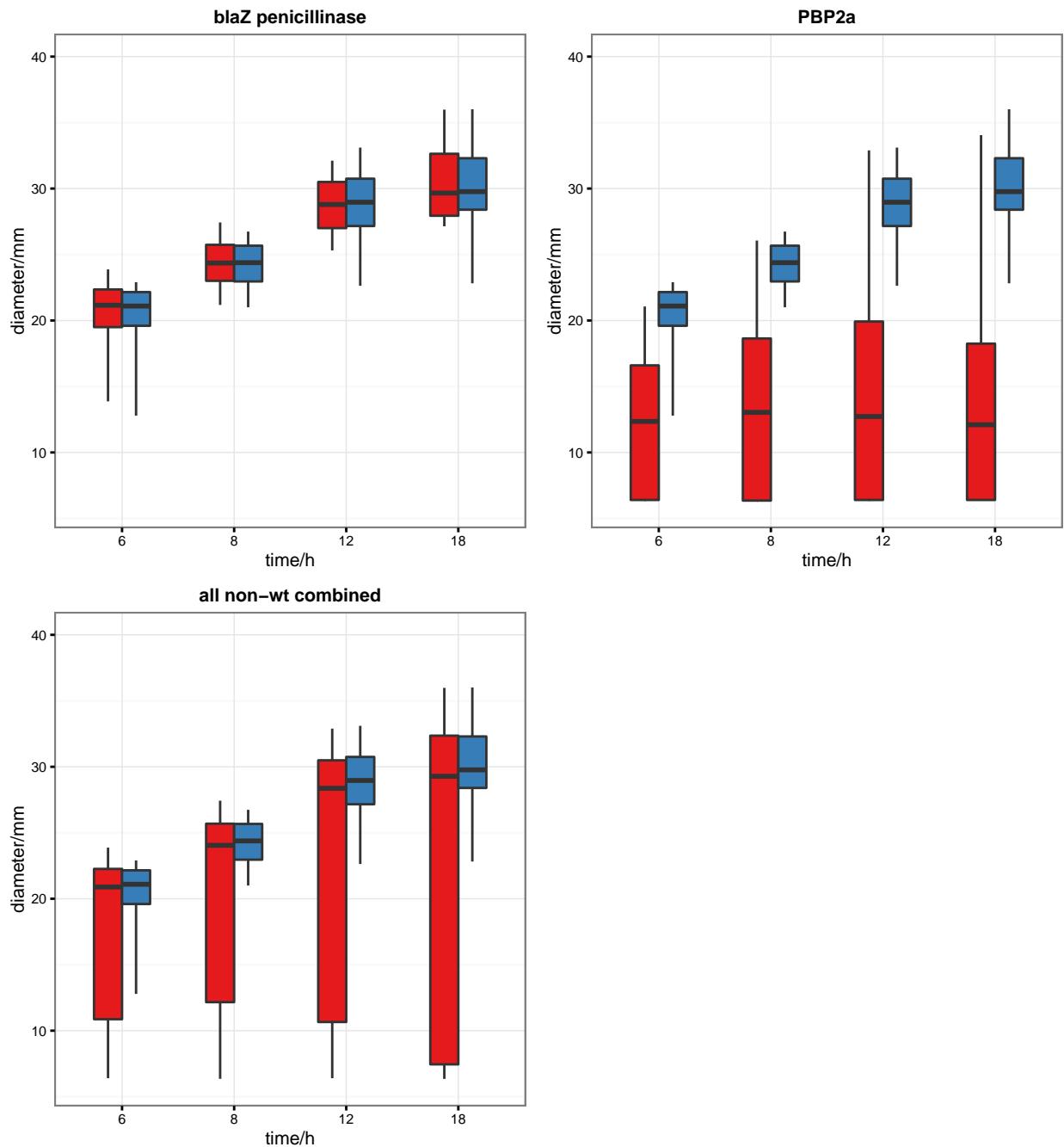




phenotypes	n
ESBL	61
BL wild-type	163
BSBL or other beta-lactamase	121
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1

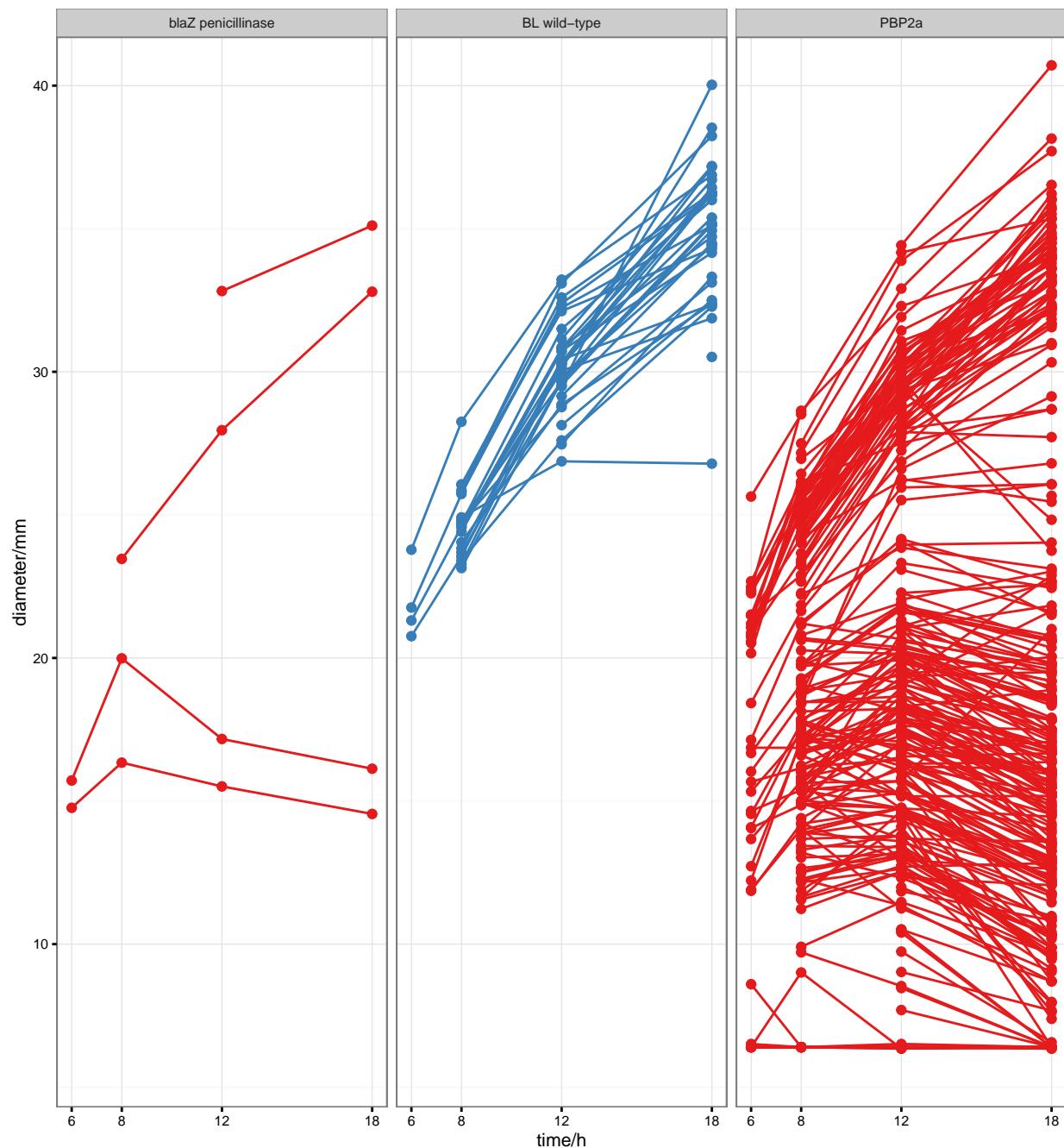
4.3 Cefoxitin, *Staphylococcus aureus*

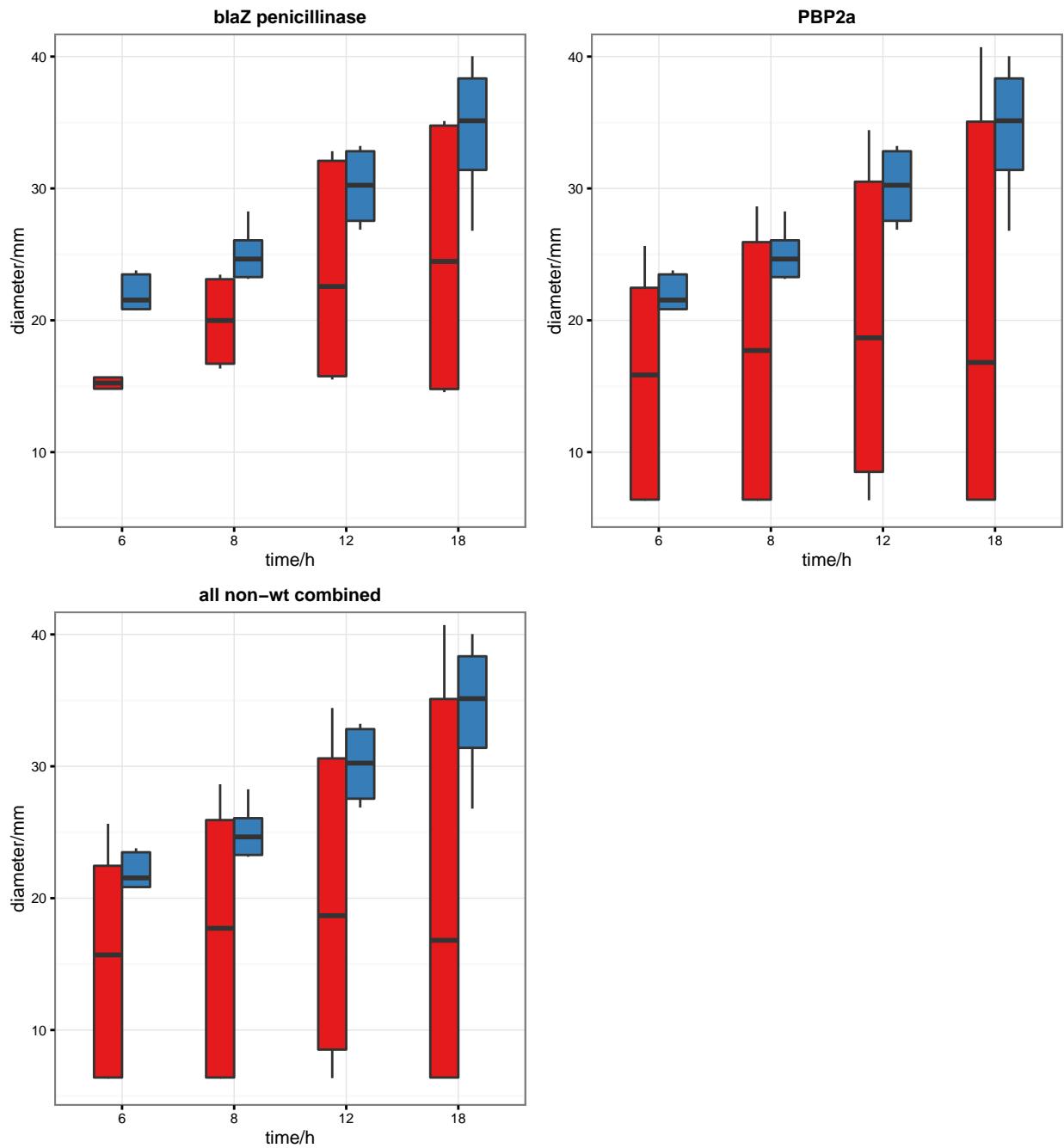




phenotypes	n
blaZ penicillinase	185
BL wild-type	158
PBP2a	51

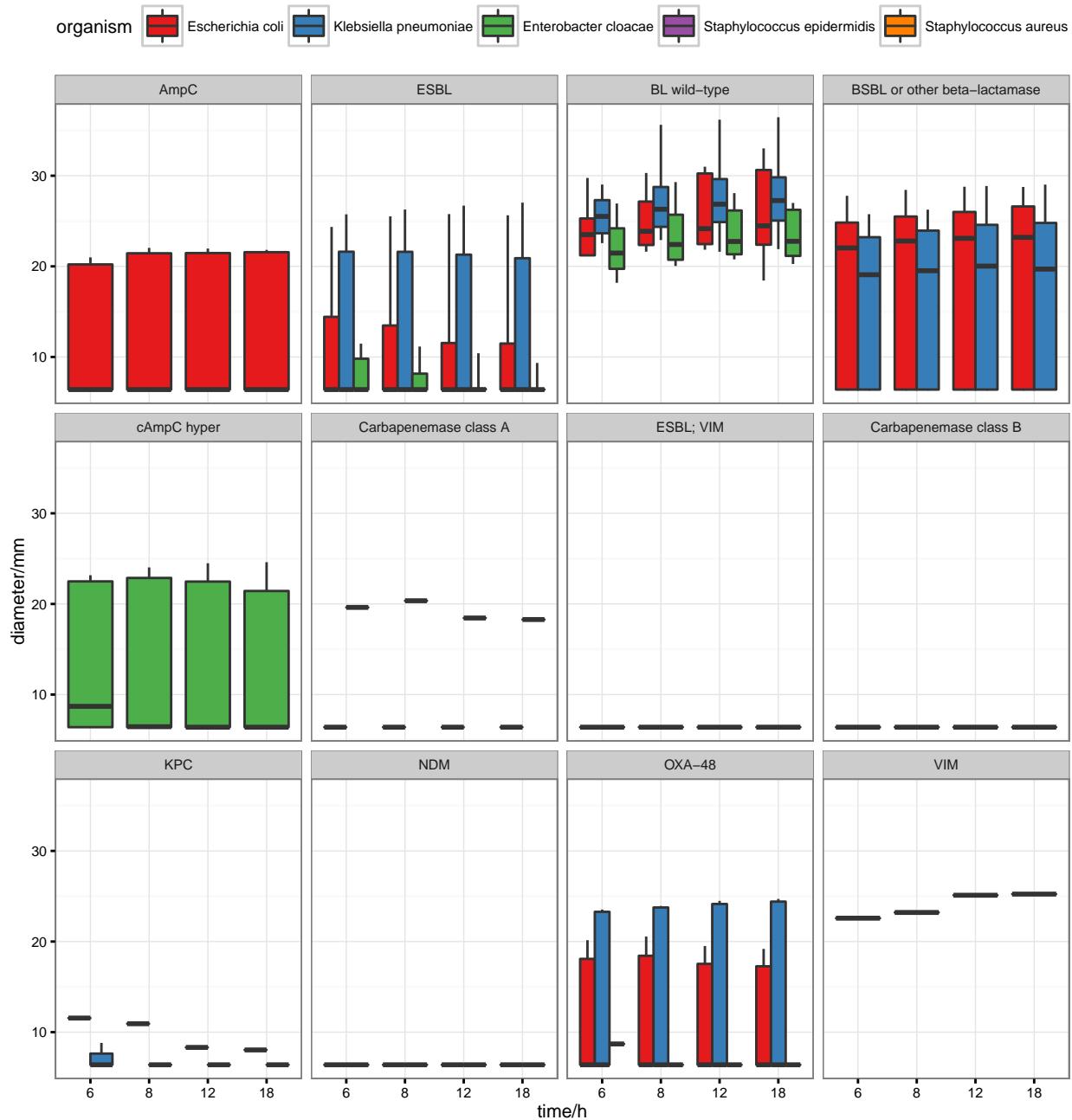
4.4 Cefoxitin, *Staphylococcus epidermidis*



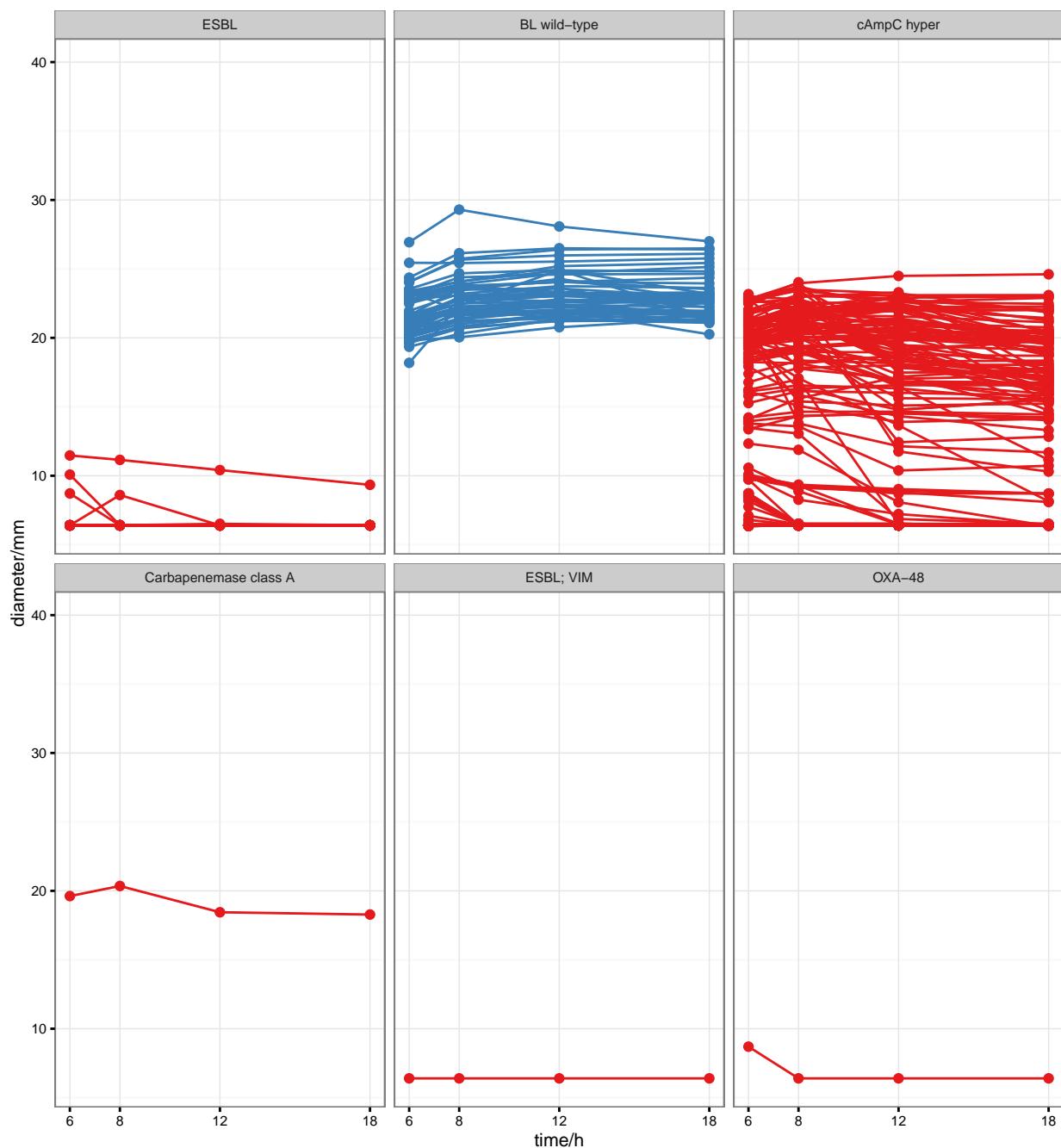


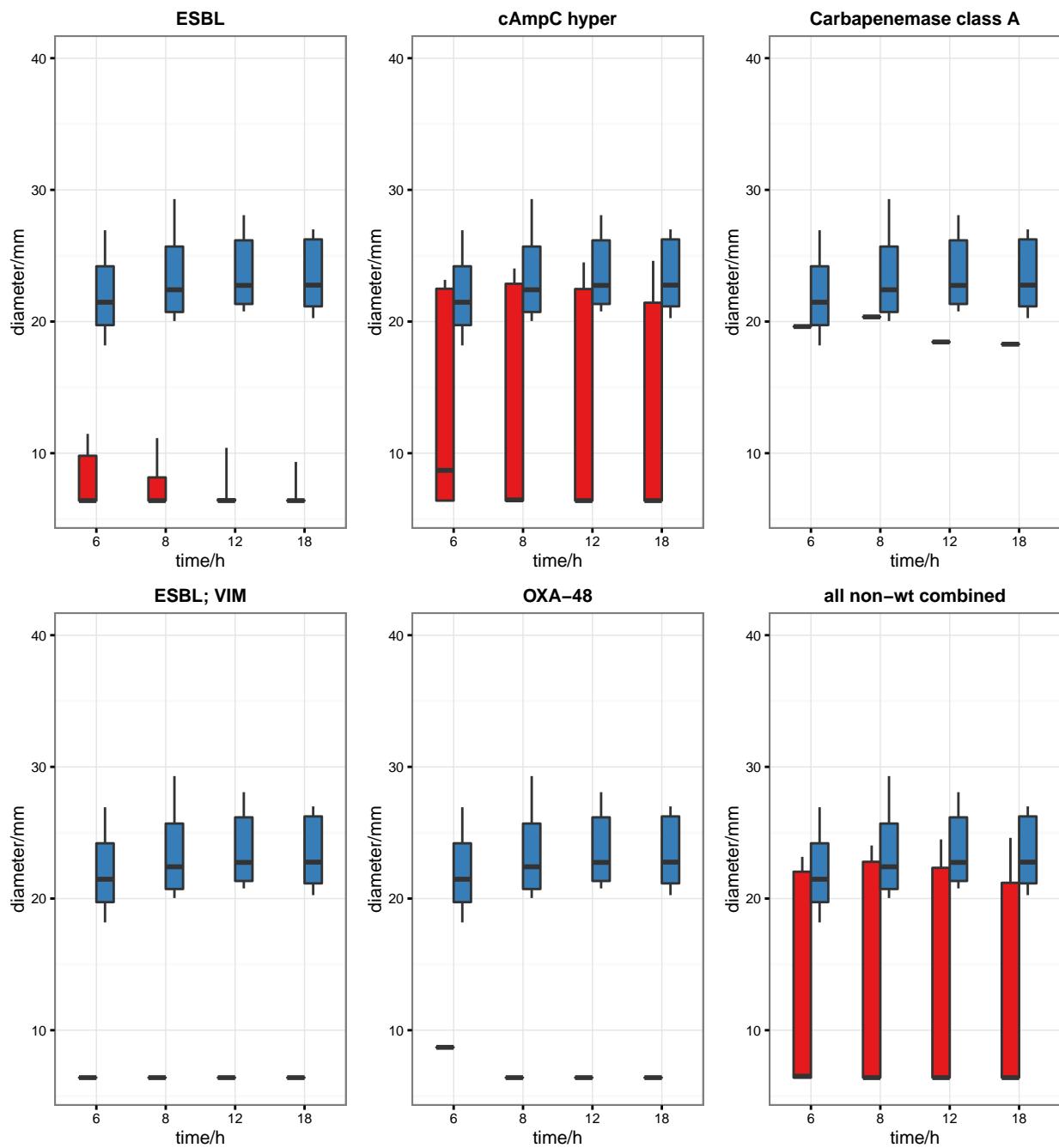
phenotypes	n
blaZ penicillinase	4
BL wild-type	34
PBP2a	256

5 Cefpodoxime



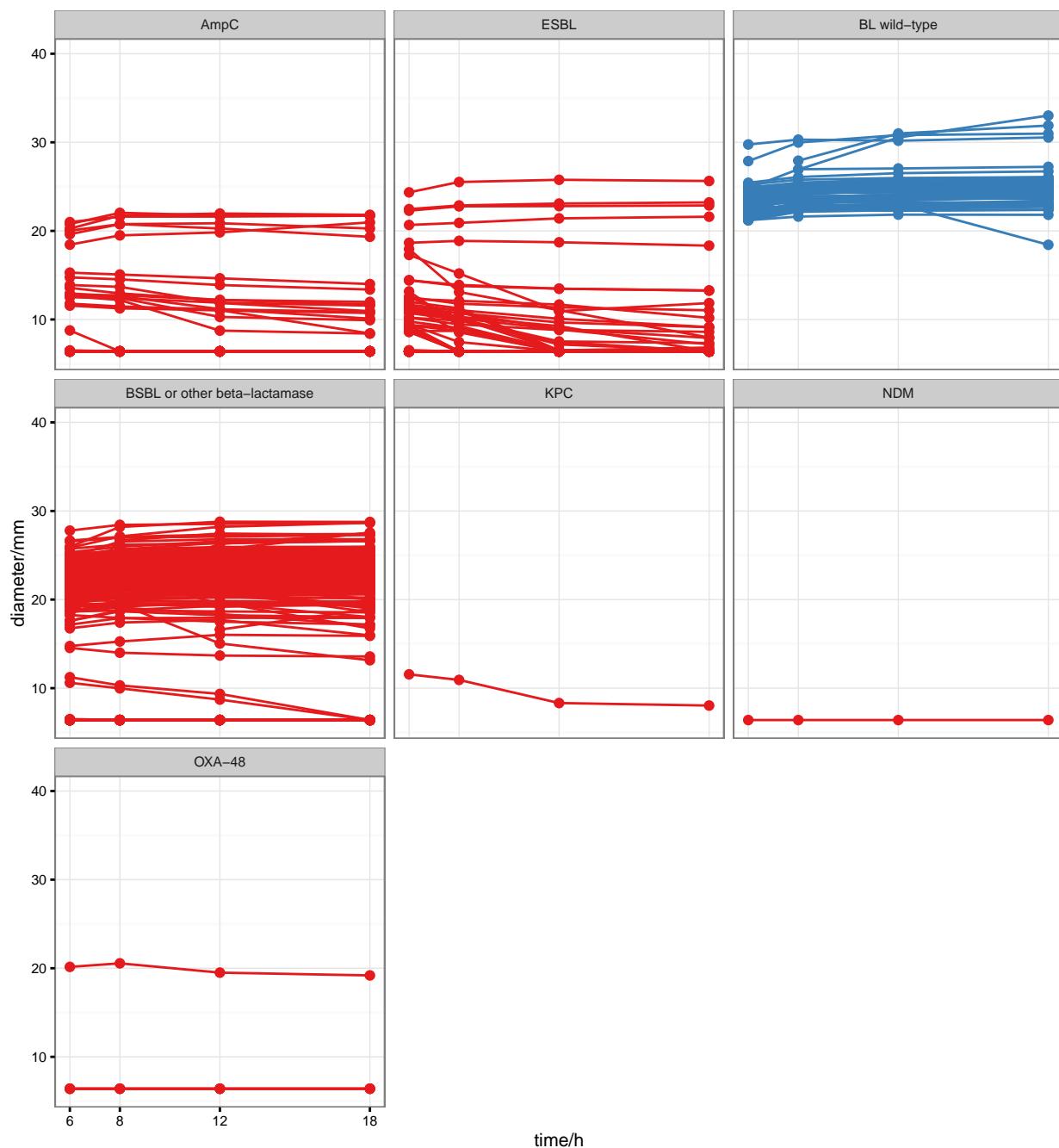
5.1 Cefpodoxime, *Enterobacter cloacae*

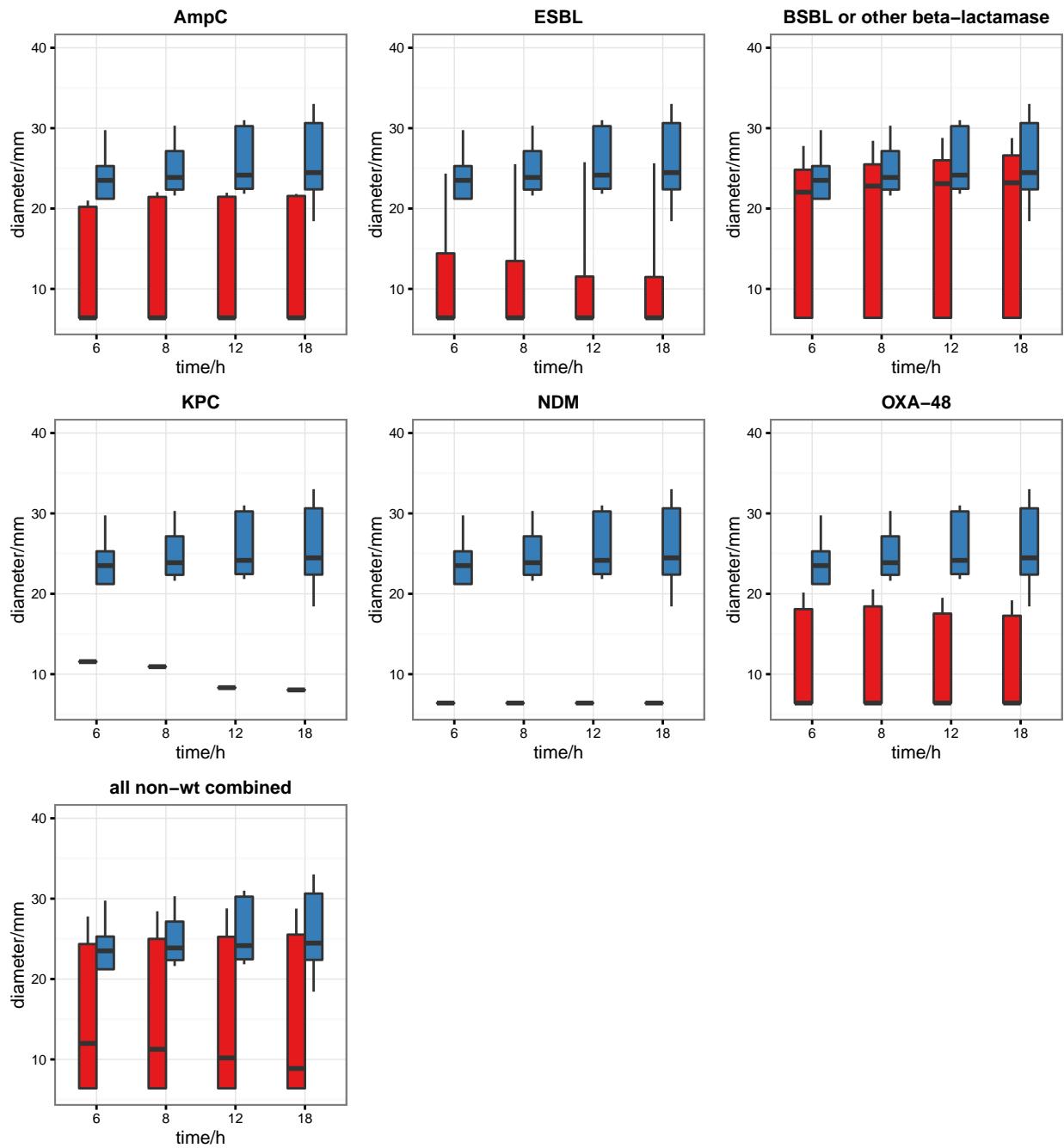




phenotypes	n
ESBL	25
BL wild-type	52
cAmpC hyper	221
Carbapenemase class A	1
ESBL; VIM	1
OXA-48	1

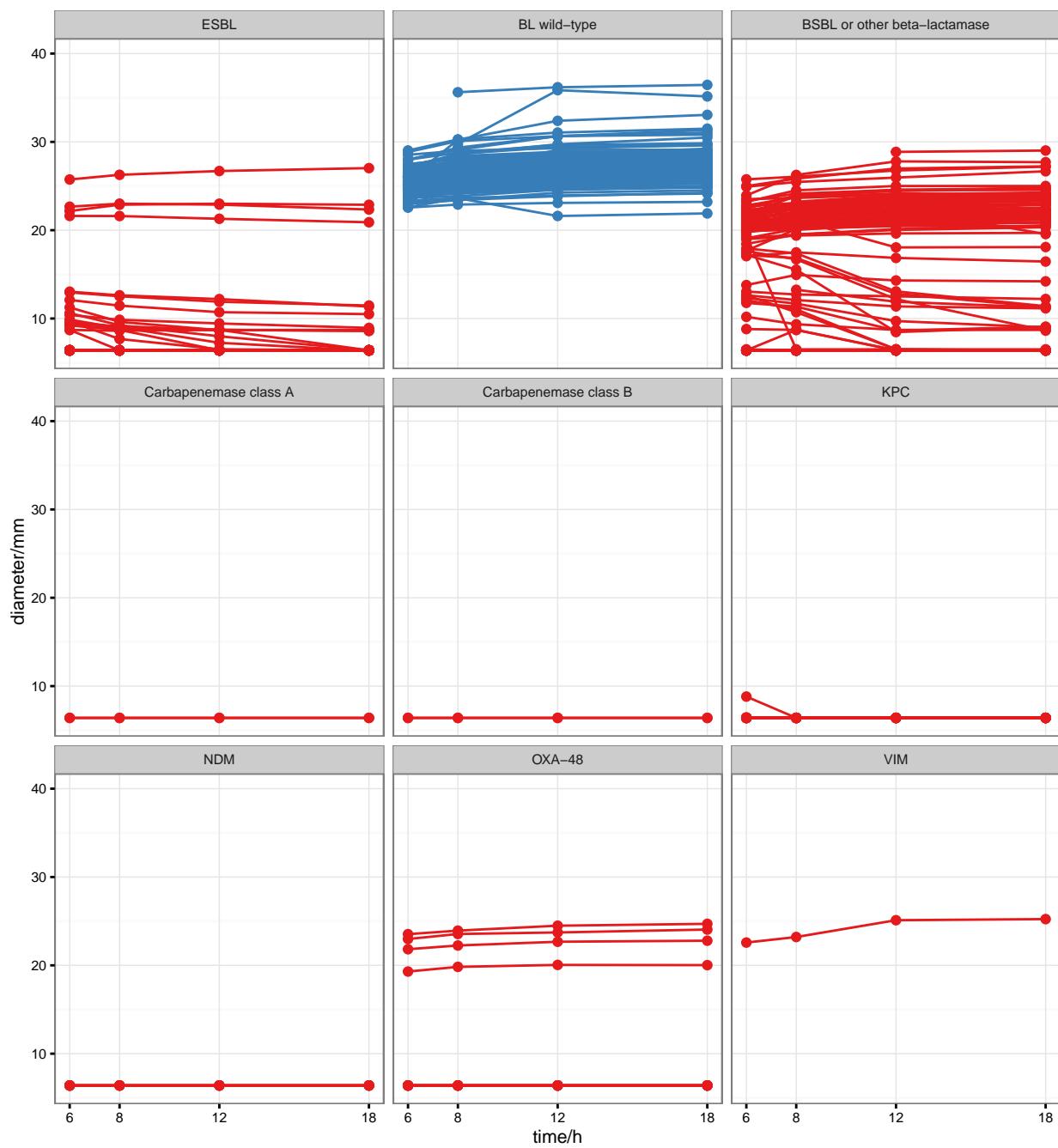
5.2 Cefpodoxime, Escherichia coli

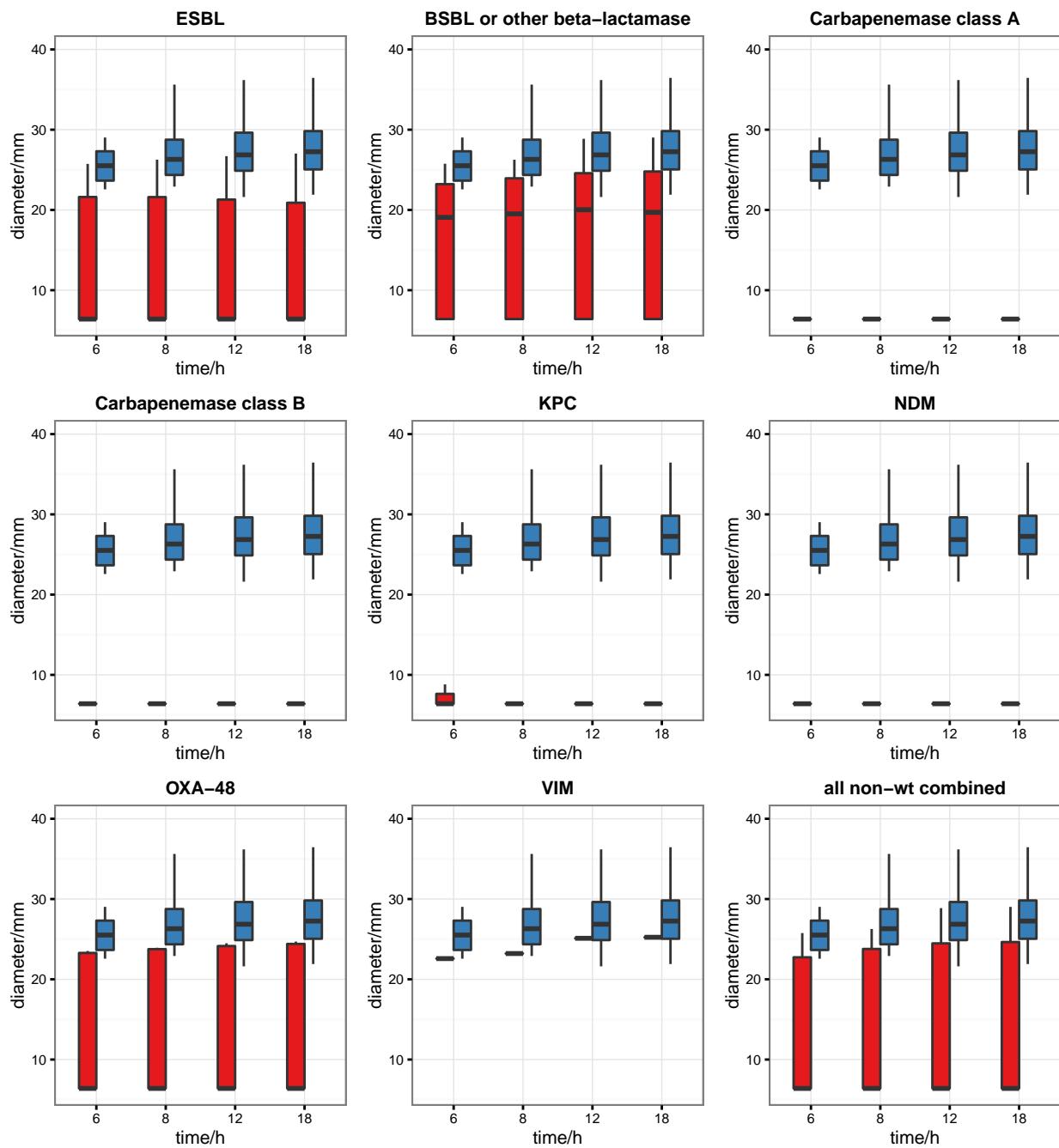




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

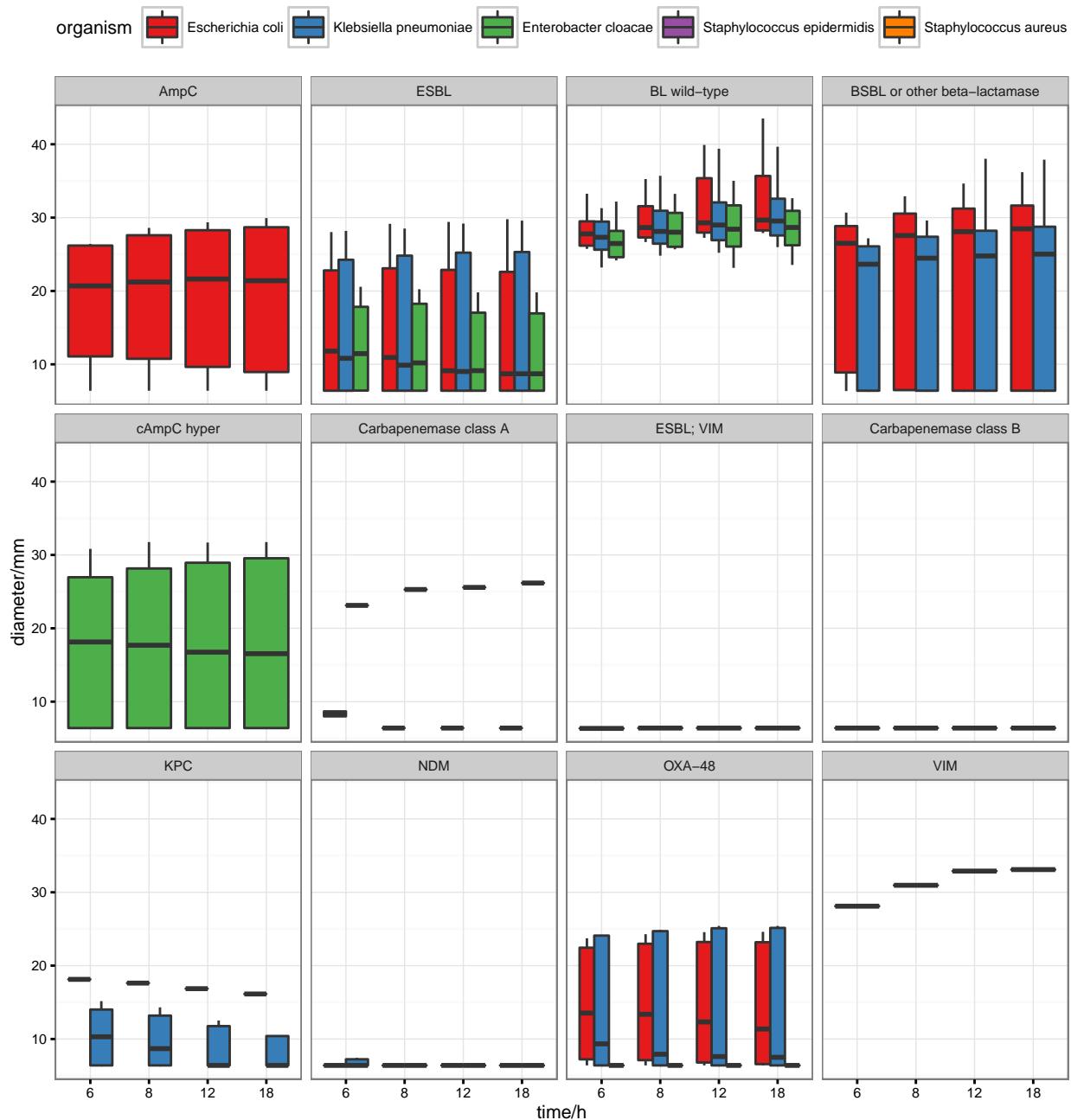
5.3 Cefpodoxime, *Klebsiella pneumoniae*



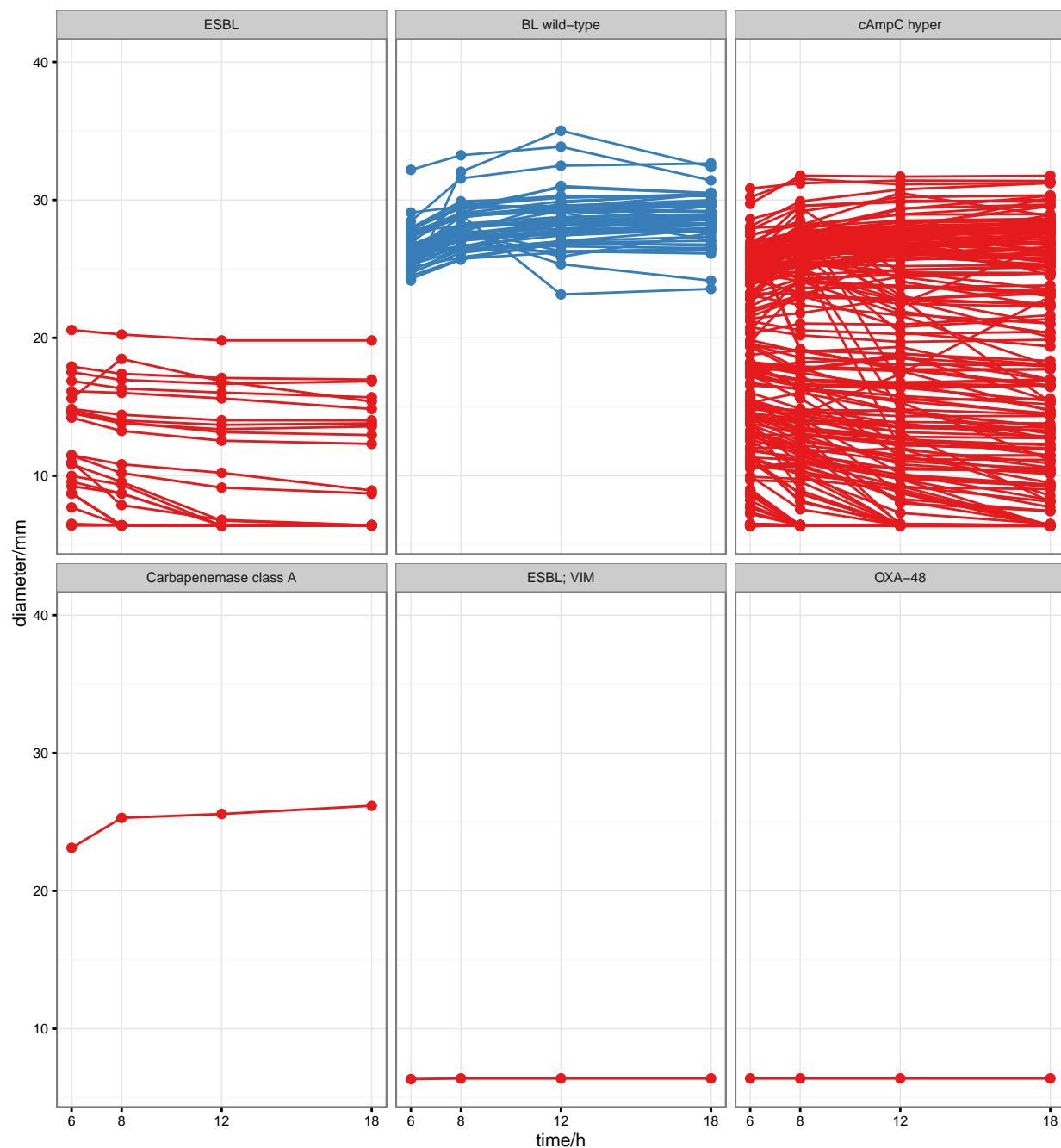


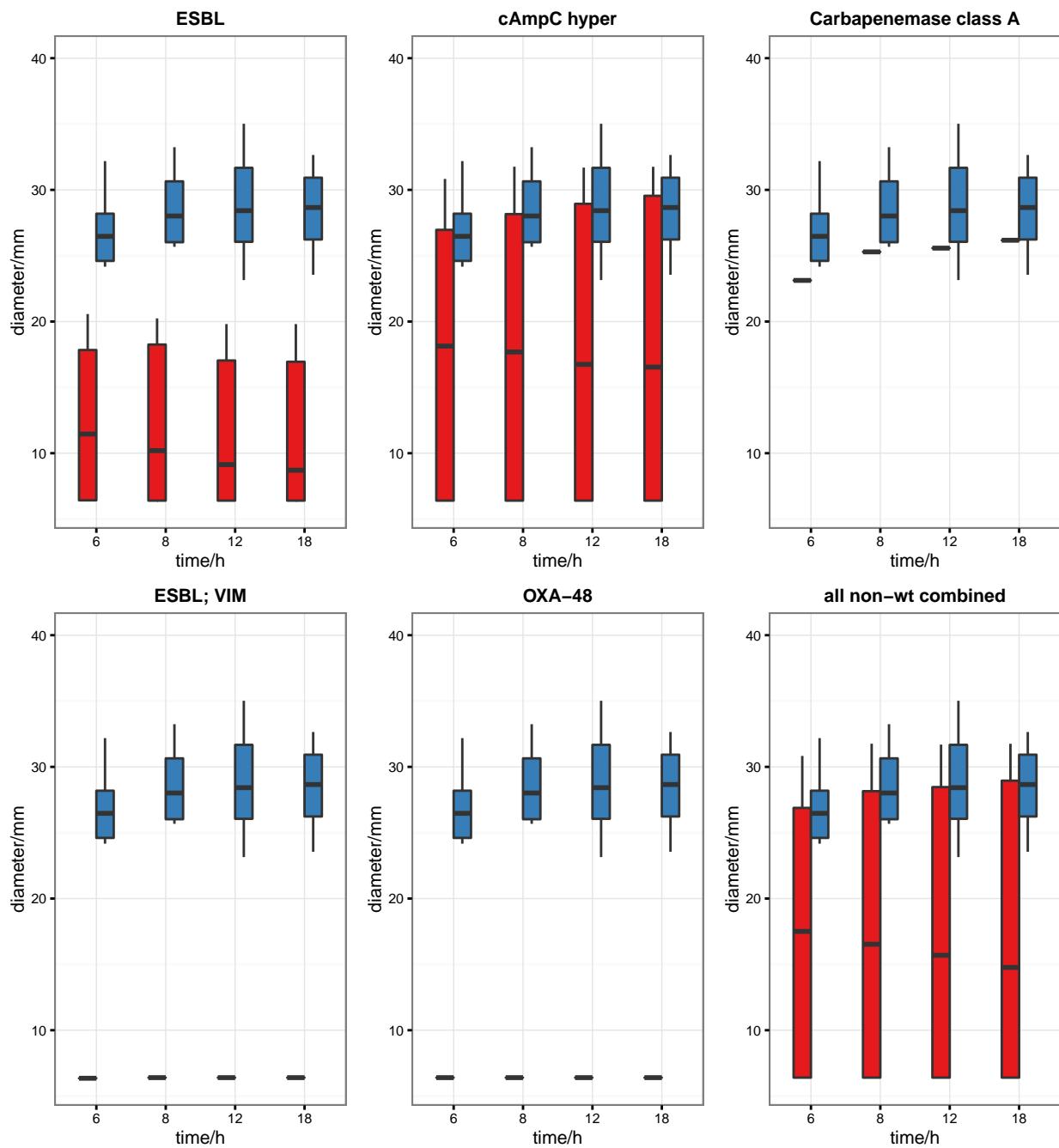
phenotypes	n
ESBL	61
BL wild-type	163
BSBL or other beta-lactamase	121
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1

6 Ceftriaxone



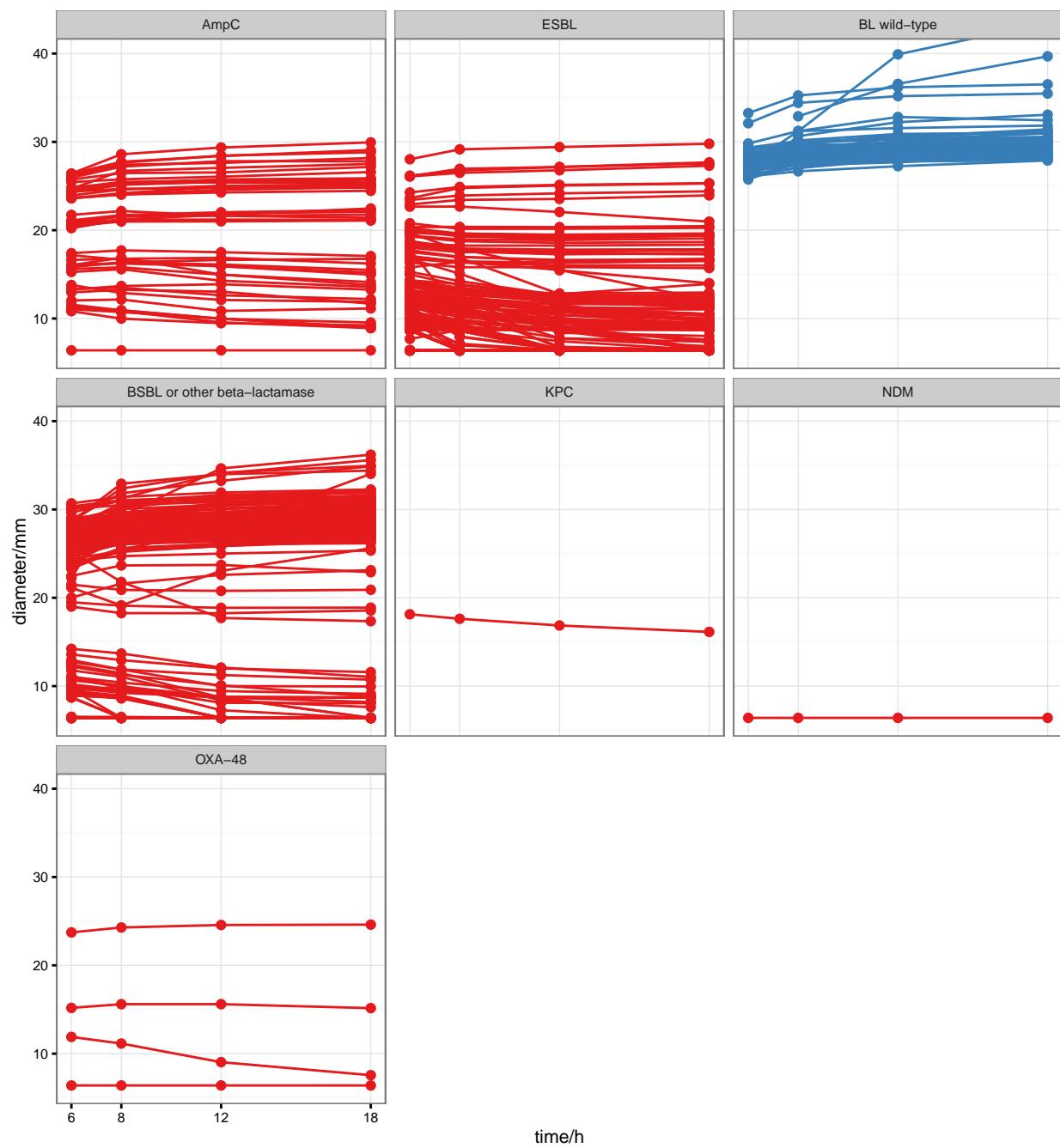
6.1 Ceftriaxone, *Enterobacter cloacae*

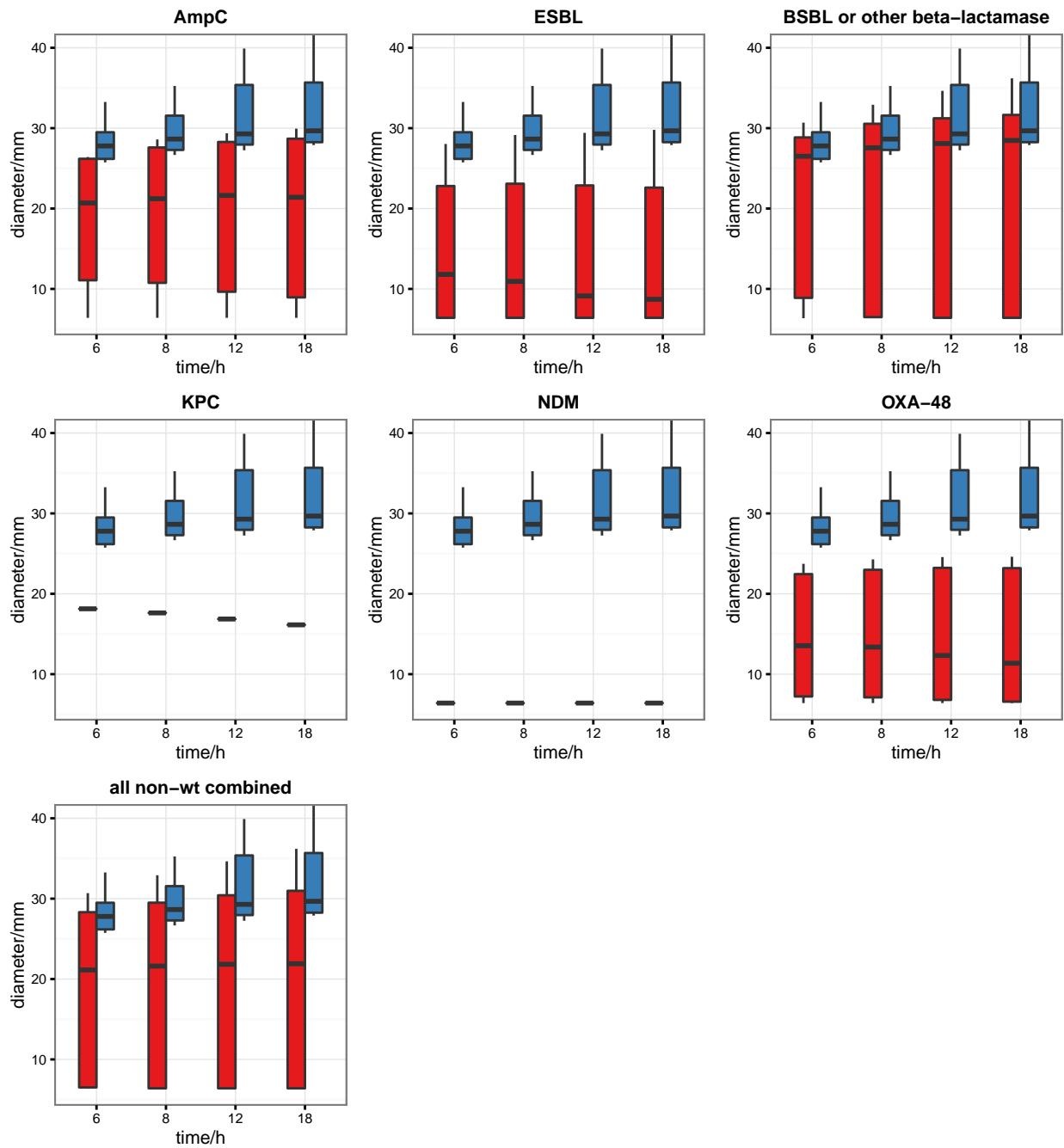




phenotypes	n
ESBL	25
BL wild-type	52
cAmpC hyper	221
Carbapenemase class A	1
ESBL; VIM	1
OXA-48	1

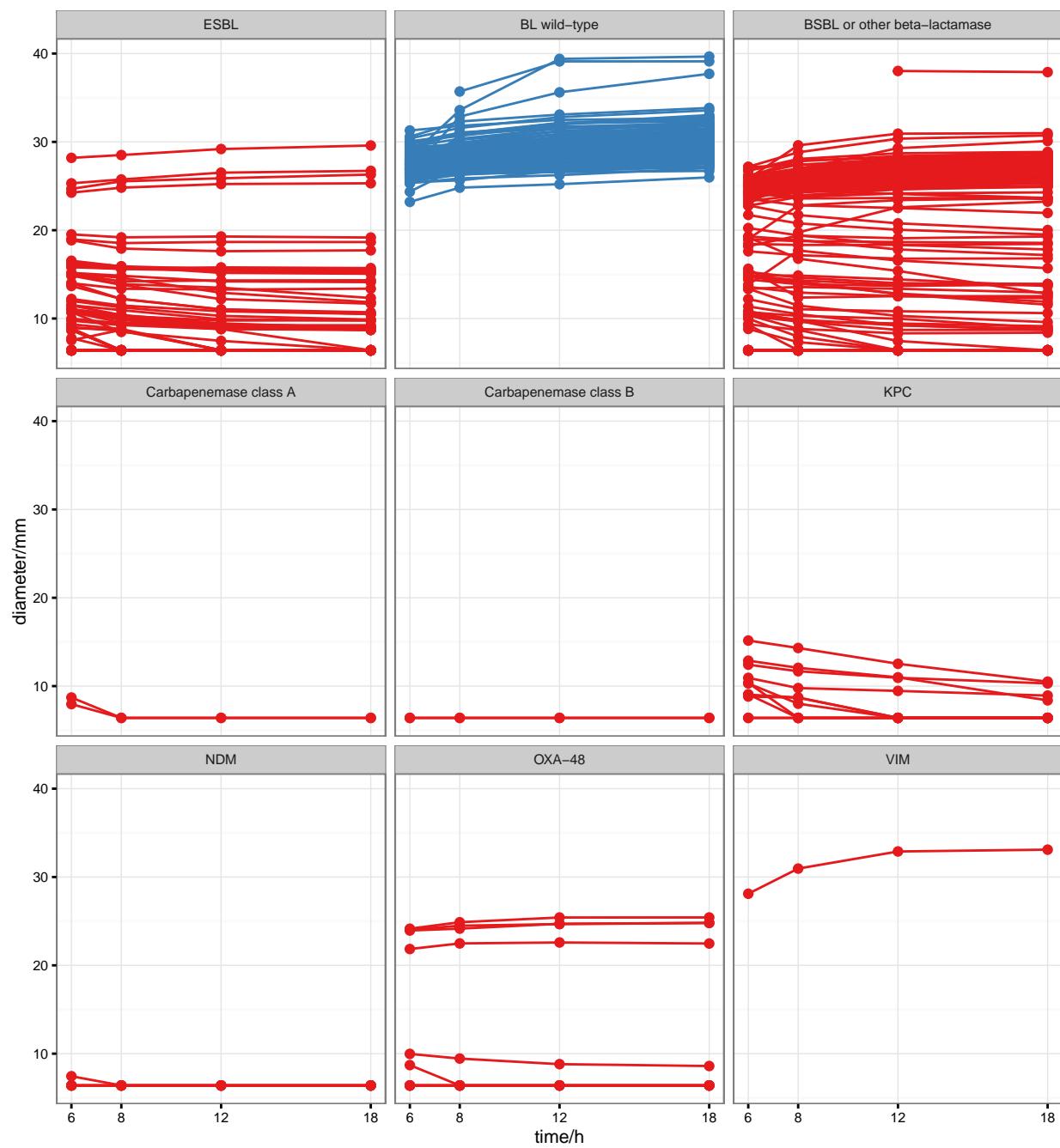
6.2 Ceftriaxone, Escherichia coli

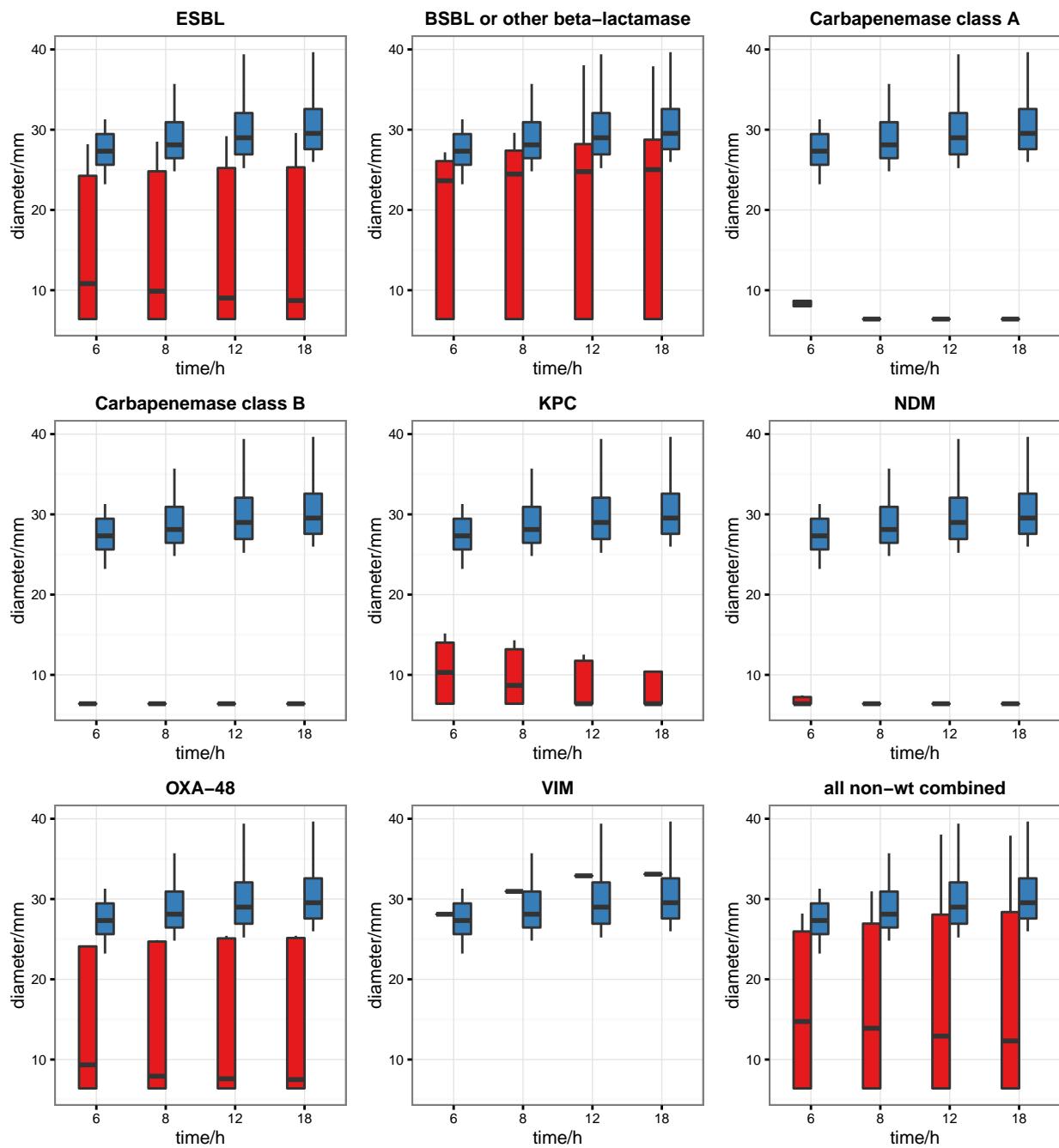




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

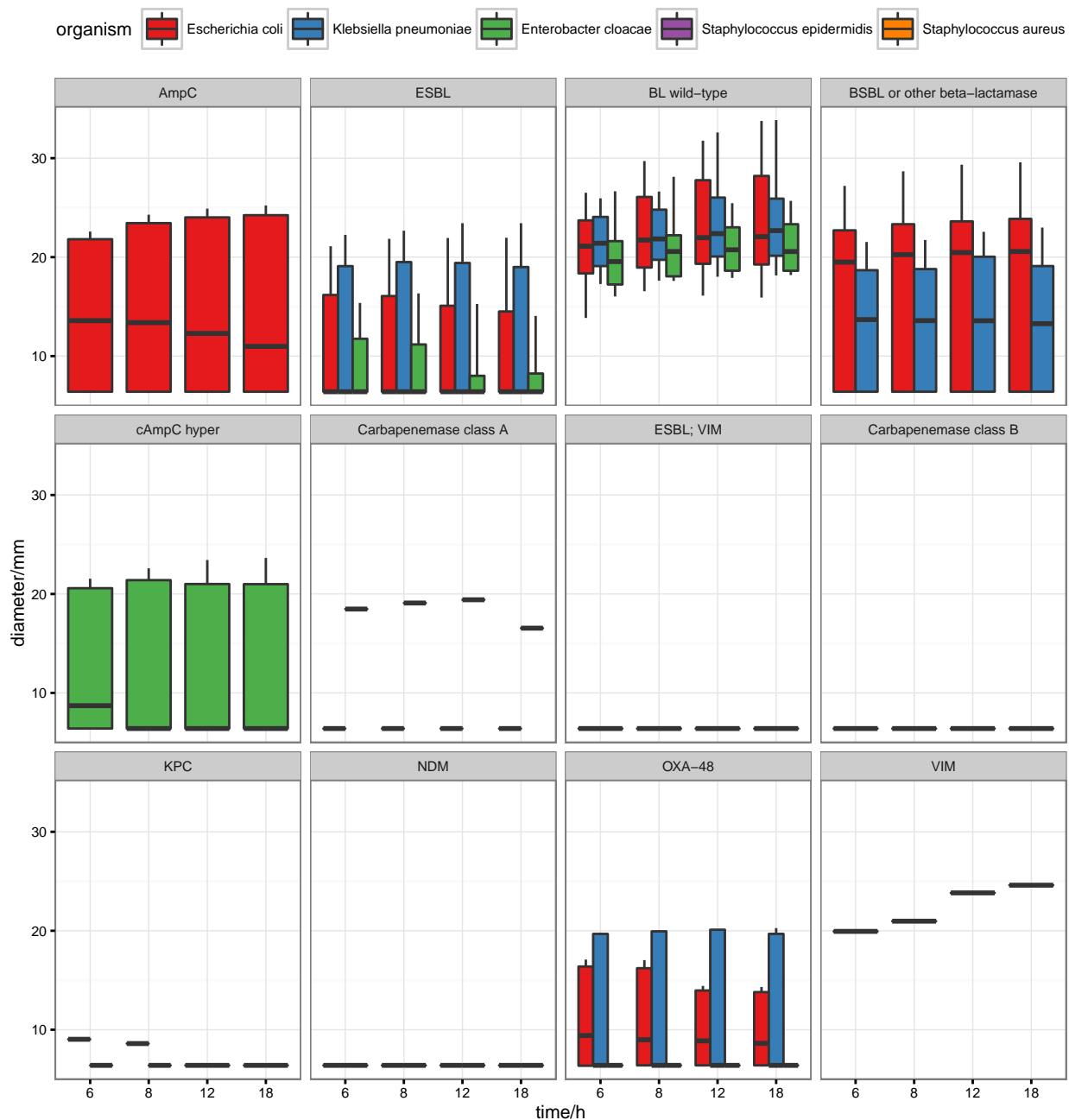
6.3 Ceftriaxone, *Klebsiella pneumoniae*



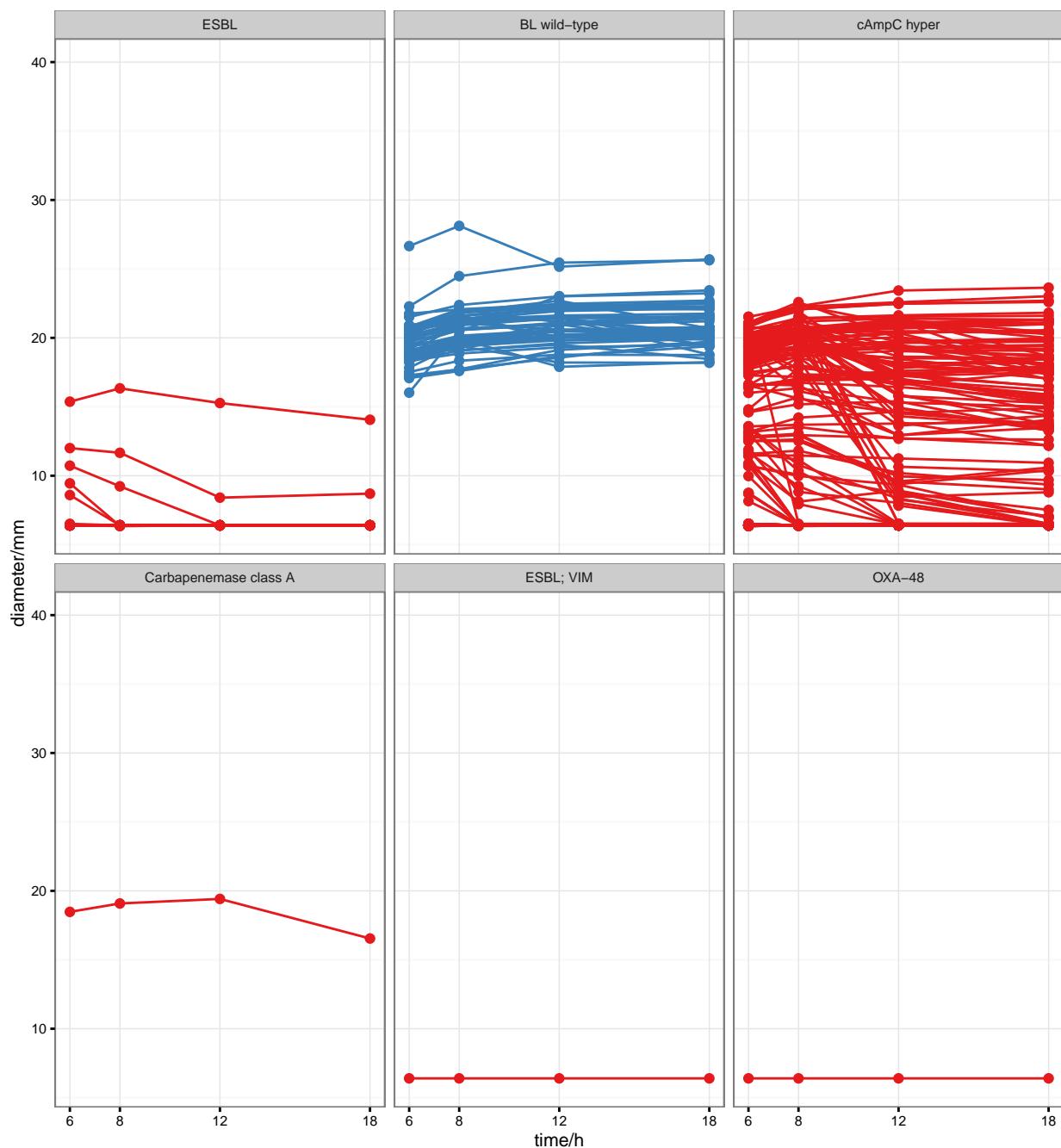


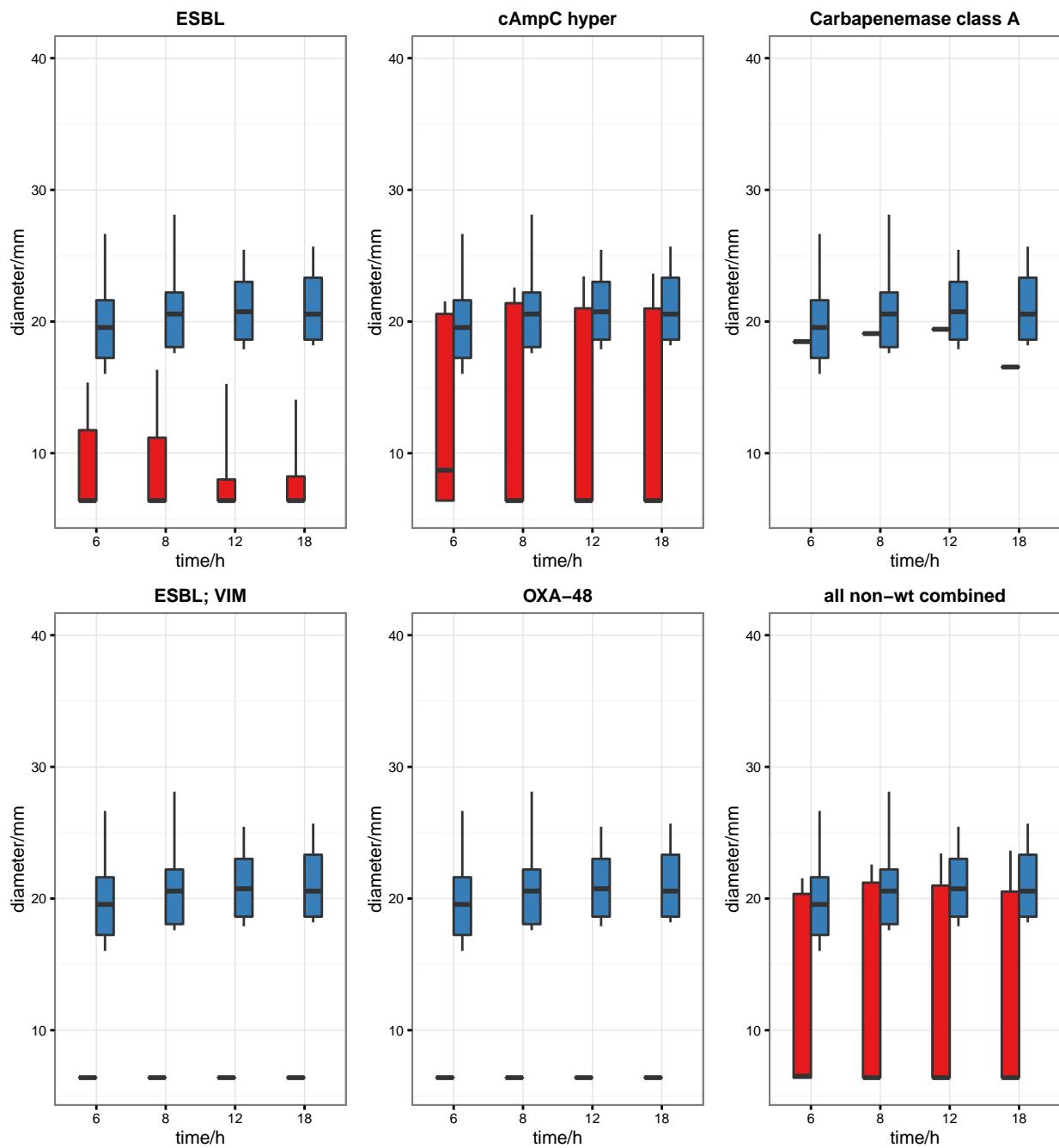
phenotypes	n
ESBL	61
BL wild-type	163
BSBL or other beta-lactamase	121
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1

7 Cefuroxime



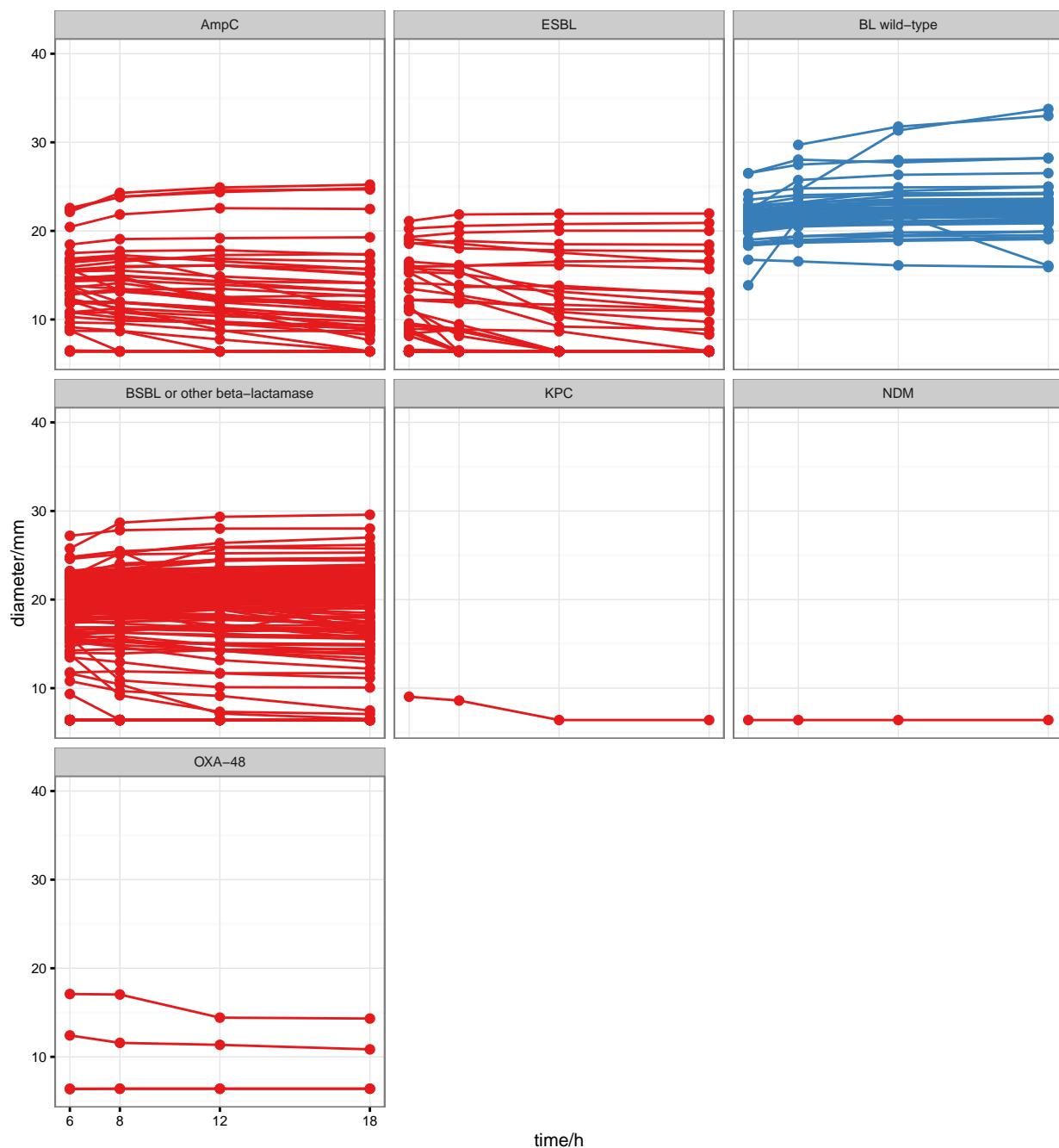
7.1 Cefuroxime, *Enterobacter cloacae*

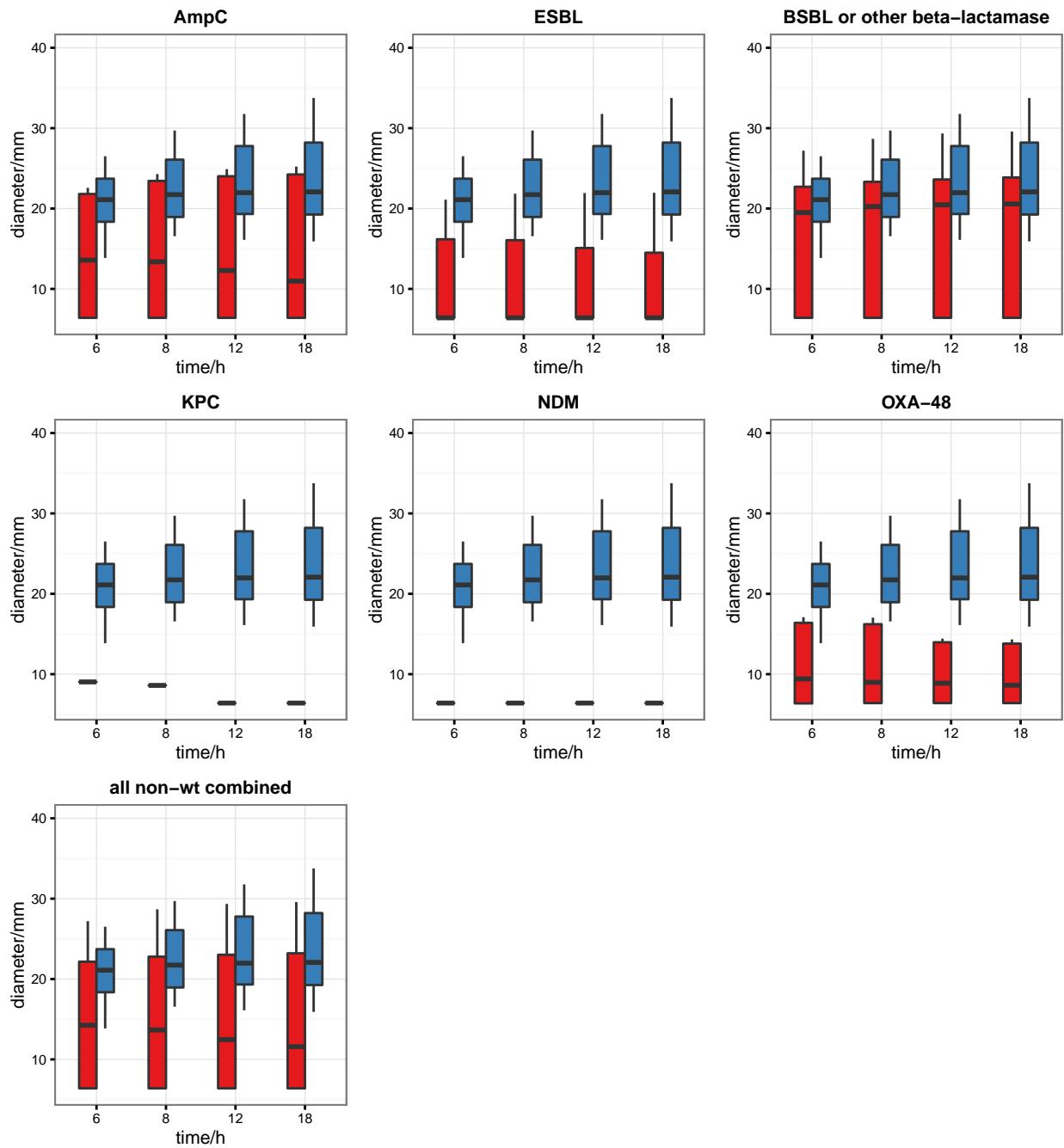




phenotypes	n
ESBL	25
BL wild-type	52
cAmpC hyper	221
Carbapenemase class A	1
ESBL; VIM	1
OXA-48	1

