DMR Method Comparisons

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# 1. Load and Inspect the Results

## 1.1 Load Results

We have saved the tabulated results files for each method in the DMRcompare package. We will use the tidyverse package suite for data management utility. Access these via

library(DMRcompare)  
library(tidyverse)  
data("dmrcateRes\_df")  
data("probeLassoRes\_df")  
data("bumphunterRes\_df")  
data("combpRes\_df")

These data frames all contain the following common elements:

commonNames\_char <- Reduce(  
 intersect,  
 list(colnames(dmrcateRes\_df),  
 colnames(probeLassoRes\_df),  
 colnames(bumphunterRes\_df),  
 colnames(combpRes\_df))  
)  
commonNames\_char

## [1] "method" "delta" "seed" "time" "FN"   
## [6] "FP" "TN" "TP" "power" "nPower"   
## [11] "AuPR" "FPprecis" "TPprecis" "precision" "nPrecis"   
## [16] "mcc" "F1" "nCPG\_q1" "nCPG\_med" "nCPG\_q3"

### Common Columns

The common elements of interest are

* Performance metrics: false negatives (FN), false positives (FP), true negatives (TN), true positives (TP), power, the sample size used to calculate power (nPower), the area under the precision-recall curve (AuPR), precision false positives (FPprecis), precision true positives (TPprecis), precision, the sample size used to calculate precision (nPrecis), Matthews Correlation Coefficient (mcc), and the F1-score (F1). Because many of these performance metric are related to each other arithmetically, we will reduce our inspection set to AuPR, MCC, and F1.
* Parameters: the DMR-detection method used (method), the simulated effect size (delta), and the random seed to ensure reproducibility (seed).

### Method-Specific Columns

The method-specific parameters are

* DMRcate: lambda and C

setdiff(colnames(dmrcateRes\_df), commonNames\_char)

## [1] "lambda" "C"

* ProbeLasso: adjPval, mLassoRad, and minDmrSep

setdiff(colnames(probeLassoRes\_df), commonNames\_char)

## [1] "adjPval" "mLassoRad" "minDmrSep"

* Bumphunter: cutoffQ and maxGap

setdiff(colnames(bumphunterRes\_df), commonNames\_char)

## [1] "cutoffQ" "maxGap"

* Comb-p: combSeed and combDist

setdiff(colnames(combpRes\_df), commonNames\_char)

## [1] "combSeed" "combDist"

## 1.2 Select Columns of Interest

For all four of the data sets, we can remove some of the superfluous results columns. We will retain the following columns: power, AuPR, precision, MCC, F1-score, effect size, random seed, quartiles of the number of CPGs retained at each design point and parameter point interaction, and the model parameters.

resultsDMRcate\_df <-  
 dmrcateRes\_df %>%  
 select(power, AuPR, precision, mcc, F1,  
 lambda, C,  
 delta, seed, nCPG\_med, nCPG\_q3) %>%  
 mutate(nCPG\_med = as.numeric(nCPG\_med)) %>%  
 mutate(nCPG\_q3 = as.numeric(nCPG\_q3))  
  
resultsPL\_df <-  
 probeLassoRes\_df %>%  
 select(power, AuPR, precision, mcc, F1,  
 adjPval, mLassoRad, minDmrSep,  
 delta, seed, nCPG\_med, nCPG\_q3) %>%  
 mutate(nCPG\_med = as.numeric(nCPG\_med)) %>%  
 mutate(nCPG\_q3 = as.numeric(nCPG\_q3))  
  
resultsBump\_df <-  
 bumphunterRes\_df %>%  
 select(power, AuPR, precision, mcc, F1,  
 cutoffQ, maxGap,  
 delta, seed, nCPG\_med, nCPG\_q3) %>%  
 mutate(nCPG\_med = as.numeric(nCPG\_med)) %>%  
 mutate(nCPG\_q3 = as.numeric(nCPG\_q3))  
  
resultsComb\_df <-  
 combpRes\_df %>%  
 select(power, AuPR, precision, mcc, F1,  
 combSeed, combDist,  
 delta, seed, nCPG\_med, nCPG\_q3) %>%  
 mutate(nCPG\_med = as.numeric(nCPG\_med)) %>%  
 mutate(nCPG\_q3 = as.numeric(nCPG\_q3))

## 1.3 Omit Missing Values

These data sets have missing values for many of the performance metrics with no treatment effect. We will remove all experiments with missing values.

resultsDMRcate\_df <- resultsDMRcate\_df[complete.cases(resultsDMRcate\_df), ]  
resultsPL\_df <- resultsPL\_df[complete.cases(resultsPL\_df), ]  
resultsBump\_df <- resultsBump\_df[complete.cases(resultsBump\_df), ]  
resultsComb\_df <- resultsComb\_df[complete.cases(resultsComb\_df), ]

# 2 Spearman Correlations

Now that we have some clean data, we can inspect correlations between the different performance metrics and between model accuracy and parameter value.

## 2.1 Correlation Between Performance Metrics

We will now consider the Spearman correlation between AuPR and MCC and AuPR and the F1-score for each method.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | DMRcate | ProbeLasso | Bumphunter | Comb\_p |
| Cor(AuPR, MCC) | 0.9985970 | 0.9986993 | 0.6537967 | 0.9955252 |
| Cor(AuPR, F1) | 0.9988397 | 0.9989795 | 0.7741062 | 0.9958853 |

Notice that for all methods, except for Bumphunter, the information conveyed by AuPR is nearly identical to that of the MCC or F1-score measures.

## 2.2 Correlation Between Parameters and Performance

Which parameters for each method have the strongest relationships with performance?

|  |  |  |  |
| --- | --- | --- | --- |
| Method | Parameter | Correlation | pValue |
| DMRcate | lambda | -0.1889265 | 0.0000000 |
| DMRcate | C | 0.2586212 | 0.0000000 |
| ProbeLasso | adjPval | 0.0694883 | 0.0027133 |
| ProbeLasso | mLassoRad | 0.6148738 | 0.0000000 |
| ProbeLasso | minDmrSep | 0.0068597 | 0.7674980 |
| Bumphunter | cutoffQ | -0.2458081 | 0.0000000 |
| Bumphunter | maxGap | -0.1758126 | 0.0000511 |
| Comb-p | combSeed | 0.0450990 | 0.2337214 |
| Comb-p | combDist | 0.4510015 | 0.0000000 |

### More Detail on Bumphunter

We may also care to inspect the Bumphunter results in more detail: recall that the MCC and F1-score measures were not as highly correlated with AuPR for this method. We first tabulate Bumphunter’s parameter effects on MCC.

|  |  |  |  |
| --- | --- | --- | --- |
| Method | Parameter | Correlation | pValue |
| Bumphunter | cutoffQ | 0.4086026 | 0.0e+00 |
| Bumphunter | maxGap | -0.2033358 | 2.6e-06 |

Now we inspect Bumphunter’s parameter effects on the F1-score.

|  |  |  |  |
| --- | --- | --- | --- |
| Method | Parameter | Correlation | pValue |
| Bumphunter | cutoffQ | 0.2435223 | 0e+00 |
| Bumphunter | maxGap | -0.2147557 | 7e-07 |

# 3 Best Parameter Settings

Now we will inspect which parameter settings yield the best AuPR values (averaged over each replicate) for each method. We will first trim each results data frame down to the AuPR, effect size, and parameters. We will also remove the design points with no effect.

resDMRc2\_df <-   
 resultsDMRcate\_df %>%   
 select(AuPR, delta, lambda, C) %>%   
 filter(delta > 0)  
  
resPL2\_df <-   
 resultsPL\_df %>%   
 select(AuPR, delta, adjPval, mLassoRad, minDmrSep) %>%   
 filter(delta > 0)  
  
resBump2\_df <-   
 resultsBump\_df %>%   
 select(AuPR, delta, cutoffQ, maxGap) %>%   
 filter(delta > 0)  
  
resComb2\_df <-   
 resultsComb\_df %>%   
 select(AuPR, delta, combSeed, combDist) %>%   
 filter(delta > 0)

## 3.1 DMRcate

Now we can find the best DMRcate parameter settings for each value of .

resDMRc2\_df %>%  
 group\_by(delta, lambda, C) %>%  
 summarise(AuPR\_ave = mean(AuPR)) %>%  
 group\_by(delta) %>%   
 filter(AuPR\_ave == max(AuPR\_ave)) %>%   
 kable()

|  |  |  |  |
| --- | --- | --- | --- |
| delta | lambda | C | AuPR\_ave |
| 0.025 | 200 | 2 | 0.2479577 |
| 0.050 | 250 | 3 | 0.5213193 |
| 0.100 | 500 | 5 | 0.7502175 |
| 0.150 | 500 | 5 | 0.8201102 |
| 0.200 | 250 | 5 | 0.8298596 |
| 0.300 | 500 | 5 | 0.8462670 |
| 0.400 | 500 | 5 | 0.8504808 |

This table shows that smaller values of lambda paired with larger values of C often yield the best results. According to the dmrcate help documentation, the ratio of lambda and C yield the parameter, and we believe that smaller values of this ratio yield more accurate results. Overall, we recommend lambda = 500 paired with C = 5.

## 3.2 ProbeLasso

Now we can find the best ProbeLasso parameter settings for each value of .

resPL2\_df %>%  
 group\_by(delta, adjPval, mLassoRad) %>%  
 summarise(AuPR\_ave = mean(AuPR)) %>%  
 group\_by(delta) %>%   
 filter(AuPR\_ave == max(AuPR\_ave)) %>%   
 kable()

|  |  |  |  |
| --- | --- | --- | --- |
| delta | adjPval | mLassoRad | AuPR\_ave |
| 0.025 | 0.1 | 1000 | 0.1737380 |
| 0.050 | 0.1 | 1000 | 0.6079171 |
| 0.100 | 0.1 | 1000 | 0.8039336 |
| 0.150 | 0.1 | 1000 | 0.8539065 |
| 0.200 | 0.1 | 1000 | 0.8658223 |
| 0.300 | 0.1 | 1000 | 0.8769554 |
| 0.400 | 0.1 | 1000 | 0.8780494 |

As expected, larger values of the meanLassoRadius yield better AuPRs. What we did not expect was that the larger adjPval values also increased the AuPR. We have seen that smaller values of adjPval increased the effect of the meanLassoRadius parameter. Also, we removed the minDmrSep parameter from this table because it had no effect and created many ties (increasing the number of rows in this table without adding new information). We tried minDmrSep = 200, 250, 500, 750, 1000, and all five values yielded equal (to the thousandth place) AuPR values.

## 3.3 Bumphunter

Now we can find the best Bumphunter parameter settings for each value of .

resBump2\_df %>%  
 group\_by(delta, cutoffQ, maxGap) %>%  
 summarise(AuPR\_ave = mean(AuPR)) %>%  
 group\_by(delta) %>%   
 filter(AuPR\_ave == max(AuPR\_ave)) %>%   
 kable()

|  |  |  |  |
| --- | --- | --- | --- |
| delta | cutoffQ | maxGap | AuPR\_ave |
| 0.025 | 0.90 | 200 | 0.4179350 |
| 0.050 | 0.90 | 200 | 0.5885761 |
| 0.100 | 0.95 | 250 | 0.6444125 |
| 0.150 | 0.95 | 250 | 0.6617105 |
| 0.200 | 0.90 | 500 | 0.6732760 |
| 0.300 | 0.90 | 500 | 0.6856742 |
| 0.400 | 0.90 | 500 | 0.6918720 |

We saw in our preliminary results that cutoffQ = 0.99 yielded poorer results, on average, so these results pertaining to the cutoffQ parameter do not surprise us. Further, we did not find any relationship between AuPR and the maxGap parameter in our preliminary work. If anything, we might take away that the smaller values of maxGap seem to fare better, and that maxGap should increase with effect size (data sets with stronger signal may need an increase in maxGap for best DMR-detection results). Overall, we have two recommendations: for weak-signal data, use cutoffQ = 0.90 with maxGap = 200; for strong-signal data, use cutoffQ = 0.90 with maxGap = 500.

## 3.4 Comb-p

Now we can find the best Comb-p parameter settings for each value of .

resComb2\_df %>%  
 group\_by(delta, combSeed, combDist) %>%  
 summarise(AuPR\_ave = mean(AuPR)) %>%  
 group\_by(delta) %>%   
 filter(AuPR\_ave == max(AuPR\_ave)) %>%   
 kable()

|  |  |  |  |
| --- | --- | --- | --- |
| delta | combSeed | combDist | AuPR\_ave |
| 0.025 | 0.10 | 1000 | 0.5682263 |
| 0.050 | 0.10 | 1000 | 0.8026972 |
| 0.100 | 0.10 | 750 | 0.9131822 |
| 0.150 | 0.10 | 750 | 0.9349463 |
| 0.200 | 0.10 | 750 | 0.9440828 |
| 0.300 | 0.10 | 750 | 0.9504056 |
| 0.400 | 0.01 | 750 | 0.9514616 |

Once again, these results are in line with our preliminary expectations: the combDist parameter drives the AuPR results much more than the combSeed parameter. It seems that larger values of combDist are better, although the size may need to taper off when Comb-p is applied to data sets with strong signal. In our previous work, we found no effect on AuPR from the combSeed parameter, but we can keep it larger to be safe. Overall, we recommend combSeed = 0.10 with combDist = 750.

# Table of All Parameter Settings

We finally have need for the supplemental tables of all performance metrics for all tested parameter settings under each delta while averaged over each seed.

## DMRcate

This table shows the average performance of the DMRcate method at each .

dmrcate\_tab <-  
 dmrcateRes\_df %>%  
 select(delta, seed, lambda, C,  
 TP, FP, FN, power, precision, AuPR, mcc, F1) %>%   
 filter(delta > 0) %>%   
 group\_by(delta, lambda, C) %>%  
 summarise(  
 TP = CalcMeanSD(TP),  
 FP = CalcMeanSD(FP),  
 FN = CalcMeanSD(FN),  
 Pwr = CalcMeanSD(power),  
 Precis = CalcMeanSD(precision),  
 AuPR = CalcMeanSD(AuPR),  
 MCC = CalcMeanSD(mcc),  
 F1 = CalcMeanSD(F1)  
 )  
  
