

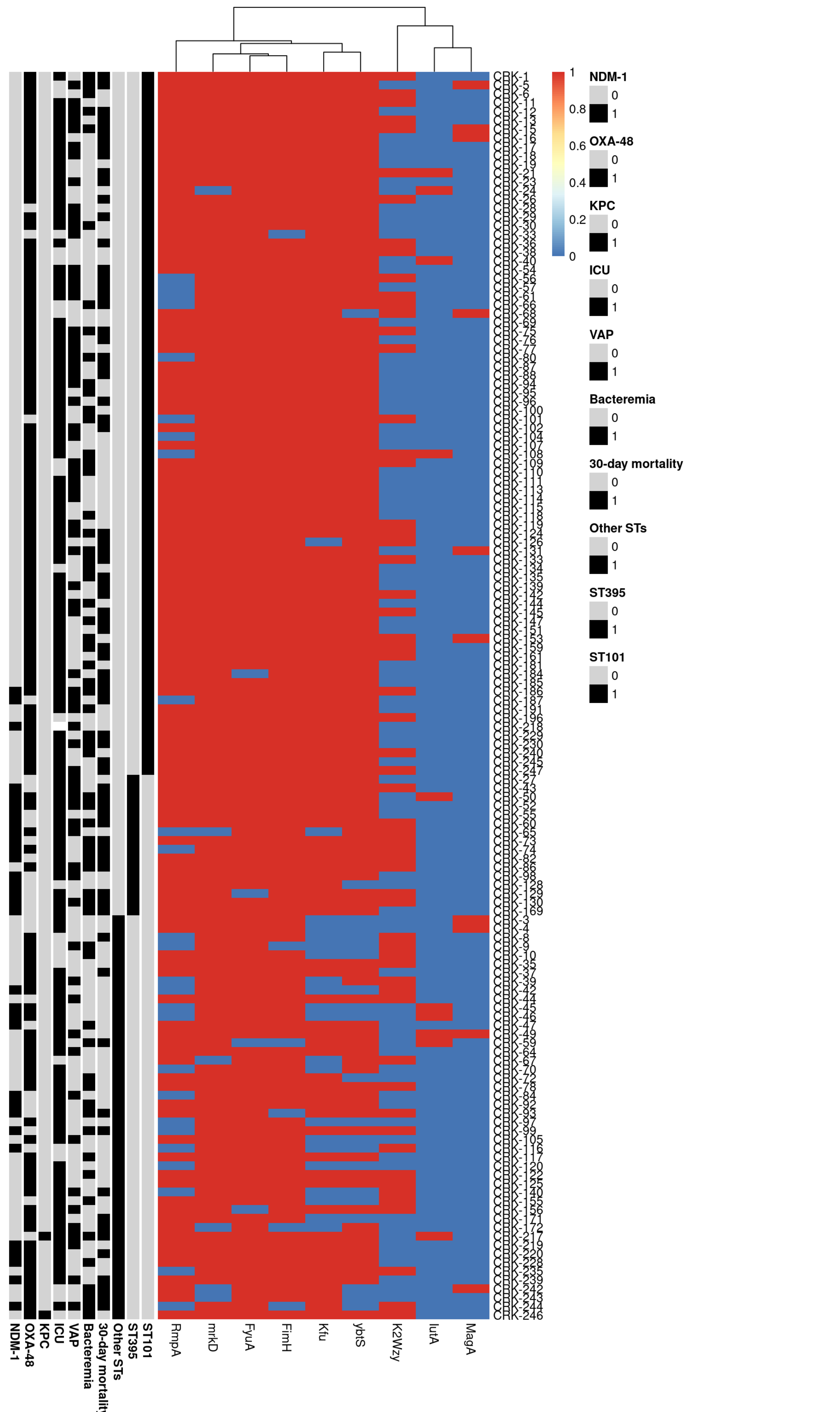
Virulence Determinants of Colistin-Resistant *K.pneumoniae* High-Risk Clones

