

# Contents

<b>1</b>	<b>Tables of AUC, CE and time</b>	<b>2</b>
1.1	$p = 10$ . . . . .	2
1.2	$p = 50$ . . . . .	4
1.3	$p = 100$ . . . . .	6
<b>2</b>	<b>AUC-CE Scatterplots</b>	<b>8</b>
2.1	$p = 10$ . . . . .	8
2.2	$p = 50$ . . . . .	9
2.3	$p = 100$ . . . . .	10
<b>3</b>	<b>AUC-CE Boxplots</b>	<b>11</b>
3.1	$p = 10$ . . . . .	11
3.2	$p = 50$ . . . . .	13
3.3	$p = 100$ . . . . .	15
<b>4</b>	<b>AUC and CE convergence over time</b>	<b>16</b>
4.1	$p = 10$ . . . . .	16
4.2	$p = 50$ . . . . .	18
4.3	$p = 100$ . . . . .	19

# 1 Tables of AUC, CE and time

## 1.1 $p = 10$

CE	mpl bd	mpl rj	bd	rj	ss
p = 10, n = 10					
random	0.35 (0.16)	0.33 (0.14)	0.25 (0.05)	0.25 (0.05)	0.24 (0.05)
cluster	0.32 (0.24)	0.31 (0.22)	0.18 (0.03)	0.19 (0.03)	0.16 (0.03)
scale-free	0.4 (0.2)	0.38 (0.17)	0.26 (0.03)	0.26 (0.03)	0.25 (0.02)
p = 10, n = 20					
random	0.19 (0.06)	0.19 (0.06)	0.21 (0.05)	0.21 (0.05)	0.21 (0.05)
cluster	0.11 (0.03)	0.11 (0.03)	0.14 (0.03)	0.14 (0.03)	0.13 (0.03)
scale-free	0.19 (0.04)	0.19 (0.04)	0.21 (0.03)	0.21 (0.03)	0.21 (0.03)
p = 10, n = 100					
random	0.09 (0.05)	0.09 (0.05)	0.12 (0.04)	0.12 (0.04)	0.14 (0.05)
cluster	0.05 (0.03)	0.05 (0.03)	0.07 (0.03)	0.07 (0.03)	0.08 (0.02)
scale-free	0.1 (0.04)	0.1 (0.04)	0.12 (0.04)	0.12 (0.04)	0.15 (0.03)

Table 1: Mean and standard deviation (in brackets) of CE values of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in

AUC	mpl bd	mpl rj	bd	rj	ss
p = 10, n = 10					
random	0.63 (0.12)	0.63 (0.13)	0.7 (0.14)	0.7 (0.14)	0.7 (0.14)
cluster	0.63 (0.2)	0.66 (0.17)	0.74 (0.16)	0.73 (0.16)	0.74 (0.15)
scale-free	0.57 (0.14)	0.58 (0.13)	0.7 (0.1)	0.7 (0.11)	0.7 (0.11)
p = 10, n = 20					
random	0.75 (0.14)	0.75 (0.13)	0.76 (0.13)	0.77 (0.13)	0.76 (0.14)
cluster	0.78 (0.18)	0.79 (0.16)	0.8 (0.17)	0.8 (0.17)	0.8 (0.16)
scale-free	0.75 (0.11)	0.75 (0.11)	0.77 (0.1)	0.77 (0.1)	0.77 (0.1)
p = 10, n = 100					
random	0.9 (0.07)	0.89 (0.07)	0.9 (0.08)	0.9 (0.08)	0.89 (0.09)
cluster	0.91 (0.12)	0.9 (0.12)	0.91 (0.12)	0.92 (0.1)	0.9 (0.12)
scale-free	0.87 (0.08)	0.87 (0.08)	0.88 (0.07)	0.89 (0.07)	0.88 (0.07)

Table 2: Mean and standard deviation (in brackets) of AUC values of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in

<b>Time</b>	mpl bd	mpl rj	bd	rj	ss
p = 10, n = 10					
random	4.85 (1.93)	0.83 (0.28)	18.66 (1.84)	7.14 (1.44)	15.06 (1.43)
cluster	4.04 (1.58)	0.74 (0.25)	18.04 (1.69)	6.89 (1.44)	14.13 (1.07)
scale-free	4.13 (1.62)	0.74 (0.23)	18.93 (1.6)	7.52 (1.25)	15.24 (1.3)
p = 10, n = 20					
random	2.2 (0.59)	0.45 (0.1)	15.86 (2.43)	5.83 (1.71)	13.01 (1.82)
cluster	1.84 (0.44)	0.4 (0.07)	13.76 (1.91)	4.83 (1.58)	11.2 (1)
scale-free	2.22 (0.59)	0.49 (0.23)	16 (2.52)	5.9 (1.85)	12.92 (1.68)
p = 10, n = 100					
random	1.09 (0.08)	0.26 (0.02)	9.9 (2.39)	4.59 (2.04)	8.31 (0.86)
cluster	1.03 (0.07)	0.24 (0.02)	8.53 (1.82)	3.49 (1.89)	7.4 (0.28)
scale-free	1.13 (0.09)	0.27 (0.02)	9.83 (2.43)	4.31 (1.68)	8.34 (1.25)

Table 3: *Mean and standard deviation (in brackets) of the time (in seconds) of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*

## 1.2 $p = 50$

CE	mpl bd	mpl rj	bd	rj	ss
p = 50, n = 50					
random	0.17 (0.01)	0.17 (0.01)	0.22 (0.02)	0.23 (0.02)	0.23 (0.02)
cluster	0.06 (0.01)	0.06 (0.01)	0.1 (0.01)	0.1 (0.01)	0.1 (0.01)
scale-free	0.05 (0.01)	0.05 (0.01)	0.09 (0.01)	0.09 (0.01)	0.09 (0.01)
p = 50, n = 100					
random	0.14 (0.01)	0.14 (0.01)	0.18 (0.02)	0.19 (0.02)	0.2 (0.02)
cluster	0.04 (0.01)	0.04 (0.01)	0.07 (0.01)	0.07 (0.01)	0.08 (0.01)
scale-free	0.03 (0)	0.03 (0)	0.06 (0.01)	0.06 (0.01)	0.07 (0.01)
p = 50, n = 500					
random	0.08 (0.01)	0.08 (0.01)	0.1 (0.02)	0.11 (0.03)	0.14 (0.02)
cluster	0.02 (0)	0.02 (0)	0.03 (0)	0.04 (0)	0.06 (0.01)
scale-free	0.02 (0)	0.02 (0)	0.03 (0)	0.03 (0.01)	0.05 (0.01)