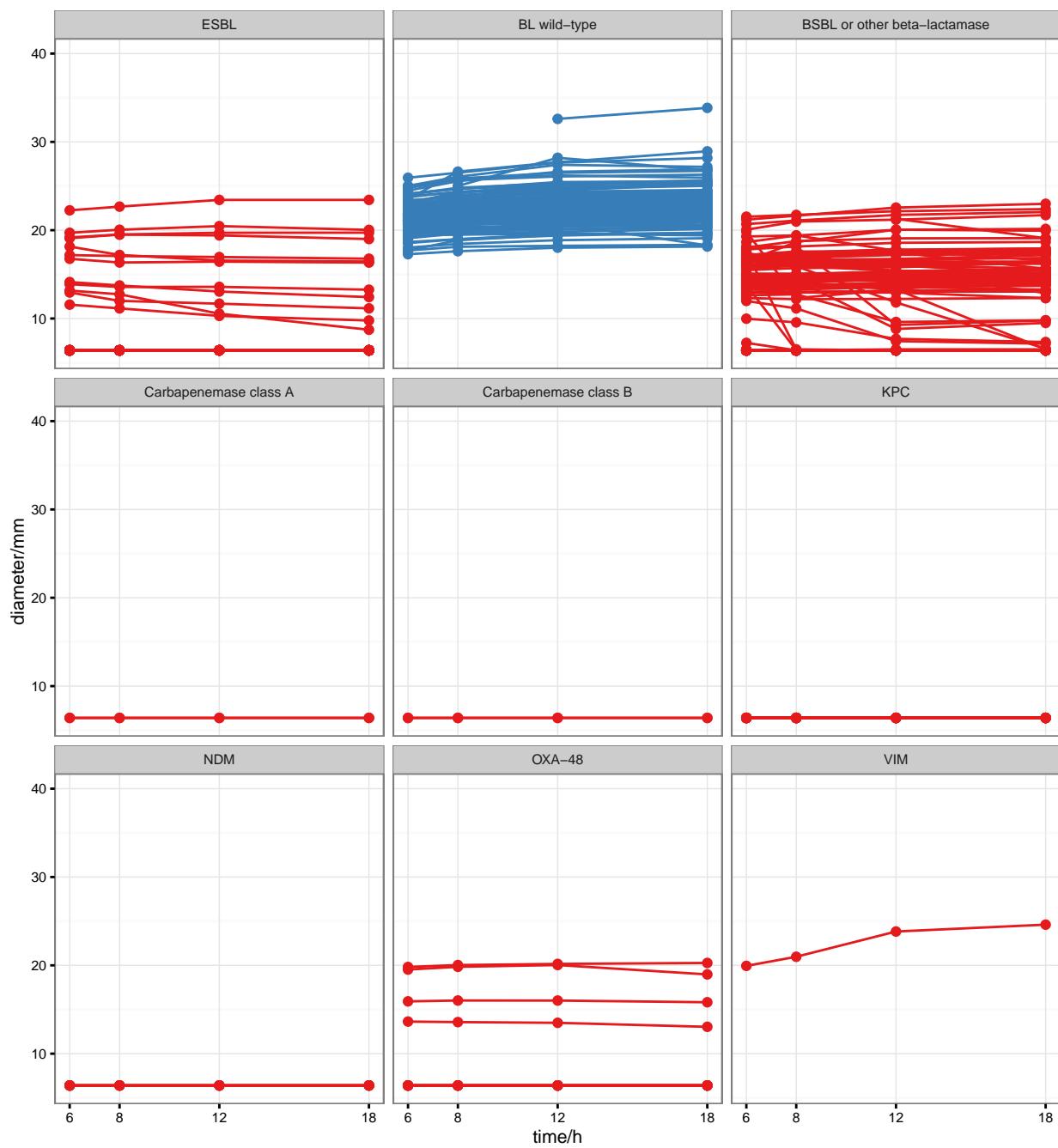
7.2 Cefuroxime, Escherichia coli

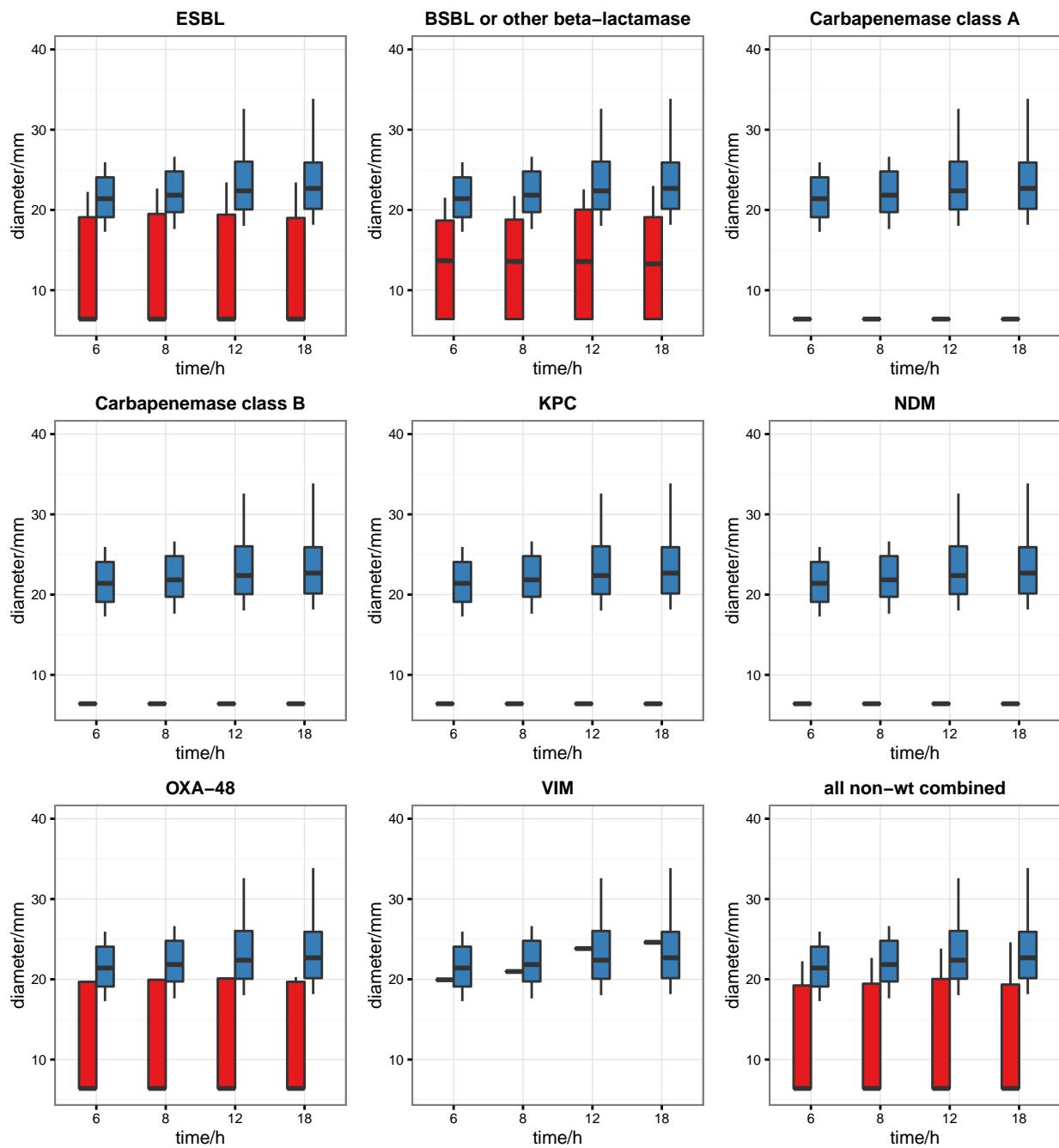




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

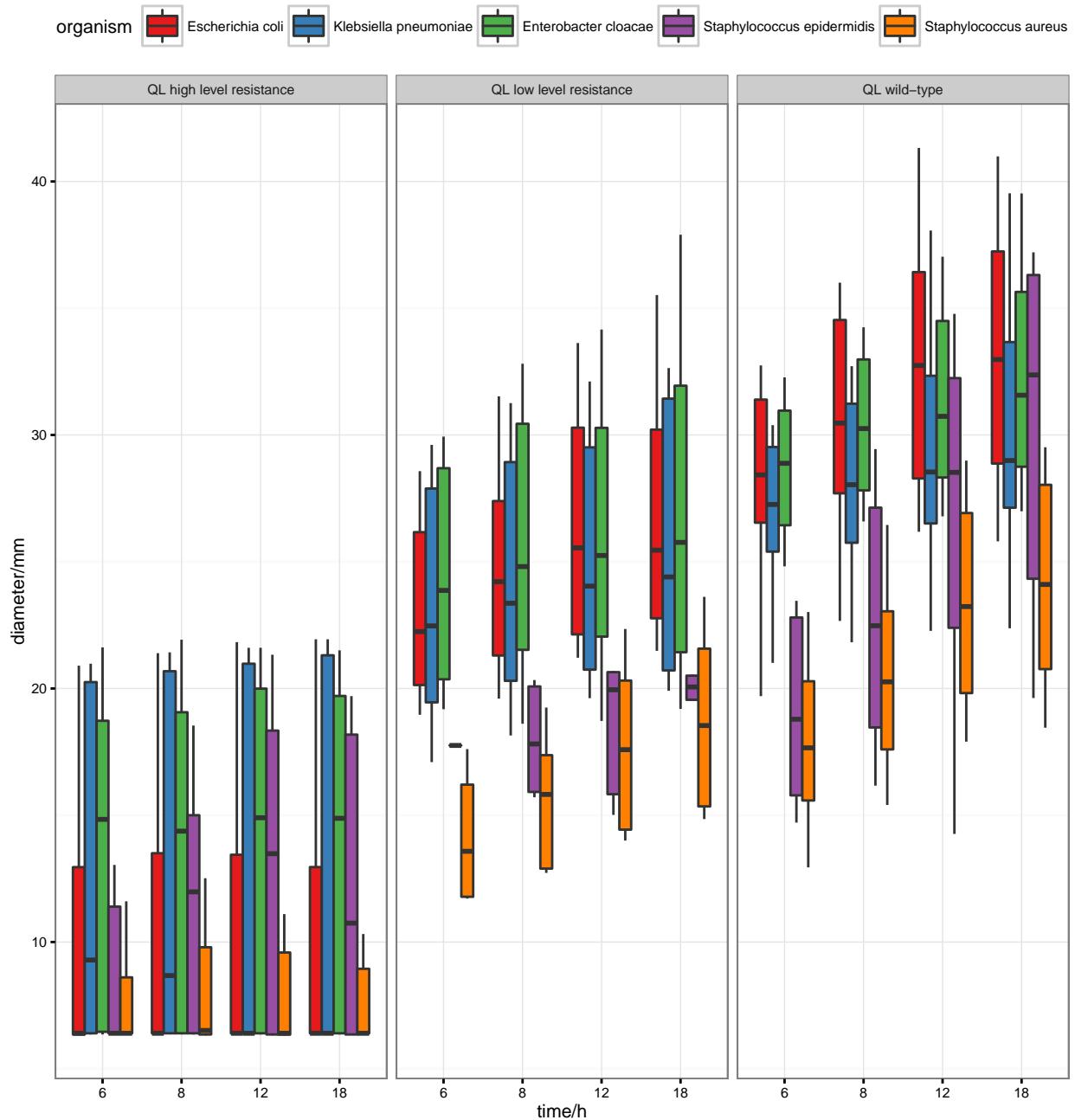
7.3 Cefuroxime, *Klebsiella pneumoniae*



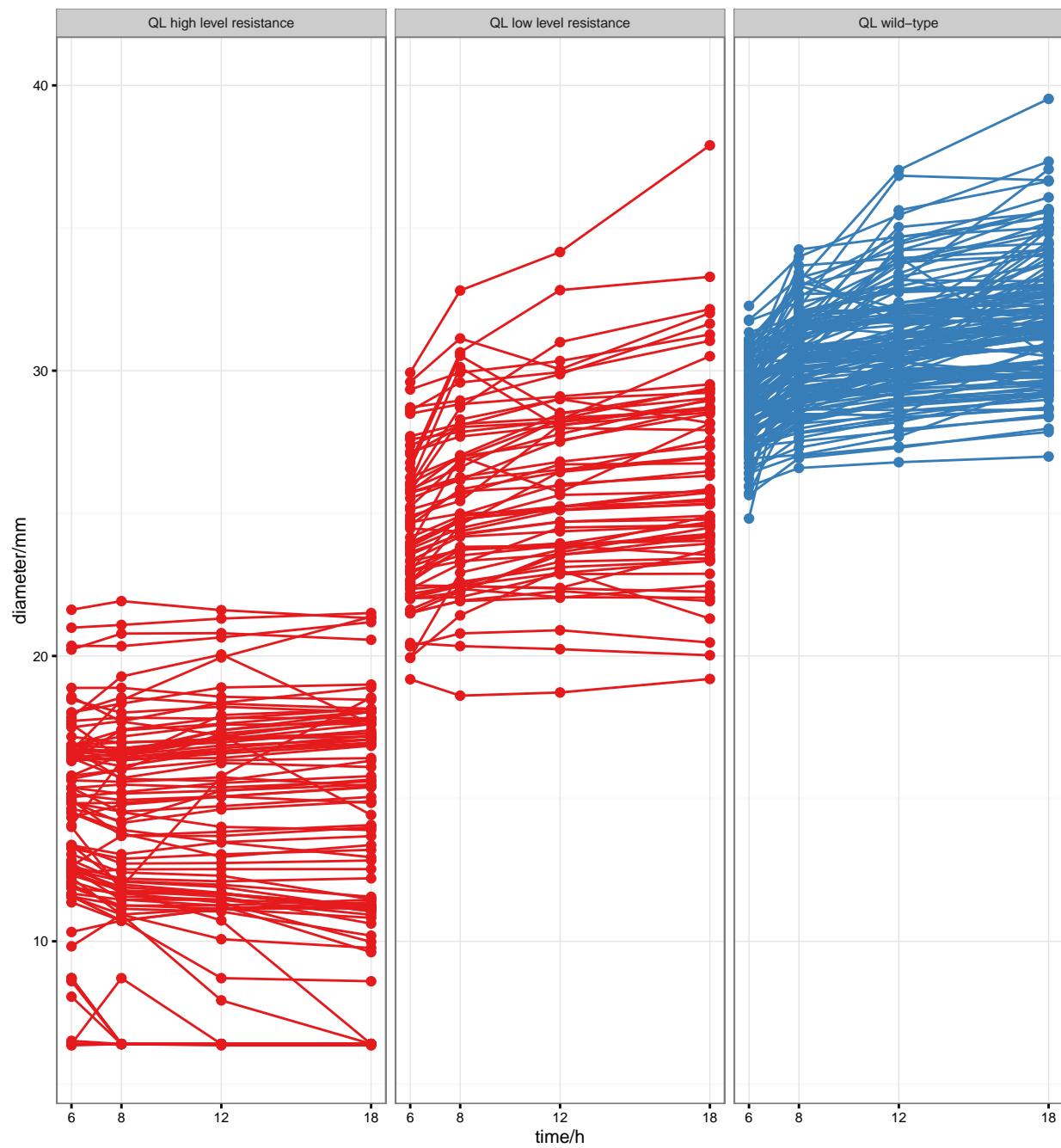


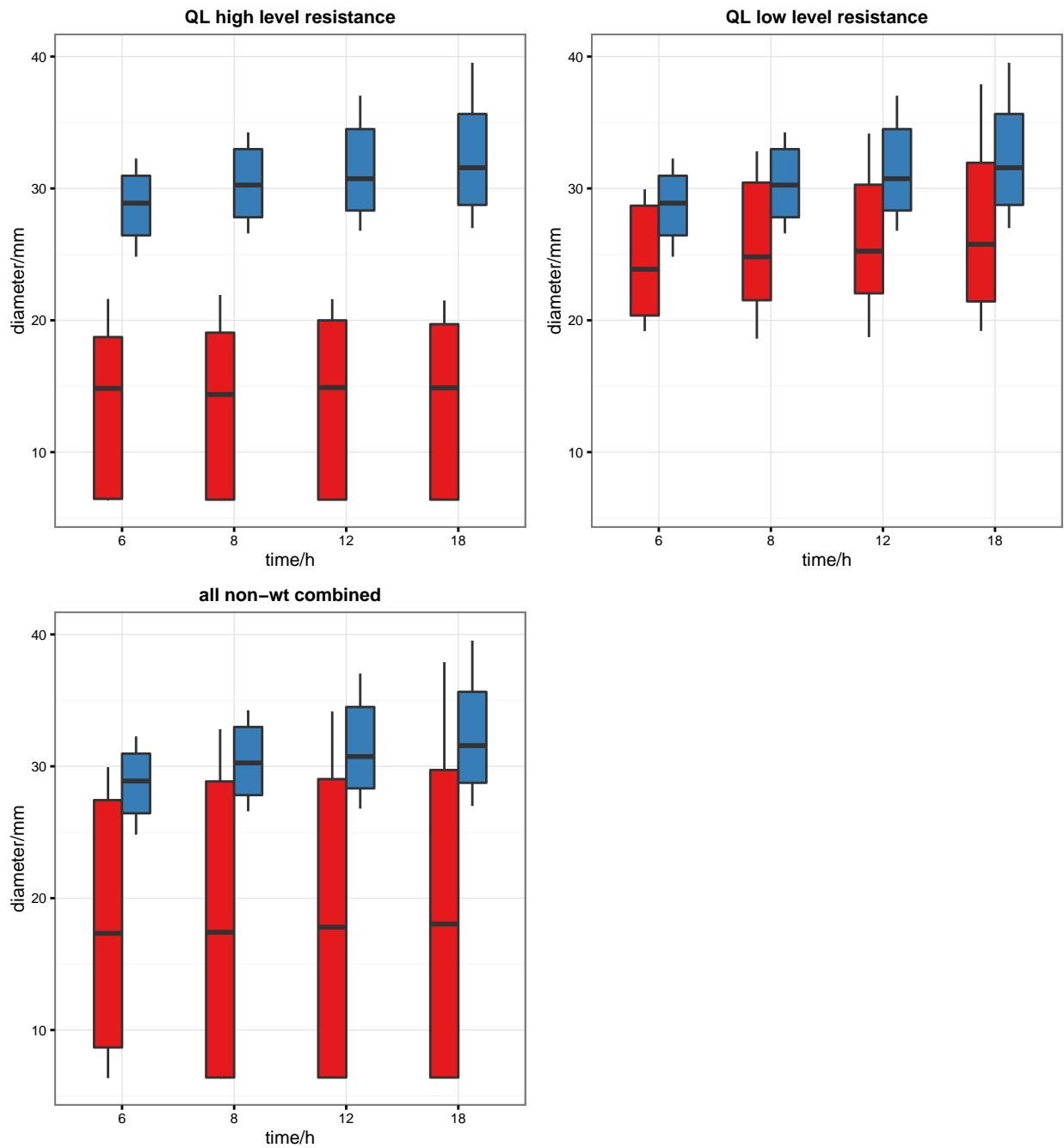
phenotypes	n
ESBL	61
BL wild-type	163
BSBL or other beta-lactamase	121
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1

8 Ciprofloxacin



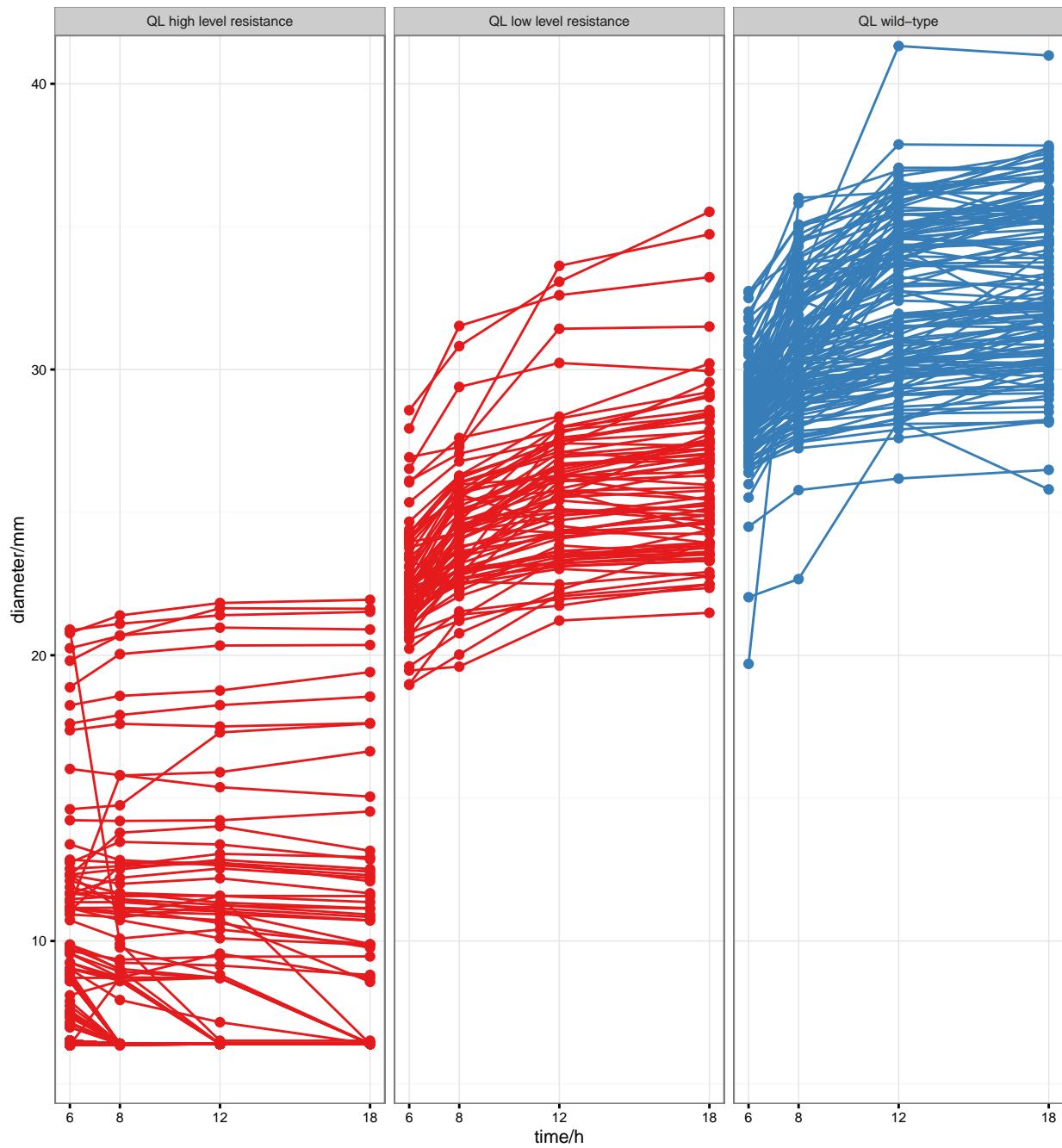
8.1 Ciprofloxacin, *Enterobacter cloacae*

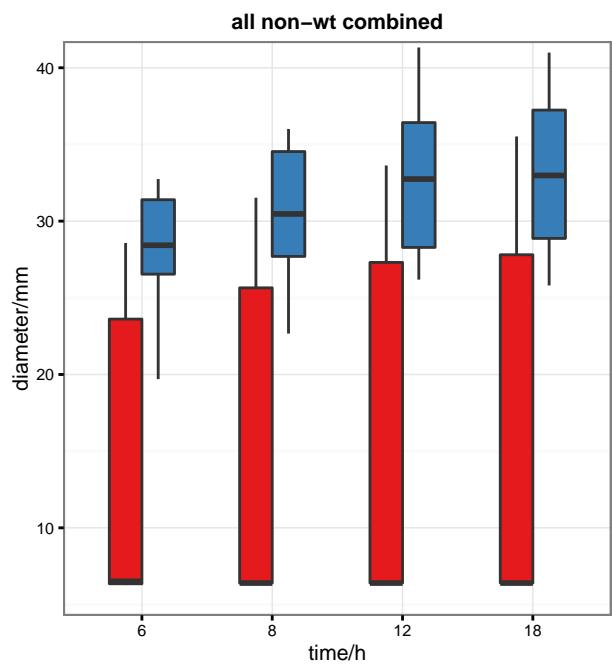
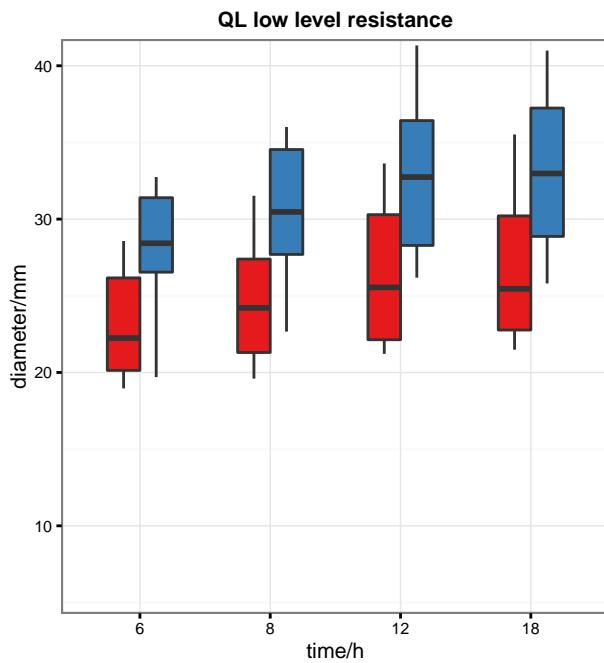
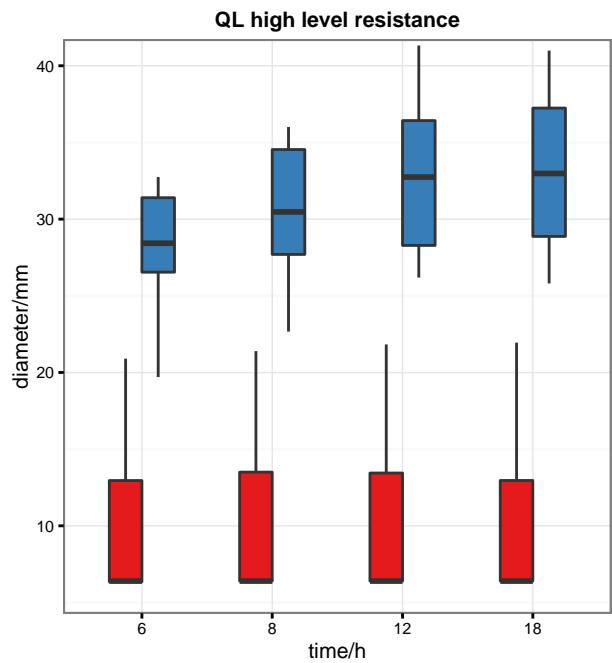




phenotypes	n
QL high level resistance	92
QL low level resistance	65
QL wild-type	144

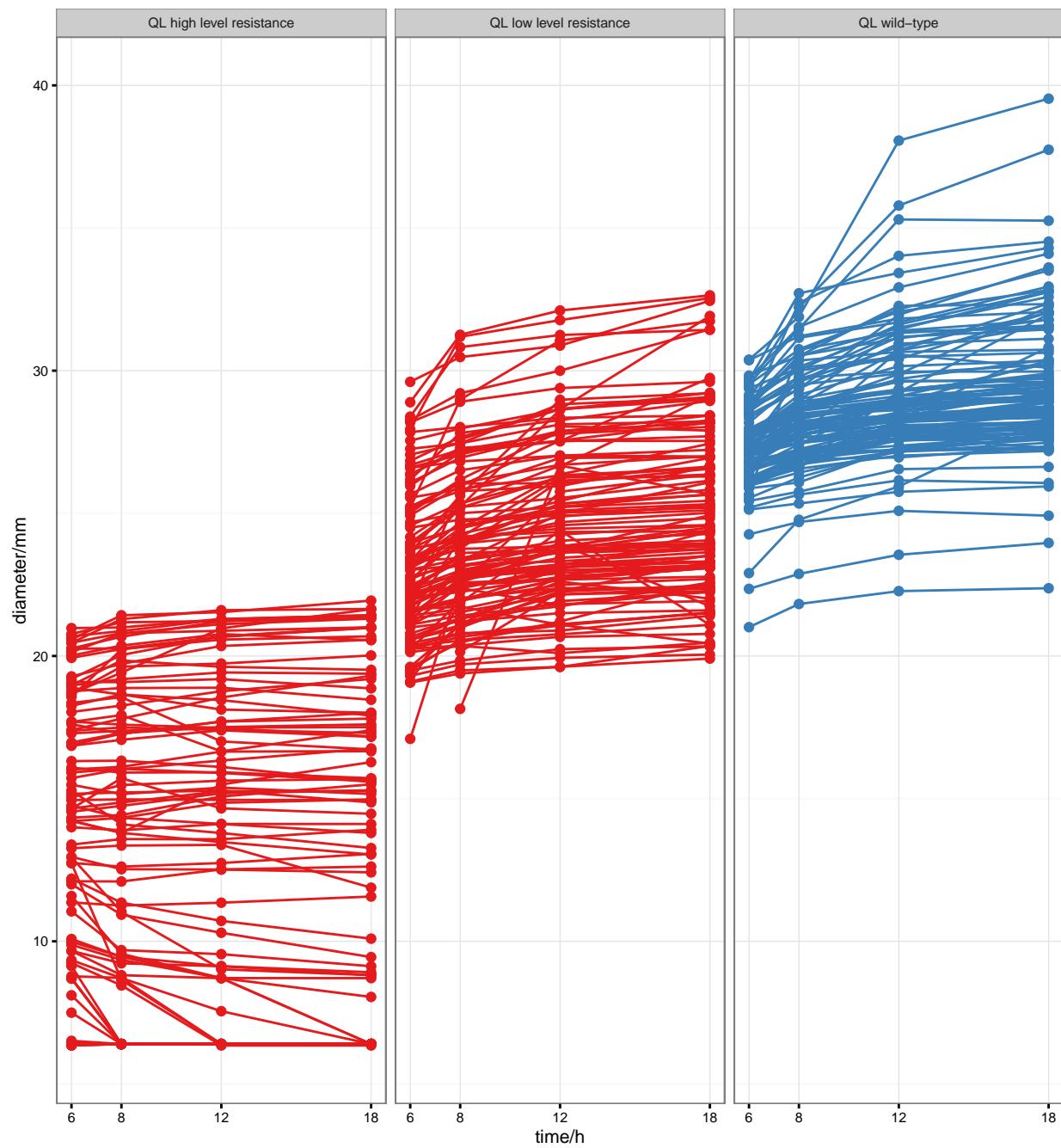
8.2 Ciprofloxacin, Escherichia coli

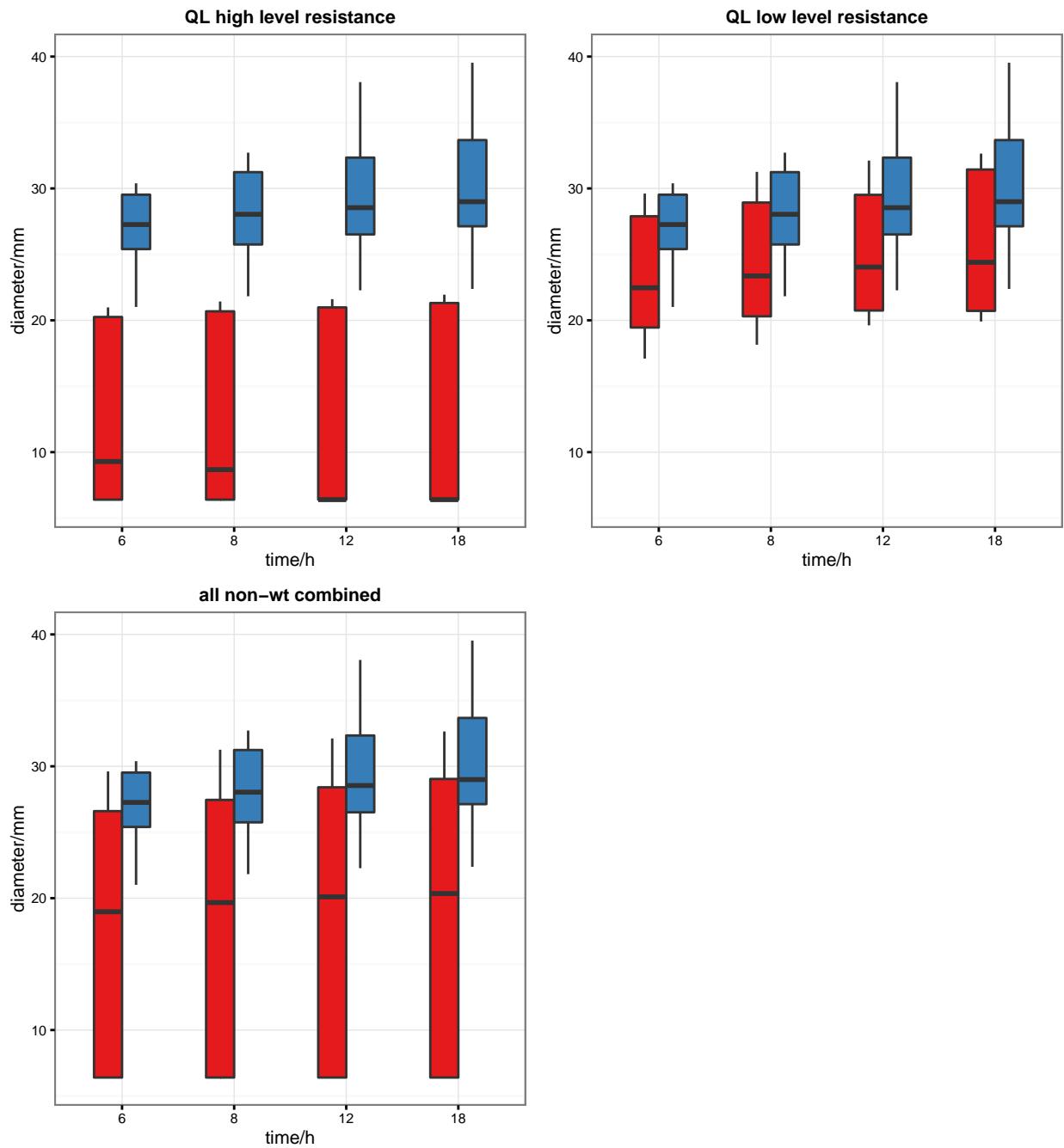




phenotypes	n
QL high level resistance	259
QL low level resistance	81
QL wild-type	135

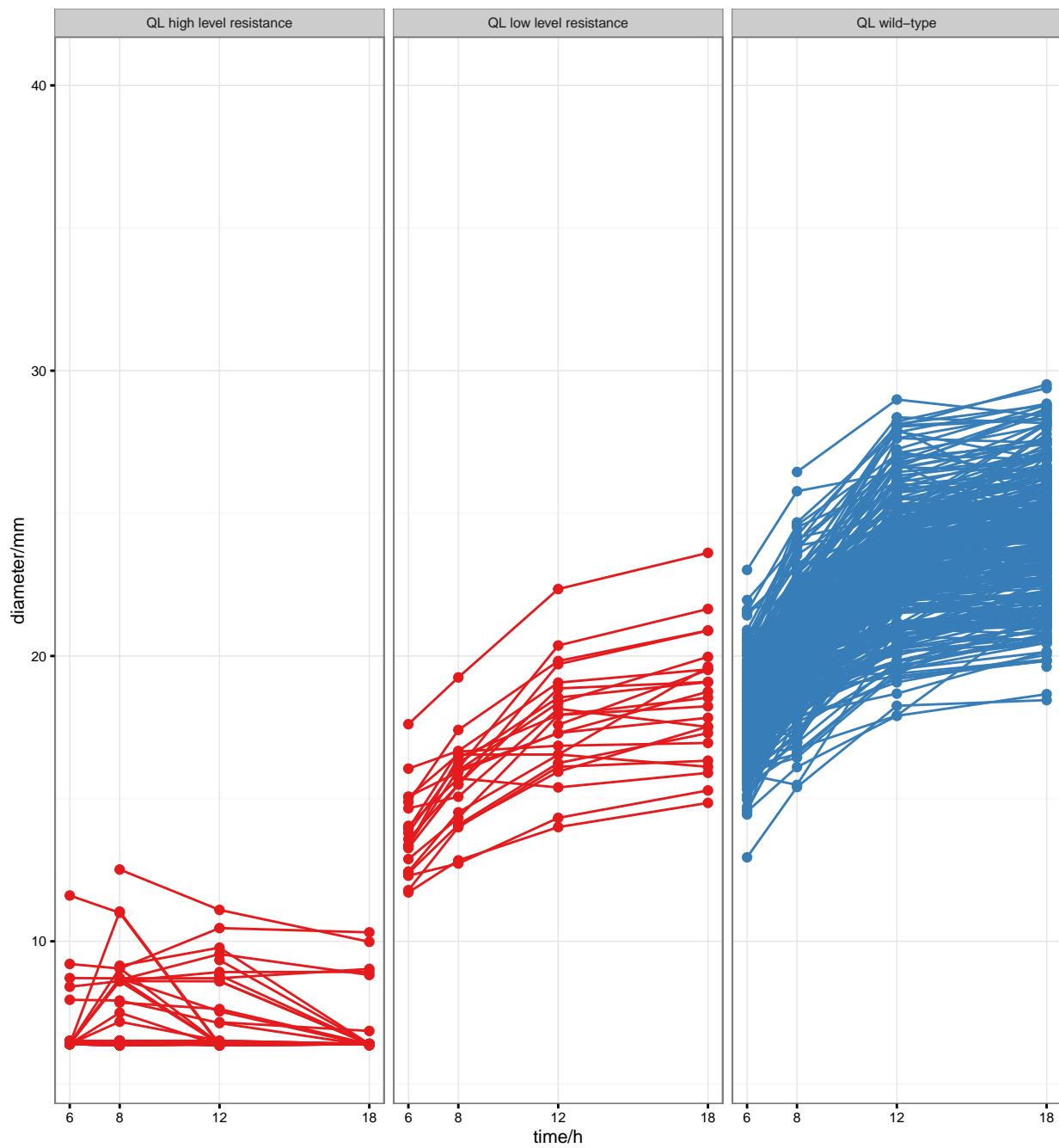
8.3 Ciprofloxacin, Klebsiella pneumoniae

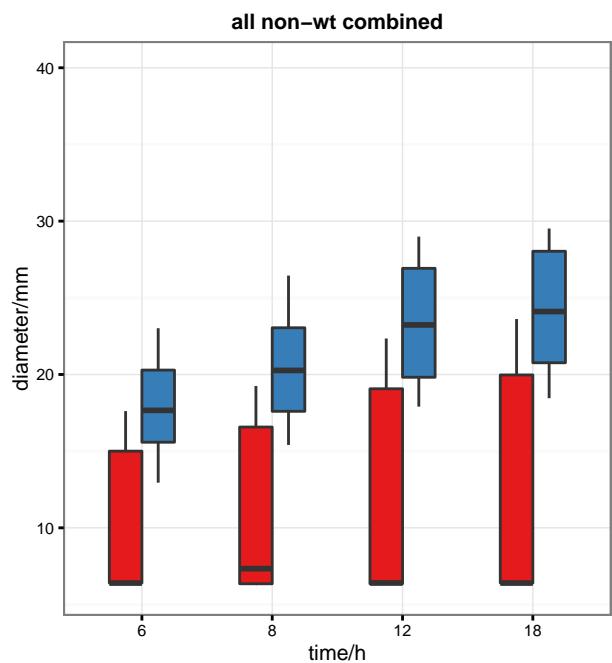
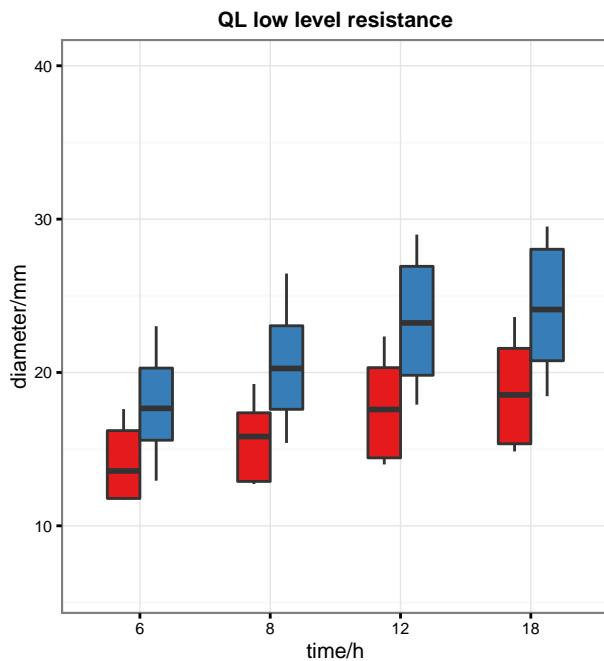
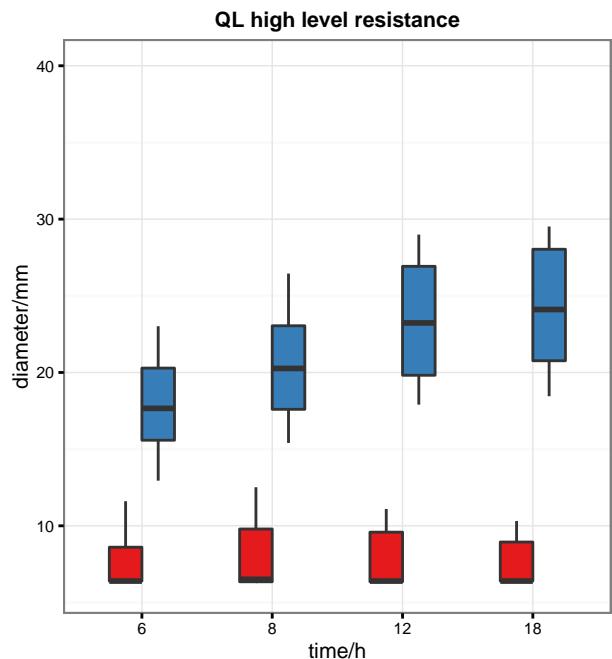




phenotypes	n
QL high level resistance	140
QL low level resistance	117
QL wild-type	119

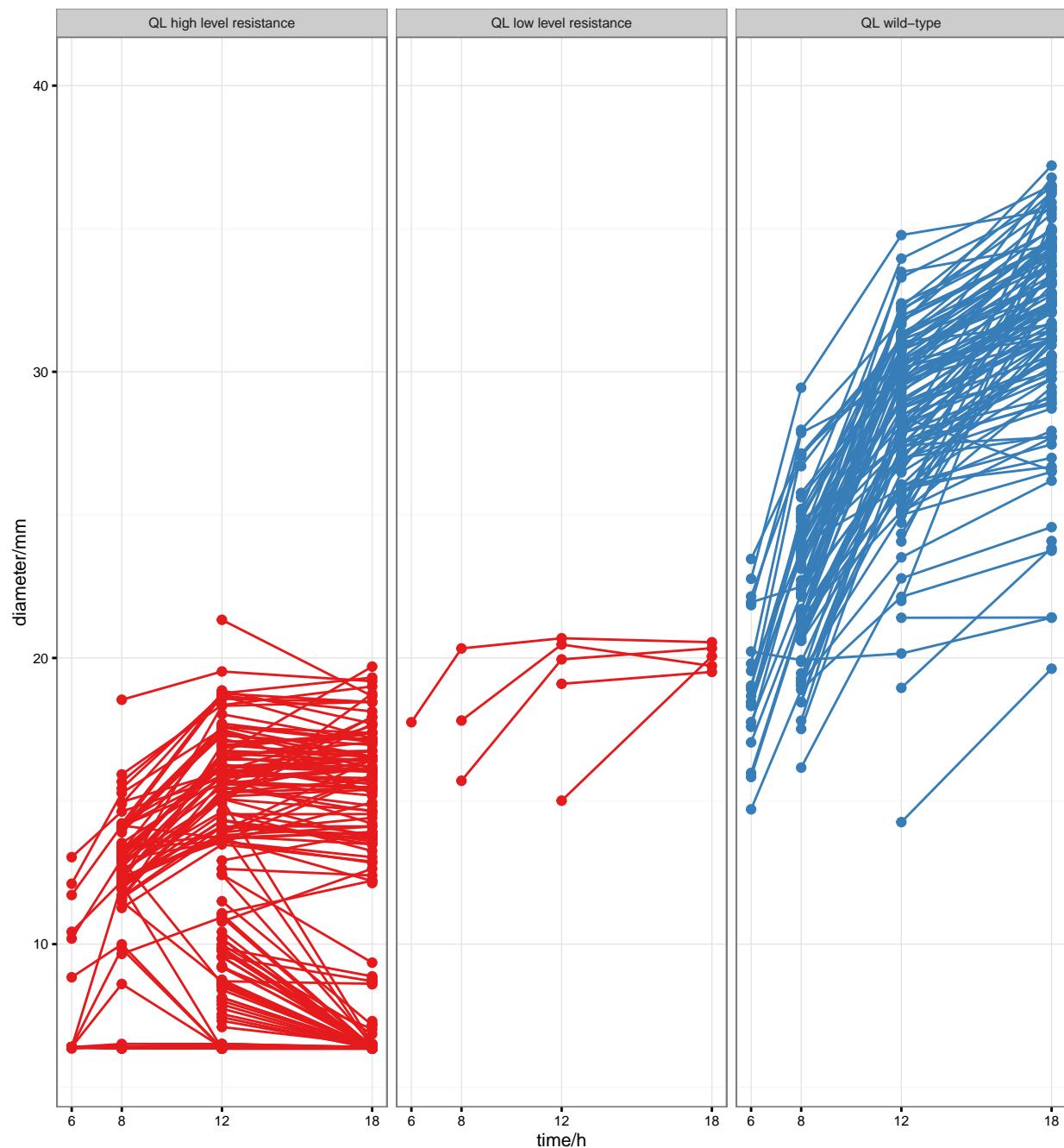
8.4 Ciprofloxacin, *Staphylococcus aureus*

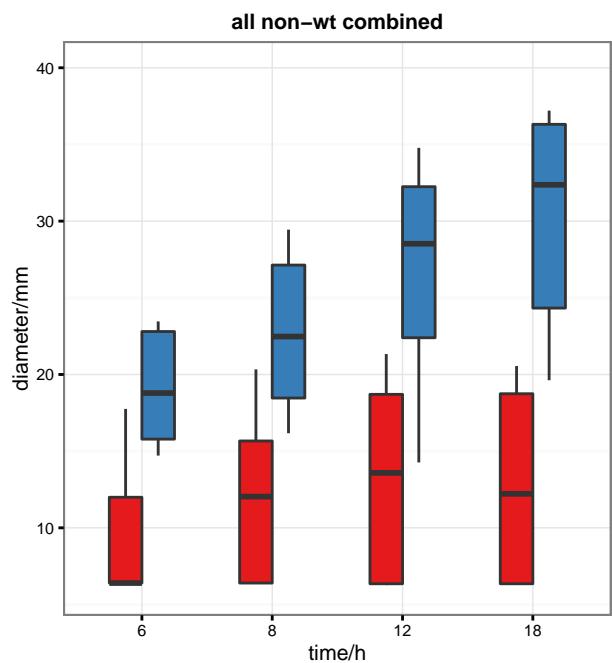
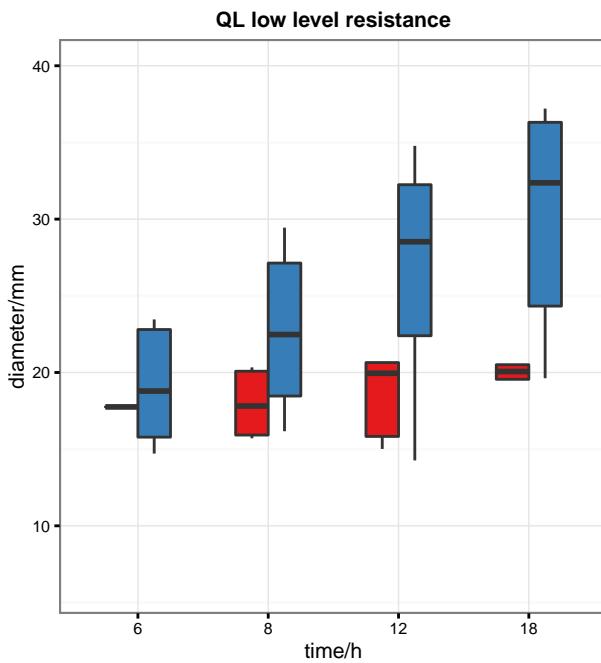
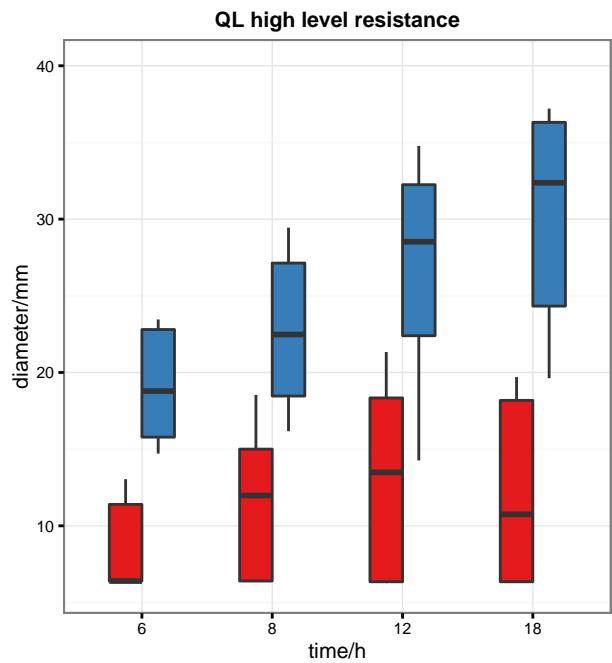




phenotypes	n
QL high level resistance	58
QL low level resistance	23
QL wild-type	326

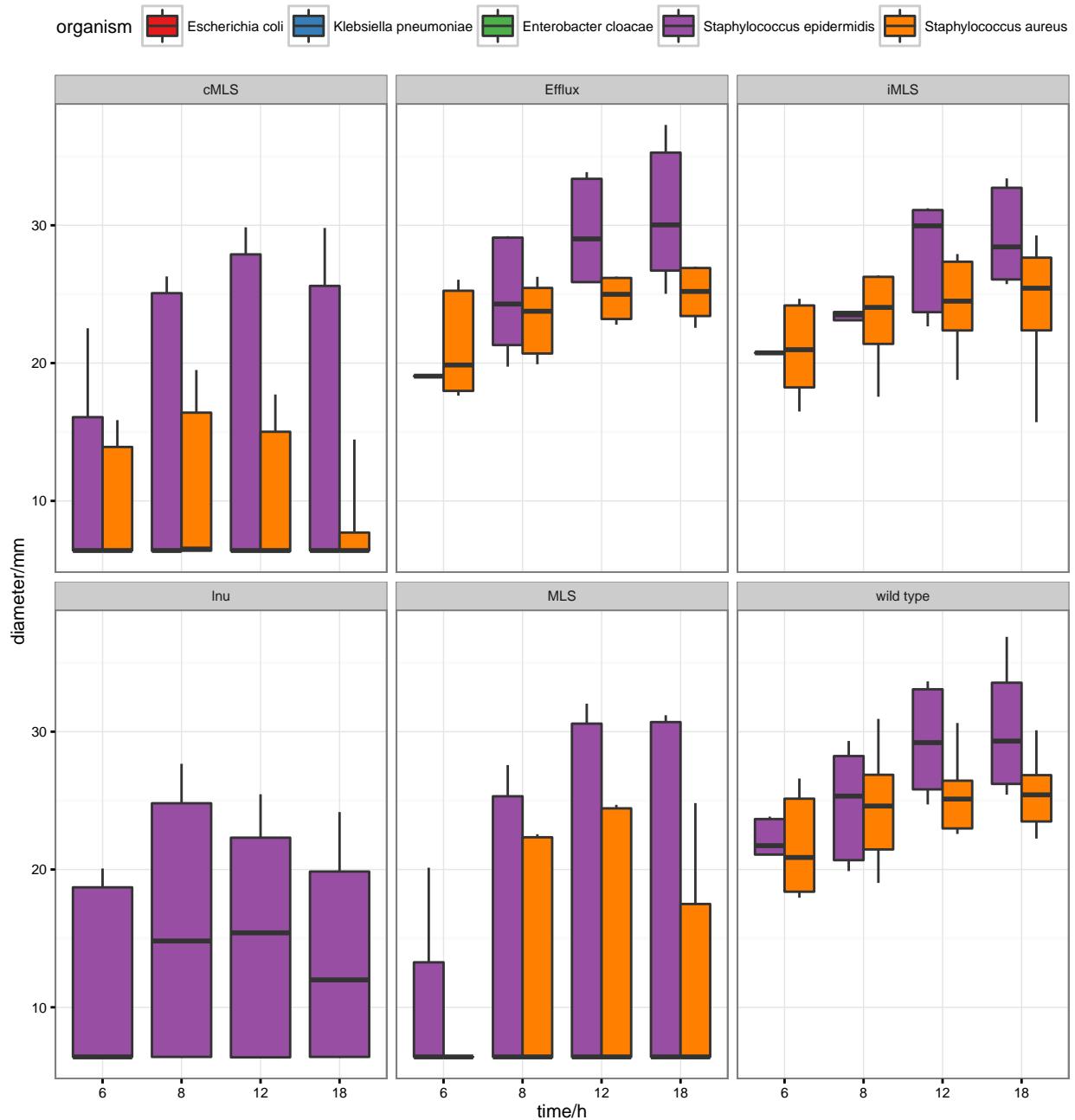
8.5 Ciprofloxacin, *Staphylococcus epidermidis*



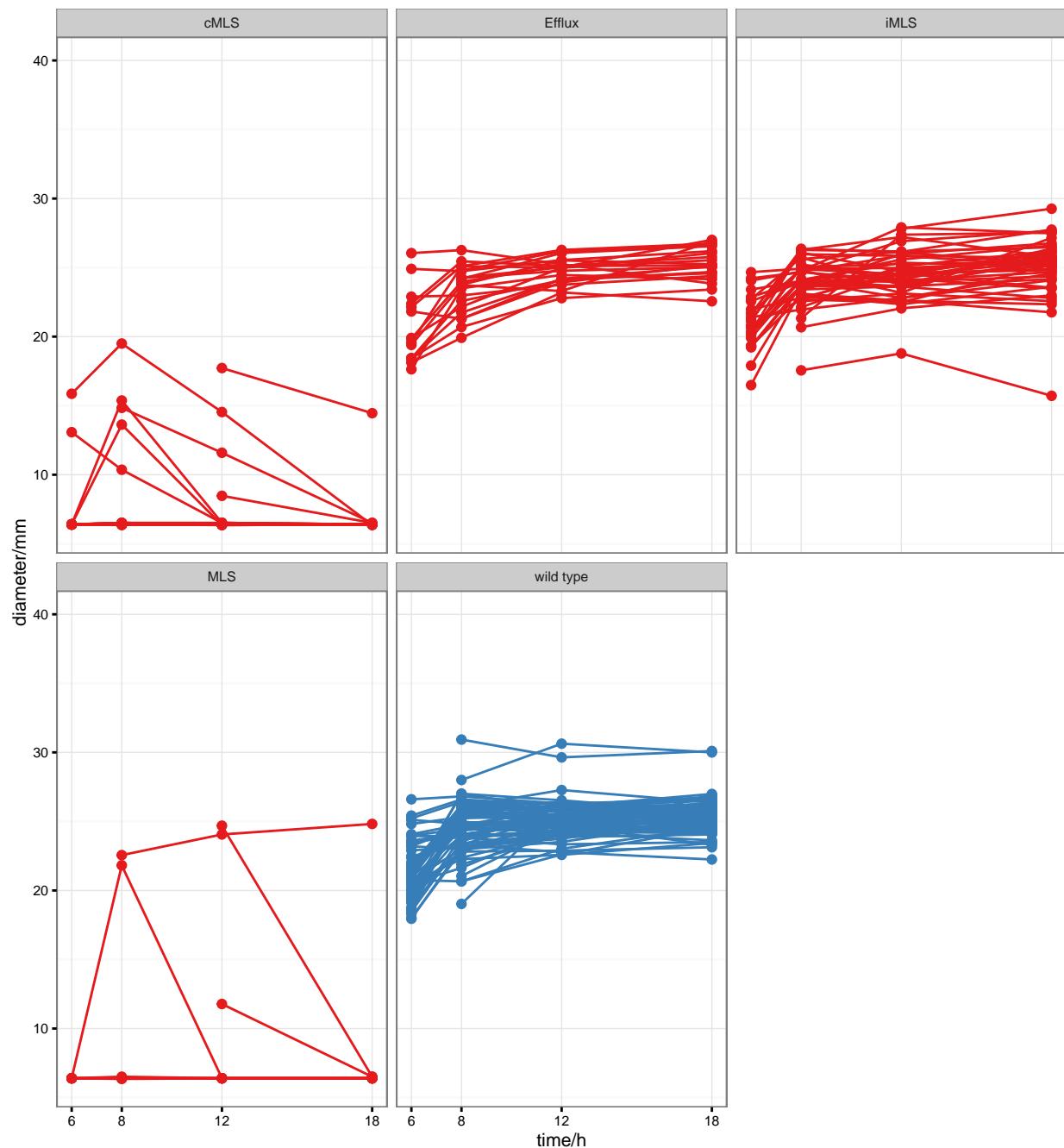


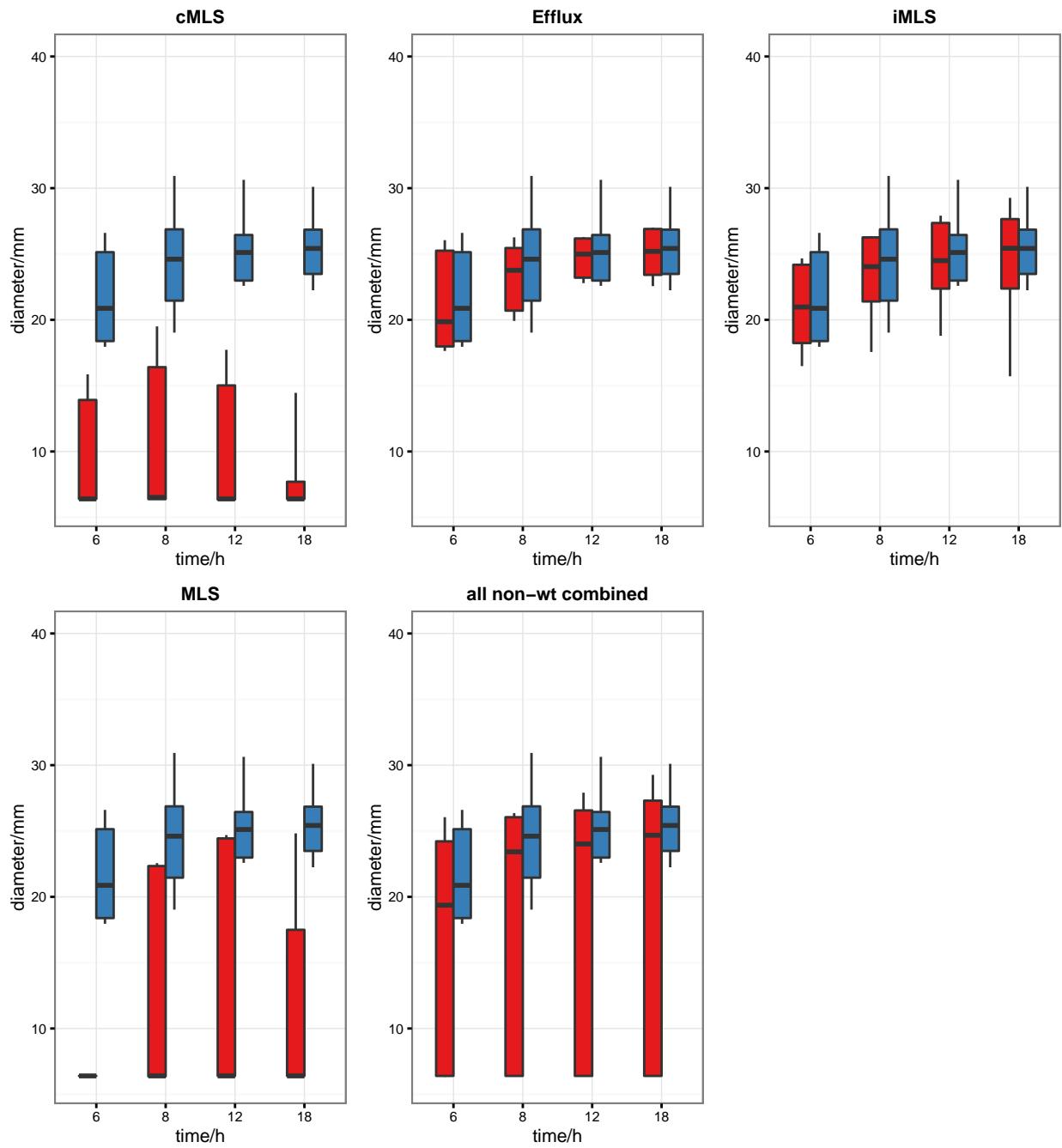
phenotypes	n
QL high level resistance	178
QL low level resistance	5
QL wild-type	111

9 Clindamycin



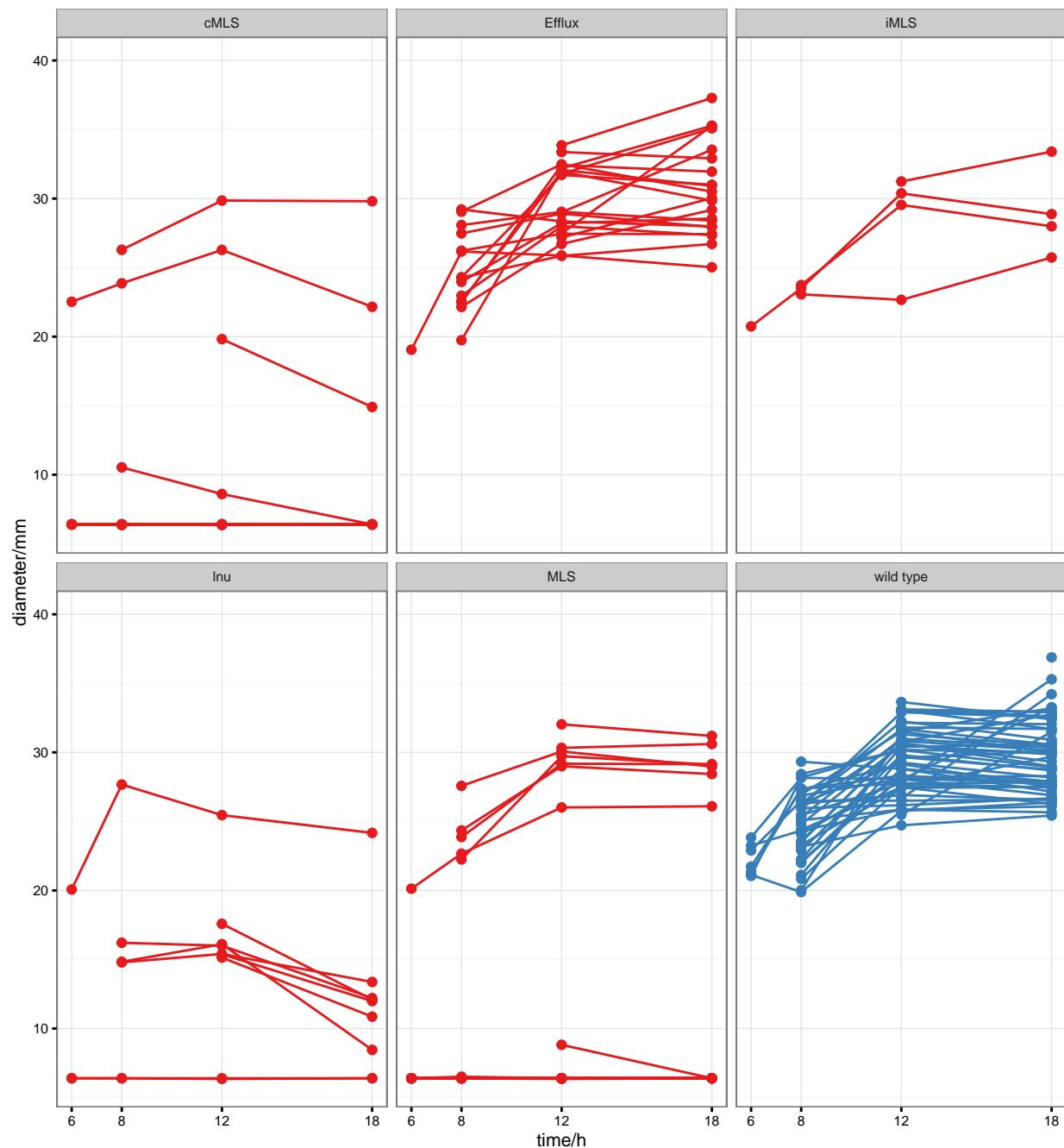
9.1 Clindamycin, *Staphylococcus aureus*

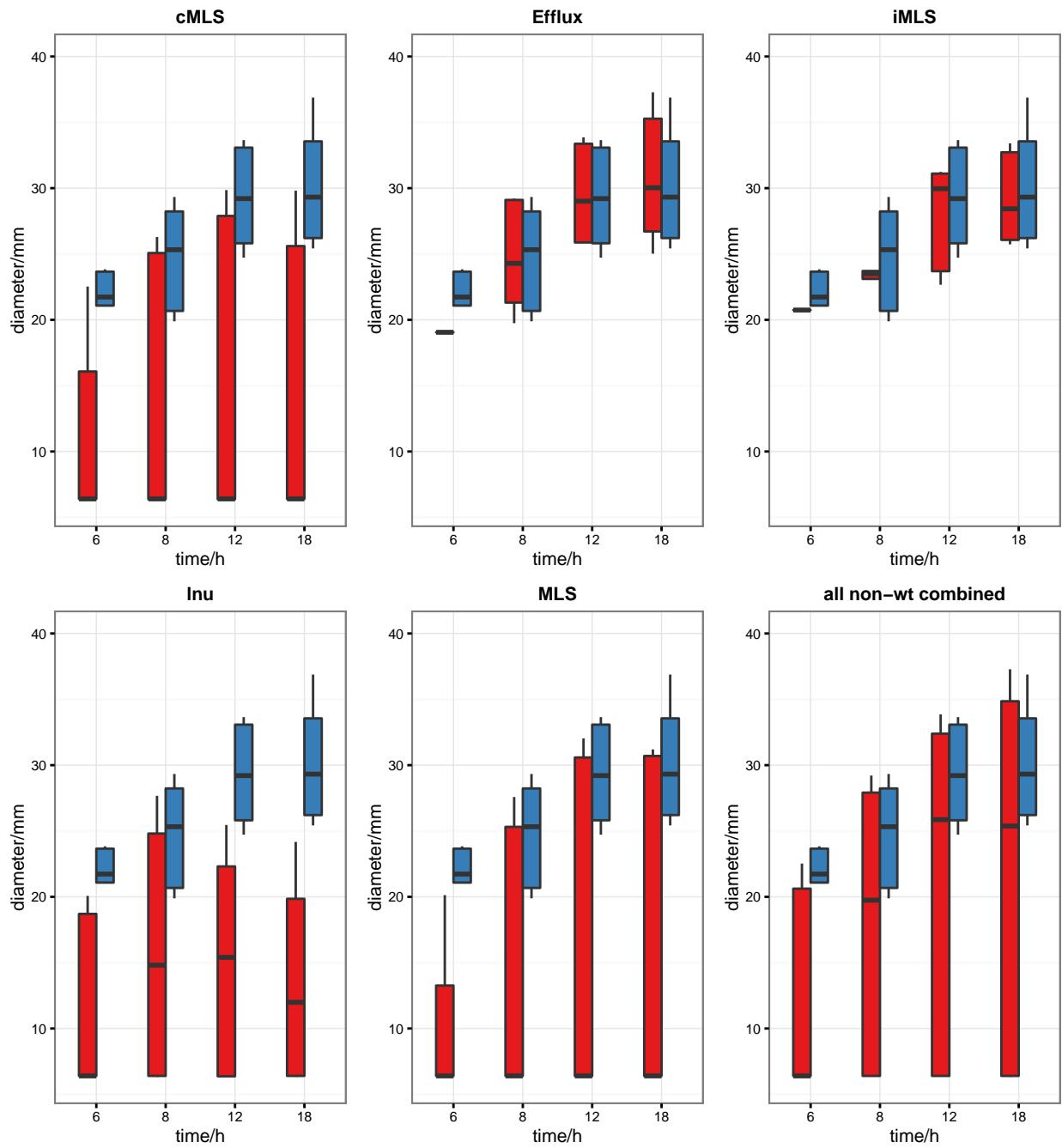




phenotypes	n
cMLS	18
Efflux	21
iMLS	44
MLS	9
wild type	75

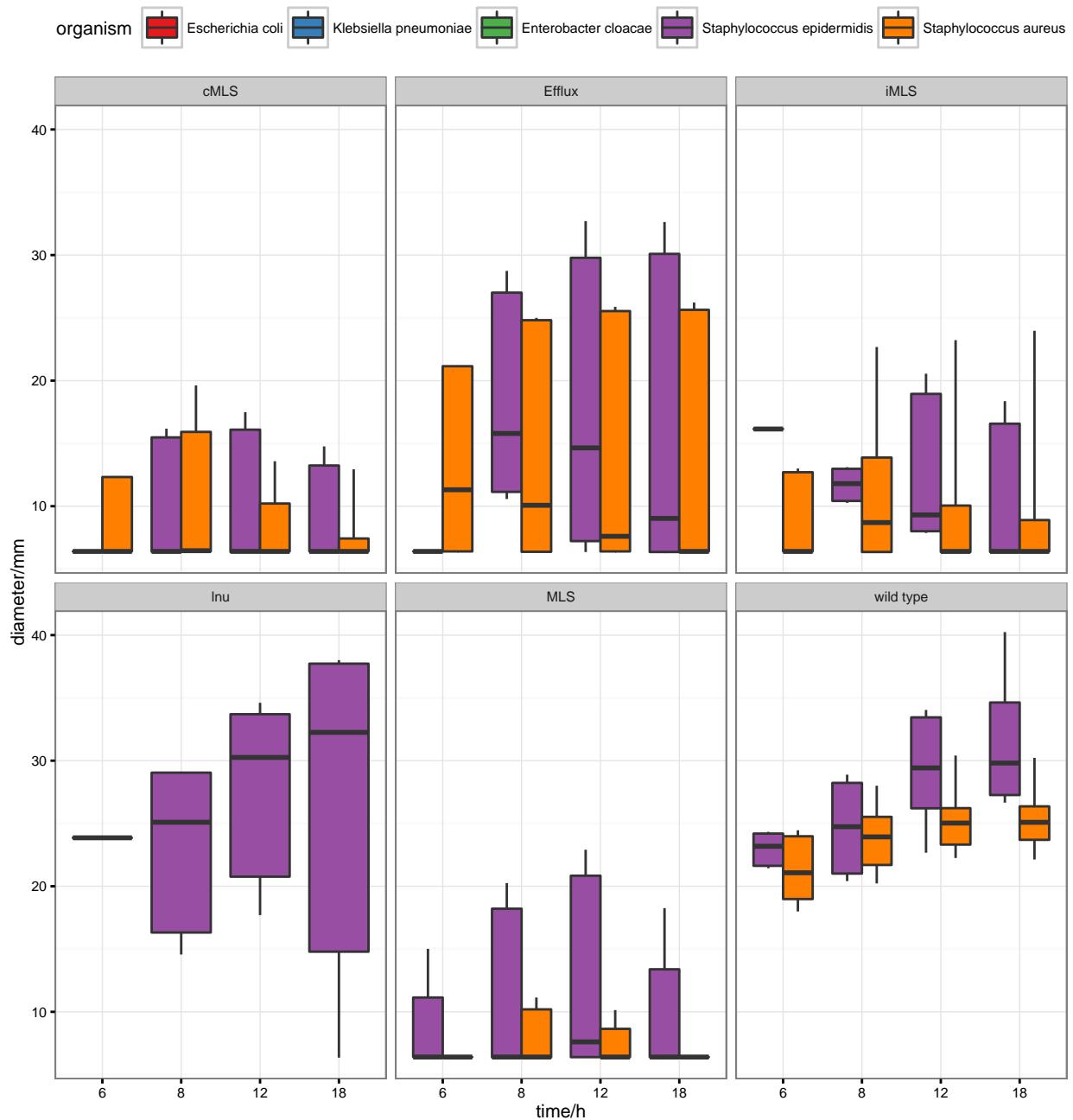
9.2 Clindamycin, *Staphylococcus epidermidis*



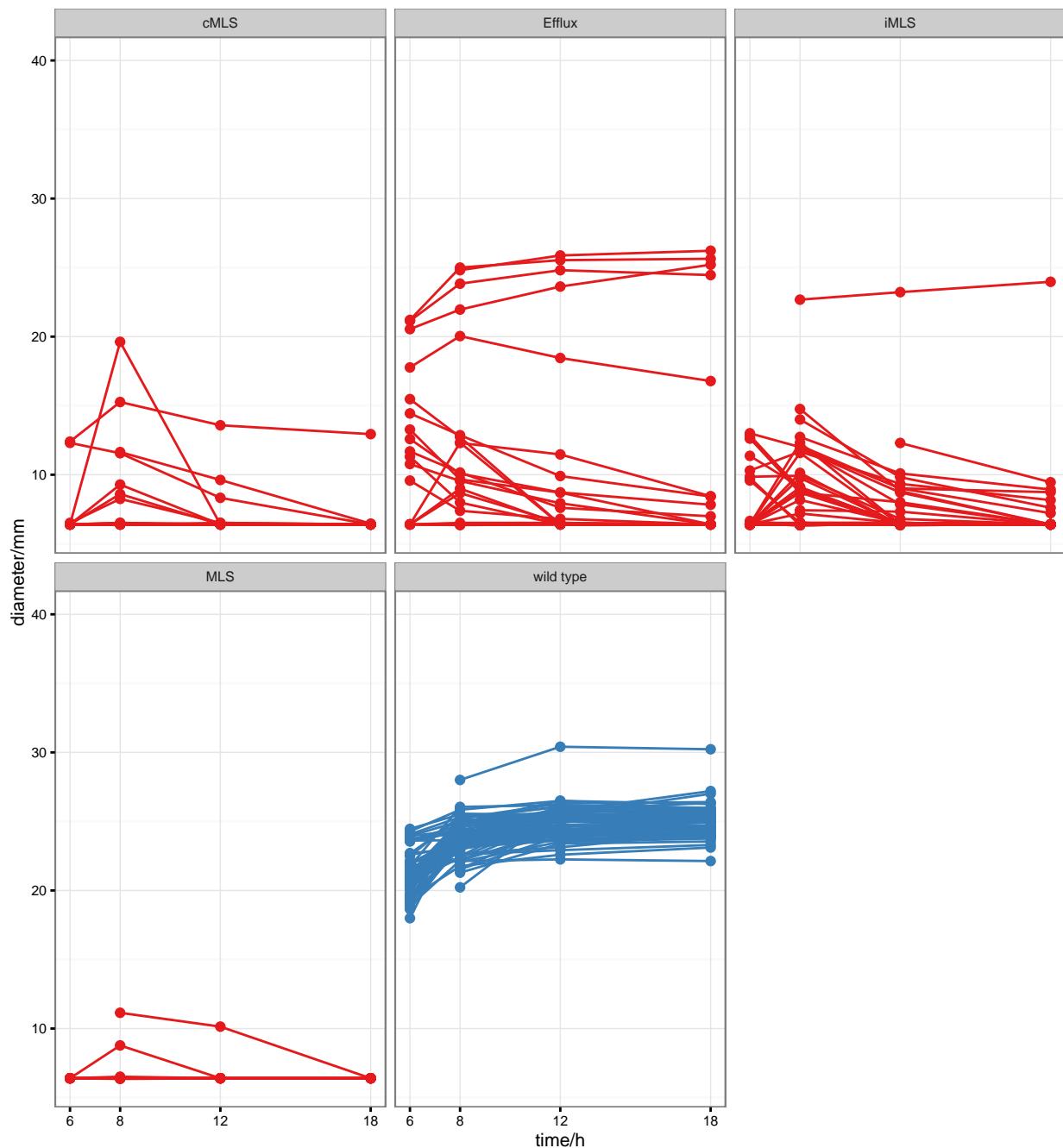


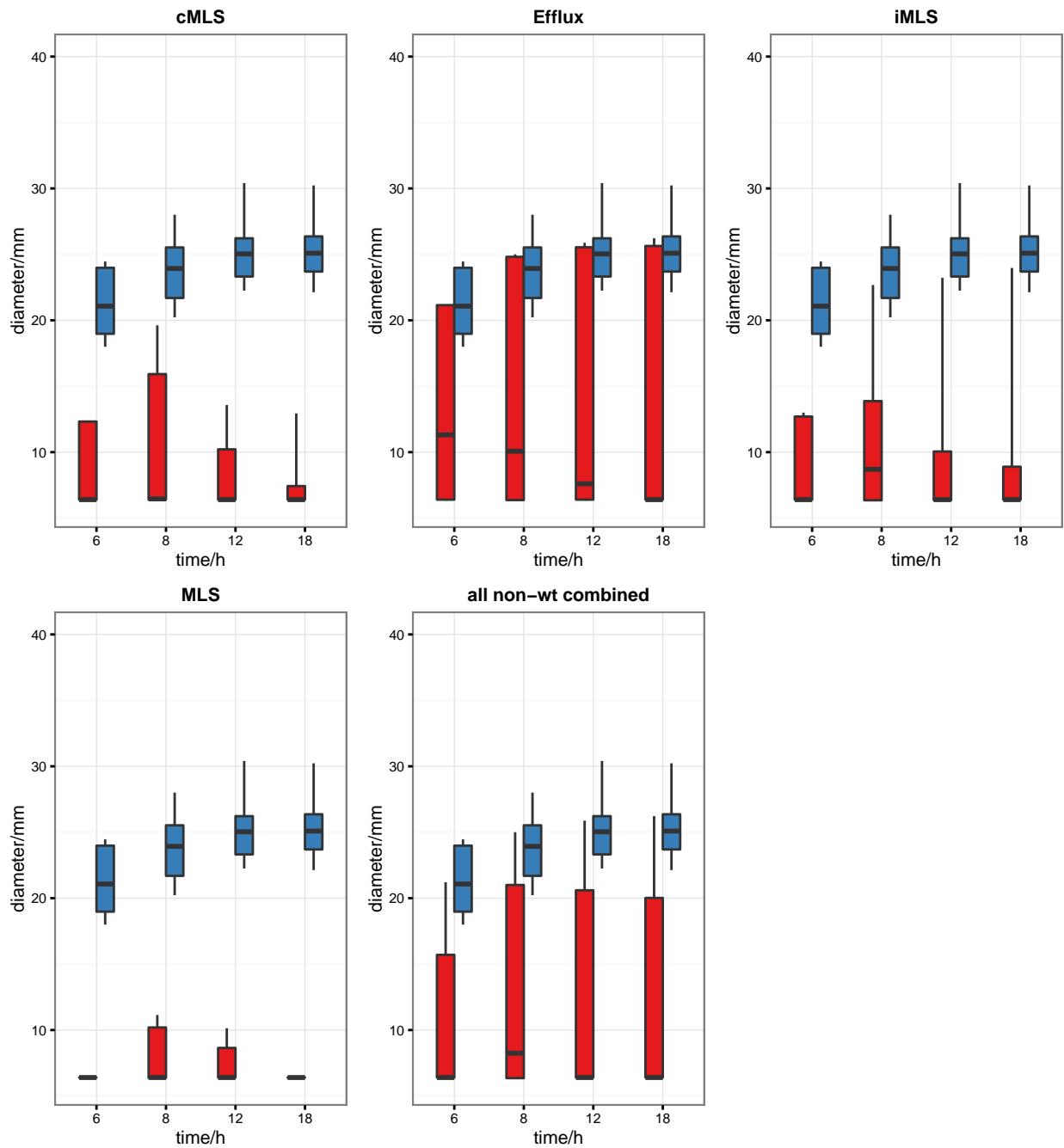
phenotypes	n
cMLS	12
Efflux	21
iMLS	4
lnu	9
MLS	18
wild type	55