# write\_csv(dmrcate\_tab, path = "../resultsData/DMRcate\_total\_results.csv")  
dmrcate\_tab %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | lambda | C | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 |
| 0.025 | 200 | 1 | 24.8 (2.59) | 0 (0) | 475.2 (2.59) | 0.05 (0.01) | 1 (0) | 0.23 (0.01) | 0.2 (0.01) | 0.09 (0.01) |
| 0.025 | 200 | 2 | 32.6 (3.91) | 0 (0) | 467.4 (3.91) | 0.07 (0.01) | 1 (0) | 0.25 (0.01) | 0.23 (0.01) | 0.12 (0.01) |
| 0.025 | 200 | 3 | 29.2 (2.17) | 0 (0) | 470.8 (2.17) | 0.06 (0) | 1 (0) | 0.24 (0.01) | 0.22 (0.01) | 0.11 (0.01) |
| 0.025 | 200 | 4 | 27 (1.41) | 0 (0) | 473 (1.41) | 0.05 (0) | 1 (0) | 0.23 (0) | 0.21 (0.01) | 0.1 (0.01) |
| 0.025 | 200 | 5 | 23.6 (2.19) | 0 (0) | 476.4 (2.19) | 0.05 (0) | 1 (0) | 0.23 (0.01) | 0.2 (0.01) | 0.09 (0.01) |
| 0.025 | 250 | 1 | 18.4 (4.51) | 0 (0) | 481.6 (4.51) | 0.04 (0.01) | 1 (0) | 0.21 (0.01) | 0.17 (0.02) | 0.07 (0.02) |
| 0.025 | 250 | 2 | 30.2 (4.32) | 0 (0) | 469.8 (4.32) | 0.06 (0.01) | 1 (0) | 0.24 (0.01) | 0.22 (0.02) | 0.11 (0.02) |
| 0.025 | 250 | 3 | 32.2 (3.96) | 0 (0) | 467.8 (3.96) | 0.06 (0.01) | 1 (0) | 0.25 (0.01) | 0.23 (0.01) | 0.12 (0.01) |
| 0.025 | 250 | 4 | 28.6 (1.34) | 0 (0) | 471.4 (1.34) | 0.06 (0) | 1 (0) | 0.24 (0) | 0.22 (0.01) | 0.11 (0.01) |
| 0.025 | 250 | 5 | 27.2 (1.48) | 0 (0) | 472.8 (1.48) | 0.05 (0) | 1 (0) | 0.24 (0) | 0.21 (0.01) | 0.1 (0.01) |
| 0.025 | 500 | 1 | 8.4 (2.51) | 0 (0) | 491.6 (2.51) | 0.02 (0.01) | 1 (0) | 0.19 (0.01) | 0.12 (0.02) | 0.03 (0.01) |
| 0.025 | 500 | 2 | 18.6 (4.72) | 0 (0) | 481.4 (4.72) | 0.04 (0.01) | 1 (0) | 0.21 (0.01) | 0.18 (0.02) | 0.07 (0.02) |
| 0.025 | 500 | 3 | 26.4 (4.98) | 0 (0) | 473.6 (4.98) | 0.05 (0.01) | 1 (0) | 0.23 (0.01) | 0.21 (0.02) | 0.1 (0.02) |
| 0.025 | 500 | 4 | 30.2 (4.32) | 0 (0) | 469.8 (4.32) | 0.06 (0.01) | 1 (0) | 0.24 (0.01) | 0.22 (0.02) | 0.11 (0.02) |
| 0.025 | 500 | 5 | 32.4 (4.34) | 0.2 (0.45) | 467.6 (4.34) | 0.06 (0.01) | 0.99 (0.01) | 0.25 (0.01) | 0.23 (0.02) | 0.12 (0.02) |
| 0.025 | 750 | 1 | 4.2 (0.45) | 0 (0) | 495.8 (0.45) | 0.01 (0) | 1 (0) | 0.18 (0) | 0.08 (0) | 0.02 (0) |
| 0.025 | 750 | 2 | 13.8 (2.17) | 0.2 (0.45) | 486.2 (2.17) | 0.03 (0) | 0.98 (0.04) | 0.2 (0.01) | 0.15 (0.01) | 0.05 (0.01) |
| 0.025 | 750 | 3 | 18.6 (4.72) | 0 (0) | 481.4 (4.72) | 0.04 (0.01) | 1 (0) | 0.21 (0.01) | 0.18 (0.02) | 0.07 (0.02) |
| 0.025 | 750 | 4 | 25.2 (4.09) | 0 (0) | 474.8 (4.09) | 0.05 (0.01) | 1 (0) | 0.23 (0.01) | 0.2 (0.02) | 0.1 (0.02) |
| 0.025 | 750 | 5 | 26.8 (4.15) | 0 (0) | 473.2 (4.15) | 0.05 (0.01) | 1 (0) | 0.23 (0.01) | 0.21 (0.02) | 0.1 (0.02) |
| 0.025 | 1000 | 1 | 3.2 (0.84) | 0 (0) | 496.8 (0.84) | 0.01 (0) | 1 (0) | 0.17 (0) | 0.07 (0.01) | 0.01 (0) |
| 0.025 | 1000 | 2 | 8.4 (2.51) | 0 (0) | 491.6 (2.51) | 0.02 (0.01) | 1 (0) | 0.19 (0.01) | 0.12 (0.02) | 0.03 (0.01) |
| 0.025 | 1000 | 3 | 15.8 (2.59) | 0 (0) | 484.2 (2.59) | 0.03 (0.01) | 1 (0) | 0.21 (0.01) | 0.16 (0.01) | 0.06 (0.01) |
| 0.025 | 1000 | 4 | 18.6 (4.72) | 0 (0) | 481.4 (4.72) | 0.04 (0.01) | 1 (0) | 0.21 (0.01) | 0.18 (0.02) | 0.07 (0.02) |
| 0.025 | 1000 | 5 | 25 (2.83) | 0 (0) | 475 (2.83) | 0.05 (0.01) | 1 (0) | 0.23 (0.01) | 0.2 (0.01) | 0.09 (0.01) |
| 0.050 | 200 | 1 | 153 (11.34) | 3.8 (0.84) | 347 (11.34) | 0.31 (0.02) | 0.98 (0.01) | 0.48 (0.02) | 0.51 (0.02) | 0.46 (0.03) |
| 0.050 | 200 | 2 | 178.2 (9.78) | 3 (1.22) | 321.8 (9.78) | 0.36 (0.02) | 0.98 (0.01) | 0.52 (0.02) | 0.56 (0.02) | 0.52 (0.02) |
| 0.050 | 200 | 3 | 173.8 (7.12) | 1.8 (1.1) | 326.2 (7.12) | 0.35 (0.01) | 0.99 (0.01) | 0.52 (0.01) | 0.55 (0.01) | 0.51 (0.02) |
| 0.050 | 200 | 4 | 166.4 (8.05) | 1.4 (1.14) | 333.6 (8.05) | 0.33 (0.02) | 0.99 (0.01) | 0.51 (0.01) | 0.54 (0.02) | 0.5 (0.02) |
| 0.050 | 200 | 5 | 166.6 (8.73) | 1.4 (0.89) | 333.4 (8.73) | 0.33 (0.02) | 0.99 (0.01) | 0.51 (0.02) | 0.54 (0.02) | 0.5 (0.02) |
| 0.050 | 250 | 1 | 141.2 (10.83) | 2.6 (1.34) | 358.8 (10.83) | 0.28 (0.02) | 0.98 (0.01) | 0.46 (0.02) | 0.49 (0.02) | 0.44 (0.03) |
| 0.050 | 250 | 2 | 172 (8.34) | 3.4 (1.95) | 328 (8.34) | 0.34 (0.02) | 0.98 (0.01) | 0.51 (0.01) | 0.54 (0.02) | 0.51 (0.02) |
| 0.050 | 250 | 3 | 176.8 (8.01) | 2.2 (0.84) | 323.2 (8.01) | 0.35 (0.02) | 0.99 (0) | 0.52 (0.01) | 0.55 (0.01) | 0.52 (0.02) |
| 0.050 | 250 | 4 | 173.4 (7.92) | 1.8 (1.1) | 326.6 (7.92) | 0.35 (0.02) | 0.99 (0.01) | 0.52 (0.01) | 0.55 (0.01) | 0.51 (0.02) |
| 0.050 | 250 | 5 | 167.6 (8.26) | 1.4 (1.14) | 332.4 (8.26) | 0.34 (0.02) | 0.99 (0.01) | 0.51 (0.01) | 0.54 (0.02) | 0.5 (0.02) |
| 0.050 | 500 | 1 | 92.6 (8.08) | 1.6 (1.34) | 407.4 (8.08) | 0.19 (0.02) | 0.98 (0.01) | 0.37 (0.02) | 0.39 (0.02) | 0.31 (0.02) |
| 0.050 | 500 | 2 | 140.2 (11.39) | 2.8 (1.3) | 359.8 (11.39) | 0.28 (0.02) | 0.98 (0.01) | 0.46 (0.02) | 0.49 (0.02) | 0.43 (0.03) |
| 0.050 | 500 | 3 | 163.2 (10.08) | 3.8 (0.84) | 336.8 (10.08) | 0.33 (0.02) | 0.98 (0.01) | 0.5 (0.02) | 0.53 (0.02) | 0.49 (0.02) |
| 0.050 | 500 | 4 | 172.4 (8.62) | 3.4 (1.95) | 327.6 (8.62) | 0.34 (0.02) | 0.98 (0.01) | 0.51 (0.01) | 0.54 (0.02) | 0.51 (0.02) |
| 0.050 | 500 | 5 | 178.4 (9.63) | 3 (1.22) | 321.6 (9.63) | 0.36 (0.02) | 0.98 (0.01) | 0.52 (0.02) | 0.55 (0.02) | 0.52 (0.02) |
| 0.050 | 750 | 1 | 68.8 (7.01) | 1 (1.22) | 431.2 (7.01) | 0.14 (0.01) | 0.99 (0.02) | 0.32 (0.02) | 0.34 (0.02) | 0.24 (0.02) |
| 0.050 | 750 | 2 | 115.2 (12.99) | 2.6 (2.41) | 384.8 (12.99) | 0.23 (0.03) | 0.98 (0.02) | 0.41 (0.03) | 0.44 (0.03) | 0.37 (0.03) |
| 0.050 | 750 | 3 | 140.4 (11.63) | 2.8 (1.3) | 359.6 (11.63) | 0.28 (0.02) | 0.98 (0.01) | 0.46 (0.02) | 0.49 (0.02) | 0.43 (0.03) |
| 0.050 | 750 | 4 | 156 (9.43) | 4.2 (1.1) | 344 (9.43) | 0.31 (0.02) | 0.98 (0.01) | 0.48 (0.02) | 0.51 (0.02) | 0.47 (0.02) |
| 0.050 | 750 | 5 | 165.8 (8.53) | 3.8 (1.1) | 334.2 (8.53) | 0.33 (0.02) | 0.98 (0.01) | 0.5 (0.02) | 0.53 (0.02) | 0.49 (0.02) |
| 0.050 | 1000 | 1 | 52.2 (5.85) | 0.8 (0.84) | 447.8 (5.85) | 0.1 (0.01) | 0.98 (0.02) | 0.29 (0.01) | 0.29 (0.02) | 0.18 (0.02) |
| 0.050 | 1000 | 2 | 93 (8.77) | 1.6 (1.34) | 407 (8.77) | 0.19 (0.02) | 0.98 (0.01) | 0.37 (0.02) | 0.39 (0.02) | 0.31 (0.03) |
| 0.050 | 1000 | 3 | 122.8 (11.82) | 2.8 (2.17) | 377.2 (11.82) | 0.25 (0.02) | 0.98 (0.02) | 0.43 (0.02) | 0.45 (0.03) | 0.39 (0.03) |
| 0.050 | 1000 | 4 | 140.4 (11.63) | 2.8 (1.3) | 359.6 (11.63) | 0.28 (0.02) | 0.98 (0.01) | 0.46 (0.02) | 0.49 (0.02) | 0.43 (0.03) |
| 0.050 | 1000 | 5 | 153.4 (11.41) | 4.4 (1.52) | 346.6 (11.41) | 0.31 (0.02) | 0.97 (0.01) | 0.48 (0.02) | 0.51 (0.02) | 0.46 (0.03) |
| 0.100 | 200 | 1 | 284.4 (9.76) | 8.6 (1.67) | 215.6 (9.76) | 0.57 (0.02) | 0.97 (0.01) | 0.69 (0.01) | 0.71 (0.01) | 0.72 (0.02) |
| 0.100 | 200 | 2 | 316.8 (9.68) | 8 (3.67) | 183.2 (9.68) | 0.63 (0.02) | 0.98 (0.01) | 0.74 (0.01) | 0.76 (0.01) | 0.77 (0.02) |
| 0.100 | 200 | 3 | 319.2 (11.12) | 5 (2.55) | 180.8 (11.12) | 0.64 (0.02) | 0.98 (0.01) | 0.74 (0.01) | 0.76 (0.01) | 0.77 (0.02) |
| 0.100 | 200 | 4 | 316.4 (12.4) | 4 (2.45) | 183.6 (12.4) | 0.63 (0.02) | 0.99 (0.01) | 0.74 (0.02) | 0.76 (0.02) | 0.77 (0.02) |
| 0.100 | 200 | 5 | 315 (12.14) | 2.4 (1.34) | 185 (12.14) | 0.63 (0.02) | 0.99 (0) | 0.74 (0.02) | 0.76 (0.02) | 0.77 (0.02) |
| 0.100 | 250 | 1 | 265.8 (11.9) | 9.2 (0.84) | 234.2 (11.9) | 0.53 (0.02) | 0.97 (0) | 0.66 (0.02) | 0.68 (0.02) | 0.68 (0.02) |
| 0.100 | 250 | 2 | 313.2 (7.79) | 9.2 (3.11) | 186.8 (7.79) | 0.63 (0.02) | 0.97 (0.01) | 0.73 (0.01) | 0.75 (0.01) | 0.76 (0.01) |
| 0.100 | 250 | 3 | 322 (8.46) | 7.2 (2.39) | 178 (8.46) | 0.64 (0.02) | 0.98 (0.01) | 0.74 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.100 | 250 | 4 | 323.6 (11.48) | 5 (2.35) | 176.4 (11.48) | 0.65 (0.02) | 0.98 (0.01) | 0.75 (0.02) | 0.77 (0.02) | 0.78 (0.02) |
| 0.100 | 250 | 5 | 323 (12.14) | 4.2 (2.17) | 177 (12.14) | 0.65 (0.02) | 0.99 (0.01) | 0.75 (0.02) | 0.77 (0.02) | 0.78 (0.02) |
| 0.100 | 500 | 1 | 191.8 (6.06) | 5.8 (2.95) | 308.2 (6.06) | 0.38 (0.01) | 0.97 (0.01) | 0.54 (0.01) | 0.57 (0.01) | 0.55 (0.01) |
| 0.100 | 500 | 2 | 267.8 (13.37) | 9.8 (1.48) | 232.2 (13.37) | 0.54 (0.03) | 0.97 (0) | 0.66 (0.02) | 0.68 (0.02) | 0.69 (0.02) |
| 0.100 | 500 | 3 | 302.2 (10.47) | 8.4 (2.3) | 197.8 (10.47) | 0.6 (0.02) | 0.97 (0.01) | 0.71 (0.02) | 0.73 (0.01) | 0.74 (0.02) |
| 0.100 | 500 | 4 | 318 (7.35) | 9.2 (3.11) | 182 (7.35) | 0.64 (0.01) | 0.97 (0.01) | 0.74 (0.01) | 0.76 (0.01) | 0.77 (0.01) |
| 0.100 | 500 | 5 | 325.6 (9.29) | 8.2 (3.35) | 174.4 (9.29) | 0.65 (0.02) | 0.98 (0.01) | 0.75 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.100 | 750 | 1 | 153 (3.54) | 3.6 (1.52) | 347 (3.54) | 0.31 (0.01) | 0.98 (0.01) | 0.48 (0.01) | 0.51 (0.01) | 0.46 (0.01) |
| 0.100 | 750 | 2 | 221.6 (9.29) | 6.4 (3.44) | 278.4 (9.29) | 0.44 (0.02) | 0.97 (0.01) | 0.59 (0.02) | 0.62 (0.02) | 0.6 (0.02) |
| 0.100 | 750 | 3 | 269 (13.06) | 10 (1.22) | 231 (13.06) | 0.54 (0.03) | 0.96 (0) | 0.66 (0.02) | 0.68 (0.02) | 0.69 (0.02) |
| 0.100 | 750 | 4 | 296.6 (8.56) | 9.4 (1.82) | 203.4 (8.56) | 0.59 (0.02) | 0.97 (0.01) | 0.7 (0.01) | 0.72 (0.01) | 0.73 (0.01) |
| 0.100 | 750 | 5 | 309.6 (9.76) | 8.8 (2.39) | 190.4 (9.76) | 0.62 (0.02) | 0.97 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.75 (0.01) |
| 0.100 | 1000 | 1 | 130.4 (1.95) | 3.6 (0.89) | 369.6 (1.95) | 0.26 (0) | 0.97 (0.01) | 0.44 (0) | 0.47 (0) | 0.41 (0.01) |
| 0.100 | 1000 | 2 | 192.4 (5.55) | 5.8 (2.95) | 307.6 (5.55) | 0.38 (0.01) | 0.97 (0.01) | 0.54 (0.01) | 0.57 (0.01) | 0.55 (0.01) |
| 0.100 | 1000 | 3 | 236.2 (9.15) | 7.6 (1.52) | 263.8 (9.15) | 0.47 (0.02) | 0.97 (0.01) | 0.61 (0.02) | 0.64 (0.01) | 0.63 (0.02) |
| 0.100 | 1000 | 4 | 269.6 (12.68) | 10 (1.22) | 230.4 (12.68) | 0.54 (0.03) | 0.97 (0) | 0.66 (0.02) | 0.68 (0.02) | 0.69 (0.02) |
| 0.100 | 1000 | 5 | 292.4 (9.13) | 10 (2) | 207.6 (9.13) | 0.58 (0.02) | 0.97 (0.01) | 0.7 (0.02) | 0.72 (0.01) | 0.73 (0.01) |
| 0.150 | 200 | 1 | 323.4 (9.66) | 11 (2.12) | 176.6 (9.66) | 0.65 (0.02) | 0.97 (0.01) | 0.75 (0.02) | 0.76 (0.01) | 0.77 (0.01) |
| 0.150 | 200 | 2 | 359.4 (6.58) | 9.8 (3.03) | 140.6 (6.58) | 0.72 (0.01) | 0.97 (0.01) | 0.8 (0.01) | 0.81 (0.01) | 0.83 (0.01) |
| 0.150 | 200 | 3 | 361.4 (5.94) | 7.6 (3.05) | 138.6 (5.94) | 0.72 (0.01) | 0.98 (0.01) | 0.8 (0.01) | 0.82 (0.01) | 0.83 (0.01) |
| 0.150 | 200 | 4 | 362.4 (6.66) | 5.6 (3.36) | 137.6 (6.66) | 0.72 (0.01) | 0.98 (0.01) | 0.8 (0.01) | 0.82 (0.01) | 0.83 (0.01) |
| 0.150 | 200 | 5 | 361.2 (7.66) | 4 (2.35) | 138.8 (7.66) | 0.72 (0.02) | 0.99 (0.01) | 0.81 (0.01) | 0.82 (0.01) | 0.83 (0.01) |
| 0.150 | 250 | 1 | 307.6 (6.84) | 11 (1.87) | 192.4 (6.84) | 0.62 (0.01) | 0.97 (0.01) | 0.72 (0.02) | 0.74 (0.01) | 0.75 (0.01) |
| 0.150 | 250 | 2 | 357 (7.78) | 11.2 (3.49) | 143 (7.78) | 0.71 (0.02) | 0.97 (0.01) | 0.79 (0.01) | 0.81 (0.01) | 0.82 (0.01) |
| 0.150 | 250 | 3 | 366.2 (9.39) | 8.6 (3.05) | 133.8 (9.39) | 0.73 (0.02) | 0.98 (0.01) | 0.8 (0.02) | 0.82 (0.01) | 0.84 (0.01) |
| 0.150 | 250 | 4 | 370.6 (8.2) | 7 (3.08) | 129.4 (8.2) | 0.74 (0.02) | 0.98 (0.01) | 0.81 (0.02) | 0.83 (0.01) | 0.84 (0.01) |
| 0.150 | 250 | 5 | 372.4 (7.37) | 5.6 (3.36) | 127.6 (7.37) | 0.74 (0.01) | 0.99 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.150 | 500 | 1 | 237.6 (8.05) | 10.6 (1.14) | 262.4 (8.05) | 0.48 (0.02) | 0.96 (0.01) | 0.61 (0.02) | 0.64 (0.01) | 0.63 (0.01) |
| 0.150 | 500 | 2 | 313.6 (6.77) | 13.2 (3.27) | 186.4 (6.77) | 0.63 (0.01) | 0.96 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 500 | 3 | 347.6 (5.81) | 12.6 (3.51) | 152.4 (5.81) | 0.7 (0.01) | 0.97 (0.01) | 0.78 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.150 | 500 | 4 | 365.8 (6.69) | 11.2 (3.49) | 134.2 (6.69) | 0.73 (0.01) | 0.97 (0.01) | 0.8 (0.01) | 0.82 (0.01) | 0.83 (0.01) |