Table 4: *Mean and standard deviation (in brackets) of CE values of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*

AUC	mpl bd	mpl rj	bd	rj	ss
p = 50, n = 50					
random	0.71 (0.02)	0.69 (0.02)	0.72 (0.02)	0.69 (0.02)	0.71 (0.02)
cluster	0.82 (0.04)	0.79 (0.04)	0.83 (0.04)	0.81 (0.04)	0.83 (0.04)
scale-free	0.8 (0.05)	0.78 (0.05)	0.82 (0.05)	0.8 (0.05)	0.83 (0.05)
p = 50, n = 100					
random	0.78 (0.02)	0.75 (0.02)	0.78 (0.02)	0.75 (0.02)	0.77 (0.02)
cluster	0.87 (0.03)	0.84 (0.04)	0.88 (0.03)	0.86 (0.04)	0.87 (0.04)
scale-free	0.85 (0.04)	0.84 (0.04)	0.87 (0.04)	0.86 (0.05)	0.87 (0.04)
p = 50, n = 500					
random	0.89 (0.01)	0.86 (0.02)	0.9 (0.01)	0.86 (0.03)	0.87 (0.02)
cluster	0.94 (0.02)	0.92 (0.02)	0.95 (0.02)	0.93 (0.02)	0.93 (0.02)
scale-free	0.93 (0.03)	0.91 (0.03)	0.94 (0.02)	0.93 (0.03)	0.93 (0.03)

Table 5: *Mean and standard deviation (in brackets) of AUC values of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*

<b>Time</b>	mpl bd	mpl rj	bd	rj	ss
p = 50, n = 50					
random	25.25 (2.45)	0.95 (0.12)	709.56 (22.76)	206.75 (20.08)	210.64 (1.72)
cluster	24.71 (2.02)	0.88 (0.05)	705.04 (79.51)	208.46 (76.28)	210.93 (1.22)
scale-free	23.21 (2.44)	0.9 (0.06)	661.68 (131.65)	166.94 (137.2)	210.21 (1.31)
p = 50, n = 100					
random	28.59 (3.82)	0.93 (0.11)	701.4 (22.5)	193.73 (19.94)	210.78 (1.67)
cluster	27.16 (4.17)	0.81 (0.05)	709.92 (92.7)	214.36 (90.29)	211.08 (1.57)
scale-free	26.13 (3.71)	0.82 (0.08)	649.08 (167.69)	156.48 (164.69)	211.28 (1.67)
p = 50, n = 500					
random	41.7 (8.63)	0.89 (0.08)	686.47 (21.81)	184.38 (21.06)	212.21 (1.62)
cluster	32.55 (6.55)	0.68 (0.05)	741.08 (132.56)	240.8 (133.2)	214.2 (2.7)
scale-free	38.35 (9.23)	0.68 (0.06)	660.46 (280.56)	165.4 (277.61)	213.38 (2.05)

Table 6: *Mean and standard deviation (in brackets) of the time (in seconds) of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*

### 1.3 $p = 100$

<b>CE</b>	mpl	bd	mpl	rj	bd	rj	ss
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Table 7: *Mean and standard deviation (in brackets) of CE values of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*

<b>AUC</b>	mpl	bd	mpl	rj	bd	rj	ss
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Table 8: *Mean and standard deviation (in brackets) of AUC values of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*

<b>Time</b>	mpl	bd	mpl	rj	bd	rj	ss
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Table 9: *Mean and standard deviation (in brackets) of the time (in seconds) of 50 replications. Each replication had 100000 MCMC iterations of which 30000 burn-in*