10 Erythromycin



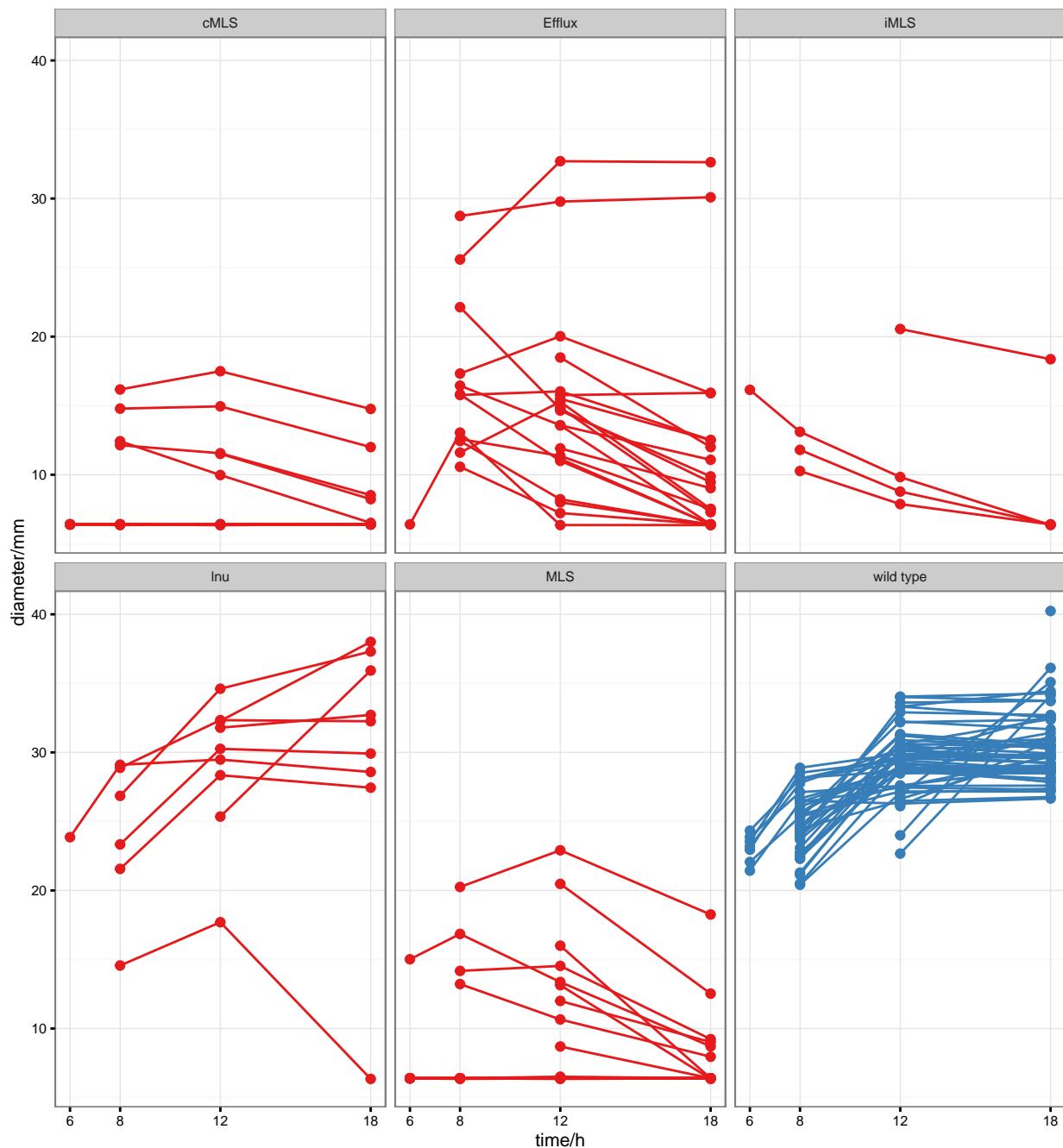
10.1 Erythromycin, *Staphylococcus aureus*

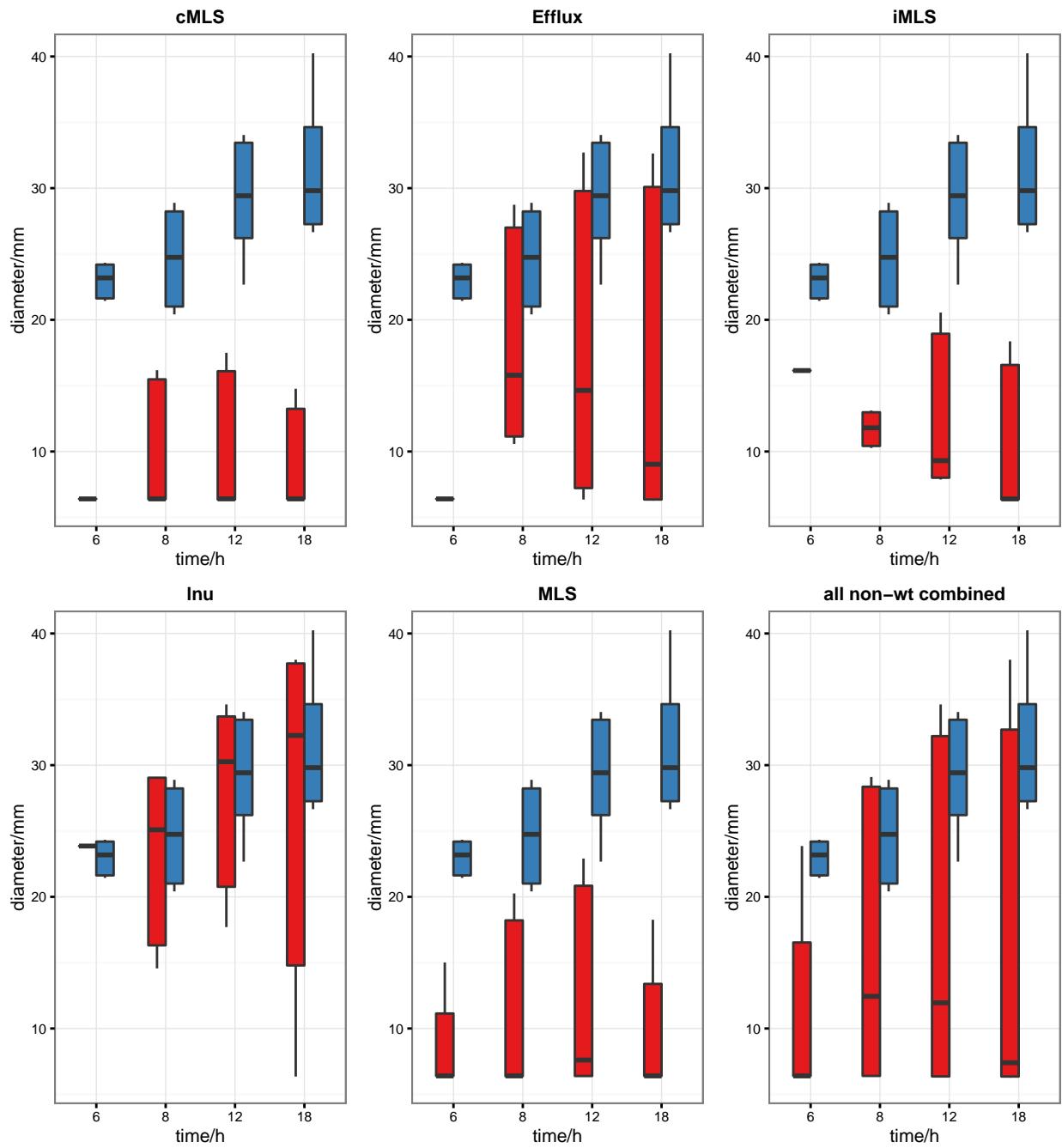




phenotypes	n
cMLS	18
Efflux	21
iMLS	44
MLS	9
wild type	75

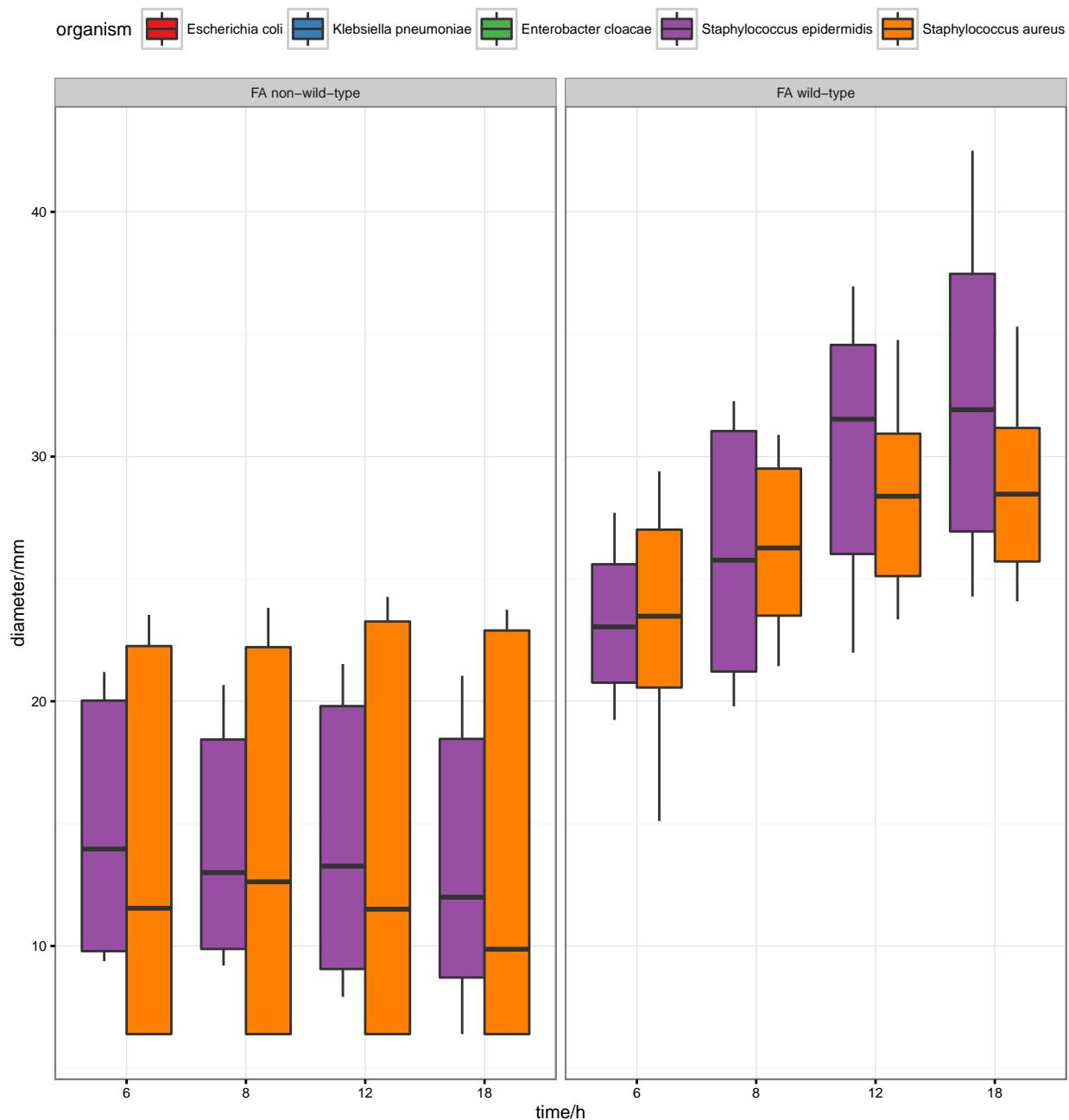
10.2 Erythromycin, *Staphylococcus epidermidis*



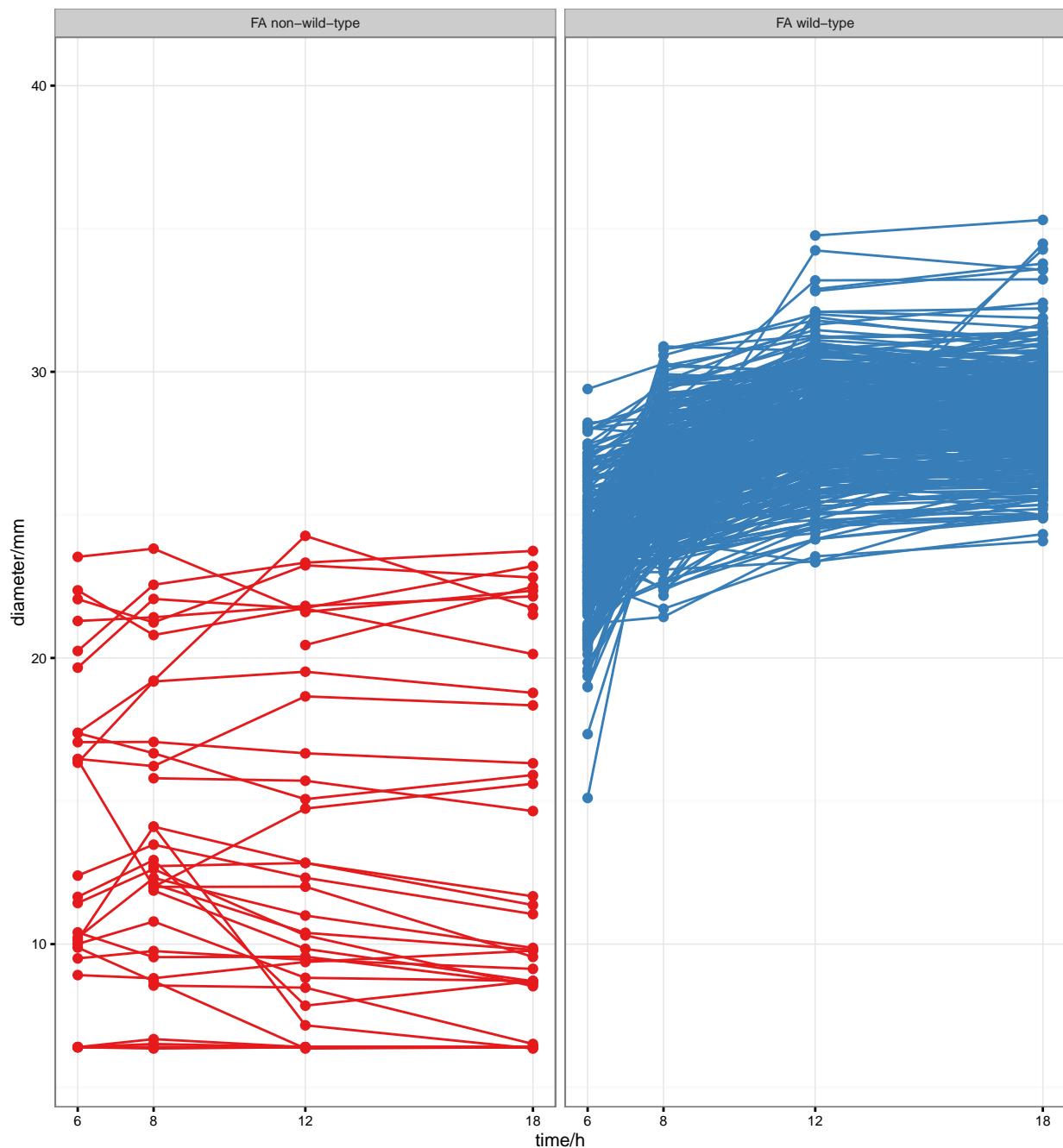


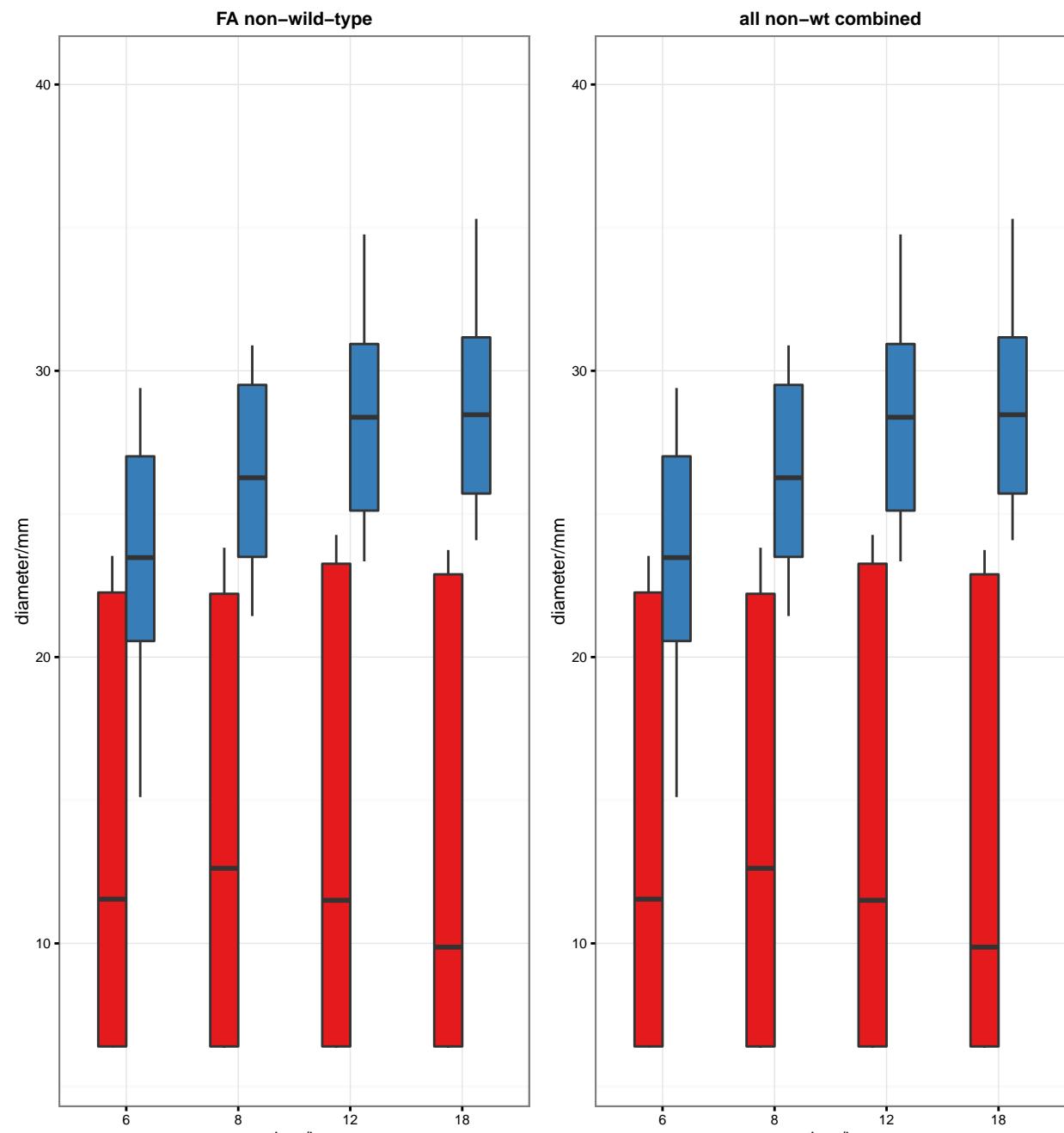
phenotypes	n
cMLS	12
Efflux	21
iMLS	4
Inu	9
MLS	18
wild type	55

11 Fusidic acid



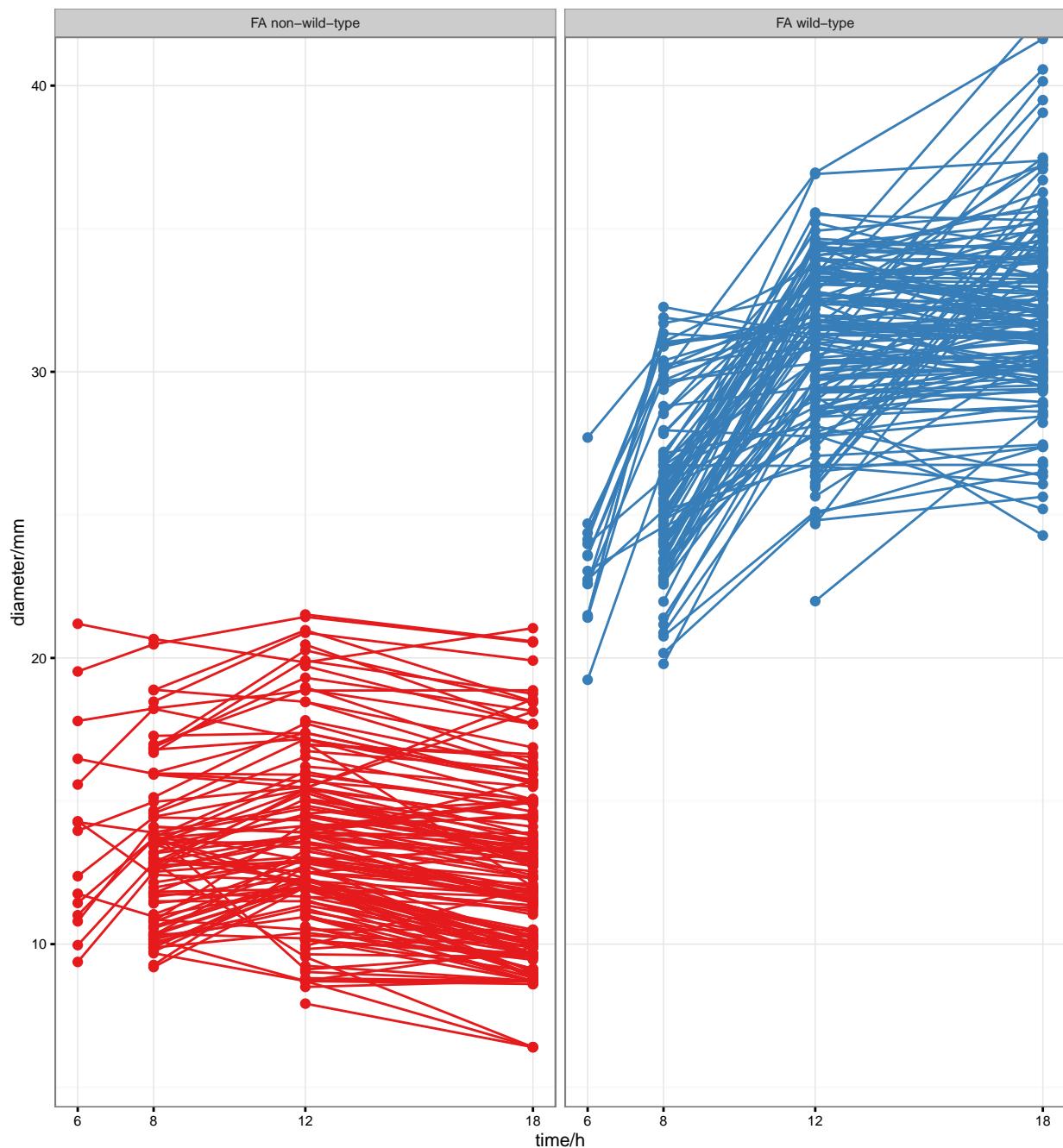
11.1 Fusidic acid, *Staphylococcus aureus*

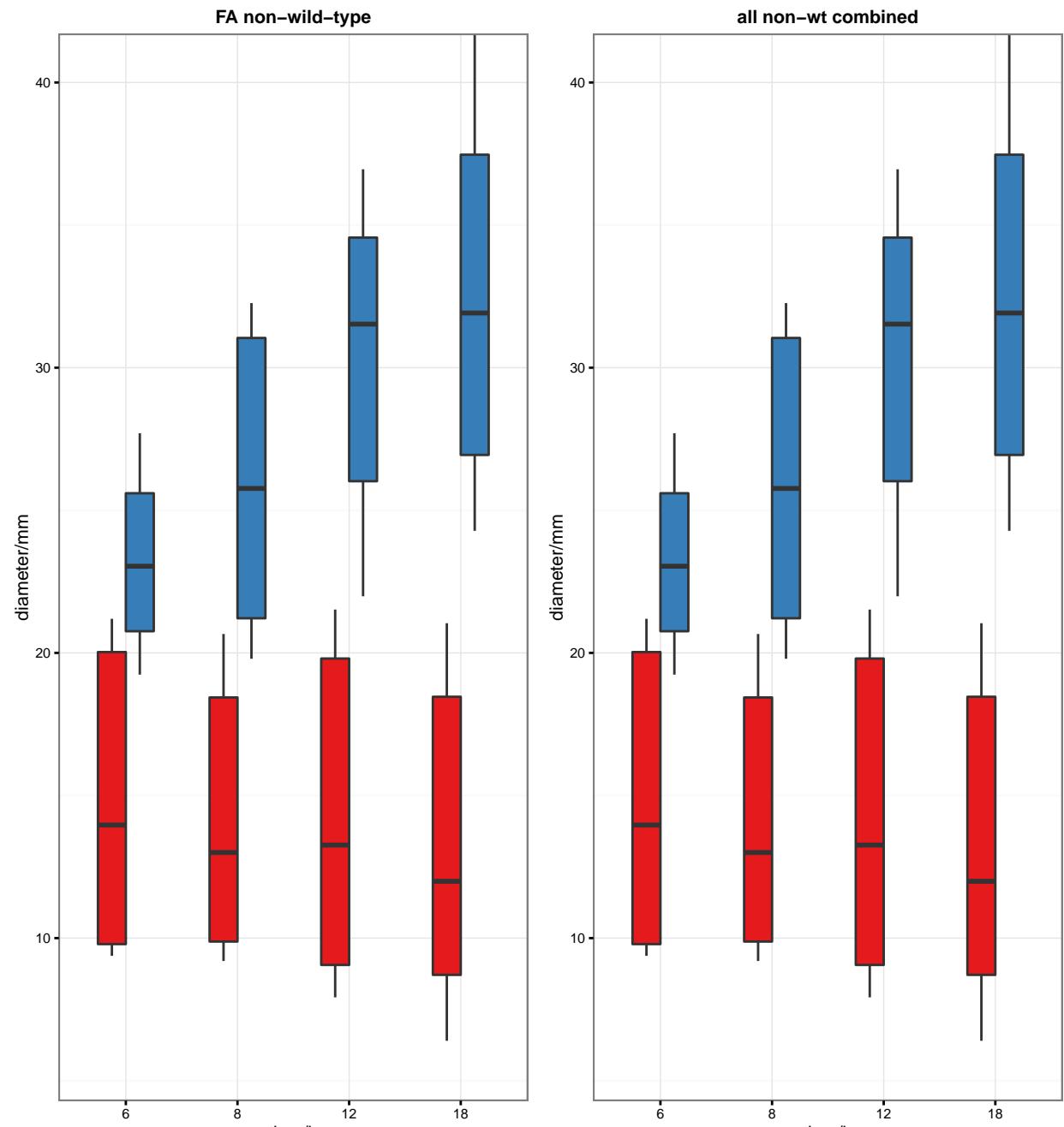




phenotypes	n
FA non-wild-type	37
FA wild-type	370

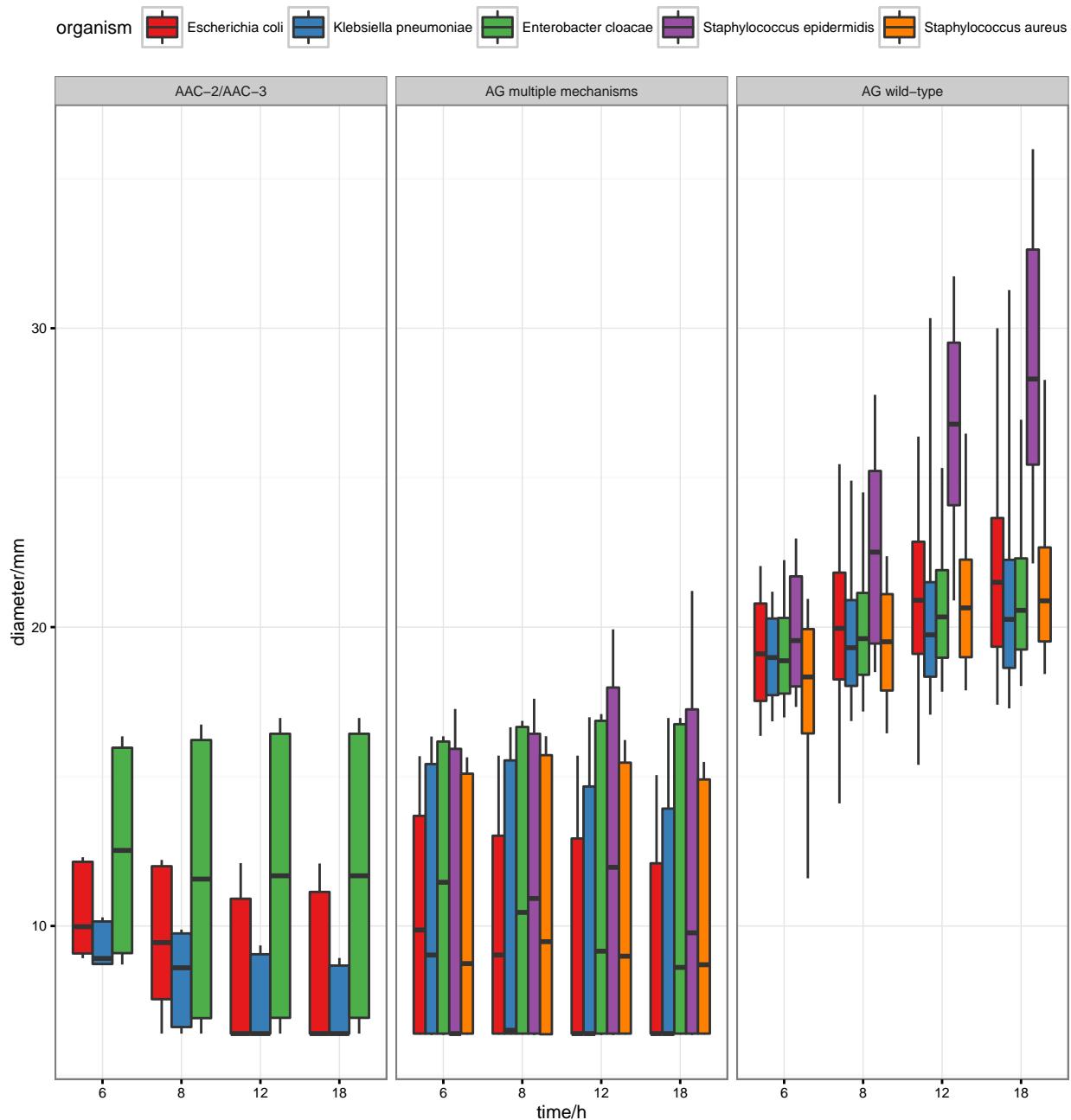
11.2 Fusidic acid, *Staphylococcus epidermidis*



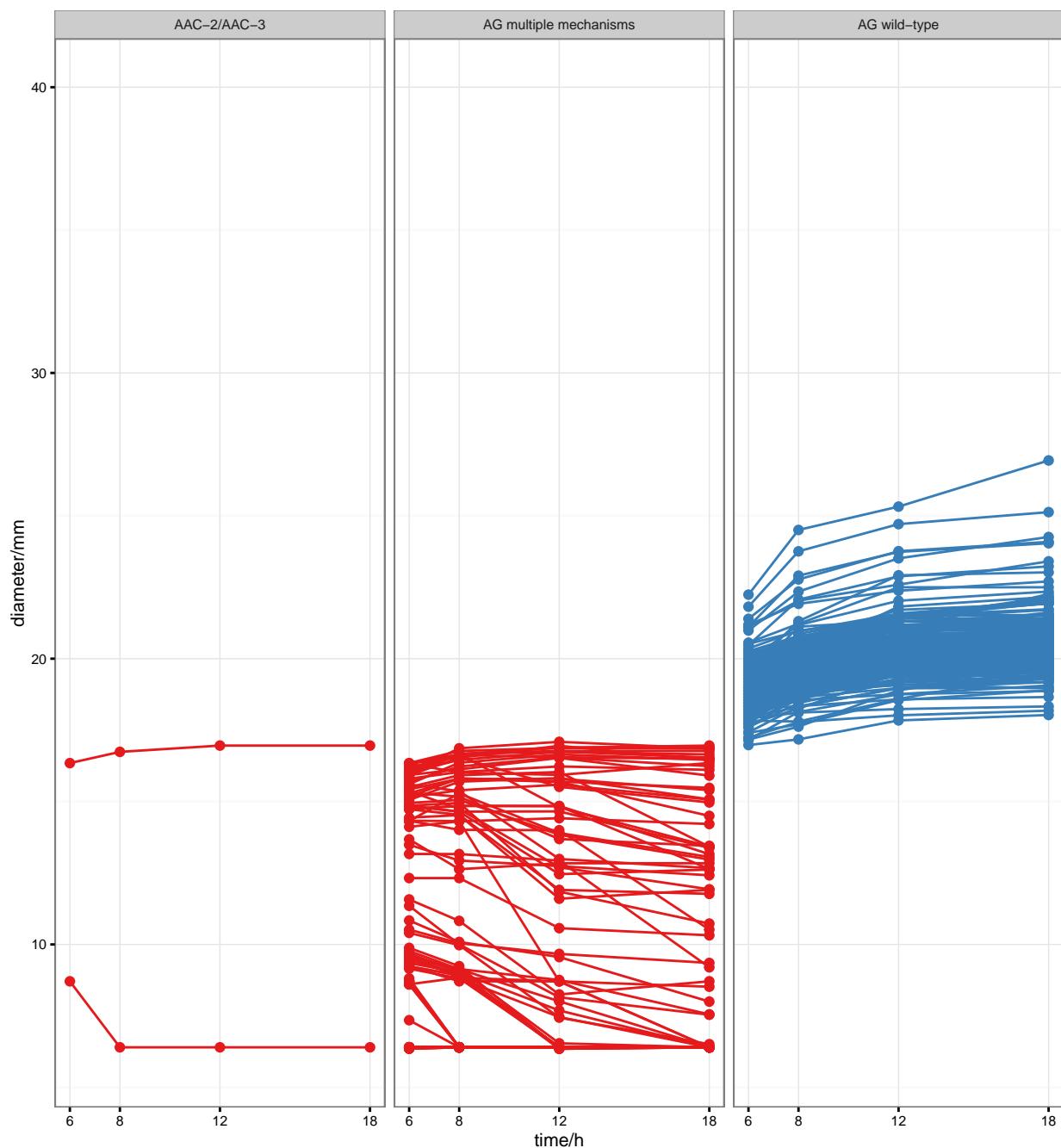


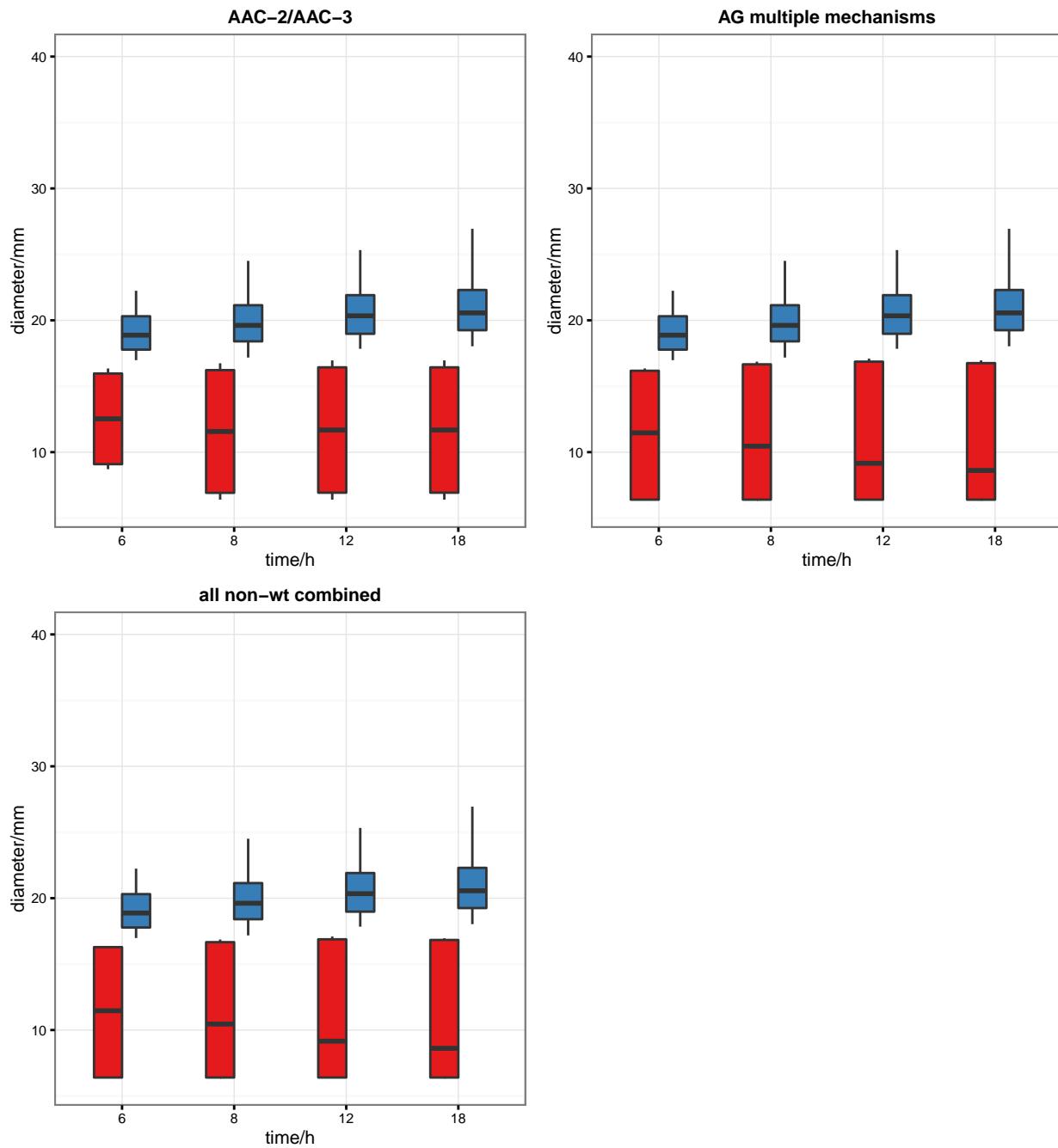
phenotypes	n
FA non-wild-type	150
FA wild-type	144

12 Gentamicin



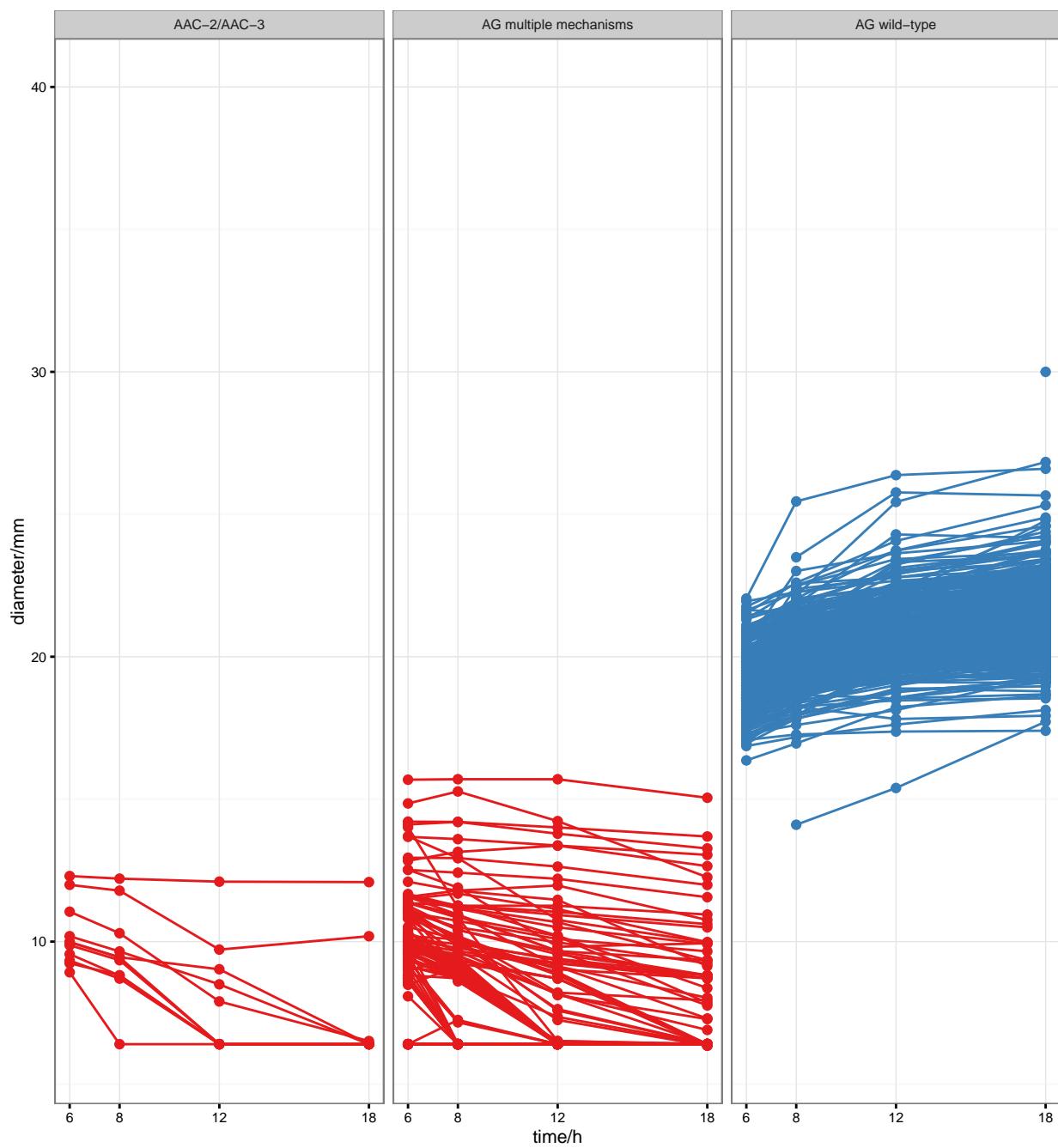
12.1 Gentamicin, *Enterobacter cloacae*

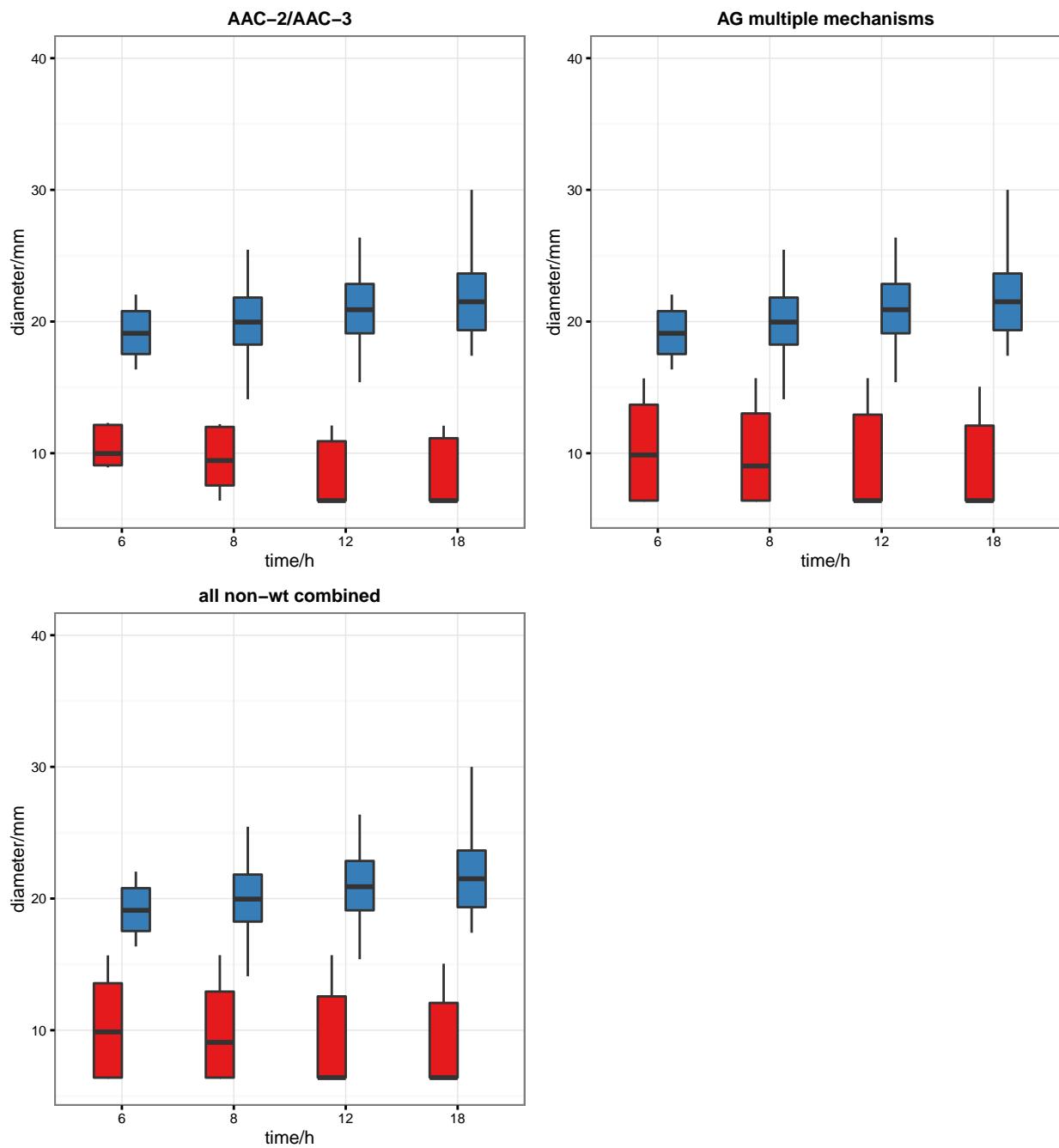




phenotypes	n
AAC-2/AAC-3	2
AG multiple mechanisms	84
AG wild-type	213

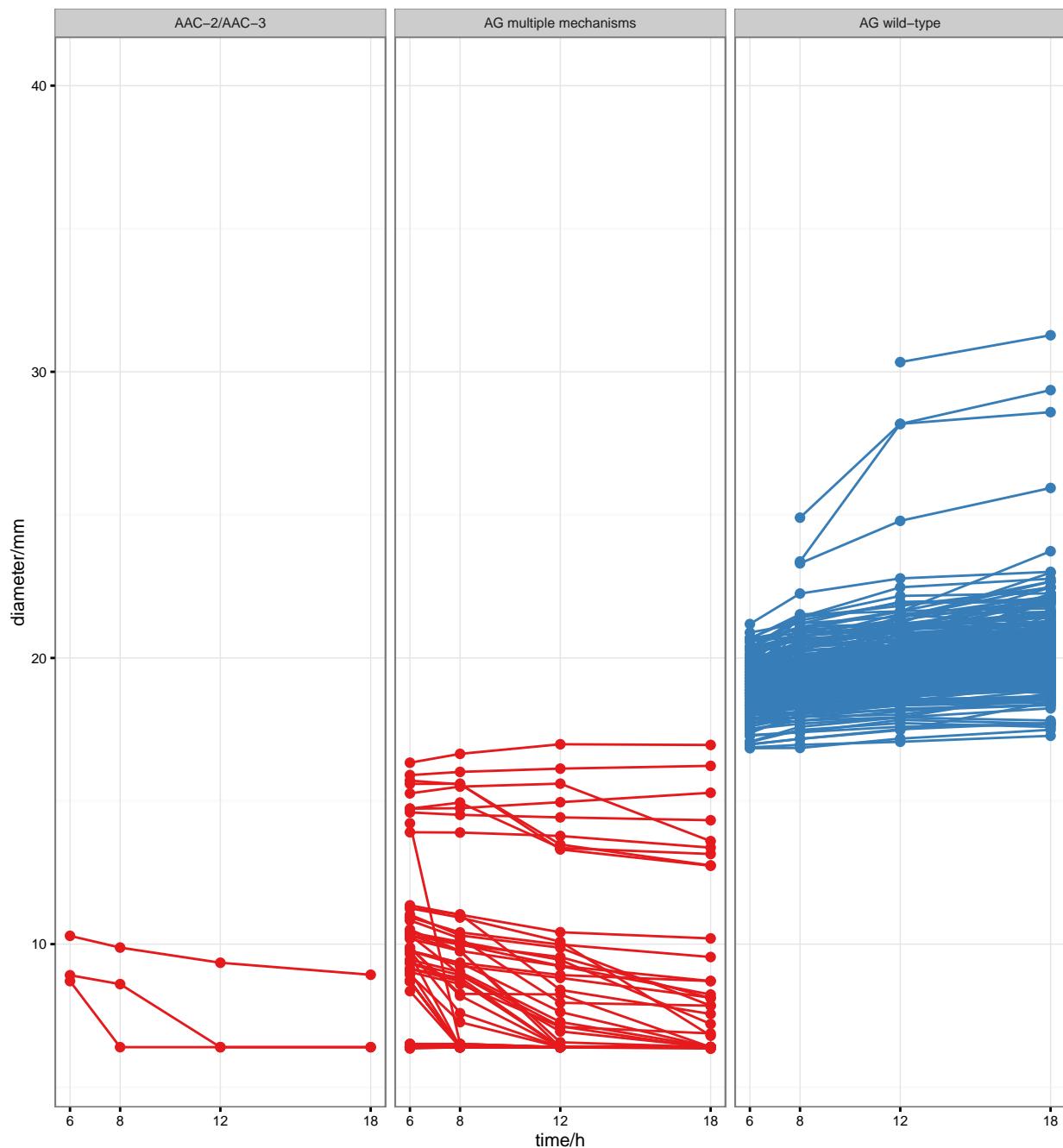
12.2 Gentamicin, Escherichia coli

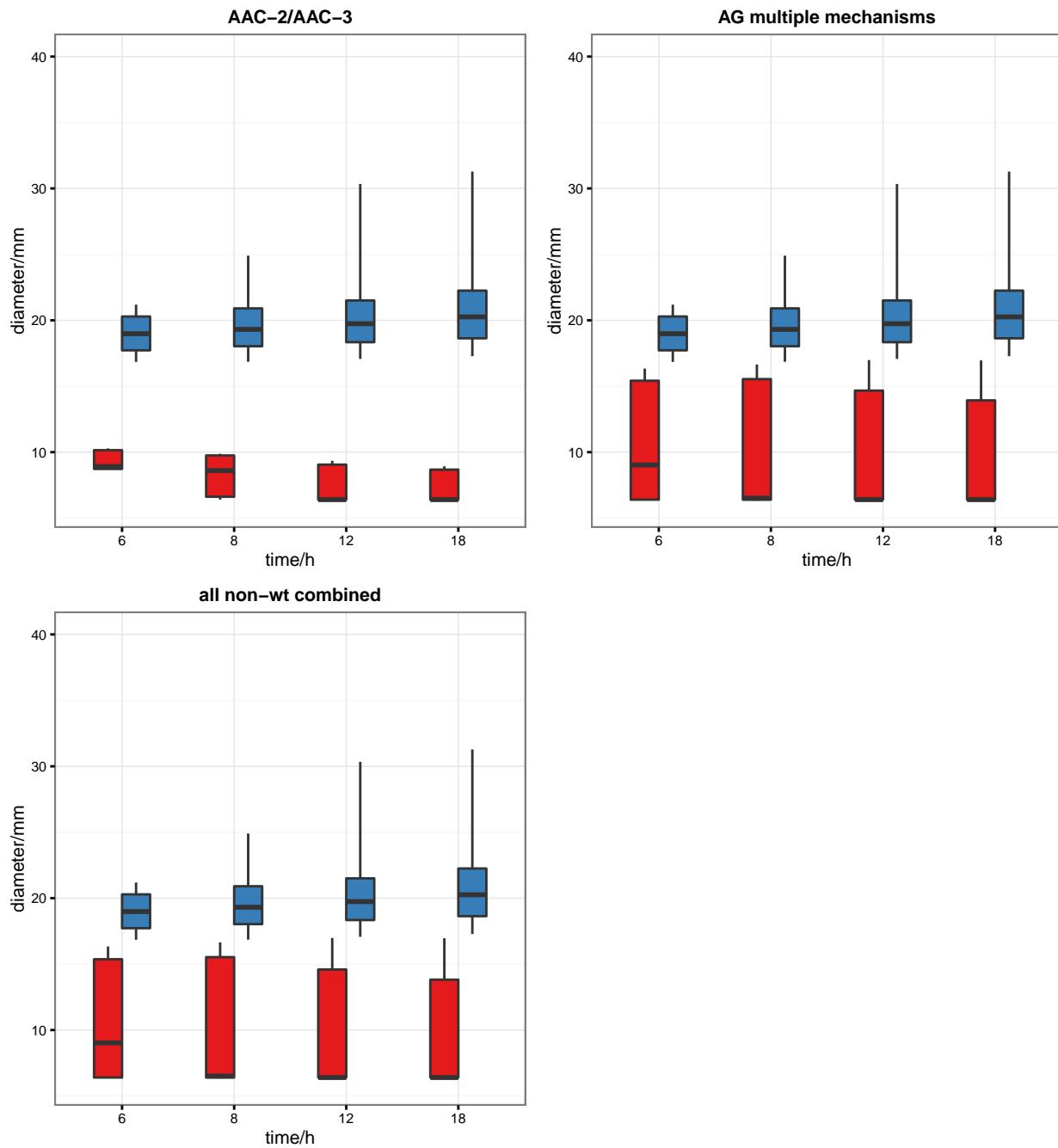




phenotypes	n
AAC-2/AAC-3	11
AG multiple mechanisms	113
AG wild-type	349

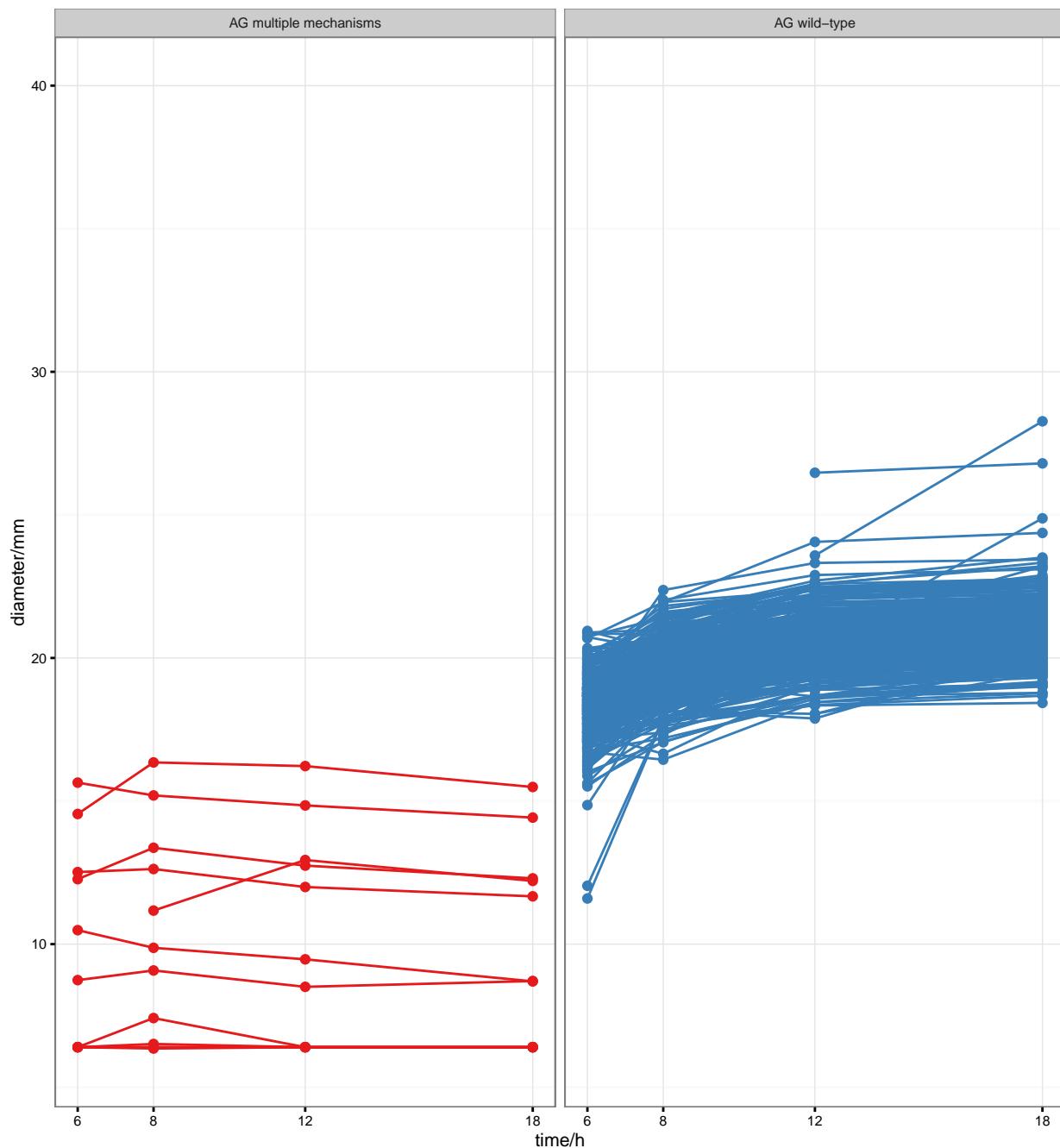
12.3 Gentamicin, *Klebsiella pneumoniae*

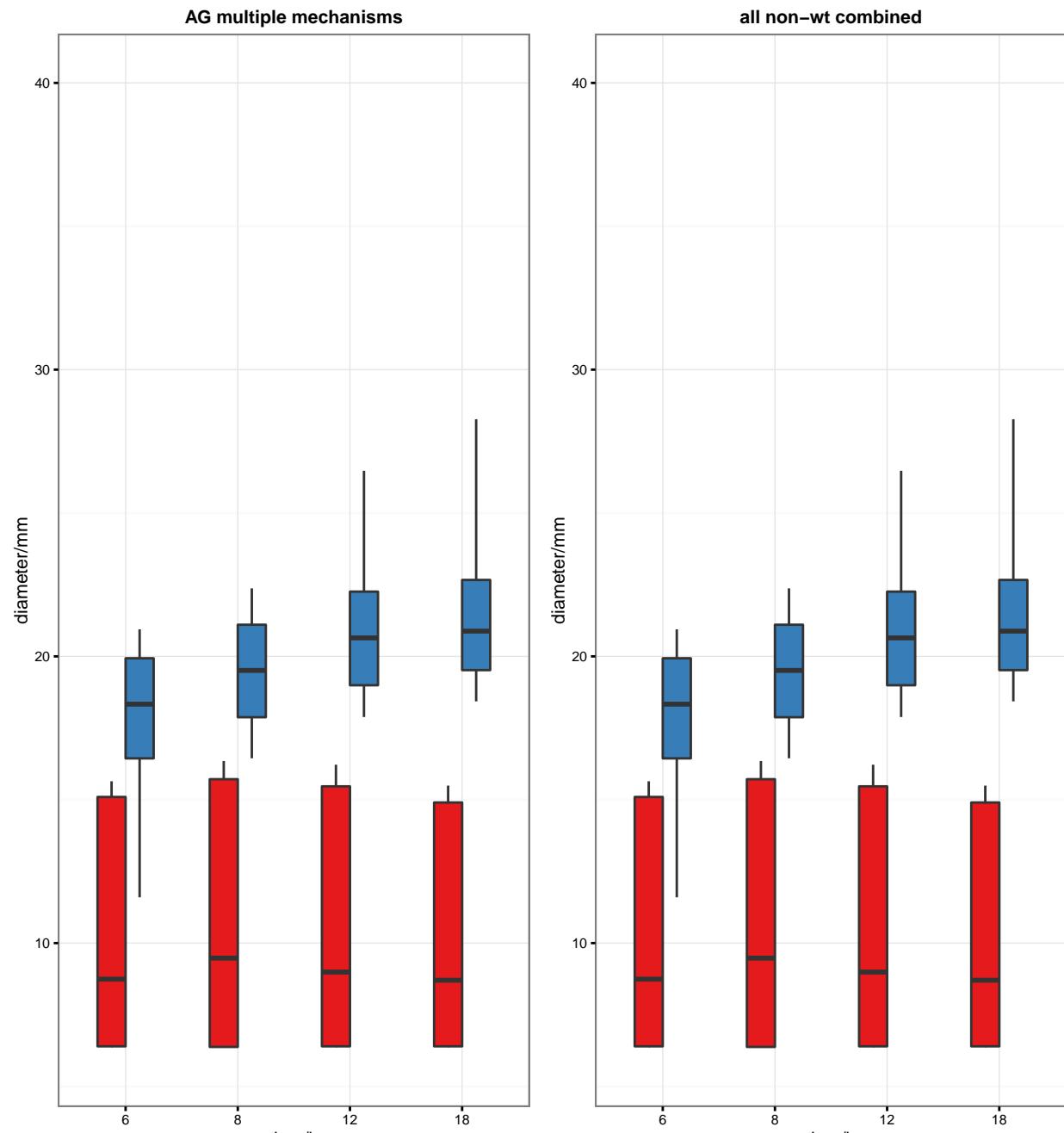




phenotypes	n
AAC-2/AAC-3	3
AG multiple mechanisms	72
AG wild-type	300

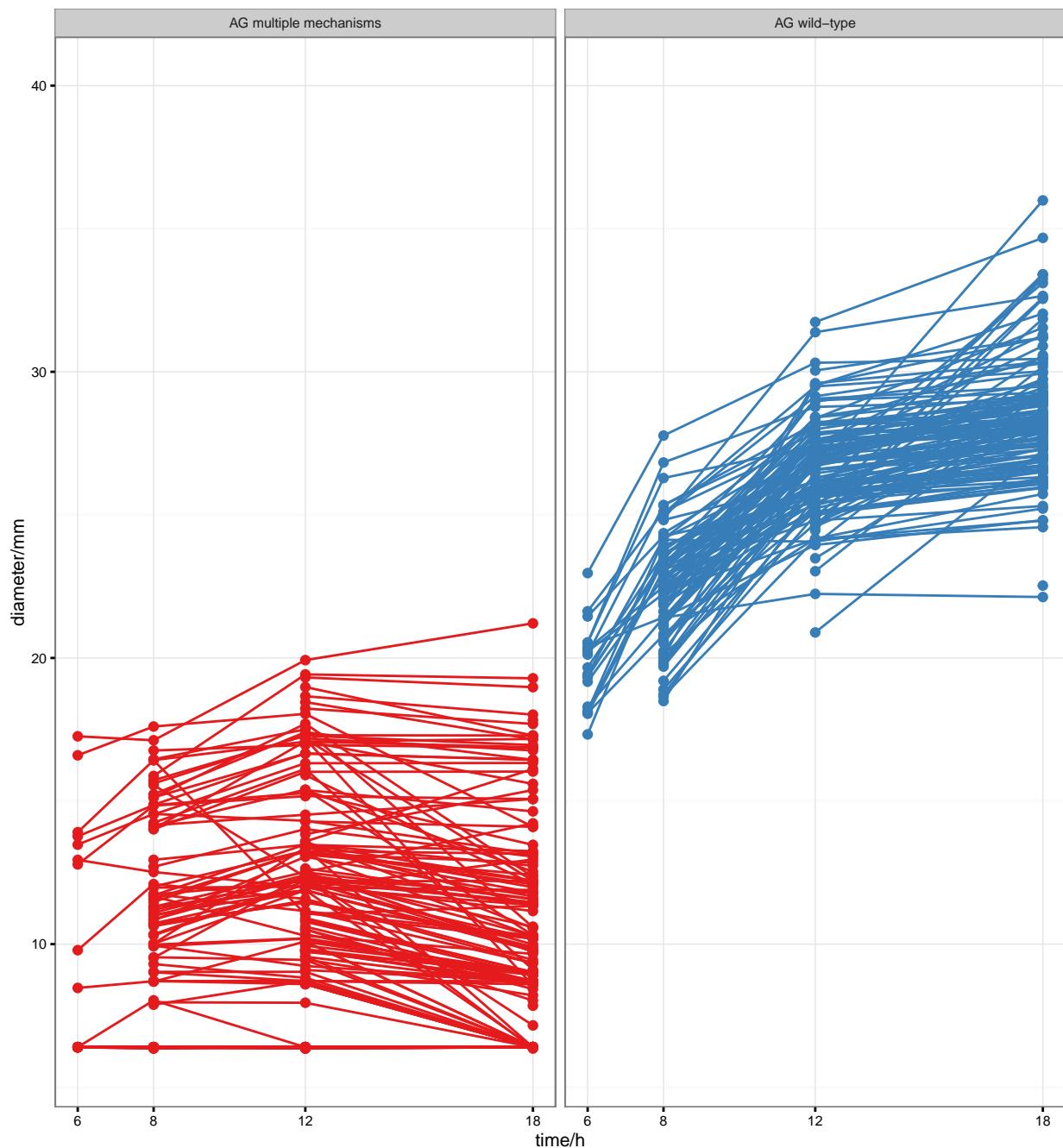
12.4 Gentamicin, *Staphylococcus aureus*

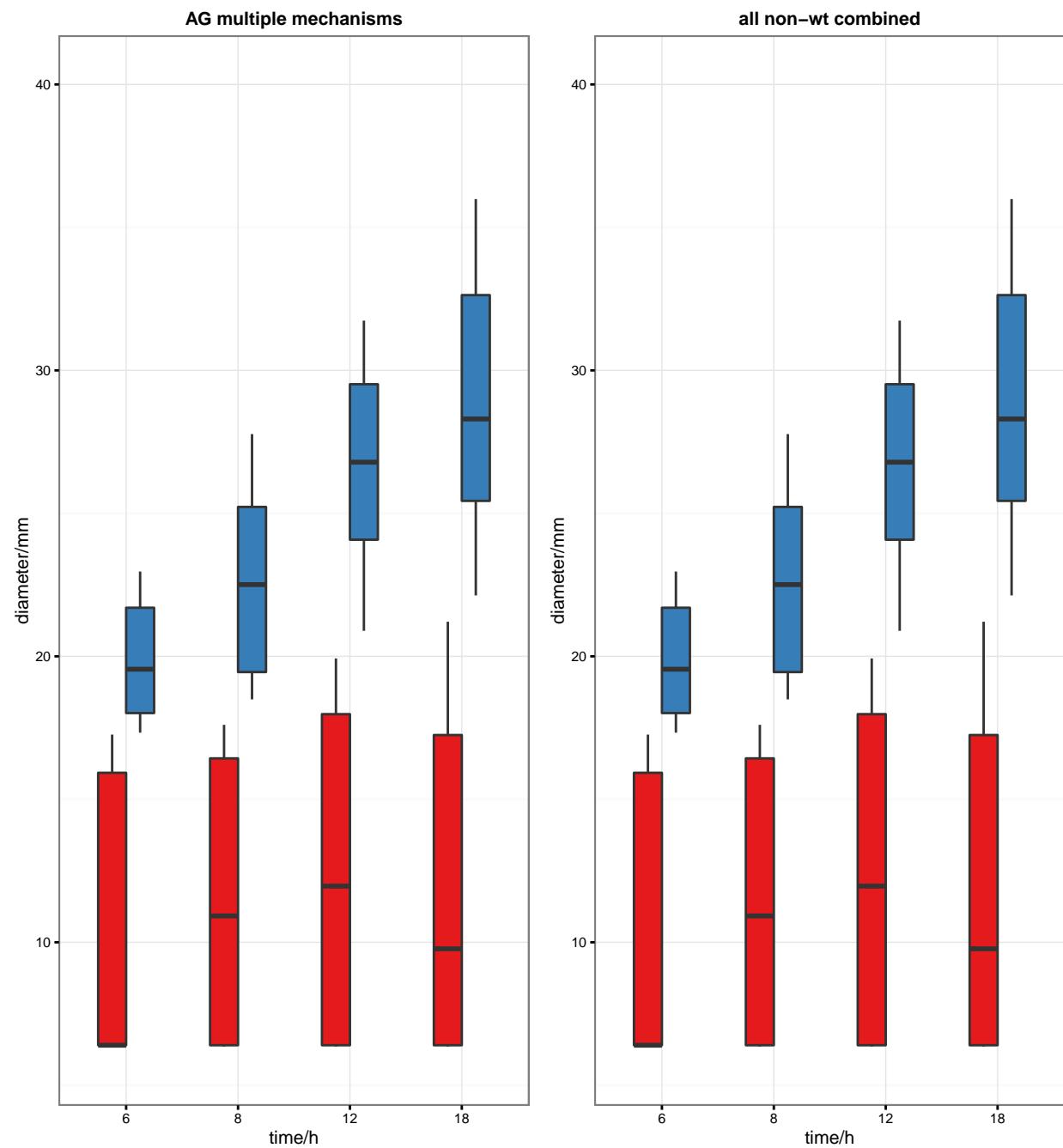




phenotypes	n
AG multiple mechanisms	12
AG wild-type	393

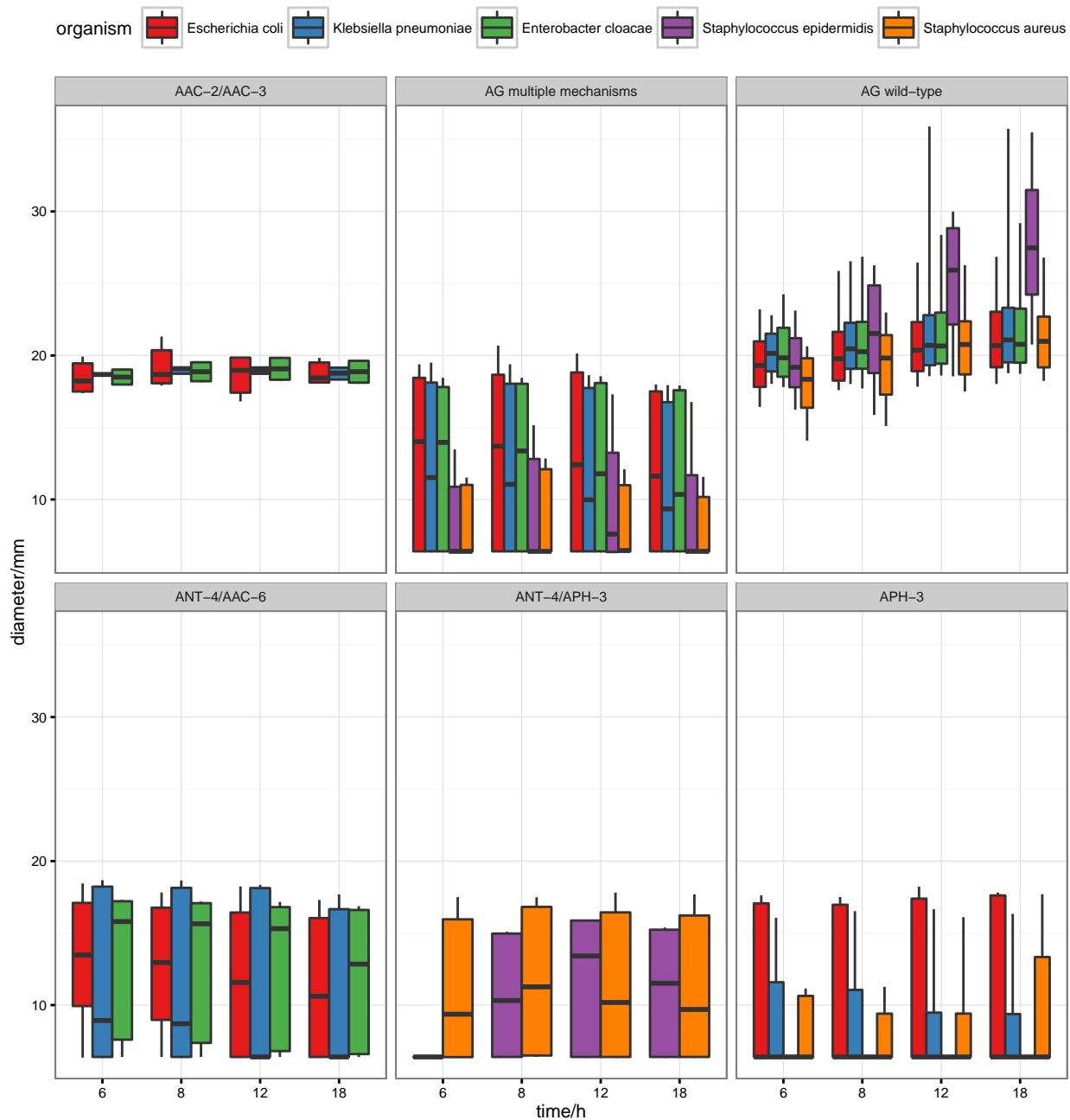
12.5 Gentamicin, *Staphylococcus epidermidis*



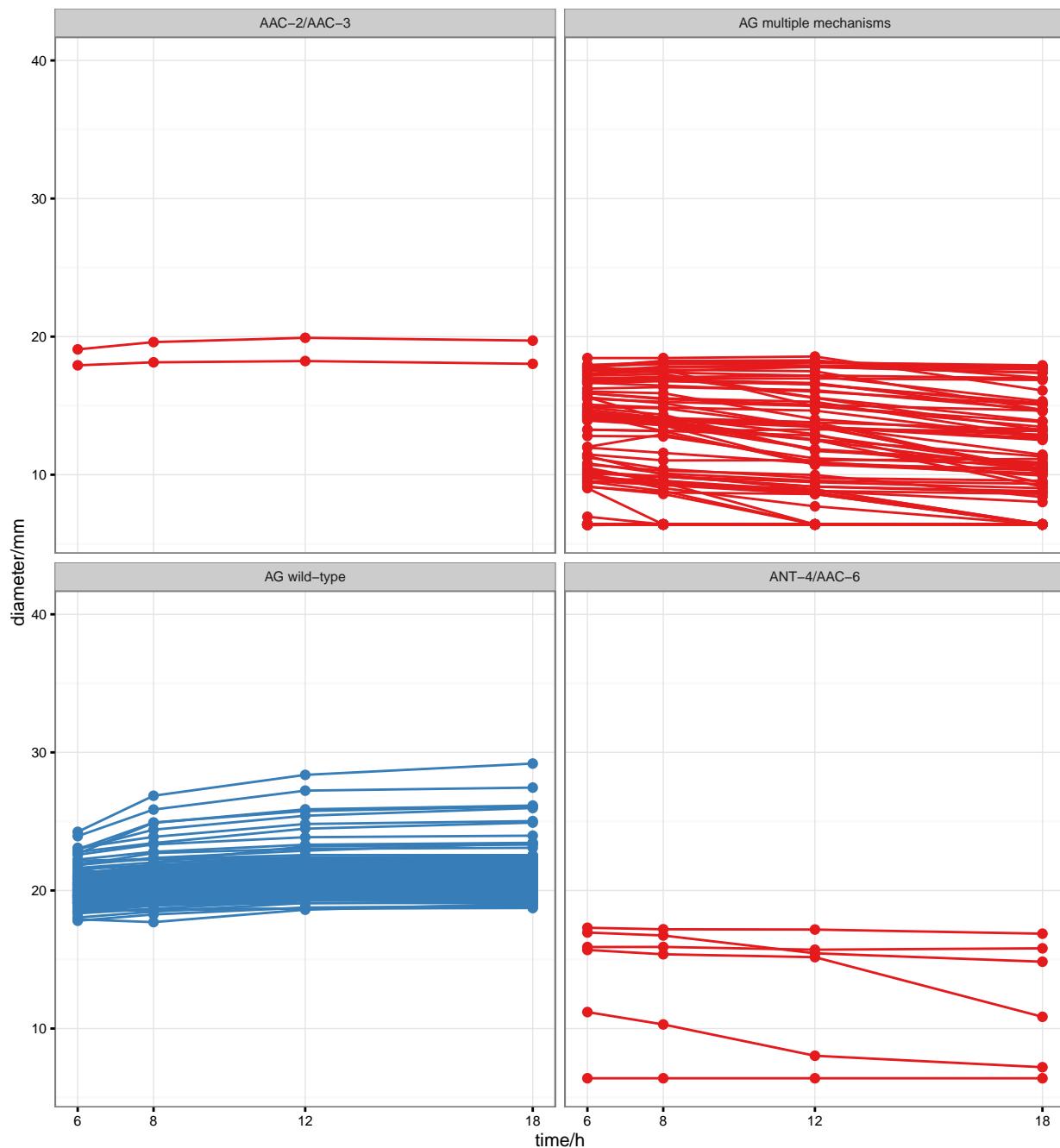


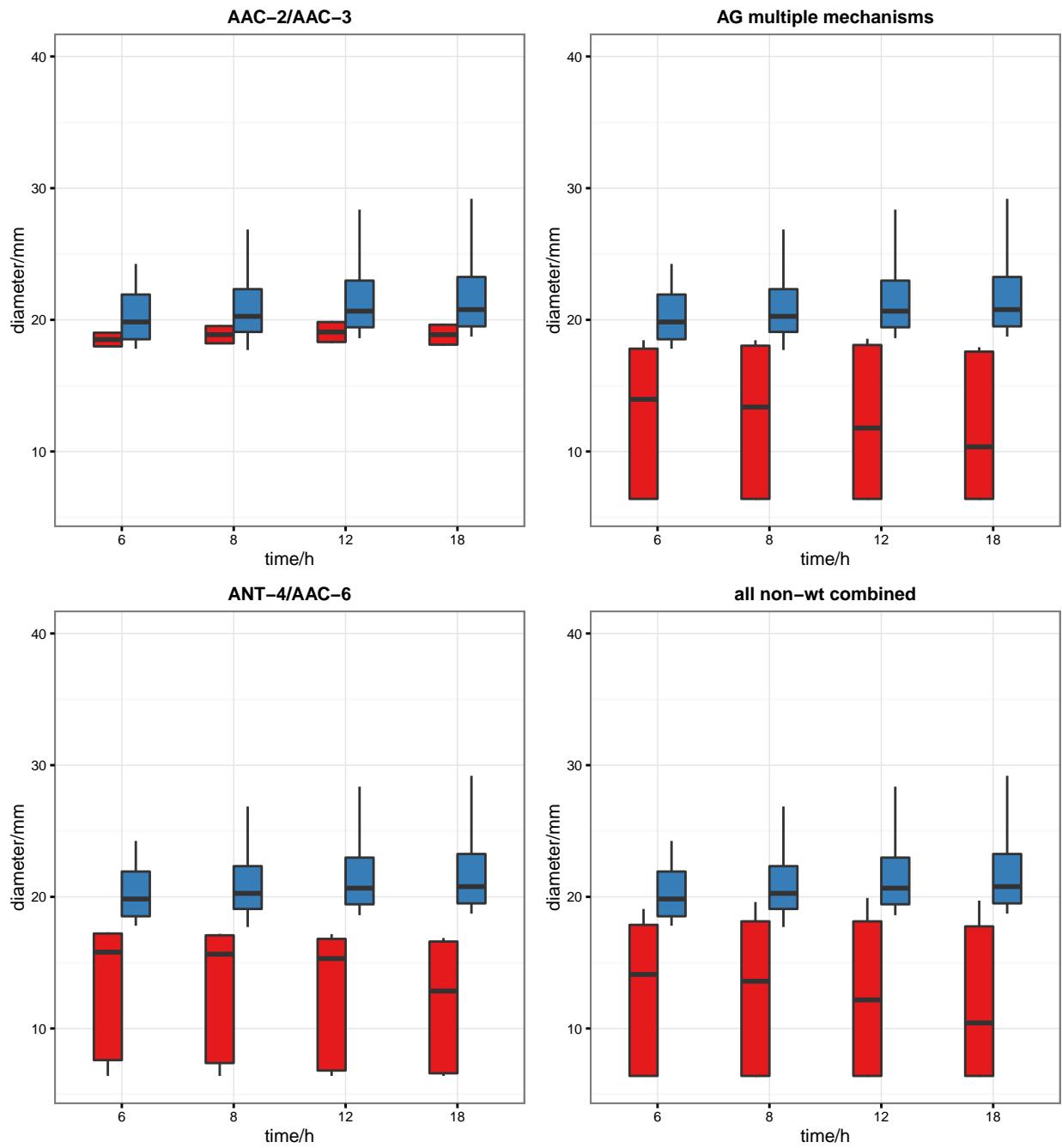
phenotypes	n
AG multiple mechanisms	148
AG wild-type	127