| 0.150 | 500 | 5 | 376.4 (6.69) | 9.8 (3.03) | 123.6 (6.69) | 0.75 (0.01) | 0.98 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.150 | 750 | 1 | 195 (5.96) | 7 (2) | 305 (5.96) | 0.39 (0.01) | 0.97 (0.01) | 0.54 (0.01) | 0.57 (0.01) | 0.55 (0.01) |
| 0.150 | 750 | 2 | 270.2 (6.91) | 11.2 (1.64) | 229.8 (6.91) | 0.54 (0.01) | 0.96 (0.01) | 0.66 (0.02) | 0.68 (0.01) | 0.69 (0.01) |
| 0.150 | 750 | 3 | 314 (5.96) | 13.4 (2.88) | 186 (5.96) | 0.63 (0.01) | 0.96 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 750 | 4 | 341.6 (5.37) | 13.6 (3.51) | 158.4 (5.37) | 0.68 (0.01) | 0.96 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.150 | 750 | 5 | 356.8 (5.81) | 12.6 (3.13) | 143.2 (5.81) | 0.71 (0.01) | 0.97 (0.01) | 0.79 (0.01) | 0.8 (0.01) | 0.82 (0.01) |
| 0.150 | 1000 | 1 | 167 (10.17) | 5.6 (2.51) | 333 (10.17) | 0.33 (0.02) | 0.97 (0.01) | 0.5 (0.02) | 0.53 (0.02) | 0.49 (0.02) |
| 0.150 | 1000 | 2 | 238.4 (8.47) | 10.8 (1.3) | 261.6 (8.47) | 0.48 (0.02) | 0.96 (0.01) | 0.61 (0.02) | 0.64 (0.01) | 0.63 (0.02) |
| 0.150 | 1000 | 3 | 282.6 (4.45) | 11.2 (3.03) | 217.4 (4.45) | 0.57 (0.01) | 0.96 (0.01) | 0.68 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.150 | 1000 | 4 | 315 (5.15) | 13.6 (3.13) | 185 (5.15) | 0.63 (0.01) | 0.96 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 1000 | 5 | 339.4 (7.27) | 14.2 (3.11) | 160.6 (7.27) | 0.68 (0.01) | 0.96 (0.01) | 0.76 (0.02) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 200 | 1 | 334.6 (7.37) | 11.2 (2.17) | 165.4 (7.37) | 0.67 (0.01) | 0.97 (0.01) | 0.76 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 200 | 2 | 363.4 (7.64) | 10 (3.16) | 136.6 (7.64) | 0.73 (0.02) | 0.97 (0.01) | 0.8 (0.01) | 0.82 (0.01) | 0.83 (0.01) |
| 0.200 | 200 | 3 | 368 (7.04) | 7.2 (3.03) | 132 (7.04) | 0.74 (0.01) | 0.98 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.84 (0.01) |
| 0.200 | 200 | 4 | 366.8 (6.87) | 5.4 (2.79) | 133.2 (6.87) | 0.73 (0.01) | 0.99 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.84 (0.01) |
| 0.200 | 200 | 5 | 369.8 (6.06) | 3.8 (2.28) | 130.2 (6.06) | 0.74 (0.01) | 0.99 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 250 | 1 | 321.4 (7.64) | 12.4 (2.7) | 178.6 (7.64) | 0.64 (0.02) | 0.96 (0.01) | 0.74 (0.01) | 0.76 (0.01) | 0.77 (0.01) |
| 0.200 | 250 | 2 | 365.2 (7.63) | 12 (3.74) | 134.8 (7.63) | 0.73 (0.02) | 0.97 (0.01) | 0.8 (0.01) | 0.82 (0.01) | 0.83 (0.01) |
| 0.200 | 250 | 3 | 374.6 (7.64) | 8.6 (3.36) | 125.4 (7.64) | 0.75 (0.02) | 0.98 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 250 | 4 | 378.6 (4.56) | 6.4 (3.21) | 121.4 (4.56) | 0.76 (0.01) | 0.98 (0.01) | 0.82 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.200 | 250 | 5 | 381.2 (6.53) | 5.6 (2.51) | 118.8 (6.53) | 0.76 (0.01) | 0.99 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 0.86 (0.01) |
| 0.200 | 500 | 1 | 254.4 (7.5) | 13.2 (1.79) | 245.6 (7.5) | 0.51 (0.02) | 0.95 (0.01) | 0.64 (0.01) | 0.66 (0.01) | 0.66 (0.01) |
| 0.200 | 500 | 2 | 329.2 (3.83) | 14.2 (3.56) | 170.8 (3.83) | 0.66 (0.01) | 0.96 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.200 | 500 | 3 | 360.8 (3.03) | 13.6 (4.28) | 139.2 (3.03) | 0.72 (0.01) | 0.96 (0.01) | 0.79 (0.01) | 0.81 (0.01) | 0.82 (0.01) |
| 0.200 | 500 | 4 | 376 (5.15) | 12 (3.74) | 124 (5.15) | 0.75 (0.01) | 0.97 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 500 | 5 | 385 (5.79) | 10.2 (2.86) | 115 (5.79) | 0.77 (0.01) | 0.97 (0.01) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.200 | 750 | 1 | 235.6 (5.81) | 9 (1.87) | 264.4 (5.81) | 0.47 (0.01) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.01) |
| 0.200 | 750 | 2 | 285.8 (7.12) | 13 (2.35) | 214.2 (7.12) | 0.57 (0.01) | 0.96 (0.01) | 0.69 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.200 | 750 | 3 | 330.2 (3.9) | 14.2 (3.11) | 169.8 (3.9) | 0.66 (0.01) | 0.96 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.200 | 750 | 4 | 355.6 (3.36) | 14 (3.81) | 144.4 (3.36) | 0.71 (0.01) | 0.96 (0.01) | 0.79 (0.01) | 0.8 (0.01) | 0.82 (0.01) |
| 0.200 | 750 | 5 | 370.6 (4.62) | 13.2 (3.56) | 129.4 (4.62) | 0.74 (0.01) | 0.97 (0.01) | 0.81 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.200 | 1000 | 1 | 221 (6.16) | 8.2 (3.27) | 279 (6.16) | 0.44 (0.01) | 0.97 (0.01) | 0.59 (0.01) | 0.61 (0) | 0.6 (0.01) |
| 0.200 | 1000 | 2 | 256 (8.54) | 12.4 (2.3) | 244 (8.54) | 0.51 (0.02) | 0.96 (0.01) | 0.64 (0.01) | 0.66 (0.01) | 0.66 (0.01) |
| 0.200 | 1000 | 3 | 299.2 (6.69) | 13.4 (2.97) | 200.8 (6.69) | 0.6 (0.01) | 0.96 (0.01) | 0.71 (0.02) | 0.72 (0.01) | 0.73 (0.01) |
| 0.200 | 1000 | 4 | 331.4 (4.56) | 14.4 (3.36) | 168.6 (4.56) | 0.66 (0.01) | 0.96 (0.01) | 0.75 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.200 | 1000 | 5 | 353.2 (3.56) | 15 (3.46) | 146.8 (3.56) | 0.71 (0.01) | 0.96 (0.01) | 0.78 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.300 | 200 | 1 | 345.2 (5.67) | 11 (2.74) | 154.8 (5.67) | 0.69 (0.01) | 0.97 (0.01) | 0.77 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.300 | 200 | 2 | 371.6 (5.46) | 10.2 (2.59) | 128.4 (5.46) | 0.74 (0.01) | 0.97 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.84 (0.01) |
| 0.300 | 200 | 3 | 376 (7.25) | 7.4 (2.97) | 124 (7.25) | 0.75 (0.01) | 0.98 (0.01) | 0.82 (0.01) | 0.84 (0.01) | 0.85 (0.01) |
| 0.300 | 200 | 4 | 377 (8.06) | 5.4 (2.79) | 123 (8.06) | 0.75 (0.02) | 0.99 (0.01) | 0.82 (0.01) | 0.84 (0.01) | 0.85 (0.01) |
| 0.300 | 200 | 5 | 377.6 (7.5) | 3.8 (2.28) | 122.4 (7.5) | 0.76 (0.02) | 0.99 (0.01) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.300 | 250 | 1 | 336.6 (1.67) | 13.2 (2.49) | 163.4 (1.67) | 0.67 (0) | 0.96 (0.01) | 0.76 (0.01) | 0.78 (0) | 0.79 (0) |
| 0.300 | 250 | 2 | 376.8 (4.32) | 12 (2.74) | 123.2 (4.32) | 0.75 (0.01) | 0.97 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.300 | 250 | 3 | 384.8 (5.07) | 8.6 (3.29) | 115.2 (5.07) | 0.77 (0.01) | 0.98 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 0.86 (0.01) |
| 0.300 | 250 | 4 | 388.2 (4.87) | 6.4 (2.7) | 111.8 (4.87) | 0.78 (0.01) | 0.98 (0.01) | 0.84 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.300 | 250 | 5 | 391.4 (5.86) | 5.4 (2.79) | 108.6 (5.86) | 0.78 (0.01) | 0.99 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 0.87 (0.01) |
| 0.300 | 500 | 1 | 337.6 (7.2) | 15 (0.71) | 162.4 (7.2) | 0.68 (0.01) | 0.96 (0) | 0.76 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.300 | 500 | 2 | 348.6 (3.13) | 17.2 (4.21) | 151.4 (3.13) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.79 (0.01) | 0.8 (0) |
| 0.300 | 500 | 3 | 374.8 (4.21) | 12.6 (3.13) | 125.2 (4.21) | 0.75 (0.01) | 0.97 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.84 (0.01) |
| 0.300 | 500 | 4 | 389.4 (3.13) | 12 (2.74) | 110.6 (3.13) | 0.78 (0.01) | 0.97 (0.01) | 0.83 (0) | 0.85 (0.01) | 0.86 (0) |
| 0.300 | 500 | 5 | 397.8 (1.79) | 10.2 (2.59) | 102.2 (1.79) | 0.8 (0) | 0.98 (0.01) | 0.85 (0) | 0.86 (0) | 0.88 (0) |
| 0.300 | 750 | 1 | 331.4 (6.91) | 14.4 (2.61) | 168.6 (6.91) | 0.66 (0.01) | 0.96 (0.01) | 0.75 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.300 | 750 | 2 | 344.4 (8.29) | 16.8 (3.7) | 155.6 (8.29) | 0.69 (0.02) | 0.96 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 750 | 3 | 350.2 (3.11) | 17.4 (3.78) | 149.8 (3.11) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.79 (0.01) | 0.81 (0) |
| 0.300 | 750 | 4 | 369.6 (2.61) | 14 (2.65) | 130.4 (2.61) | 0.74 (0.01) | 0.96 (0.01) | 0.8 (0.01) | 0.82 (0) | 0.84 (0) |
| 0.300 | 750 | 5 | 383.6 (2.3) | 12 (3.32) | 116.4 (2.3) | 0.77 (0) | 0.97 (0.01) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.300 | 1000 | 1 | 323 (7.58) | 15.4 (3.78) | 177 (7.58) | 0.65 (0.02) | 0.96 (0.01) | 0.74 (0.01) | 0.75 (0.01) | 0.77 (0.01) |
| 0.300 | 1000 | 2 | 341.4 (7.09) | 15.4 (2.61) | 158.6 (7.09) | 0.68 (0.01) | 0.96 (0.01) | 0.76 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 1000 | 3 | 348.6 (7.16) | 19.4 (3.29) | 151.4 (7.16) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 1000 | 4 | 352.4 (4.04) | 17.4 (3.78) | 147.6 (4.04) | 0.7 (0.01) | 0.95 (0.01) | 0.78 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.300 | 1000 | 5 | 368 (1.87) | 14.2 (2.49) | 132 (1.87) | 0.74 (0) | 0.96 (0.01) | 0.8 (0.01) | 0.82 (0) | 0.83 (0) |
| 0.400 | 200 | 1 | 354.4 (6.95) | 12.4 (2.88) | 145.6 (6.95) | 0.71 (0.01) | 0.97 (0.01) | 0.78 (0.01) | 0.8 (0.01) | 0.82 (0.01) |
| 0.400 | 200 | 2 | 372.6 (3.65) | 9.4 (4.34) | 127.4 (3.65) | 0.75 (0.01) | 0.98 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.400 | 200 | 3 | 379 (4.64) | 7.4 (3.36) | 121 (4.64) | 0.76 (0.01) | 0.98 (0.01) | 0.82 (0.01) | 0.84 (0.01) | 0.85 (0.01) |
| 0.400 | 200 | 4 | 380 (7.31) | 5.6 (3.05) | 120 (7.31) | 0.76 (0.01) | 0.99 (0.01) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.400 | 200 | 5 | 382.2 (7.43) | 4.4 (3.05) | 117.8 (7.43) | 0.76 (0.01) | 0.99 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 0.86 (0.01) |
| 0.400 | 250 | 1 | 371.8 (6.72) | 15 (3) | 128.2 (6.72) | 0.74 (0.01) | 0.96 (0.01) | 0.81 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.400 | 250 | 2 | 378.4 (4.34) | 12.6 (3.58) | 121.6 (4.34) | 0.76 (0.01) | 0.97 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.400 | 250 | 3 | 386.6 (3.65) | 8.2 (3.7) | 113.4 (3.65) | 0.77 (0.01) | 0.98 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 0.86 (0.01) |
| 0.400 | 250 | 4 | 391.4 (4.34) | 6.2 (3.03) | 108.6 (4.34) | 0.78 (0.01) | 0.98 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 0.87 (0.01) |
| 0.400 | 250 | 5 | 395.8 (6.06) | 5.6 (3.05) | 104.2 (6.06) | 0.79 (0.01) | 0.99 (0.01) | 0.85 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.400 | 500 | 1 | 388.4 (5.59) | 16.8 (1.79) | 111.6 (5.59) | 0.78 (0.01) | 0.96 (0) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.400 | 500 | 2 | 391.8 (4.38) | 20 (4) | 108.2 (4.38) | 0.78 (0.01) | 0.95 (0.01) | 0.83 (0) | 0.84 (0) | 0.86 (0) |
| 0.400 | 500 | 3 | 381.4 (2.7) | 13.2 (3.7) | 118.6 (2.7) | 0.76 (0.01) | 0.97 (0.01) | 0.82 (0.01) | 0.84 (0.01) | 0.85 (0) |
| 0.400 | 500 | 4 | 392 (3.61) | 12.8 (3.42) | 108 (3.61) | 0.78 (0.01) | 0.97 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.400 | 500 | 5 | 401.2 (2.86) | 9.8 (4.44) | 98.8 (2.86) | 0.8 (0.01) | 0.98 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) |
| 0.400 | 750 | 1 | 375.4 (5.55) | 15.4 (2.7) | 124.6 (5.55) | 0.75 (0.01) | 0.96 (0.01) | 0.81 (0.01) | 0.83 (0.01) | 0.84 (0.01) |
| 0.400 | 750 | 2 | 393.6 (4.04) | 18.6 (3.58) | 106.4 (4.04) | 0.79 (0.01) | 0.96 (0.01) | 0.84 (0) | 0.85 (0) | 0.86 (0) |
| 0.400 | 750 | 3 | 395 (4.36) | 20.2 (3.56) | 105 (4.36) | 0.79 (0.01) | 0.95 (0.01) | 0.83 (0) | 0.84 (0) | 0.86 (0) |
| 0.400 | 750 | 4 | 381.6 (4.1) | 14.2 (3.11) | 118.4 (4.1) | 0.76 (0.01) | 0.97 (0.01) | 0.82 (0.01) | 0.83 (0) | 0.85 (0) |
| 0.400 | 750 | 5 | 390.4 (2.51) | 13 (3.61) | 109.6 (2.51) | 0.78 (0.01) | 0.97 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 0.86 (0.01) |
| 0.400 | 1000 | 1 | 363 (2) | 15.4 (2.51) | 137 (2) | 0.73 (0) | 0.96 (0.01) | 0.79 (0) | 0.81 (0.01) | 0.83 (0.01) |
| 0.400 | 1000 | 2 | 393.8 (5.12) | 17.4 (2.97) | 106.2 (5.12) | 0.79 (0.01) | 0.96 (0.01) | 0.84 (0.01) | 0.85 (0.01) | 0.86 (0.01) |
| 0.400 | 1000 | 3 | 401.6 (3.65) | 22.4 (3.05) | 98.4 (3.65) | 0.8 (0.01) | 0.95 (0.01) | 0.85 (0) | 0.85 (0) | 0.87 (0) |
| 0.400 | 1000 | 4 | 397.2 (3.19) | 20.4 (3.71) | 102.8 (3.19) | 0.79 (0.01) | 0.95 (0.01) | 0.84 (0) | 0.85 (0) | 0.87 (0) |
| 0.400 | 1000 | 5 | 386.6 (2.61) | 16 (2.92) | 113.4 (2.61) | 0.77 (0.01) | 0.96 (0.01) | 0.82 (0.01) | 0.84 (0) | 0.86 (0) |