## 2 AUC-CE Scatterplots

### 2.1 $p = 10$

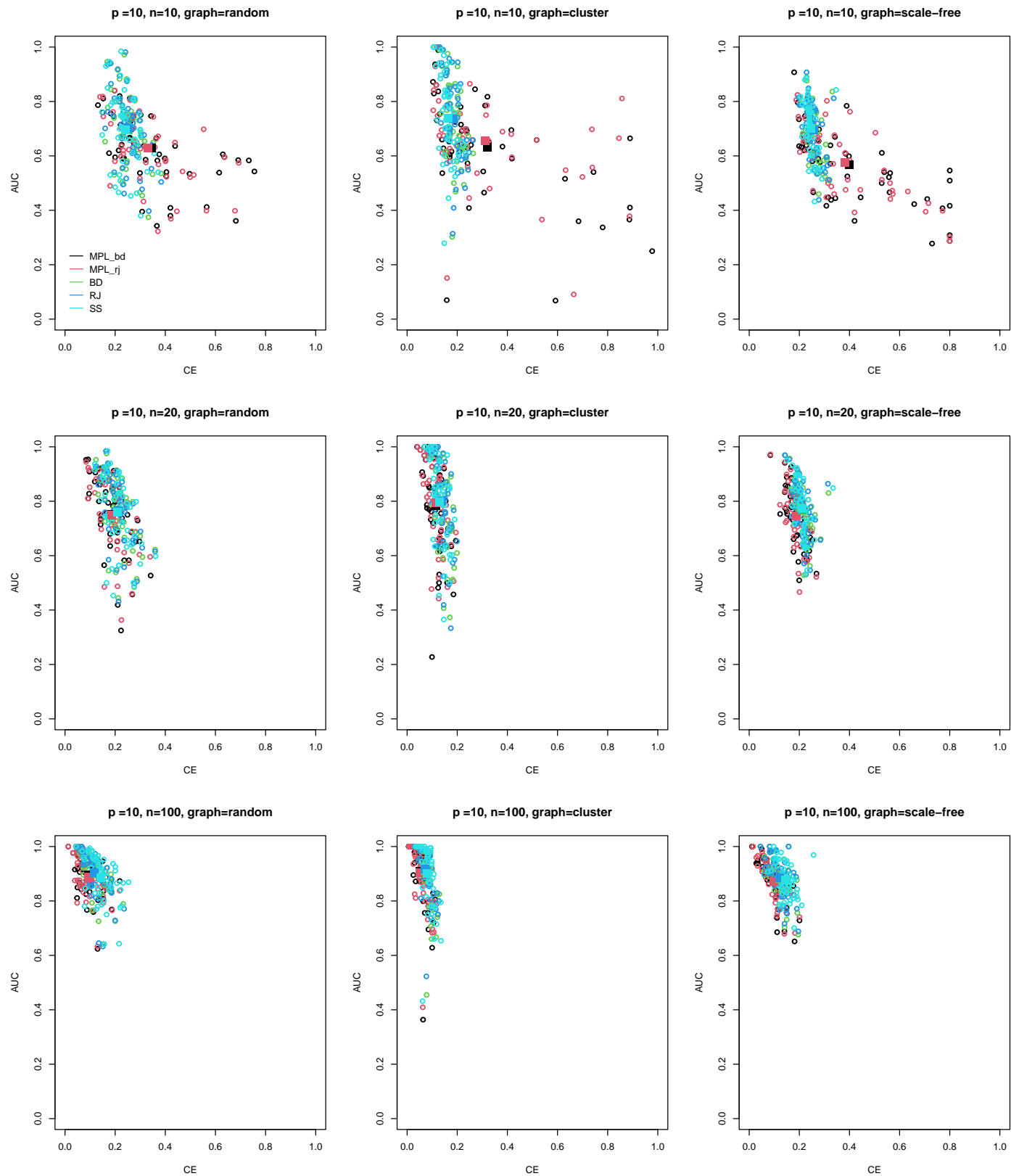


Figure 1: AUC CE scatterplots for every  $n$  and graph type.



## 2.2 $p = 50$

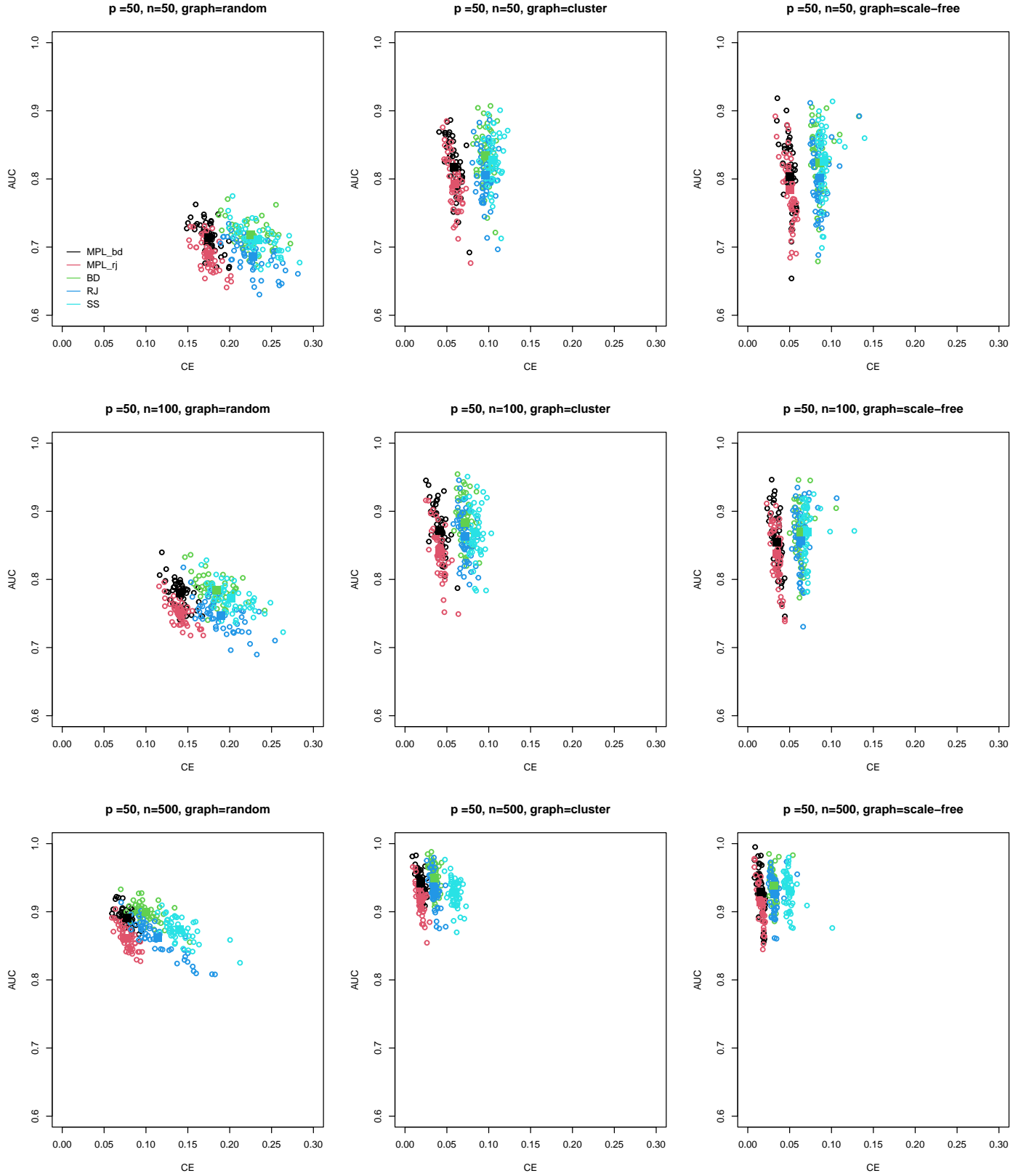


Figure 2:  $AUC$   $CE$  scatterplots for every  $n$  and graph type.