May 11, 2021

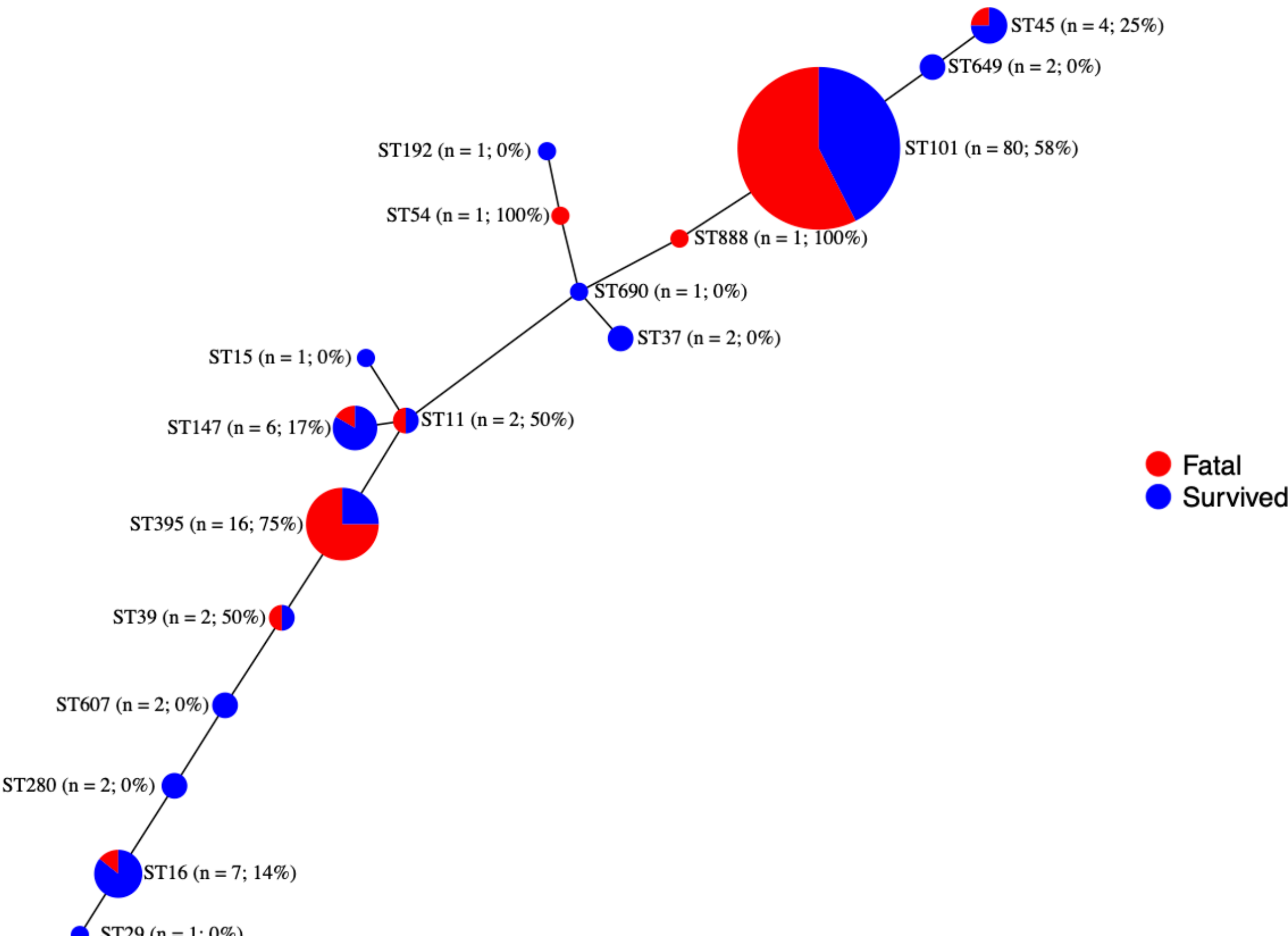
Summary table

##	Total	ST101	ST395	Other STs	p (ST101)	p (ST395)
## 30-day mortality	" 72/142 (50.7%)"	" 46/80 (57.5%)"	" 12/16 (75.0%)"	" 14/46 (30.4%)"	" 0.005"	" 0.003"
## Bacteremia	" 61/142 (43.0%)"	" 33/80 (41.2%)"	" 10/16 (62.5%)"	" 18/46 (39.1%)"	" 0.852"	" 0.147"
## Carbapenem res.	" 135/142 (95.1%)"	" 78/80 (97.5%)"	" 16/16 (100.0%)"	" 41/46 (89.1%)"	" 0.098"	" 0.315"
## Colistin exp.	" 69/142 (48.6%)"	" 36/80 (45.0%)"	" 5/16 (31.2%)"	" 28/46 (60.9%)"	" 0.098"	" 0.048"
## Colistin tar.	" 55/142 (38.7%)"	" 31/80 (38.8%)"	" 4/16 (25.0%)"	" 20/46 (43.5%)"	" 0.707"	" 0.242"
## Comorbidity	" 49/142 (34.5%)"	" 27/80 (33.8%)"	" 4/16 (25.0%)"	" 18/46 (39.1%)"	" 0.567"	" 0.375"
## Emp. carbapenem	" 68/141 (48.2%)"	" 39/80 (48.8%)"	" 3/15 (20.0%)"	" 26/46 (56.5%)"	" 0.461"	" 0.018"
## Emp. colistin	" 42/141 (29.8%)"	" 20/80 (25.0%)"	" 1/16 (6.2%)"	" 21/45 (46.7%)"	" 0.017"	" 0.005"
## FimH	" 136/142 (95.8%)"	" 79/80 (98.8%)"	" 16/16 (100.0%)"	" 41/46 (89.1%)"	" 0.024"	" 0.315"
## FyuA	" 138/142 (97.2%)"	" 79/80 (98.8%)"	" 15/16 (93.8%)"	" 44/46 (95.7%)"	" 0.553"	" 1.000"
## Gender	" 60/142 (42.3%)"	" 34/80 (42.5%)"	" 7/16 (43.8%)"	" 19/46 (41.3%)"	" 1.000"	" 1.000"
## ICU	" 119/141 (84.4%)"	" 68/79 (86.1%)"	" 15/16 (93.8%)"	" 36/46 (78.3%)"	" 0.323"	" 