13 Kanamycine



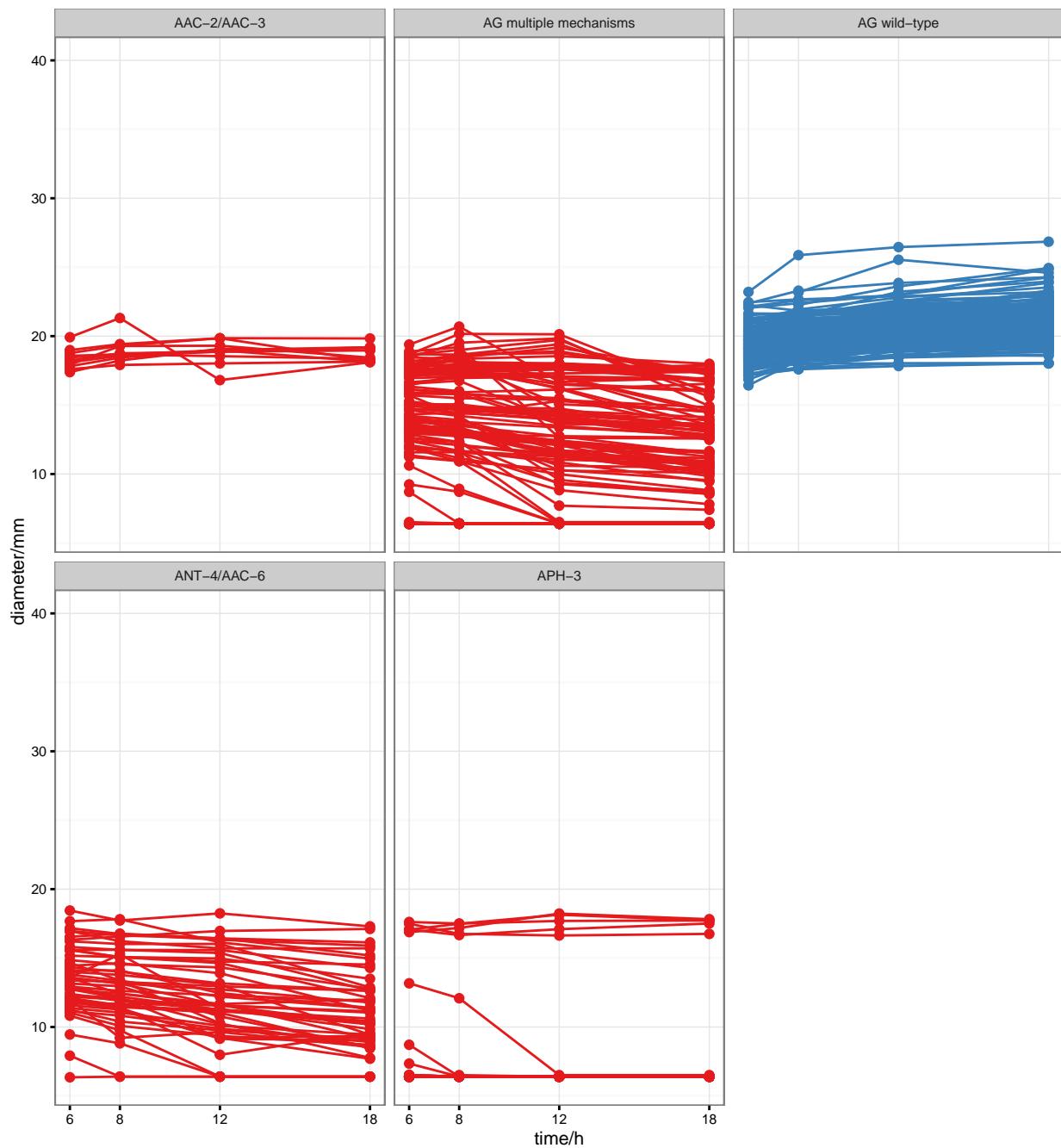
13.1 Kanamycine, *Enterobacter cloacae*

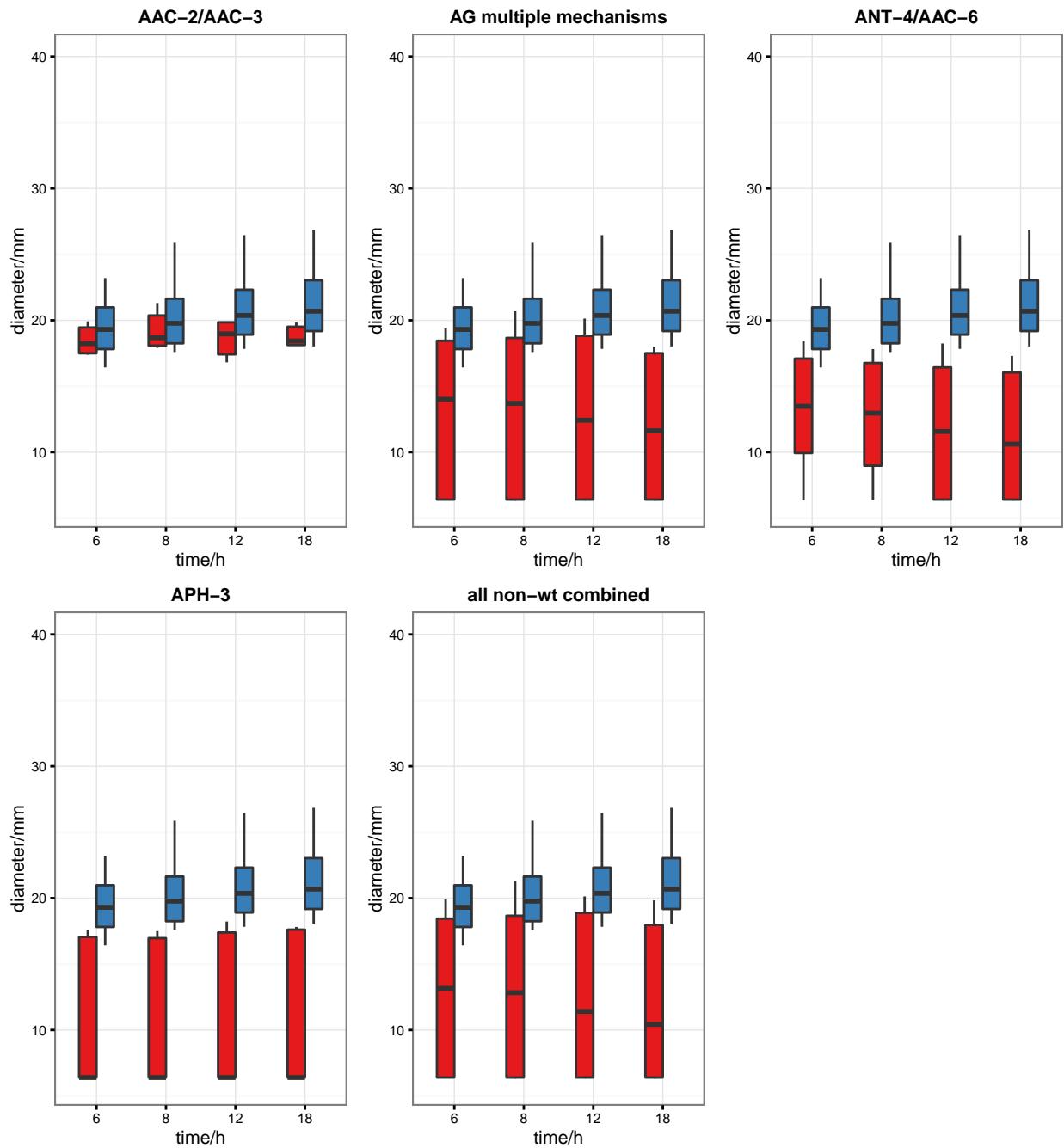




phenotypes	n
AAC-2/AAC-3	2
AG multiple mechanisms	84
AG wild-type	207
ANT-4/AAC-6	6

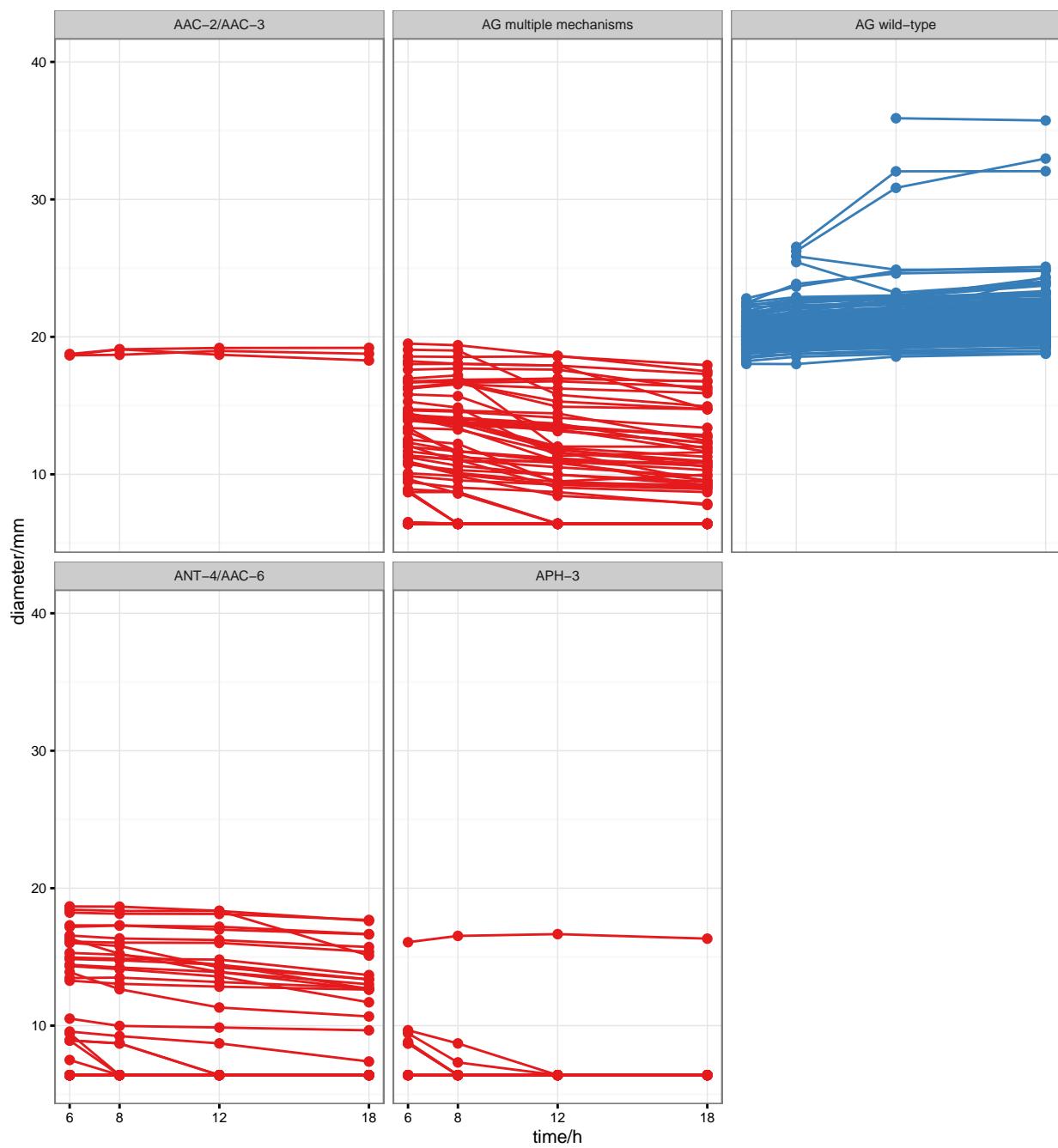
13.2 Kanamycin, Escherichia coli

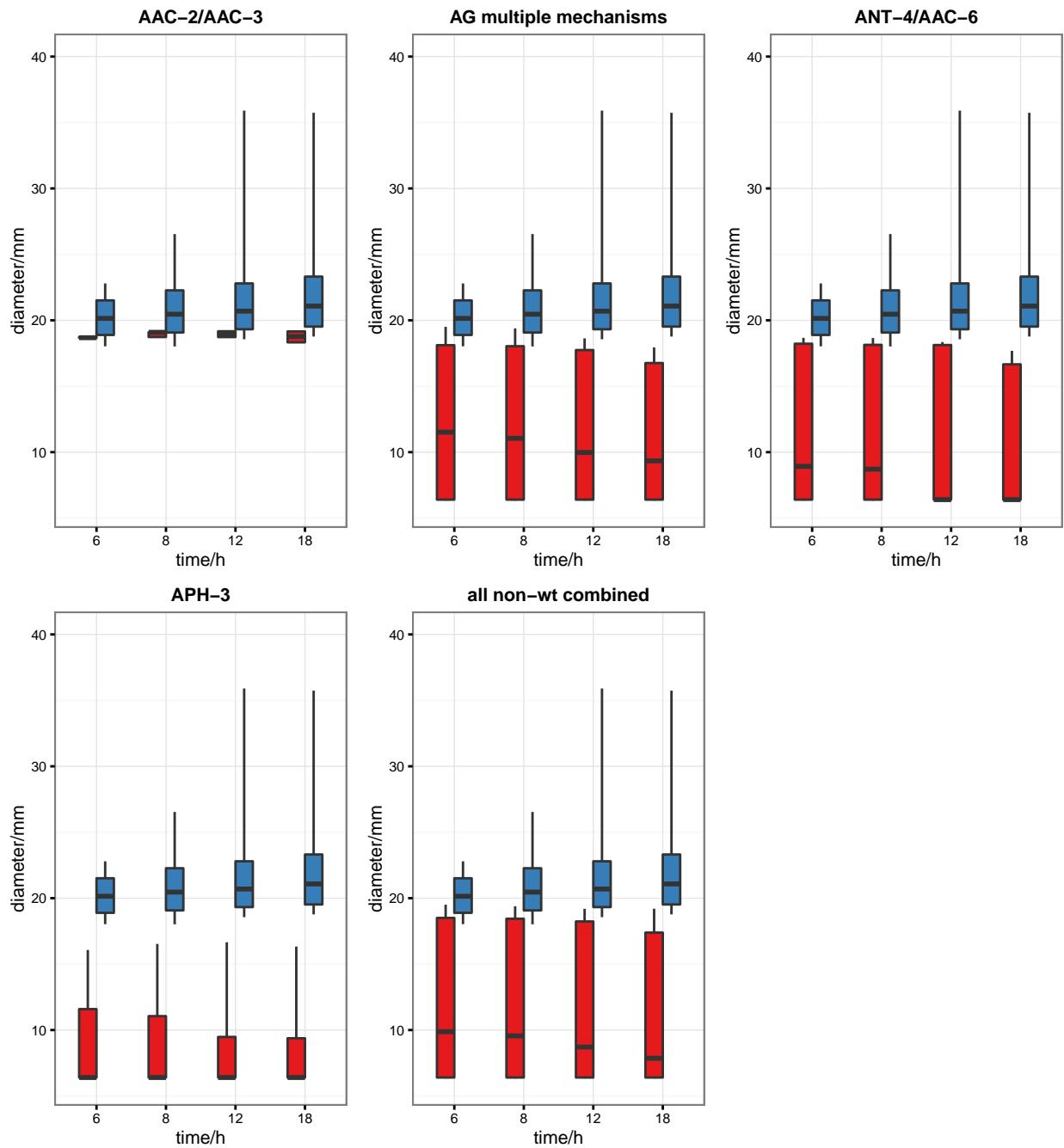




phenotypes	n
AAC-2/AAC-3	11
AG multiple mechanisms	113
AG wild-type	249
ANT-4/AAC-6	49
APH-3	51

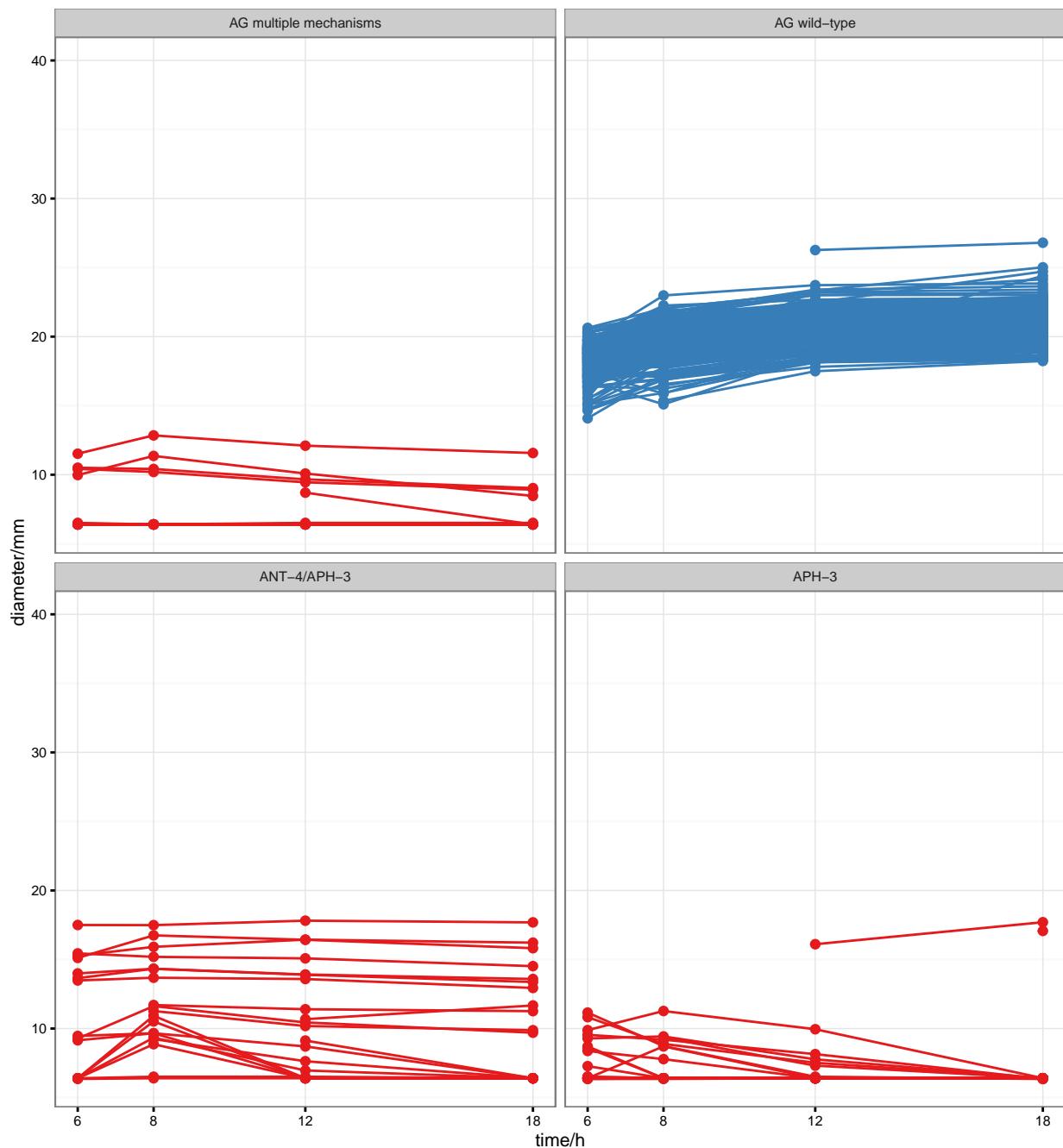
13.3 Kanamycin, Klebsiella pneumoniae

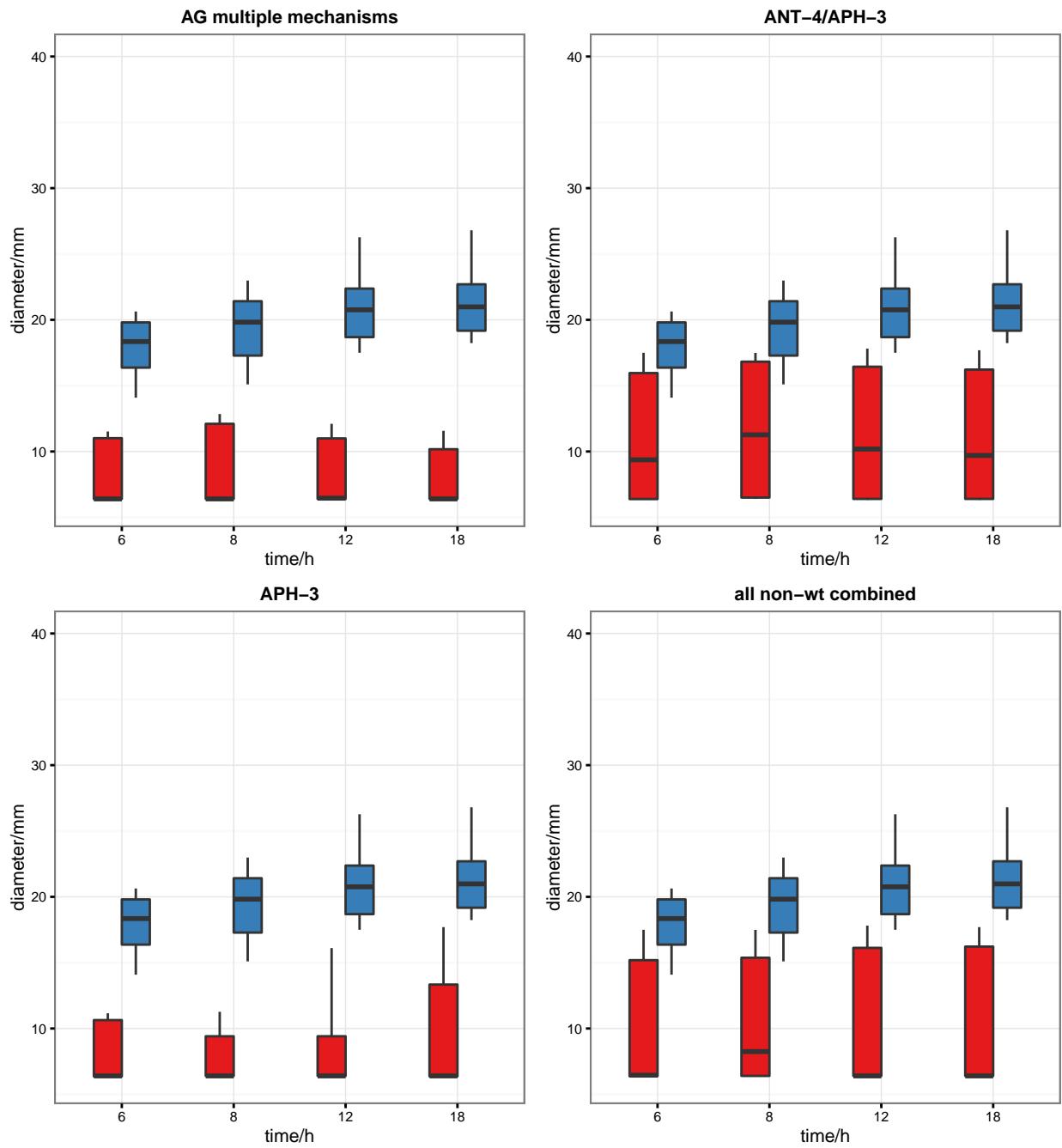




phenotypes	n
AAC-2/AAC-3	3
AG multiple mechanisms	72
AG wild-type	244
ANT-4/AAC-6	41
APH-3	15

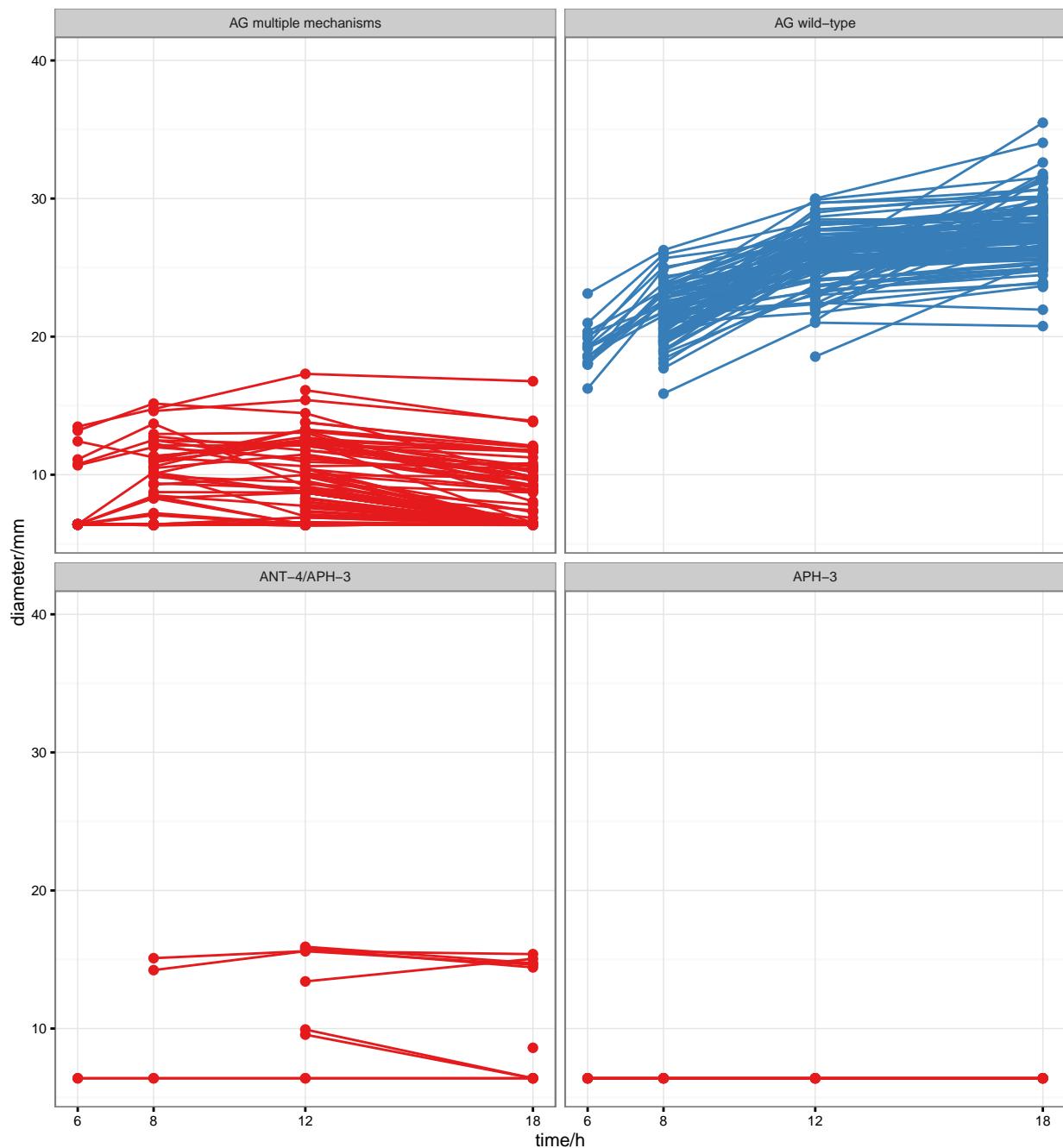
13.4 Kanamycin, *Staphylococcus aureus*

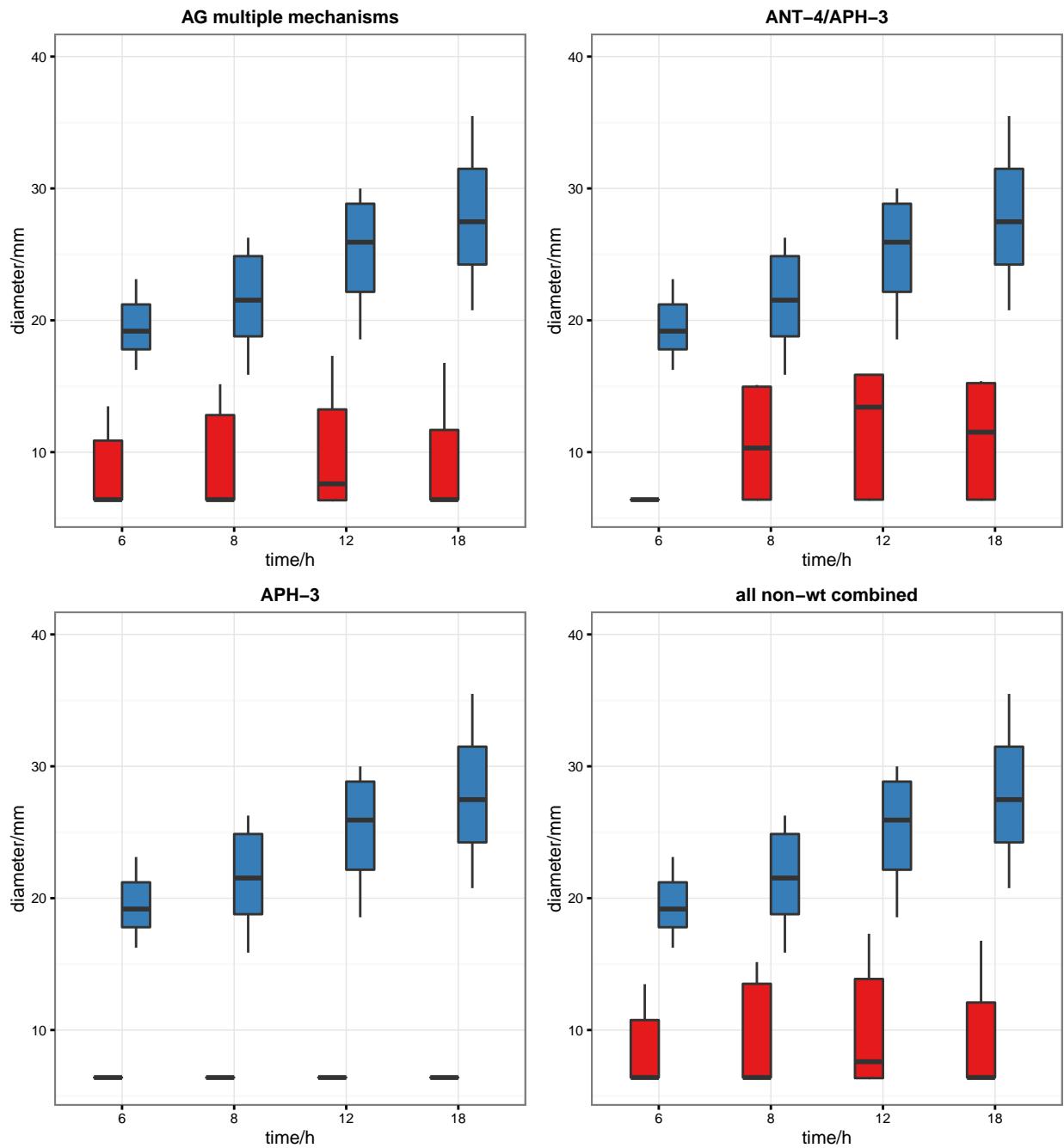




phenotypes	n
AG multiple mechanisms	12
AG wild-type	344
ANT-4/APH-3	21
APH-3	28

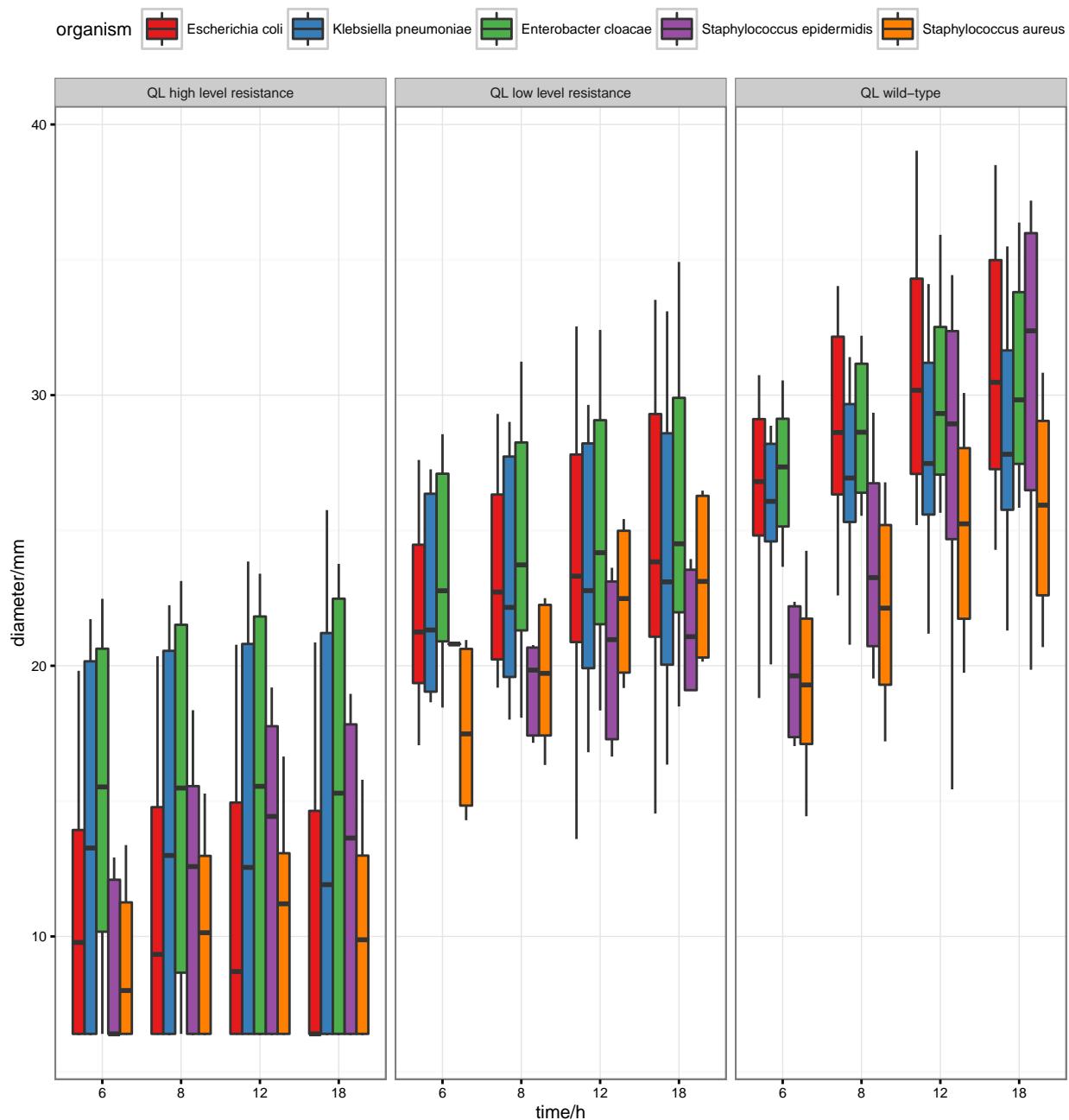
13.5 Kanamycin, *Staphylococcus epidermidis*



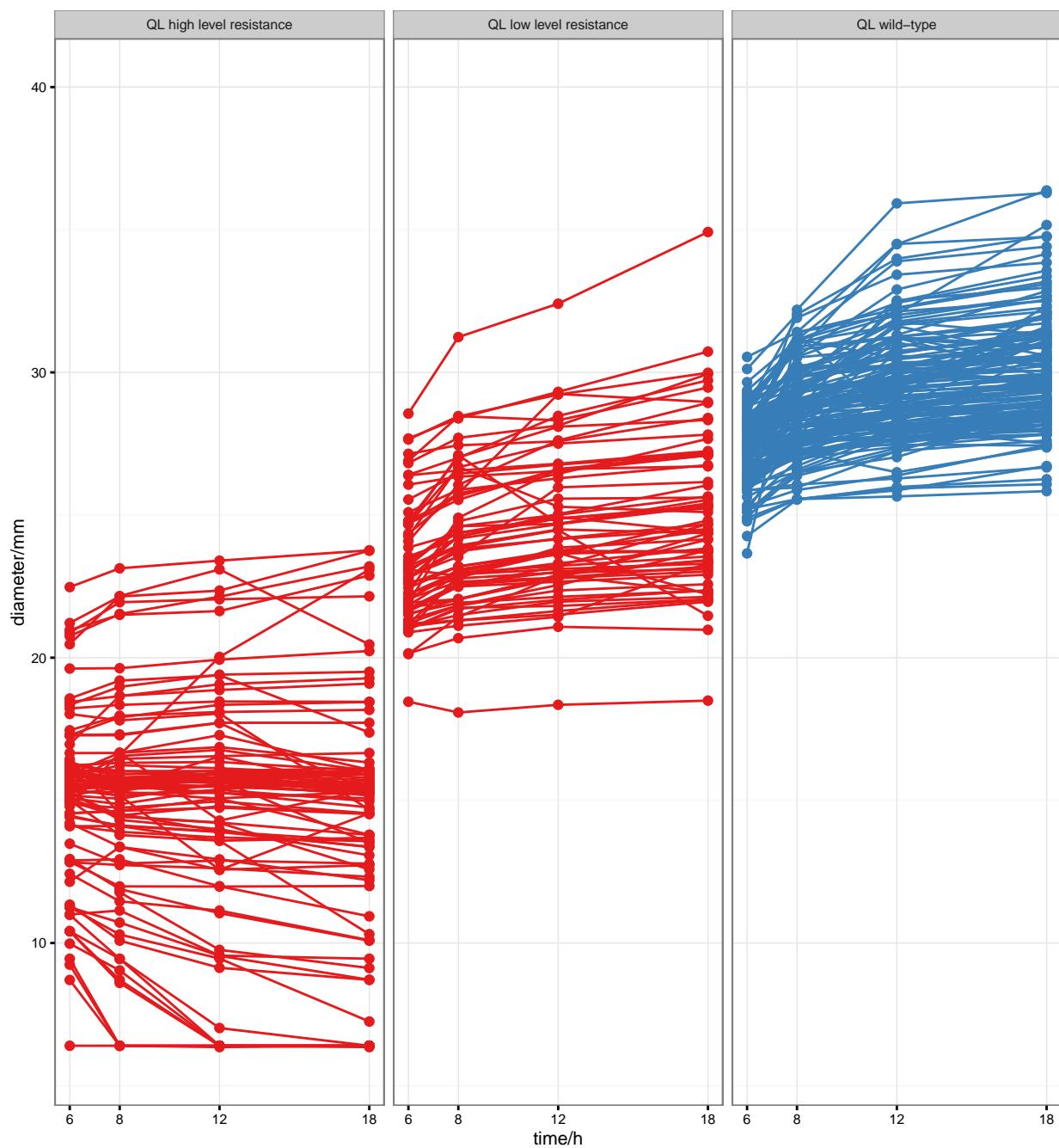


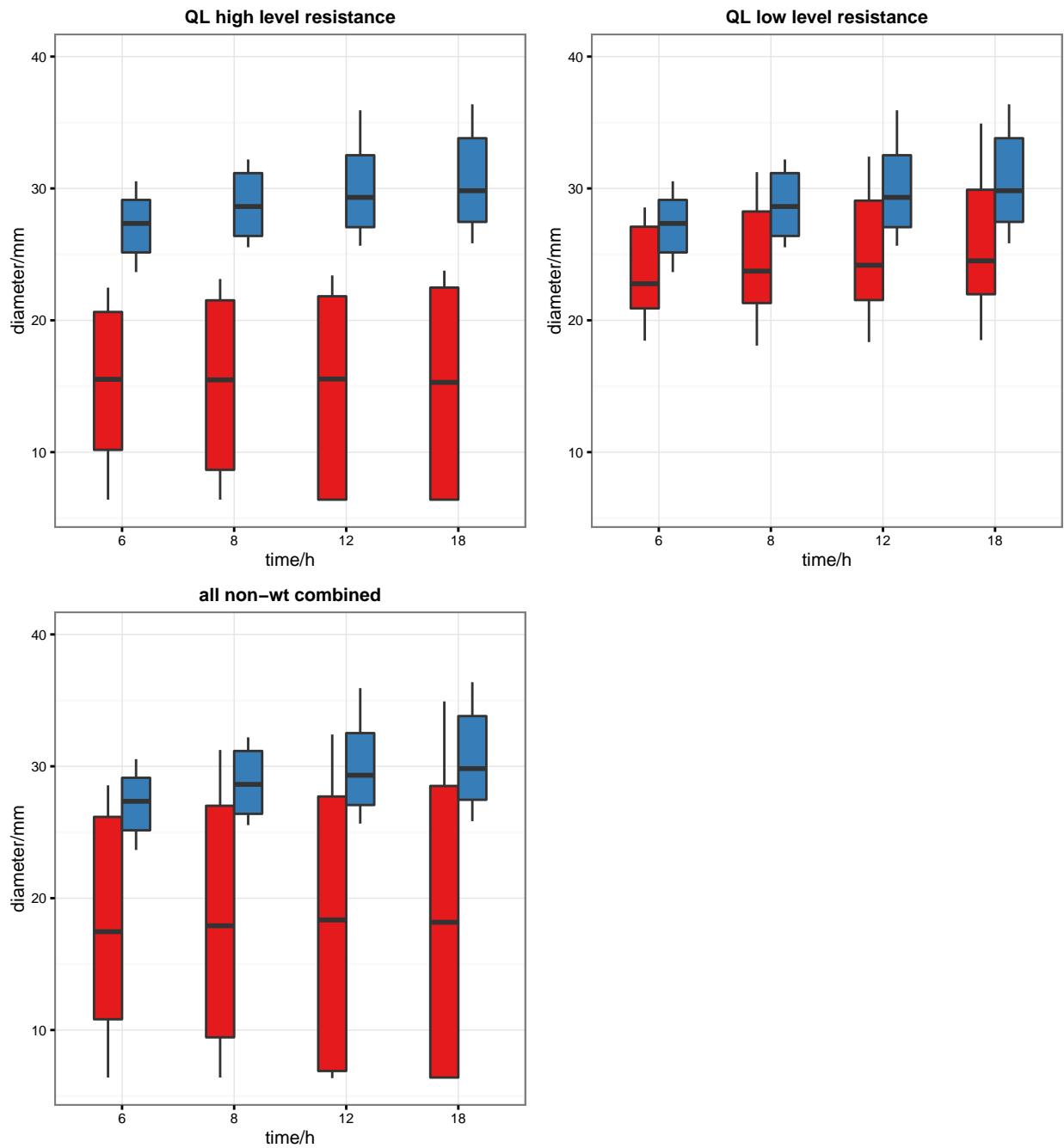
phenotypes	n
AG multiple mechanisms	148
AG wild-type	112
ANT-4/APH-3	10
APH-3	5

14 Levofloxacin



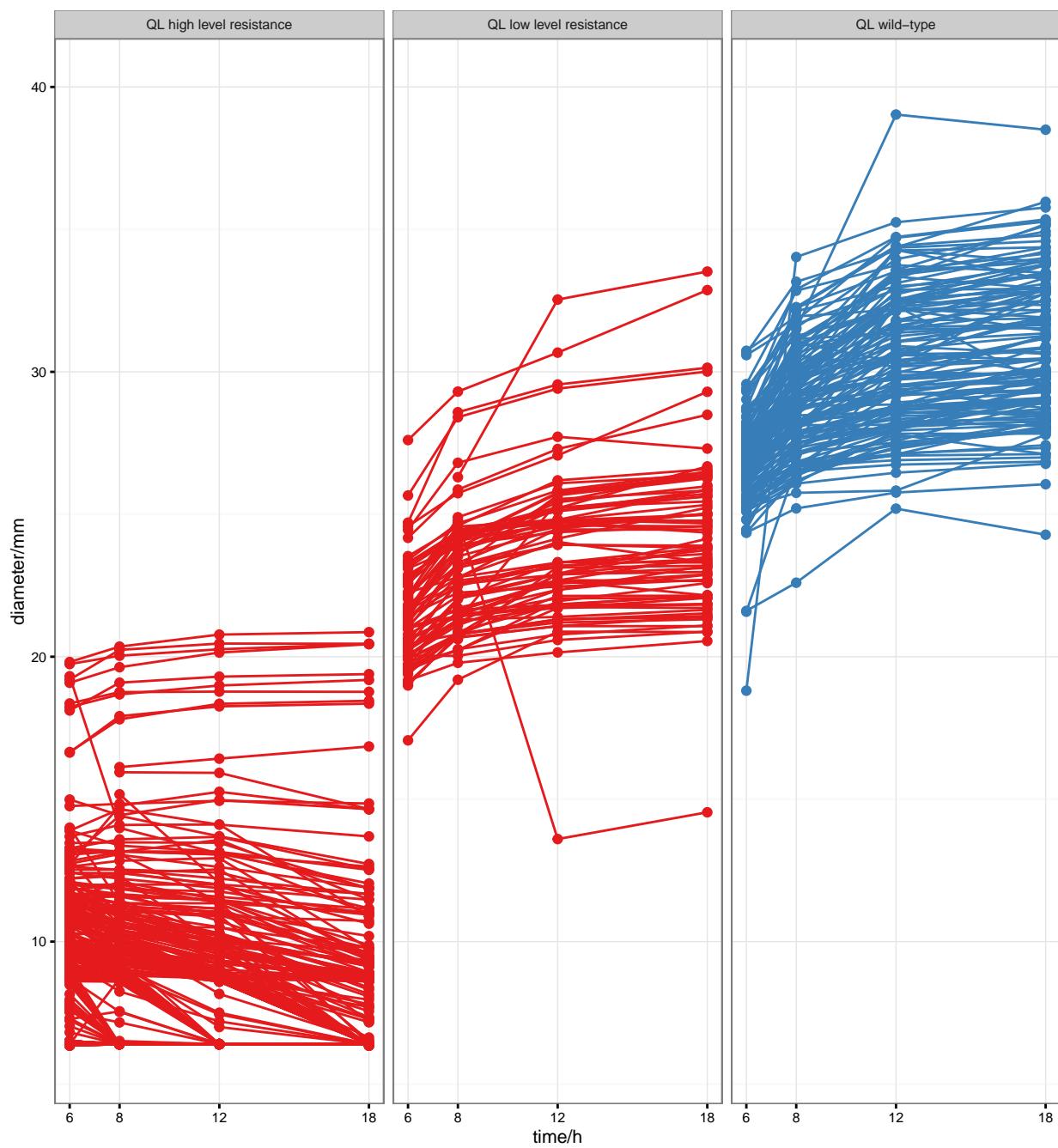
14.1 Levofloxacin, *Enterobacter cloacae*

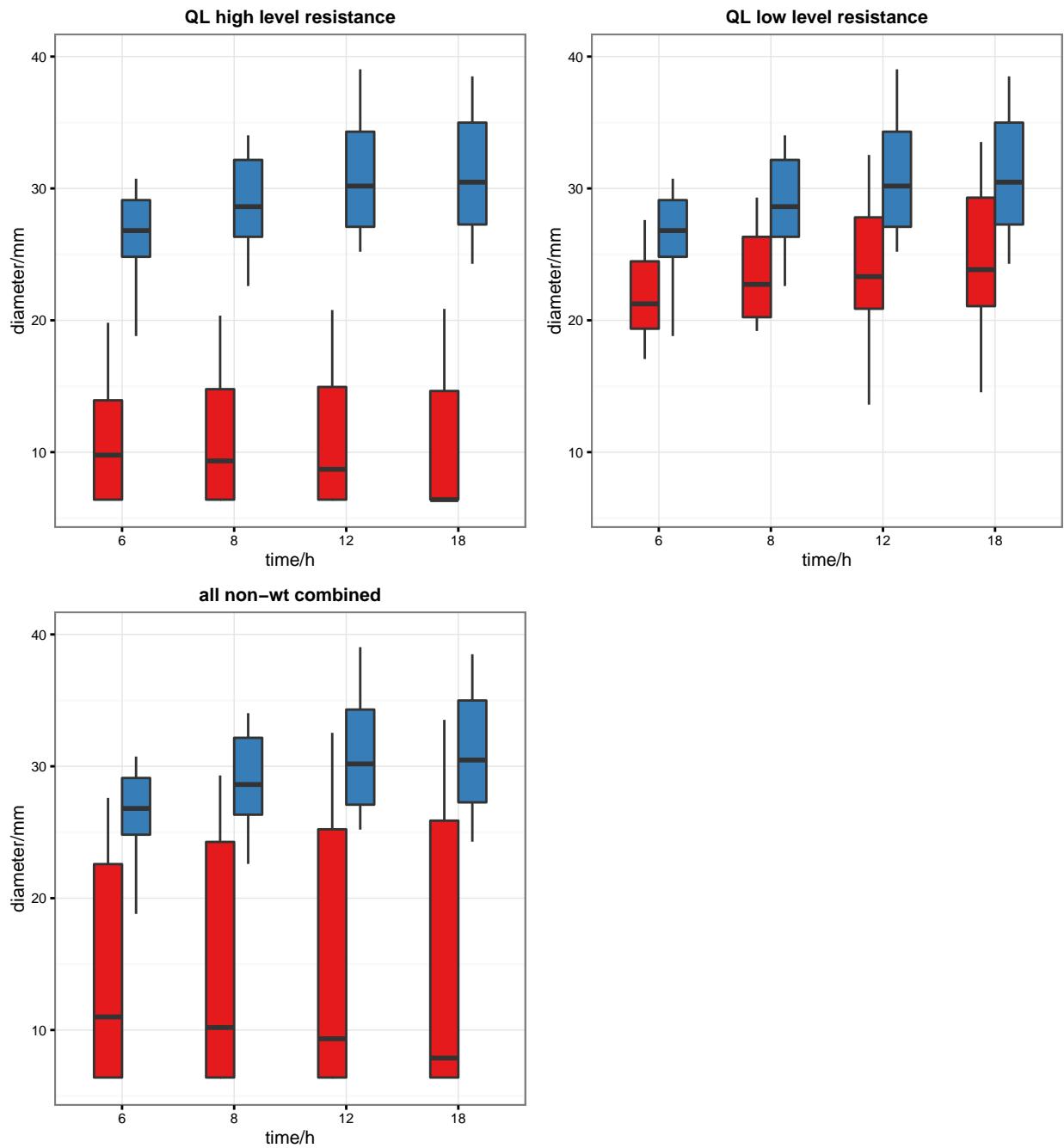




phenotypes	n
QL high level resistance	92
QL low level resistance	65
QL wild-type	144

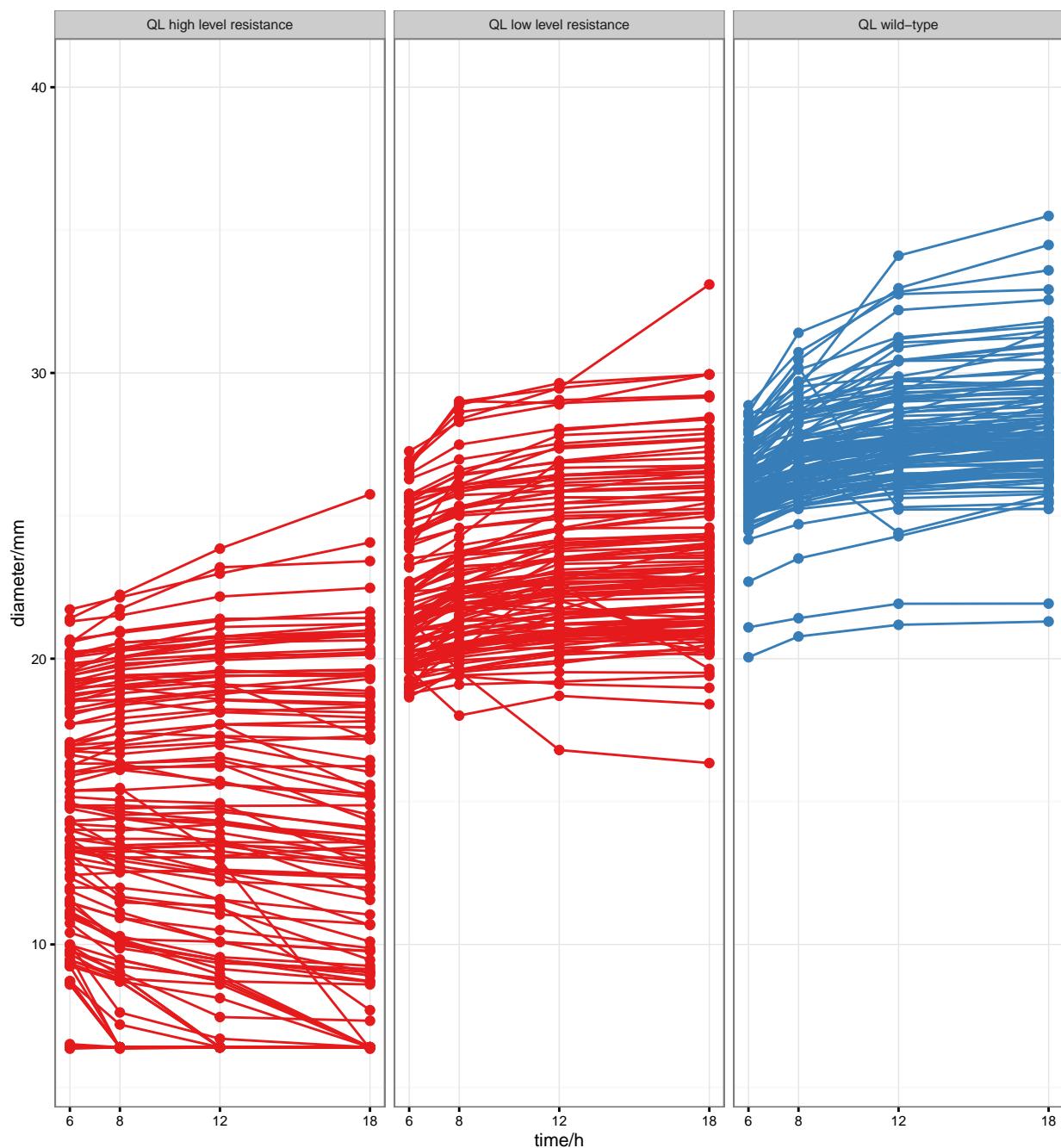
14.2 Levofloxacin, Escherichia coli

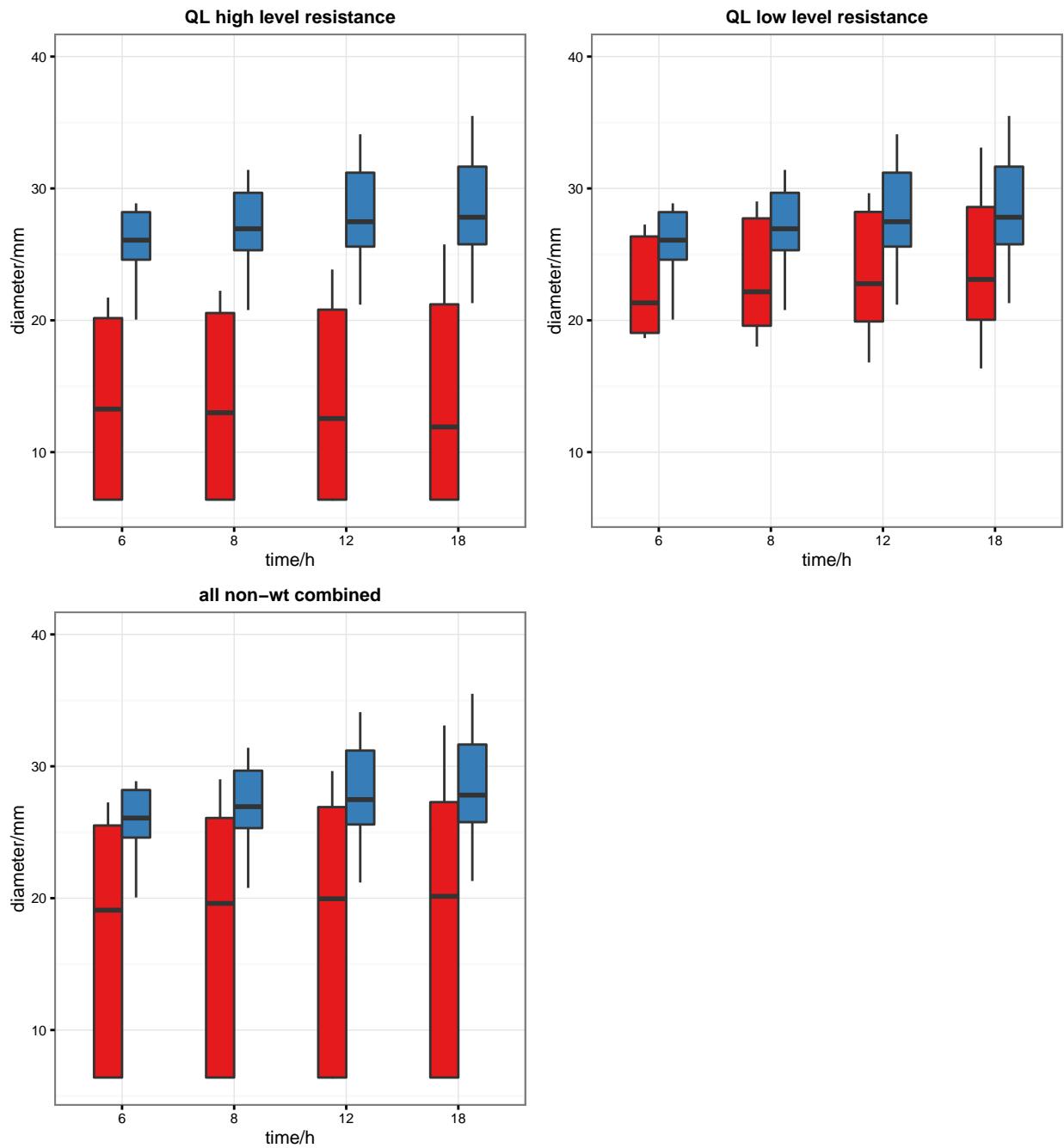




phenotypes	n
QL high level resistance	259
QL low level resistance	81
QL wild-type	135

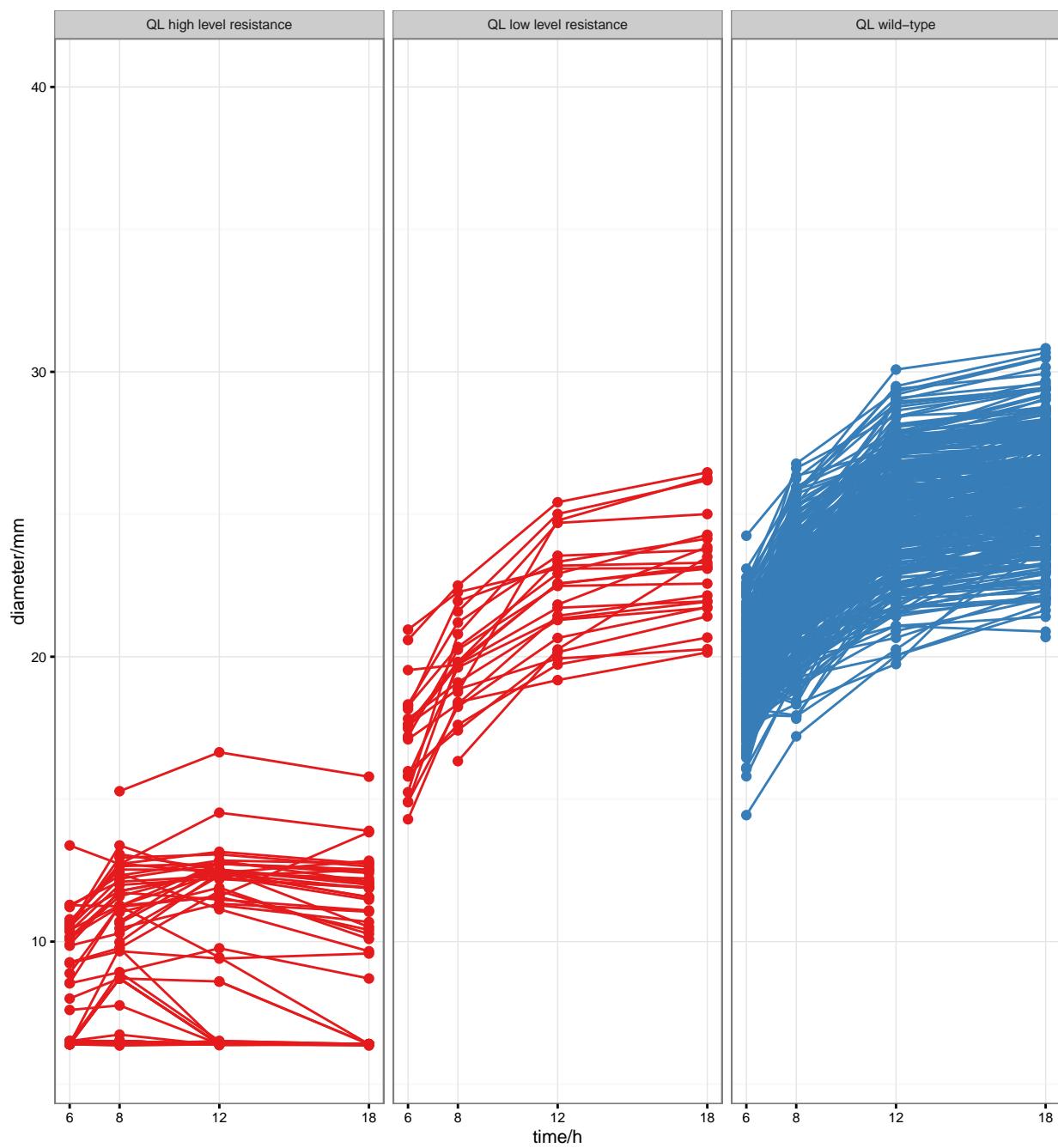
14.3 Levofloxacin, Klebsiella pneumoniae

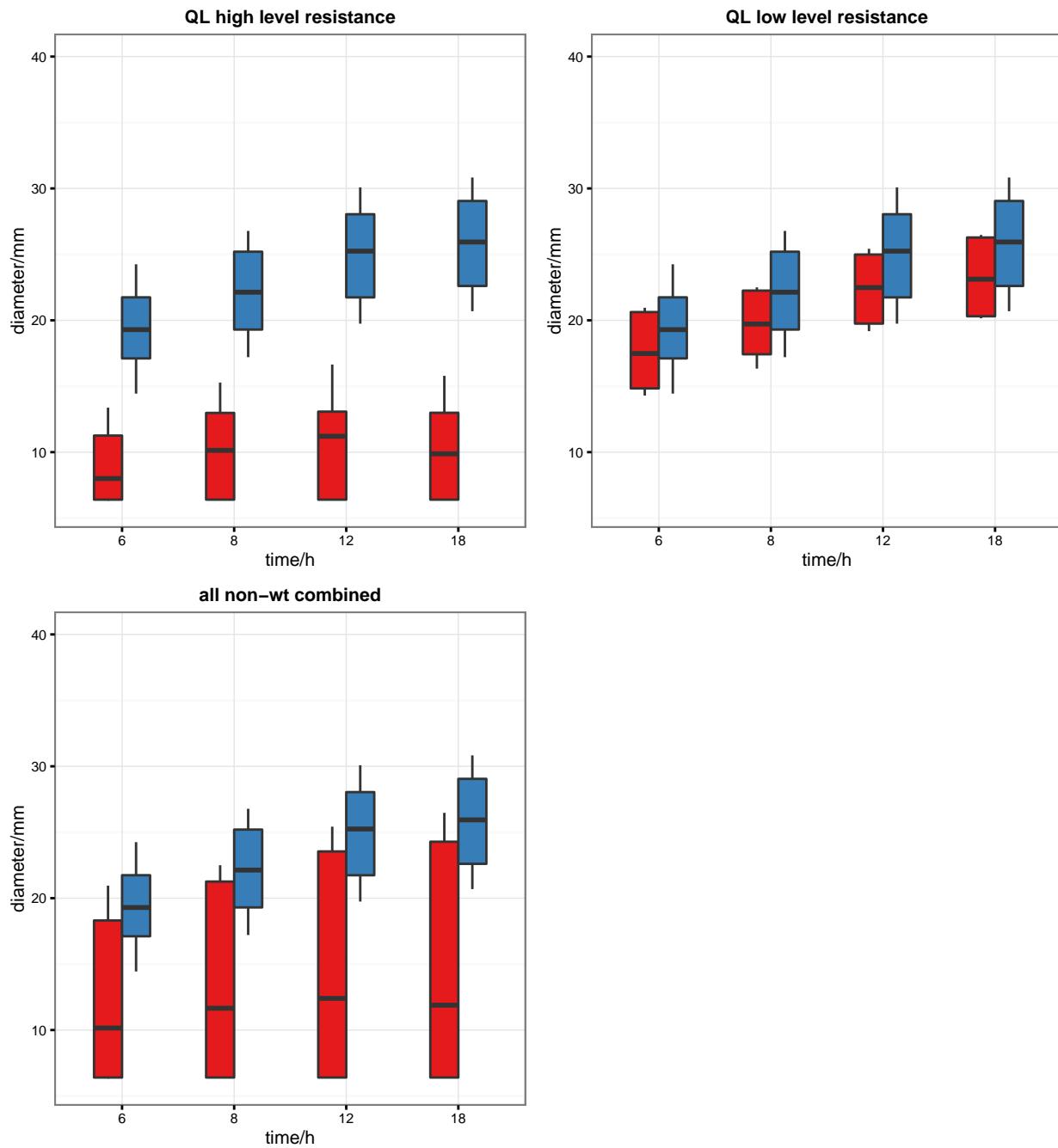




phenotypes	n
QL high level resistance	140
QL low level resistance	117
QL wild-type	119

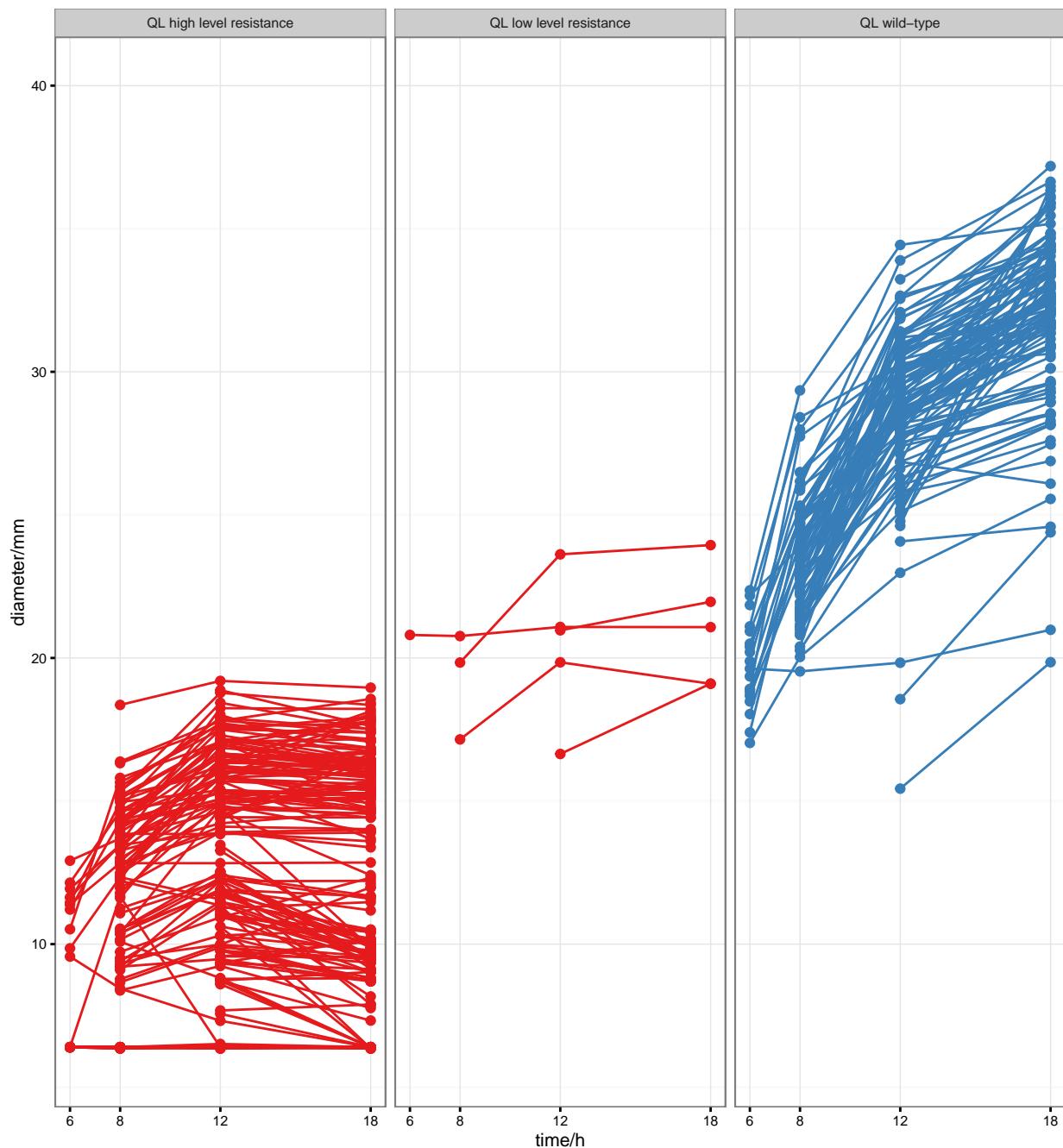
14.4 Levofloxacin, *Staphylococcus aureus*

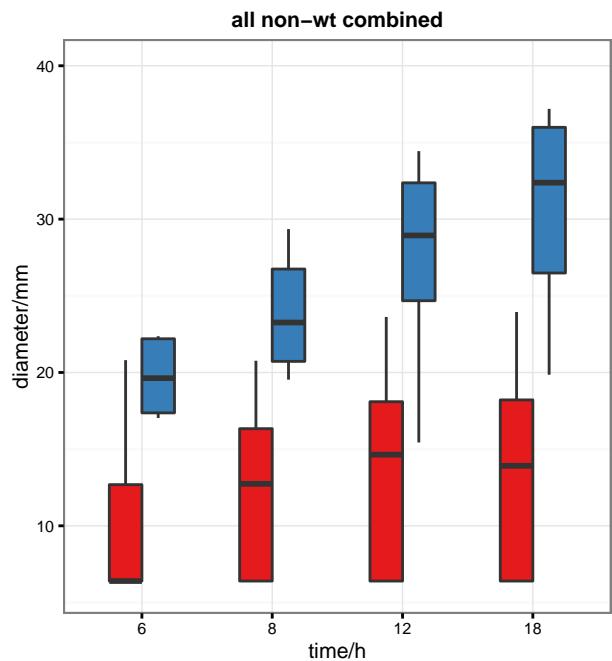
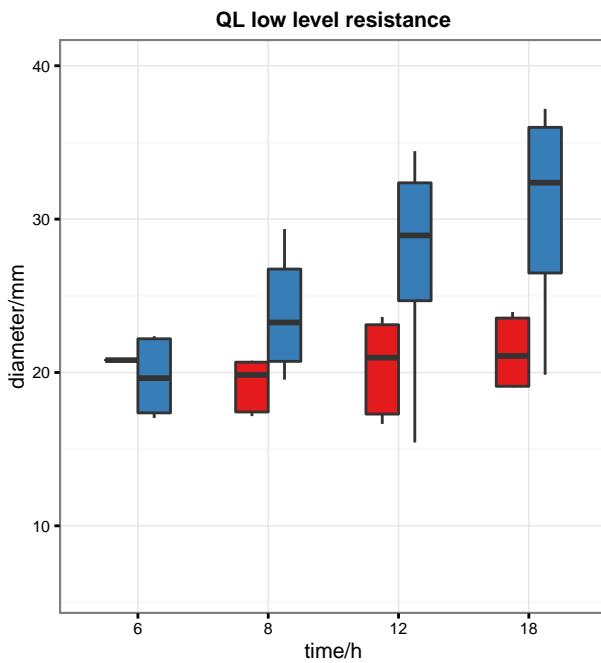
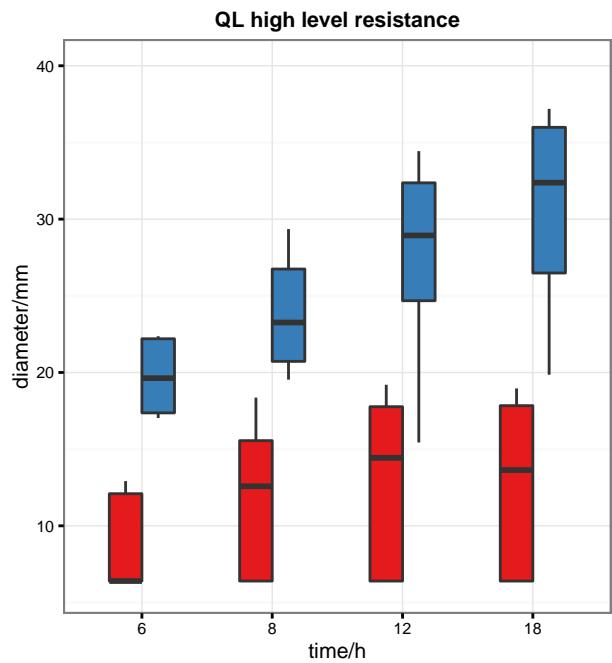




phenotypes	n
QL high level resistance	58
QL low level resistance	23
QL wild-type	326

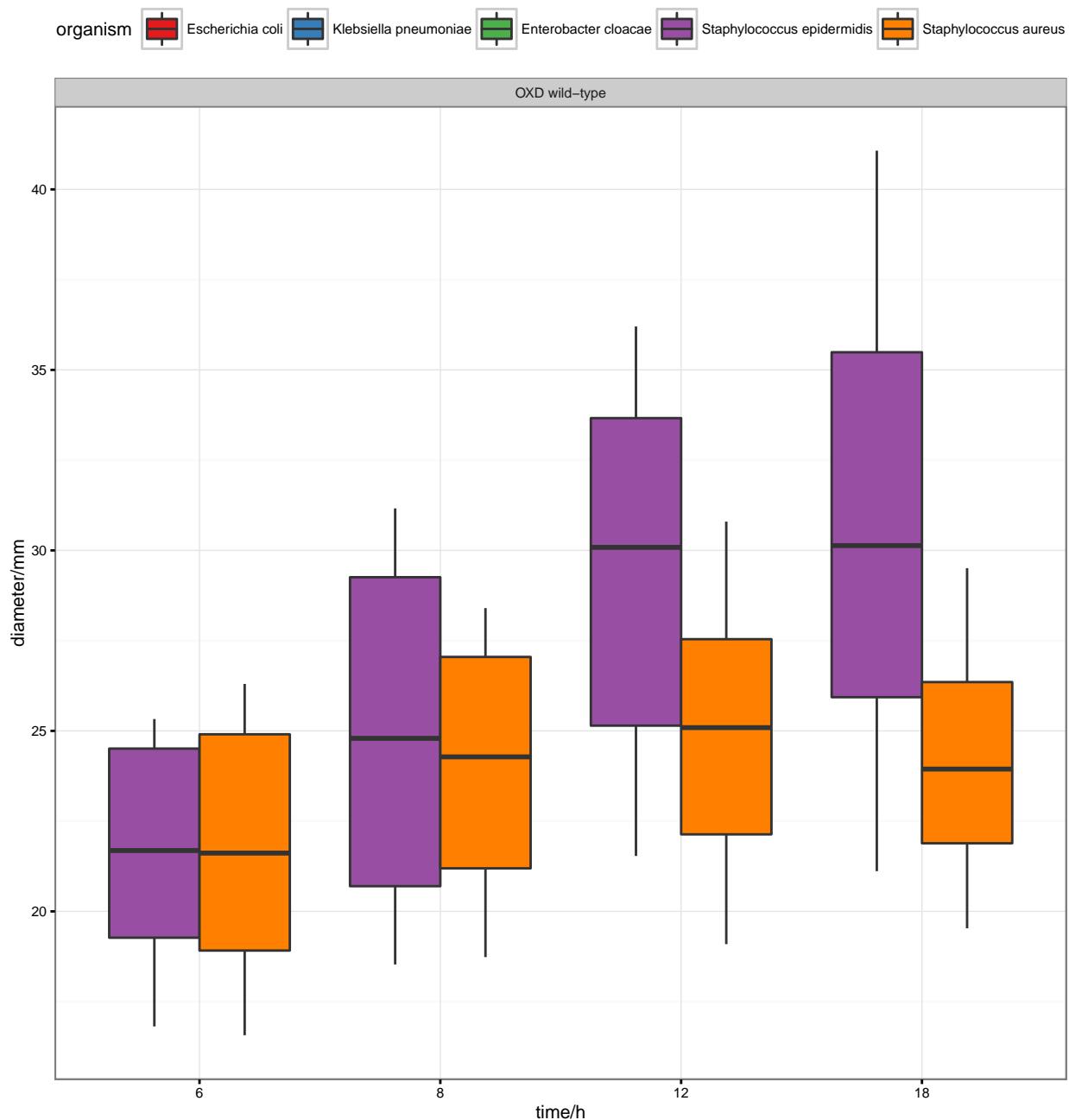
14.5 Levofloxacin, *Staphylococcus epidermidis*





phenotypes	n
QL high level resistance	178
QL low level resistance	5
QL wild-type	111

15 Linezolid



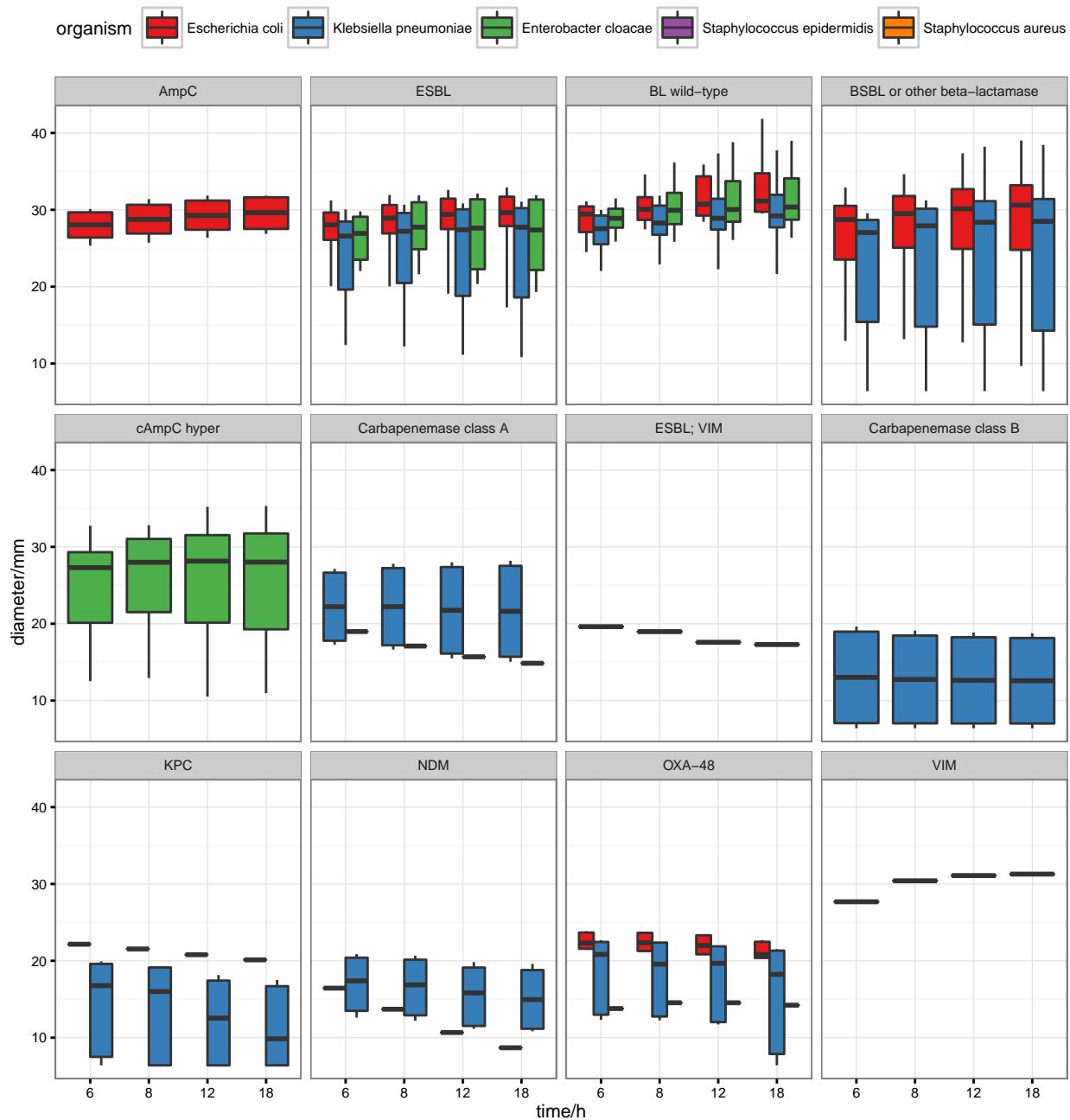
15.1 Linezolid, *Staphylococcus aureus*

No data for non-wild type available.

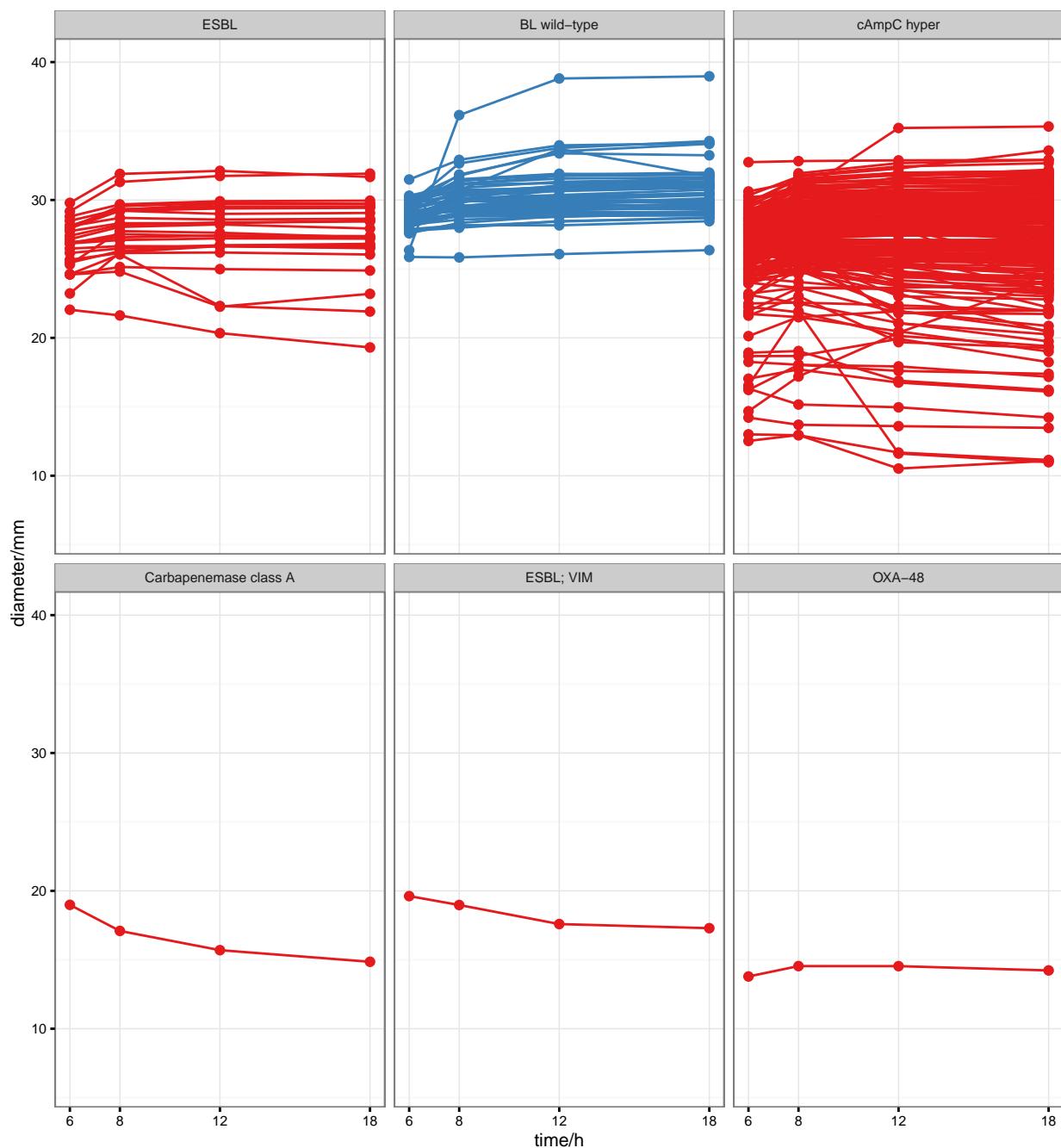
15.2 Linezolid, *Staphylococcus epidermidis*

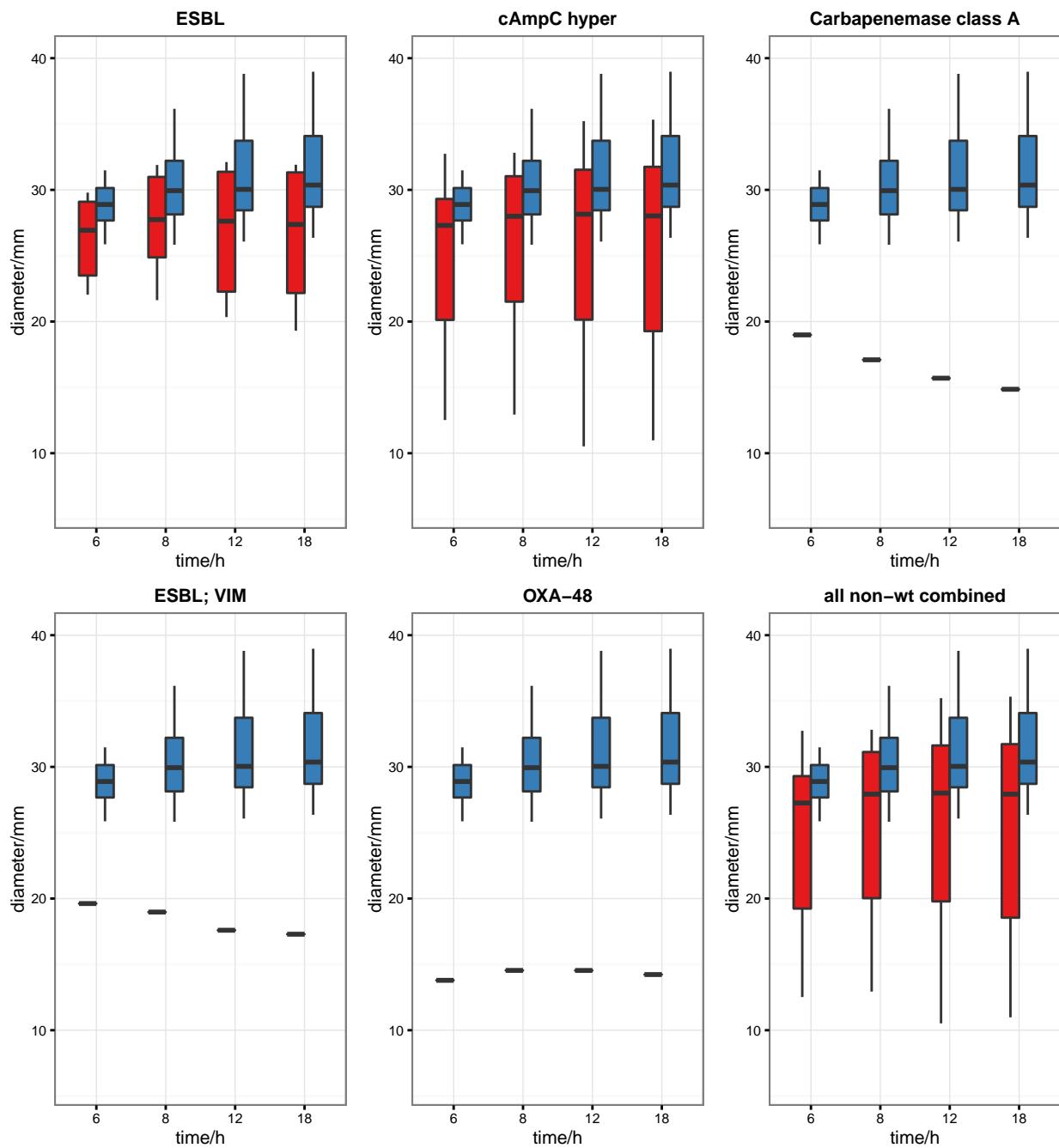
No data for non-wild type available.