### 2.3 $p = 100$

### 3 AUC-CE Boxplots

#### 3.1 $p = 10$

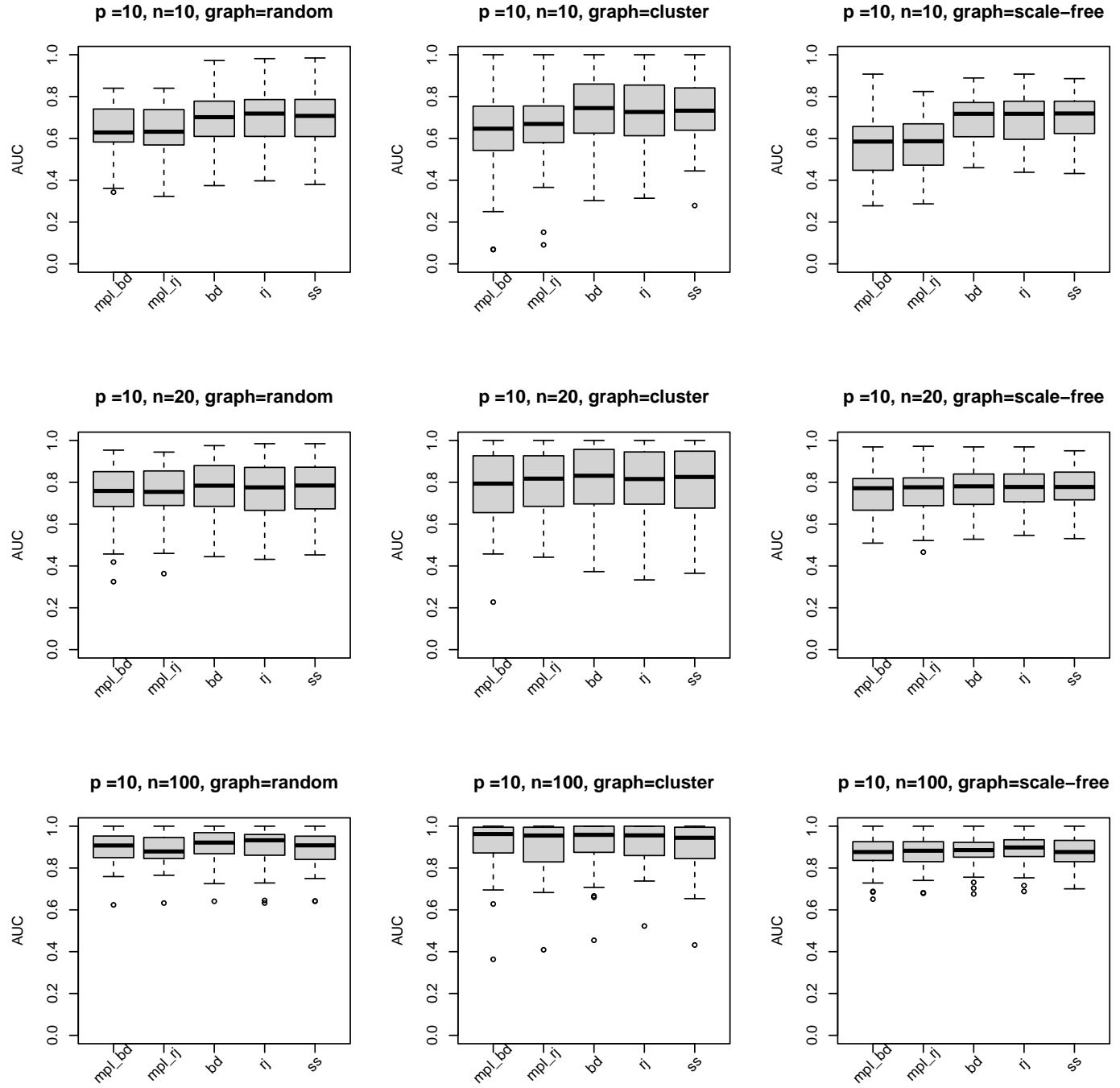


Figure 3: AUC boxplots for every  $n$  and graph type.