## ProbeLasso

This table shows the average performance of the ProbeLasso method at each .

pl\_tab <-  
 probeLassoRes\_df %>%  
 select(delta, seed, adjPval, mLassoRad, minDmrSep,  
 TP, FP, FN, power, precision, AuPR, mcc, F1) %>%   
 filter(delta > 0) %>%   
 group\_by(delta, adjPval, mLassoRad, minDmrSep) %>%  
 summarise(  
 TP = CalcMeanSD(TP),  
 FP = CalcMeanSD(FP),  
 FN = CalcMeanSD(FN),  
 Pwr = CalcMeanSD(power),  
 Precis = CalcMeanSD(precision),  
 AuPR = CalcMeanSD(AuPR),  
 MCC = CalcMeanSD(mcc),  
 F1 = CalcMeanSD(F1)  
 )  
  
# write\_csv(pl\_tab, path = "../resultsData/ProbeLasso\_total\_results.csv")  
pl\_tab %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | adjPval | mLassoRad | minDmrSep | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 |
| 0.025 | 0.001 | 375 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 375 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 375 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 375 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 375 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 700 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 700 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 700 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 700 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 700 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 1000 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 1000 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 1000 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 1000 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.001 | 1000 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 375 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 375 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 375 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 375 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 375 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 700 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 700 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 700 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 700 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 700 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 1000 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 1000 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 1000 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 1000 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.010 | 1000 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 375 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 375 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 375 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 375 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 375 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 700 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 700 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 700 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 700 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 700 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 1000 | 200 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 1000 | 250 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 1000 | 500 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 1000 | 750 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.050 | 1000 | 1000 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) |
| 0.025 | 0.100 | 375 | 200 | 2.4 (2.07) | 0 (0) | 497.6 (2.07) | 0 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 375 | 250 | 2.4 (2.07) | 0 (0) | 497.6 (2.07) | 0 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 375 | 500 | 2.4 (2.07) | 0 (0) | 497.6 (2.07) | 0 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 375 | 750 | 2.4 (2.07) | 0 (0) | 497.6 (2.07) | 0 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 375 | 1000 | 2.4 (2.07) | 0 (0) | 497.6 (2.07) | 0 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 700 | 200 | 2.2 (1.64) | 0 (0) | 497.8 (1.64) | 0 (0) | 1 (0) | 0.17 (0) | 0.06 (0.02) | 0.01 (0) |
| 0.025 | 0.100 | 700 | 250 | 2.2 (1.64) | 0 (0) | 497.8 (1.64) | 0 (0) | 1 (0) | 0.17 (0) | 0.06 (0.02) | 0.01 (0) |
| 0.025 | 0.100 | 700 | 500 | 2.2 (1.64) | 0 (0) | 497.8 (1.64) | 0 (0) | 1 (0) | 0.17 (0) | 0.06 (0.02) | 0.01 (0) |
| 0.025 | 0.100 | 700 | 750 | 2.2 (1.64) | 0 (0) | 497.8 (1.64) | 0 (0) | 1 (0) | 0.17 (0) | 0.06 (0.02) | 0.01 (0) |
| 0.025 | 0.100 | 700 | 1000 | 2.2 (1.64) | 0 (0) | 497.8 (1.64) | 0 (0) | 1 (0) | 0.17 (0) | 0.06 (0.02) | 0.01 (0) |
| 0.025 | 0.100 | 1000 | 200 | 2.6 (2.07) | 0 (0) | 497.4 (2.07) | 0.01 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 1000 | 250 | 2.6 (2.07) | 0 (0) | 497.4 (2.07) | 0.01 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 1000 | 500 | 2.6 (2.07) | 0 (0) | 497.4 (2.07) | 0.01 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 1000 | 750 | 2.6 (2.07) | 0 (0) | 497.4 (2.07) | 0.01 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.025 | 0.100 | 1000 | 1000 | 2.6 (2.07) | 0 (0) | 497.4 (2.07) | 0.01 (0) | 1 (0) | 0.17 (0.01) | 0.07 (0.02) | 0.01 (0.01) |
| 0.050 | 0.001 | 375 | 200 | 35.8 (6.83) | 3 (1.22) | 464.2 (6.83) | 0.07 (0.01) | 0.94 (0.03) | 0.25 (0.02) | 0.23 (0.02) | 0.13 (0.02) |
| 0.050 | 0.001 | 375 | 250 | 35.8 (6.83) | 3 (1.22) | 464.2 (6.83) | 0.07 (0.01) | 0.94 (0.03) | 0.25 (0.02) | 0.23 (0.02) | 0.13 (0.02) |
| 0.050 | 0.001 | 375 | 500 | 35.8 (6.83) | 3 (1.22) | 464.2 (6.83) | 0.07 (0.01) | 0.94 (0.03) | 0.25 (0.02) | 0.23 (0.02) | 0.13 (0.02) |
| 0.050 | 0.001 | 375 | 750 | 35.8 (6.83) | 3 (1.22) | 464.2 (6.83) | 0.07 (0.01) | 0.94 (0.03) | 0.25 (0.02) | 0.23 (0.02) | 0.13 (0.02) |
| 0.050 | 0.001 | 375 | 1000 | 35.8 (6.83) | 3 (1.22) | 464.2 (6.83) | 0.07 (0.01) | 0.94 (0.03) | 0.25 (0.02) | 0.23 (0.02) | 0.13 (0.02) |
| 0.050 | 0.001 | 700 | 200 | 58.4 (8.62) | 6.2 (1.3) | 441.6 (8.62) | 0.12 (0.02) | 0.93 (0.01) | 0.3 (0.02) | 0.3 (0.02) | 0.2 (0.03) |
| 0.050 | 0.001 | 700 | 250 | 58.4 (8.62) | 6.2 (1.3) | 441.6 (8.62) | 0.12 (0.02) | 0.93 (0.01) | 0.3 (0.02) | 0.3 (0.02) | 0.2 (0.03) |
| 0.050 | 0.001 | 700 | 500 | 58.4 (8.62) | 6.2 (1.3) | 441.6 (8.62) | 0.12 (0.02) | 0.93 (0.01) | 0.3 (0.02) | 0.3 (0.02) | 0.2 (0.03) |
| 0.050 | 0.001 | 700 | 750 | 58.4 (8.62) | 6.2 (1.3) | 441.6 (8.62) | 0.12 (0.02) | 0.93 (0.01) | 0.3 (0.02) | 0.3 (0.02) | 0.2 (0.03) |
| 0.050 | 0.001 | 700 | 1000 | 58.4 (8.62) | 6.2 (1.3) | 441.6 (8.62) | 0.12 (0.02) | 0.93 (0.01) | 0.3 (0.02) | 0.3 (0.02) | 0.2 (0.03) |
| 0.050 | 0.001 | 1000 | 200 | 77.2 (13.33) | 8.4 (2.07) | 422.8 (13.33) | 0.15 (0.03) | 0.93 (0.02) | 0.34 (0.03) | 0.34 (0.04) | 0.26 (0.04) |
| 0.050 | 0.001 | 1000 | 250 | 77.2 (13.33) | 8.4 (2.07) | 422.8 (13.33) | 0.15 (0.03) | 0.93 (0.02) | 0.34 (0.03) | 0.34 (0.04) | 0.26 (0.04) |
| 0.050 | 0.001 | 1000 | 500 | 77.2 (13.33) | 8.6 (1.95) | 422.8 (13.33) | 0.15 (0.03) | 0.93 (0.02) | 0.34 (0.03) | 0.34 (0.04) | 0.26 (0.04) |
| 0.050 | 0.001 | 1000 | 750 | 77.2 (13.33) | 8.6 (1.95) | 422.8 (13.33) | 0.15 (0.03) | 0.93 (0.02) | 0.34 (0.03) | 0.34 (0.04) | 0.26 (0.04) |
| 0.050 | 0.001 | 1000 | 1000 | 77.2 (13.33) | 8.6 (1.95) | 422.8 (13.33) | 0.15 (0.03) | 0.93 (0.02) | 0.34 (0.03) | 0.34 (0.04) | 0.26 (0.04) |
| 0.050 | 0.010 | 375 | 200 | 84 (8.6) | 4.4 (1.82) | 416 (8.6) | 0.17 (0.02) | 0.96 (0.02) | 0.35 (0.02) | 0.36 (0.02) | 0.28 (0.03) |
| 0.050 | 0.010 | 375 | 250 | 84 (8.6) | 4.4 (1.82) | 416 (8.6) | 0.17 (0.02) | 0.96 (0.02) | 0.35 (0.02) | 0.36 (0.02) | 0.28 (0.03) |
| 0.050 | 0.010 | 375 | 500 | 84.6 (8.47) | 4.4 (1.82) | 415.4 (8.47) | 0.17 (0.02) | 0.96 (0.02) | 0.35 (0.02) | 0.37 (0.02) | 0.28 (0.03) |
| 0.050 | 0.010 | 375 | 750 | 84.6 (8.47) | 4.4 (1.82) | 415.4 (8.47) | 0.17 (0.02) | 0.96 (0.02) | 0.35 (0.02) | 0.37 (0.02) | 0.28 (0.02) |
| 0.050 | 0.010 | 375 | 1000 | 84.8 (8.17) | 4.4 (1.82) | 415.2 (8.17) | 0.17 (0.02) | 0.96 (0.02) | 0.35 (0.02) | 0.36 (0.02) | 0.28 (0.02) |
| 0.050 | 0.010 | 700 | 200 | 125 (9.3) | 9.6 (2.07) | 375 (9.3) | 0.25 (0.02) | 0.94 (0.02) | 0.43 (0.02) | 0.44 (0.02) | 0.39 (0.02) |
| 0.050 | 0.010 | 700 | 250 | 125 (9.3) | 9.6 (2.07) | 375 (9.3) | 0.25 (0.02) | 0.94 (0.02) | 0.43 (0.02) | 0.44 (0.02) | 0.39 (0.02) |
| 0.050 | 0.010 | 700 | 500 | 125 (9.3) | 9.8 (2.28) | 375 (9.3) | 0.25 (0.02) | 0.94 (0.02) | 0.43 (0.02) | 0.44 (0.02) | 0.39 (0.02) |
| 0.050 | 0.010 | 700 | 750 | 125 (9.3) | 9.8 (2.28) | 375 (9.3) | 0.25 (0.02) | 0.94 (0.02) | 0.43 (0.02) | 0.44 (0.02) | 0.39 (0.02) |
| 0.050 | 0.010 | 700 | 1000 | 125 (9.3) | 9.8 (2.28) | 375 (9.3) | 0.25 (0.02) | 0.94 (0.02) | 0.43 (0.02) | 0.44 (0.02) | 0.39 (0.02) |
| 0.050 | 0.010 | 1000 | 200 | 156.4 (10.11) | 17.4 (4.83) | 343.6 (10.11) | 0.31 (0.02) | 0.92 (0.01) | 0.48 (0.02) | 0.49 (0.02) | 0.46 (0.02) |
| 0.050 | 0.010 | 1000 | 250 | 156.4 (10.11) | 17.4 (4.83) | 343.6 (10.11) | 0.31 (0.02) | 0.92 (0.01) | 0.48 (0.02) | 0.49 (0.02) | 0.46 (0.02) |
| 0.050 | 0.010 | 1000 | 500 | 156.6 (10.33) | 17.6 (4.72) | 343.4 (10.33) | 0.31 (0.02) | 0.92 (0.01) | 0.48 (0.02) | 0.49 (0.02) | 0.46 (0.02) |
| 0.050 | 0.010 | 1000 | 750 | 156.6 (10.33) | 17.6 (4.72) | 343.4 (10.33) | 0.31 (0.02) | 0.92 (0.01) | 0.48 (0.02) | 0.49 (0.02) | 0.46 (0.02) |
| 0.050 | 0.010 | 1000 | 1000 | 156.6 (10.33) | 17.6 (4.72) | 343.4 (10.33) | 0.31 (0.02) | 0.92 (0.01) | 0.48 (0.02) | 0.49 (0.02) | 0.46 (0.02) |
| 0.050 | 0.050 | 375 | 200 | 115.8 (10.28) | 5 (2.45) | 384.2 (10.28) | 0.23 (0.02) | 0.96 (0.02) | 0.41 (0.02) | 0.43 (0.02) | 0.37 (0.02) |
| 0.050 | 0.050 | 375 | 250 | 115.8 (10.28) | 5 (2.45) | 384.2 (10.28) | 0.23 (0.02) | 0.96 (0.02) | 0.41 (0.02) | 0.43 (0.02) | 0.37 (0.02) |
| 0.050 | 0.050 | 375 | 500 | 115.8 (10.28) | 5 (2.45) | 384.2 (10.28) | 0.23 (0.02) | 0.96 (0.02) | 0.41 (0.02) | 0.43 (0.02) | 0.37 (0.03) |
| 0.050 | 0.050 | 375 | 750 | 115.8 (10.28) | 5 (2.45) | 384.2 (10.28) | 0.23 (0.02) | 0.96 (0.02) | 0.41 (0.02) | 0.43 (0.02) | 0.37 (0.03) |
| 0.050 | 0.050 | 375 | 1000 | 116 (10.02) | 5 (2.45) | 384 (10.02) | 0.23 (0.02) | 0.96 (0.02) | 0.41 (0.02) | 0.43 (0.02) | 0.37 (0.02) |
| 0.050 | 0.050 | 700 | 200 | 172.2 (8.5) | 11.4 (3.29) | 327.8 (8.5) | 0.34 (0.02) | 0.95 (0.02) | 0.51 (0.02) | 0.53 (0.02) | 0.5 (0.02) |
| 0.050 | 0.050 | 700 | 250 | 172.2 (8.5) | 11.4 (3.29) | 327.8 (8.5) | 0.34 (0.02) | 0.95 (0.02) | 0.51 (0.02) | 0.53 (0.02) | 0.5 (0.02) |
| 0.050 | 0.050 | 700 | 500 | 172.2 (8.5) | 11.6 (3.29) | 327.8 (8.5) | 0.34 (0.02) | 0.95 (0.02) | 0.51 (0.02) | 0.53 (0.02) | 0.5 (0.02) |
| 0.050 | 0.050 | 700 | 750 | 172.2 (8.5) | 11.6 (3.29) | 327.8 (8.5) | 0.34 (0.02) | 0.95 (0.02) | 0.51 (0.02) | 0.53 (0.02) | 0.5 (0.02) |
| 0.050 | 0.050 | 700 | 1000 | 172.2 (8.5) | 11.8 (3.27) | 327.8 (8.5) | 0.34 (0.02) | 0.95 (0.02) | 0.51 (0.02) | 0.53 (0.02) | 0.5 (0.02) |
| 0.050 | 0.050 | 1000 | 200 | 211.4 (10.6) | 20.2 (4.97) | 288.6 (10.6) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.58 (0.02) |
| 0.050 | 0.050 | 1000 | 250 | 211.4 (10.6) | 20.2 (4.97) | 288.6 (10.6) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.57 (0.02) |
| 0.050 | 0.050 | 1000 | 500 | 211.6 (10.92) | 20.6 (5.03) | 288.4 (10.92) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.57 (0.02) |
| 0.050 | 0.050 | 1000 | 750 | 211.6 (10.92) | 20.6 (5.03) | 288.4 (10.92) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.57 (0.02) |
| 0.050 | 0.050 | 1000 | 1000 | 211.6 (10.92) | 20.6 (5.03) | 288.4 (10.92) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.57 (0.02) |
| 0.050 | 0.100 | 375 | 200 | 131 (7.38) | 5.6 (2.7) | 369 (7.38) | 0.26 (0.01) | 0.96 (0.02) | 0.44 (0.01) | 0.46 (0.01) | 0.41 (0.02) |
| 0.050 | 0.100 | 375 | 250 | 131 (7.38) | 5.6 (2.7) | 369 (7.38) | 0.26 (0.01) | 0.96 (0.02) | 0.44 (0.01) | 0.46 (0.01) | 0.41 (0.02) |
| 0.050 | 0.100 | 375 | 500 | 131 (7.38) | 5.6 (2.7) | 369 (7.38) | 0.26 (0.01) | 0.96 (0.02) | 0.44 (0.01) | 0.46 (0.01) | 0.41 (0.02) |
| 0.050 | 0.100 | 375 | 750 | 131 (7.38) | 5.6 (2.7) | 369 (7.38) | 0.26 (0.01) | 0.96 (0.02) | 0.44 (0.01) | 0.46 (0.01) | 0.41 (0.02) |
| 0.050 | 0.100 | 375 | 1000 | 131.2 (7.12) | 5.6 (2.7) | 368.8 (7.12) | 0.26 (0.01) | 0.96 (0.02) | 0.44 (0.01) | 0.46 (0.01) | 0.41 (0.02) |
| 0.050 | 0.100 | 700 | 200 | 196.4 (10.01) | 13 (3.67) | 303.6 (10.01) | 0.39 (0.02) | 0.95 (0.02) | 0.55 (0.02) | 0.57 (0.02) | 0.55 (0.02) |
| 0.050 | 0.100 | 700 | 250 | 196.4 (10.01) | 13 (3.67) | 303.6 (10.01) | 0.39 (0.02) | 0.95 (0.02) | 0.55 (0.02) | 0.57 (0.02) | 0.55 (0.02) |
| 0.050 | 0.100 | 700 | 500 | 196.4 (10.01) | 13.2 (3.56) | 303.6 (10.01) | 0.39 (0.02) | 0.95 (0.02) | 0.55 (0.02) | 0.57 (0.02) | 0.55 (0.02) |
| 0.050 | 0.100 | 700 | 750 | 196.6 (10.01) | 13.2 (3.56) | 303.4 (10.01) | 0.39 (0.02) | 0.95 (0.02) | 0.55 (0.02) | 0.57 (0.02) | 0.55 (0.02) |
| 0.050 | 0.100 | 700 | 1000 | 196.6 (10.01) | 13.4 (3.65) | 303.4 (10.01) | 0.39 (0.02) | 0.95 (0.02) | 0.55 (0.02) | 0.57 (0.02) | 0.55 (0.02) |
| 0.050 | 0.100 | 1000 | 200 | 237.8 (11.69) | 22.8 (5.76) | 262.2 (11.69) | 0.48 (0.02) | 0.93 (0.01) | 0.61 (0.02) | 0.62 (0.02) | 0.62 (0.02) |
| 0.050 | 0.100 | 1000 | 250 | 237.8 (11.69) | 22.8 (5.76) | 262.2 (11.69) | 0.48 (0.02) | 0.93 (0.01) | 0.61 (0.02) | 0.62 (0.02) | 0.62 (0.02) |
| 0.050 | 0.100 | 1000 | 500 | 238 (11.94) | 23.2 (5.89) | 262 (11.94) | 0.48 (0.02) | 0.93 (0.01) | 0.61 (0.02) | 0.62 (0.02) | 0.62 (0.02) |
| 0.050 | 0.100 | 1000 | 750 | 238 (11.94) | 23.2 (5.89) | 262 (11.94) | 0.48 (0.02) | 0.93 (0.01) | 0.61 (0.02) | 0.62 (0.02) | 0.62 (0.02) |
| 0.050 | 0.100 | 1000 | 1000 | 238 (11.94) | 23.2 (5.89) | 262 (11.94) | 0.48 (0.02) | 0.93 (0.01) | 0.61 (0.02) | 0.62 (0.02) | 0.62 (0.02) |
| 0.100 | 0.001 | 375 | 200 | 150 (7.18) | 6.8 (2.86) | 350 (7.18) | 0.3 (0.01) | 0.96 (0.02) | 0.47 (0.01) | 0.5 (0.01) | 0.45 (0.01) |
| 0.100 | 0.001 | 375 | 250 | 150 (7.18) | 6.8 (2.86) | 350 (7.18) | 0.3 (0.01) | 0.96 (0.02) | 0.47 (0.01) | 0.5 (0.01) | 0.45 (0.01) |
| 0.100 | 0.001 | 375 | 500 | 150 (7.18) | 6.8 (2.86) | 350 (7.18) | 0.3 (0.01) | 0.96 (0.02) | 0.47 (0.01) | 0.5 (0.01) | 0.45 (0.02) |
| 0.100 | 0.001 | 375 | 750 | 150 (7.18) | 6.8 (2.86) | 350 (7.18) | 0.3 (0.01) | 0.96 (0.02) | 0.47 (0.01) | 0.5 (0.01) | 0.45 (0.02) |
| 0.100 | 0.001 | 375 | 1000 | 150 (7.18) | 6.8 (2.86) | 350 (7.18) | 0.3 (0.01) | 0.96 (0.02) | 0.47 (0.01) | 0.49 (0.01) | 0.45 (0.02) |
| 0.100 | 0.001 | 700 | 200 | 216.8 (8.47) | 14.6 (3.78) | 283.2 (8.47) | 0.43 (0.02) | 0.95 (0.01) | 0.58 (0.01) | 0.6 (0.01) | 0.59 (0.02) |
| 0.100 | 0.001 | 700 | 250 | 216.8 (8.47) | 14.6 (3.78) | 283.2 (8.47) | 0.43 (0.02) | 0.95 (0.01) | 0.58 (0.01) | 0.6 (0.01) | 0.59 (0.02) |
| 0.100 | 0.001 | 700 | 500 | 217 (8.03) | 15 (3.67) | 283 (8.03) | 0.43 (0.02) | 0.94 (0.01) | 0.58 (0.01) | 0.6 (0.02) | 0.59 (0.02) |
| 0.100 | 0.001 | 700 | 750 | 217.2 (8.14) | 15 (3.67) | 282.8 (8.14) | 0.43 (0.02) | 0.95 (0.01) | 0.58 (0.01) | 0.6 (0.02) | 0.59 (0.02) |
| 0.100 | 0.001 | 700 | 1000 | 217.2 (8.14) | 15.4 (3.36) | 282.8 (8.14) | 0.43 (0.02) | 0.94 (0.01) | 0.58 (0.01) | 0.6 (0.02) | 0.59 (0.02) |
| 0.100 | 0.001 | 1000 | 200 | 266.2 (8.5) | 27.8 (5.81) | 233.8 (8.5) | 0.53 (0.02) | 0.92 (0.01) | 0.65 (0.01) | 0.66 (0.01) | 0.67 (0.01) |
| 0.100 | 0.001 | 1000 | 250 | 266.2 (8.5) | 27.8 (5.81) | 233.8 (8.5) | 0.53 (0.02) | 0.92 (0.01) | 0.65 (0.01) | 0.66 (0.01) | 0.67 (0.01) |
| 0.100 | 0.001 | 1000 | 500 | 266.4 (8.88) | 28.2 (5.72) | 233.6 (8.88) | 0.53 (0.02) | 0.92 (0.01) | 0.65 (0.01) | 0.66 (0.01) | 0.67 (0.01) |
| 0.100 | 0.001 | 1000 | 750 | 266.4 (8.88) | 28.4 (5.68) | 233.6 (8.88) | 0.53 (0.02) | 0.92 (0.01) | 0.65 (0.01) | 0.66 (0.01) | 0.67 (0.01) |
| 0.100 | 0.001 | 1000 | 1000 | 266.2 (8.79) | 28.4 (5.68) | 233.8 (8.79) | 0.53 (0.02) | 0.92 (0.01) | 0.65 (0.01) | 0.66 (0.01) | 0.67 (0.01) |
| 0.100 | 0.010 | 375 | 200 | 180.4 (9.15) | 7.4 (2.97) | 319.6 (9.15) | 0.36 (0.02) | 0.96 (0.01) | 0.53 (0.01) | 0.55 (0.01) | 0.52 (0.02) |
| 0.100 | 0.010 | 375 | 250 | 180.4 (9.15) | 7.4 (2.97) | 319.6 (9.15) | 0.36 (0.02) | 0.96 (0.01) | 0.53 (0.01) | 0.55 (0.01) | 0.52 (0.02) |
| 0.100 | 0.010 | 375 | 500 | 180.4 (9.15) | 7.4 (2.97) | 319.6 (9.15) | 0.36 (0.02) | 0.96 (0.01) | 0.53 (0.01) | 0.55 (0.01) | 0.52 (0.02) |
| 0.100 | 0.010 | 375 | 750 | 180.4 (9.15) | 7.4 (2.97) | 319.6 (9.15) | 0.36 (0.02) | 0.96 (0.01) | 0.53 (0.01) | 0.55 (0.01) | 0.52 (0.02) |
| 0.100 | 0.010 | 375 | 1000 | 181.2 (9.39) | 7.6 (3.05) | 318.8 (9.39) | 0.36 (0.02) | 0.96 (0.01) | 0.53 (0.01) | 0.55 (0.01) | 0.52 (0.02) |
| 0.100 | 0.010 | 700 | 200 | 264.4 (4.39) | 18.6 (2.51) | 235.6 (4.39) | 0.53 (0.01) | 0.95 (0.01) | 0.65 (0.01) | 0.67 (0.01) | 0.67 (0.01) |
| 0.100 | 0.010 | 700 | 250 | 264.4 (4.39) | 18.6 (2.51) | 235.6 (4.39) | 0.53 (0.01) | 0.95 (0.01) | 0.65 (0.01) | 0.67 (0.01) | 0.67 (0.01) |
| 0.100 | 0.010 | 700 | 500 | 264.6 (4.16) | 18.8 (2.39) | 235.4 (4.16) | 0.53 (0.01) | 0.94 (0.01) | 0.65 (0.01) | 0.67 (0.01) | 0.67 (0.01) |
| 0.100 | 0.010 | 700 | 750 | 265 (3.87) | 18.8 (2.39) | 235 (3.87) | 0.53 (0.01) | 0.94 (0.01) | 0.65 (0.01) | 0.67 (0.01) | 0.67 (0.01) |
| 0.100 | 0.010 | 700 | 1000 | 265 (3.87) | 19.2 (2.17) | 235 (3.87) | 0.53 (0.01) | 0.94 (0.01) | 0.65 (0.01) | 0.67 (0.01) | 0.67 (0.01) |