16 Meropenem



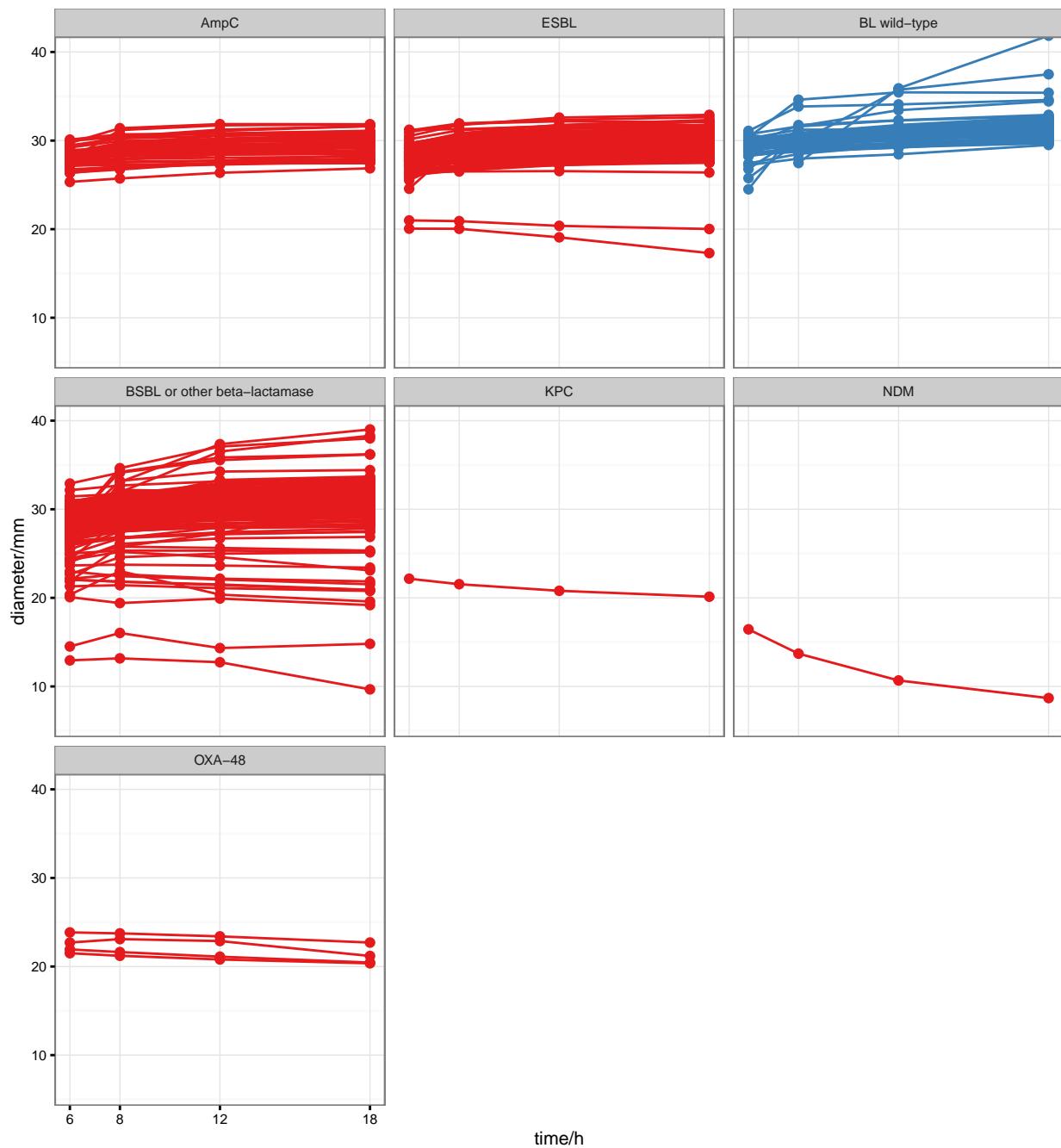
16.1 Meropenem, *Enterobacter cloacae*

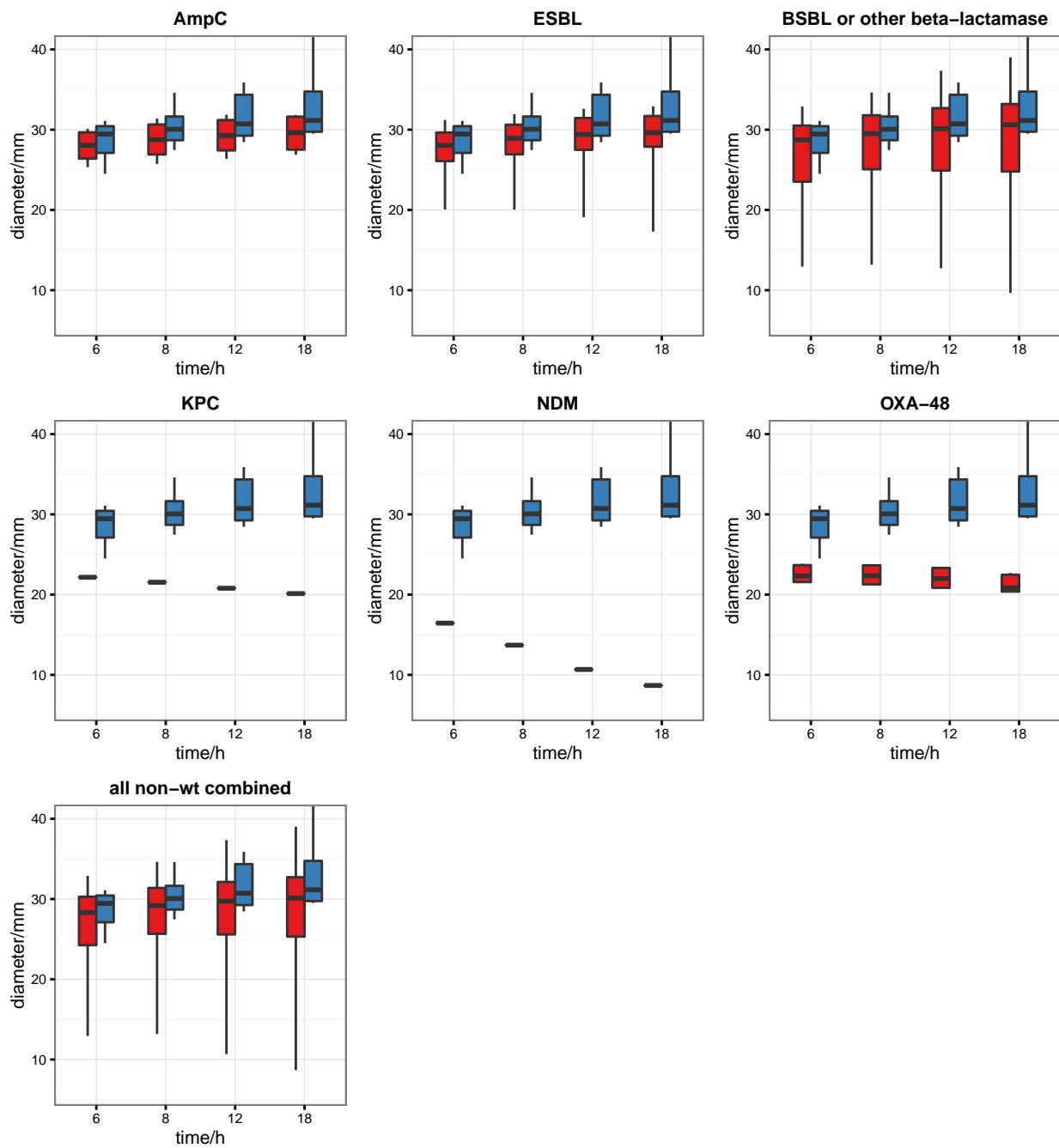




phenotypes	n
ESBL	25
BL wild-type	52
cAmpC hyper	221
Carbapenemase class A	1
ESBL; VIM	1
OXA-48	1

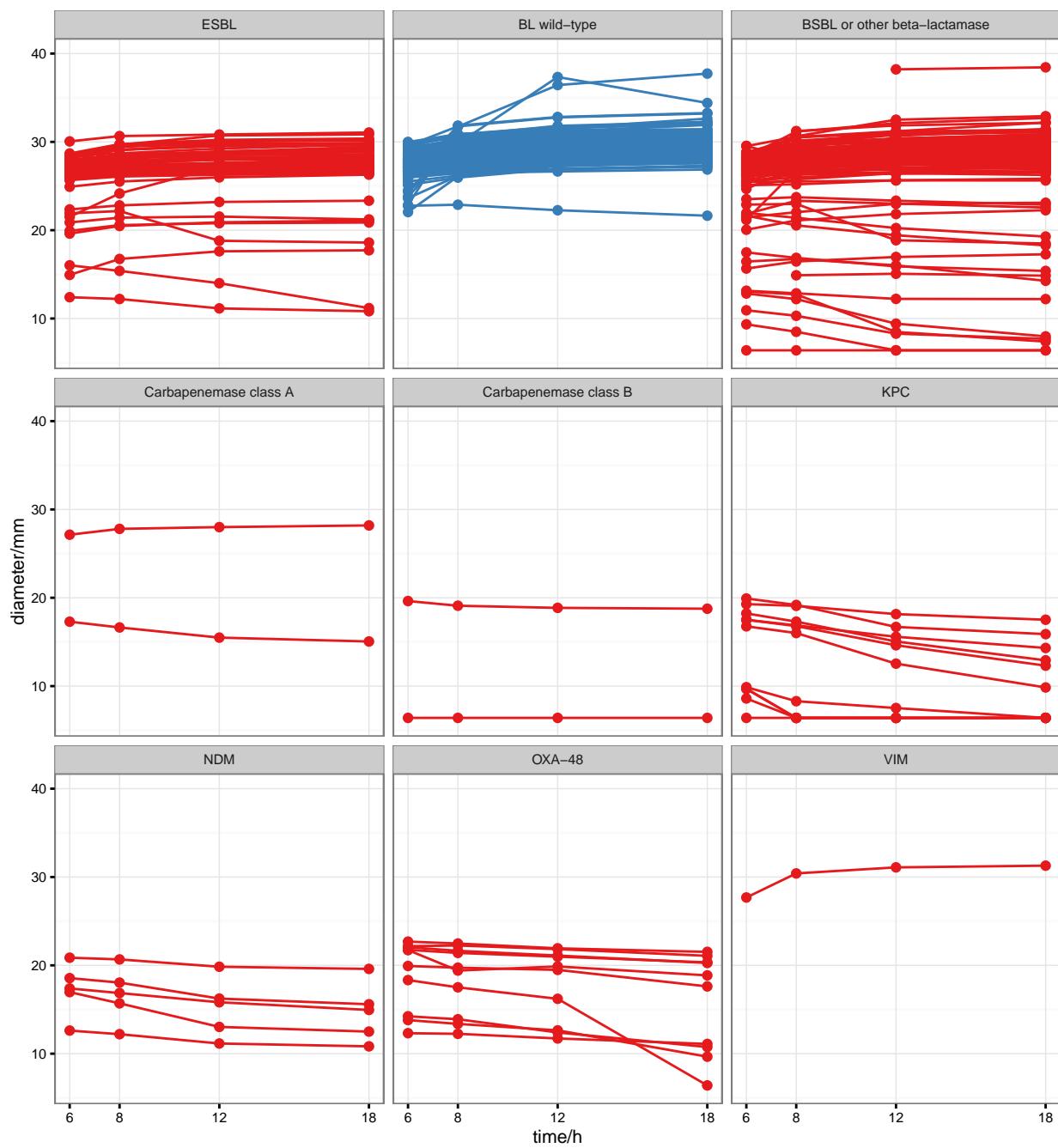
16.2 Meropenem, *Escherichia coli*

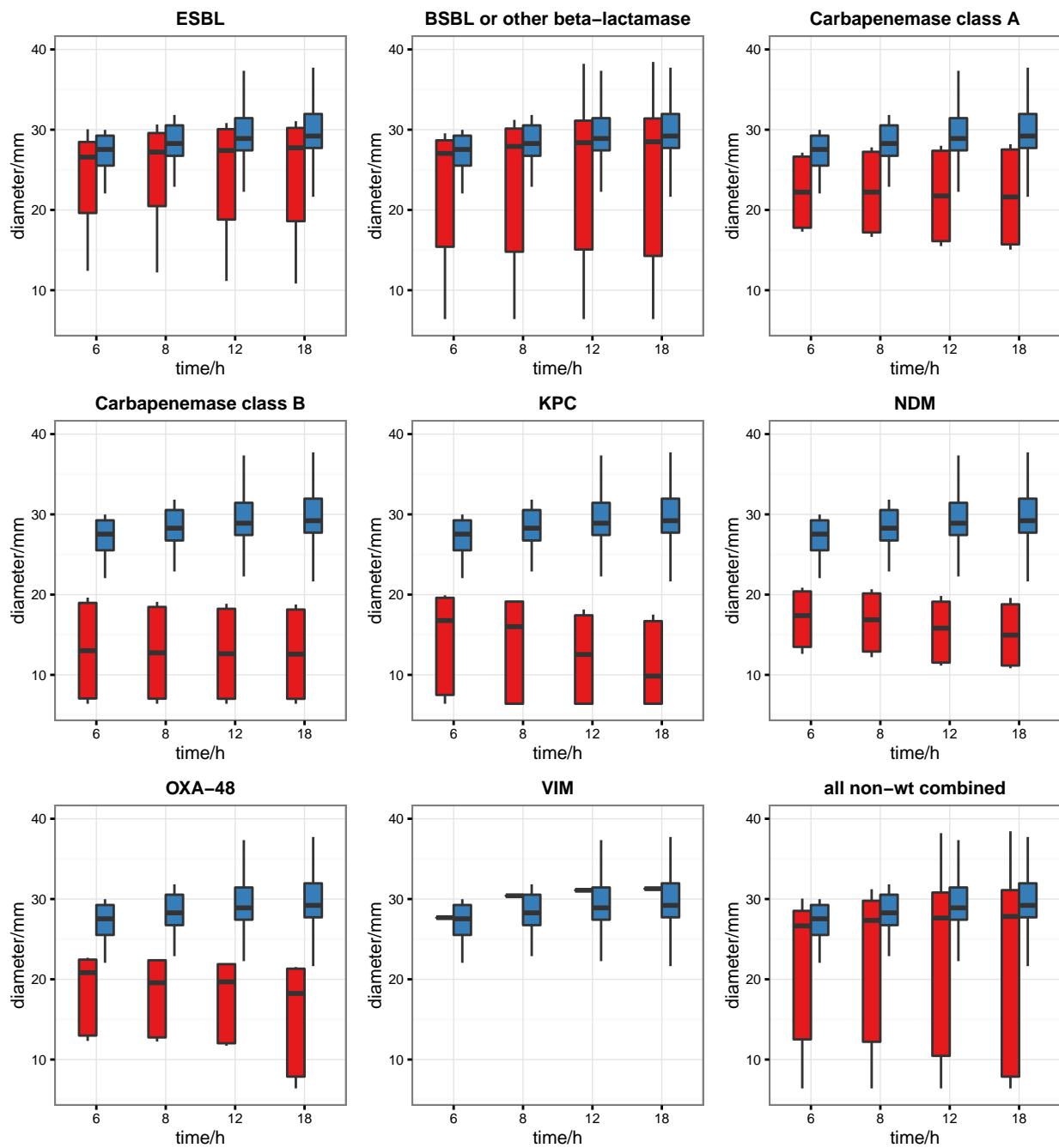




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

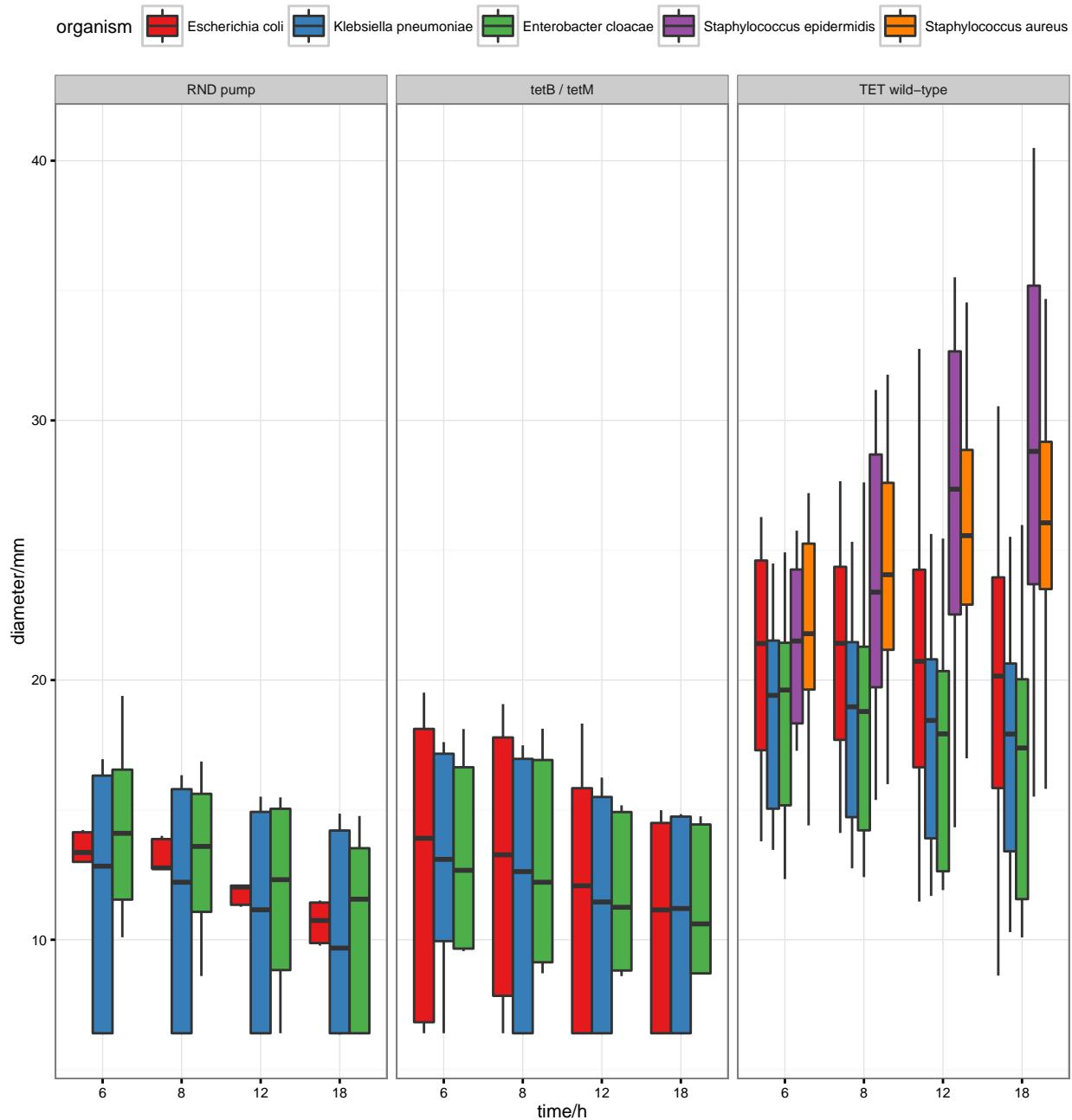
16.3 Meropenem, Klebsiella pneumoniae



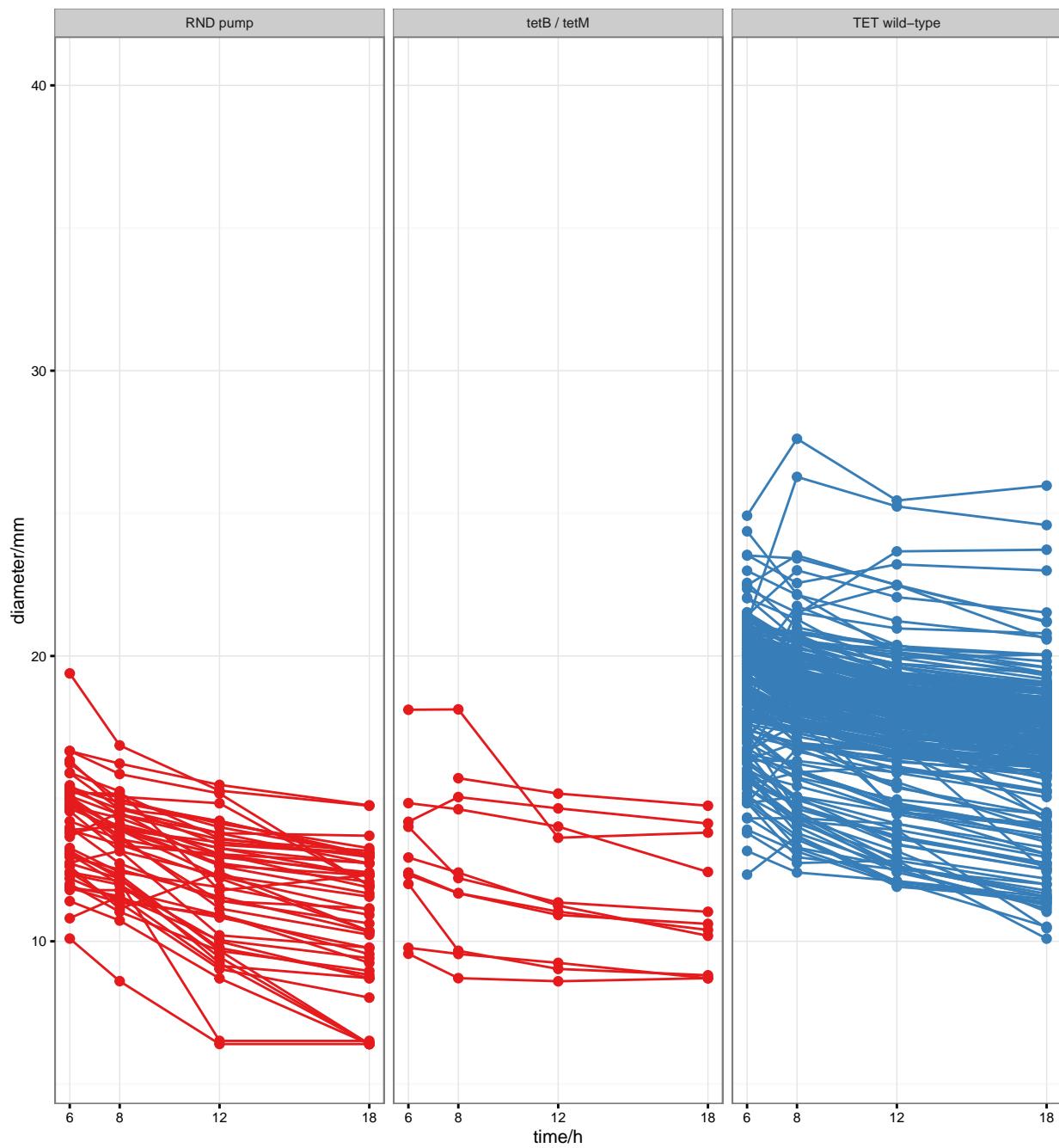


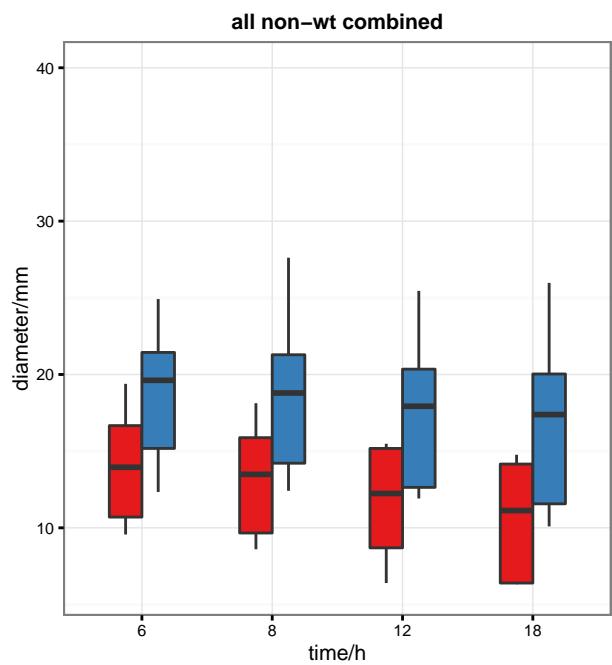
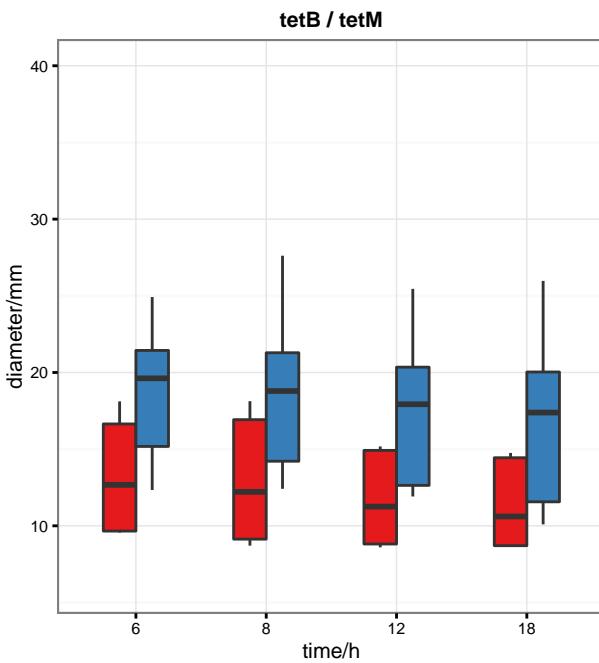
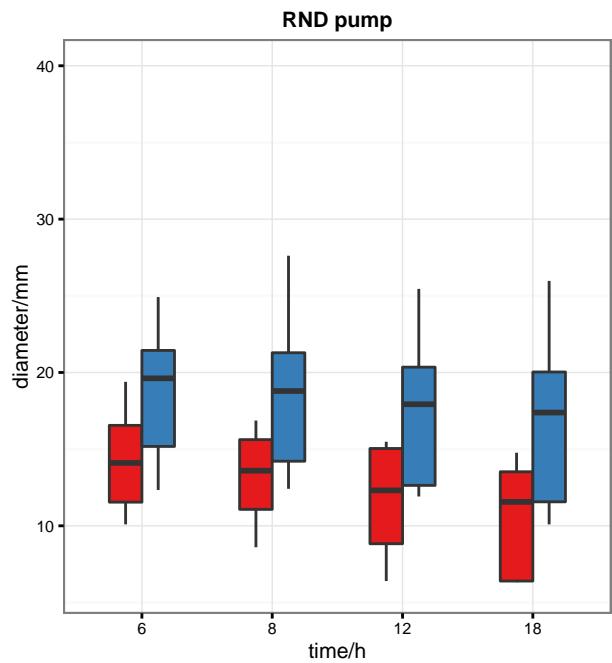
phenotypes	n
ESBL	61
BL wild-type	163
BSBL or other beta-lactamase	121
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1
all non-wt combined	

17 Minocyclin



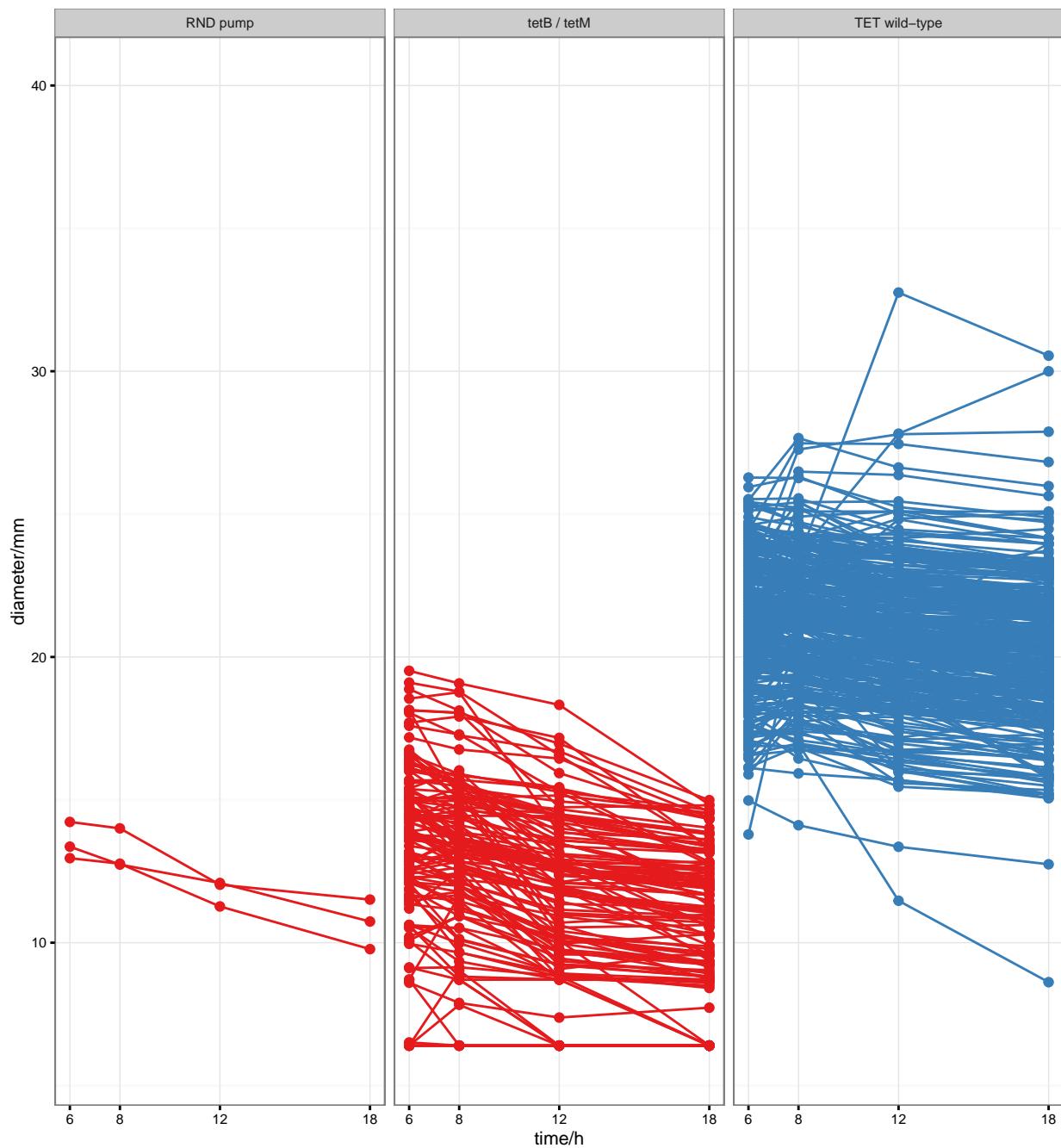
17.1 Minocycline, *Enterobacter cloacae*

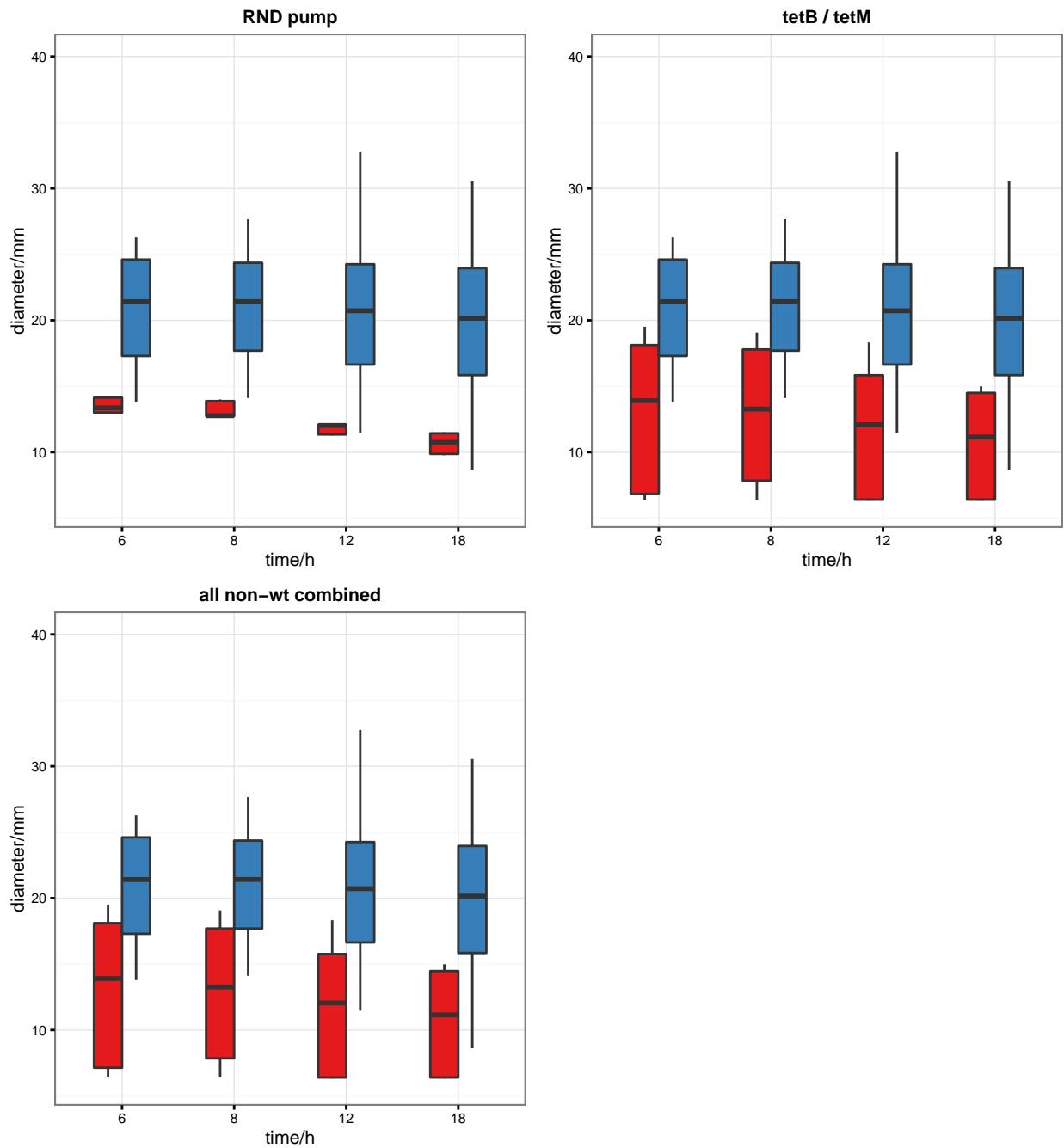




phenotypes	n
RND pump	49
tetB / tetM	11
TET wild-type	241

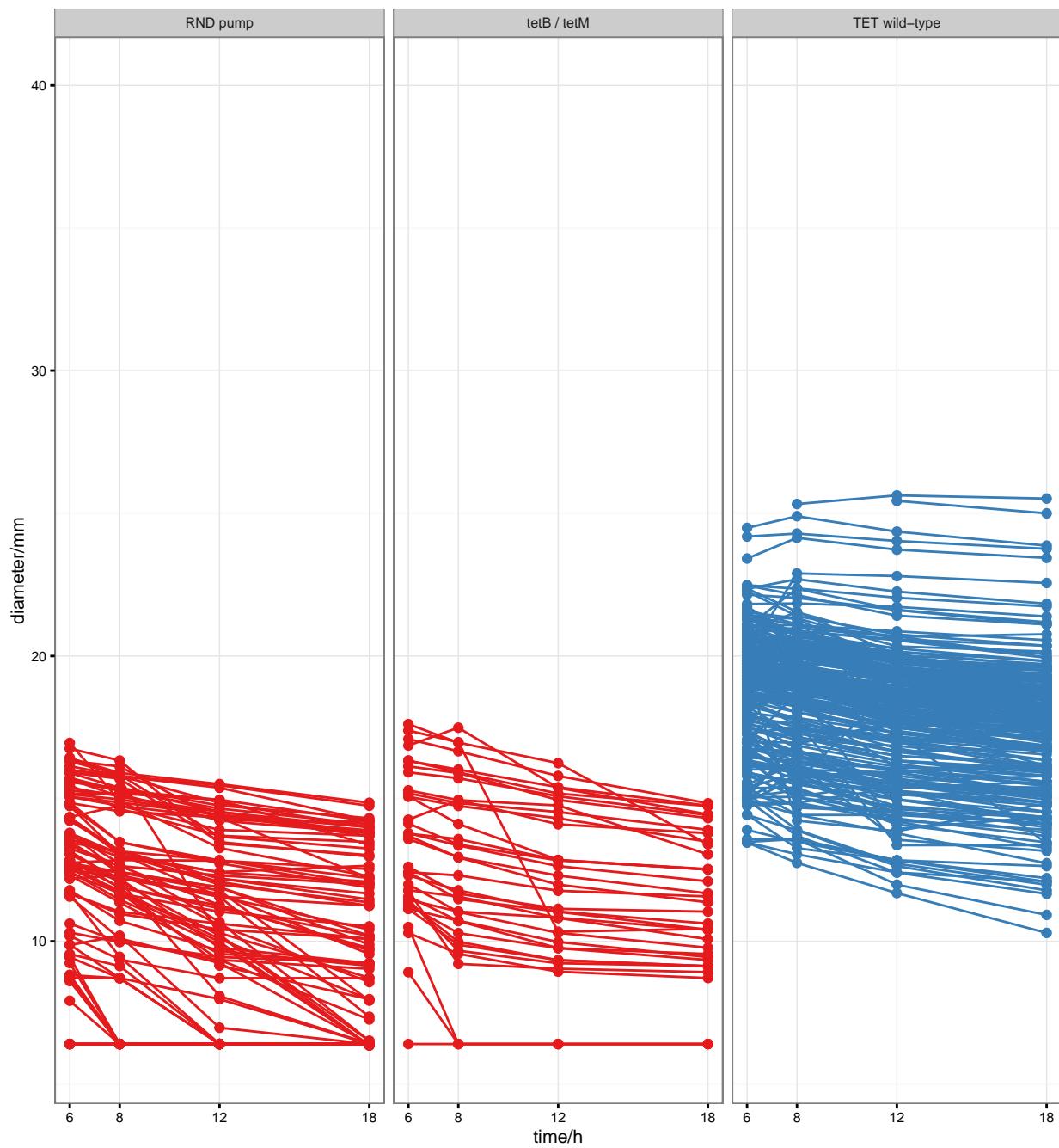
17.2 Minocycline, Escherichia coli

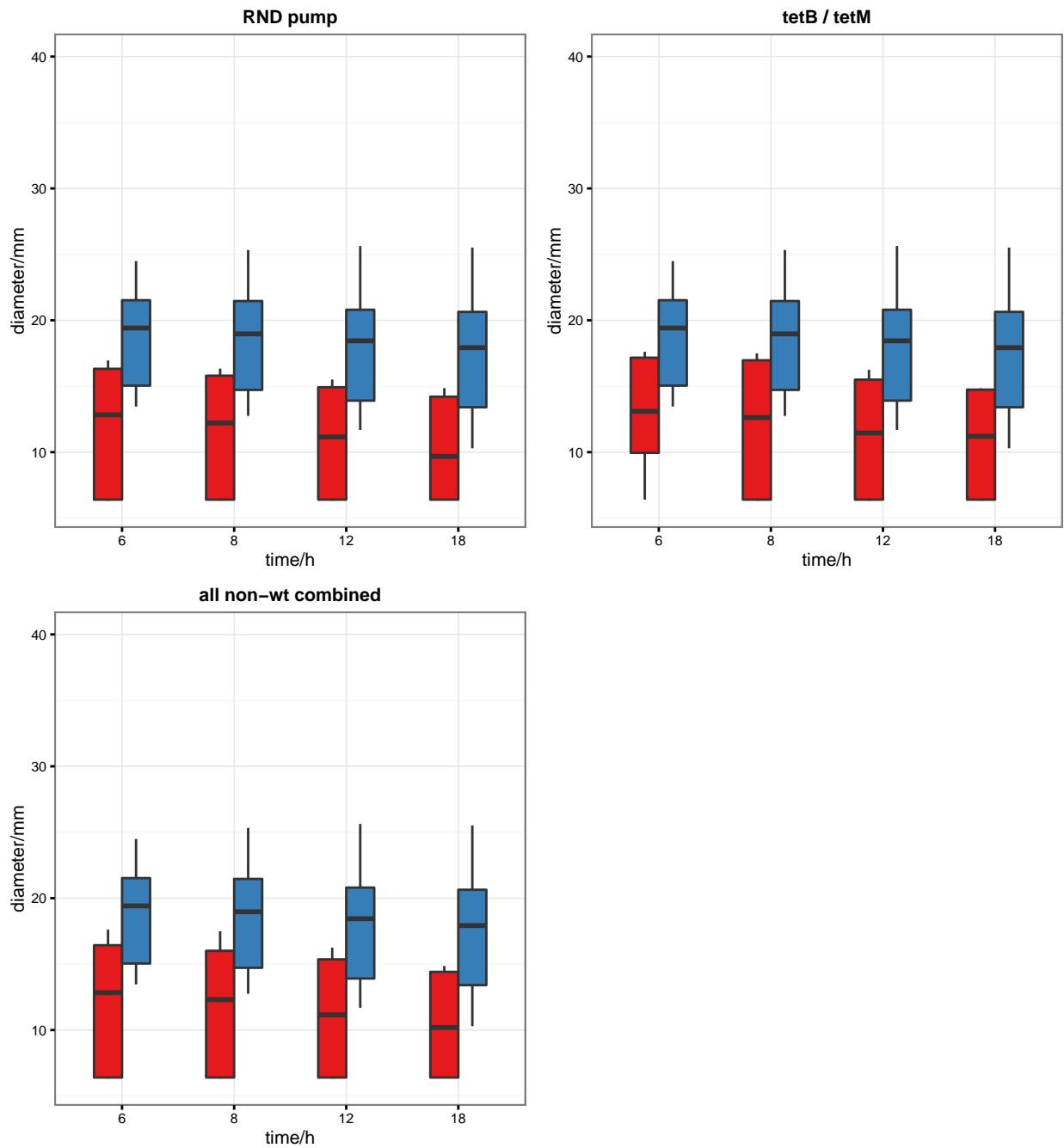




phenotypes	n
RND pump	3
tetB / tetM	125
TET wild-type	347

17.3 Minocyclin, *Klebsiella pneumoniae*





phenotypes	n
RND pump	87
tetB / tetM	36
TET wild-type	253

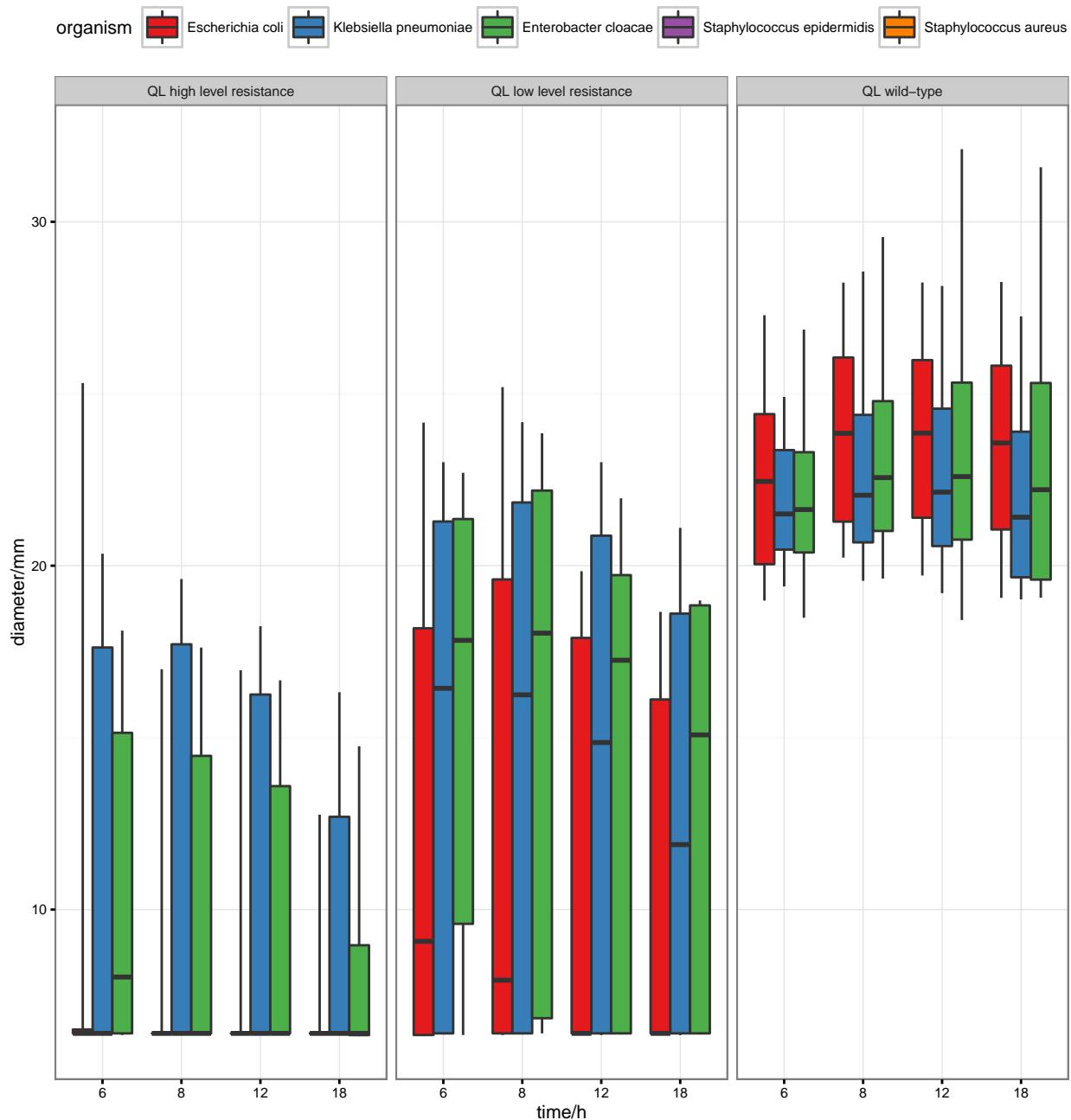
17.4 Minocyclin, *Staphylococcus aureus*

No data for non-wild type available.

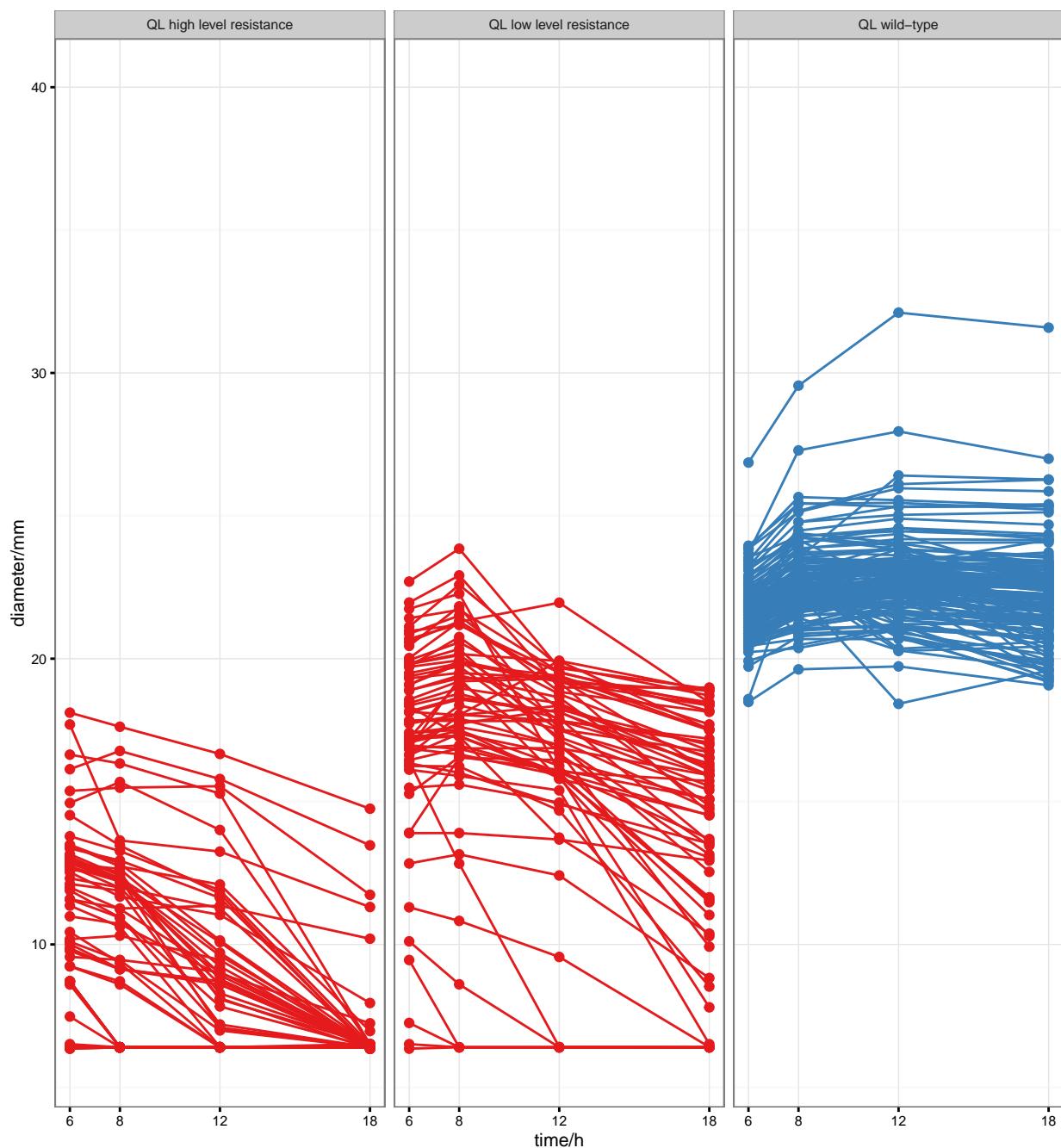
17.5 Minocyclin, *Staphylococcus epidermidis*

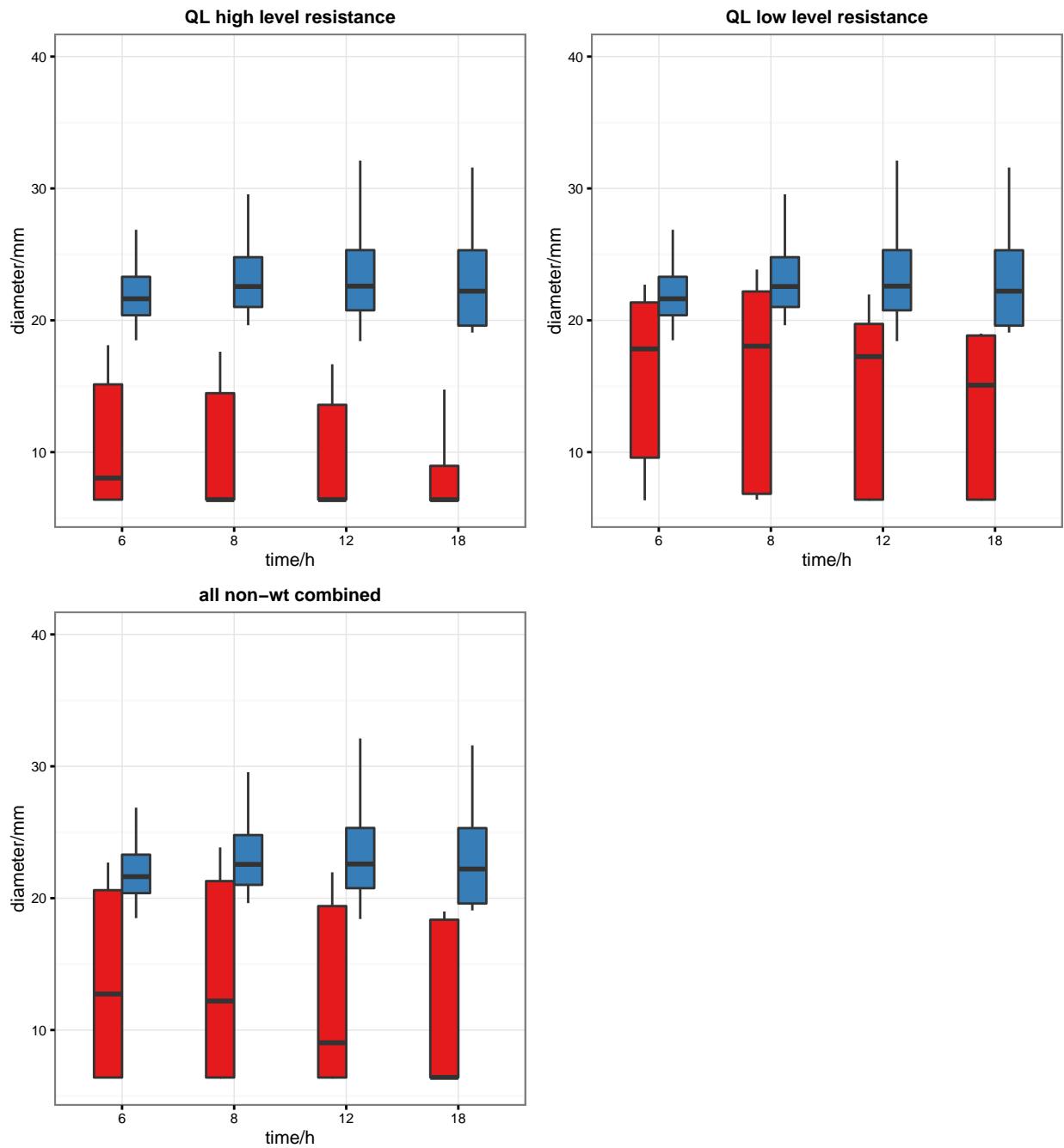
No data for non-wild type available.

18 Naladixic acid



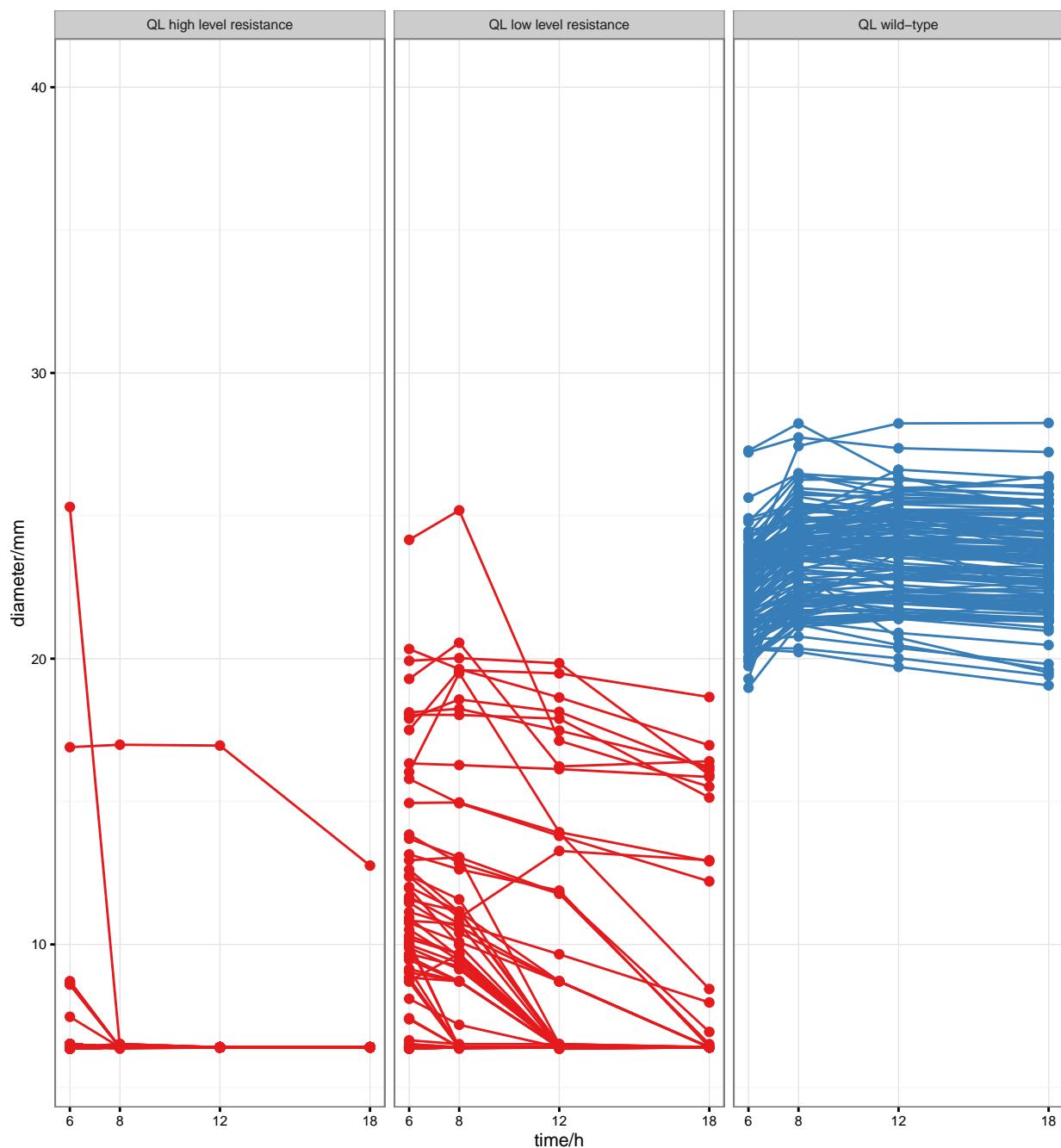
18.1 Naladixic acid, *Enterobacter cloacae*

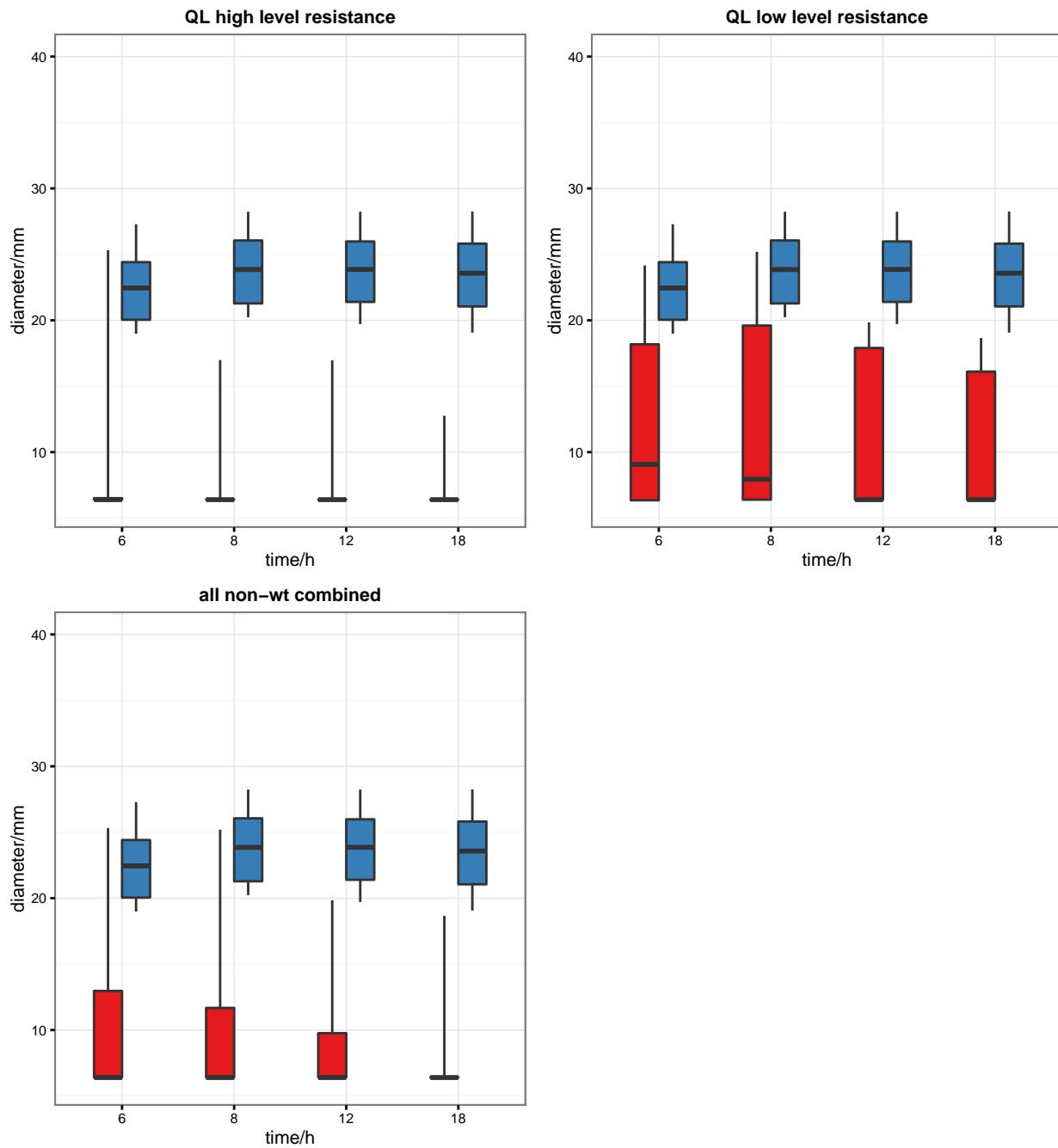




phenotypes	n
QL high level resistance	92
QL low level resistance	65
QL wild-type	144

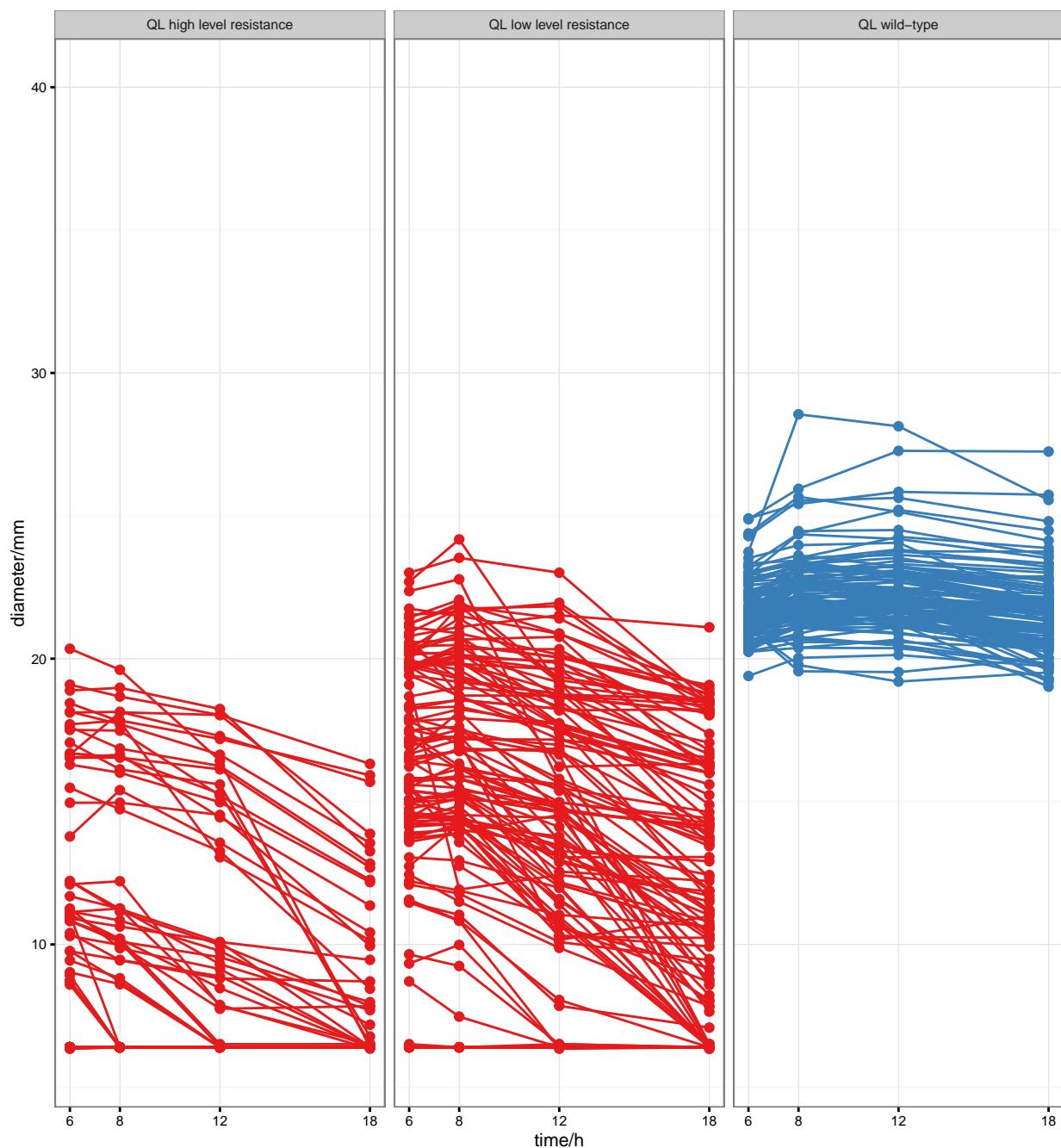
18.2 Naladixic acid, Escherichia coli

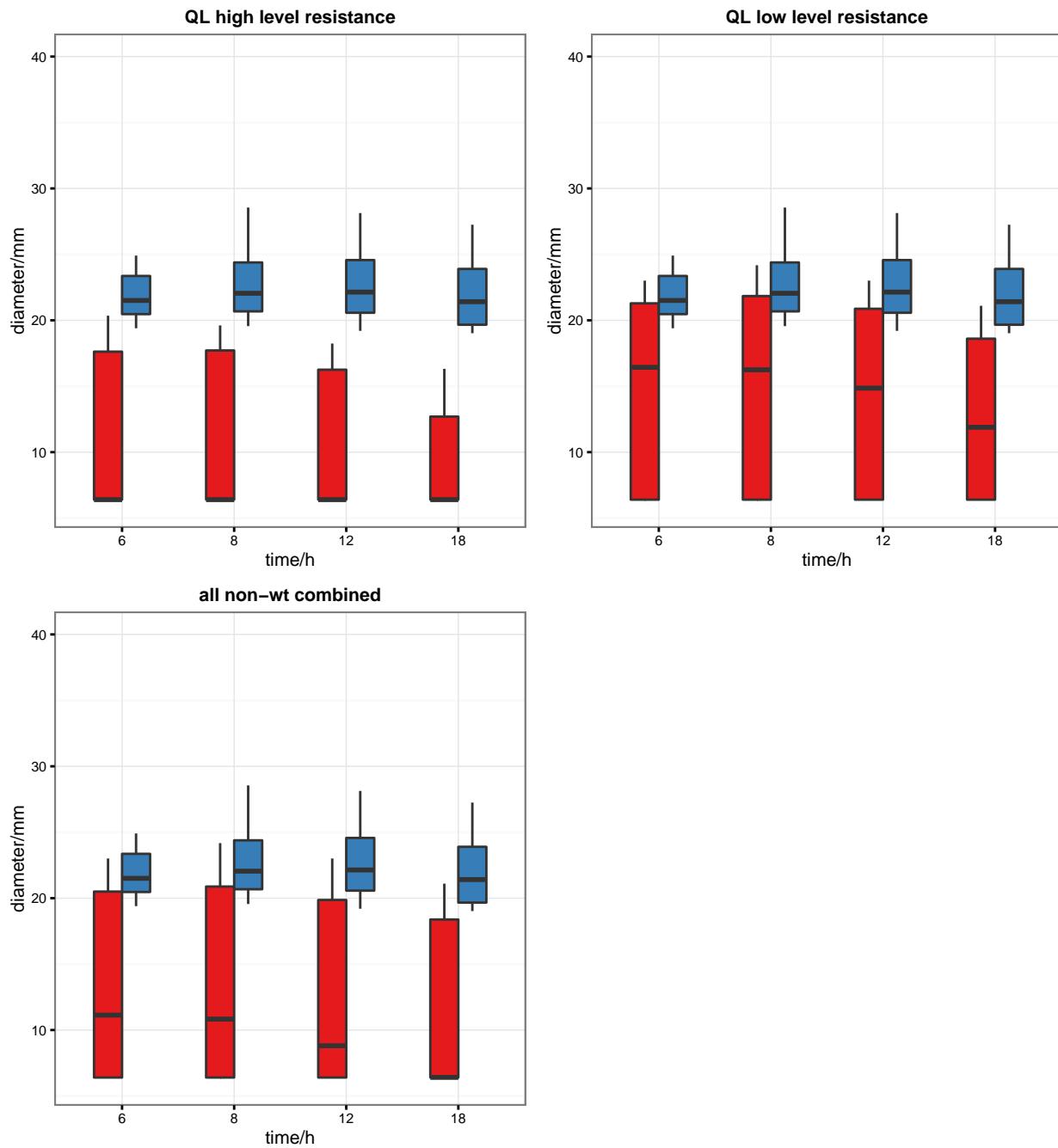




phenotypes	n
QL high level resistance	259
QL low level resistance	81
QL wild-type	135

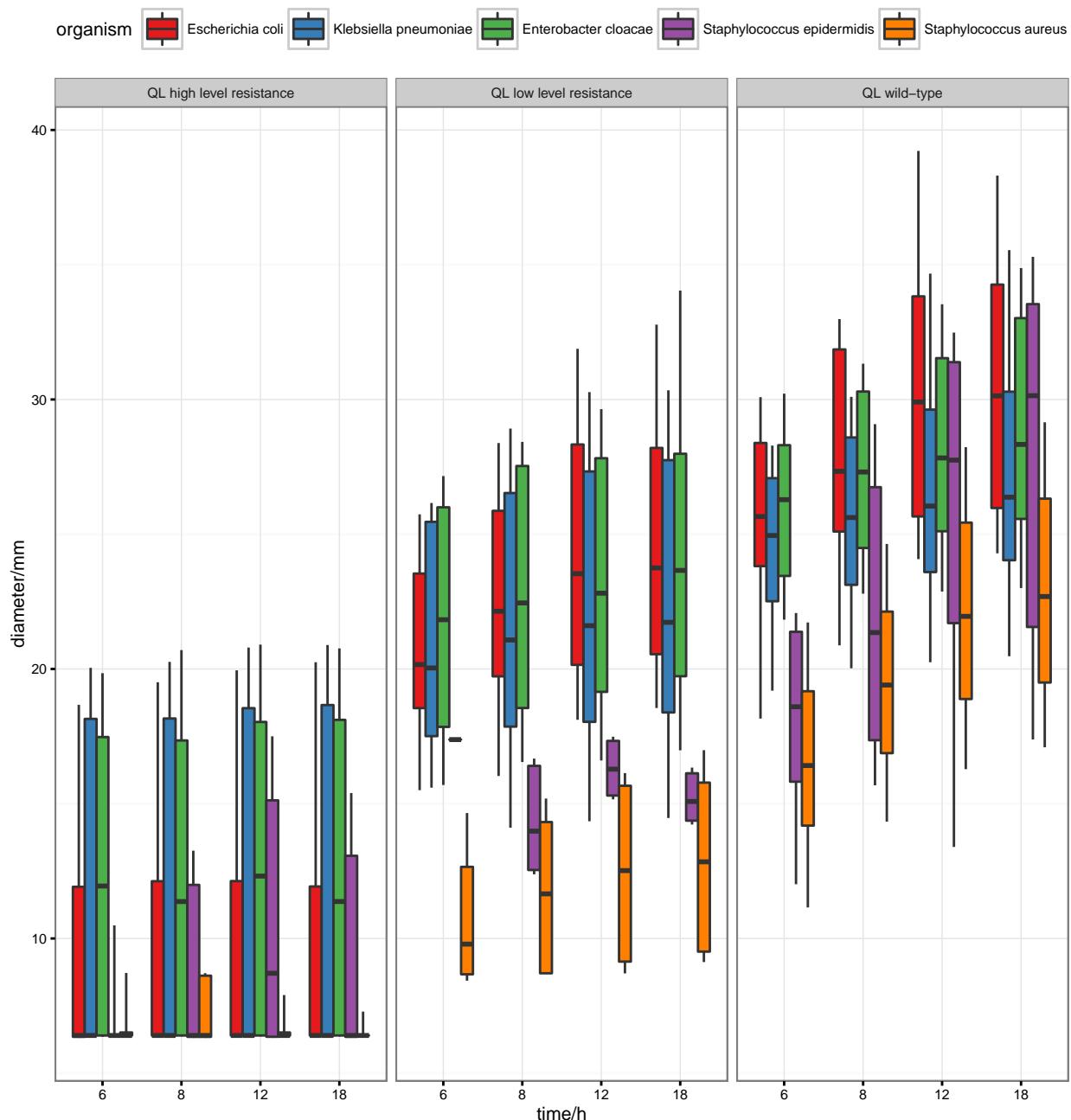
18.3 Naladixic acid, Klebsiella pneumoniae



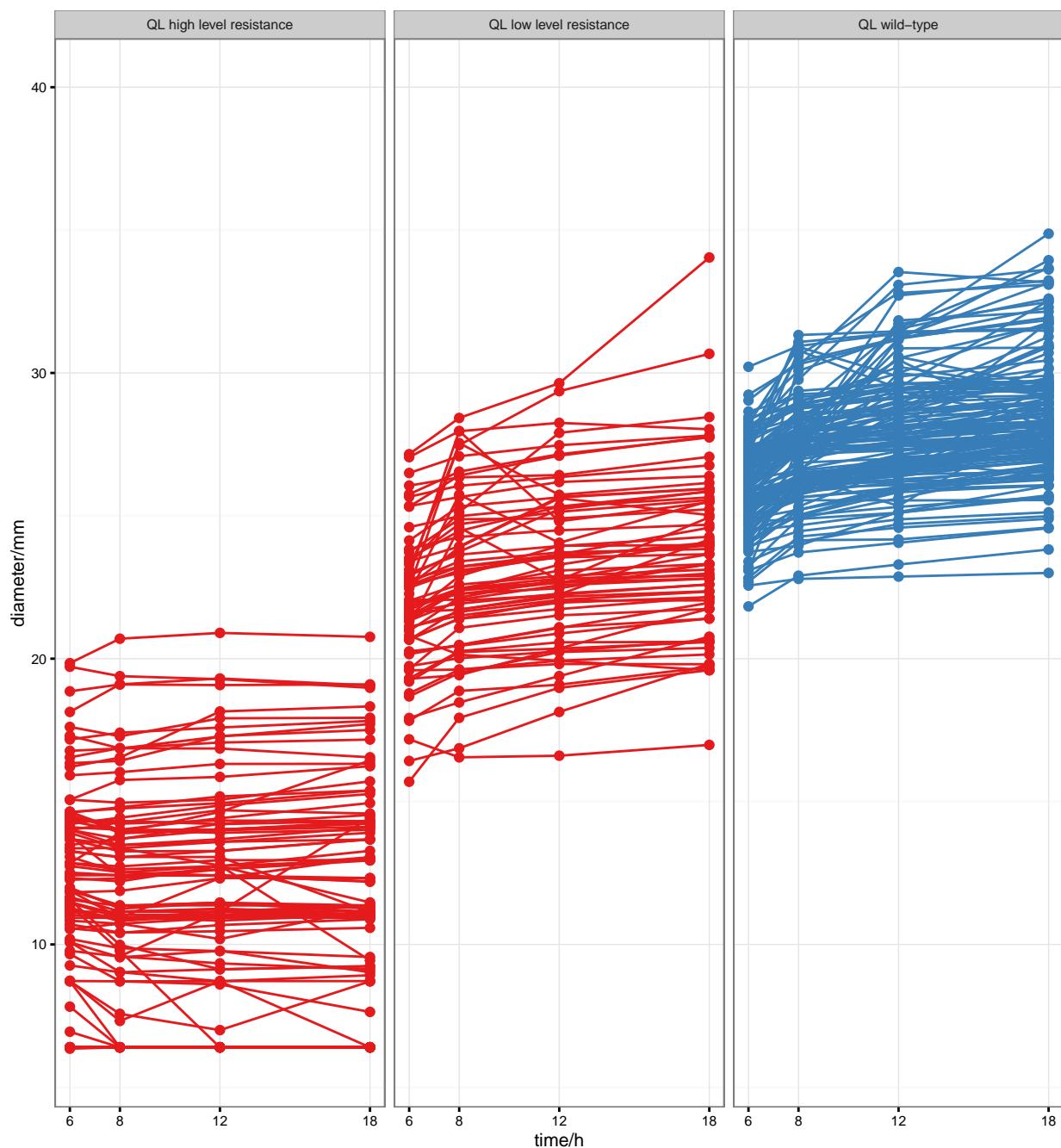


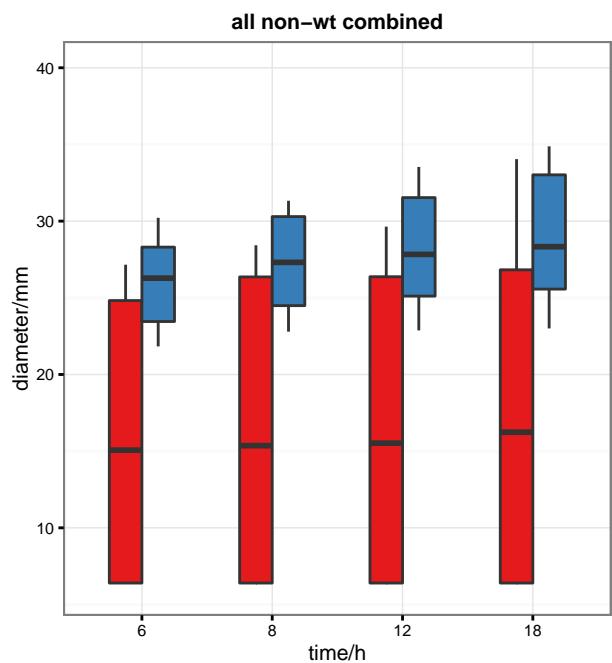
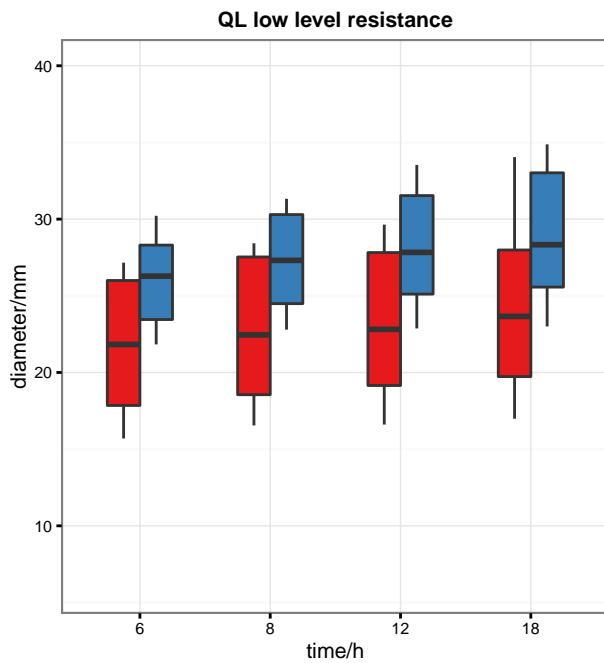
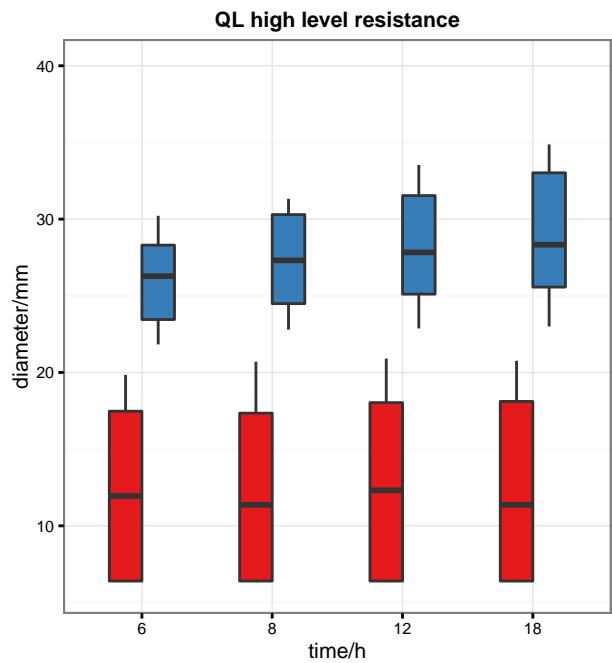
phenotypes	n
QL high level resistance	140
QL low level resistance	117
QL wild-type	119