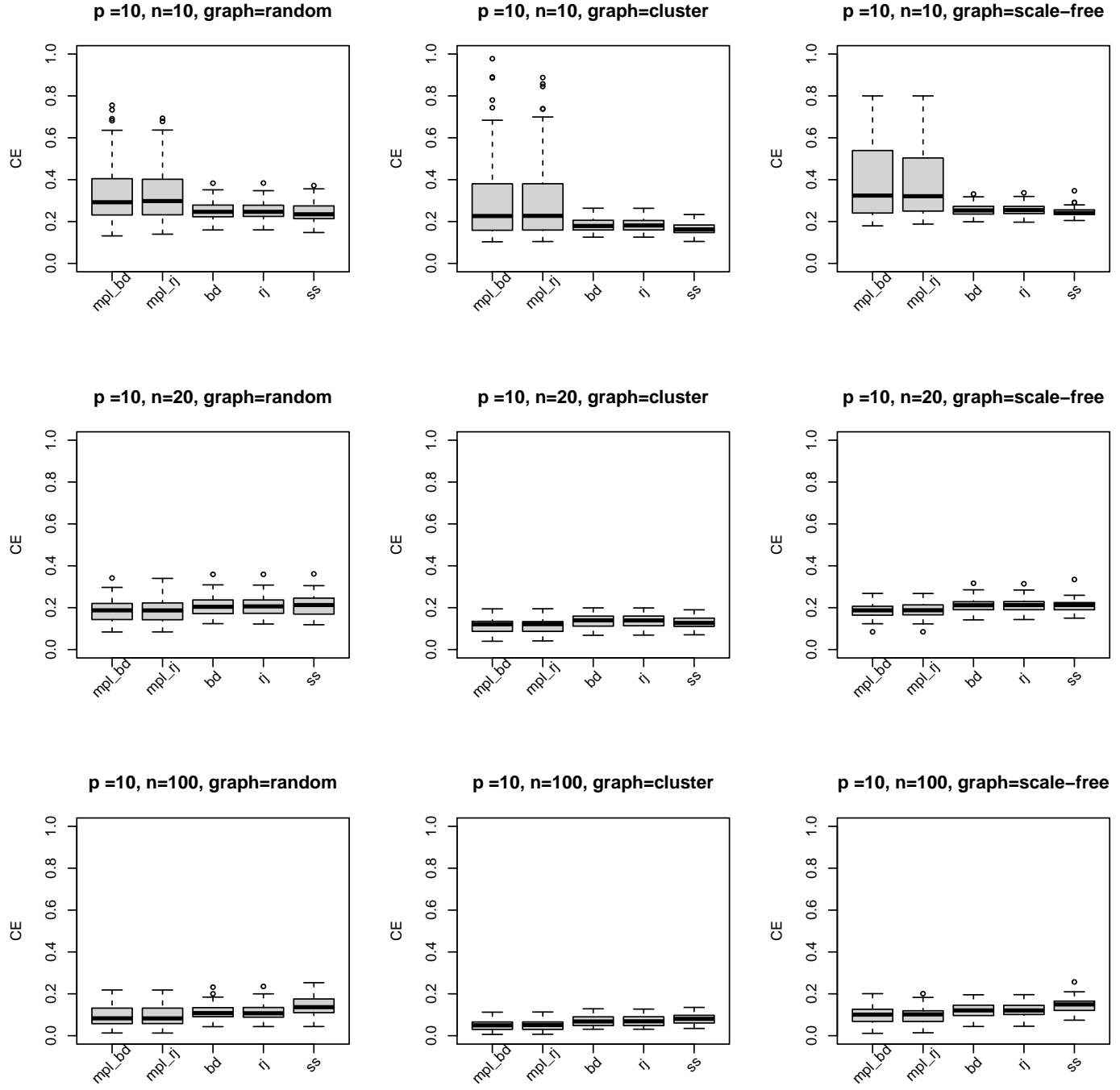


Figure 4: *CE boxplots for every  $n$  and graph type.*

### 3.2 $p = 50$

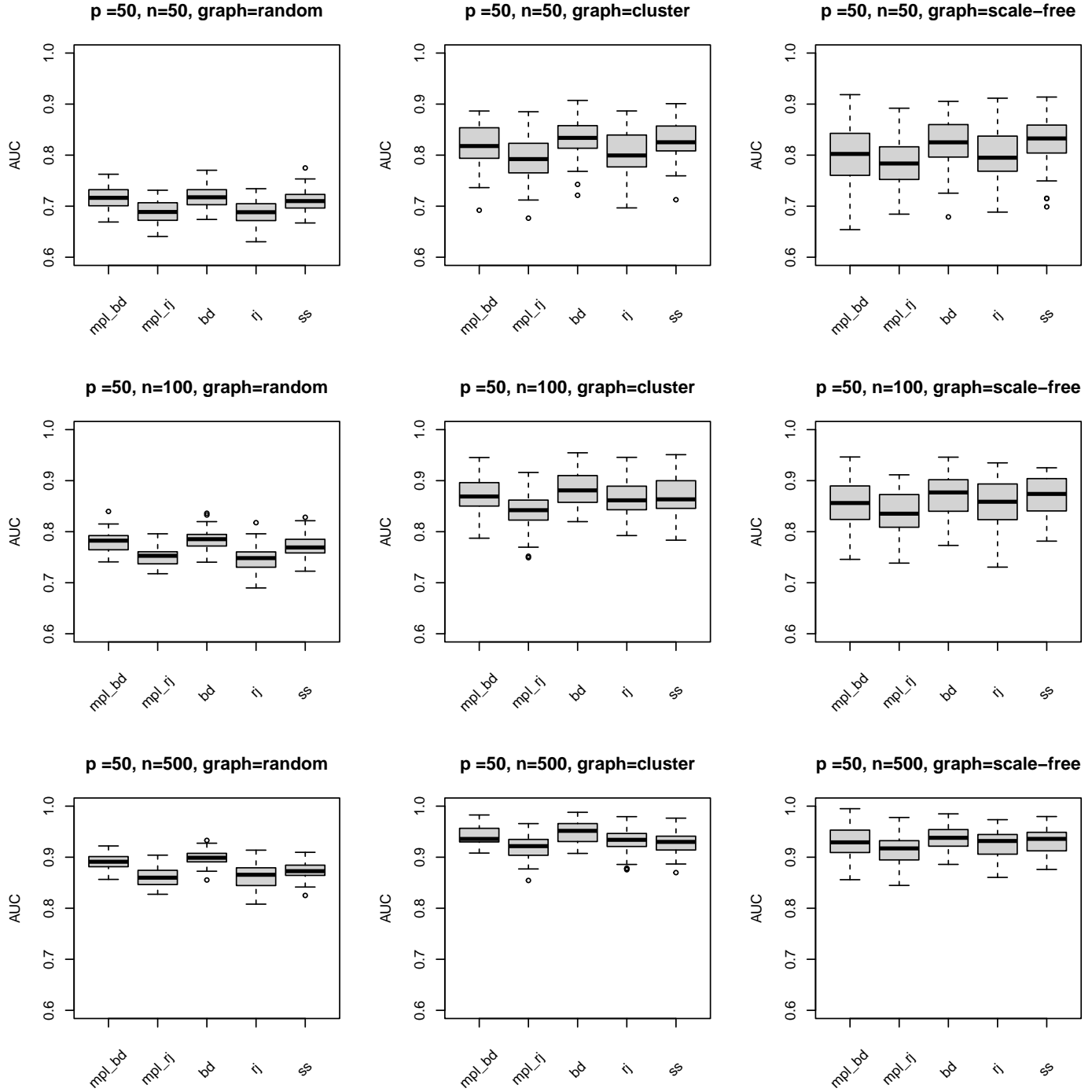


Figure 5: AUC boxplots for every  $n$  and graph type.