| 0.100 | 0.010 | 1000 | 200 | 322.4 (8.96) | 31.8 (6.69) | 177.6 (8.96) | 0.64 (0.02) | 0.93 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.100 | 0.010 | 1000 | 250 | 322.4 (8.96) | 31.8 (6.69) | 177.6 (8.96) | 0.64 (0.02) | 0.93 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.100 | 0.010 | 1000 | 500 | 323 (9.03) | 32.2 (6.53) | 177 (9.03) | 0.65 (0.02) | 0.93 (0.01) | 0.74 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.100 | 0.010 | 1000 | 750 | 323 (9.03) | 32.4 (6.54) | 177 (9.03) | 0.65 (0.02) | 0.93 (0.01) | 0.74 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.100 | 0.010 | 1000 | 1000 | 322.8 (9.28) | 32.4 (6.54) | 177.2 (9.28) | 0.65 (0.02) | 0.93 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.100 | 0.050 | 375 | 200 | 204.6 (9.94) | 8.6 (3.29) | 295.4 (9.94) | 0.41 (0.02) | 0.96 (0.01) | 0.57 (0.01) | 0.59 (0.01) | 0.57 (0.02) |
| 0.100 | 0.050 | 375 | 250 | 204.6 (9.94) | 8.6 (3.29) | 295.4 (9.94) | 0.41 (0.02) | 0.96 (0.01) | 0.57 (0.01) | 0.59 (0.01) | 0.57 (0.02) |
| 0.100 | 0.050 | 375 | 500 | 204.8 (10.31) | 8.6 (3.29) | 295.2 (10.31) | 0.41 (0.02) | 0.96 (0.01) | 0.57 (0.01) | 0.59 (0.01) | 0.57 (0.02) |
| 0.100 | 0.050 | 375 | 750 | 204.8 (10.31) | 8.6 (3.29) | 295.2 (10.31) | 0.41 (0.02) | 0.96 (0.01) | 0.57 (0.01) | 0.59 (0.01) | 0.57 (0.02) |
| 0.100 | 0.050 | 375 | 1000 | 205.6 (10.81) | 8.8 (3.35) | 294.4 (10.81) | 0.41 (0.02) | 0.96 (0.01) | 0.57 (0.02) | 0.59 (0.01) | 0.57 (0.02) |
| 0.100 | 0.050 | 700 | 200 | 298.4 (2.97) | 20.8 (3.11) | 201.6 (2.97) | 0.6 (0.01) | 0.94 (0.01) | 0.7 (0.01) | 0.71 (0.01) | 0.73 (0.01) |
| 0.100 | 0.050 | 700 | 250 | 298.4 (2.97) | 20.8 (3.11) | 201.6 (2.97) | 0.6 (0.01) | 0.94 (0.01) | 0.7 (0.01) | 0.71 (0.01) | 0.73 (0.01) |
| 0.100 | 0.050 | 700 | 500 | 298.6 (3.21) | 21 (2.92) | 201.4 (3.21) | 0.6 (0.01) | 0.94 (0.01) | 0.7 (0.01) | 0.71 (0.01) | 0.73 (0.01) |
| 0.100 | 0.050 | 700 | 750 | 299 (2.83) | 21 (2.92) | 201 (2.83) | 0.6 (0.01) | 0.94 (0.01) | 0.7 (0.01) | 0.71 (0.01) | 0.73 (0) |
| 0.100 | 0.050 | 700 | 1000 | 298.8 (3.03) | 21.4 (2.79) | 201.2 (3.03) | 0.6 (0.01) | 0.94 (0.01) | 0.7 (0.01) | 0.71 (0.01) | 0.73 (0) |
| 0.100 | 0.050 | 1000 | 200 | 361 (6.82) | 35.2 (7.46) | 139 (6.82) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.100 | 0.050 | 1000 | 250 | 361 (6.82) | 35.2 (7.46) | 139 (6.82) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.100 | 0.050 | 1000 | 500 | 361.6 (7.02) | 35.6 (7.37) | 138.4 (7.02) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.100 | 0.050 | 1000 | 750 | 361.8 (6.87) | 35.8 (7.36) | 138.2 (6.87) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.100 | 0.050 | 1000 | 1000 | 361.6 (7.02) | 35.8 (7.36) | 138.4 (7.02) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) |
| 0.100 | 0.100 | 375 | 200 | 212.4 (8.53) | 9.6 (3.78) | 287.6 (8.53) | 0.42 (0.02) | 0.96 (0.01) | 0.58 (0.01) | 0.6 (0.01) | 0.58 (0.01) |
| 0.100 | 0.100 | 375 | 250 | 212.4 (8.53) | 9.6 (3.78) | 287.6 (8.53) | 0.42 (0.02) | 0.96 (0.01) | 0.58 (0.01) | 0.6 (0.01) | 0.58 (0.01) |
| 0.100 | 0.100 | 375 | 500 | 212.8 (8.93) | 9.6 (3.78) | 287.2 (8.93) | 0.43 (0.02) | 0.96 (0.01) | 0.58 (0.01) | 0.6 (0.01) | 0.58 (0.02) |
| 0.100 | 0.100 | 375 | 750 | 212.8 (8.93) | 9.6 (3.78) | 287.2 (8.93) | 0.43 (0.02) | 0.96 (0.01) | 0.58 (0.01) | 0.6 (0.01) | 0.58 (0.01) |
| 0.100 | 0.100 | 375 | 1000 | 213.6 (9.29) | 9.8 (3.9) | 286.4 (9.29) | 0.43 (0.02) | 0.96 (0.02) | 0.58 (0.01) | 0.6 (0.01) | 0.58 (0.02) |
| 0.100 | 0.100 | 700 | 200 | 308.8 (4.66) | 20.8 (3.11) | 191.2 (4.66) | 0.62 (0.01) | 0.95 (0.01) | 0.72 (0.01) | 0.73 (0.01) | 0.74 (0.01) |
| 0.100 | 0.100 | 700 | 250 | 308.8 (4.66) | 20.8 (3.11) | 191.2 (4.66) | 0.62 (0.01) | 0.95 (0.01) | 0.72 (0.01) | 0.73 (0.01) | 0.74 (0.01) |
| 0.100 | 0.100 | 700 | 500 | 308.8 (4.66) | 21 (2.92) | 191.2 (4.66) | 0.62 (0.01) | 0.95 (0.01) | 0.72 (0.01) | 0.73 (0.01) | 0.74 (0.01) |
| 0.100 | 0.100 | 700 | 750 | 309.2 (4.38) | 21 (2.92) | 190.8 (4.38) | 0.62 (0.01) | 0.95 (0.01) | 0.72 (0.01) | 0.73 (0.01) | 0.74 (0.01) |
| 0.100 | 0.100 | 700 | 1000 | 309 (4.64) | 21.4 (2.79) | 191 (4.64) | 0.62 (0.01) | 0.94 (0.01) | 0.72 (0.01) | 0.73 (0.01) | 0.74 (0.01) |
| 0.100 | 0.100 | 1000 | 200 | 372.6 (4.72) | 35.4 (7.86) | 127.4 (4.72) | 0.75 (0.01) | 0.93 (0.01) | 0.8 (0.01) | 0.8 (0) | 0.82 (0) |
| 0.100 | 0.100 | 1000 | 250 | 372.6 (4.72) | 35.4 (7.86) | 127.4 (4.72) | 0.75 (0.01) | 0.93 (0.01) | 0.8 (0.01) | 0.8 (0) | 0.82 (0) |
| 0.100 | 0.100 | 1000 | 500 | 373 (5.1) | 35.8 (7.79) | 127 (5.1) | 0.75 (0.01) | 0.93 (0.01) | 0.8 (0.01) | 0.8 (0) | 0.82 (0) |
| 0.100 | 0.100 | 1000 | 750 | 373.2 (5.07) | 36 (7.81) | 126.8 (5.07) | 0.75 (0.01) | 0.93 (0.01) | 0.8 (0.01) | 0.8 (0) | 0.82 (0) |
| 0.100 | 0.100 | 1000 | 1000 | 373 (5.1) | 36 (7.81) | 127 (5.1) | 0.75 (0.01) | 0.93 (0.01) | 0.8 (0.01) | 0.8 (0) | 0.82 (0) |
| 0.150 | 0.001 | 375 | 200 | 200 (9.64) | 8.4 (3.29) | 300 (9.64) | 0.4 (0.02) | 0.96 (0.01) | 0.56 (0.01) | 0.58 (0.01) | 0.56 (0.02) |
| 0.150 | 0.001 | 375 | 250 | 200 (9.64) | 8.4 (3.29) | 300 (9.64) | 0.4 (0.02) | 0.96 (0.01) | 0.56 (0.01) | 0.58 (0.01) | 0.56 (0.02) |
| 0.150 | 0.001 | 375 | 500 | 200.2 (9.98) | 8.4 (3.29) | 299.8 (9.98) | 0.4 (0.02) | 0.96 (0.01) | 0.56 (0.01) | 0.58 (0.01) | 0.56 (0.02) |
| 0.150 | 0.001 | 375 | 750 | 200.2 (9.98) | 8.4 (3.29) | 299.8 (9.98) | 0.4 (0.02) | 0.96 (0.01) | 0.56 (0.01) | 0.58 (0.01) | 0.56 (0.02) |
| 0.150 | 0.001 | 375 | 1000 | 201 (10.32) | 8.6 (3.36) | 299 (10.32) | 0.4 (0.02) | 0.96 (0.01) | 0.56 (0.01) | 0.58 (0.01) | 0.56 (0.02) |
| 0.150 | 0.001 | 700 | 200 | 289.4 (3.97) | 21 (2) | 210.6 (3.97) | 0.58 (0.01) | 0.94 (0.01) | 0.69 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.150 | 0.001 | 700 | 250 | 289.4 (3.97) | 21 (2) | 210.6 (3.97) | 0.58 (0.01) | 0.94 (0.01) | 0.69 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.150 | 0.001 | 700 | 500 | 289.6 (4.04) | 21.2 (2.17) | 210.4 (4.04) | 0.58 (0.01) | 0.94 (0.01) | 0.69 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.150 | 0.001 | 700 | 750 | 290 (3.67) | 21.2 (2.17) | 210 (3.67) | 0.58 (0.01) | 0.94 (0.01) | 0.69 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.150 | 0.001 | 700 | 1000 | 289.8 (3.83) | 21.6 (1.95) | 210.2 (3.83) | 0.58 (0.01) | 0.94 (0.01) | 0.69 (0.01) | 0.7 (0.01) | 0.71 (0.01) |
| 0.150 | 0.001 | 1000 | 200 | 354.8 (7.95) | 38 (7.84) | 145.2 (7.95) | 0.71 (0.02) | 0.92 (0.01) | 0.78 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.150 | 0.001 | 1000 | 250 | 354.8 (7.95) | 38 (7.84) | 145.2 (7.95) | 0.71 (0.02) | 0.92 (0.01) | 0.78 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.150 | 0.001 | 1000 | 500 | 355.4 (8.32) | 38.4 (7.7) | 144.6 (8.32) | 0.71 (0.02) | 0.92 (0.01) | 0.78 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.150 | 0.001 | 1000 | 750 | 355.4 (8.32) | 38.6 (7.89) | 144.6 (8.32) | 0.71 (0.02) | 0.92 (0.01) | 0.78 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.150 | 0.001 | 1000 | 1000 | 355.2 (8.41) | 38.6 (7.89) | 144.8 (8.41) | 0.71 (0.02) | 0.92 (0.01) | 0.78 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.150 | 0.010 | 375 | 200 | 218.4 (7.89) | 9.2 (3.7) | 281.6 (7.89) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.150 | 0.010 | 375 | 250 | 218.4 (7.89) | 9.2 (3.7) | 281.6 (7.89) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.150 | 0.010 | 375 | 500 | 219 (8) | 9.2 (3.7) | 281 (8) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.150 | 0.010 | 375 | 750 | 219 (8) | 9.2 (3.7) | 281 (8) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.150 | 0.010 | 375 | 1000 | 219.8 (8.44) | 9.4 (3.78) | 280.2 (8.44) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.150 | 0.010 | 700 | 200 | 319 (5.24) | 21.4 (2.19) | 181 (5.24) | 0.64 (0.01) | 0.95 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 0.010 | 700 | 250 | 319 (5.24) | 21.4 (2.19) | 181 (5.24) | 0.64 (0.01) | 0.95 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 0.010 | 700 | 500 | 319 (5.24) | 21.6 (2.3) | 181 (5.24) | 0.64 (0.01) | 0.95 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 0.010 | 700 | 750 | 319.4 (5.03) | 21.6 (2.3) | 180.6 (5.03) | 0.64 (0.01) | 0.95 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 0.010 | 700 | 1000 | 319.2 (5.36) | 22 (2) | 180.8 (5.36) | 0.64 (0.01) | 0.95 (0.01) | 0.73 (0.01) | 0.74 (0.01) | 0.76 (0.01) |
| 0.150 | 0.010 | 1000 | 200 | 389 (5.39) | 38.6 (7.5) | 111 (5.39) | 0.78 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.150 | 0.010 | 1000 | 250 | 389 (5.39) | 38.6 (7.5) | 111 (5.39) | 0.78 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.150 | 0.010 | 1000 | 500 | 389.4 (5.86) | 39 (7.35) | 110.6 (5.86) | 0.78 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.150 | 0.010 | 1000 | 750 | 389.4 (5.86) | 39.2 (7.56) | 110.6 (5.86) | 0.78 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.150 | 0.010 | 1000 | 1000 | 389.2 (5.72) | 39.2 (7.56) | 110.8 (5.72) | 0.78 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.82 (0.01) | 0.84 (0.01) |
| 0.150 | 0.050 | 375 | 200 | 229.2 (8.76) | 9.2 (3.7) | 270.8 (8.76) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.150 | 0.050 | 375 | 250 | 229.2 (8.76) | 9.2 (3.7) | 270.8 (8.76) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.150 | 0.050 | 375 | 500 | 230 (9.25) | 9.2 (3.7) | 270 (9.25) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.150 | 0.050 | 375 | 750 | 230 (9.25) | 9.2 (3.7) | 270 (9.25) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.150 | 0.050 | 375 | 1000 | 230.8 (9.68) | 9.4 (3.78) | 269.2 (9.68) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.150 | 0.050 | 700 | 200 | 332.4 (6.88) | 22 (2.35) | 167.6 (6.88) | 0.66 (0.01) | 0.95 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.150 | 0.050 | 700 | 250 | 332.4 (6.88) | 22 (2.35) | 167.6 (6.88) | 0.66 (0.01) | 0.95 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.150 | 0.050 | 700 | 500 | 332.8 (6.46) | 22.2 (2.39) | 167.2 (6.46) | 0.67 (0.01) | 0.95 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.150 | 0.050 | 700 | 750 | 333.8 (5.63) | 22.2 (2.39) | 166.2 (5.63) | 0.67 (0.01) | 0.95 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.150 | 0.050 | 700 | 1000 | 333.6 (5.86) | 22.6 (2.19) | 166.4 (5.86) | 0.67 (0.01) | 0.95 (0.01) | 0.75 (0.01) | 0.76 (0.01) | 0.78 (0.01) |
| 0.150 | 0.050 | 1000 | 200 | 404.4 (7.44) | 39.6 (8.47) | 95.6 (7.44) | 0.81 (0.01) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.150 | 0.050 | 1000 | 250 | 404.6 (7.09) | 39.6 (8.47) | 95.4 (7.09) | 0.81 (0.01) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.150 | 0.050 | 1000 | 500 | 405.4 (7.8) | 40 (8.31) | 94.6 (7.8) | 0.81 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.150 | 0.050 | 1000 | 750 | 405.8 (7.79) | 40.2 (8.53) | 94.2 (7.79) | 0.81 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.150 | 0.050 | 1000 | 1000 | 405.6 (7.6) | 40.2 (8.53) | 94.4 (7.6) | 0.81 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) |
| 0.150 | 0.100 | 375 | 200 | 230.4 (8.41) | 10.8 (3.96) | 269.6 (8.41) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.62 (0.01) | 0.62 (0.01) |
| 0.150 | 0.100 | 375 | 250 | 230.6 (8.29) | 10.8 (3.96) | 269.4 (8.29) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.62 (0.01) | 0.62 (0.01) |
| 0.150 | 0.100 | 375 | 500 | 231.4 (8.73) | 10.8 (3.96) | 268.6 (8.73) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.150 | 0.100 | 375 | 750 | 231.8 (8.96) | 10.8 (3.96) | 268.2 (8.96) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.150 | 0.100 | 375 | 1000 | 232.6 (9.48) | 11 (4.06) | 267.4 (9.48) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.150 | 0.100 | 700 | 200 | 336.2 (6.22) | 22 (2.35) | 163.8 (6.22) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.150 | 0.100 | 700 | 250 | 336.2 (6.22) | 22 (2.35) | 163.8 (6.22) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.150 | 0.100 | 700 | 500 | 336.6 (5.9) | 22.2 (2.39) | 163.4 (5.9) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.150 | 0.100 | 700 | 750 | 337.2 (5.4) | 22.2 (2.39) | 162.8 (5.4) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.150 | 0.100 | 700 | 1000 | 337 (5.7) | 22.6 (2.19) | 163 (5.7) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.150 | 0.100 | 1000 | 200 | 408.6 (7.83) | 39.8 (8.58) | 91.4 (7.83) | 0.82 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.150 | 0.100 | 1000 | 250 | 408.8 (7.5) | 39.8 (8.58) | 91.2 (7.5) | 0.82 (0.01) | 0.93 (0.01) | 0.85 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.150 | 0.100 | 1000 | 500 | 409.6 (8.29) | 40.2 (8.44) | 90.4 (8.29) | 0.82 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.150 | 0.100 | 1000 | 750 | 410 (8.25) | 40.4 (8.65) | 90 (8.25) | 0.82 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.150 | 0.100 | 1000 | 1000 | 409.8 (8.11) | 40.4 (8.65) | 90.2 (8.11) | 0.82 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.001 | 375 | 200 | 220.4 (8.38) | 9.2 (3.7) | 279.6 (8.38) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.200 | 0.001 | 375 | 250 | 220.4 (8.38) | 9.2 (3.7) | 279.6 (8.38) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.200 | 0.001 | 375 | 500 | 221 (8.51) | 9.2 (3.7) | 279 (8.51) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.200 | 0.001 | 375 | 750 | 221 (8.51) | 9.2 (3.7) | 279 (8.51) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.200 | 0.001 | 375 | 1000 | 221.8 (8.93) | 9.4 (3.78) | 278.2 (8.93) | 0.44 (0.02) | 0.96 (0.01) | 0.59 (0.01) | 0.61 (0.01) | 0.6 (0.01) |
| 0.200 | 0.001 | 700 | 200 | 321.6 (5.94) | 21.6 (2.07) | 178.4 (5.94) | 0.64 (0.01) | 0.95 (0.01) | 0.74 (0.01) | 0.75 (0.01) | 0.76 (0.01) |
| 0.200 | 0.001 | 700 | 250 | 321.6 (5.94) | 21.6 (2.07) | 178.4 (5.94) | 0.64 (0.01) | 0.95 (0.01) | 0.74 (0.01) | 0.75 (0.01) | 0.76 (0.01) |
| 0.200 | 0.001 | 700 | 500 | 322 (5.52) | 21.8 (2.17) | 178 (5.52) | 0.64 (0.01) | 0.95 (0.01) | 0.74 (0.01) | 0.75 (0.01) | 0.76 (0.01) |
| 0.200 | 0.001 | 700 | 750 | 322.4 (5.37) | 21.8 (2.17) | 177.6 (5.37) | 0.64 (0.01) | 0.95 (0.01) | 0.74 (0.01) | 0.75 (0.01) | 0.76 (0.01) |
| 0.200 | 0.001 | 700 | 1000 | 322.2 (5.72) | 22.2 (1.92) | 177.8 (5.72) | 0.64 (0.01) | 0.95 (0.01) | 0.74 (0.01) | 0.75 (0.01) | 0.76 (0.01) |
| 0.200 | 0.001 | 1000 | 200 | 392.6 (6.91) | 39 (6.96) | 107.4 (6.91) | 0.79 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 0.001 | 1000 | 250 | 392.6 (6.91) | 39 (6.96) | 107.4 (6.91) | 0.79 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 0.001 | 1000 | 500 | 393 (7.28) | 39.4 (6.84) | 107 (7.28) | 0.79 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 0.001 | 1000 | 750 | 393 (7.28) | 39.6 (7.06) | 107 (7.28) | 0.79 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.83 (0.01) | 0.85 (0.01) |
| 0.200 | 0.001 | 1000 | 1000 | 392.4 (7.44) | 39.6 (7.06) | 107.6 (7.44) | 0.78 (0.01) | 0.93 (0.01) | 0.83 (0.01) | 0.82 (0.01) | 0.85 (0.01) |
| 0.200 | 0.010 | 375 | 200 | 229.8 (8.41) | 9.2 (3.7) | 270.2 (8.41) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.200 | 0.010 | 375 | 250 | 229.8 (8.41) | 9.2 (3.7) | 270.2 (8.41) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.200 | 0.010 | 375 | 500 | 230.6 (8.88) | 9.2 (3.7) | 269.4 (8.88) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.200 | 0.010 | 375 | 750 | 231 (9.03) | 9.2 (3.7) | 269 (9.03) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.01) |
| 0.200 | 0.010 | 375 | 1000 | 231.8 (9.42) | 9.4 (3.78) | 268.2 (9.42) | 0.46 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.200 | 0.010 | 700 | 200 | 336.4 (5.94) | 21.8 (1.92) | 163.6 (5.94) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.200 | 0.010 | 700 | 250 | 336.4 (5.94) | 21.8 (1.92) | 163.6 (5.94) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.200 | 0.010 | 700 | 500 | 336.8 (5.54) | 22 (2) | 163.2 (5.54) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.200 | 0.010 | 700 | 750 | 337.4 (5.03) | 22 (2) | 162.6 (5.03) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.79 (0.01) |
| 0.200 | 0.010 | 700 | 1000 | 337.2 (5.36) | 22.4 (1.82) | 162.8 (5.36) | 0.67 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.78 (0.01) |
| 0.200 | 0.010 | 1000 | 200 | 409.6 (7.8) | 39.8 (6.87) | 90.4 (7.8) | 0.82 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.010 | 1000 | 250 | 409.8 (7.43) | 39.8 (6.87) | 90.2 (7.43) | 0.82 (0.01) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.010 | 1000 | 500 | 410.6 (8.2) | 40.2 (6.69) | 89.4 (8.2) | 0.82 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.010 | 1000 | 750 | 411 (8.15) | 40.4 (6.91) | 89 (8.15) | 0.82 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.010 | 1000 | 1000 | 410.4 (8.35) | 40.4 (6.91) | 89.6 (8.35) | 0.82 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.050 | 375 | 200 | 235.2 (9.58) | 10 (3.54) | 264.8 (9.58) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.050 | 375 | 250 | 235.4 (9.48) | 10 (3.54) | 264.6 (9.48) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.050 | 375 | 500 | 236.2 (9.88) | 10 (3.54) | 263.8 (9.88) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.050 | 375 | 750 | 236.6 (10.06) | 10 (3.54) | 263.4 (10.06) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.050 | 375 | 1000 | 237.4 (10.5) | 10.2 (3.63) | 262.6 (10.5) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.050 | 700 | 200 | 343.6 (6.58) | 22.4 (2.19) | 156.4 (6.58) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 0.050 | 700 | 250 | 343.6 (6.58) | 22.4 (2.19) | 156.4 (6.58) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 0.050 | 700 | 500 | 344 (6.16) | 22.6 (2.19) | 156 (6.16) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 0.050 | 700 | 750 | 344.6 (5.64) | 22.6 (2.19) | 155.4 (5.64) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 0.050 | 700 | 1000 | 344.4 (5.94) | 23 (2.12) | 155.6 (5.94) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.79 (0.01) |