19 Norfloxacin



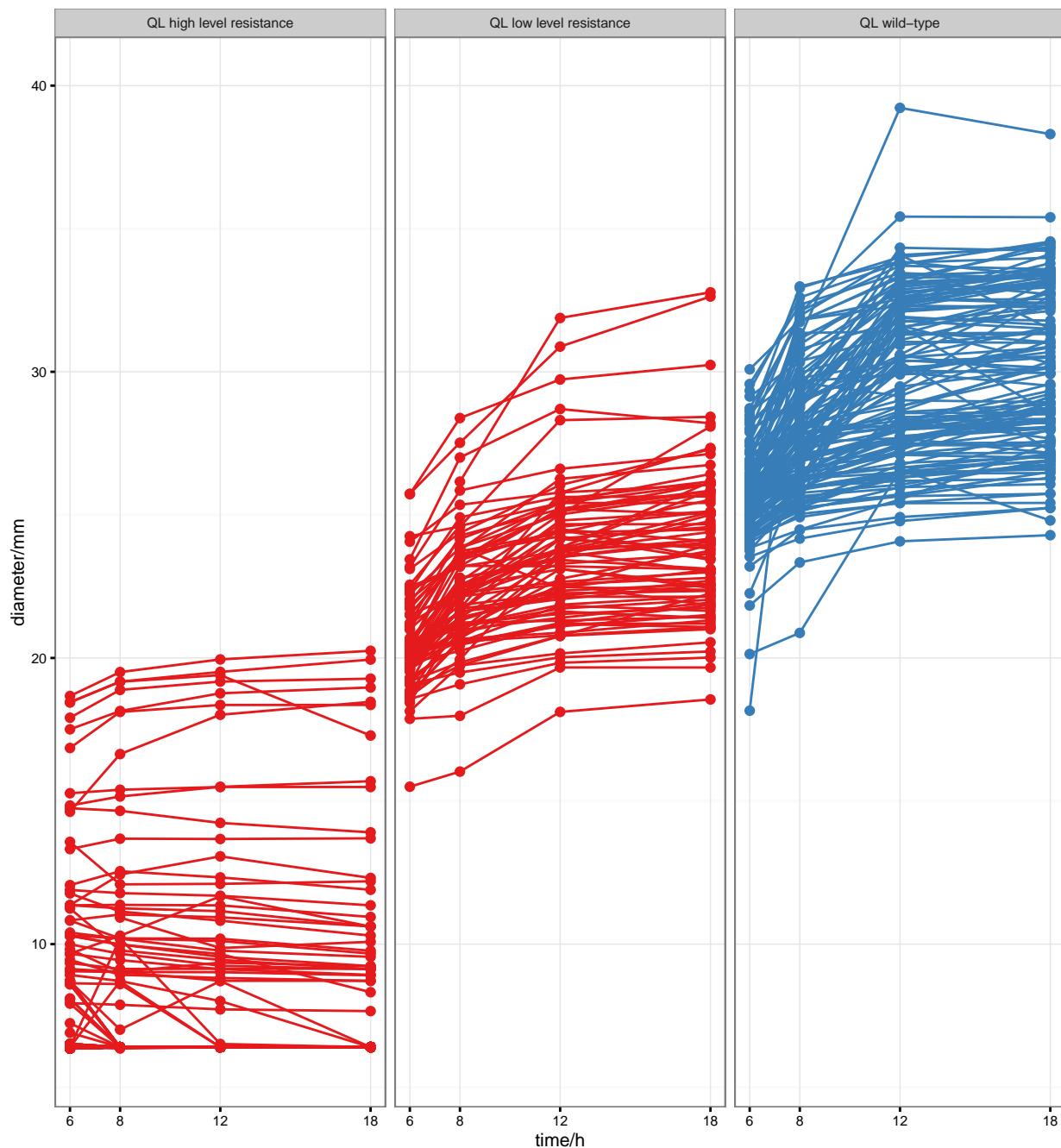
19.1 Norfloxacin, *Enterobacter cloacae*

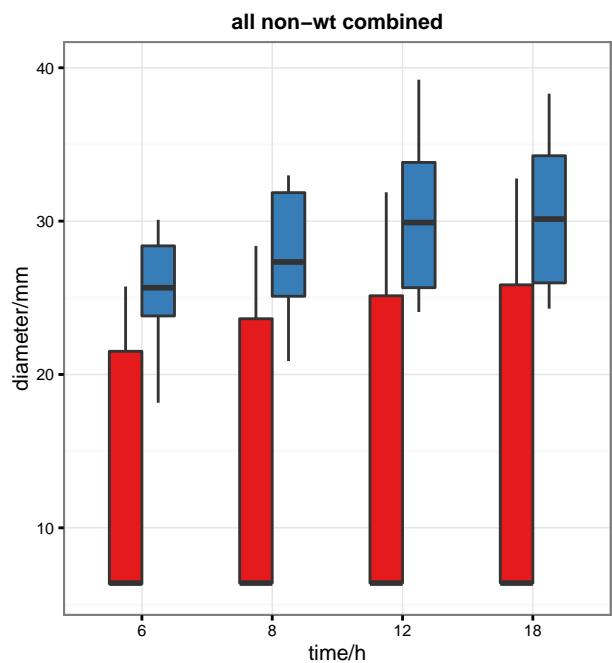
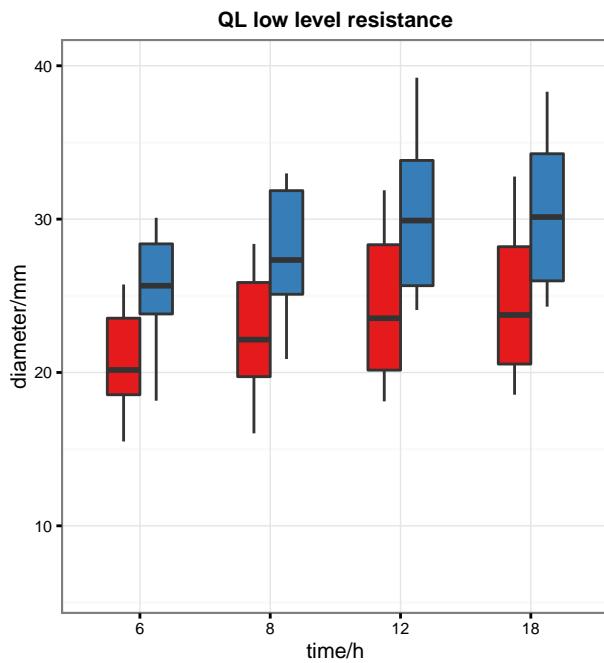
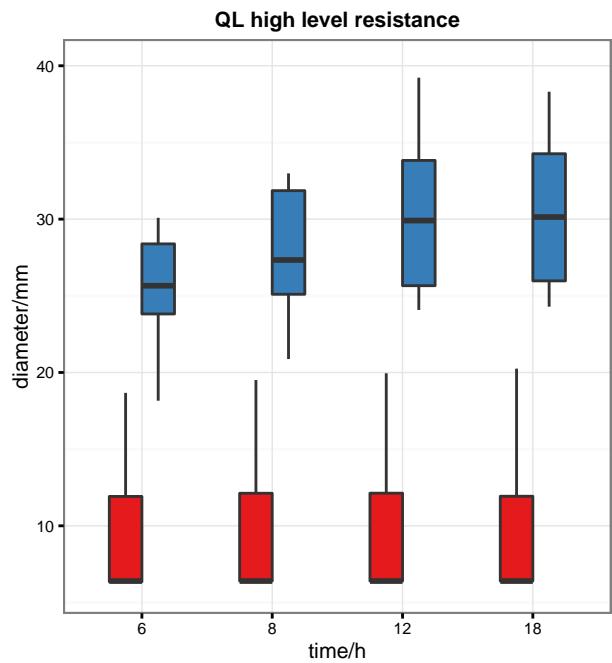




phenotypes	n
QL high level resistance	92
QL low level resistance	65
QL wild-type	144

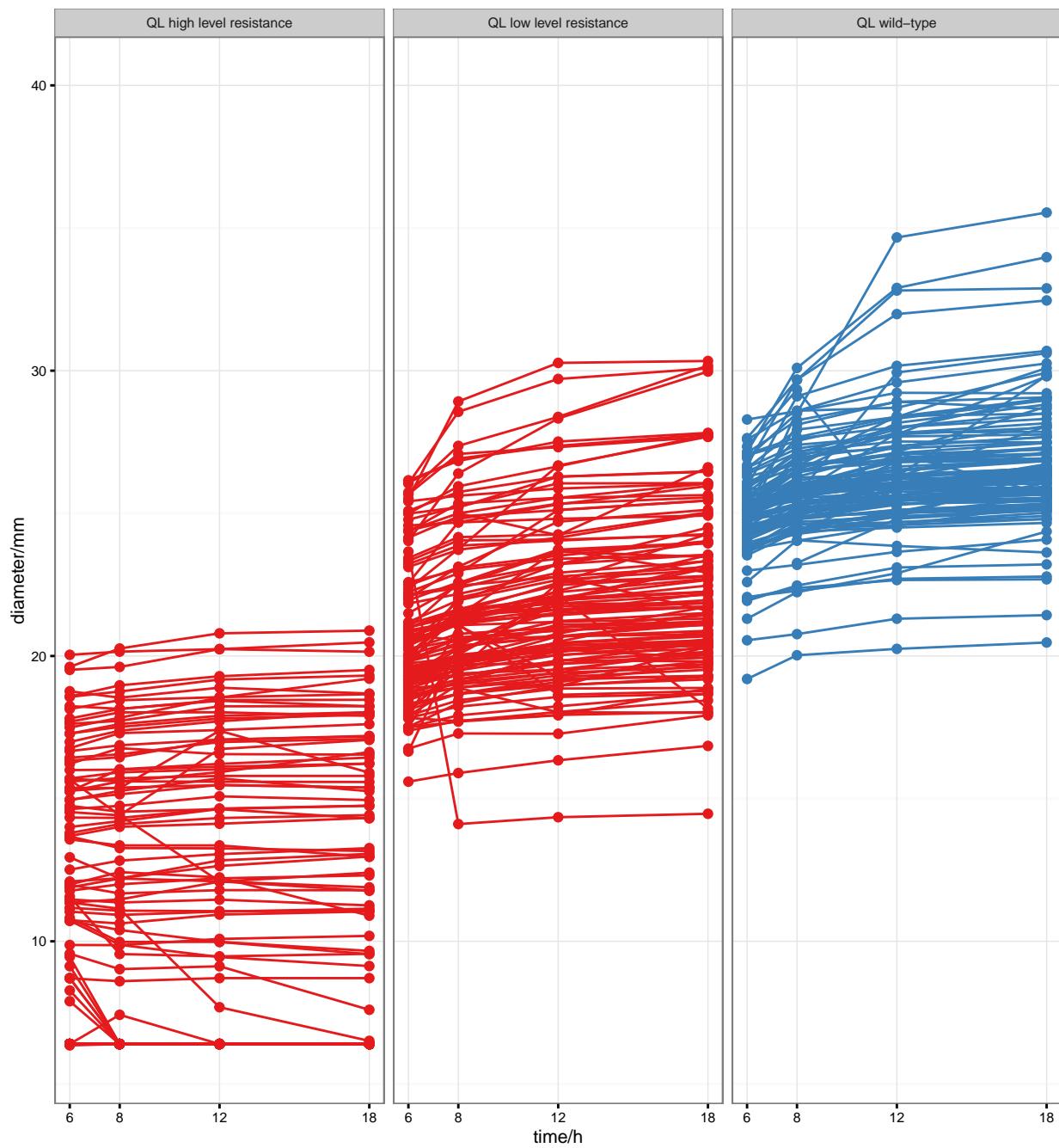
19.2 Norfloxacin, Escherichia coli

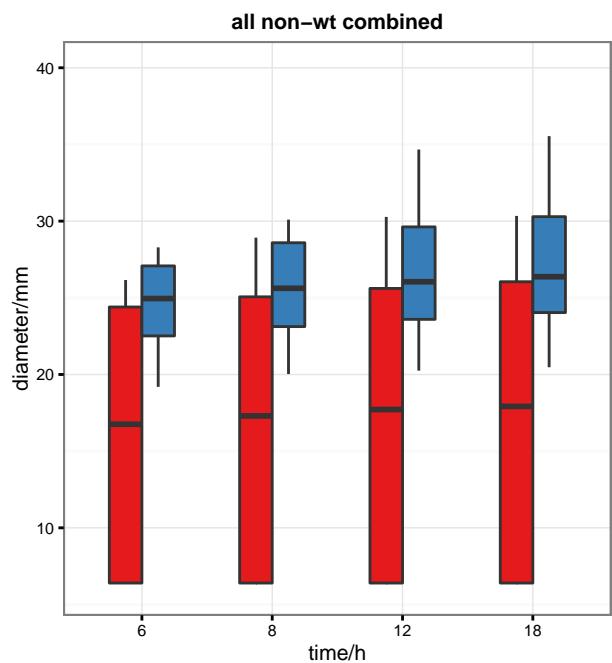
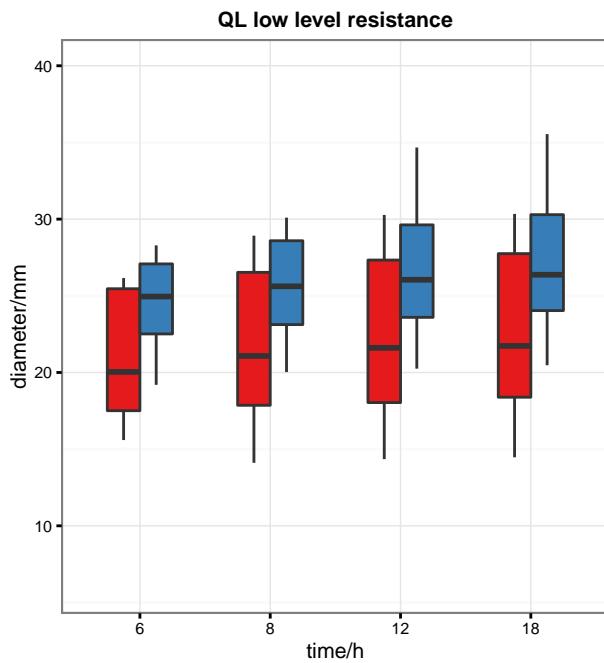
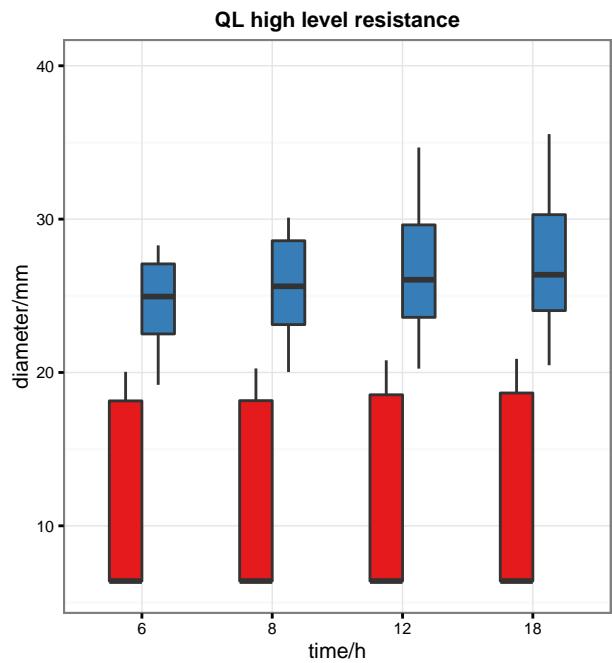




phenotypes	n
QL high level resistance	259
QL low level resistance	81
QL wild-type	135

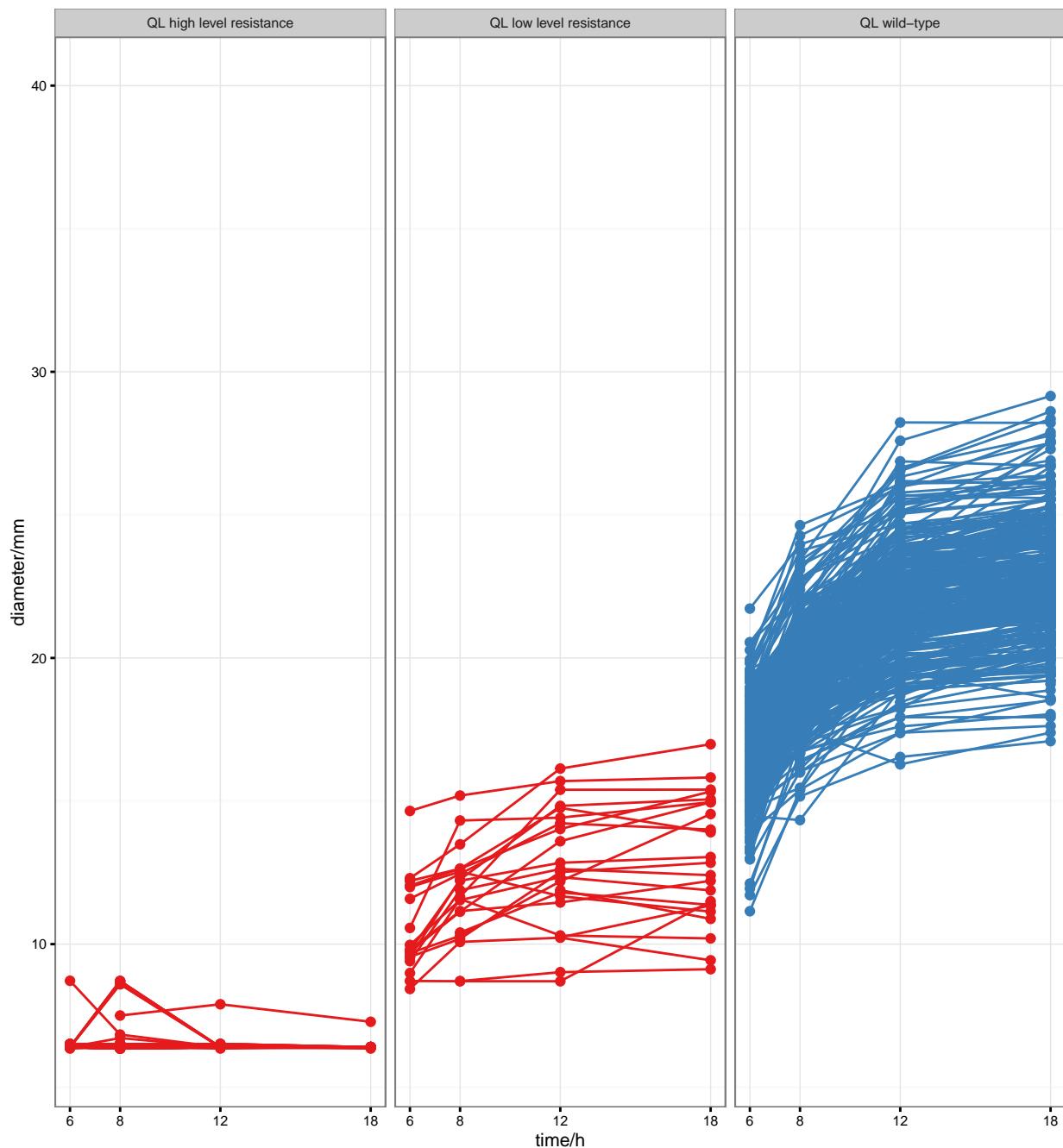
19.3 Norfloxacin, Klebsiella pneumoniae

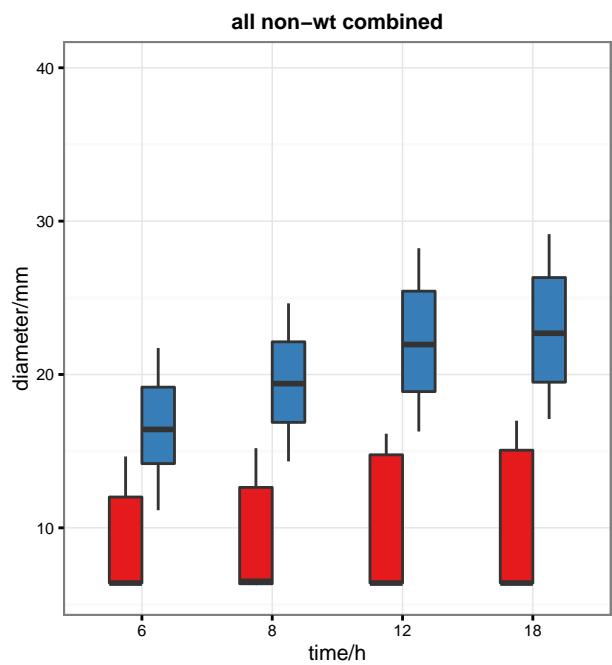
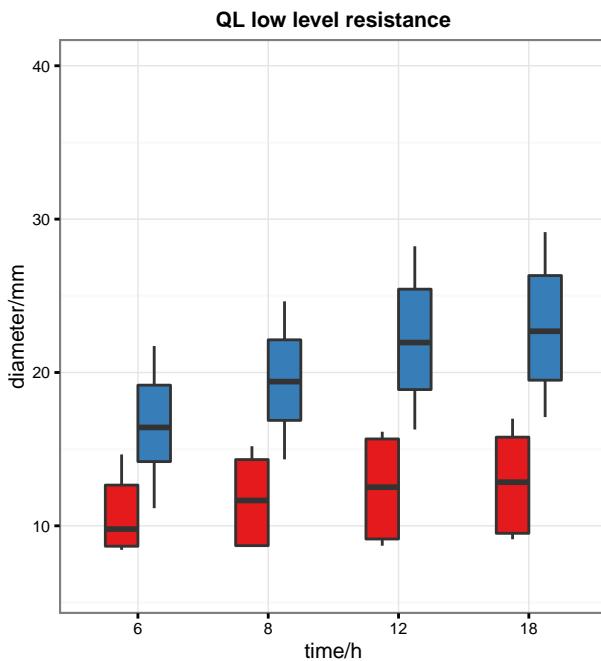
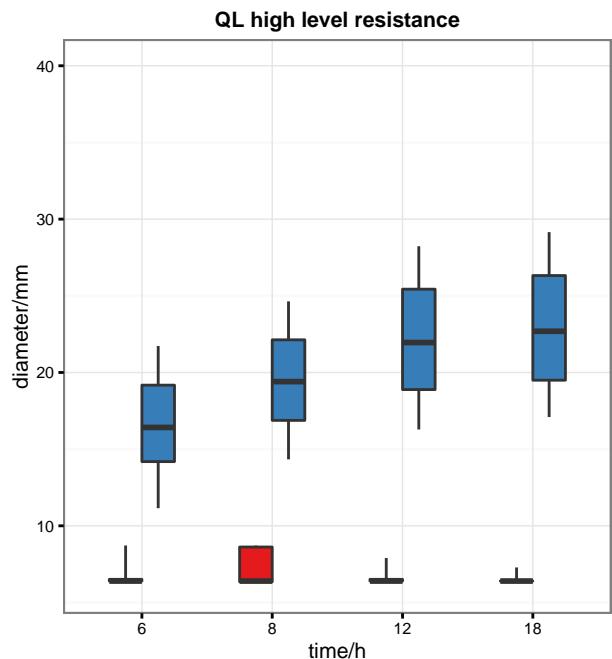




phenotypes	n
QL high level resistance	140
QL low level resistance	117
QL wild-type	119

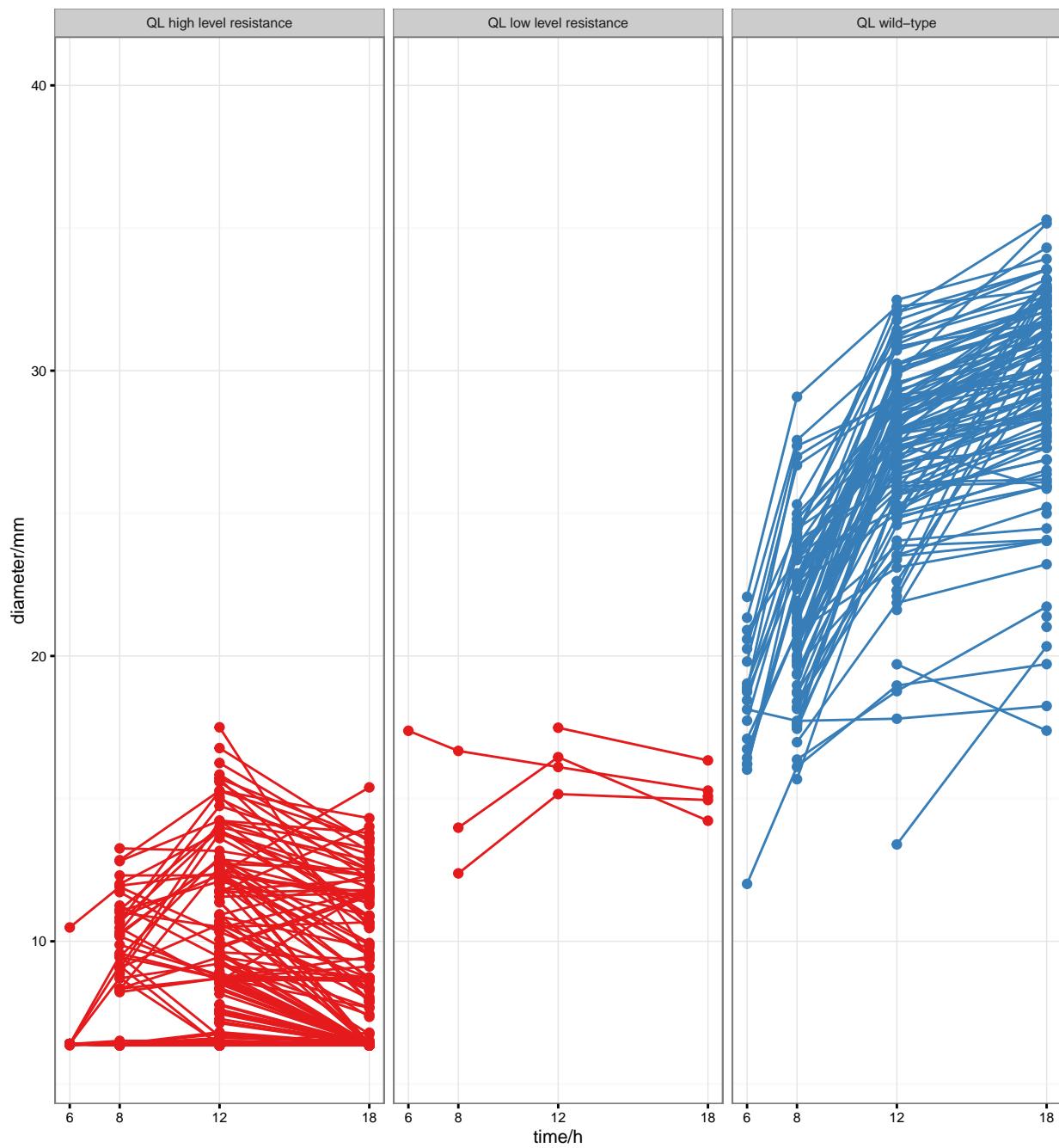
19.4 Norfloxacin, *Staphylococcus aureus*

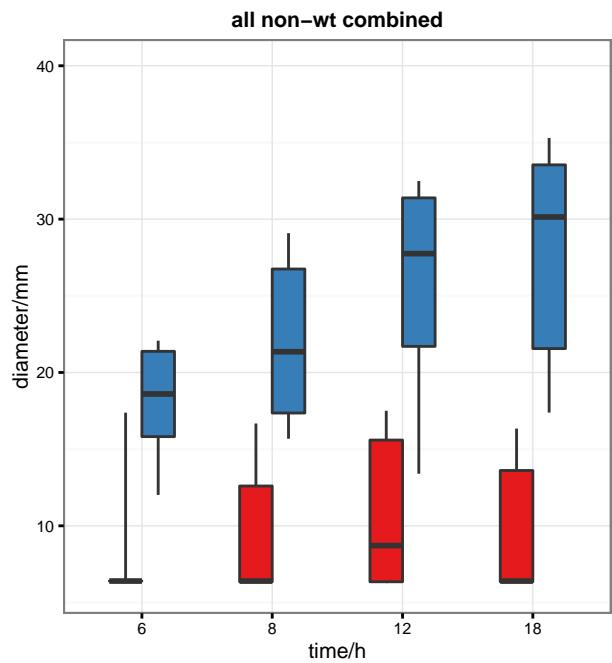
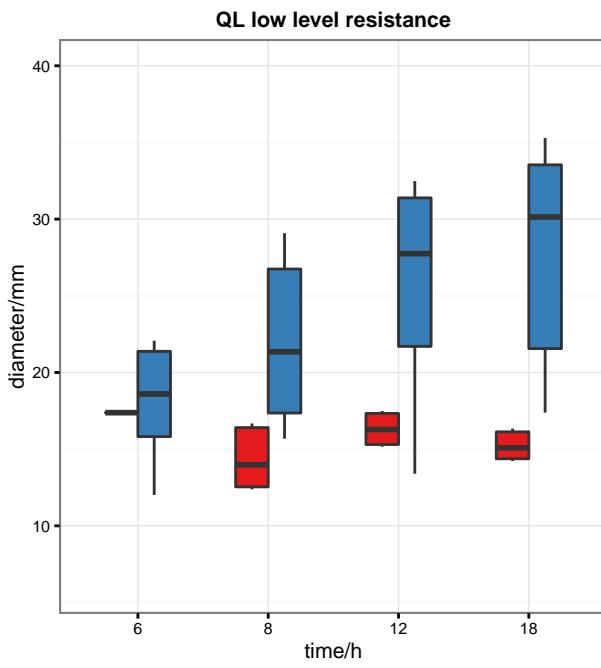
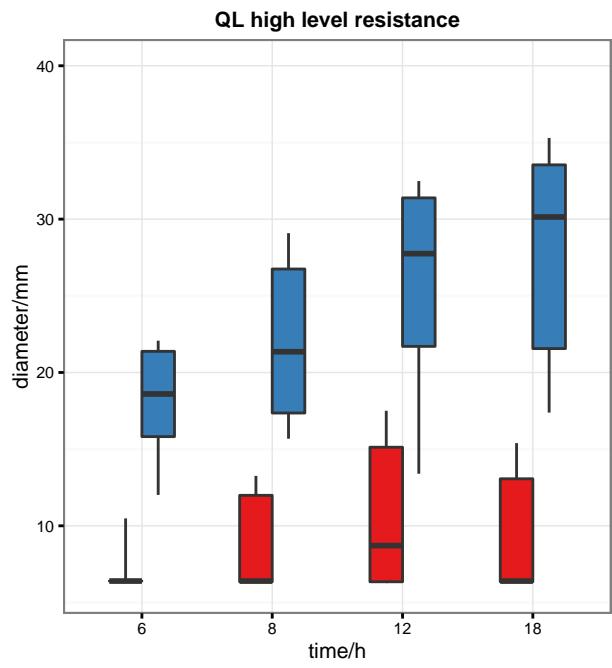




phenotypes	n
QL high level resistance	58
QL low level resistance	23
QL wild-type	326

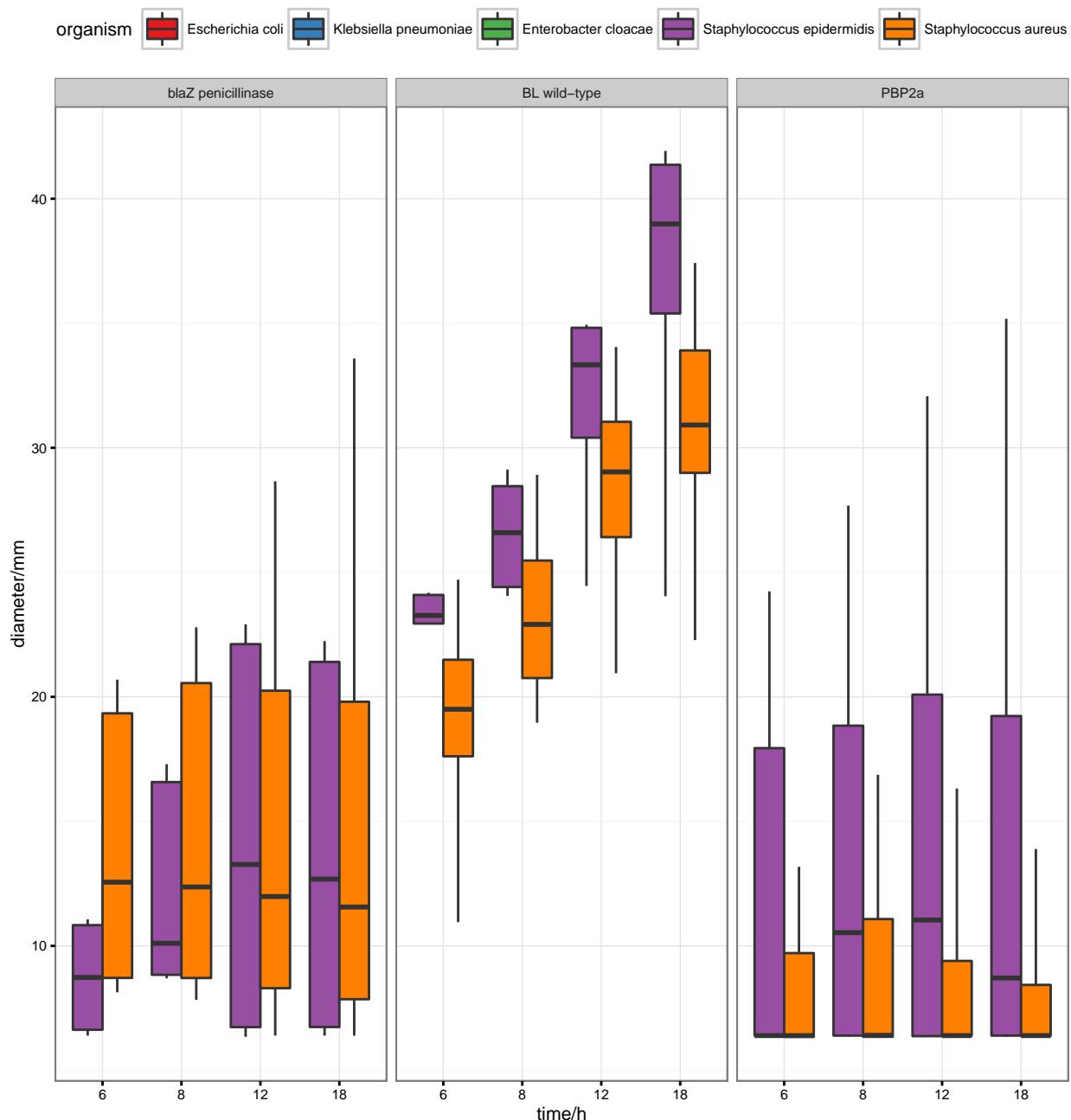
19.5 Norfloxacin, *Staphylococcus epidermidis*



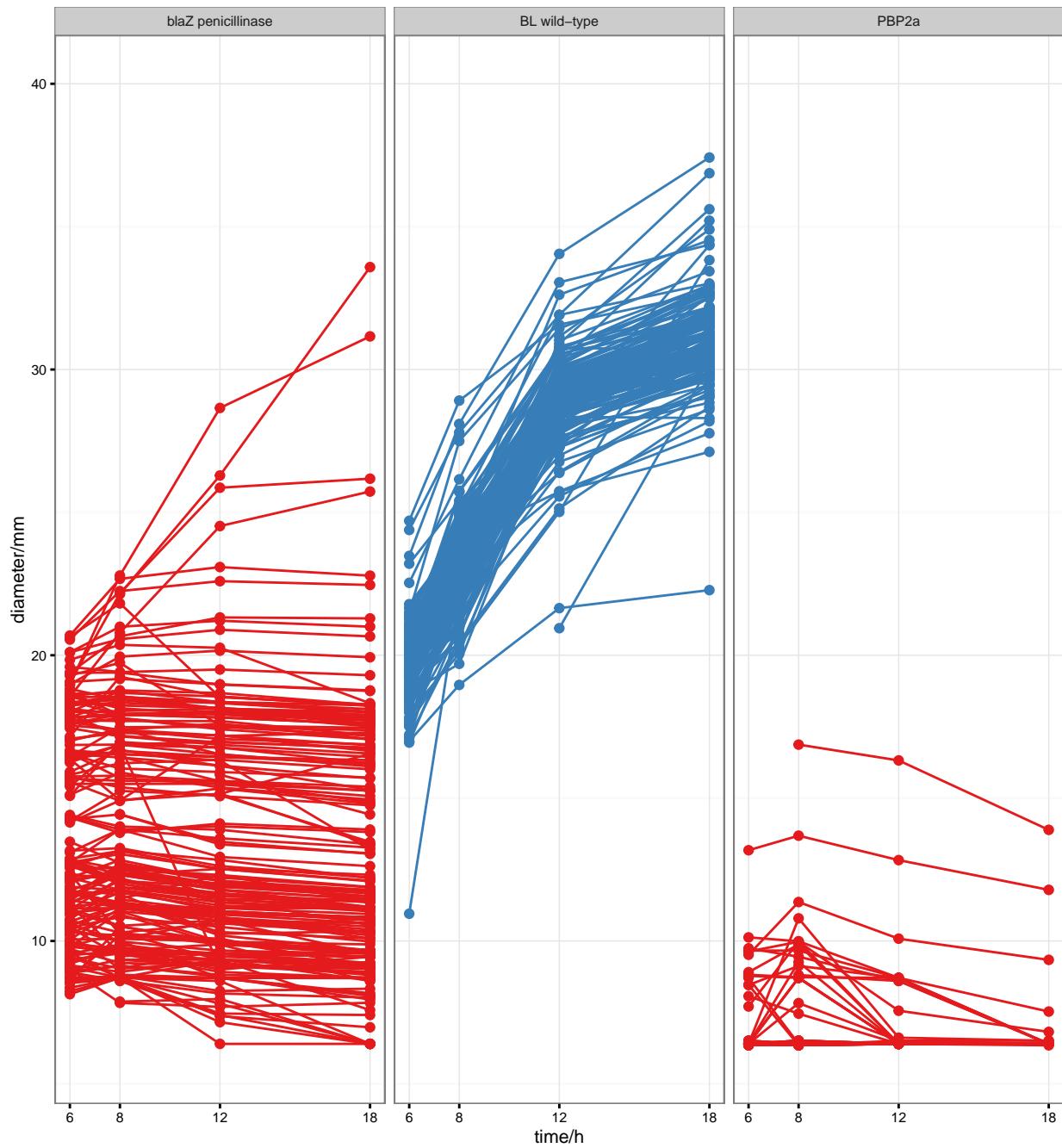


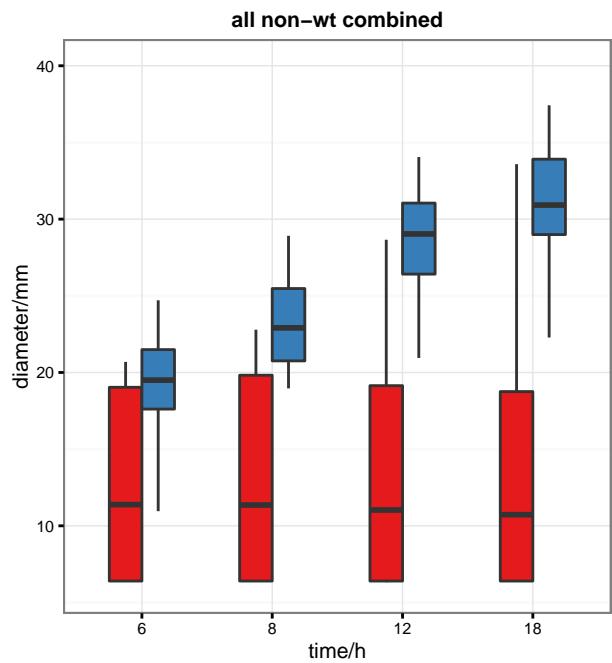
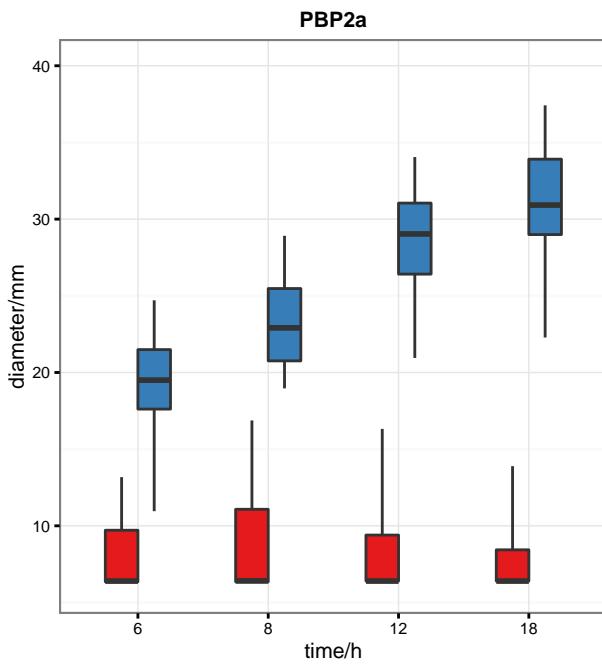
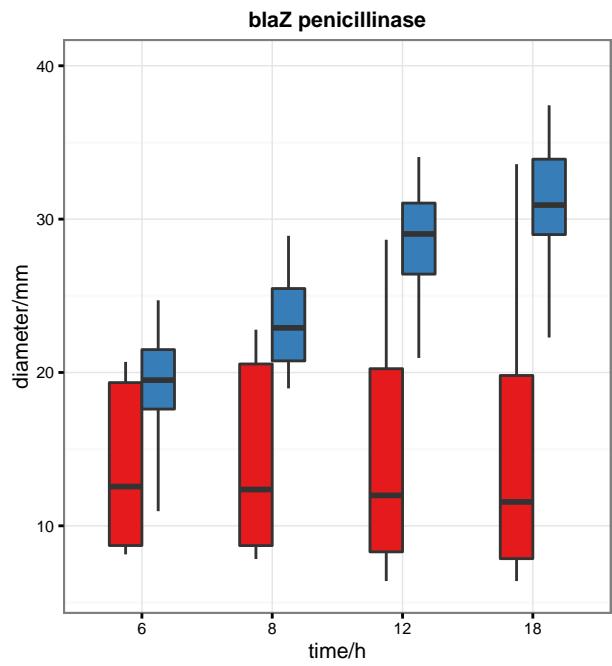
phenotypes	n
QL high level resistance	178
QL low level resistance	5
QL wild-type	111

20 Penicillin



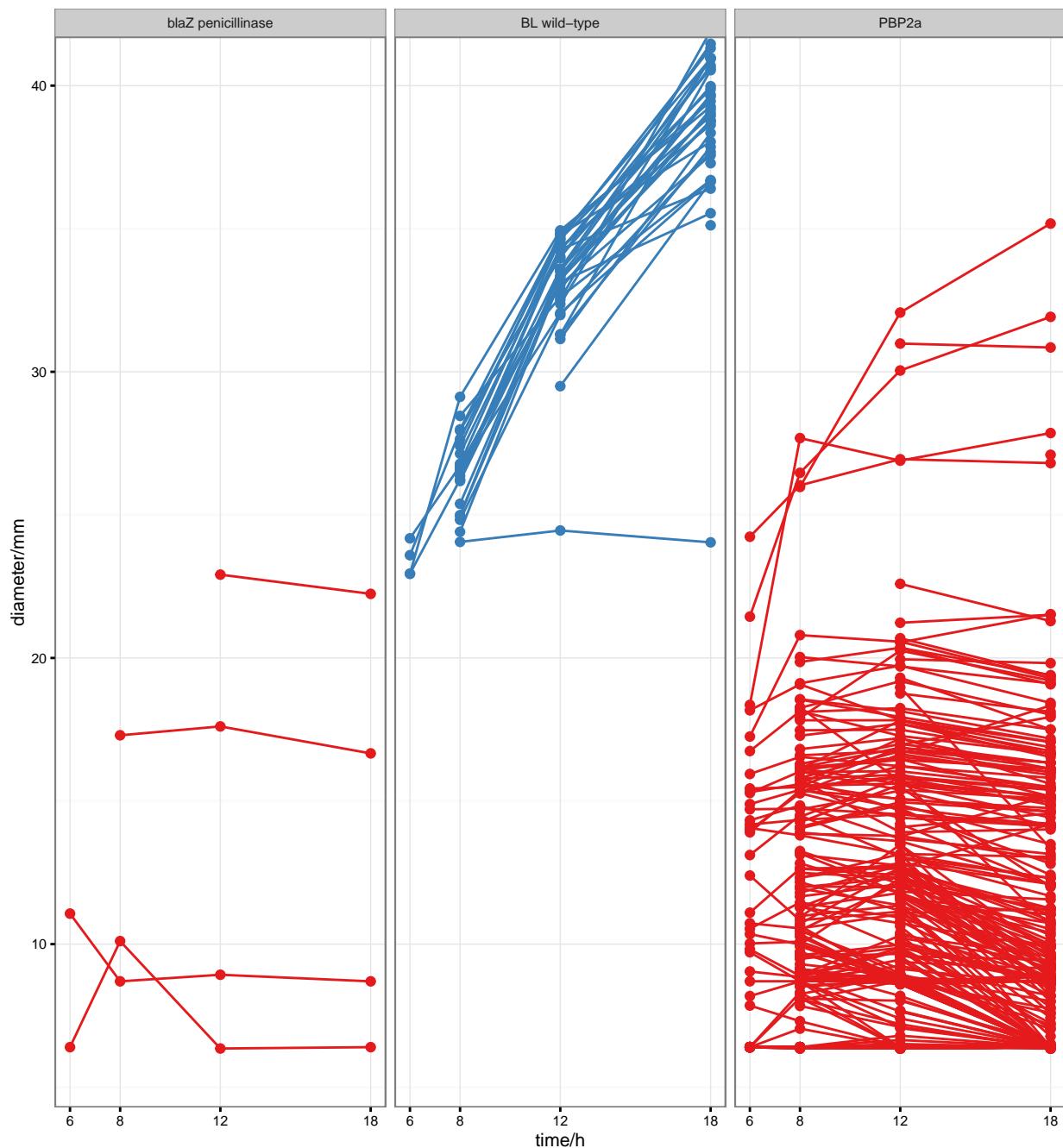
20.1 Penicillin, *Staphylococcus aureus*

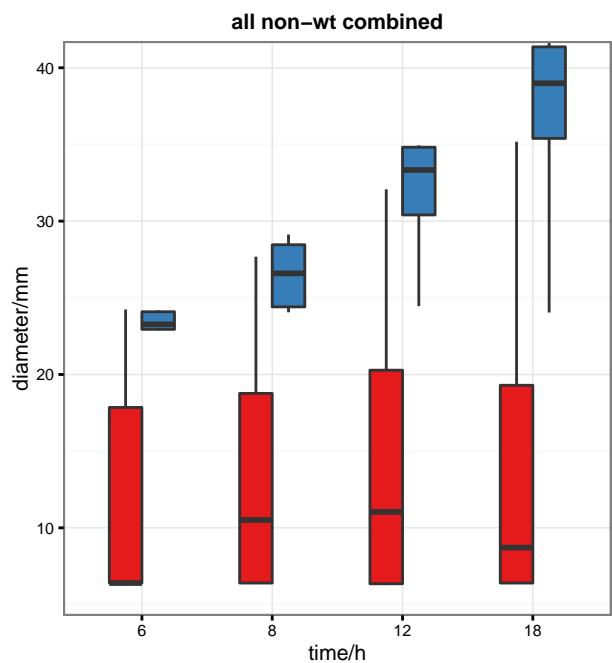
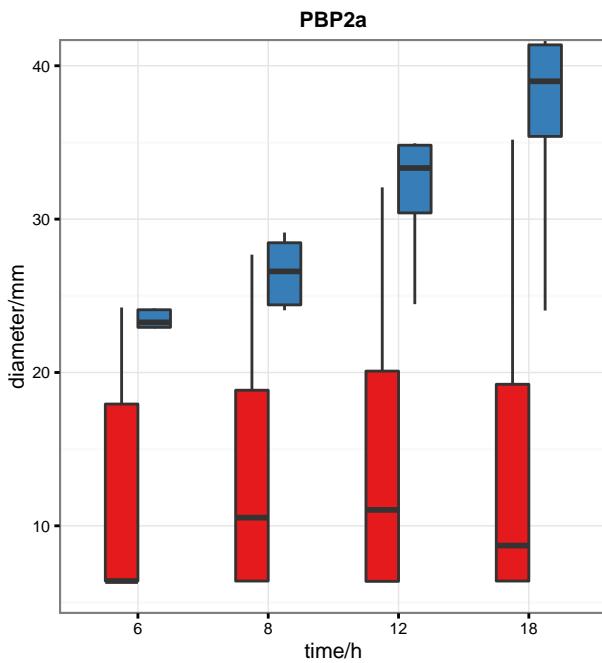
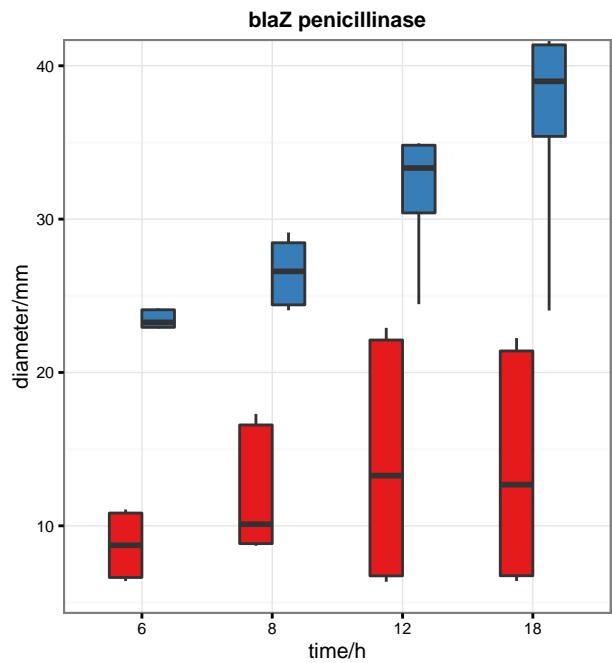




phenotypes	n
blaZ penicillinase	185
BL wild-type	158
PBP2a	51

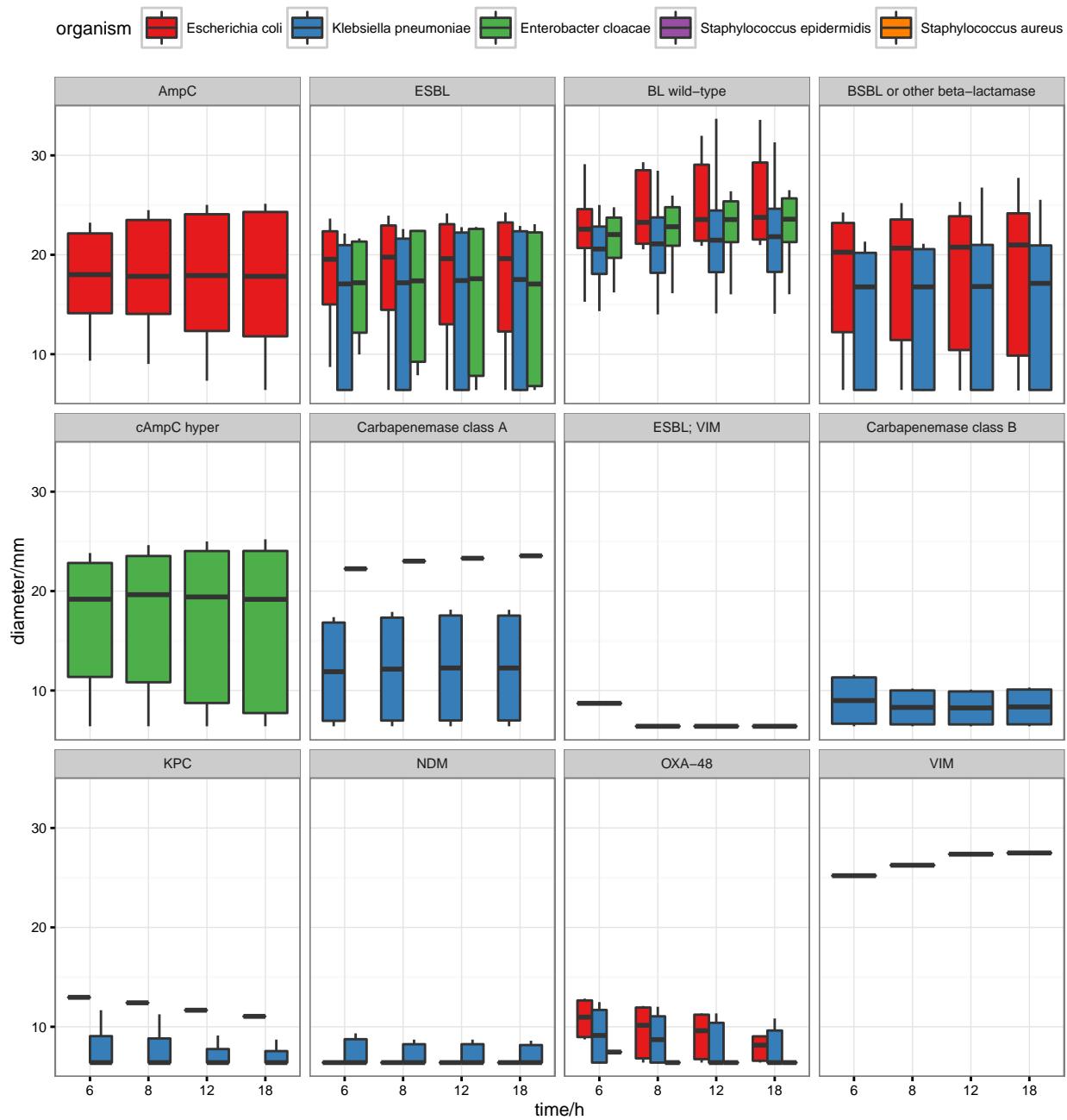
20.2 Penicillin, *Staphylococcus epidermidis*



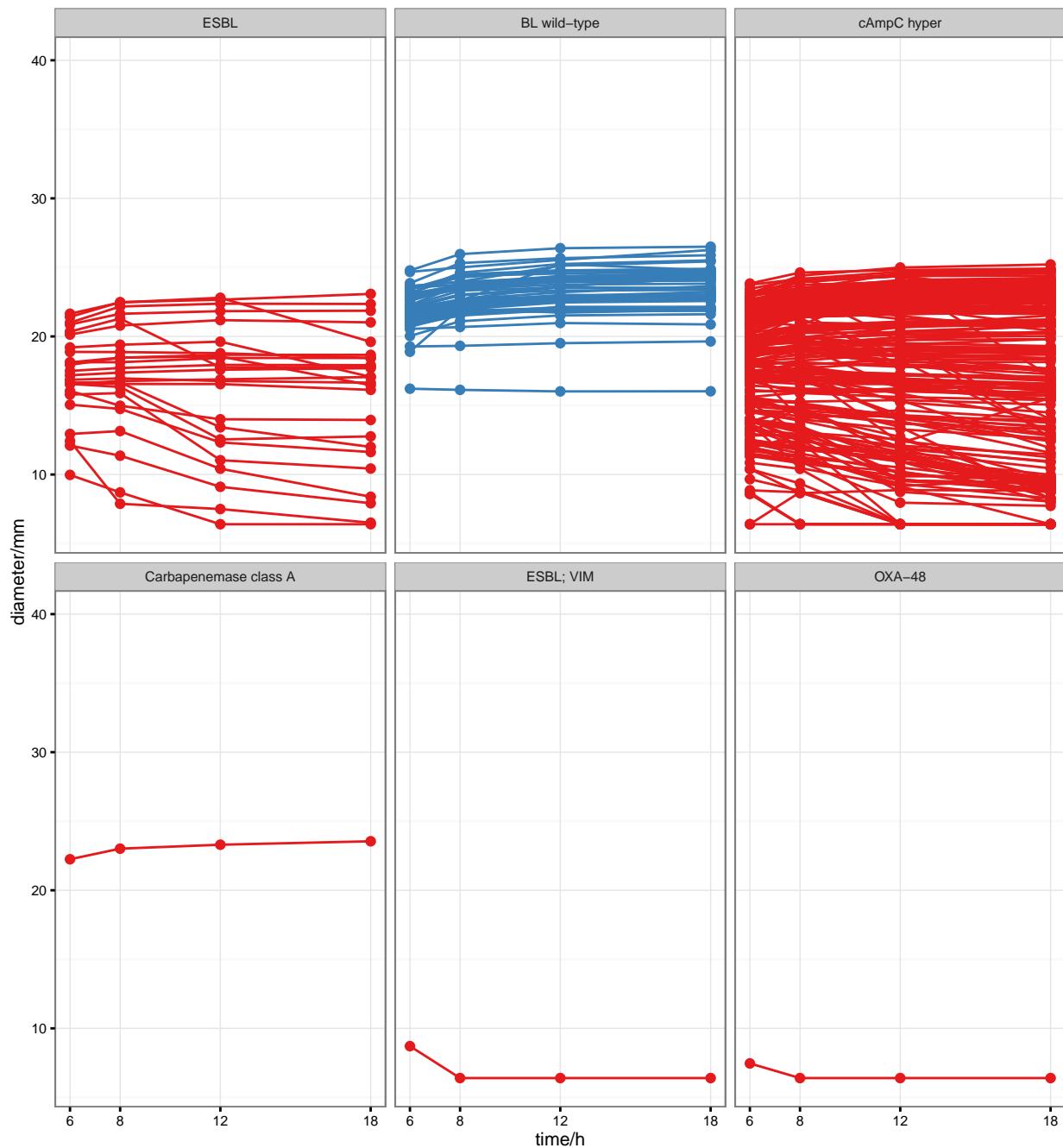


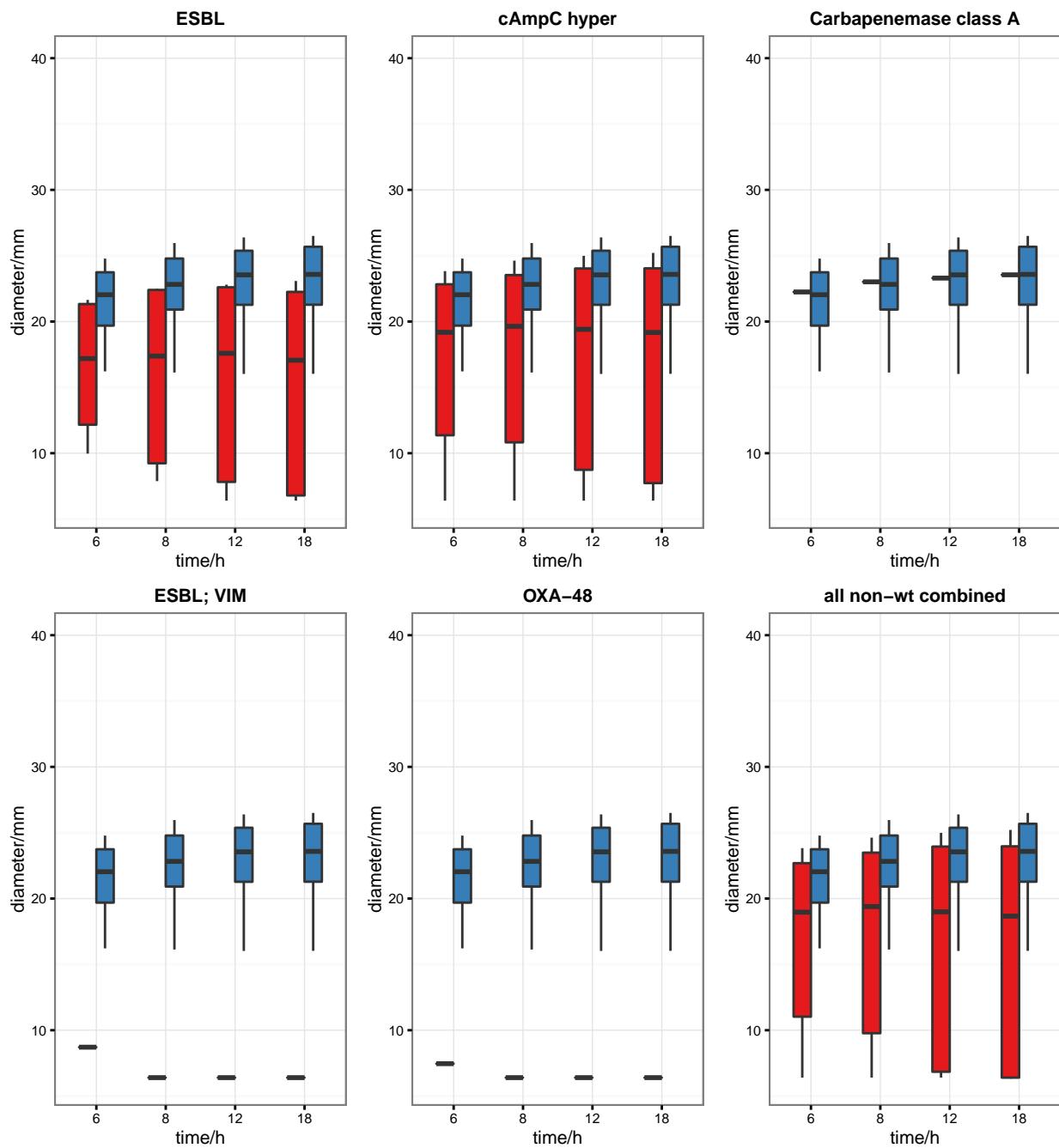
phenotypes	n
blaZ penicillinase	4
BL wild-type	34
PBP2a	256

21 Piperacillin/Tazobactam



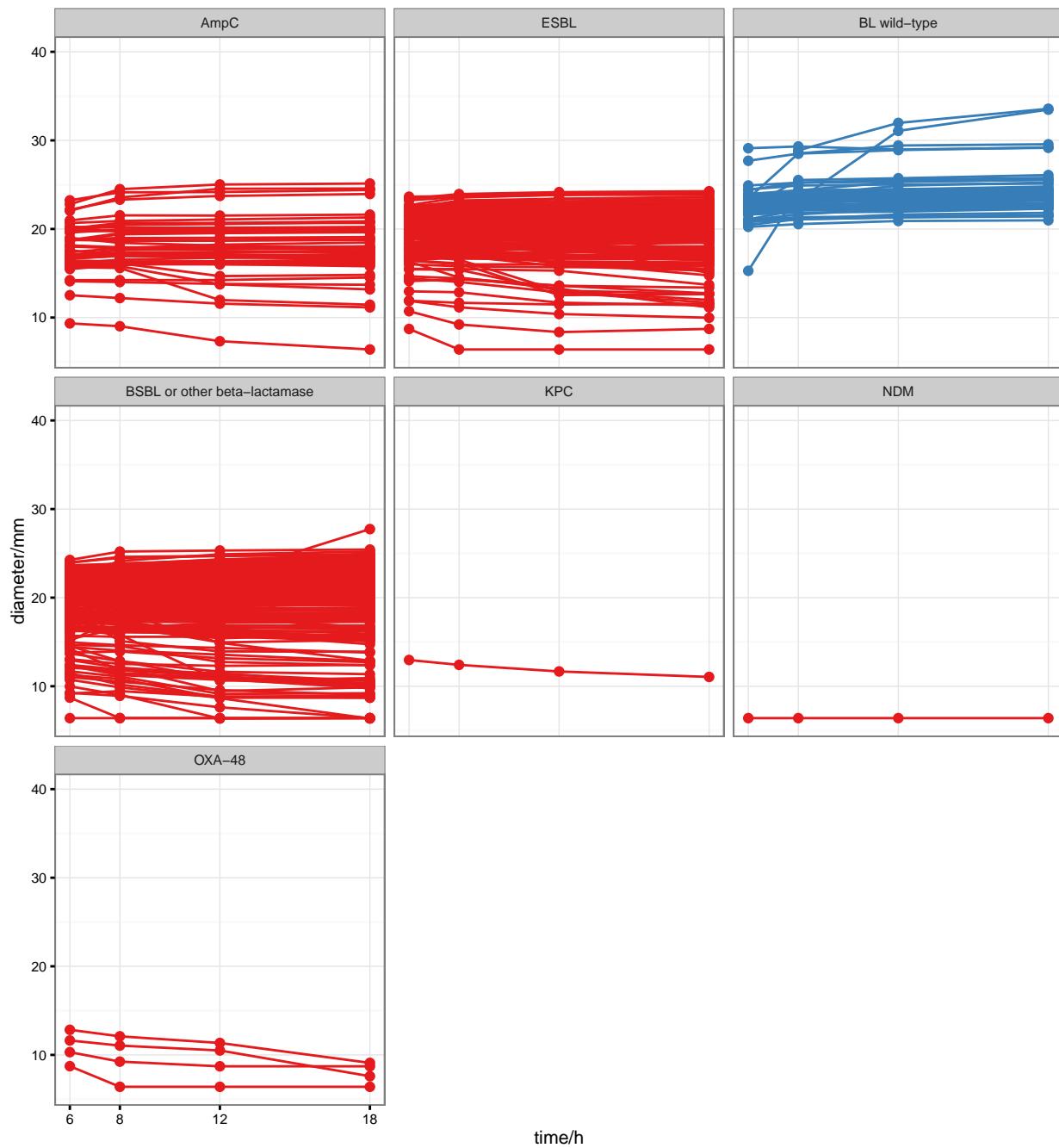
21.1 Piperacillin/Tazobactam, *Enterobacter cloacae*

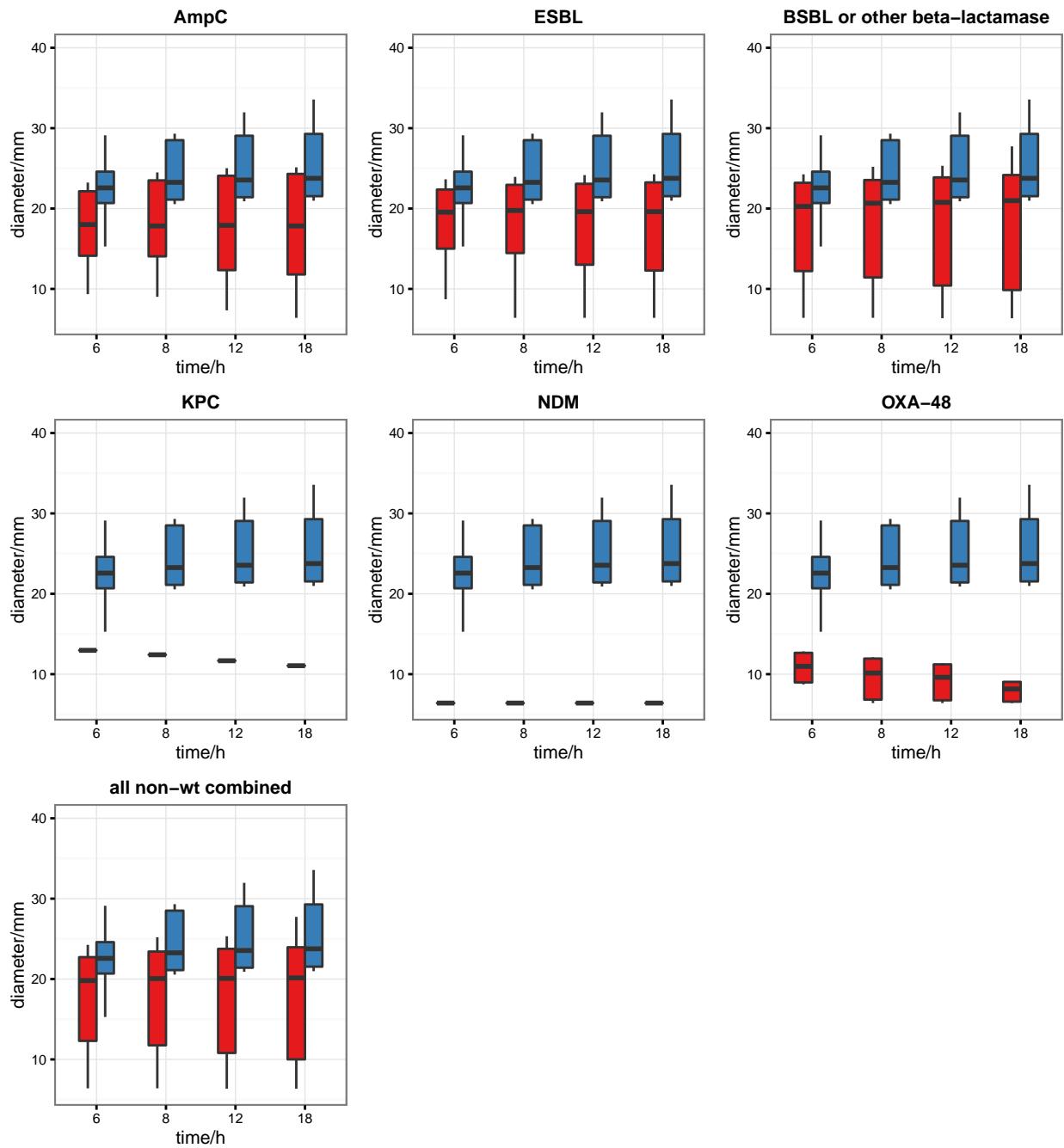




phenotypes	n
ESBL	25
BL wild-type	52
cAmpC hyper	221
Carbapenemase class A	1
ESBL; VIM	1
OXA-48	1

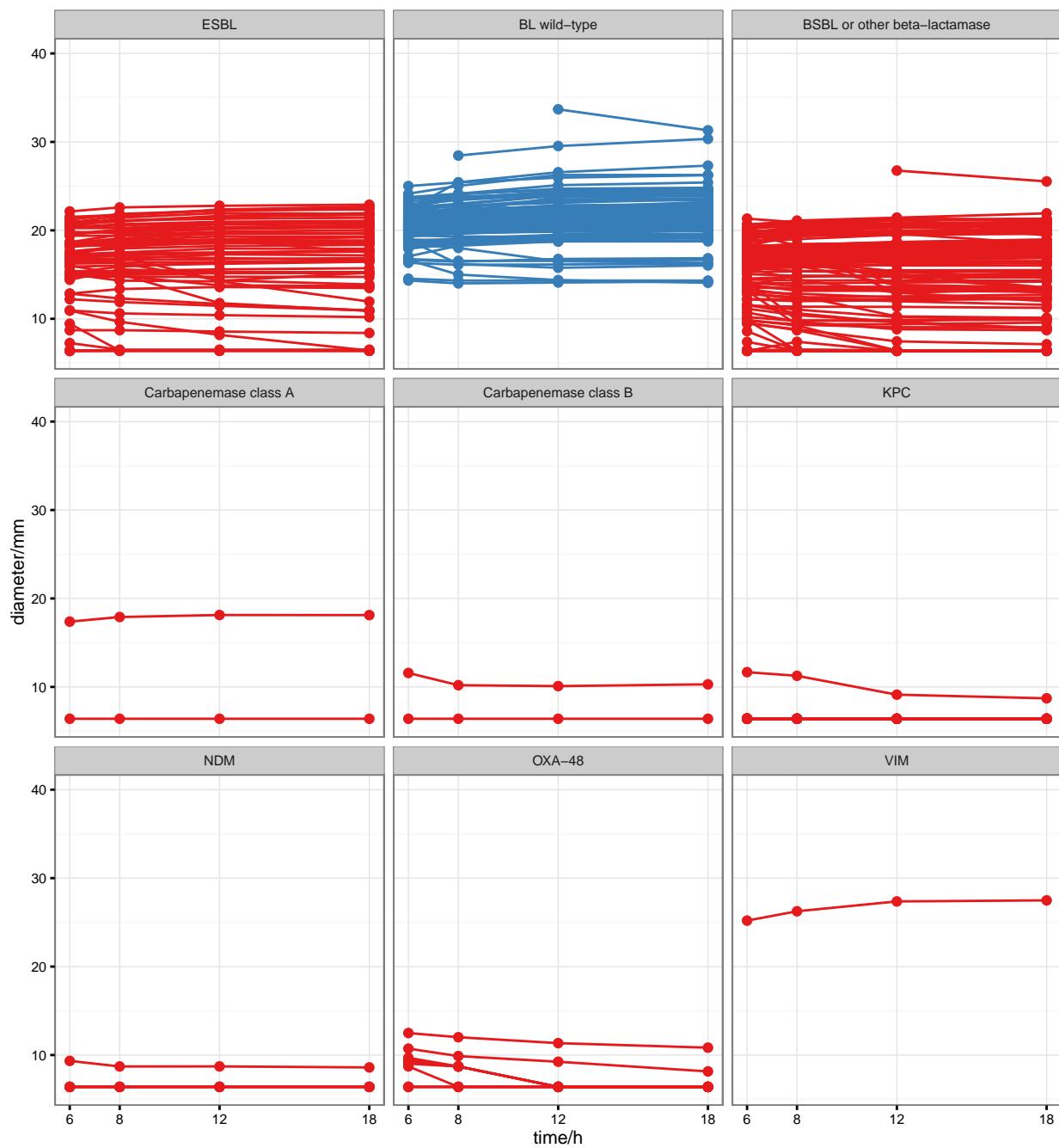
21.2 Piperacillin/Tazobactam, Escherichia coli

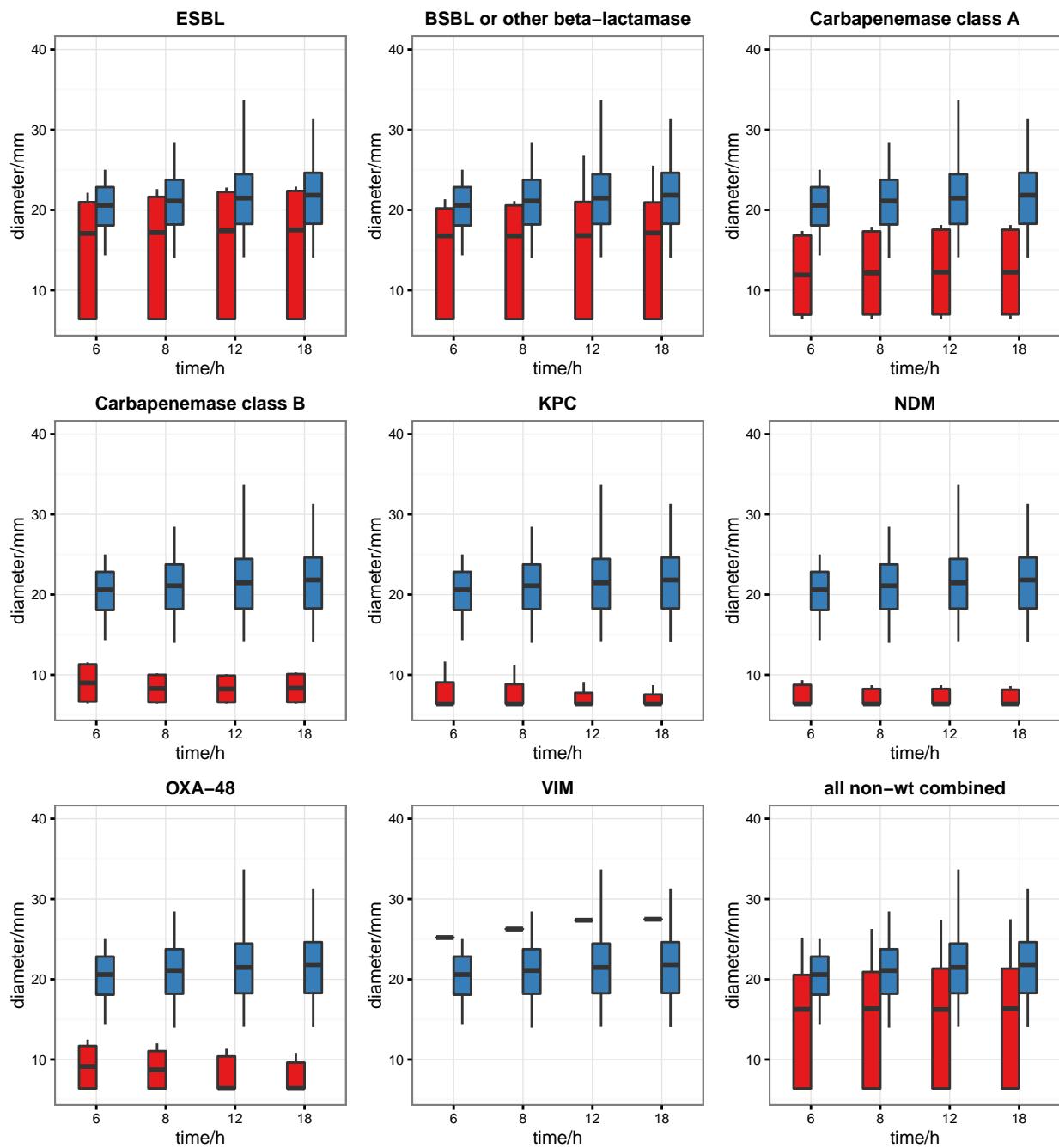




phenotypes	n
AmpC	45
ESBL	150
BL wild-type	57
BSBL or other beta-lactamase	217
KPC	1
NDM	1
OXA-48	4

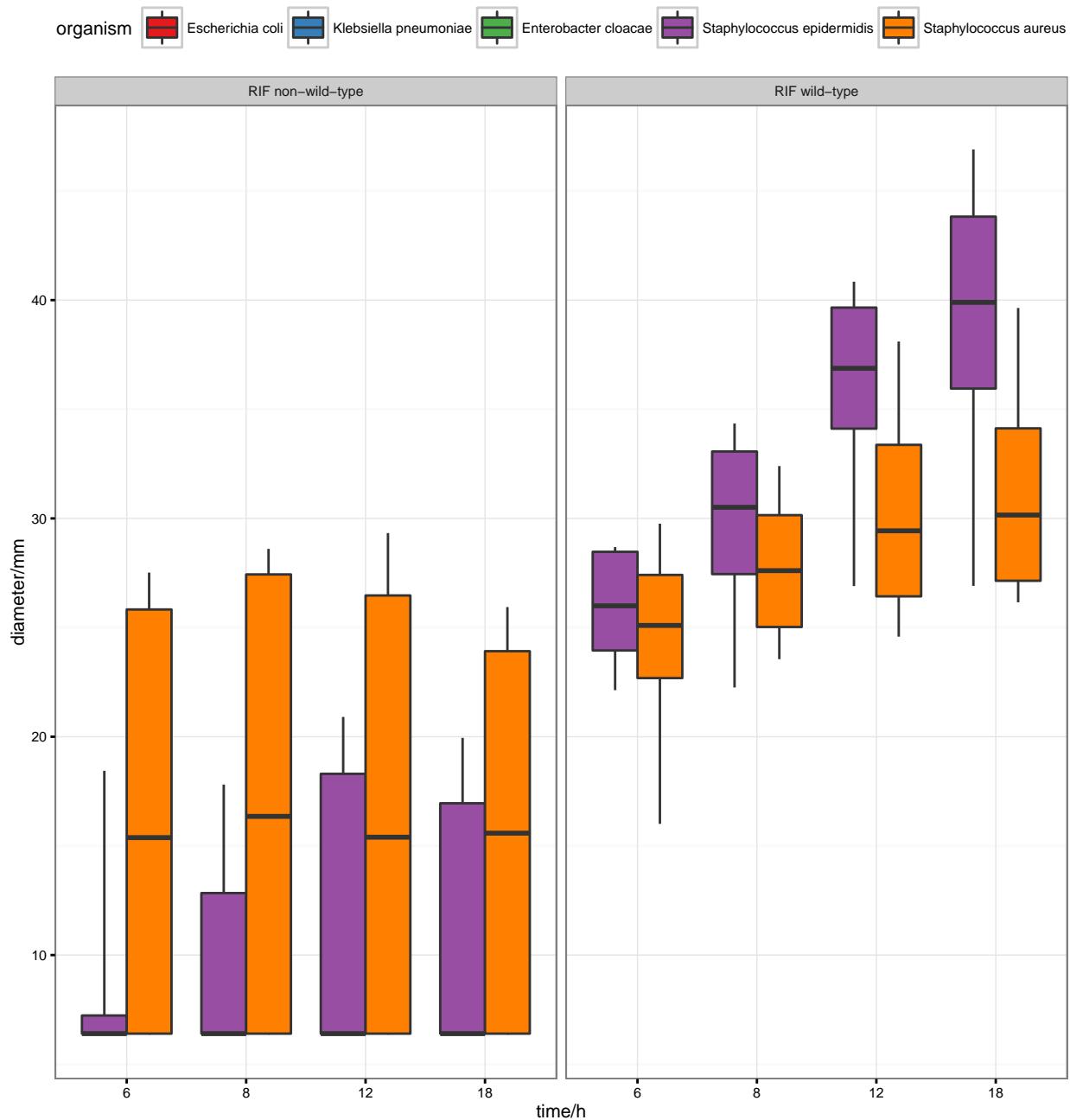
21.3 Piperacillin/Tazobactam, Klebsiella pneumoniae