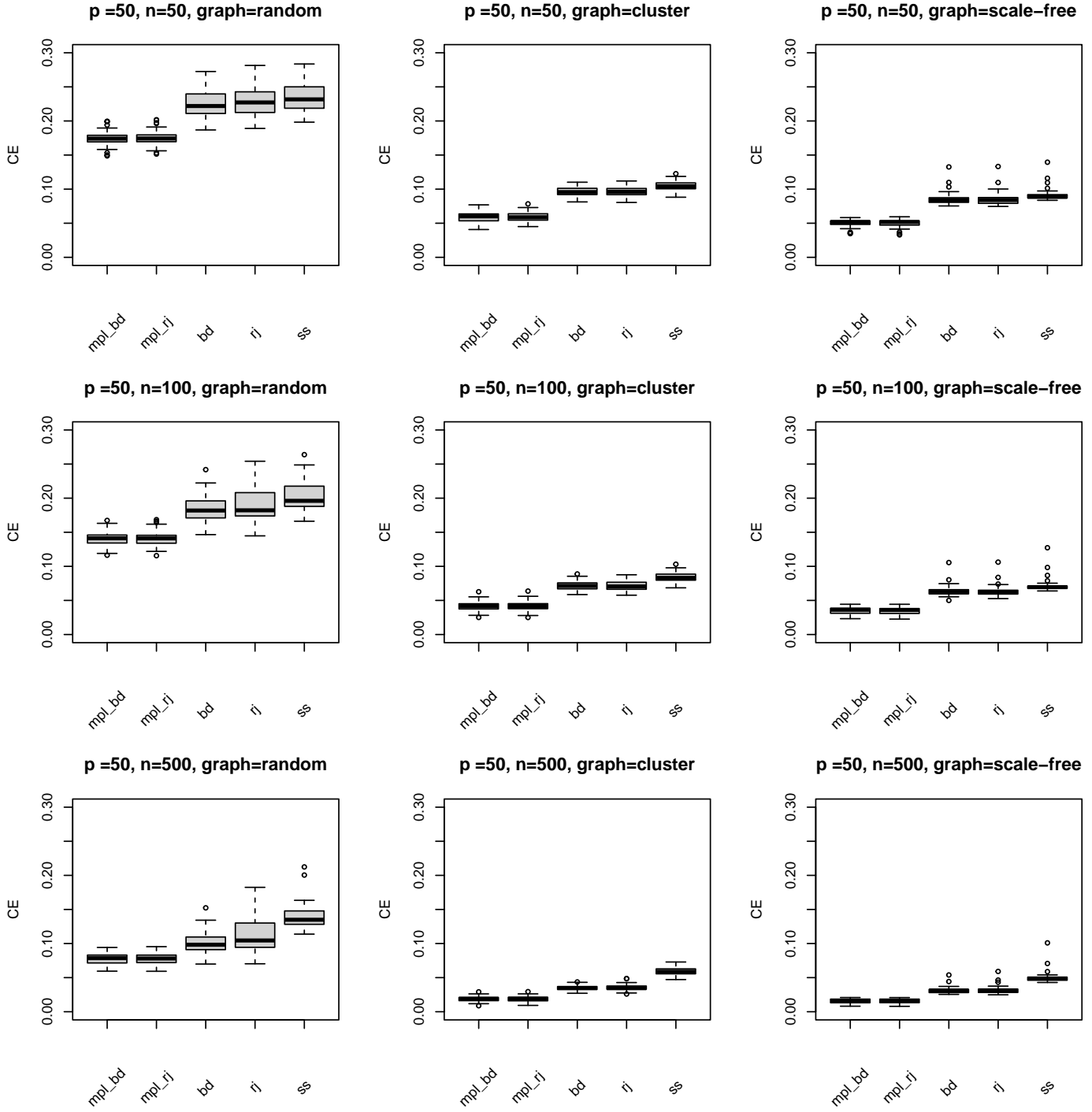


Figure 6: *CE boxplots for every  $n$  and graph type.*

### 3.3 $p = 100$

## 4 AUC and CE convergence over time

### 4.1 $p = 10$

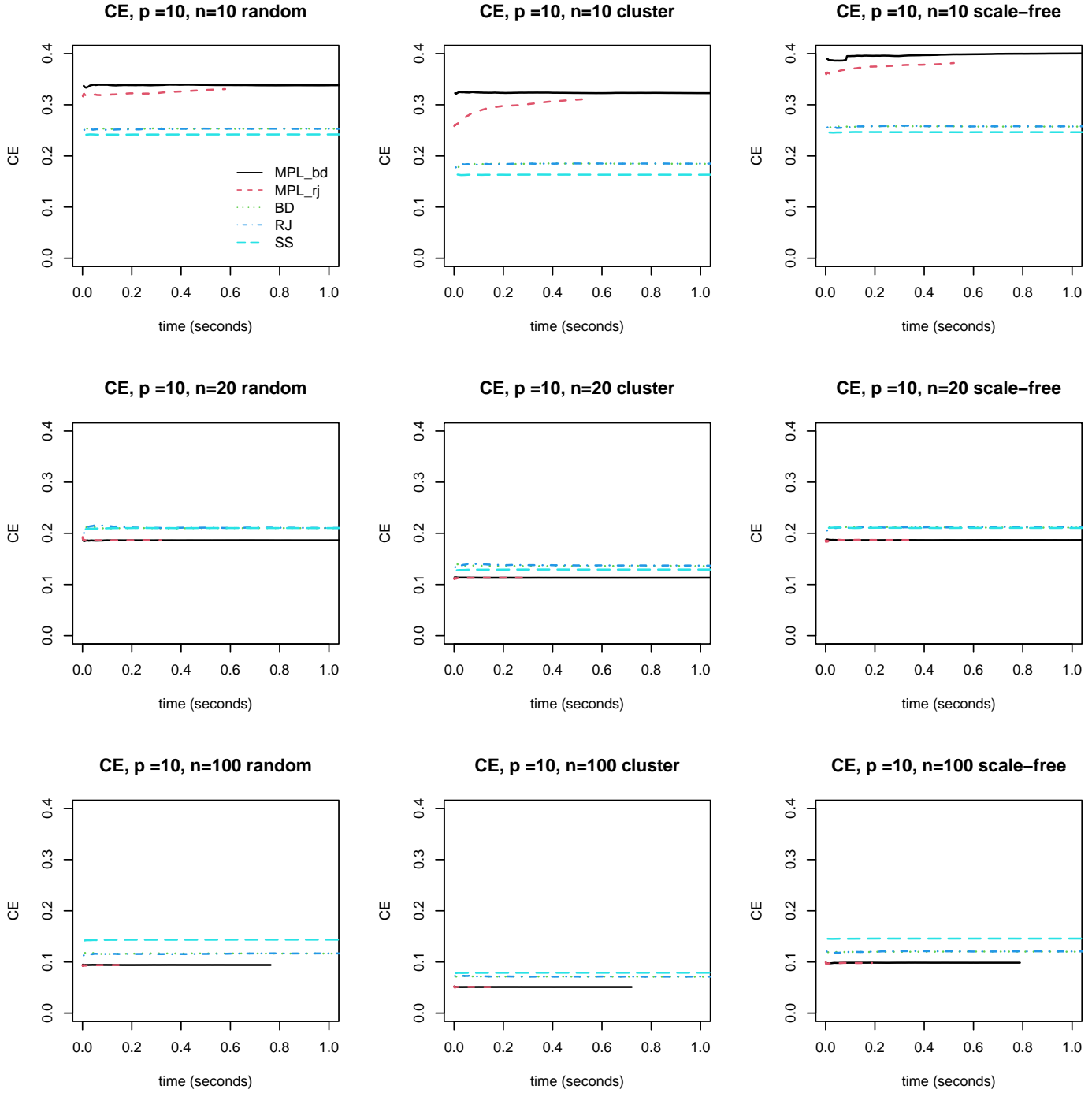