| 0.200 | 0.050 | 1000 | 200 | 414.6 (8.29) | 40.4 (7.4) | 85.4 (8.29) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.050 | 1000 | 250 | 414.6 (8.29) | 40.4 (7.4) | 85.4 (8.29) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.050 | 1000 | 500 | 415.4 (9.1) | 40.8 (7.22) | 84.6 (9.1) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.02) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.050 | 1000 | 750 | 415.8 (9.01) | 41 (7.45) | 84.2 (9.01) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.02) | 0.85 (0.01) | 0.88 (0.01) |
| 0.200 | 0.050 | 1000 | 1000 | 415.2 (9.31) | 41 (7.45) | 84.8 (9.31) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.02) | 0.85 (0.01) | 0.87 (0.01) |
| 0.200 | 0.100 | 375 | 200 | 235.6 (9.48) | 11 (3.54) | 264.4 (9.48) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.100 | 375 | 250 | 235.8 (9.36) | 11 (3.54) | 264.2 (9.36) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.100 | 375 | 500 | 236.6 (9.79) | 11 (3.54) | 263.4 (9.79) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.100 | 375 | 750 | 237 (9.95) | 11 (3.54) | 263 (9.95) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.100 | 375 | 1000 | 237.8 (10.35) | 11.2 (3.63) | 262.2 (10.35) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.200 | 0.100 | 700 | 200 | 345.2 (7.56) | 22.2 (2.28) | 154.8 (7.56) | 0.69 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.200 | 0.100 | 700 | 250 | 345.2 (7.56) | 22.2 (2.28) | 154.8 (7.56) | 0.69 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.200 | 0.100 | 700 | 500 | 345.6 (7.13) | 22.4 (2.3) | 154.4 (7.13) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.200 | 0.100 | 700 | 750 | 346.2 (6.61) | 22.4 (2.3) | 153.8 (6.61) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.200 | 0.100 | 700 | 1000 | 346 (6.93) | 22.8 (2.17) | 154 (6.93) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.200 | 0.100 | 1000 | 200 | 417.6 (8.38) | 40.6 (7.5) | 82.4 (8.38) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.200 | 0.100 | 1000 | 250 | 417.6 (8.38) | 40.6 (7.5) | 82.4 (8.38) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.200 | 0.100 | 1000 | 500 | 418.4 (9.21) | 41 (7.35) | 81.6 (9.21) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.200 | 0.100 | 1000 | 750 | 418.8 (9.09) | 41.2 (7.56) | 81.2 (9.09) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.200 | 0.100 | 1000 | 1000 | 418.4 (9.21) | 41.2 (7.56) | 81.6 (9.21) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.300 | 0.001 | 375 | 200 | 232.8 (9.44) | 9.6 (2.88) | 267.2 (9.44) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.300 | 0.001 | 375 | 250 | 232.8 (9.44) | 9.6 (2.88) | 267.2 (9.44) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.300 | 0.001 | 375 | 500 | 233.6 (9.81) | 9.6 (2.88) | 266.4 (9.81) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.300 | 0.001 | 375 | 750 | 234 (9.97) | 9.6 (2.88) | 266 (9.97) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.300 | 0.001 | 375 | 1000 | 234.8 (10.38) | 9.8 (2.95) | 265.2 (10.38) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.62 (0.02) |
| 0.300 | 0.001 | 700 | 200 | 341 (7.07) | 22.2 (1.64) | 159 (7.07) | 0.68 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.77 (0.01) | 0.79 (0.01) |
| 0.300 | 0.001 | 700 | 250 | 341 (7.07) | 22.2 (1.64) | 159 (7.07) | 0.68 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.77 (0.01) | 0.79 (0.01) |
| 0.300 | 0.001 | 700 | 500 | 341.4 (6.66) | 22.4 (1.67) | 158.6 (6.66) | 0.68 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.77 (0.01) | 0.79 (0.01) |
| 0.300 | 0.001 | 700 | 750 | 342 (6.16) | 22.4 (1.67) | 158 (6.16) | 0.68 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.77 (0.01) | 0.79 (0.01) |
| 0.300 | 0.001 | 700 | 1000 | 341.8 (6.46) | 22.8 (1.3) | 158.2 (6.46) | 0.68 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.77 (0.01) | 0.79 (0.01) |
| 0.300 | 0.001 | 1000 | 200 | 414.4 (8.71) | 40.8 (6.98) | 85.6 (8.71) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.300 | 0.001 | 1000 | 250 | 414.6 (8.44) | 40.8 (6.98) | 85.4 (8.44) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.300 | 0.001 | 1000 | 500 | 415.2 (9.12) | 41.2 (6.76) | 84.8 (9.12) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.02) | 0.85 (0.01) | 0.87 (0.01) |
| 0.300 | 0.001 | 1000 | 750 | 415.4 (8.85) | 41.4 (6.95) | 84.6 (8.85) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.300 | 0.001 | 1000 | 1000 | 415 (8.97) | 41.4 (6.95) | 85 (8.97) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.01) | 0.85 (0.01) | 0.87 (0.01) |
| 0.300 | 0.010 | 375 | 200 | 235.4 (9.04) | 9.6 (2.88) | 264.6 (9.04) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.300 | 0.010 | 375 | 250 | 235.6 (8.91) | 9.6 (2.88) | 264.4 (8.91) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.01) |
| 0.300 | 0.010 | 375 | 500 | 236.8 (9.86) | 9.6 (2.88) | 263.2 (9.86) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.010 | 375 | 750 | 237.2 (9.98) | 9.6 (2.88) | 262.8 (9.98) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.010 | 375 | 1000 | 238 (10.32) | 9.8 (2.95) | 262 (10.32) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.010 | 700 | 200 | 345.2 (6.72) | 22.2 (1.64) | 154.8 (6.72) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.010 | 700 | 250 | 345.2 (6.72) | 22.2 (1.64) | 154.8 (6.72) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.010 | 700 | 500 | 345.8 (6.5) | 22.4 (1.67) | 154.2 (6.5) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.010 | 700 | 750 | 346.4 (5.98) | 22.4 (1.67) | 153.6 (5.98) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.010 | 700 | 1000 | 346.2 (6.3) | 22.8 (1.3) | 153.8 (6.3) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.010 | 1000 | 200 | 421.4 (7.37) | 40.8 (6.98) | 78.6 (7.37) | 0.84 (0.01) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.300 | 0.010 | 1000 | 250 | 421.4 (7.37) | 40.8 (6.98) | 78.6 (7.37) | 0.84 (0.01) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.300 | 0.010 | 1000 | 500 | 422 (7.97) | 41.2 (6.76) | 78 (7.97) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.300 | 0.010 | 1000 | 750 | 422.4 (7.8) | 41.4 (6.95) | 77.6 (7.8) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.300 | 0.010 | 1000 | 1000 | 422 (7.97) | 41.4 (6.95) | 78 (7.97) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.300 | 0.050 | 375 | 200 | 236.4 (9.04) | 10.2 (3.11) | 263.6 (9.04) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.050 | 375 | 250 | 236.6 (8.91) | 10.2 (3.11) | 263.4 (8.91) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.01) |
| 0.300 | 0.050 | 375 | 500 | 237.8 (9.86) | 10.2 (3.11) | 262.2 (9.86) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.050 | 375 | 750 | 238.2 (9.98) | 10.2 (3.11) | 261.8 (9.98) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.050 | 375 | 1000 | 239 (10.32) | 10.4 (3.21) | 261 (10.32) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.050 | 700 | 200 | 347.2 (7.6) | 22.8 (1.79) | 152.8 (7.6) | 0.69 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.050 | 700 | 250 | 347.2 (7.6) | 22.8 (1.79) | 152.8 (7.6) | 0.69 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.050 | 700 | 500 | 347.6 (7.13) | 23 (1.73) | 152.4 (7.13) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.050 | 700 | 750 | 348.2 (6.61) | 23 (1.73) | 151.8 (6.61) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.050 | 700 | 1000 | 348 (6.89) | 23.4 (1.52) | 152 (6.89) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.050 | 1000 | 200 | 423.8 (7.79) | 41.4 (7.5) | 76.2 (7.79) | 0.85 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.050 | 1000 | 250 | 423.8 (7.79) | 41.4 (7.5) | 76.2 (7.79) | 0.85 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.050 | 1000 | 500 | 424.6 (8.56) | 41.8 (7.29) | 75.4 (8.56) | 0.85 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.050 | 1000 | 750 | 425 (8.43) | 42 (7.48) | 75 (8.43) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.050 | 1000 | 1000 | 424.6 (8.56) | 42 (7.48) | 75.4 (8.56) | 0.85 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.100 | 375 | 200 | 237 (9.57) | 11.2 (3.11) | 263 (9.57) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.300 | 0.100 | 375 | 250 | 237.2 (9.42) | 11.2 (3.11) | 262.8 (9.42) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.300 | 0.100 | 375 | 500 | 238.4 (10.33) | 11.2 (3.11) | 261.6 (10.33) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.100 | 375 | 750 | 238.8 (10.43) | 11.2 (3.11) | 261.2 (10.43) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.100 | 375 | 1000 | 239.6 (10.69) | 11.4 (3.21) | 260.4 (10.69) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.300 | 0.100 | 700 | 200 | 348.2 (8.04) | 22.8 (1.79) | 151.8 (8.04) | 0.7 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.100 | 700 | 250 | 348.2 (8.04) | 22.8 (1.79) | 151.8 (8.04) | 0.7 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.100 | 700 | 500 | 348.6 (7.57) | 23 (1.73) | 151.4 (7.57) | 0.7 (0.02) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.100 | 700 | 750 | 349.2 (7.05) | 23 (1.73) | 150.8 (7.05) | 0.7 (0.01) | 0.95 (0.01) | 0.78 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.100 | 700 | 1000 | 349 (7.31) | 23.4 (1.52) | 151 (7.31) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.300 | 0.100 | 1000 | 200 | 425.6 (7.99) | 41.6 (7.6) | 74.4 (7.99) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.100 | 1000 | 250 | 425.6 (7.99) | 41.6 (7.6) | 74.4 (7.99) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.100 | 1000 | 500 | 426.6 (8.5) | 42 (7.42) | 73.4 (8.5) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.100 | 1000 | 750 | 427 (8.4) | 42.2 (7.6) | 73 (8.4) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.300 | 0.100 | 1000 | 1000 | 426.6 (8.5) | 42.2 (7.6) | 73.4 (8.5) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.001 | 375 | 200 | 234.6 (9.48) | 9.6 (2.88) | 265.4 (9.48) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.400 | 0.001 | 375 | 250 | 234.8 (9.36) | 9.6 (2.88) | 265.2 (9.36) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.400 | 0.001 | 375 | 500 | 236 (10.3) | 9.6 (2.88) | 264 (10.3) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.400 | 0.001 | 375 | 750 | 236.4 (10.45) | 9.6 (2.88) | 263.6 (10.45) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.400 | 0.001 | 375 | 1000 | 237.2 (10.85) | 9.8 (2.95) | 262.8 (10.85) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.63 (0.01) | 0.63 (0.02) |
| 0.400 | 0.001 | 700 | 200 | 344.6 (6.23) | 22.6 (1.52) | 155.4 (6.23) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.001 | 700 | 250 | 344.6 (6.23) | 22.6 (1.52) | 155.4 (6.23) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.001 | 700 | 500 | 345.2 (5.97) | 22.8 (1.48) | 154.8 (5.97) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.001 | 700 | 750 | 345.8 (5.5) | 22.8 (1.48) | 154.2 (5.5) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.001 | 700 | 1000 | 345.6 (5.86) | 23.2 (1.1) | 154.4 (5.86) | 0.69 (0.01) | 0.95 (0) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.001 | 1000 | 200 | 419.2 (8.44) | 40.8 (6.98) | 80.8 (8.44) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.400 | 0.001 | 1000 | 250 | 419.2 (8.44) | 40.8 (6.98) | 80.8 (8.44) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.86 (0.01) | 0.88 (0.01) |
| 0.400 | 0.001 | 1000 | 500 | 420 (9.22) | 41.2 (6.76) | 80 (9.22) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.400 | 0.001 | 1000 | 750 | 420.2 (8.93) | 41.4 (6.95) | 79.8 (8.93) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.400 | 0.001 | 1000 | 1000 | 419.8 (9.04) | 41.4 (6.95) | 80.2 (9.04) | 0.84 (0.02) | 0.93 (0.01) | 0.87 (0.02) | 0.86 (0.01) | 0.88 (0.01) |
| 0.400 | 0.010 | 375 | 200 | 235.8 (9.18) | 9.6 (2.88) | 264.2 (9.18) | 0.47 (0.02) | 0.96 (0.01) | 0.61 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.010 | 375 | 250 | 236 (9.06) | 9.6 (2.88) | 264 (9.06) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.010 | 375 | 500 | 237.2 (9.98) | 9.6 (2.88) | 262.8 (9.98) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.010 | 375 | 750 | 237.6 (10.11) | 9.6 (2.88) | 262.4 (10.11) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.010 | 375 | 1000 | 238.4 (10.45) | 9.8 (2.95) | 261.6 (10.45) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.010 | 700 | 200 | 346.4 (5.94) | 22.6 (1.52) | 153.6 (5.94) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.010 | 700 | 250 | 346.4 (5.94) | 22.6 (1.52) | 153.6 (5.94) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.010 | 700 | 500 | 347 (5.7) | 22.8 (1.48) | 153 (5.7) | 0.69 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.010 | 700 | 750 | 347.6 (5.22) | 22.8 (1.48) | 152.4 (5.22) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.010 | 700 | 1000 | 347.4 (5.59) | 23.2 (1.1) | 152.6 (5.59) | 0.69 (0.01) | 0.95 (0) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.010 | 1000 | 200 | 423.6 (8.5) | 40.8 (6.98) | 76.4 (8.5) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.010 | 1000 | 250 | 423.6 (8.5) | 40.8 (6.98) | 76.4 (8.5) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.010 | 1000 | 500 | 424.4 (9.24) | 41.2 (6.76) | 75.6 (9.24) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.02) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.010 | 1000 | 750 | 424.8 (9.09) | 41.4 (6.95) | 75.2 (9.09) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.02) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.010 | 1000 | 1000 | 424.4 (9.24) | 41.4 (6.95) | 75.6 (9.24) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.02) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.050 | 375 | 200 | 237.4 (9.63) | 10.2 (3.11) | 262.6 (9.63) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.050 | 375 | 250 | 237.6 (9.5) | 10.2 (3.11) | 262.4 (9.5) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.050 | 375 | 500 | 238.8 (10.43) | 10.2 (3.11) | 261.2 (10.43) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.050 | 375 | 750 | 239.2 (10.55) | 10.2 (3.11) | 260.8 (10.55) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.050 | 375 | 1000 | 240 (10.86) | 10.4 (3.21) | 260 (10.86) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.050 | 700 | 200 | 348.8 (6.94) | 23.2 (1.64) | 151.2 (6.94) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.050 | 700 | 250 | 348.8 (6.94) | 23.2 (1.64) | 151.2 (6.94) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.050 | 700 | 500 | 349.4 (6.73) | 23.4 (1.52) | 150.6 (6.73) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.050 | 700 | 750 | 350 (6.2) | 23.4 (1.52) | 150 (6.2) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.050 | 700 | 1000 | 349.8 (6.5) | 23.8 (1.3) | 150.2 (6.5) | 0.7 (0.01) | 0.95 (0) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.050 | 1000 | 200 | 426.4 (7.37) | 41.4 (7.5) | 73.6 (7.37) | 0.85 (0.01) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.050 | 1000 | 250 | 426.4 (7.37) | 41.4 (7.5) | 73.6 (7.37) | 0.85 (0.01) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.050 | 1000 | 500 | 427.2 (8.04) | 41.8 (7.29) | 72.8 (8.04) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.050 | 1000 | 750 | 427.6 (7.89) | 42 (7.48) | 72.4 (7.89) | 0.86 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.050 | 1000 | 1000 | 427.2 (8.04) | 42 (7.48) | 72.8 (8.04) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.100 | 375 | 200 | 237.4 (9.63) | 11.2 (3.11) | 262.6 (9.63) | 0.47 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.100 | 375 | 250 | 237.6 (9.5) | 11.2 (3.11) | 262.4 (9.5) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.100 | 375 | 500 | 238.8 (10.43) | 11.2 (3.11) | 261.2 (10.43) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.100 | 375 | 750 | 239.2 (10.55) | 11.2 (3.11) | 260.8 (10.55) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.100 | 375 | 1000 | 240 (10.86) | 11.4 (3.21) | 260 (10.86) | 0.48 (0.02) | 0.96 (0.01) | 0.62 (0.01) | 0.64 (0.01) | 0.63 (0.02) |
| 0.400 | 0.100 | 700 | 200 | 349.2 (7.12) | 23.2 (1.64) | 150.8 (7.12) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.100 | 700 | 250 | 349.2 (7.12) | 23.2 (1.64) | 150.8 (7.12) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.100 | 700 | 500 | 349.8 (6.91) | 23.4 (1.52) | 150.2 (6.91) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.100 | 700 | 750 | 350.4 (6.39) | 23.4 (1.52) | 149.6 (6.39) | 0.7 (0.01) | 0.95 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.100 | 700 | 1000 | 350.2 (6.69) | 23.8 (1.3) | 149.8 (6.69) | 0.7 (0.01) | 0.95 (0) | 0.77 (0.01) | 0.78 (0.01) | 0.8 (0.01) |
| 0.400 | 0.100 | 1000 | 200 | 426.8 (7.46) | 41.6 (7.6) | 73.2 (7.46) | 0.85 (0.01) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.100 | 1000 | 250 | 426.8 (7.46) | 41.6 (7.6) | 73.2 (7.46) | 0.85 (0.01) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.100 | 1000 | 500 | 427.6 (8.14) | 42 (7.42) | 72.4 (8.14) | 0.86 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.100 | 1000 | 750 | 428 (8) | 42.2 (7.6) | 72 (8) | 0.86 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |
| 0.400 | 0.100 | 1000 | 1000 | 427.6 (8.14) | 42.2 (7.6) | 72.4 (8.14) | 0.86 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) |