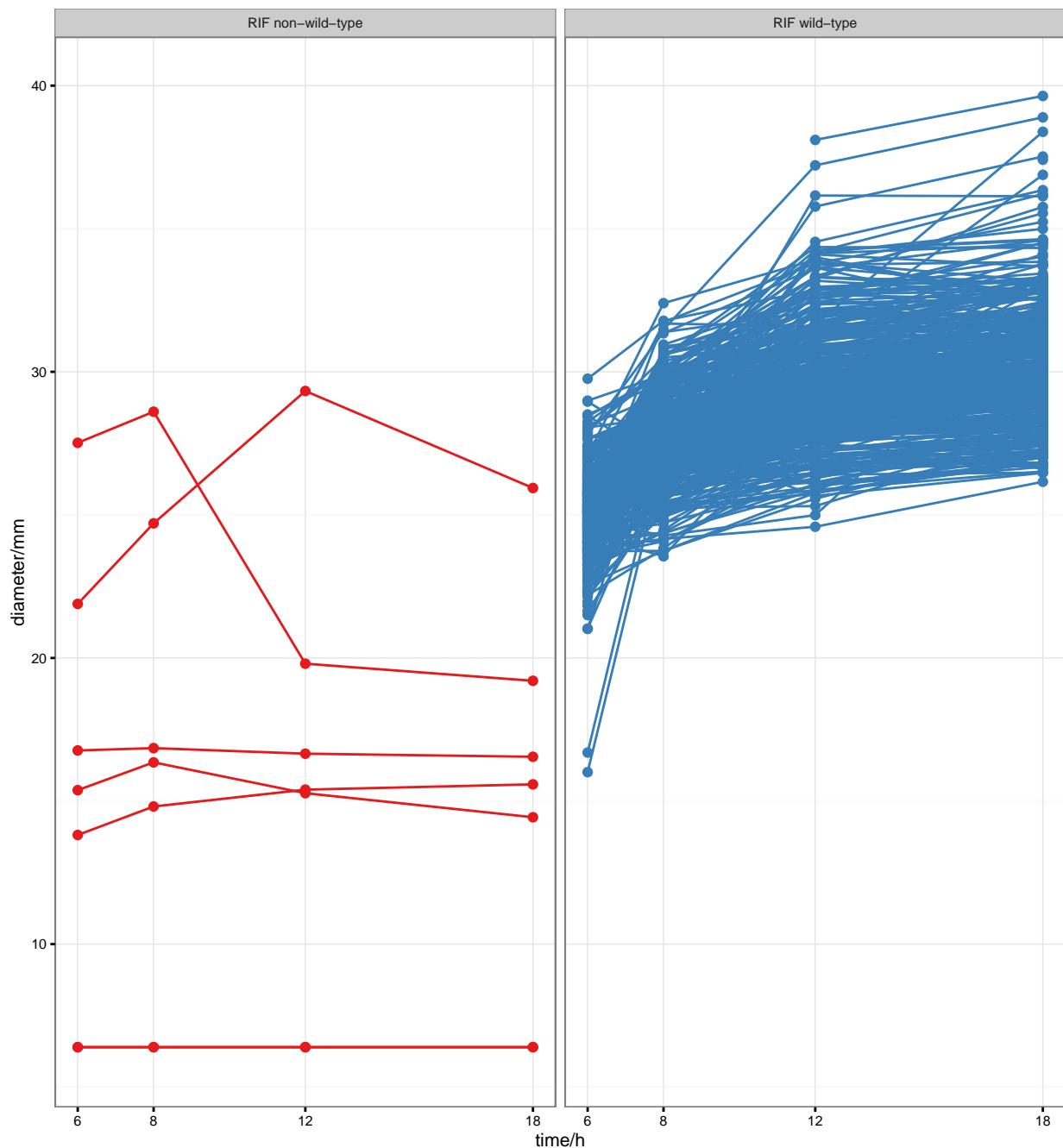


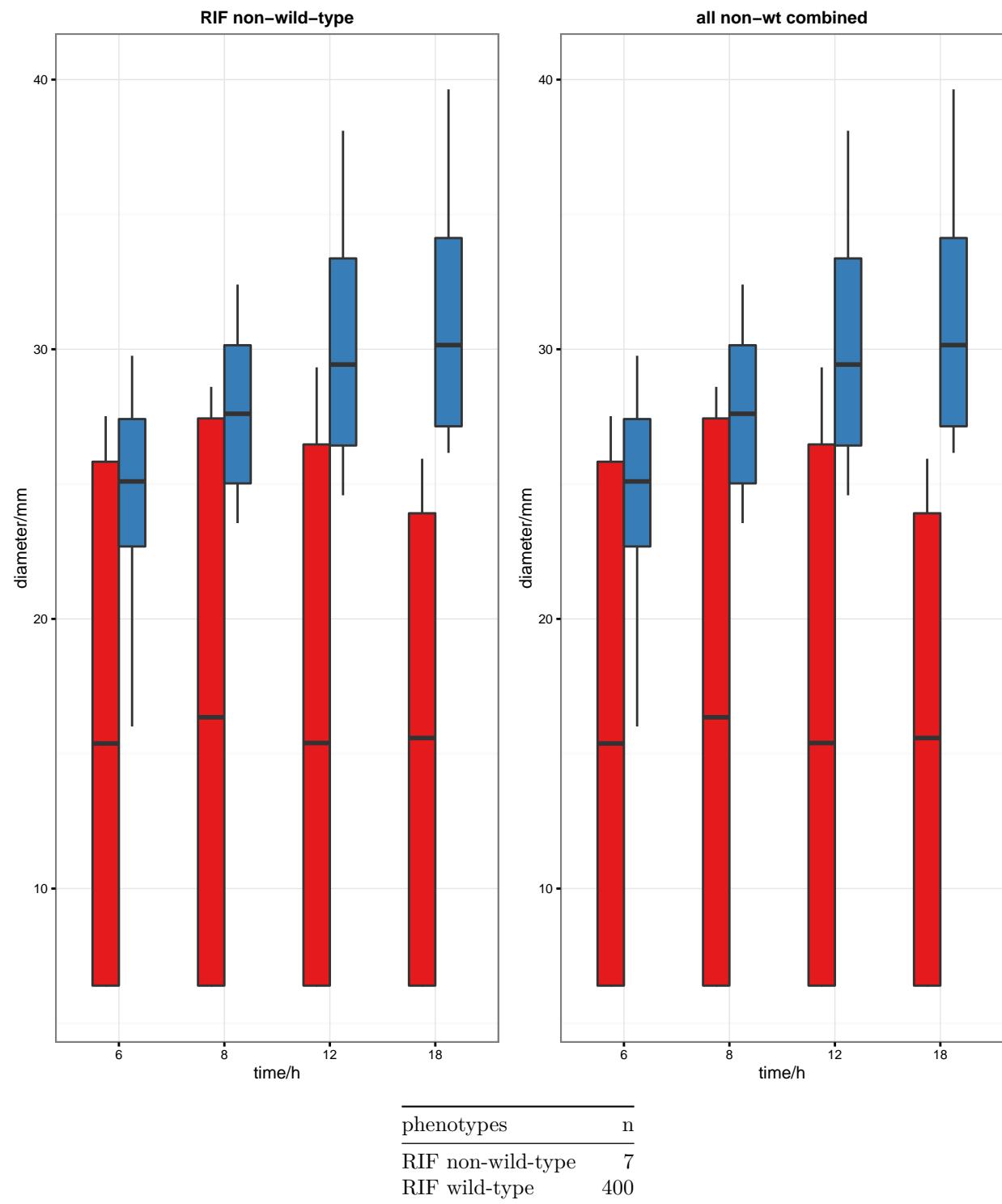
phenotypes	n
ESBL	61
BL wild-type	156
BSBL or other beta-lactamase	128
Carbapenemase class A	2
Carbapenemase class B	2
KPC	11
NDM	5
OXA-48	10
VIM	1
all non-wt combined	

22 Rifampicin

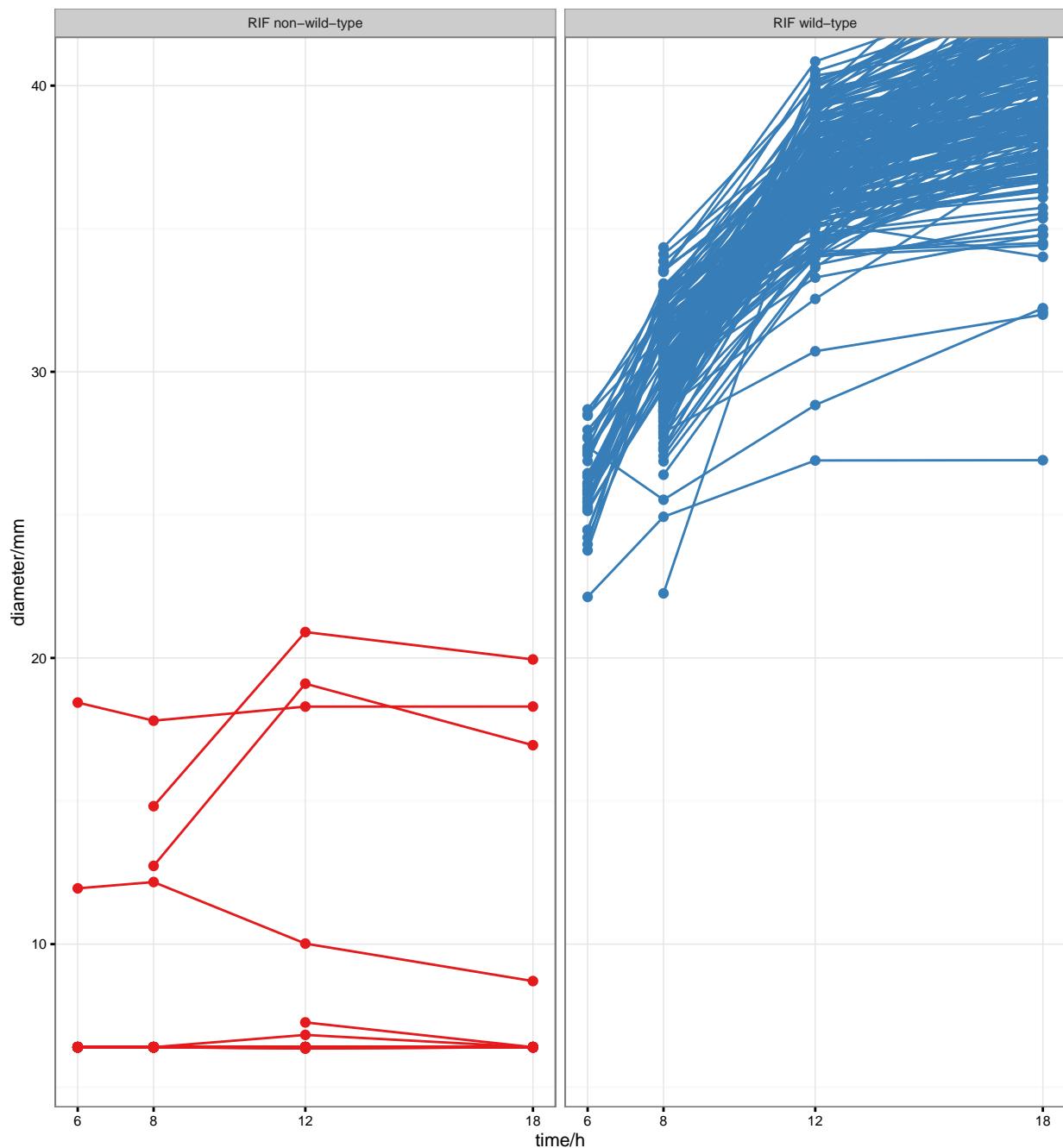


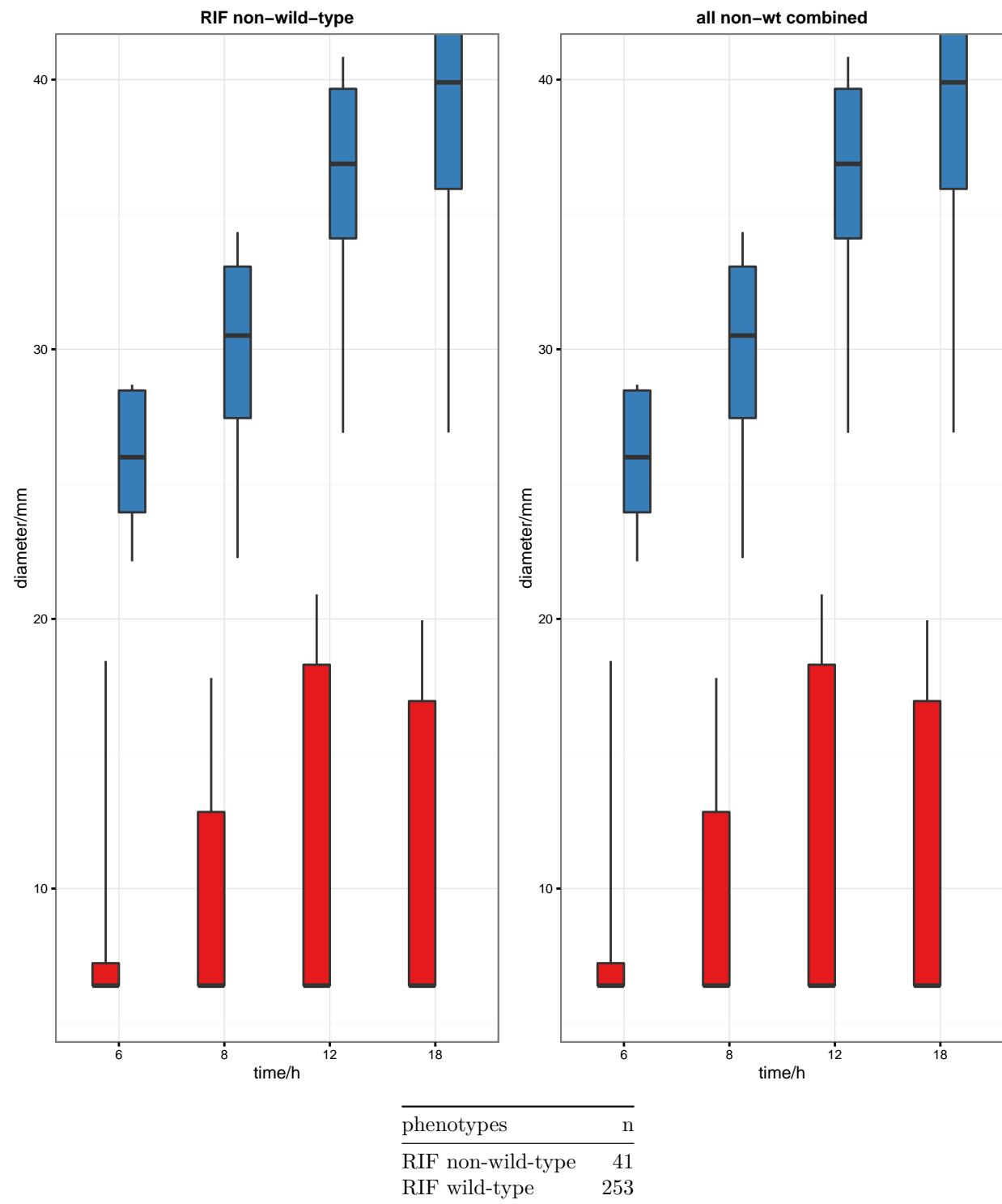
22.1 Rifampicin, *Staphylococcus aureus*



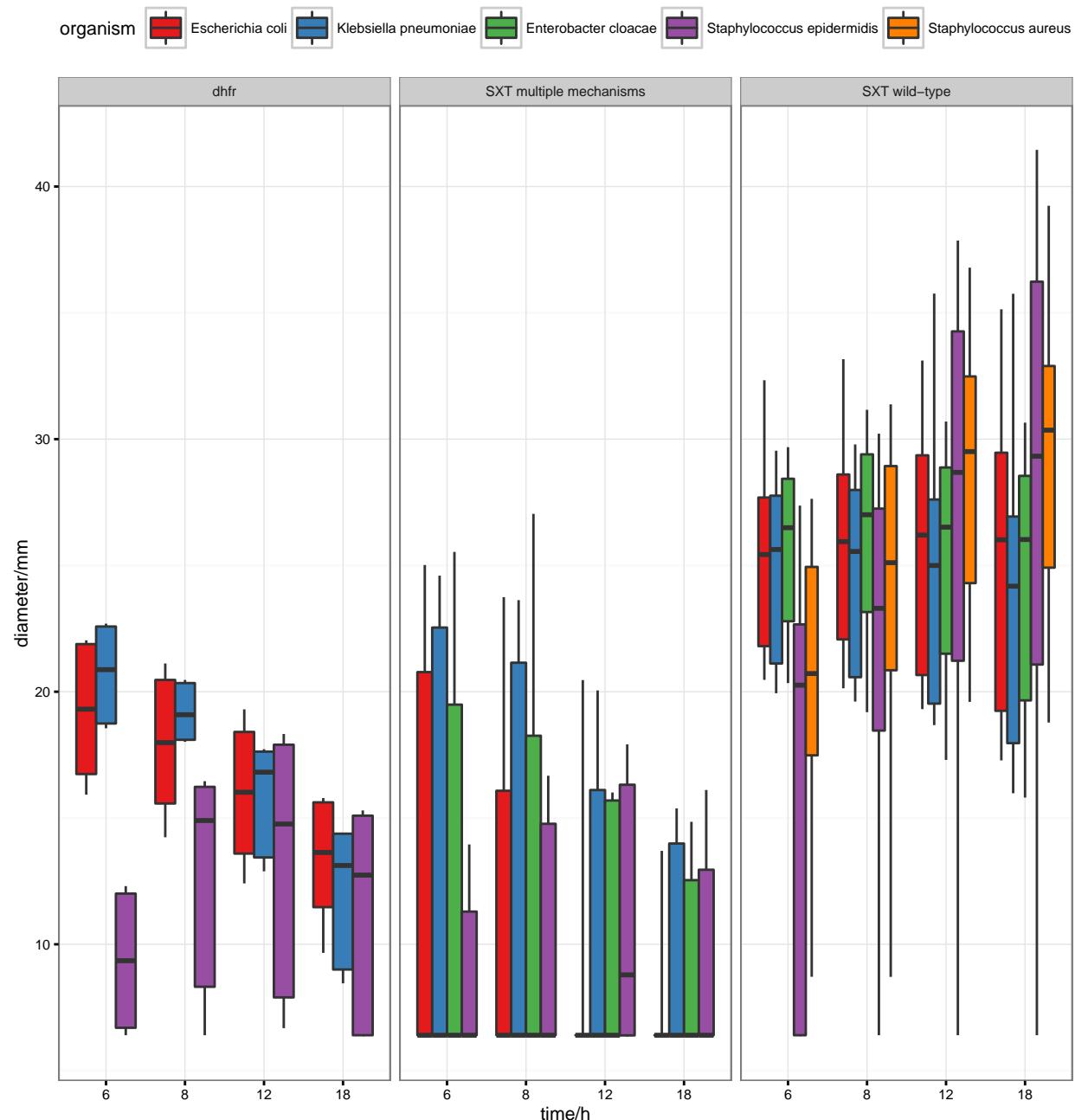


22.2 Rifampicin, *Staphylococcus epidermidis*

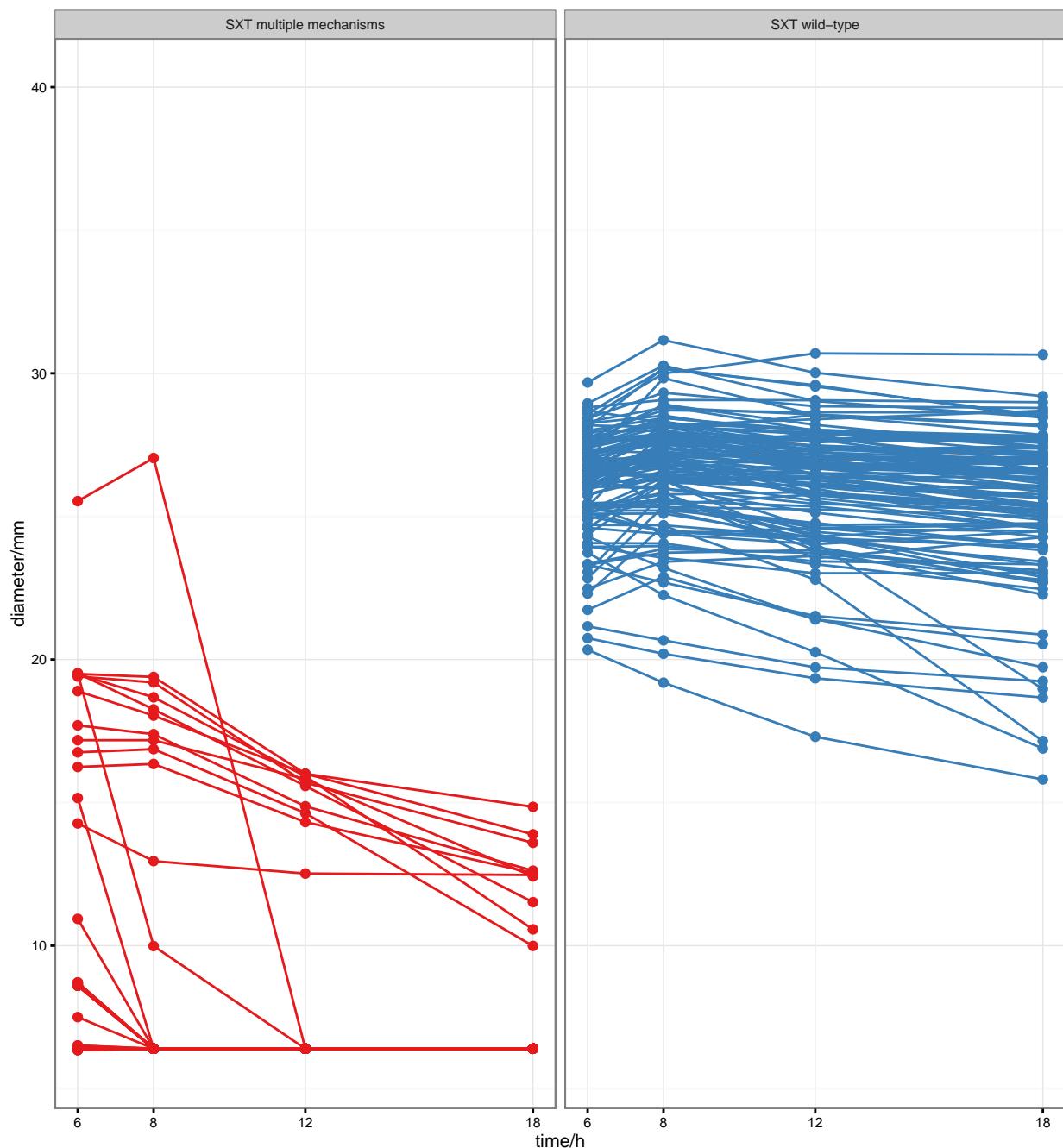


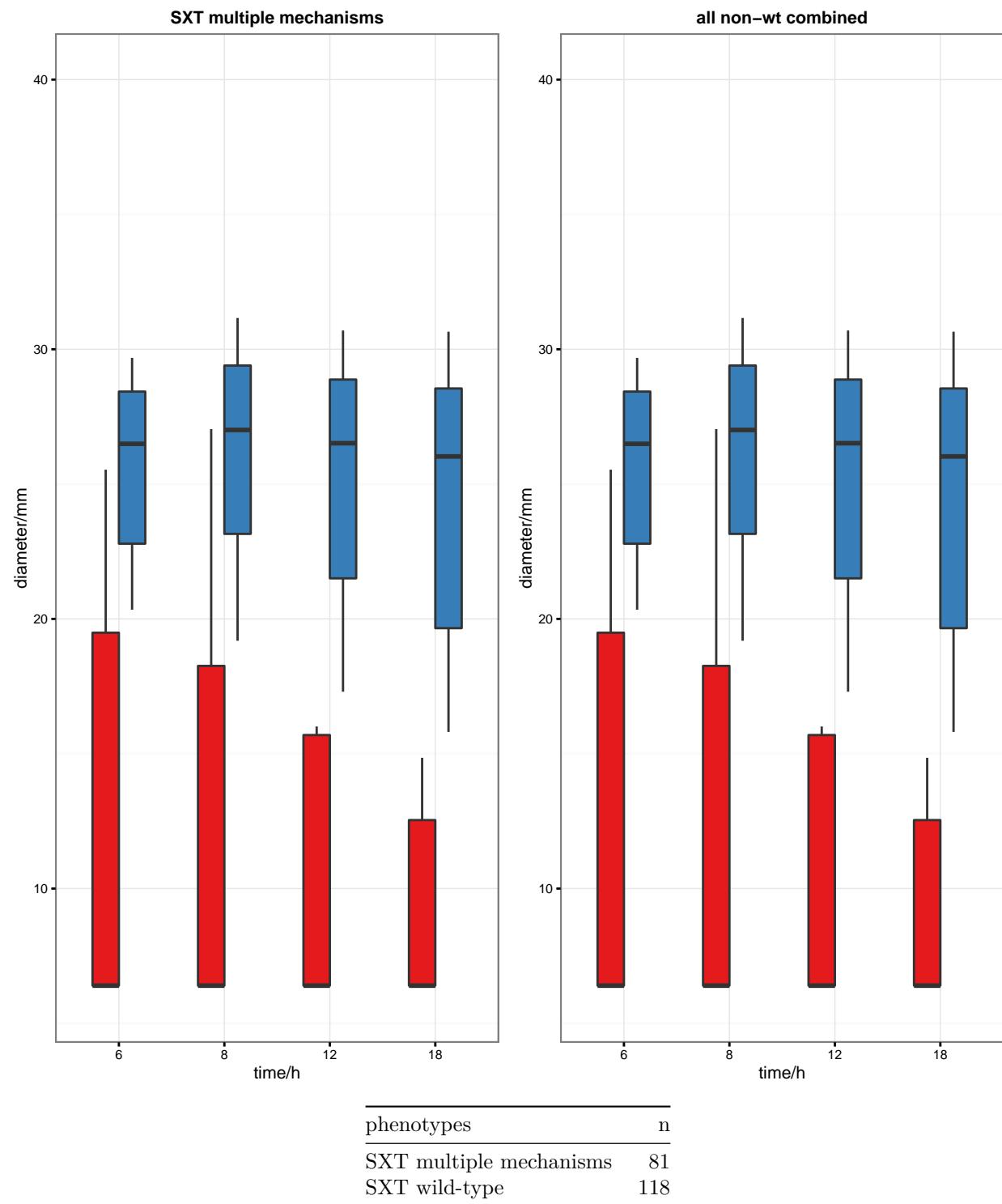


23 Sulfameth./Trimethoprim

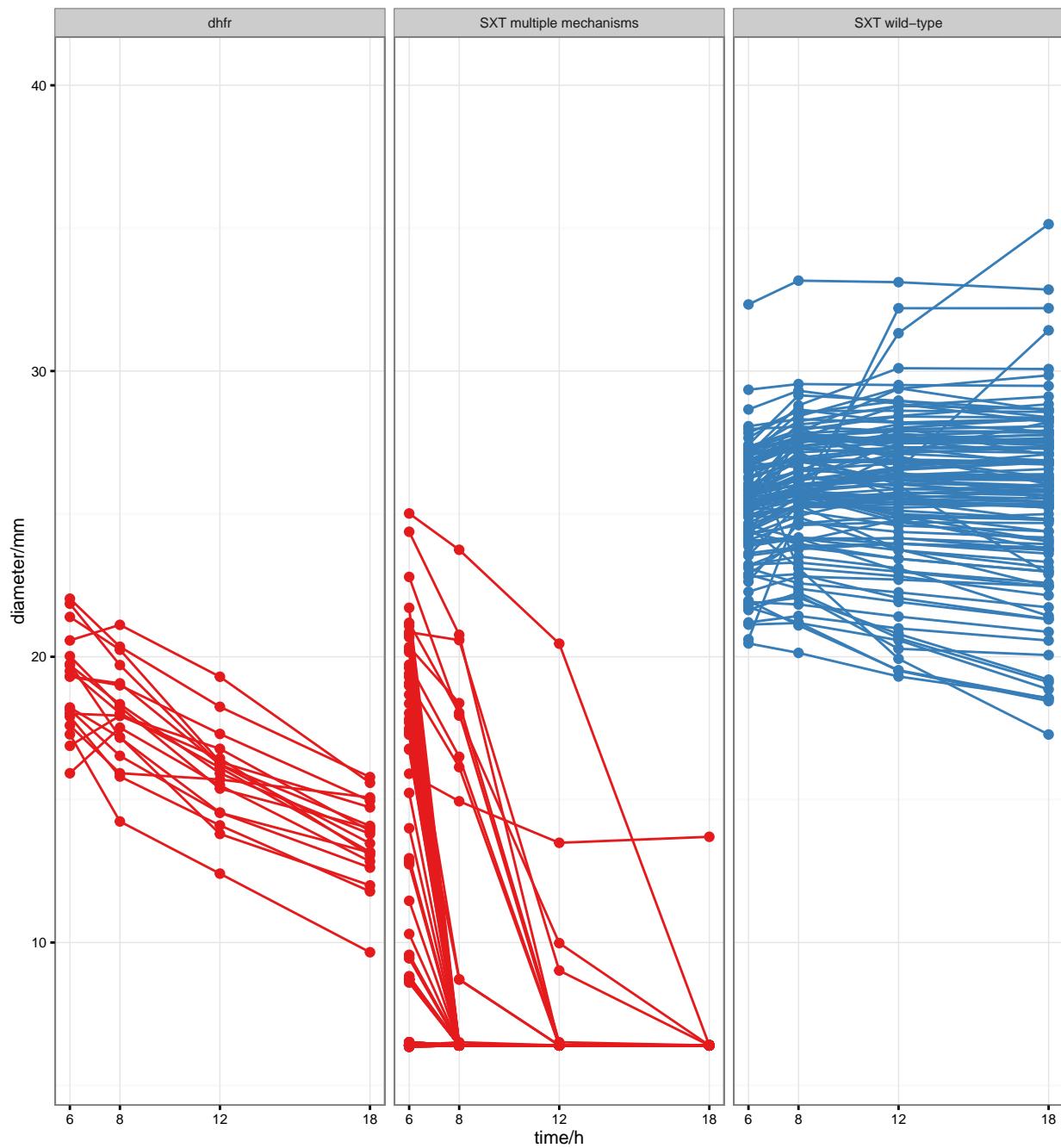


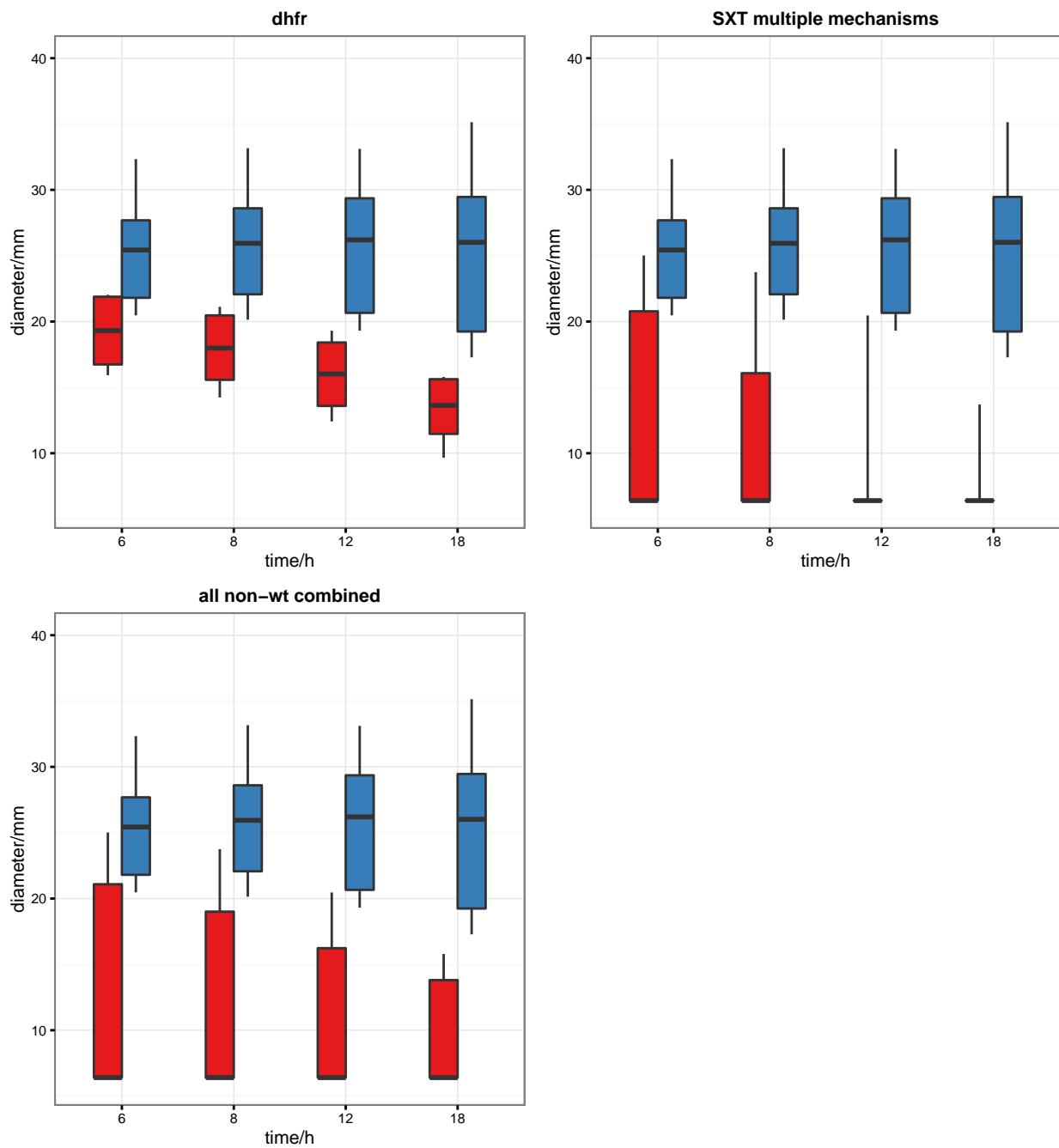
23.1 Sulfameth./Trimethoprim, *Enterobacter cloacae*





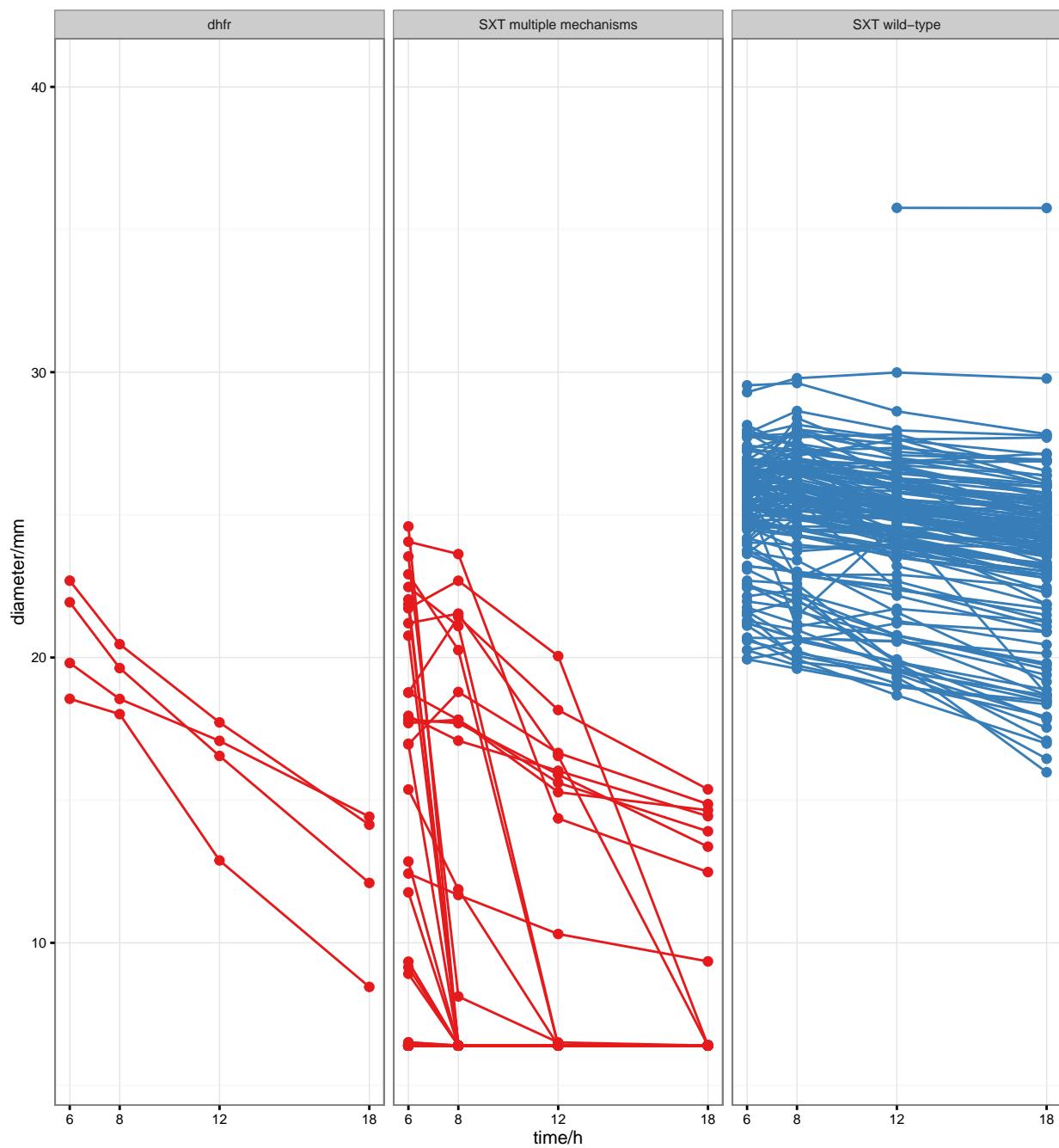
23.2 Sulfameth./Trimethoprim, Escherichia coli

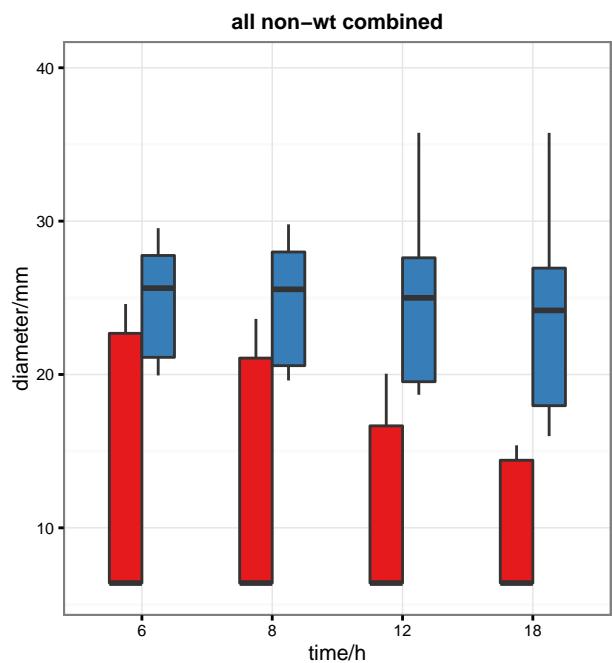
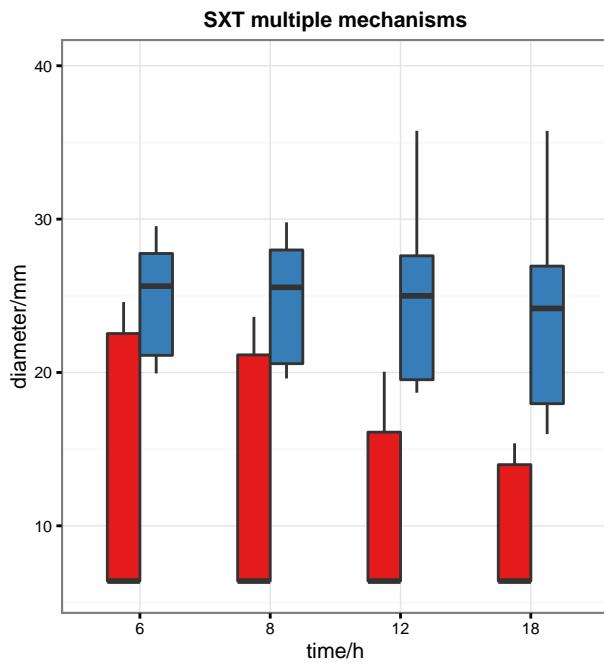
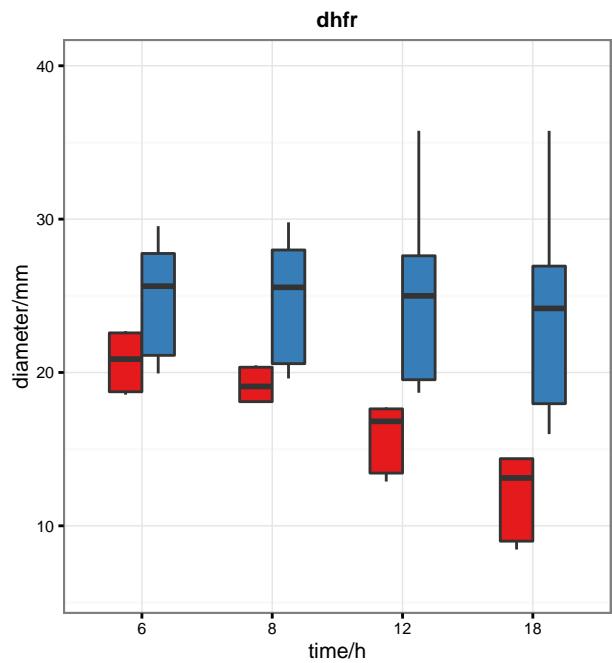




phenotypes	n
dhfr	18
SXT multiple mechanisms	142
SXT wild-type	122

23.3 Sulfameth./Trimethoprim, Klebsiella pneumoniae



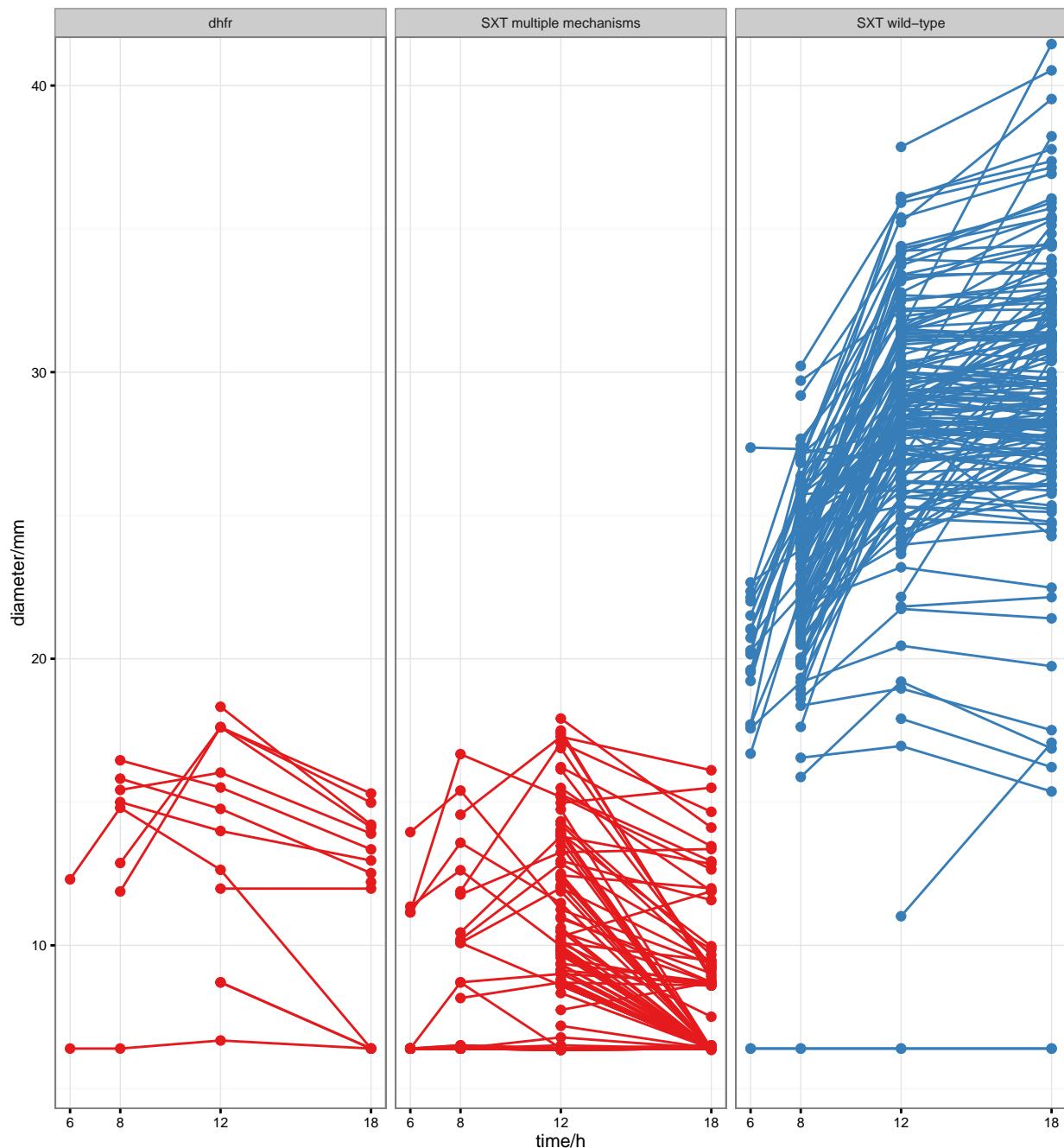


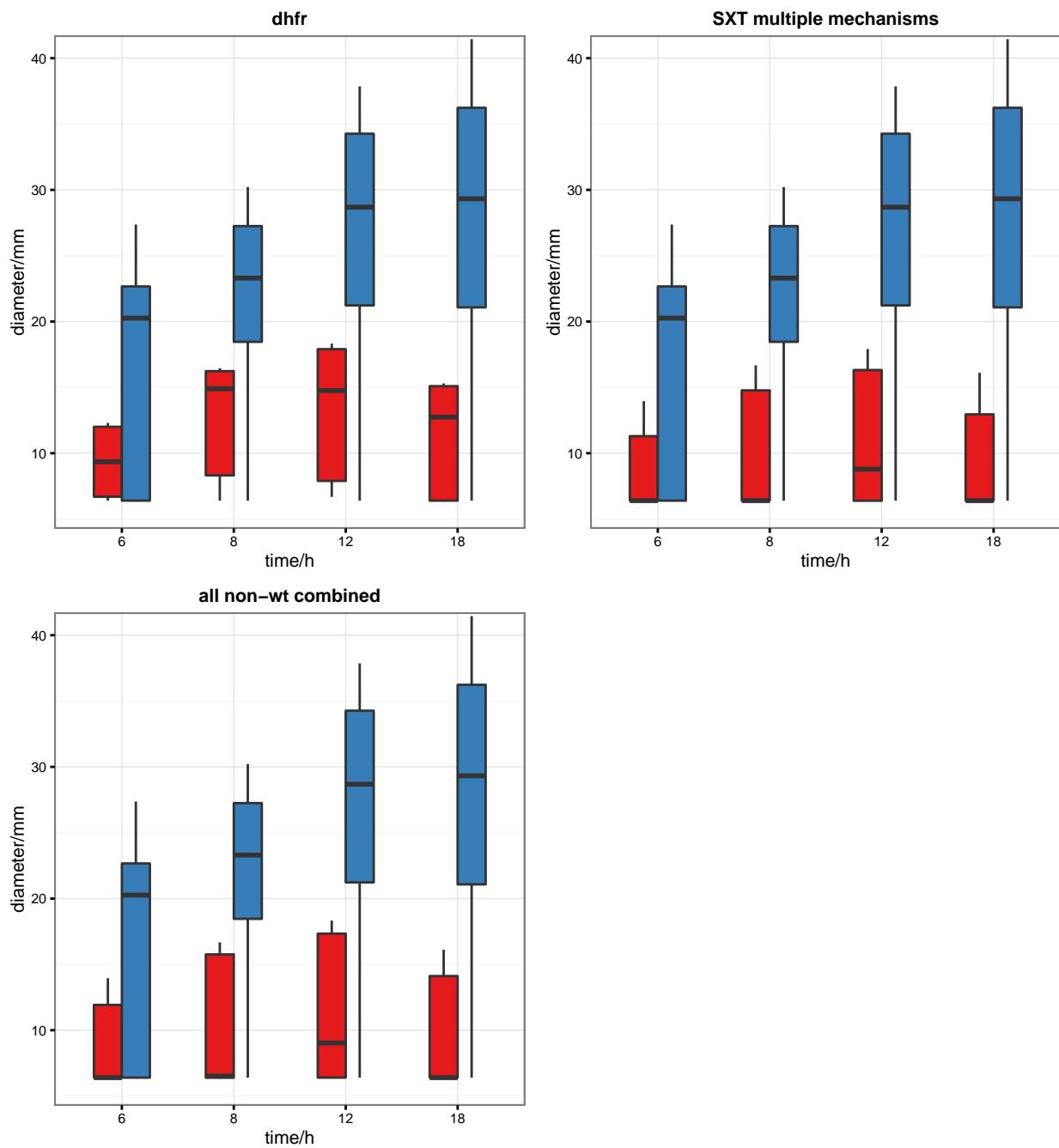
phenotypes	n
dhfr	4
SXT multiple mechanisms	78
SXT wild-type	143

23.4 Sulfameth./Trimethoprim, *Staphylococcus aureus*

No data for non-wild type available.

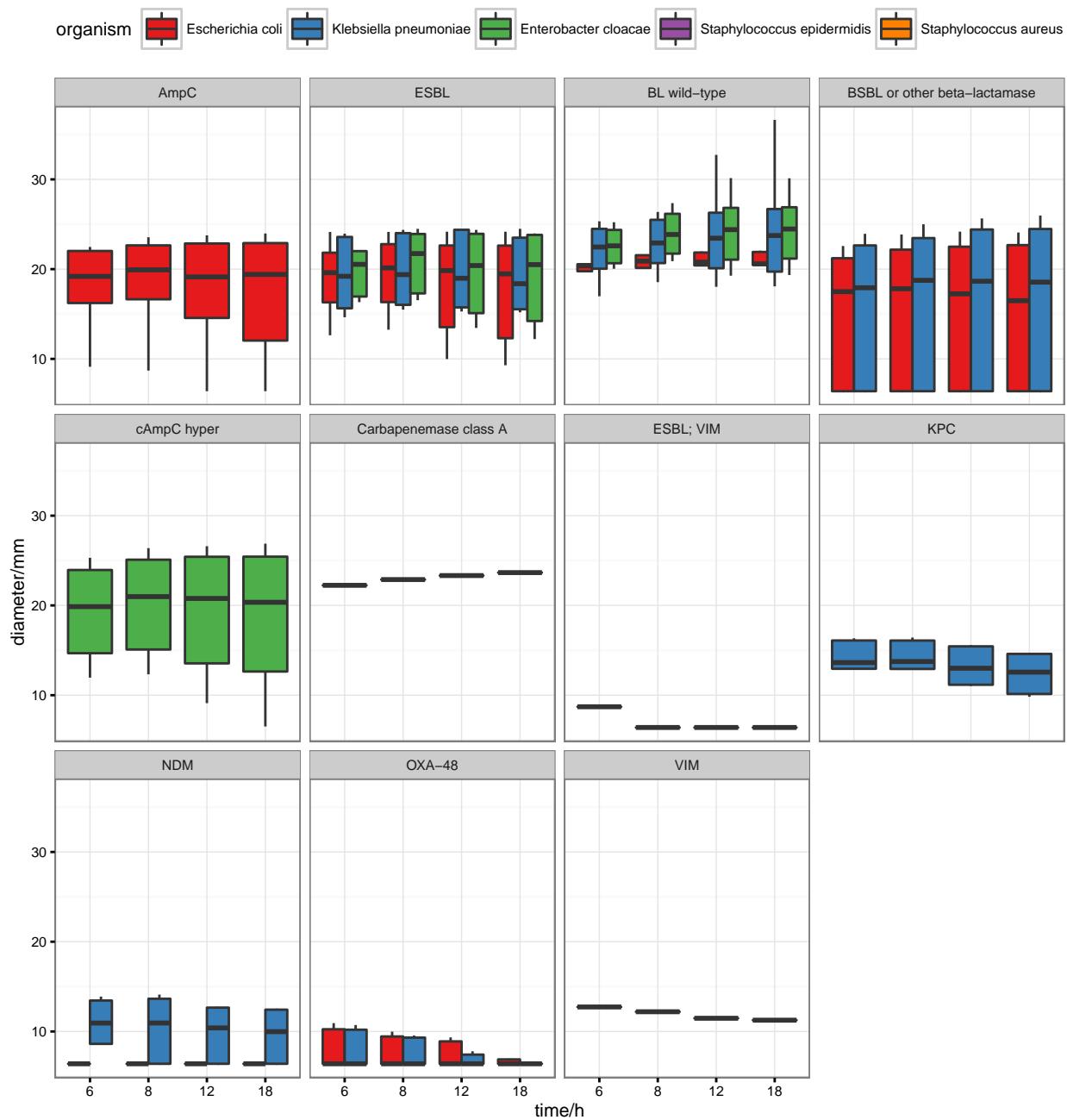
23.5 Sulfameth./Trimethoprim, *Staphylococcus epidermidis*



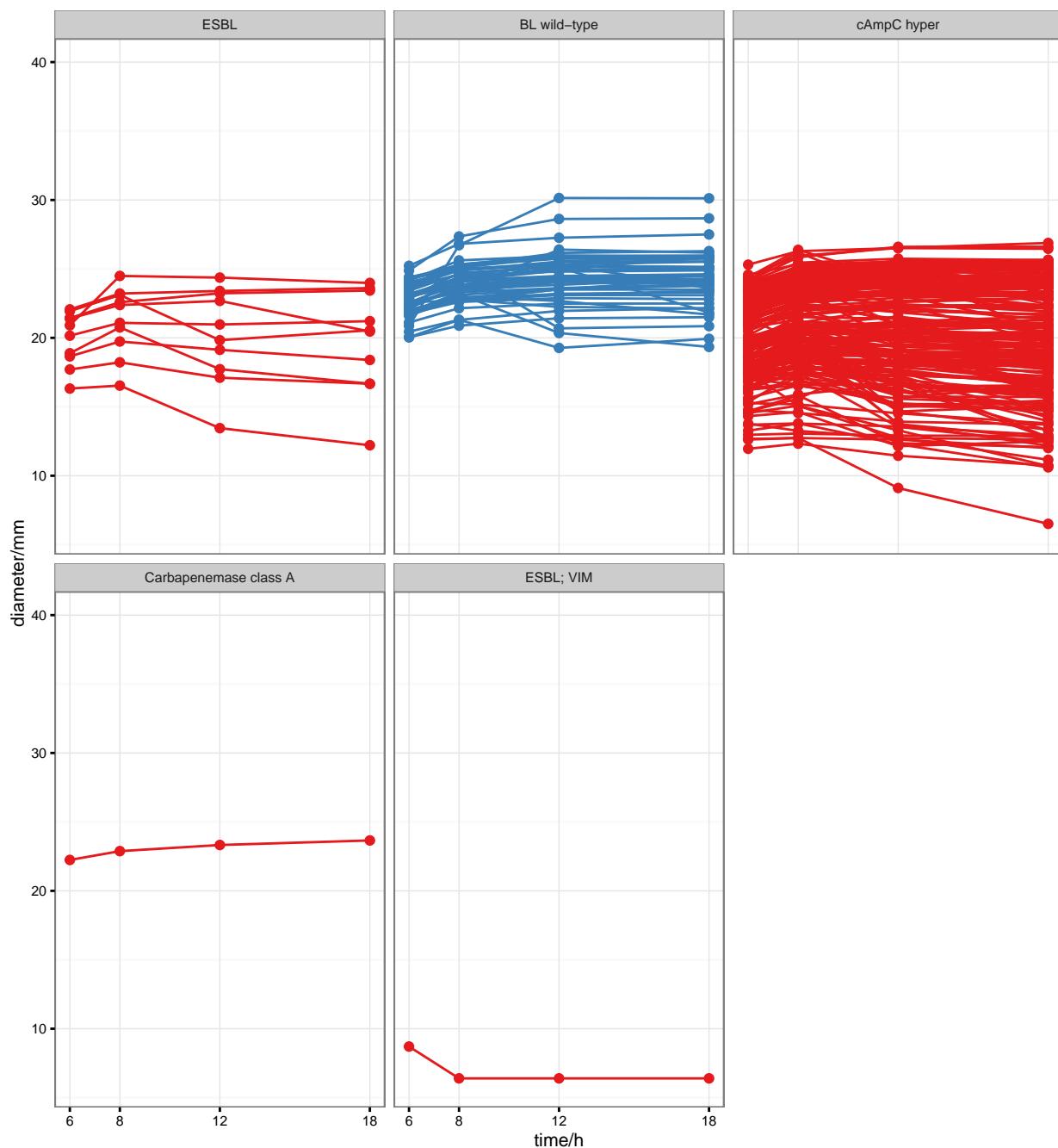


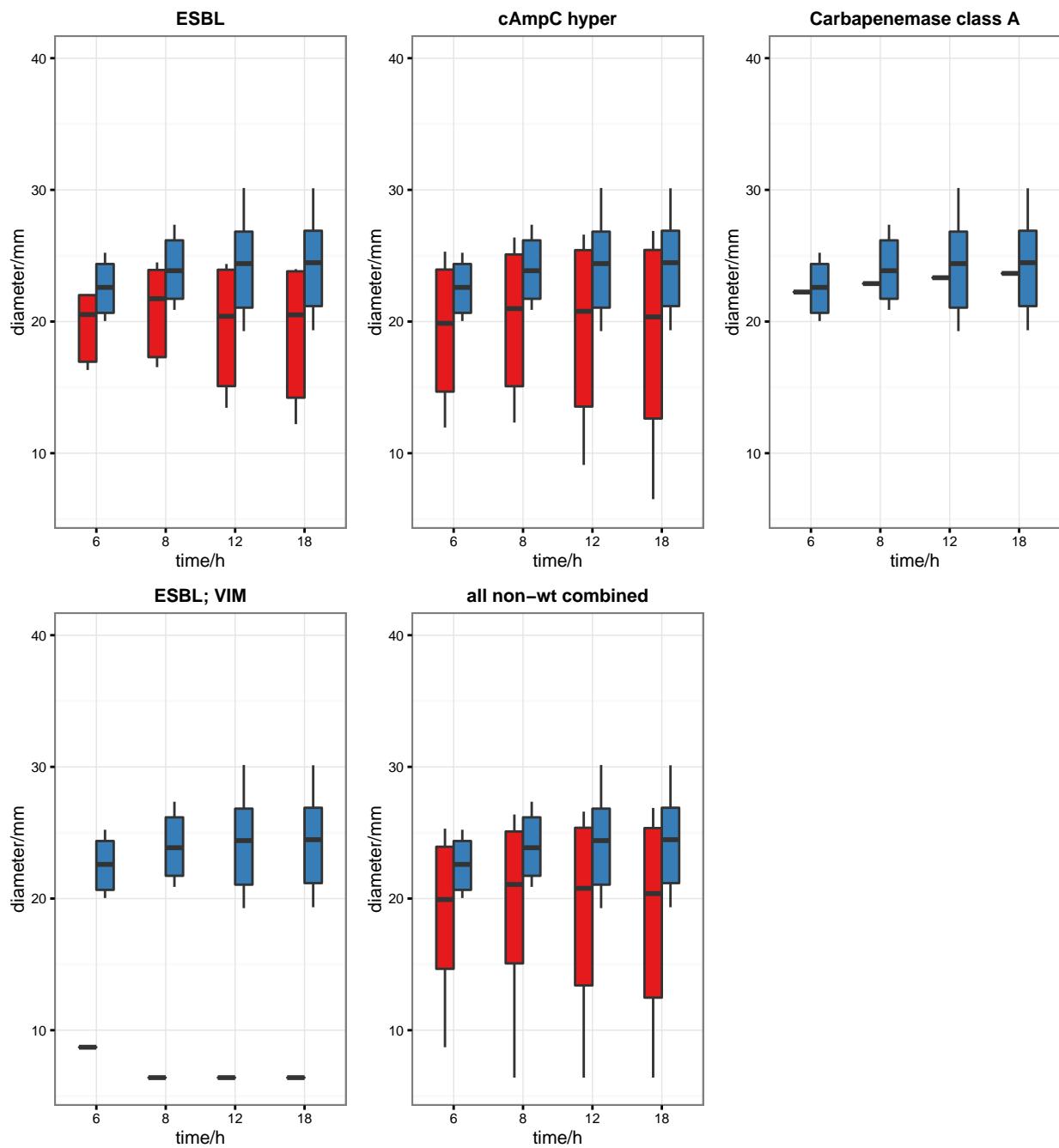
phenotypes	n
dhfr	14
SXT multiple mechanisms	120
SXT wild-type	157

24 Temocillin



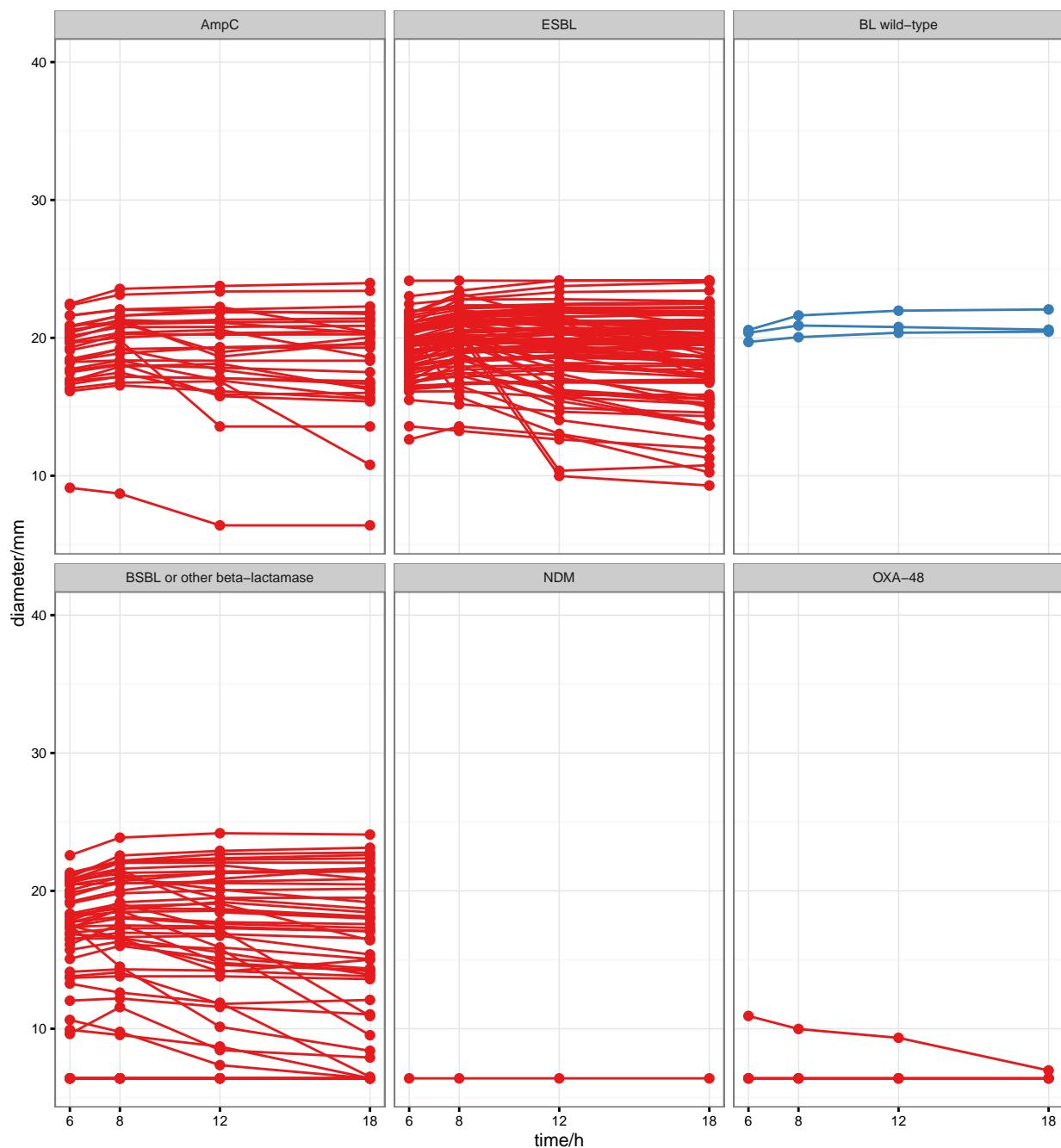
24.1 Temocillin, *Enterobacter cloacae*

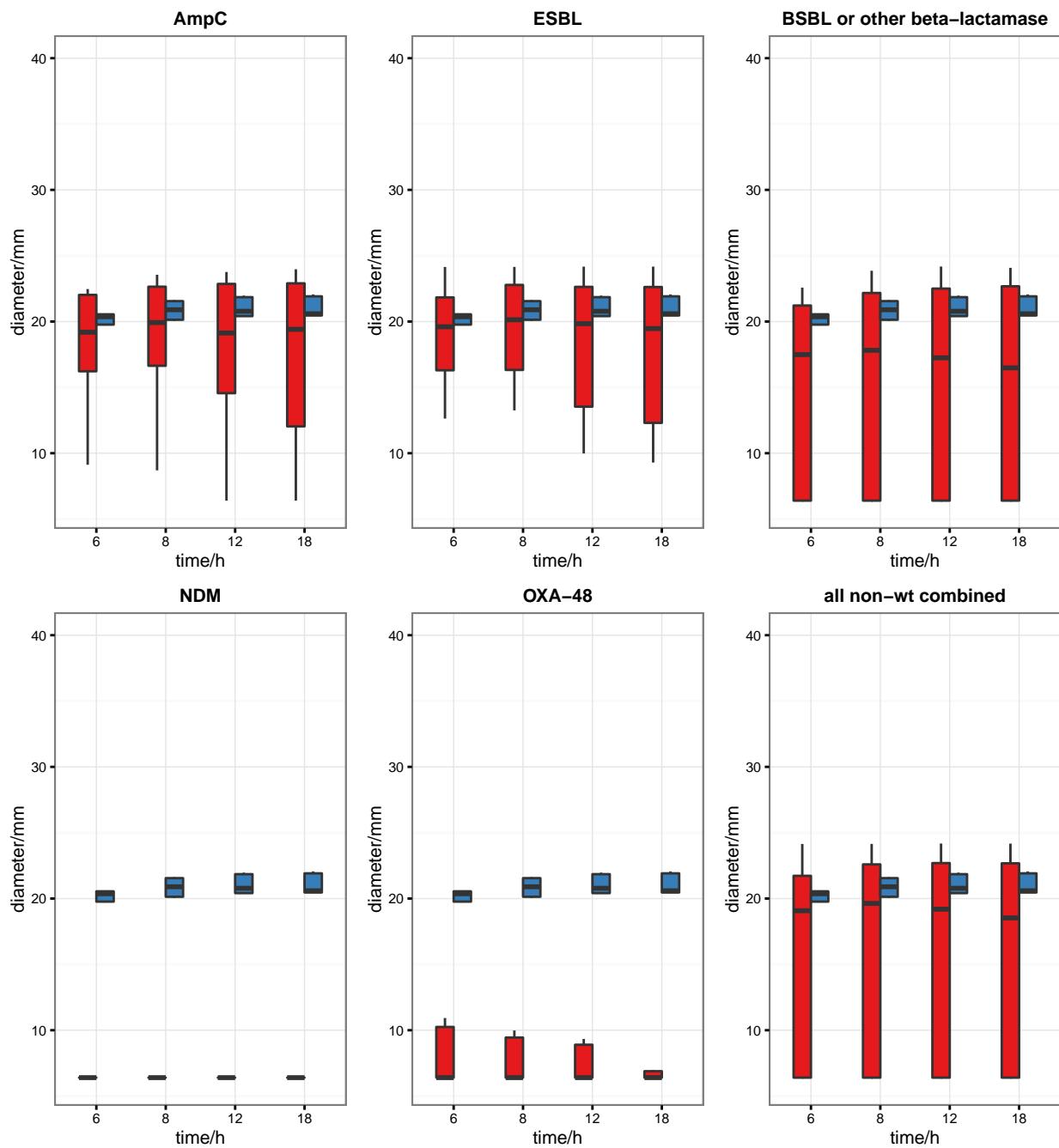




phenotypes	n
ESBL	10
BL wild-type	51
cAmpC hyper	203
Carbapenemase class A	1
ESBL; VIM	1

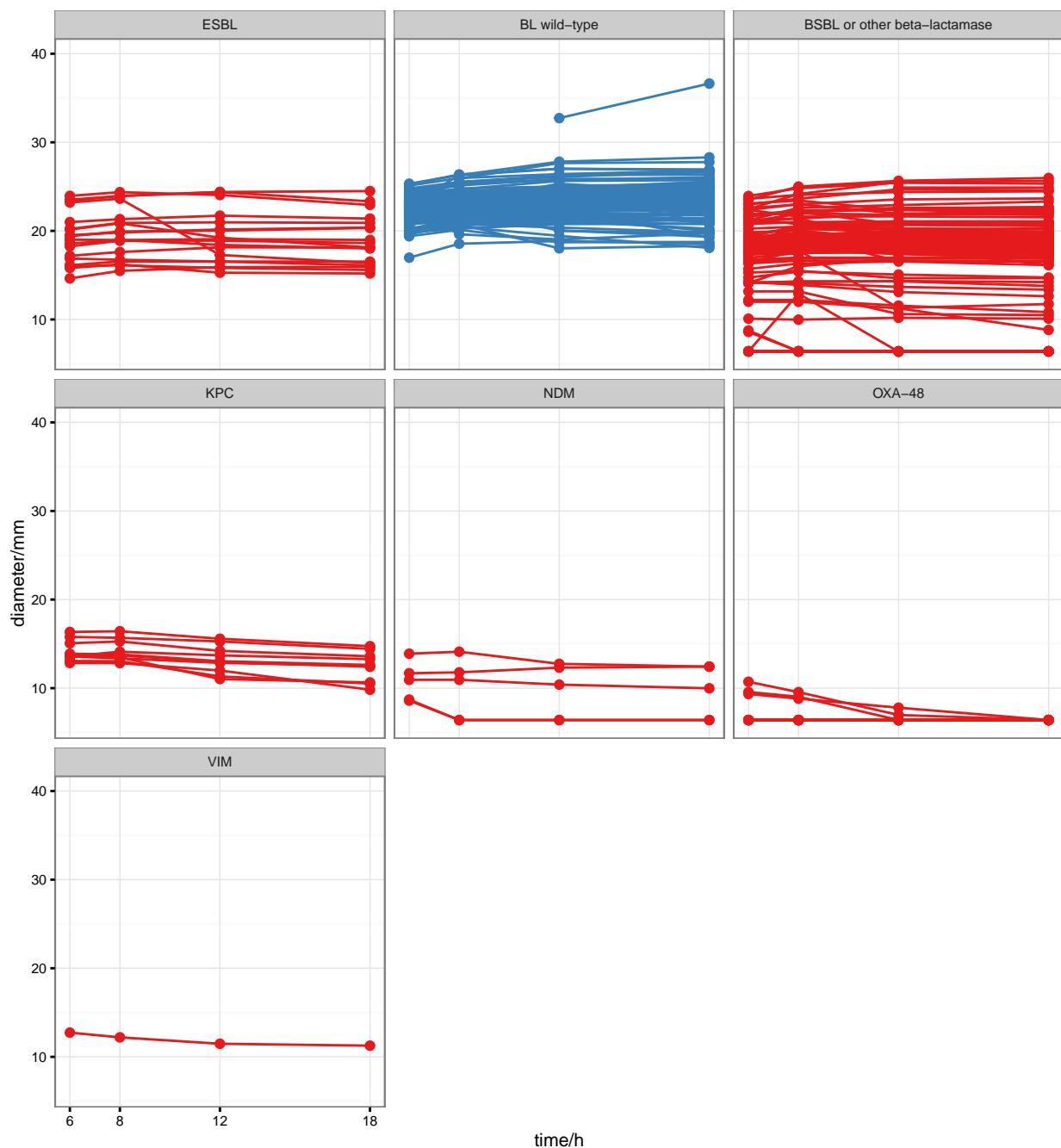
24.2 Temocillin, Escherichia coli

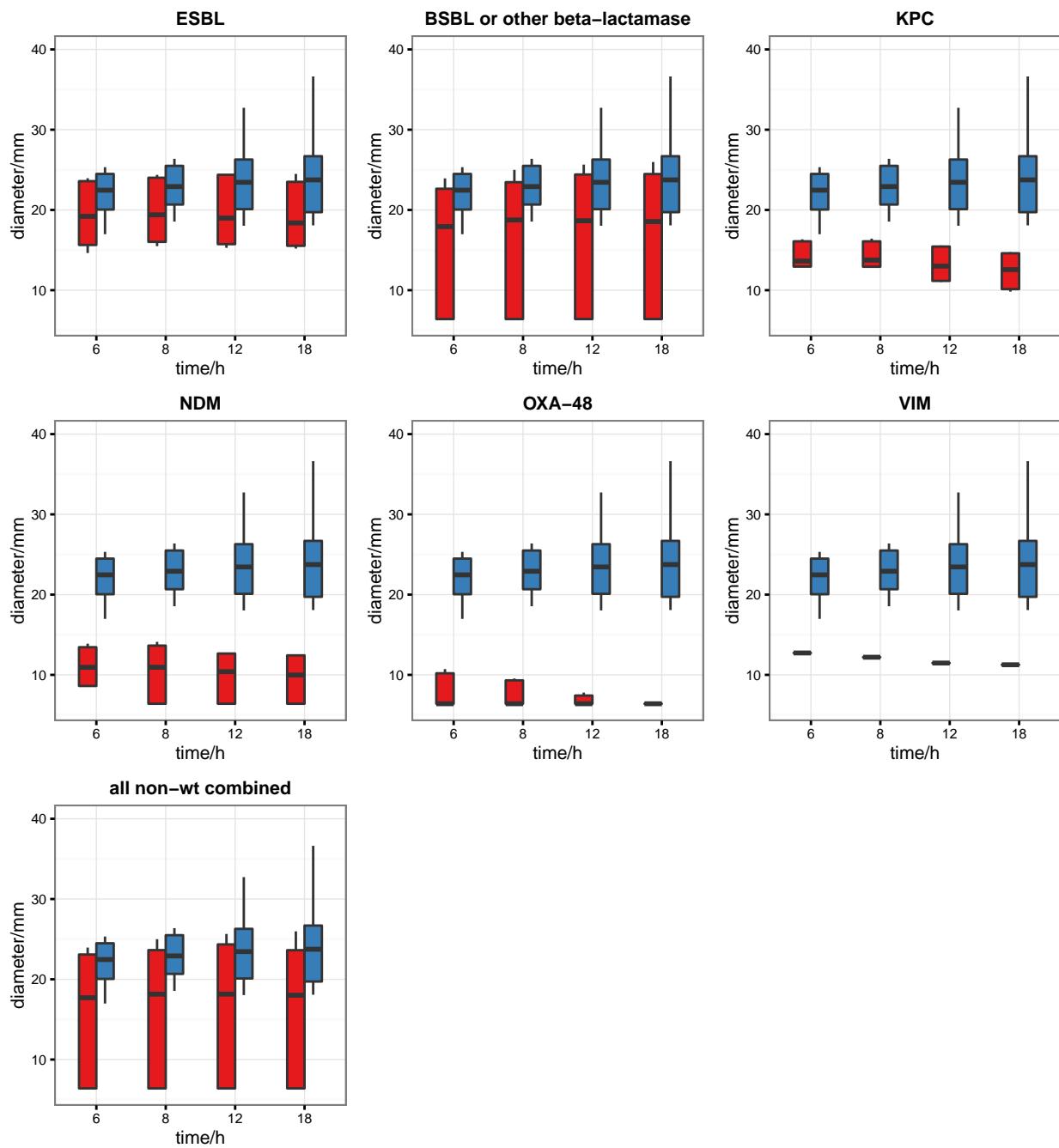




phenotypes	n
AmpC	30
ESBL	91
BL wild-type	3
BSBL or other beta-lactamase	52
NDM	1
OXA-48	4

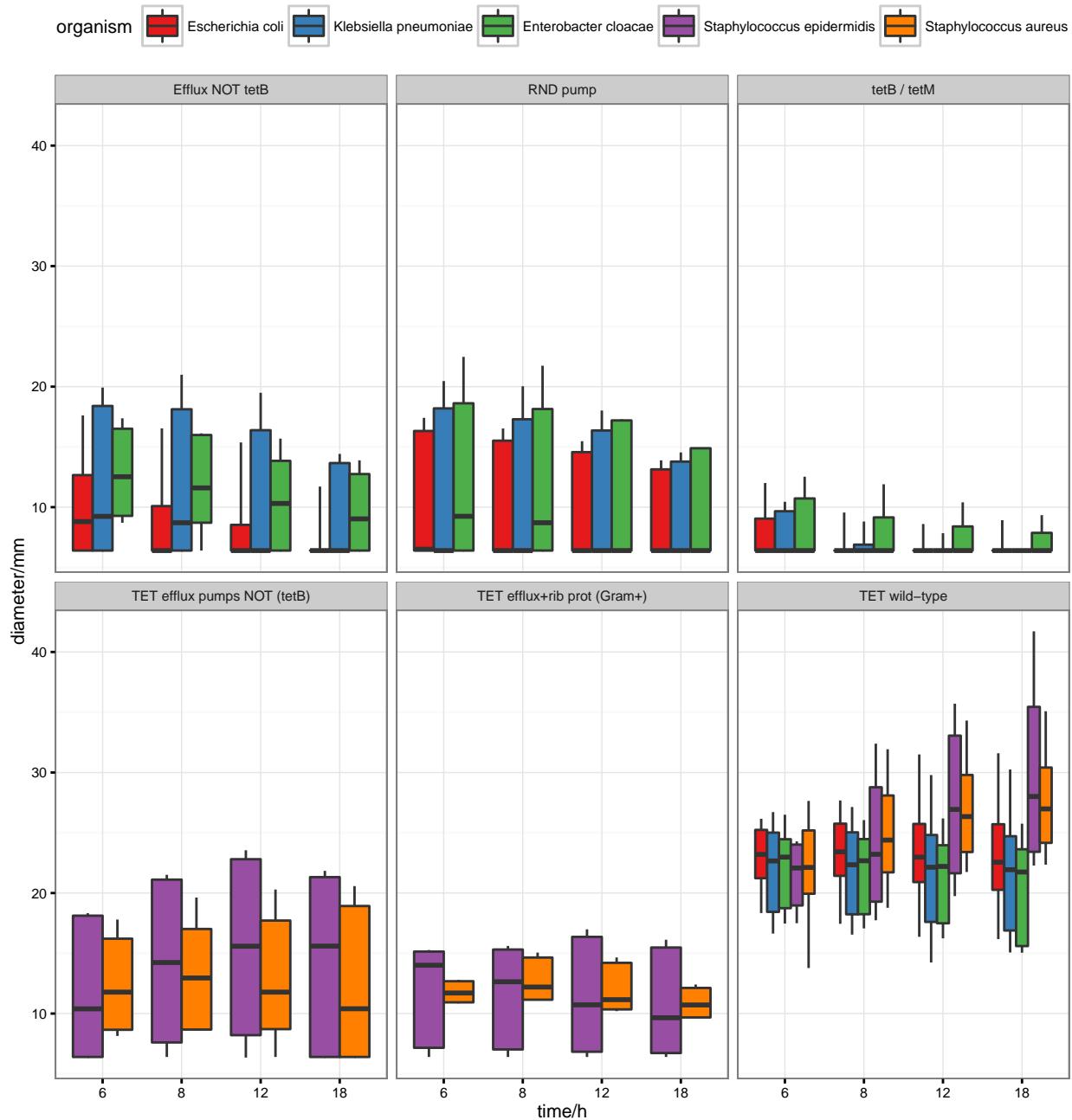
24.3 Temocillin, *Klebsiella pneumoniae*