Figure 7: *CE by time (in seconds),  $p = 10$ , for every  $n$  and graph type.*



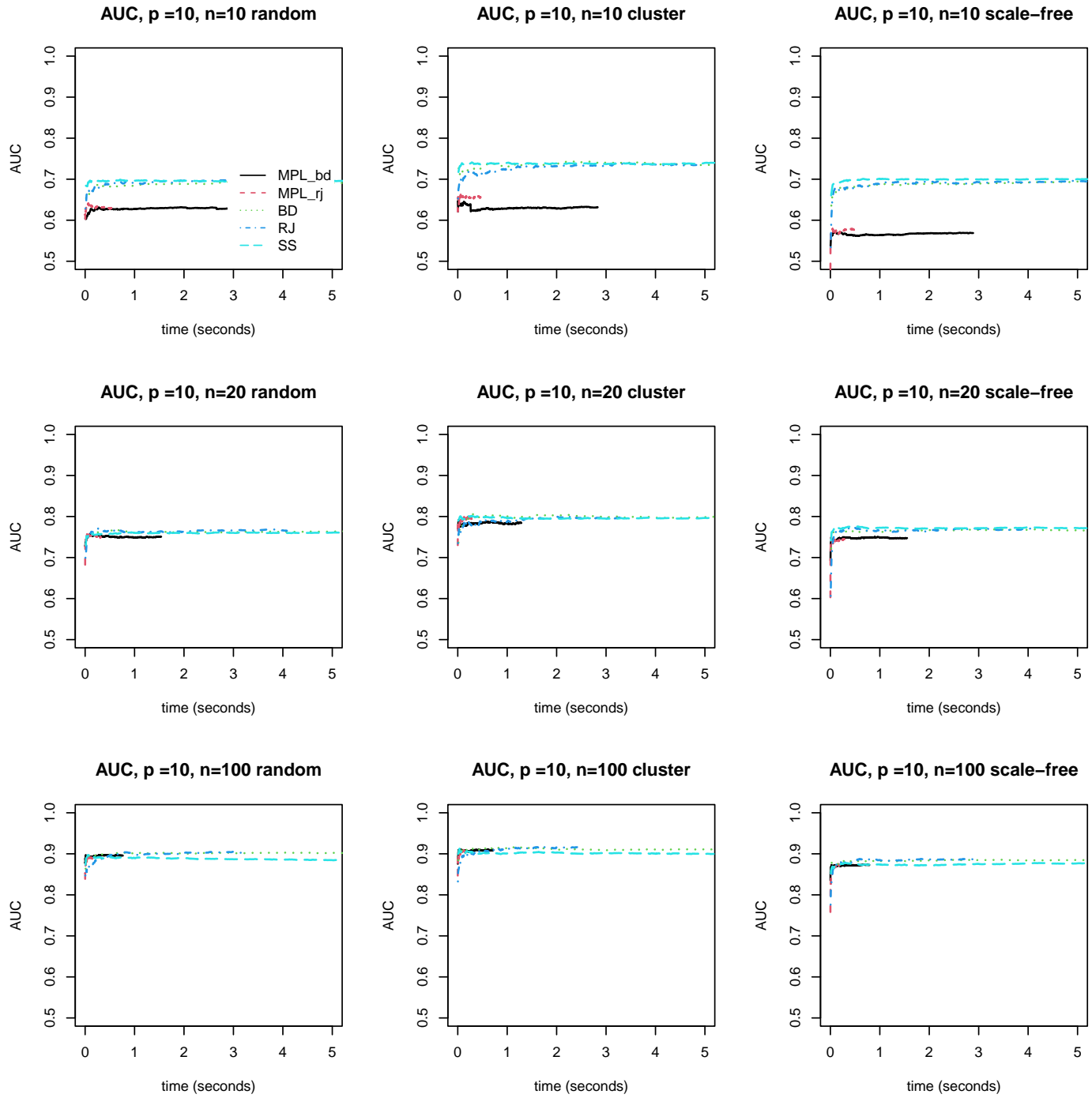


Figure 8: *AUC by time (in seconds),  $p = 10$ , for every  $n$  and graph type.*