0.261"
## IutA	" 10/142 (7.0%)"	" 4/80 (5.0%)"	" 1/16 (6.2%)"	" 5/46 (10.9%)"	" 0.285"	" 1.000"
## K2Wzy	" 60/142 (42.3%)"	" 31/80 (38.8%)"	" 9/16 (56.2%)"	" 20/46 (43.5%)"	" 0.707"	" 0.401"
## Kfu	" 121/142 (85.2%)"	" 79/80 (98.8%)"	" 15/16 (93.8%)"	" 27/46 (58.7%)"	" 0.000"	" 0.012"
## KPC	" 2/142 (1.4%)"	" 0/80 (0.0%)"	" 0/16 (0.0%)"	" 2/46 (4.3%)"	" 0.131"	" 1.000"
## MagA	" 10/142 (7.0%)"	" 6/80 (7.5%)"	" 0/16 (0.0%)"	" 4/46 (8.7%)"	" 1.000"	" 0.565"
## Mortality	" 95/142 (66.9%)"	" 61/80 (76.2%)"	" 12/16 (75.0%)"	" 22/46 (47.8%)"	" 0.002"	" 0.082"
## mrkD	" 136/142 (95.8%)"	" 79/80 (98.8%)"	" 15/16 (93.8%)"	" 42/46 (91.3%)"	" 0.059"	" 1.000"
## NDM-1	" 31/142 (21.8%)"	" 3/80 (3.8%)"	" 14/16 (87.5%)"	" 14/46 (30.4%)"	" 0.000"	" 0.000"
## Operation	" 73/142 (51.4%)"	" 40/80 (50.0%)"	" 8/16 (50.0%)"	" 25/46 (54.3%)"	" 0.712"	" 0.780"
## OXA-48	" 116/142 (81.7%)"	" 76/80 (95.0%)"	" 5/16 (31.2%)"	" 35/46 (76.1%)"	" 0.003"	" 0.002"
## RmpA	" 116/142 (81.7%)"	" 71/80 (88.8%)"	" 14/16 (87.5%)"	" 31/46 (67.4%)"	" 0.005"	" 0.194"
## VAP	" 67/142 (47.2%)"	" 44/80 (55.0%)"	" 9/16 (56.2%)"	" 14/46 (30.4%)"	" 0.009"	" 0.079"
## WabG	" 141/142 (99.3%)"	" 80/80 (100.0%)"	" 16/16 (100.0%)"	" 45/46 (97.8%)"	" 0.365"	" 1.000"
## ybtS	" 121/142 (85.2%)"	" 79/80 (98.8%)"	" 15/16 (93.8%)"	" 27/46 (58.7%)"	" 0.000"	" 0.012"