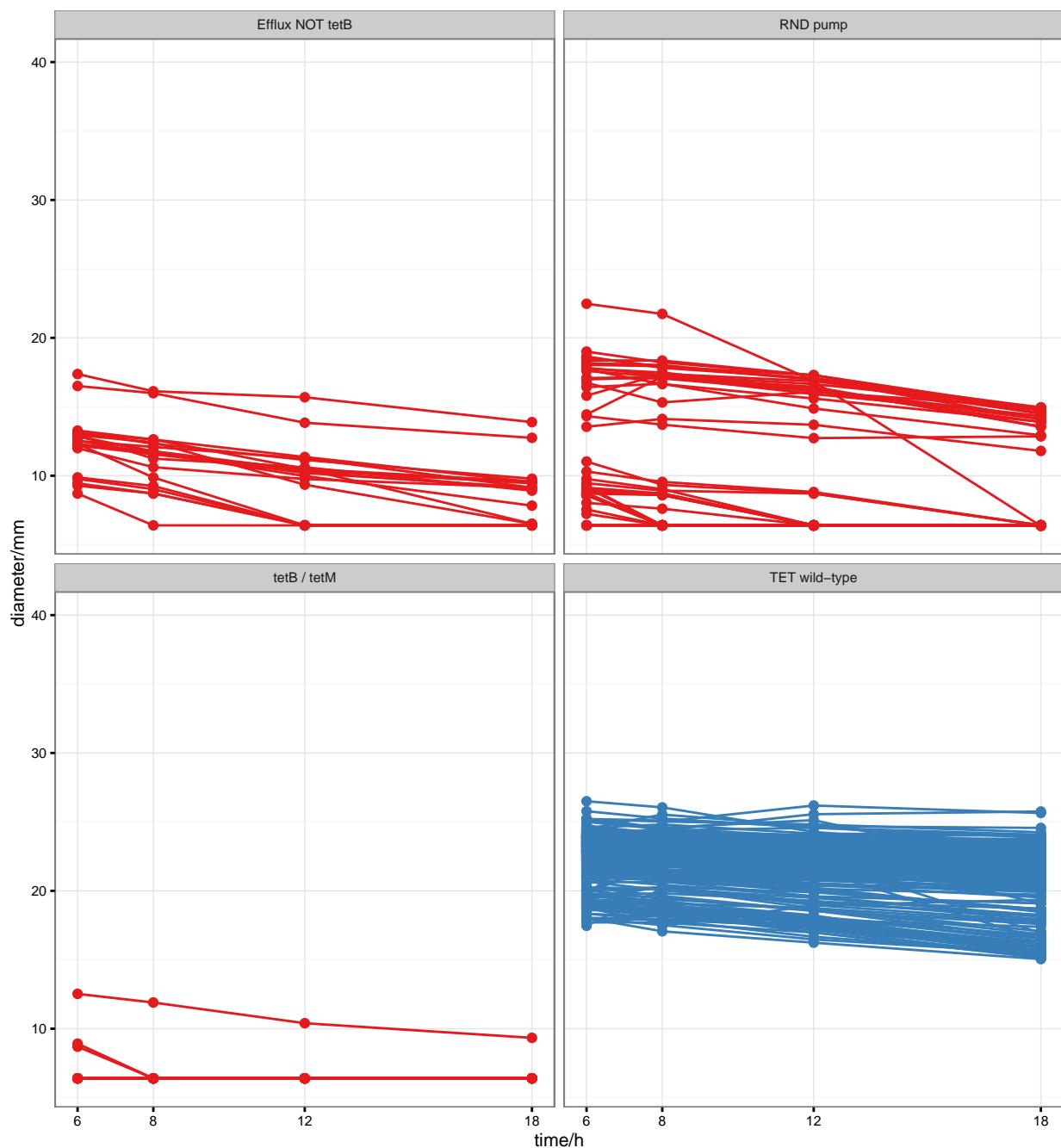


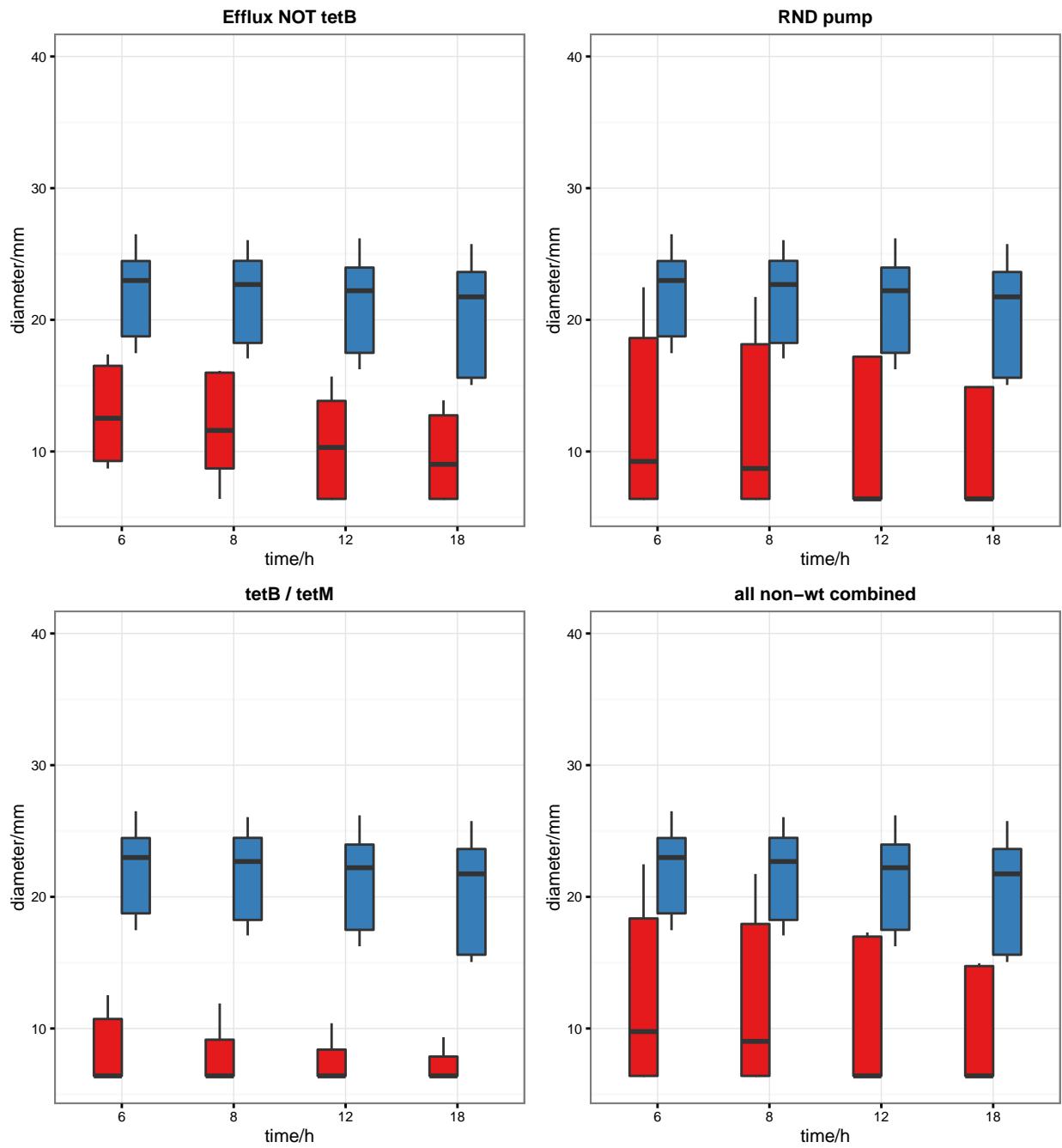
phenotypes	n
ESBL	18
BL wild-type	124
BSBL or other beta-lactamase	99
KPC	10
NDM	5
OXA-48	10
VIM	1

25 Tetracycline



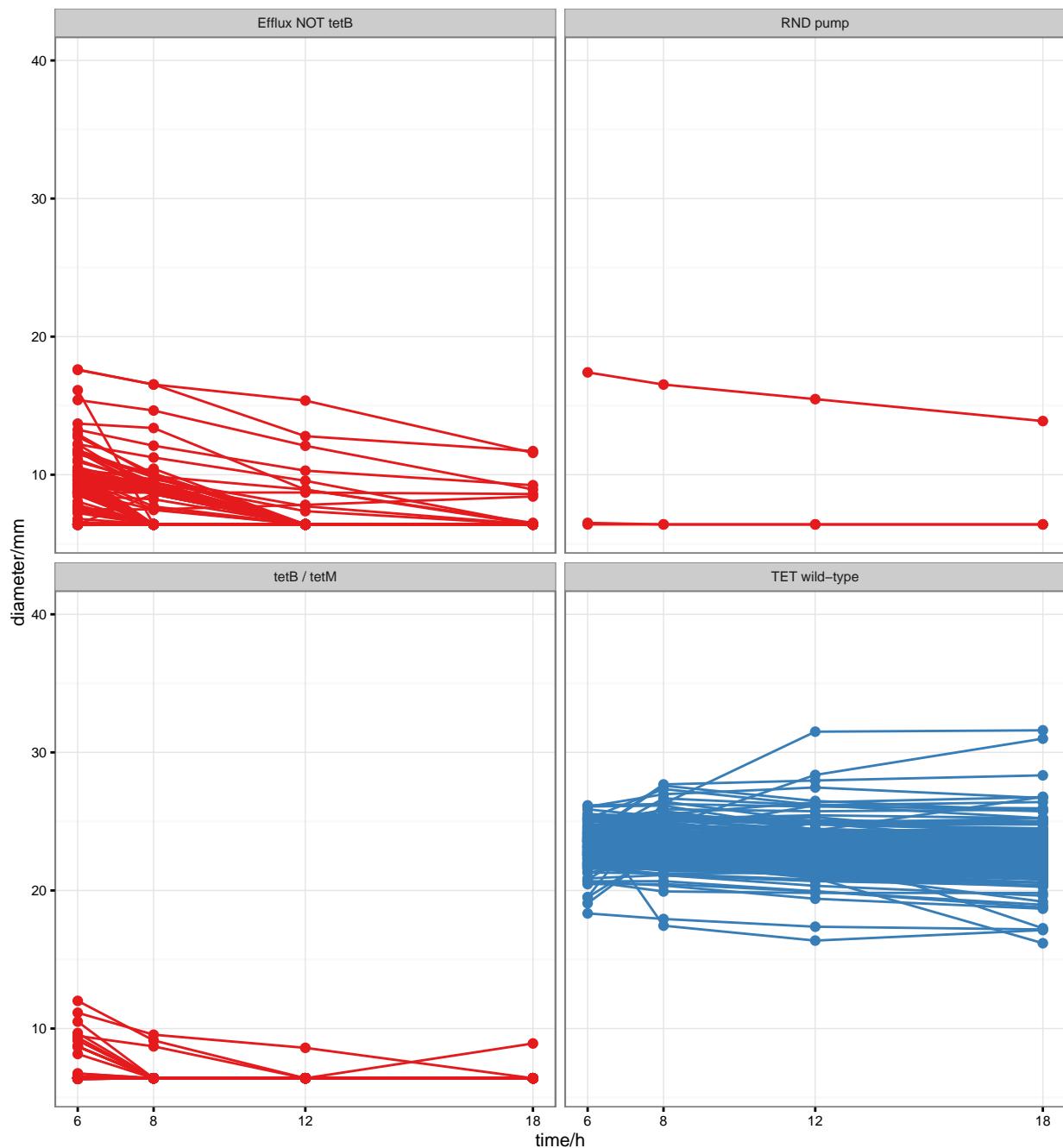
25.1 Tetracycline, *Enterobacter cloacae*

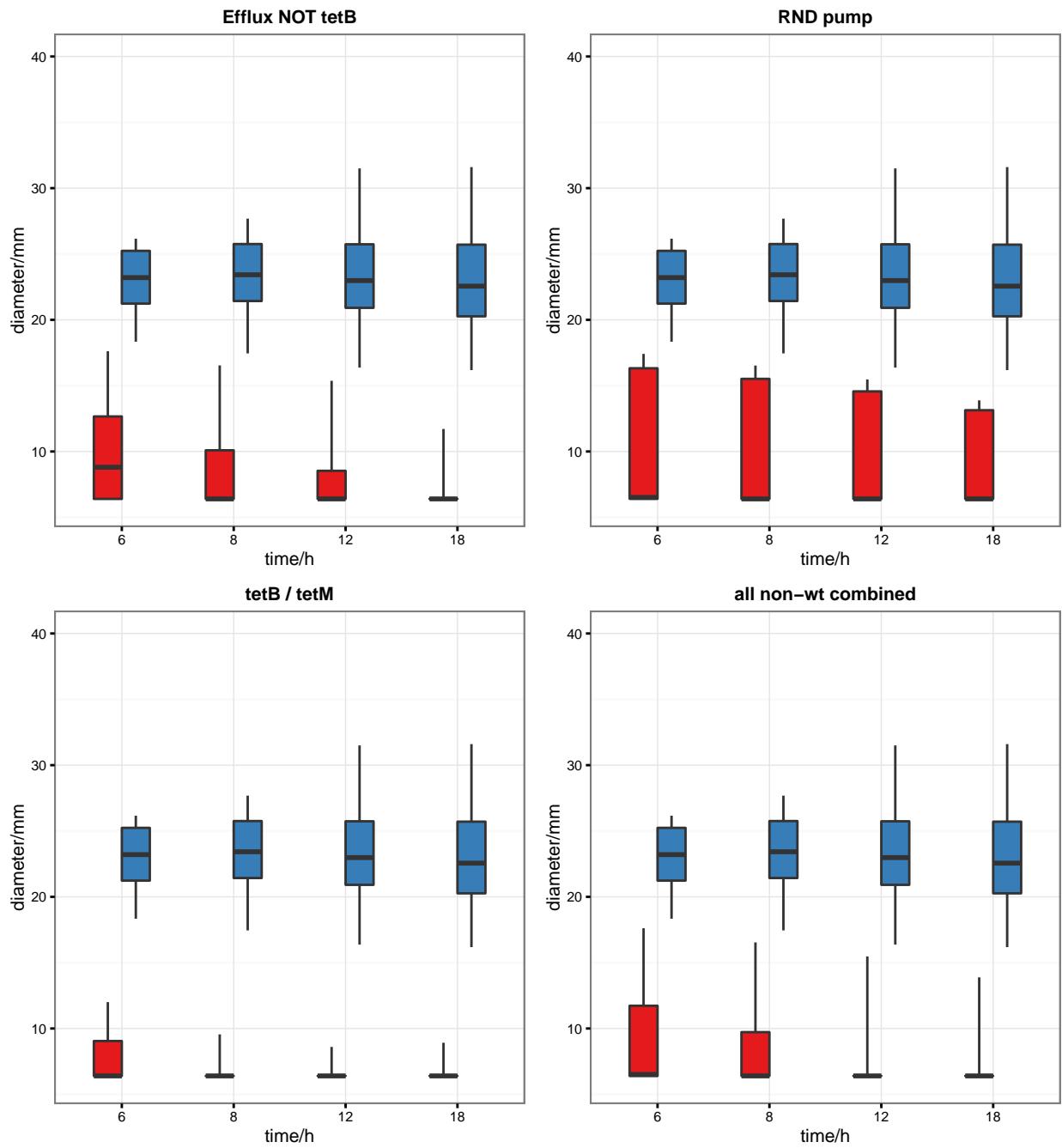




phenotypes	n
Efflux NOT tetB	21
RND pump	49
tetB / tetM	11
TET wild-type	220

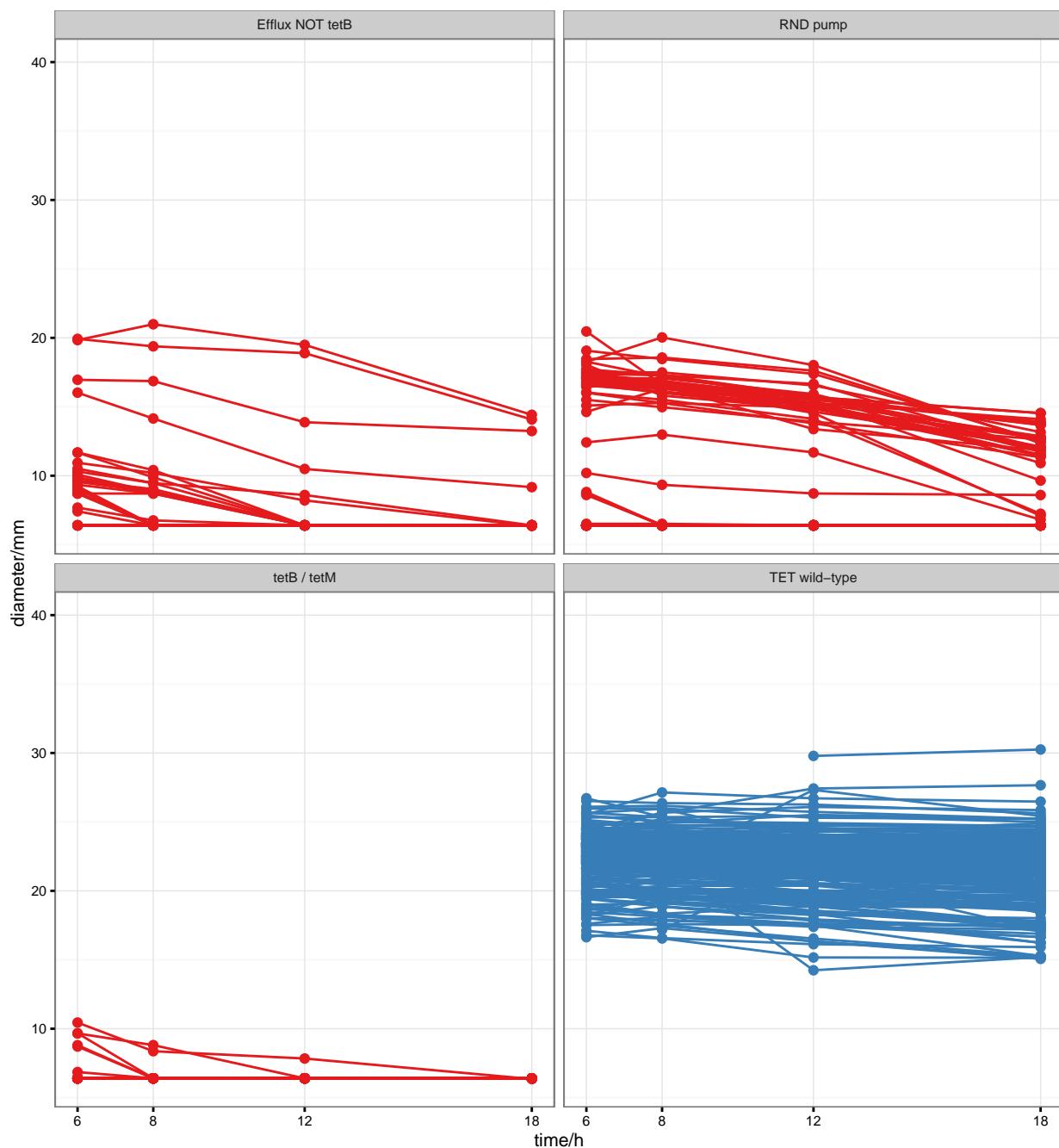
25.2 Tetracycline, Escherichia coli

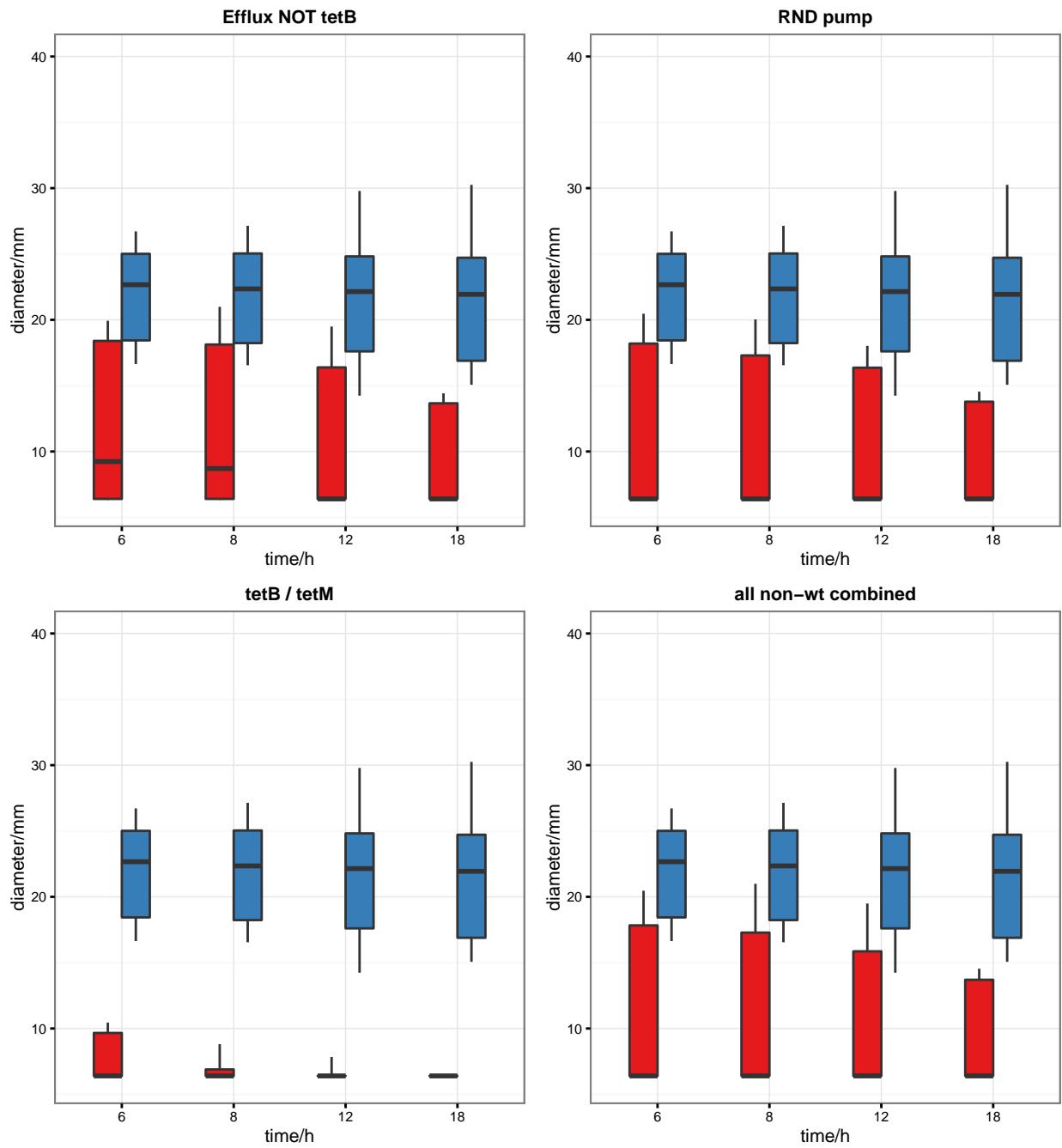




phenotypes	n
Efflux NOT tetB	145
RND pump	3
tetB / tetM	125
TET wild-type	202

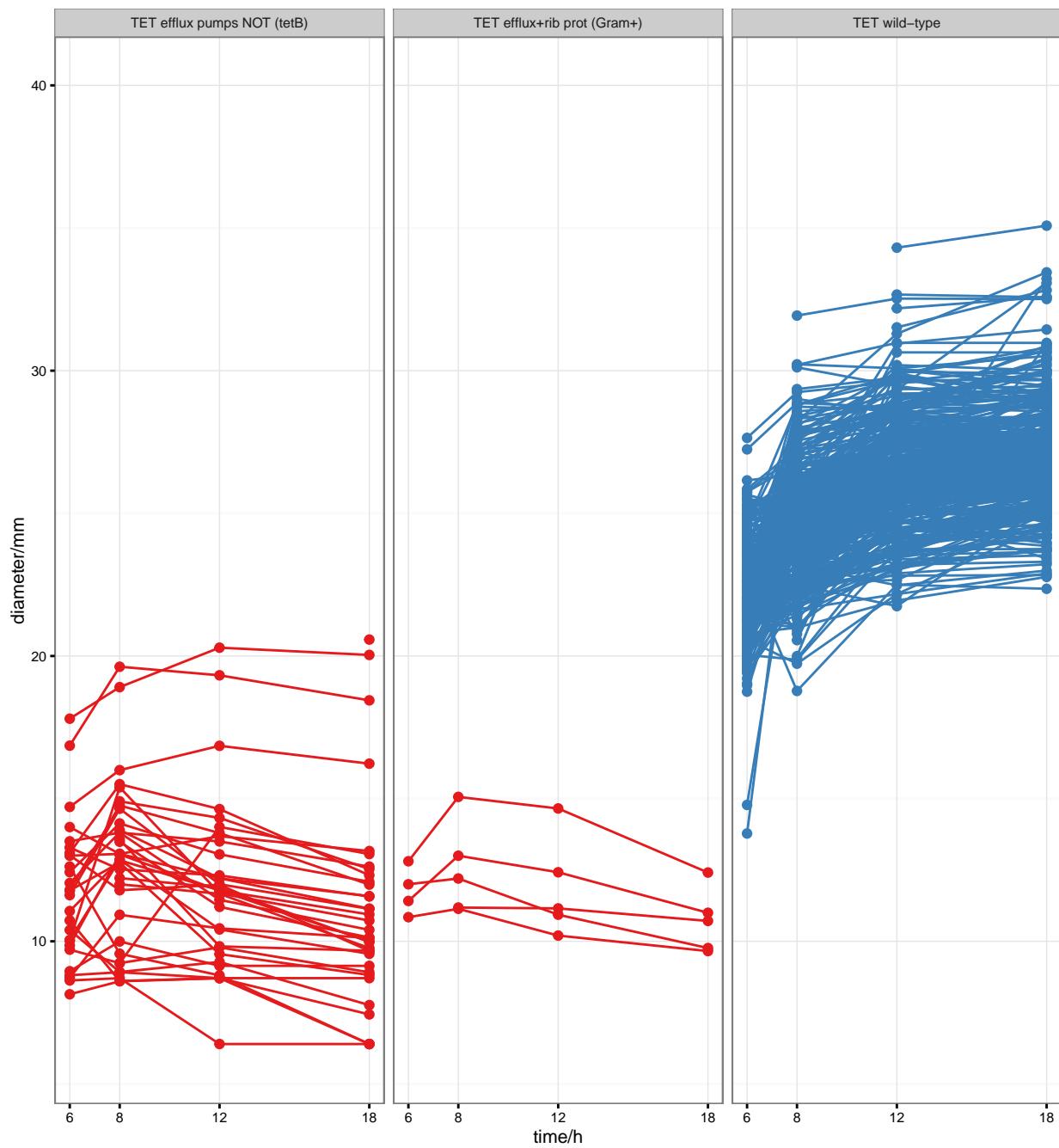
25.3 Tetracycline, *Klebsiella pneumoniae*

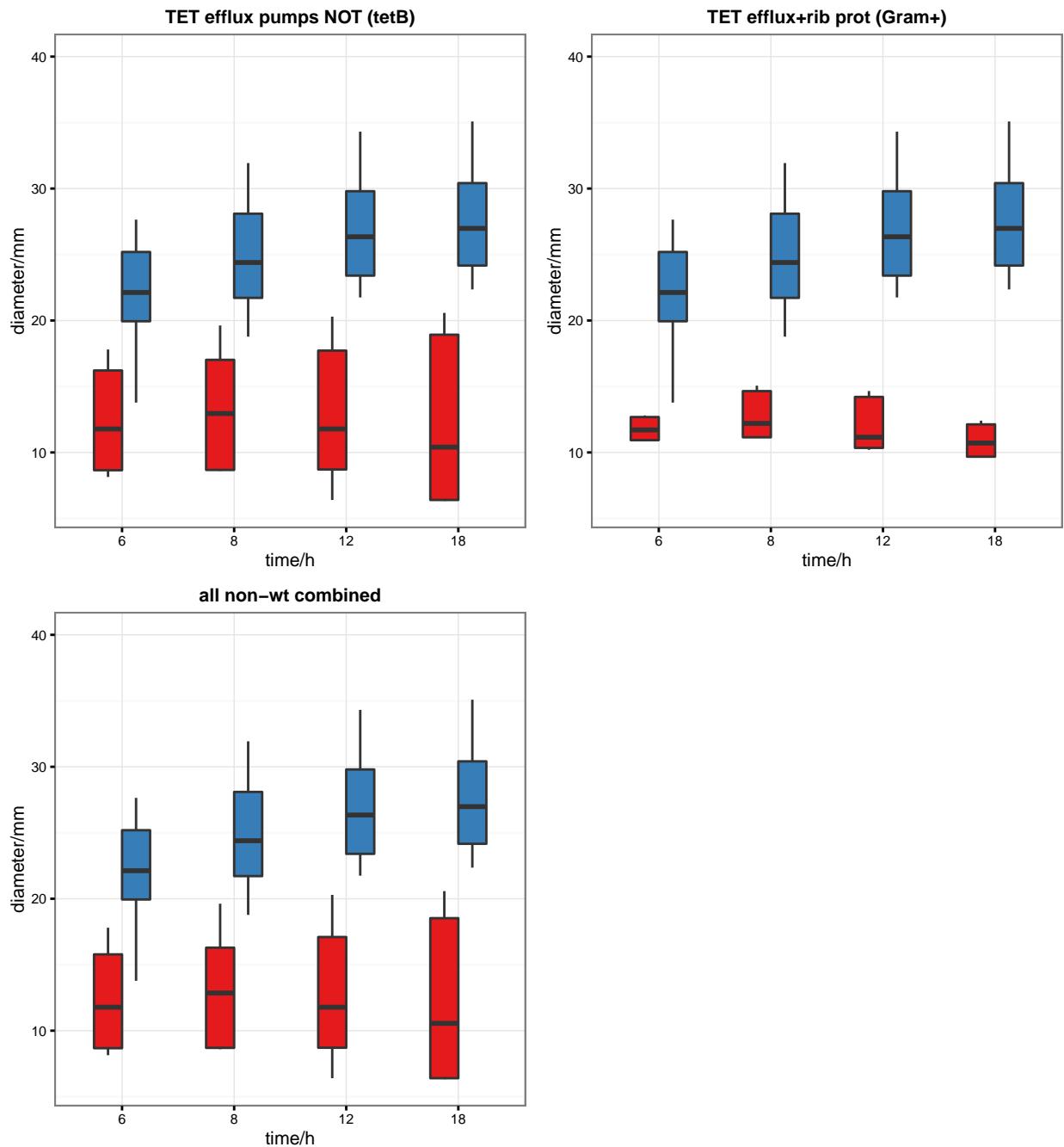




phenotypes	n
Efflux NOT tetB	31
RND pump	87
tetB / tetM	36
TET wild-type	222

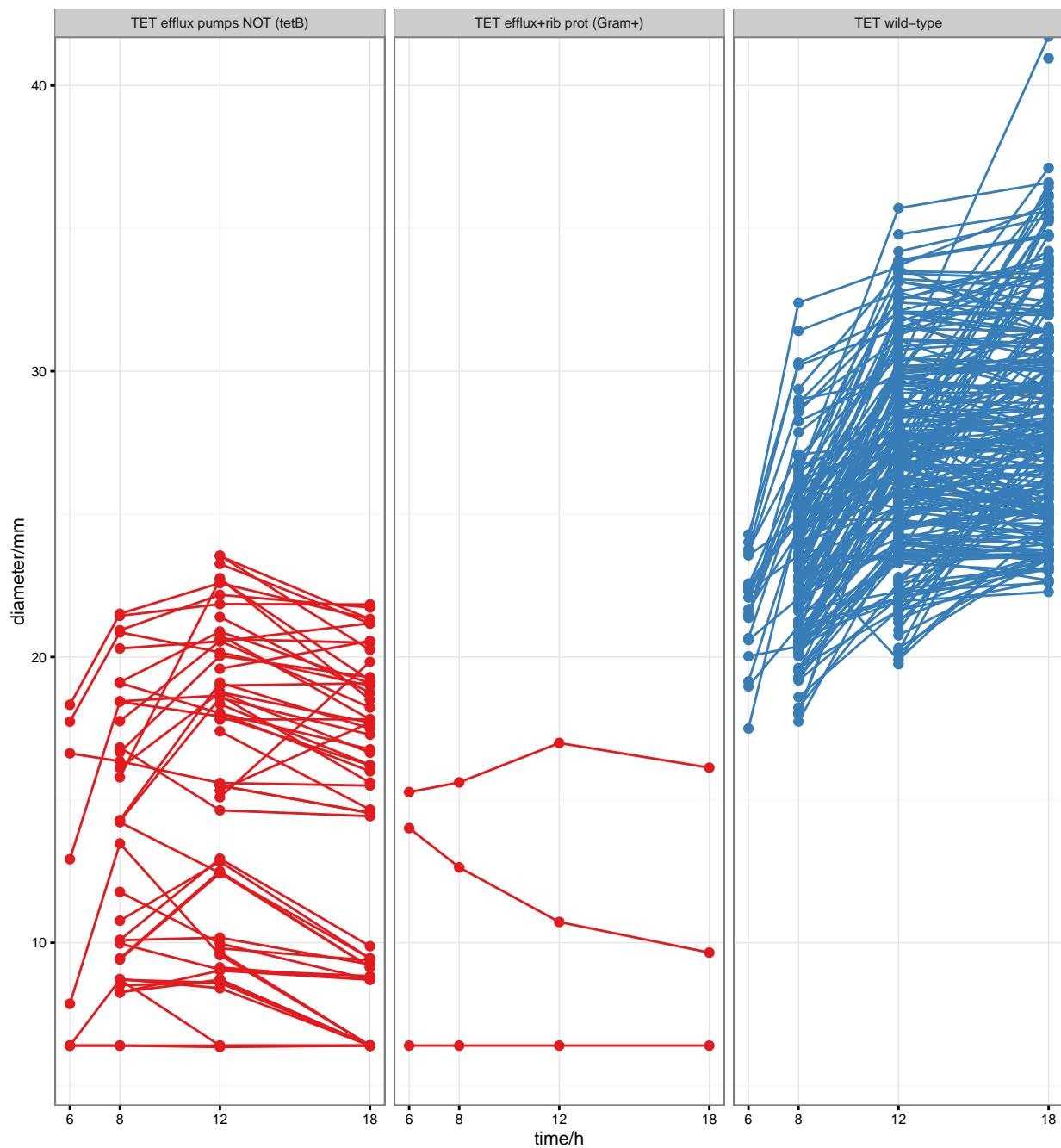
25.4 Tetracycline, *Staphylococcus aureus*

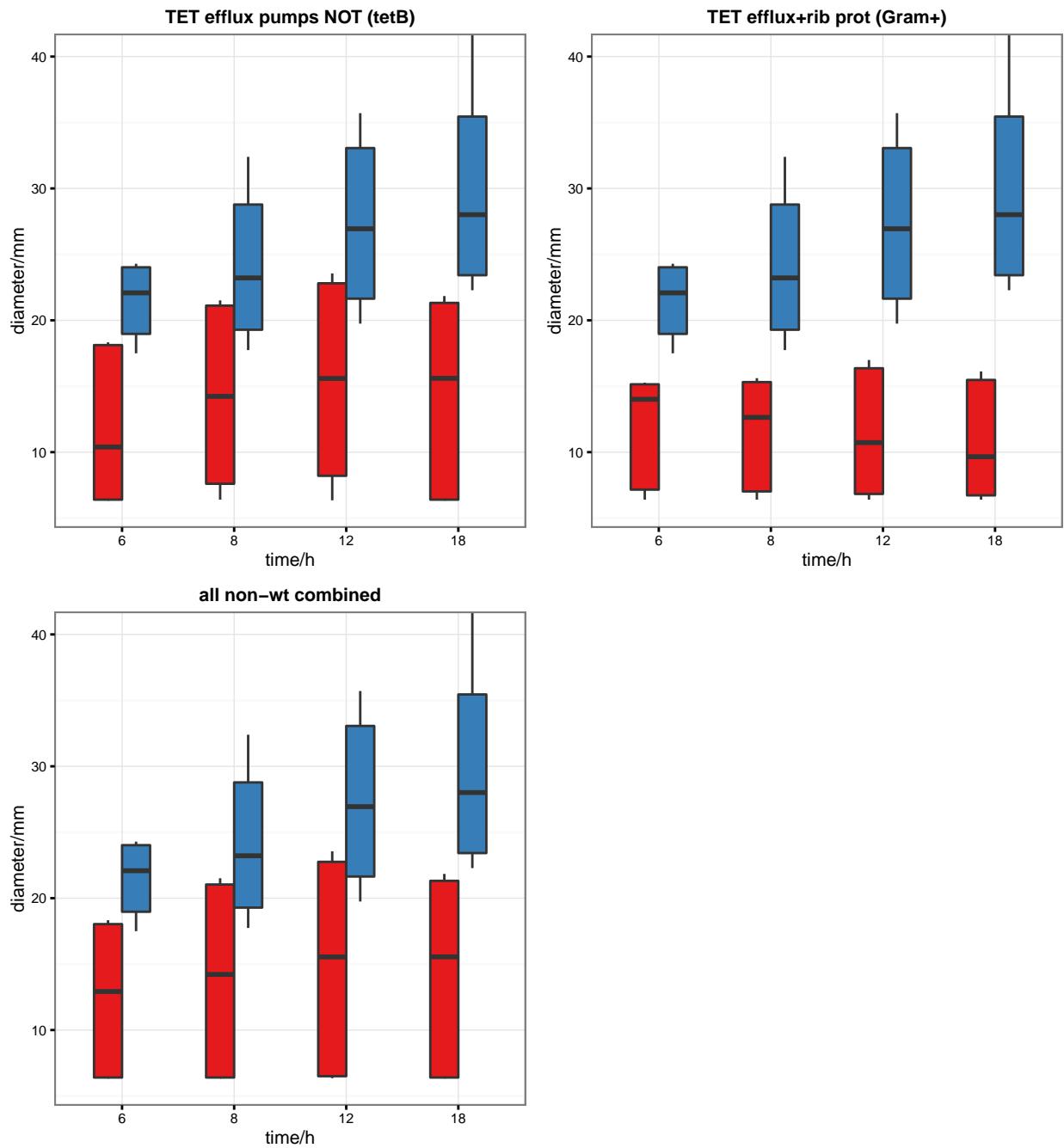




phenotypes	n
TET efflux pumps NOT (tetB)	35
TET efflux+rib prot (Gram+)	5
TET wild-type	366

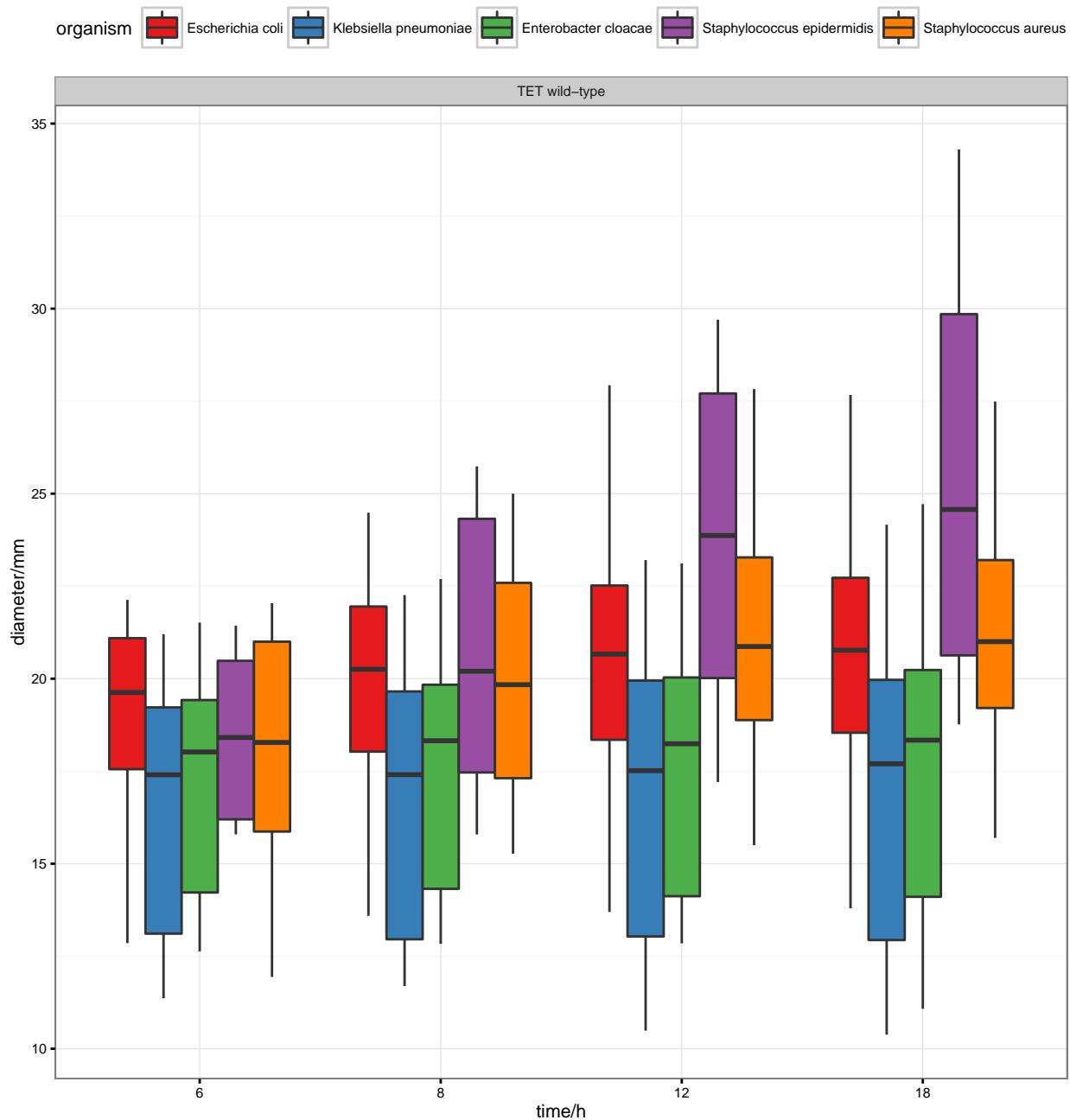
25.5 Tetracycline, *Staphylococcus epidermidis*





phenotypes	n
TET efflux pumps NOT (tetB)	59
TET efflux+rib prot (Gram+)	3
TET wild-type	232

26 Tigecycline



26.1 Tigecycline, *Enterobacter cloacae*

No data for non-wild type available.

26.2 Tigecycline, Escherichia coli

No data for non-wild type available.

26.3 Tigecycline, *Klebsiella pneumoniae*

No data for non-wild type available.

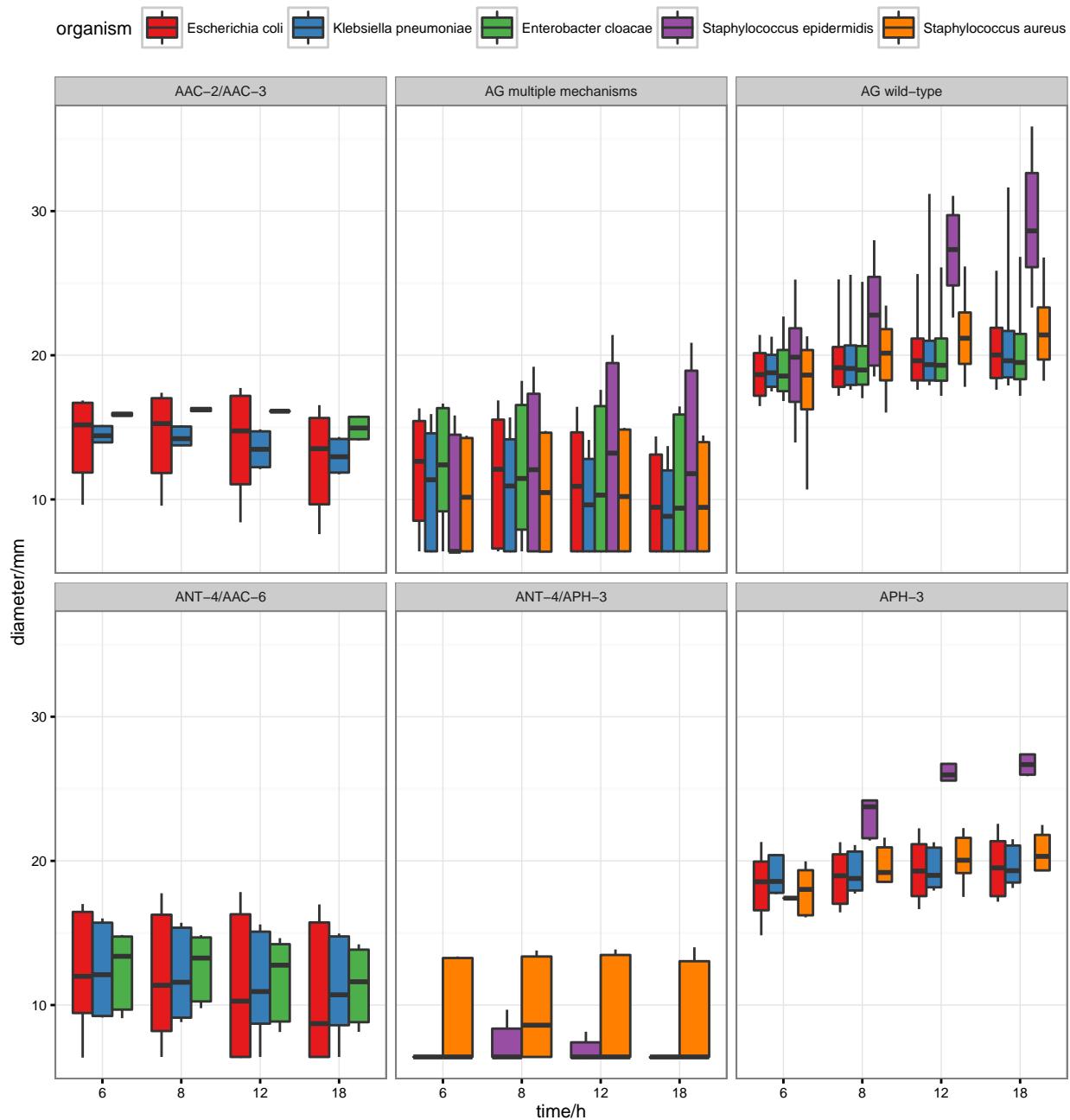
26.4 Tigecycline, *Staphylococcus aureus*

No data for non-wild type available.

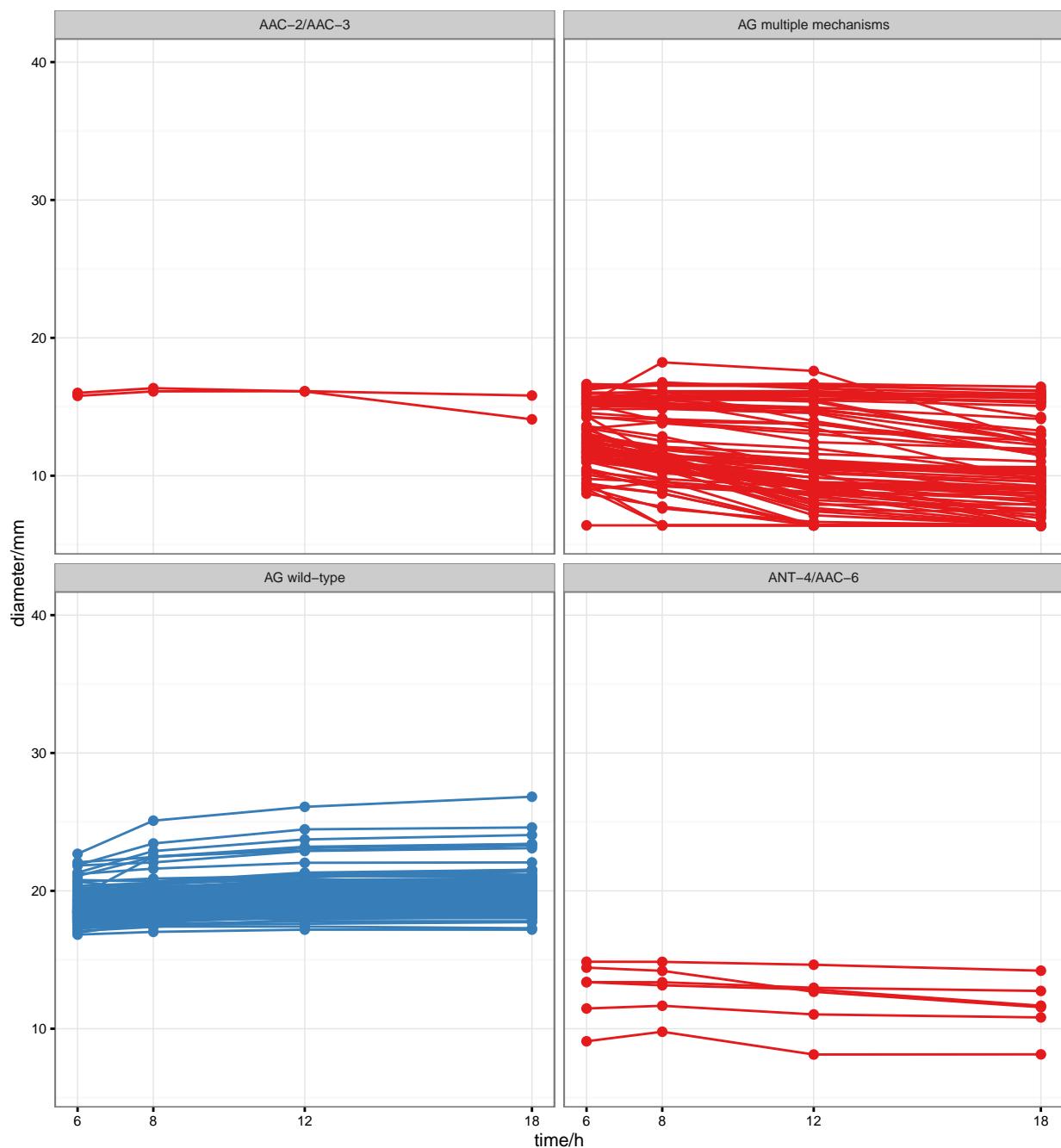
26.5 Tigecycline, *Staphylococcus epidermidis*

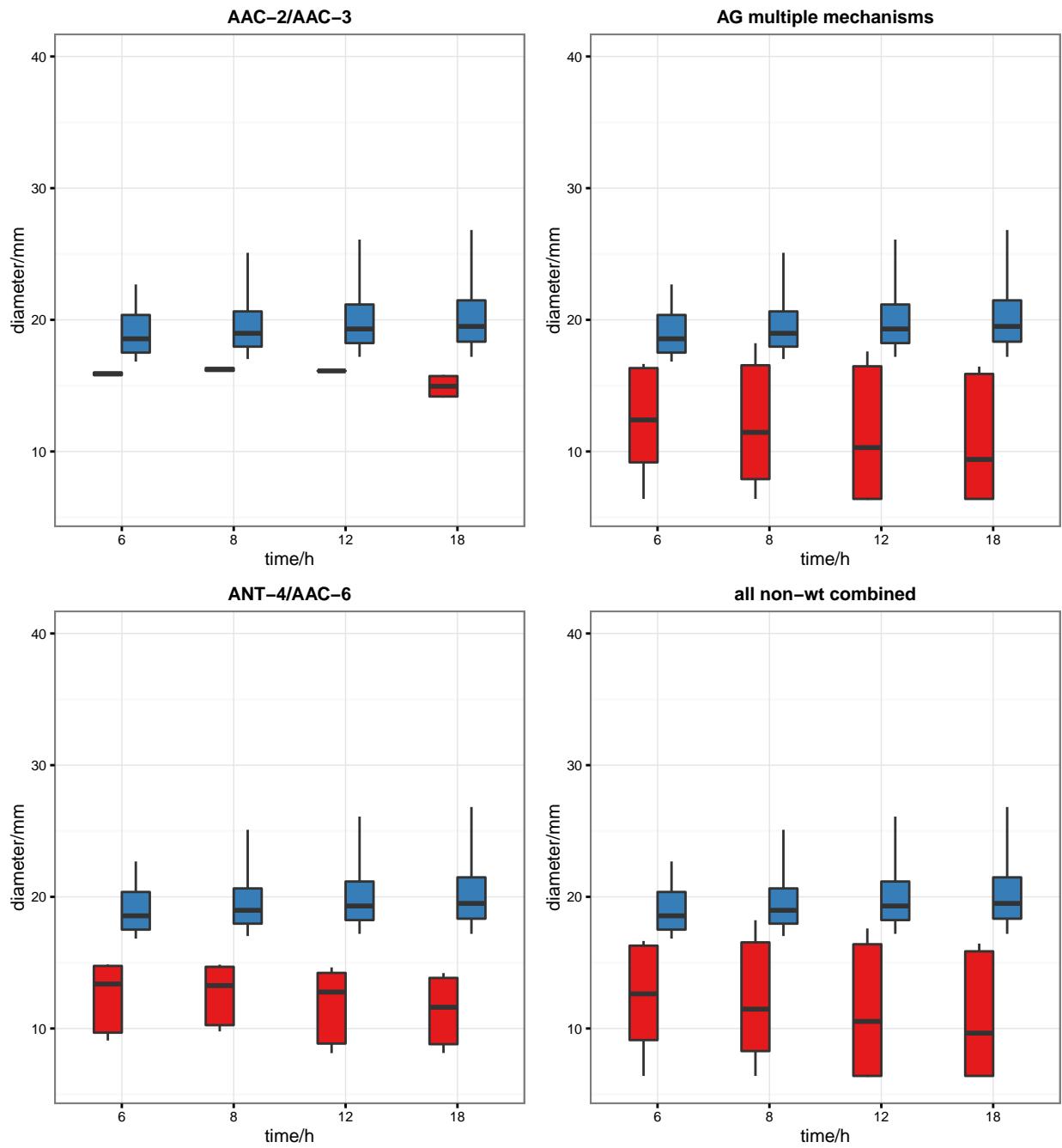
No data for non-wild type available.

27 Tobramycin



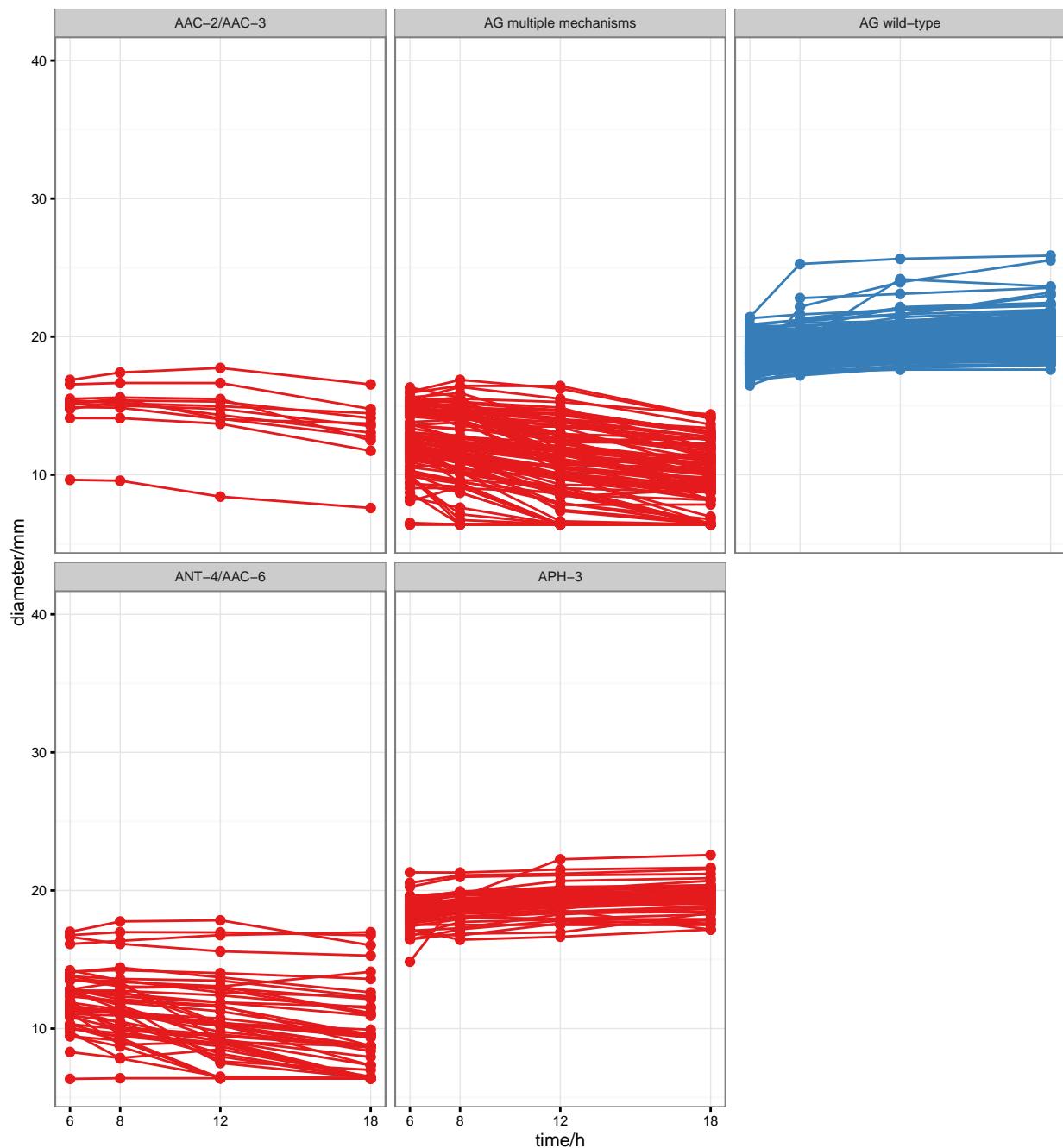
27.1 Tobramycin, *Enterobacter cloacae*

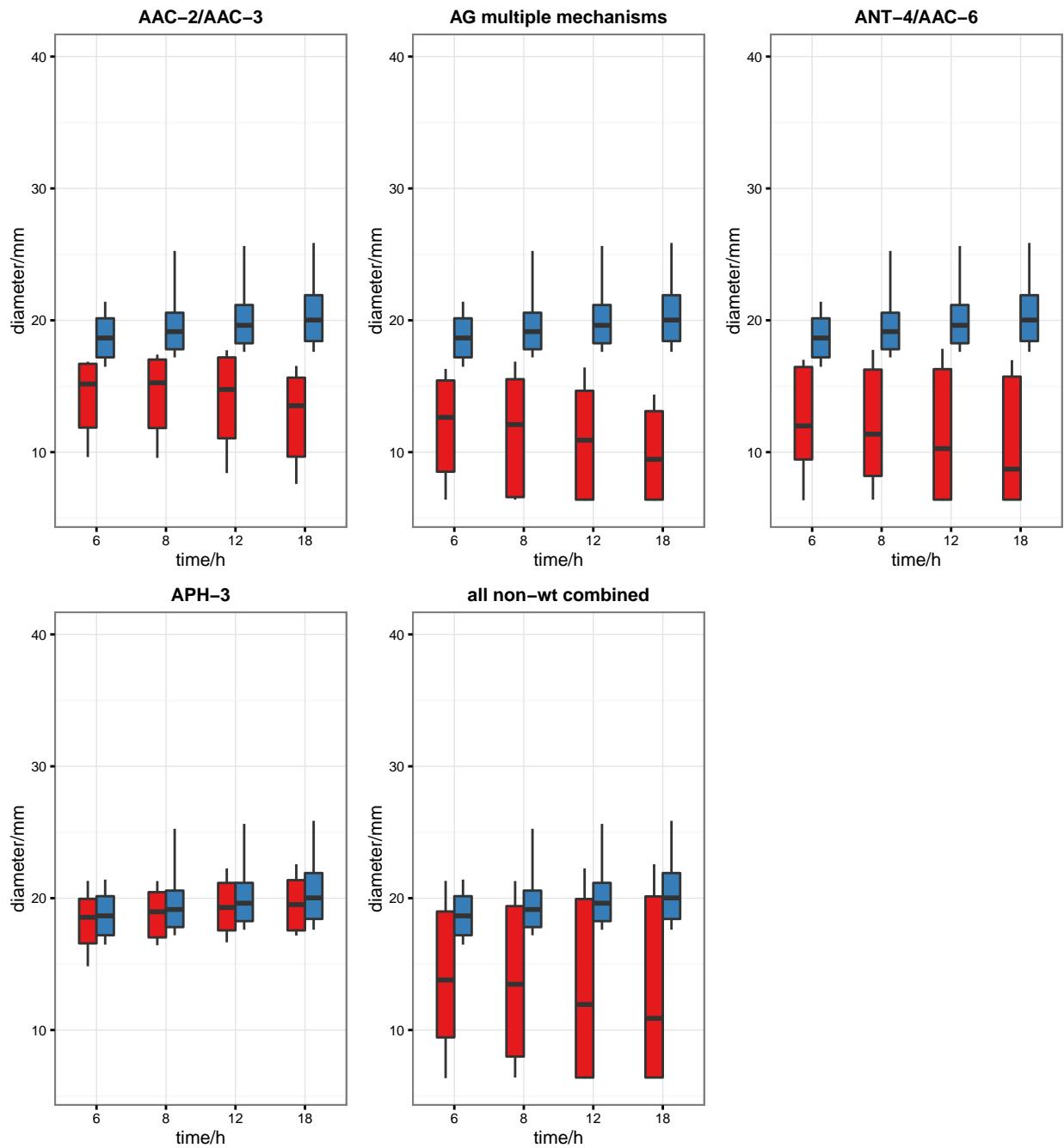




phenotypes	n
AAC-2/AAC-3	2
AG multiple mechanisms	84
AG wild-type	207
ANT-4/AAC-6	6

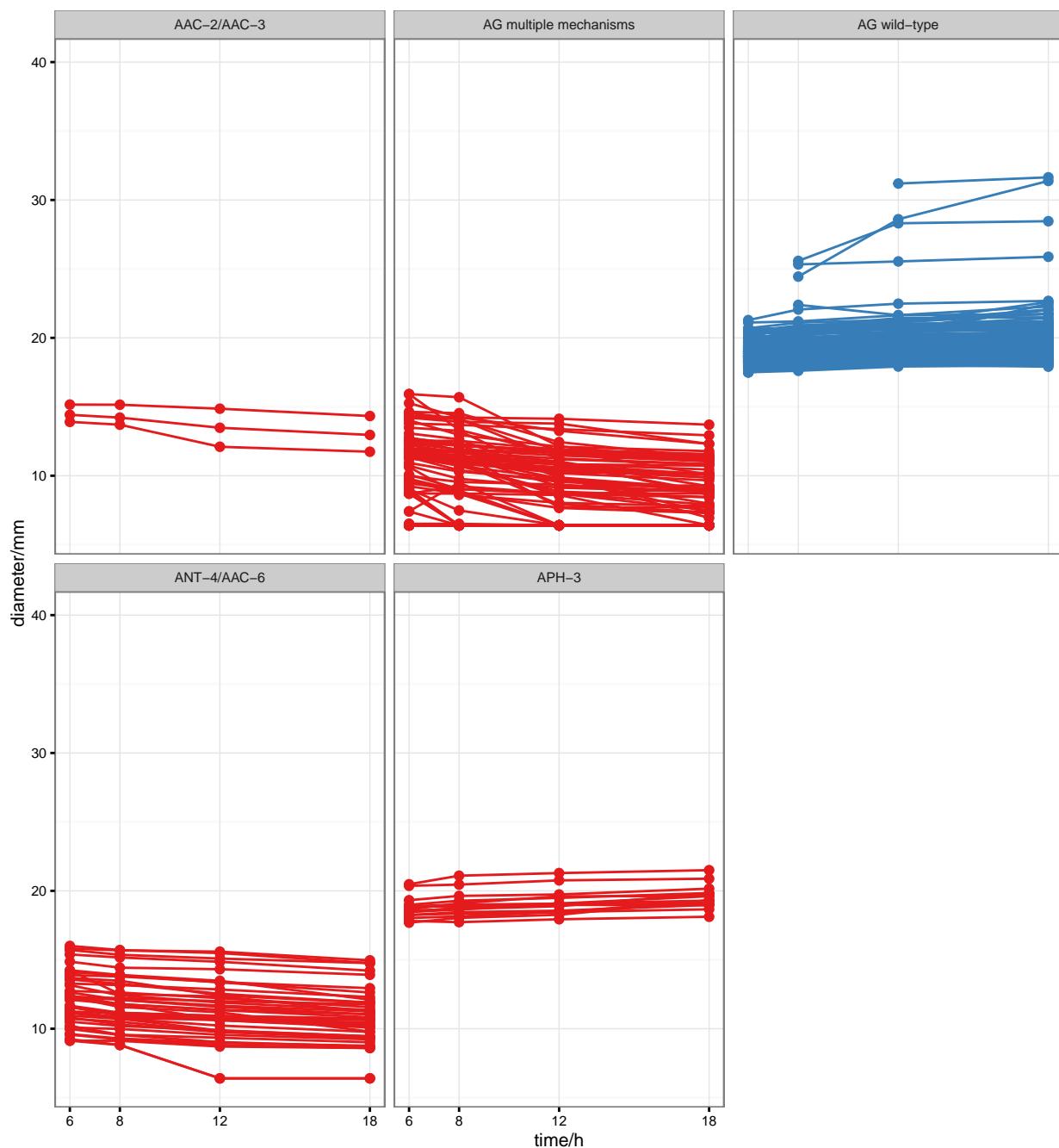
27.2 Tobramycin, *Escherichia coli*

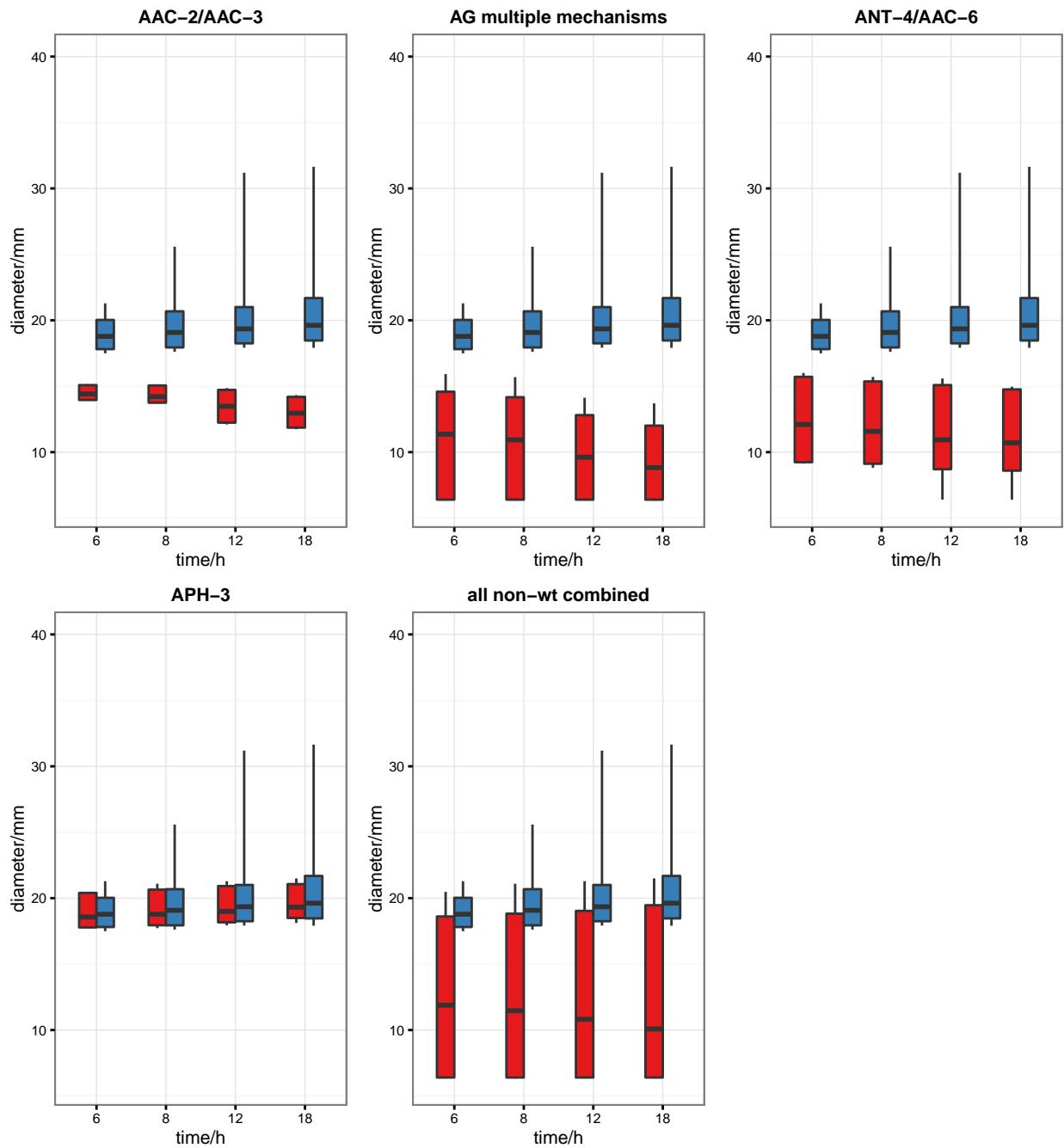




phenotypes	n
AAC-2/AAC-3	11
AG multiple mechanisms	113
AG wild-type	249
ANT-4/AAC-6	49
APH-3	51

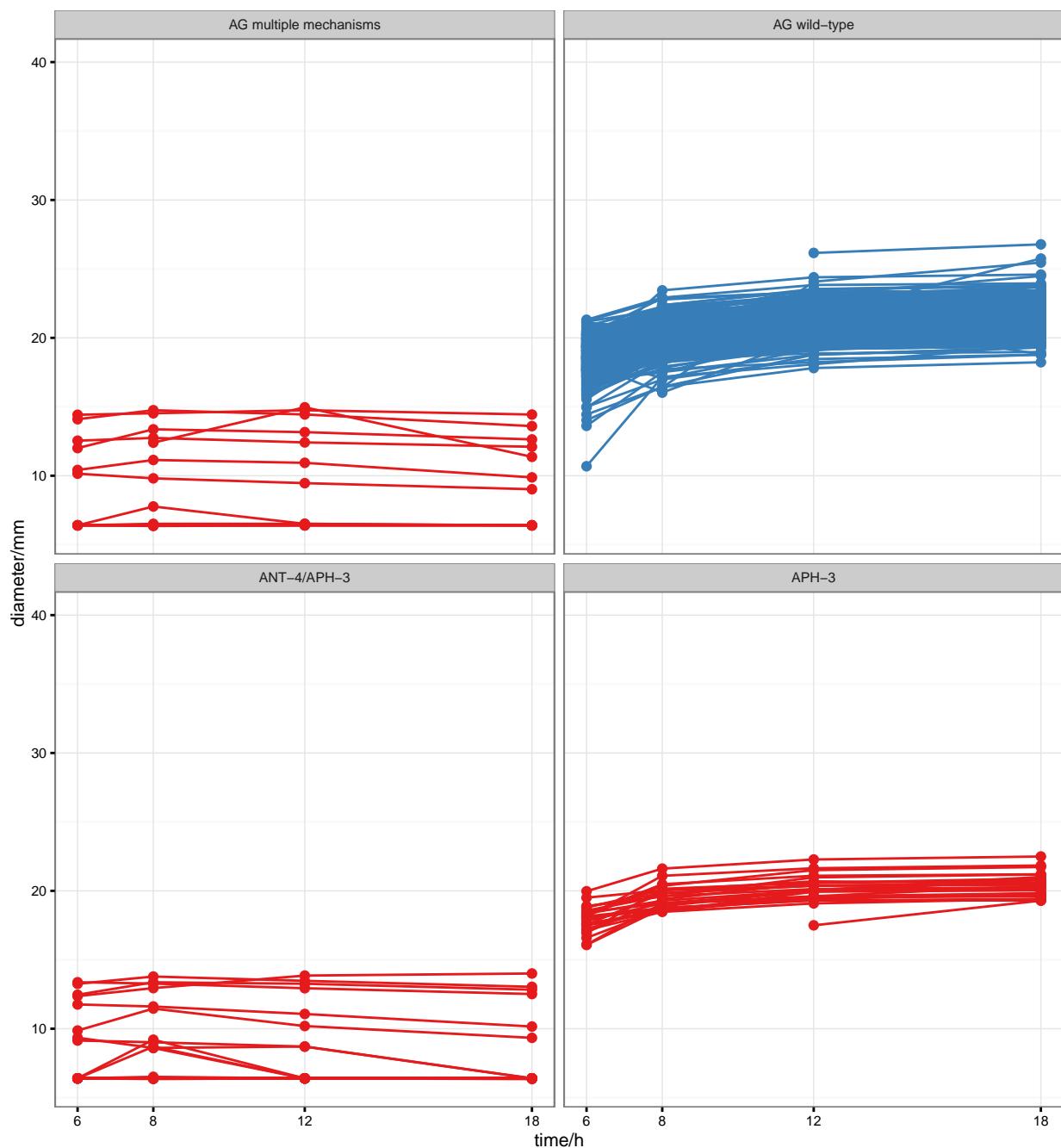
27.3 Tobramycin, *Klebsiella pneumoniae*

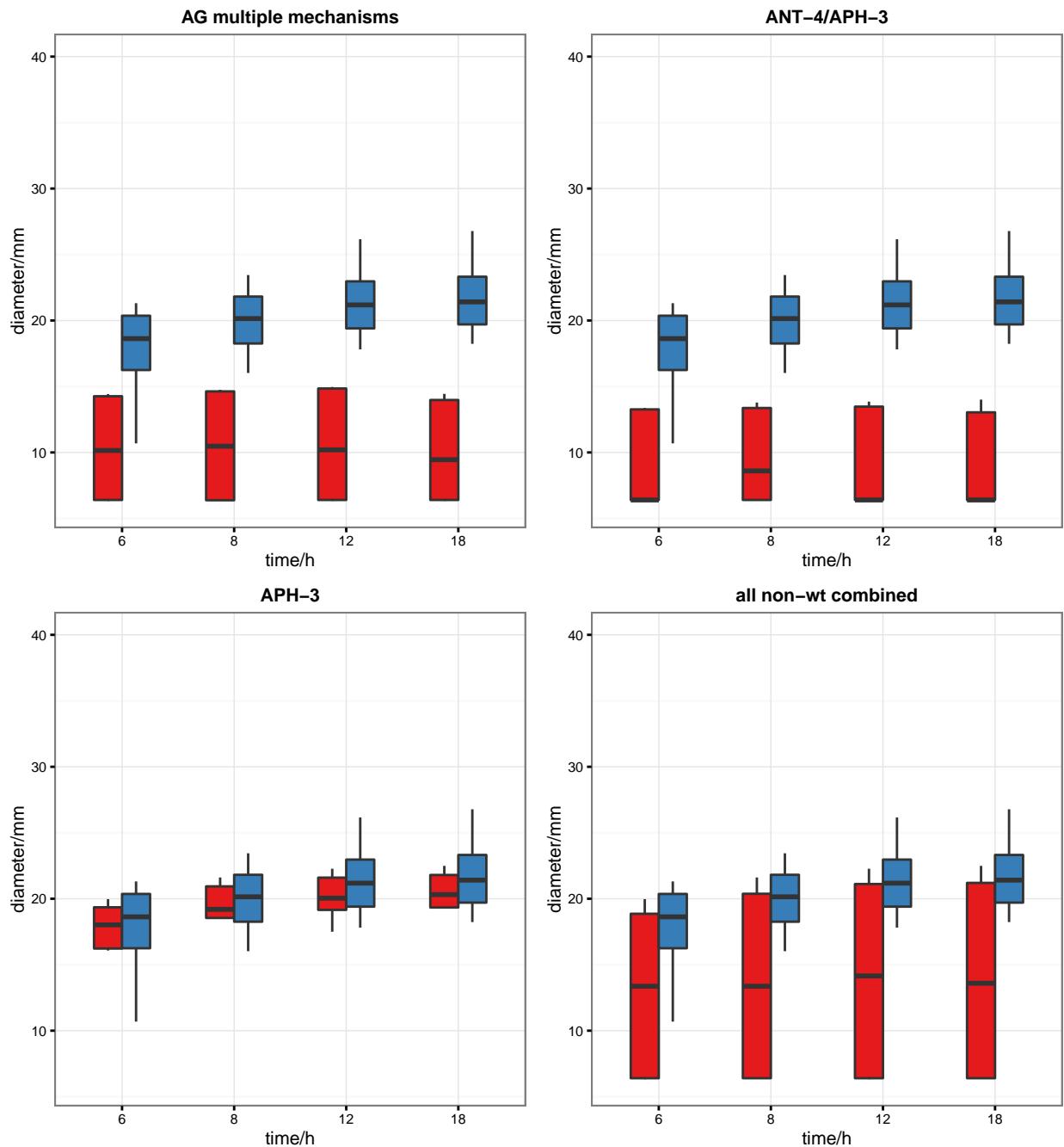




phenotypes	n
AAC-2/AAC-3	3
AG multiple mechanisms	72
AG wild-type	244
ANT-4/AAC-6	41
APH-3	15

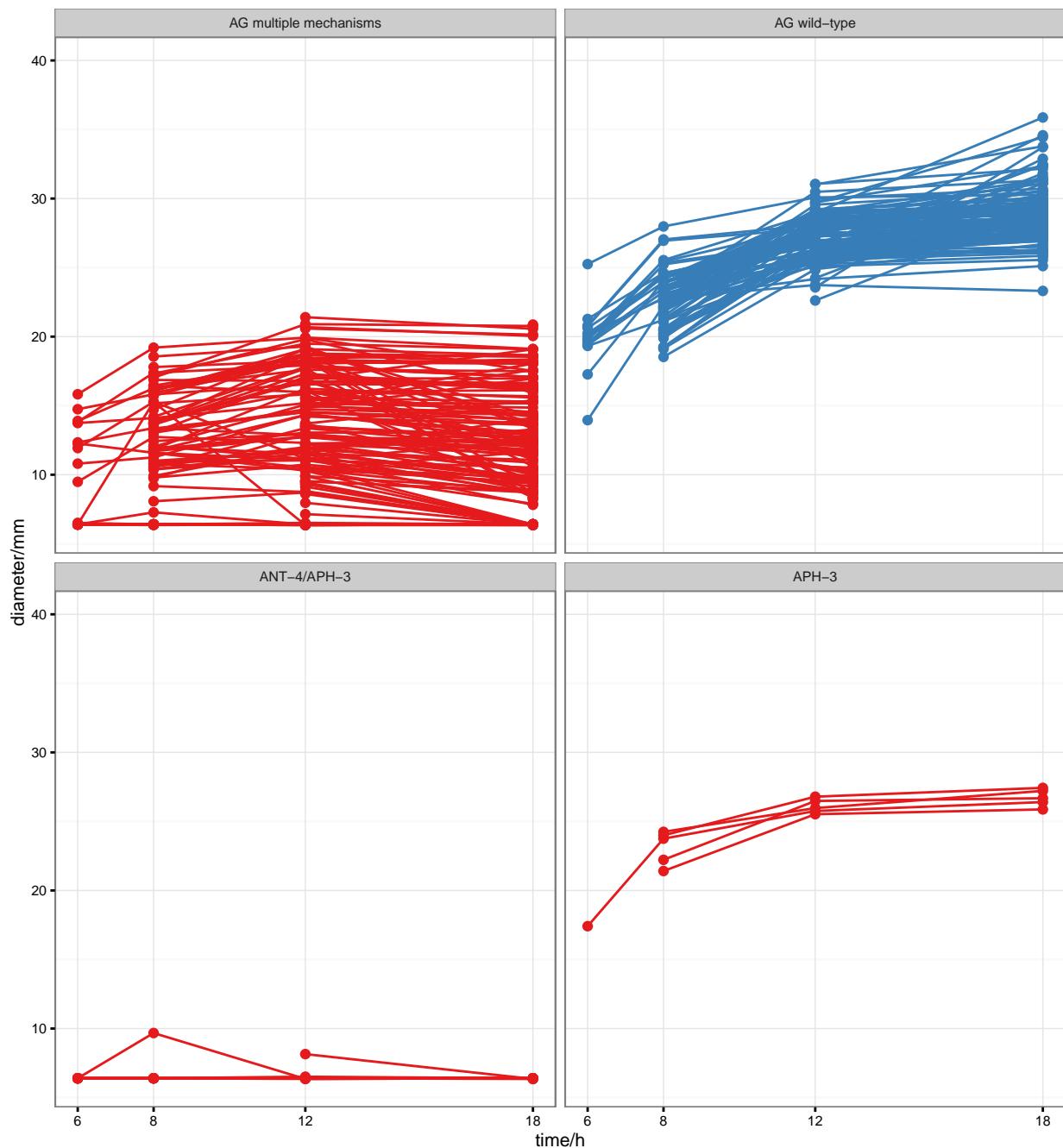
27.4 Tobramycin, *Staphylococcus aureus*

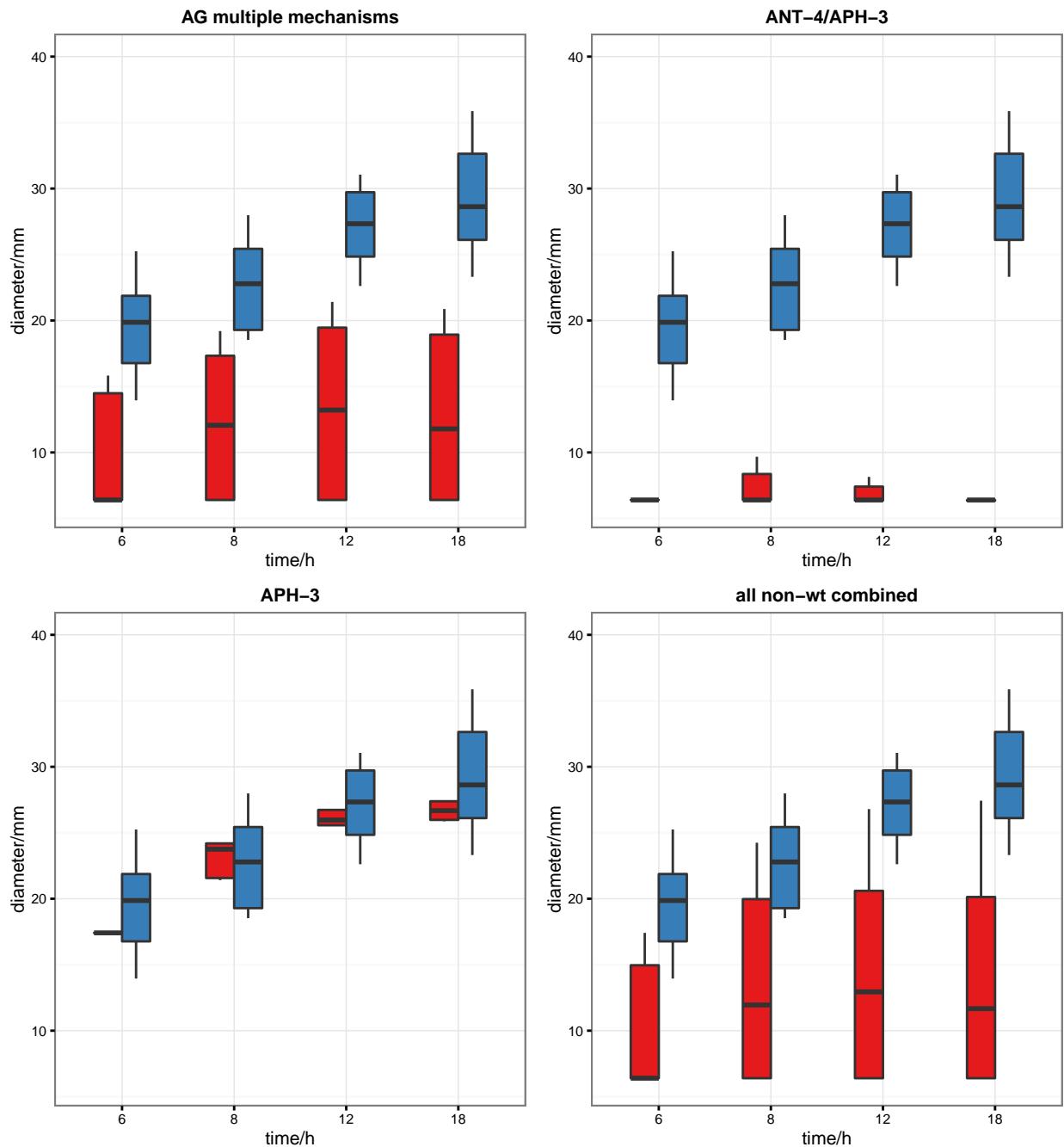




phenotypes	n
AG multiple mechanisms	12
AG wild-type	344
ANT-4/APH-3	21
APH-3	28

27.5 Tobramycin, *Staphylococcus epidermidis*





phenotypes	n
AG multiple mechanisms	148
AG wild-type	112
ANT-4/APH-3	10
APH-3	5

28 Area under the ROC curve