## 4.2 $p = 50$

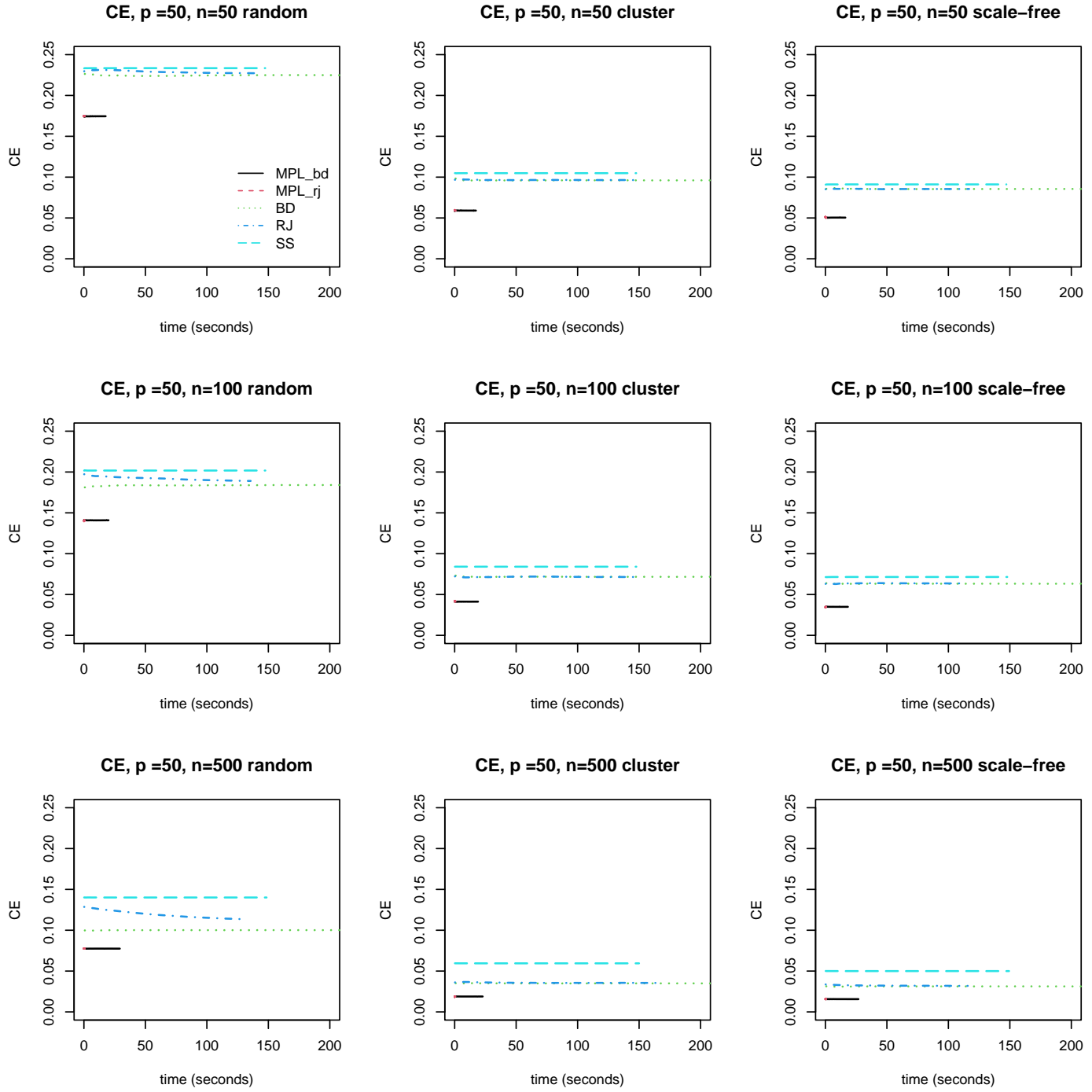


Figure 9:  $CE$  by time (in seconds),  $p = 50$ , for every  $n$  and graph type.

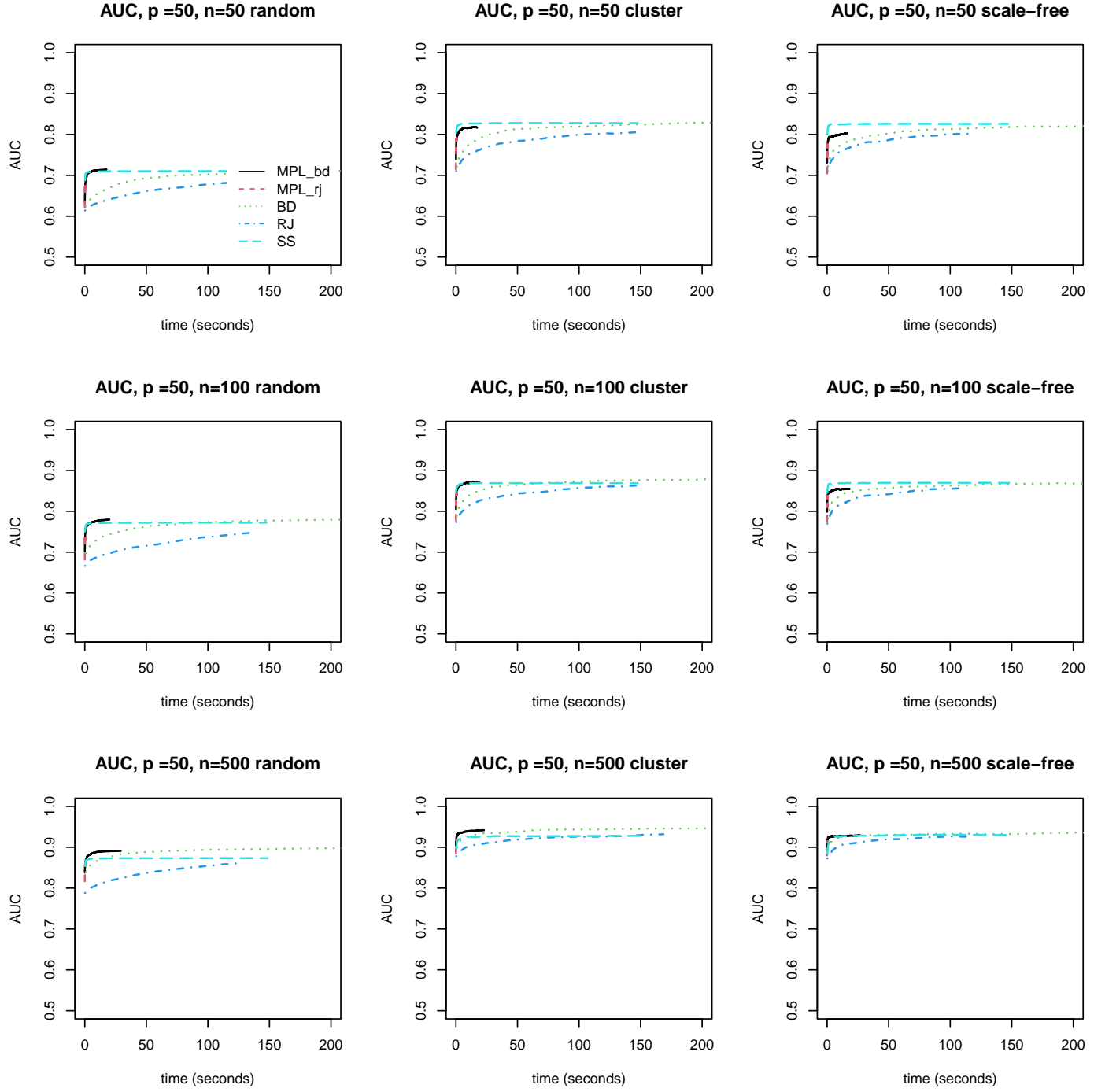


Figure 10: *AUC by time (in seconds),  $p = 50$ , for every  $n$  and graph type.*

#### 4.3 $p = 100$