## Bumphunter

This table shows the average performance of the Bumphunter method at each .

bump\_tab <-  
 bumphunterRes\_df %>%  
 select(delta, seed, cutoffQ, maxGap,  
 TP, FP, FN, power, precision, AuPR, mcc, F1) %>%   
 filter(delta > 0) %>%   
 group\_by(delta, cutoffQ, maxGap) %>%  
 summarise(  
 TP = CalcMeanSD(TP),  
 FP = CalcMeanSD(FP),  
 FN = CalcMeanSD(FN),  
 Pwr = CalcMeanSD(power),  
 Precis = CalcMeanSD(precision),  
 AuPR = CalcMeanSD(AuPR),  
 MCC = CalcMeanSD(mcc),  
 F1 = CalcMeanSD(F1)  
 )  
  
# write\_csv(bump\_tab, path = "../resultsData/Bumphunter\_total\_results.csv")  
bump\_tab %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | cutoffQ | maxGap | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 |
| 0.025 | 0.90 | 200 | 188.8 (8.26) | 100.4 (6.54) | 311.2 (8.26) | 0.38 (0.02) | 0.58 (0.02) | 0.42 (0.01) | 0.41 (0.02) | 0.49 (0.02) |
| 0.025 | 0.90 | 250 | 197.4 (9.13) | 120.4 (5.86) | 302.6 (9.13) | 0.39 (0.02) | 0.53 (0.02) | 0.41 (0.02) | 0.39 (0.02) | 0.49 (0.02) |
| 0.025 | 0.90 | 500 | 199.4 (9.79) | 156.6 (4.93) | 300.6 (9.79) | 0.4 (0.02) | 0.46 (0.02) | 0.39 (0.02) | 0.34 (0.02) | 0.46 (0.02) |
| 0.025 | 0.90 | 750 | 200 (10.02) | 167.6 (12.9) | 300 (10.02) | 0.4 (0.02) | 0.42 (0.02) | 0.38 (0.02) | 0.32 (0.02) | 0.44 (0.02) |
| 0.025 | 0.90 | 1000 | 192 (8.51) | 164.2 (11.8) | 308 (8.51) | 0.38 (0.02) | 0.41 (0.03) | 0.37 (0.02) | 0.31 (0.03) | 0.43 (0.02) |
| 0.025 | 0.95 | 200 | 144 (6.36) | 58.2 (2.28) | 356 (6.36) | 0.29 (0.01) | 0.67 (0.02) | 0.38 (0.01) | 0.4 (0.02) | 0.44 (0.02) |
| 0.025 | 0.95 | 250 | 144 (7.87) | 68.8 (3.27) | 356 (7.87) | 0.29 (0.02) | 0.63 (0.02) | 0.36 (0.02) | 0.38 (0.02) | 0.44 (0.02) |
| 0.025 | 0.95 | 500 | 138.4 (8.08) | 83.2 (7.73) | 361.6 (8.08) | 0.28 (0.02) | 0.57 (0.03) | 0.34 (0.02) | 0.35 (0.02) | 0.41 (0.02) |
| 0.025 | 0.95 | 750 | 139.2 (6.22) | 93.4 (4.04) | 360.8 (6.22) | 0.28 (0.01) | 0.53 (0.03) | 0.34 (0.02) | 0.33 (0.02) | 0.41 (0.02) |
| 0.025 | 0.95 | 1000 | 134.4 (7.4) | 84.4 (4.39) | 365.6 (7.4) | 0.27 (0.01) | 0.54 (0.03) | 0.33 (0.02) | 0.33 (0.02) | 0.4 (0.02) |
| 0.025 | 0.99 | 200 | 52.4 (5.94) | 13 (2.45) | 447.6 (5.94) | 0.1 (0.01) | 0.8 (0.03) | 0.26 (0.01) | 0.27 (0.02) | 0.21 (0.02) |
| 0.025 | 0.99 | 250 | 54.2 (4.21) | 18.2 (2.68) | 445.8 (4.21) | 0.11 (0.01) | 0.75 (0.03) | 0.26 (0.01) | 0.26 (0.02) | 0.21 (0.02) |
| 0.025 | 0.99 | 500 | 50.2 (1.3) | 21 (1.87) | 449.8 (1.3) | 0.1 (0) | 0.67 (0.01) | 0.24 (0) | 0.23 (0.01) | 0.2 (0.01) |
| 0.025 | 0.99 | 750 | 50.8 (4.76) | 24 (2.55) | 449.2 (4.76) | 0.1 (0.01) | 0.66 (0.02) | 0.24 (0.01) | 0.23 (0.02) | 0.2 (0.02) |
| 0.025 | 0.99 | 1000 | 47.4 (4.16) | 23.6 (2.97) | 452.6 (4.16) | 0.09 (0.01) | 0.65 (0.02) | 0.24 (0.01) | 0.22 (0.01) | 0.19 (0.02) |
| 0.050 | 0.90 | 200 | 272.2 (8.32) | 99 (5.87) | 227.8 (8.32) | 0.54 (0.02) | 0.68 (0.02) | 0.59 (0.01) | 0.57 (0.02) | 0.64 (0.02) |
| 0.050 | 0.90 | 250 | 281.4 (10.14) | 120.8 (6.22) | 218.6 (10.14) | 0.56 (0.02) | 0.63 (0.02) | 0.58 (0.02) | 0.55 (0.02) | 0.63 (0.02) |
| 0.050 | 0.90 | 500 | 289.4 (9.32) | 159 (4) | 210.6 (9.32) | 0.58 (0.02) | 0.56 (0.02) | 0.56 (0.02) | 0.51 (0.02) | 0.6 (0.01) |
| 0.050 | 0.90 | 750 | 285.4 (7.92) | 168.4 (13.85) | 214.6 (7.92) | 0.57 (0.02) | 0.53 (0.02) | 0.54 (0.02) | 0.48 (0.02) | 0.58 (0.02) |
| 0.050 | 0.90 | 1000 | 278.4 (5.59) | 168.2 (10.47) | 221.6 (5.59) | 0.56 (0.01) | 0.52 (0.02) | 0.53 (0.02) | 0.47 (0.02) | 0.57 (0.02) |
| 0.050 | 0.95 | 200 | 240 (13.82) | 55.4 (2.41) | 260 (13.82) | 0.48 (0.03) | 0.78 (0.01) | 0.57 (0.02) | 0.59 (0.02) | 0.63 (0.02) |
| 0.050 | 0.95 | 250 | 247.6 (10.92) | 68.4 (3.36) | 252.4 (10.92) | 0.5 (0.02) | 0.75 (0.02) | 0.56 (0.02) | 0.58 (0.02) | 0.63 (0.02) |
| 0.050 | 0.95 | 500 | 238.6 (10.01) | 81.4 (6.11) | 261.4 (10.01) | 0.48 (0.02) | 0.71 (0.03) | 0.52 (0.02) | 0.55 (0.02) | 0.61 (0.02) |
| 0.050 | 0.95 | 750 | 239.4 (9.21) | 92 (6.52) | 260.6 (9.21) | 0.48 (0.02) | 0.67 (0.02) | 0.52 (0.02) | 0.53 (0.02) | 0.6 (0.02) |
| 0.050 | 0.95 | 1000 | 227.8 (8.35) | 85 (5.1) | 272.2 (8.35) | 0.46 (0.02) | 0.68 (0.03) | 0.5 (0.02) | 0.52 (0.02) | 0.59 (0.02) |
| 0.050 | 0.99 | 200 | 136.2 (14.52) | 12.4 (2.97) | 363.8 (14.52) | 0.27 (0.03) | 0.92 (0.01) | 0.43 (0.02) | 0.49 (0.02) | 0.46 (0.04) |
| 0.050 | 0.99 | 250 | 138.8 (11.21) | 18 (2.45) | 361.2 (11.21) | 0.28 (0.02) | 0.89 (0.01) | 0.42 (0.02) | 0.49 (0.02) | 0.47 (0.03) |
| 0.050 | 0.99 | 500 | 128 (7.87) | 22 (2) | 372 (7.87) | 0.26 (0.02) | 0.84 (0.01) | 0.39 (0.01) | 0.45 (0.02) | 0.43 (0.03) |
| 0.050 | 0.99 | 750 | 126.8 (9.28) | 24.4 (3.44) | 373.2 (9.28) | 0.25 (0.02) | 0.83 (0.02) | 0.39 (0.02) | 0.44 (0.02) | 0.43 (0.03) |
| 0.050 | 0.99 | 1000 | 122.4 (9.74) | 24.4 (2.7) | 377.6 (9.74) | 0.24 (0.02) | 0.83 (0.02) | 0.38 (0.02) | 0.43 (0.03) | 0.42 (0.03) |
| 0.100 | 0.90 | 200 | 277.6 (9.58) | 97.2 (4.76) | 222.4 (9.58) | 0.56 (0.02) | 0.7 (0.02) | 0.64 (0.01) | 0.59 (0.02) | 0.66 (0.02) |
| 0.100 | 0.90 | 250 | 287.4 (11.72) | 116.6 (5.03) | 212.6 (11.72) | 0.57 (0.02) | 0.67 (0.02) | 0.64 (0.02) | 0.58 (0.02) | 0.65 (0.02) |
| 0.100 | 0.90 | 500 | 299.4 (9.91) | 153.4 (5.03) | 200.6 (9.91) | 0.6 (0.02) | 0.6 (0.02) | 0.64 (0.02) | 0.55 (0.02) | 0.64 (0.02) |
| 0.100 | 0.90 | 750 | 297.4 (7.4) | 165.2 (12.72) | 202.6 (7.4) | 0.59 (0.01) | 0.58 (0.02) | 0.63 (0.02) | 0.53 (0.02) | 0.62 (0.02) |
| 0.100 | 0.90 | 1000 | 291.8 (4.97) | 162.8 (10.94) | 208.2 (4.97) | 0.58 (0.01) | 0.57 (0.03) | 0.62 (0.01) | 0.52 (0.02) | 0.61 (0.02) |
| 0.100 | 0.95 | 200 | 271.6 (10.57) | 53 (2.45) | 228.4 (10.57) | 0.54 (0.02) | 0.82 (0.01) | 0.64 (0.01) | 0.65 (0.02) | 0.7 (0.02) |
| 0.100 | 0.95 | 250 | 280.2 (11.73) | 65.6 (2.88) | 219.8 (11.73) | 0.56 (0.02) | 0.79 (0.02) | 0.64 (0.02) | 0.65 (0.02) | 0.7 (0.02) |
| 0.100 | 0.95 | 500 | 281.8 (11.39) | 78.2 (5.4) | 218.2 (11.39) | 0.56 (0.02) | 0.76 (0.02) | 0.63 (0.02) | 0.63 (0.03) | 0.69 (0.02) |
| 0.100 | 0.95 | 750 | 275.8 (9.6) | 87 (5.92) | 224.2 (9.6) | 0.55 (0.02) | 0.74 (0.02) | 0.62 (0.02) | 0.61 (0.02) | 0.68 (0.02) |
| 0.100 | 0.95 | 1000 | 269.2 (9.09) | 84 (4.18) | 230.8 (9.09) | 0.54 (0.02) | 0.74 (0.03) | 0.61 (0.02) | 0.61 (0.03) | 0.67 (0.02) |
| 0.100 | 0.99 | 200 | 243.8 (19.24) | 9 (3) | 256.2 (19.24) | 0.49 (0.04) | 0.97 (0.01) | 0.62 (0.03) | 0.68 (0.03) | 0.69 (0.03) |
| 0.100 | 0.99 | 250 | 252 (19.99) | 13.8 (3.19) | 248 (19.99) | 0.5 (0.04) | 0.95 (0.01) | 0.63 (0.03) | 0.69 (0.03) | 0.7 (0.03) |
| 0.100 | 0.99 | 500 | 244.4 (16.89) | 17.8 (2.59) | 255.6 (16.89) | 0.49 (0.03) | 0.93 (0.01) | 0.61 (0.02) | 0.66 (0.03) | 0.68 (0.03) |
| 0.100 | 0.99 | 750 | 234 (8.75) | 19.2 (4.76) | 266 (8.75) | 0.47 (0.02) | 0.92 (0.02) | 0.59 (0.02) | 0.65 (0.02) | 0.66 (0.02) |
| 0.100 | 0.99 | 1000 | 220.8 (14.17) | 21.2 (1.92) | 279.2 (14.17) | 0.44 (0.03) | 0.91 (0) | 0.57 (0.02) | 0.62 (0.02) | 0.64 (0.03) |
| 0.150 | 0.90 | 200 | 277.8 (9.44) | 92 (6.78) | 222.2 (9.44) | 0.56 (0.02) | 0.72 (0.02) | 0.66 (0.01) | 0.6 (0.02) | 0.67 (0.02) |
| 0.150 | 0.90 | 250 | 287.2 (11.56) | 112.4 (6.31) | 212.8 (11.56) | 0.57 (0.02) | 0.68 (0.02) | 0.66 (0.02) | 0.59 (0.02) | 0.66 (0.02) |
| 0.150 | 0.90 | 500 | 299.2 (10.31) | 145.2 (5.93) | 200.8 (10.31) | 0.6 (0.02) | 0.62 (0.02) | 0.66 (0.02) | 0.56 (0.02) | 0.65 (0.01) |
| 0.150 | 0.90 | 750 | 297.2 (8.44) | 156.8 (11.69) | 202.8 (8.44) | 0.59 (0.02) | 0.6 (0.02) | 0.65 (0.02) | 0.55 (0.02) | 0.63 (0.01) |
| 0.150 | 0.90 | 1000 | 292.6 (5.32) | 152.2 (11.19) | 207.4 (5.32) | 0.59 (0.01) | 0.59 (0.03) | 0.64 (0.01) | 0.53 (0.02) | 0.62 (0.02) |
| 0.150 | 0.95 | 200 | 271.8 (10.76) | 49 (4.18) | 228.2 (10.76) | 0.54 (0.02) | 0.84 (0.01) | 0.66 (0.01) | 0.66 (0.01) | 0.71 (0.02) |
| 0.150 | 0.95 | 250 | 280.6 (11.95) | 63.2 (2.86) | 219.4 (11.95) | 0.56 (0.02) | 0.8 (0.02) | 0.66 (0.02) | 0.65 (0.02) | 0.7 (0.02) |
| 0.150 | 0.95 | 500 | 282 (11.9) | 73.6 (4.98) | 218 (11.9) | 0.56 (0.02) | 0.78 (0.03) | 0.65 (0.02) | 0.64 (0.03) | 0.7 (0.02) |
| 0.150 | 0.95 | 750 | 276.8 (9.2) | 83 (6.44) | 223.2 (9.2) | 0.55 (0.02) | 0.76 (0.03) | 0.64 (0.02) | 0.63 (0.03) | 0.69 (0.02) |
| 0.150 | 0.95 | 1000 | 270 (8.75) | 80 (4.64) | 230 (8.75) | 0.54 (0.02) | 0.75 (0.03) | 0.63 (0.02) | 0.62 (0.03) | 0.68 (0.02) |
| 0.150 | 0.99 | 200 | 256.2 (15.47) | 7.6 (1.82) | 243.8 (15.47) | 0.51 (0.03) | 0.97 (0) | 0.64 (0.02) | 0.71 (0.02) | 0.72 (0.03) |
| 0.150 | 0.99 | 250 | 260.4 (14.54) | 11.2 (3.49) | 239.6 (14.54) | 0.52 (0.03) | 0.96 (0.01) | 0.65 (0.02) | 0.71 (0.02) | 0.72 (0.03) |
| 0.150 | 0.99 | 500 | 254.6 (16.61) | 14 (3.67) | 245.4 (16.61) | 0.51 (0.03) | 0.95 (0.01) | 0.63 (0.02) | 0.69 (0.02) | 0.7 (0.03) |
| 0.150 | 0.99 | 750 | 243.2 (7.56) | 16.2 (4.09) | 256.8 (7.56) | 0.49 (0.02) | 0.94 (0.02) | 0.61 (0.01) | 0.67 (0.02) | 0.69 (0.02) |
| 0.150 | 0.99 | 1000 | 233 (15.87) | 17.2 (0.84) | 267 (15.87) | 0.47 (0.03) | 0.93 (0) | 0.6 (0.02) | 0.65 (0.03) | 0.67 (0.03) |
| 0.200 | 0.90 | 200 | 277.4 (9.24) | 85.4 (6.31) | 222.6 (9.24) | 0.55 (0.02) | 0.74 (0.02) | 0.66 (0.01) | 0.61 (0.02) | 0.68 (0.02) |
| 0.200 | 0.90 | 250 | 287 (11.36) | 105.6 (6.07) | 213 (11.36) | 0.57 (0.02) | 0.7 (0.02) | 0.67 (0.02) | 0.6 (0.02) | 0.67 (0.02) |
| 0.200 | 0.90 | 500 | 298.8 (10.31) | 136.4 (6.11) | 201.2 (10.31) | 0.6 (0.02) | 0.64 (0.02) | 0.67 (0.02) | 0.57 (0.02) | 0.66 (0.01) |
| 0.200 | 0.90 | 750 | 297 (8.25) | 146 (9.51) | 203 (8.25) | 0.59 (0.02) | 0.62 (0.02) | 0.67 (0.02) | 0.56 (0.02) | 0.65 (0.02) |
| 0.200 | 0.90 | 1000 | 292.2 (5.54) | 145 (8.83) | 207.8 (5.54) | 0.58 (0.01) | 0.61 (0.03) | 0.66 (0.01) | 0.55 (0.02) | 0.63 (0.02) |
| 0.200 | 0.95 | 200 | 272 (10.65) | 45.6 (3.13) | 228 (10.65) | 0.54 (0.02) | 0.85 (0.01) | 0.66 (0.02) | 0.67 (0.02) | 0.71 (0.02) |
| 0.200 | 0.95 | 250 | 280.2 (11.78) | 62 (3.16) | 219.8 (11.78) | 0.56 (0.02) | 0.81 (0.02) | 0.67 (0.02) | 0.66 (0.02) | 0.71 (0.02) |
| 0.200 | 0.95 | 500 | 281.4 (12.18) | 68.4 (6.54) | 218.6 (12.18) | 0.56 (0.02) | 0.8 (0.03) | 0.66 (0.02) | 0.65 (0.03) | 0.71 (0.02) |
| 0.200 | 0.95 | 750 | 277.2 (9.68) | 75.8 (8.11) | 222.8 (9.68) | 0.55 (0.02) | 0.77 (0.03) | 0.65 (0.02) | 0.64 (0.03) | 0.69 (0.02) |
| 0.200 | 0.95 | 1000 | 268.6 (9.21) | 76 (5.48) | 231.4 (9.21) | 0.54 (0.02) | 0.77 (0.03) | 0.64 (0.02) | 0.62 (0.03) | 0.68 (0.02) |
| 0.200 | 0.99 | 200 | 260 (16.03) | 7.4 (1.95) | 240 (16.03) | 0.52 (0.03) | 0.98 (0) | 0.65 (0.02) | 0.71 (0.02) | 0.73 (0.03) |
| 0.200 | 0.99 | 250 | 263.6 (15.31) | 9.6 (1.95) | 236.4 (15.31) | 0.53 (0.03) | 0.97 (0) | 0.66 (0.02) | 0.71 (0.02) | 0.73 (0.03) |
| 0.200 | 0.99 | 500 | 258.6 (19.1) | 13 (3.32) | 241.4 (19.1) | 0.52 (0.04) | 0.95 (0.01) | 0.64 (0.03) | 0.7 (0.03) | 0.72 (0.03) |
| 0.200 | 0.99 | 750 | 246.6 (7.3) | 14 (3.54) | 253.4 (7.3) | 0.49 (0.01) | 0.95 (0.01) | 0.62 (0.01) | 0.68 (0.01) | 0.7 (0.01) |
| 0.200 | 0.99 | 1000 | 237.6 (14.01) | 15.8 (0.84) | 262.4 (14.01) | 0.48 (0.03) | 0.94 (0) | 0.61 (0.02) | 0.67 (0.02) | 0.68 (0.03) |
| 0.300 | 0.90 | 200 | 277.4 (9.24) | 79.8 (4.44) | 222.6 (9.24) | 0.55 (0.02) | 0.75 (0.02) | 0.67 (0.01) | 0.62 (0.02) | 0.68 (0.02) |
| 0.300 | 0.90 | 250 | 286.8 (11.3) | 96.8 (4.27) | 213.2 (11.3) | 0.57 (0.02) | 0.72 (0.02) | 0.68 (0.02) | 0.61 (0.02) | 0.68 (0.02) |
| 0.300 | 0.90 | 500 | 298.6 (10.11) | 126.8 (3.7) | 201.4 (10.11) | 0.6 (0.02) | 0.66 (0.02) | 0.69 (0.02) | 0.59 (0.02) | 0.67 (0.01) |
| 0.300 | 0.90 | 750 | 296.4 (7.92) | 135.2 (10.76) | 203.6 (7.92) | 0.59 (0.02) | 0.65 (0.02) | 0.68 (0.01) | 0.58 (0.02) | 0.66 (0.02) |
| 0.300 | 0.90 | 1000 | 291.2 (5.97) | 136.6 (8.35) | 208.8 (5.97) | 0.58 (0.01) | 0.64 (0.03) | 0.67 (0.01) | 0.56 (0.03) | 0.65 (0.02) |
| 0.300 | 0.95 | 200 | 272 (10.65) | 42.2 (3.63) | 228 (10.65) | 0.54 (0.02) | 0.87 (0.01) | 0.67 (0.02) | 0.68 (0.02) | 0.72 (0.02) |
| 0.300 | 0.95 | 250 | 280.2 (11.78) | 57 (5.15) | 219.8 (11.78) | 0.56 (0.02) | 0.82 (0.02) | 0.68 (0.02) | 0.67 (0.02) | 0.71 (0.02) |
| 0.300 | 0.95 | 500 | 281.2 (12.28) | 58.6 (4.93) | 218.8 (12.28) | 0.56 (0.02) | 0.83 (0.03) | 0.67 (0.02) | 0.67 (0.03) | 0.72 (0.02) |
| 0.300 | 0.95 | 750 | 276.6 (9.53) | 65.6 (8.2) | 223.4 (9.53) | 0.55 (0.02) | 0.81 (0.03) | 0.66 (0.02) | 0.65 (0.03) | 0.7 (0.02) |
| 0.300 | 0.95 | 1000 | 268 (8.94) | 69 (5.92) | 232 (8.94) | 0.54 (0.02) | 0.8 (0.04) | 0.65 (0.02) | 0.64 (0.03) | 0.69 (0.02) |
| 0.300 | 0.99 | 200 | 261.6 (14.67) | 5.6 (1.67) | 238.4 (14.67) | 0.52 (0.03) | 0.98 (0) | 0.66 (0.02) | 0.72 (0.02) | 0.73 (0.03) |
| 0.300 | 0.99 | 250 | 266 (16.32) | 8.6 (2.61) | 234 (16.32) | 0.53 (0.03) | 0.97 (0.01) | 0.66 (0.02) | 0.72 (0.02) | 0.73 (0.03) |
| 0.300 | 0.99 | 500 | 261.8 (16.66) | 11.2 (3.42) | 238.2 (16.66) | 0.52 (0.03) | 0.96 (0.01) | 0.65 (0.02) | 0.71 (0.02) | 0.73 (0.03) |
| 0.300 | 0.99 | 750 | 253 (11.14) | 12.4 (3.58) | 247 (11.14) | 0.51 (0.02) | 0.96 (0.01) | 0.64 (0.02) | 0.7 (0.02) | 0.72 (0.02) |
| 0.300 | 0.99 | 1000 | 241.8 (13.22) | 14.4 (1.14) | 258.2 (13.22) | 0.48 (0.03) | 0.95 (0.01) | 0.62 (0.02) | 0.68 (0.02) | 0.69 (0.02) |
| 0.400 | 0.90 | 200 | 277.4 (9.24) | 77 (3.54) | 222.6 (9.24) | 0.55 (0.02) | 0.77 (0.02) | 0.67 (0.01) | 0.63 (0.02) | 0.69 (0.02) |
| 0.400 | 0.90 | 250 | 286.8 (11.3) | 94.2 (3.7) | 213.2 (11.3) | 0.57 (0.02) | 0.73 (0.02) | 0.68 (0.02) | 0.62 (0.02) | 0.68 (0.02) |
| 0.400 | 0.90 | 500 | 298.6 (10.11) | 120.8 (4.15) | 201.4 (10.11) | 0.6 (0.02) | 0.68 (0.02) | 0.69 (0.02) | 0.6 (0.02) | 0.68 (0.01) |
| 0.400 | 0.90 | 750 | 296.2 (7.95) | 128 (9.35) | 203.8 (7.95) | 0.59 (0.02) | 0.68 (0.02) | 0.69 (0.01) | 0.6 (0.02) | 0.67 (0.02) |
| 0.400 | 0.90 | 1000 | 291 (6) | 129.6 (7.4) | 209 (6) | 0.58 (0.01) | 0.66 (0.03) | 0.68 (0.01) | 0.58 (0.03) | 0.66 (0.02) |
| 0.400 | 0.95 | 200 | 271.8 (10.73) | 37.4 (4.45) | 228.2 (10.73) | 0.54 (0.02) | 0.89 (0.02) | 0.67 (0.02) | 0.69 (0.02) | 0.72 (0.02) |
| 0.400 | 0.95 | 250 | 280 (11.83) | 51.6 (6.15) | 220 (11.83) | 0.56 (0.02) | 0.84 (0.03) | 0.68 (0.02) | 0.68 (0.03) | 0.72 (0.02) |
| 0.400 | 0.95 | 500 | 281.2 (12.28) | 52.4 (3.71) | 218.8 (12.28) | 0.56 (0.02) | 0.85 (0.02) | 0.68 (0.02) | 0.69 (0.02) | 0.73 (0.02) |
| 0.400 | 0.95 | 750 | 276 (9.51) | 59.4 (7.3) | 224 (9.51) | 0.55 (0.02) | 0.83 (0.03) | 0.67 (0.02) | 0.67 (0.03) | 0.71 (0.02) |
| 0.400 | 0.95 | 1000 | 267.2 (8.53) | 61.6 (7.92) | 232.8 (8.53) | 0.53 (0.02) | 0.82 (0.04) | 0.65 (0.01) | 0.65 (0.03) | 0.7 (0.03) |
| 0.400 | 0.99 | 200 | 262 (14.27) | 5 (2) | 238 (14.27) | 0.52 (0.03) | 0.98 (0.01) | 0.66 (0.02) | 0.72 (0.02) | 0.73 (0.02) |
| 0.400 | 0.99 | 250 | 267.6 (14.74) | 8.2 (2.39) | 232.4 (14.74) | 0.54 (0.03) | 0.98 (0.01) | 0.67 (0.02) | 0.73 (0.02) | 0.74 (0.02) |
| 0.400 | 0.99 | 500 | 263.6 (14.1) | 10 (3.39) | 236.4 (14.1) | 0.53 (0.03) | 0.97 (0.01) | 0.66 (0.02) | 0.72 (0.02) | 0.73 (0.02) |
| 0.400 | 0.99 | 750 | 254.6 (9.76) | 11.8 (4.02) | 245.4 (9.76) | 0.51 (0.02) | 0.96 (0.02) | 0.65 (0.02) | 0.71 (0.02) | 0.72 (0.02) |
| 0.400 | 0.99 | 1000 | 242.8 (12.28) | 12.6 (2.41) | 257.2 (12.28) | 0.49 (0.02) | 0.96 (0.01) | 0.63 (0.02) | 0.69 (0.02) | 0.7 (0.02) |

## Comb-p

This table shows the average performance of the Comb-p method at each .