Heatmap analysis



Minimum spanning tree



Fisher's exact test between 30-day mortality & other covariates

##	OR	CI	p-value
## Bacteremia	" 1.6"	" 0.78-3.31"	" 0.179"
## FimH	" 0.5"	" 0.04-3.64"	" 0.681"
## FyuA	" 0.3"	" 0.01-4.30"	" 0.620"
## ICU	" 4.3"	" 1.42-16.04"	" 0.005"
## IutA	" 0.6"	" 0.12-2.79"	" 0.529"
## K2Wzy	" 1.3"	" 0.66-2.78"	" 0.401"
## Kfu	" 3.9"	" 1.27-14.63"	" 0.009"
## KPC	" 1.0"	" 0.01-77.33"	" 1.000"
## MagA	" 1.0"	" 0.21-4.43"	" 1.000"
## mrkD	" 1.0"	" 0.13-7.96"	" 1.000"
## NDM-1	" 1.5"	" 0.61-3.58"	" 0.419"
## OXA-48	" 1.0"	" 0.40-2.66"	" 1.000"
## RmpA	" 1.2"	" 0.49-3.23"	" 0.668"
## ST101	" 1.9"	" 0.91-3.88"	" 0.090"
## ST395	" 3.3"	" 0.93-14.68"	" 0.061"
## VAP	" 1.8"	" 0.86-3.64"	" 0.096"
## ybtS	" 3.0"	" 1.01-10.02"	" 0.034"

Multivariate analysis to predict 30-day mortality status

##	OR	CI	p-value
## ICU	" 7.9"	" 1.43-55.98"	" 0.024"
## Kfu	" 27.0"	" 5.67-179.65"	" 0.000"
## ST101	" 17.2"	" 2.45-350.40"	" 0.014"
## ST395	" 2.7"	" 0.33-58.50"	" 0.401"
## VAP	" 3.2"	" 0.60-20.74"	" 0.192"
## ybtS	" 0.7"	" 0.13-3.17"	" 0.624"

Multivariate analysis to predict ST101 status

##	OR	CI	p-value
## 30-day mortality	" 1.2"	" 0.17-6.12"	" 0.860"
## FimH	" 3.1"	" 0.18-100.25"	" 0.464"
## Kfu	" 20.3"	" 2.17-484.56"	" 0.018"
## Mortality	" 3.4"	" 0.71-22.83"	" 0.156"
## mrkD	" 4.3"	" 0.24-130.73"	" 0.331"
## NDM-1	" 0.0"	" 0.01-0.15"	" 0.000"
## OXA-48	" 5.0"	" 1.04-26.48"	" 0.045"
## RmpA	" 0.7"	" 0.11-3.53"	" 0.688"
## VAP	" 1.8"	" 0.61-5.64"	" 0.292"
## ybtS	" 9.9"	" 1.08-228.71"	" 0.067"

Multivariate analysis to predict ST395 status

##	OR	CI	p-value
## 30-day mortality	" 83887477.7"	" 0.00-NA"	" 0.993"
## Kfu	" 0.6"	" 0.05-17.86"	" 0.717"
## Mortality	" 0.0"	" 0.00-Inf"	" 0.993"
## OXA-48	" 0.0"	" 0.01-0.15"	" 0.000"
## VAP	" 1.9"	" 0.52-8.08"	" 0.336"
## ybtS	" 1.4"	" 0.11-43.51"	" 0.808"

Fisher's exact test between VAP & other covariates

##	OR	CI	p-value
## FimH	" 0.4"	" 0.04-3.14"	" 0.421"
## Kfu	" 2.5"	" 0.85-8.50"	" 0.096"
## RmpA	" 1.1"	" 0.41-2.72"	" 1.000"
## ST101	" 2.1"	" 1.00-4.33"	" 0.042"
## ST395	" 1.5"	" 0.47-5.07"	" 0.596"
## ybtS	" 4.6"	" 1.38-19.76"	" 0.008"