comb\_tab <-  
 combpRes\_df %>%  
 select(delta, method, seed, combSeed, combDist,  
 TP, FP, FN, power, precision, AuPR, mcc, F1, time) %>%   
 filter(delta > 0) %>%   
 group\_by(delta, combSeed, combDist) %>%  
 summarise(  
 method = "Comb-p",  
 TP = CalcMeanSD(TP),  
 FP = CalcMeanSD(FP),  
 FN = CalcMeanSD(FN),  
 Pwr = CalcMeanSD(power),  
 Precis = CalcMeanSD(precision),  
 AuPR = CalcMeanSD(AuPR),  
 MCC = CalcMeanSD(mcc),  
 F1 = CalcMeanSD(F1),  
 time = CalcMeanSD(time)  
 )  
  
# write\_csv(comb\_tab, path = "../resultsData/Combp\_total\_results.csv")  
comb\_tab %>%   
 select(-method) %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | seed | dist | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 | time |
| 0.025 | 0.001 | 200 | 101 (10.02) | 0.4 (0.55) | 399 (10.02) | 0.2 (0.02) | 1 (0.01) | 0.39 (0.02) | 0.42 (0.02) | 0.34 (0.03) | 54.77 (0.54) |
| 0.025 | 0.001 | 250 | 109.2 (10.99) | 1.2 (0.84) | 390.8 (10.99) | 0.22 (0.02) | 0.99 (0) | 0.4 (0.02) | 0.43 (0.02) | 0.36 (0.03) | 54.77 (0.91) |
| 0.025 | 0.001 | 500 | 125 (9.64) | 3.4 (1.14) | 375 (9.64) | 0.25 (0.02) | 0.98 (0.01) | 0.43 (0.02) | 0.46 (0.02) | 0.39 (0.03) | 55.22 (0.75) |
| 0.025 | 0.001 | 750 | 123.8 (12.42) | 5.6 (1.82) | 376.2 (12.42) | 0.25 (0.02) | 0.96 (0.01) | 0.42 (0.02) | 0.45 (0.03) | 0.39 (0.03) | 55.13 (0.62) |
| 0.025 | 0.001 | 1000 | 122.2 (12.11) | 7.6 (1.95) | 377.8 (12.11) | 0.24 (0.02) | 0.95 (0.01) | 0.42 (0.02) | 0.44 (0.02) | 0.38 (0.03) | 56.75 (3.41) |
| 0.025 | 0.010 | 200 | 120.8 (10.89) | 1 (0.71) | 379.2 (10.89) | 0.24 (0.02) | 0.99 (0.01) | 0.43 (0.02) | 0.46 (0.02) | 0.39 (0.03) | 55.01 (1.44) |
| 0.025 | 0.010 | 250 | 131.6 (9.69) | 2 (1.22) | 368.4 (9.69) | 0.26 (0.02) | 0.99 (0.01) | 0.44 (0.02) | 0.47 (0.02) | 0.41 (0.02) | 54.45 (0.62) |
| 0.025 | 0.010 | 500 | 160.8 (9.58) | 3.6 (1.14) | 339.2 (9.58) | 0.32 (0.02) | 0.98 (0.01) | 0.49 (0.02) | 0.52 (0.02) | 0.48 (0.02) | 55.42 (0.66) |
| 0.025 | 0.010 | 750 | 167.4 (9.29) | 7.4 (2.07) | 332.6 (9.29) | 0.33 (0.02) | 0.96 (0.01) | 0.5 (0.02) | 0.53 (0.02) | 0.49 (0.02) | 55.16 (0.22) |
| 0.025 | 0.010 | 1000 | 163.6 (11.63) | 10.8 (1.64) | 336.4 (11.63) | 0.33 (0.02) | 0.94 (0.01) | 0.49 (0.02) | 0.51 (0.02) | 0.48 (0.03) | 55.52 (0.53) |
| 0.025 | 0.050 | 200 | 130 (8.4) | 1 (0.71) | 370 (8.4) | 0.26 (0.02) | 0.99 (0.01) | 0.44 (0.02) | 0.48 (0.02) | 0.41 (0.02) | 55.08 (0.58) |
| 0.025 | 0.050 | 250 | 142.4 (8.79) | 2 (1.22) | 357.6 (8.79) | 0.28 (0.02) | 0.99 (0.01) | 0.46 (0.01) | 0.49 (0.02) | 0.44 (0.02) | 55.36 (0.69) |
| 0.025 | 0.050 | 500 | 188 (5.96) | 5.8 (2.17) | 312 (5.96) | 0.38 (0.01) | 0.97 (0.01) | 0.54 (0.01) | 0.57 (0.01) | 0.54 (0.01) | 55.01 (0.43) |
| 0.025 | 0.050 | 750 | 198.2 (8.11) | 11.8 (2.86) | 301.8 (8.11) | 0.4 (0.02) | 0.95 (0.02) | 0.55 (0.01) | 0.57 (0.02) | 0.55 (0.02) | 55.33 (0.58) |
| 0.025 | 0.050 | 1000 | 199.4 (12.66) | 13.8 (2.59) | 300.6 (12.66) | 0.4 (0.03) | 0.93 (0.01) | 0.55 (0.02) | 0.57 (0.02) | 0.55 (0.03) | 55.55 (0.99) |
| 0.025 | 0.100 | 200 | 133.8 (7.79) | 1 (0.71) | 366.2 (7.79) | 0.27 (0.02) | 0.99 (0) | 0.45 (0.01) | 0.48 (0.01) | 0.42 (0.02) | 54.73 (0.58) |
| 0.025 | 0.100 | 250 | 146.8 (7.89) | 2 (1.22) | 353.2 (7.89) | 0.29 (0.02) | 0.99 (0.01) | 0.47 (0.01) | 0.5 (0.01) | 0.45 (0.02) | 54.99 (0.18) |
| 0.025 | 0.100 | 500 | 201 (3.54) | 6.2 (2.05) | 299 (3.54) | 0.4 (0.01) | 0.97 (0.01) | 0.56 (0.01) | 0.59 (0.01) | 0.57 (0.01) | 55.39 (1.01) |
| 0.025 | 0.100 | 750 | 211 (10.2) | 13.2 (3.19) | 289 (10.2) | 0.42 (0.02) | 0.94 (0.02) | 0.57 (0.02) | 0.59 (0.02) | 0.58 (0.02) | 54.79 (0.47) |
| 0.025 | 0.100 | 1000 | 214.4 (12.99) | 16.2 (2.86) | 285.6 (12.99) | 0.43 (0.03) | 0.93 (0.02) | 0.57 (0.02) | 0.59 (0.03) | 0.58 (0.03) | 55.36 (0.58) |
| 0.050 | 0.001 | 200 | 235.4 (8.82) | 1.6 (1.34) | 264.6 (8.82) | 0.47 (0.02) | 0.99 (0.01) | 0.62 (0.01) | 0.65 (0.01) | 0.64 (0.02) | 55.82 (0.92) |
| 0.050 | 0.001 | 250 | 243.4 (10.71) | 2.6 (1.52) | 256.6 (10.71) | 0.49 (0.02) | 0.99 (0.01) | 0.63 (0.02) | 0.66 (0.02) | 0.65 (0.02) | 55.51 (0.44) |
| 0.050 | 0.001 | 500 | 283.2 (9.34) | 5 (1.58) | 216.8 (9.34) | 0.57 (0.02) | 0.98 (0.01) | 0.69 (0.02) | 0.71 (0.02) | 0.72 (0.02) | 55.36 (0.55) |
| 0.050 | 0.001 | 750 | 296.6 (10.92) | 7.4 (2.3) | 203.4 (10.92) | 0.59 (0.02) | 0.98 (0.01) | 0.71 (0.02) | 0.73 (0.02) | 0.74 (0.02) | 55.83 (0.84) |
| 0.050 | 0.001 | 1000 | 293 (8.51) | 11.8 (3.56) | 207 (8.51) | 0.59 (0.02) | 0.96 (0.01) | 0.69 (0.01) | 0.72 (0.01) | 0.73 (0.01) | 55.7 (0.21) |
| 0.050 | 0.010 | 200 | 251.2 (9.26) | 2.2 (1.3) | 248.8 (9.26) | 0.5 (0.02) | 0.99 (0.01) | 0.64 (0.01) | 0.67 (0.01) | 0.67 (0.02) | 55.52 (0.34) |
| 0.050 | 0.010 | 250 | 261.6 (8.85) | 3.4 (1.82) | 238.4 (8.85) | 0.52 (0.02) | 0.99 (0.01) | 0.66 (0.01) | 0.69 (0.01) | 0.68 (0.02) | 55.18 (0.5) |
| 0.050 | 0.010 | 500 | 314.4 (8.2) | 5.6 (2.07) | 185.6 (8.2) | 0.63 (0.02) | 0.98 (0.01) | 0.73 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 55.7 (0.28) |
| 0.050 | 0.010 | 750 | 331.4 (10.88) | 10.8 (3.27) | 168.6 (10.88) | 0.66 (0.02) | 0.97 (0.01) | 0.75 (0.02) | 0.77 (0.02) | 0.79 (0.02) | 56.16 (0.14) |
| 0.050 | 0.010 | 1000 | 339 (6.24) | 17 (4.53) | 161 (6.24) | 0.68 (0.01) | 0.95 (0.01) | 0.76 (0.01) | 0.77 (0.01) | 0.79 (0.01) | 55.95 (0.69) |
| 0.050 | 0.050 | 200 | 255.8 (9.86) | 2.2 (1.3) | 244.2 (9.86) | 0.51 (0.02) | 0.99 (0.01) | 0.65 (0.01) | 0.68 (0.02) | 0.67 (0.02) | 55.05 (0.43) |
| 0.050 | 0.050 | 250 | 268 (10.44) | 3.4 (1.82) | 232 (10.44) | 0.54 (0.02) | 0.99 (0.01) | 0.67 (0.02) | 0.7 (0.01) | 0.69 (0.02) | 56.21 (0.44) |
| 0.050 | 0.050 | 500 | 329.2 (7.66) | 6.4 (2.3) | 170.8 (7.66) | 0.66 (0.02) | 0.98 (0.01) | 0.75 (0.01) | 0.78 (0.01) | 0.79 (0.01) | 55.76 (0.44) |
| 0.050 | 0.050 | 750 | 352.4 (10.55) | 13.4 (3.58) | 147.6 (10.55) | 0.7 (0.02) | 0.97 (0.01) | 0.78 (0.02) | 0.8 (0.02) | 0.81 (0.02) | 56.2 (0.37) |
| 0.050 | 0.050 | 1000 | 364.2 (6.94) | 20 (5) | 135.8 (6.94) | 0.73 (0.01) | 0.95 (0.01) | 0.79 (0.01) | 0.8 (0.01) | 0.82 (0.01) | 56.09 (0.58) |
| 0.050 | 0.100 | 200 | 259 (8.51) | 2.2 (1.3) | 241 (8.51) | 0.52 (0.02) | 0.99 (0) | 0.66 (0.01) | 0.68 (0.01) | 0.68 (0.02) | 55.56 (0.55) |
| 0.050 | 0.100 | 250 | 273 (9.51) | 3.4 (1.82) | 227 (9.51) | 0.55 (0.02) | 0.99 (0.01) | 0.68 (0.01) | 0.7 (0.01) | 0.7 (0.02) | 56.06 (0.34) |
| 0.050 | 0.100 | 500 | 334.8 (5.12) | 7.4 (2.3) | 165.2 (5.12) | 0.67 (0.01) | 0.98 (0.01) | 0.76 (0.01) | 0.78 (0.01) | 0.79 (0.01) | 55.54 (0.76) |
| 0.050 | 0.100 | 750 | 360.6 (9.34) | 13.4 (3.58) | 139.4 (9.34) | 0.72 (0.02) | 0.97 (0.01) | 0.8 (0.02) | 0.81 (0.01) | 0.82 (0.01) | 56.45 (0.41) |
| 0.050 | 0.100 | 1000 | 373.2 (6.3) | 22.2 (5.17) | 126.8 (6.3) | 0.75 (0.01) | 0.94 (0.01) | 0.8 (0) | 0.81 (0.01) | 0.83 (0.01) | 56.32 (0.67) |
| 0.100 | 0.001 | 200 | 343 (9.85) | 2 (1.41) | 157 (9.85) | 0.69 (0.02) | 0.99 (0) | 0.78 (0.01) | 0.8 (0.01) | 0.81 (0.01) | 56.26 (0.66) |
| 0.100 | 0.001 | 250 | 359.2 (11.01) | 3.4 (1.82) | 140.8 (11.01) | 0.72 (0.02) | 0.99 (0) | 0.8 (0.02) | 0.82 (0.02) | 0.83 (0.02) | 56.26 (0.81) |
| 0.100 | 0.001 | 500 | 412.8 (3.42) | 6 (2.55) | 87.2 (3.42) | 0.83 (0.01) | 0.99 (0.01) | 0.87 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 56.1 (0.43) |
| 0.100 | 0.001 | 750 | 430.8 (4.21) | 11.2 (4.44) | 69.2 (4.21) | 0.86 (0.01) | 0.98 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 0.91 (0.01) | 56.49 (0.84) |
| 0.100 | 0.001 | 1000 | 432 (2.55) | 15.8 (4.97) | 68 (2.55) | 0.86 (0.01) | 0.97 (0.01) | 0.88 (0.01) | 0.9 (0.01) | 0.91 (0.01) | 57.03 (0.51) |
| 0.100 | 0.010 | 200 | 349.4 (10.09) | 2.8 (1.3) | 150.6 (10.09) | 0.7 (0.02) | 0.99 (0) | 0.79 (0.02) | 0.81 (0.01) | 0.82 (0.01) | 56.45 (1.04) |
| 0.100 | 0.010 | 250 | 367 (9.87) | 4.4 (2.07) | 133 (9.87) | 0.73 (0.02) | 0.99 (0.01) | 0.81 (0.02) | 0.83 (0.01) | 0.84 (0.01) | 55.82 (0.3) |
| 0.100 | 0.010 | 500 | 421.4 (5.32) | 7.6 (2.61) | 78.6 (5.32) | 0.84 (0.01) | 0.98 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.91 (0.01) | 55.91 (0.61) |
| 0.100 | 0.010 | 750 | 443.2 (2.68) | 13.4 (4.16) | 56.8 (2.68) | 0.89 (0.01) | 0.97 (0.01) | 0.91 (0.01) | 0.91 (0.01) | 0.93 (0.01) | 56.52 (0.76) |
| 0.100 | 0.010 | 1000 | 446.8 (2.95) | 19.4 (4.72) | 53.2 (2.95) | 0.89 (0.01) | 0.96 (0.01) | 0.9 (0.01) | 0.91 (0.01) | 0.92 (0.01) | 56.37 (0.37) |
| 0.100 | 0.050 | 200 | 351.8 (9.98) | 2.8 (1.3) | 148.2 (9.98) | 0.7 (0.02) | 0.99 (0) | 0.79 (0.01) | 0.81 (0.01) | 0.82 (0.01) | 56.29 (0.56) |
| 0.100 | 0.050 | 250 | 368.8 (9.04) | 4.4 (2.07) | 131.2 (9.04) | 0.74 (0.02) | 0.99 (0.01) | 0.82 (0.02) | 0.83 (0.01) | 0.84 (0.01) | 55.8 (0.67) |
| 0.100 | 0.050 | 500 | 426.8 (4.76) | 8 (2.83) | 73.2 (4.76) | 0.85 (0.01) | 0.98 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 0.91 (0.01) | 56.27 (0.46) |
| 0.100 | 0.050 | 750 | 447.8 (3.11) | 16 (4.36) | 52.2 (3.11) | 0.9 (0.01) | 0.97 (0.01) | 0.91 (0.01) | 0.92 (0.01) | 0.93 (0) | 56.51 (0.53) |
| 0.100 | 0.050 | 1000 | 453.8 (3.27) | 22.6 (5.32) | 46.2 (3.27) | 0.91 (0.01) | 0.95 (0.01) | 0.91 (0.01) | 0.92 (0) | 0.93 (0) | 57.45 (1.06) |
| 0.100 | 0.100 | 200 | 352 (9.82) | 2.8 (1.3) | 148 (9.82) | 0.7 (0.02) | 0.99 (0) | 0.79 (0.01) | 0.81 (0.01) | 0.82 (0.01) | 56.22 (0.46) |
| 0.100 | 0.100 | 250 | 369 (9) | 4.4 (2.07) | 131 (9) | 0.74 (0.02) | 0.99 (0.01) | 0.82 (0.02) | 0.83 (0.01) | 0.84 (0.01) | 56.11 (0.73) |
| 0.100 | 0.100 | 500 | 427.6 (5.03) | 8.4 (2.88) | 72.4 (5.03) | 0.86 (0.01) | 0.98 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 0.91 (0.01) | 55.81 (0.49) |
| 0.100 | 0.100 | 750 | 448.8 (3.03) | 16 (4.36) | 51.2 (3.03) | 0.9 (0.01) | 0.97 (0.01) | 0.91 (0.01) | 0.92 (0.01) | 0.93 (0.01) | 56.52 (0.58) |
| 0.100 | 0.100 | 1000 | 455.8 (2.59) | 24.2 (5.45) | 44.2 (2.59) | 0.91 (0.01) | 0.95 (0.01) | 0.91 (0.01) | 0.92 (0.01) | 0.93 (0) | 57.07 (0.57) |
| 0.150 | 0.001 | 200 | 375.8 (7.4) | 2.2 (1.3) | 124.2 (7.4) | 0.75 (0.01) | 0.99 (0) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 56.51 (1.15) |
| 0.150 | 0.001 | 250 | 397.2 (8.76) | 3.6 (1.67) | 102.8 (8.76) | 0.79 (0.02) | 0.99 (0) | 0.86 (0.02) | 0.87 (0.01) | 0.88 (0.01) | 56.73 (0.64) |
| 0.150 | 0.001 | 500 | 441 (4.9) | 6.2 (2.59) | 59 (4.9) | 0.88 (0.01) | 0.99 (0) | 0.91 (0.01) | 0.92 (0.01) | 0.93 (0.01) | 56.55 (0.65) |
| 0.150 | 0.001 | 750 | 458.6 (3.36) | 12.2 (4.44) | 41.4 (3.36) | 0.92 (0.01) | 0.98 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 56.52 (0.74) |
| 0.150 | 0.001 | 1000 | 465.2 (2.49) | 18 (5.15) | 34.8 (2.49) | 0.93 (0) | 0.96 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0) | 56.28 (1.1) |
| 0.150 | 0.010 | 200 | 376.6 (7.5) | 2.8 (1.3) | 123.4 (7.5) | 0.75 (0.02) | 0.99 (0) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 56.81 (1) |
| 0.150 | 0.010 | 250 | 398 (8.6) | 4.4 (2.07) | 102 (8.6) | 0.8 (0.02) | 0.99 (0) | 0.86 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 56.18 (0.52) |
| 0.150 | 0.010 | 500 | 444 (4.64) | 8 (2.83) | 56 (4.64) | 0.89 (0.01) | 0.98 (0.01) | 0.92 (0.01) | 0.92 (0.01) | 0.93 (0.01) | 57.09 (0.62) |
| 0.150 | 0.010 | 750 | 463.2 (3.63) | 14.2 (4.44) | 36.8 (3.63) | 0.93 (0.01) | 0.97 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0) | 56.91 (0.64) |
| 0.150 | 0.010 | 1000 | 469.4 (3.58) | 21.6 (4.83) | 30.6 (3.58) | 0.94 (0.01) | 0.96 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0) | 56.88 (0.72) |
| 0.150 | 0.050 | 200 | 376.6 (7.5) | 2.8 (1.3) | 123.4 (7.5) | 0.75 (0.02) | 0.99 (0) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 56.38 (0.45) |
| 0.150 | 0.050 | 250 | 398.6 (7.83) | 4.4 (2.07) | 101.4 (7.83) | 0.8 (0.02) | 0.99 (0) | 0.86 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 56.51 (1.04) |
| 0.150 | 0.050 | 500 | 444.8 (4.55) | 8.4 (3.13) | 55.2 (4.55) | 0.89 (0.01) | 0.98 (0.01) | 0.92 (0.01) | 0.92 (0.01) | 0.93 (0.01) | 56.6 (0.61) |
| 0.150 | 0.050 | 750 | 464.6 (4.16) | 16.8 (4.6) | 35.4 (4.16) | 0.93 (0.01) | 0.97 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 57.13 (0.47) |
| 0.150 | 0.050 | 1000 | 376.4 (210.44) | 19.2 (11.56) | 123.6 (210.44) | 0.75 (0.42) | 0.95 (0.01) | 0.93 (0.01) | 0.94 (0) | 0.95 (0) | 53.72 (6.58) |
| 0.150 | 0.100 | 200 | 376.6 (7.5) | 2.8 (1.3) | 123.4 (7.5) | 0.75 (0.02) | 0.99 (0) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 56.34 (0.47) |
| 0.150 | 0.100 | 250 | 398.6 (7.83) | 4.4 (2.07) | 101.4 (7.83) | 0.8 (0.02) | 0.99 (0) | 0.86 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 56.39 (0.56) |
| 0.150 | 0.100 | 500 | 444.8 (4.55) | 8.8 (3.11) | 55.2 (4.55) | 0.89 (0.01) | 0.98 (0.01) | 0.92 (0.01) | 0.92 (0.01) | 0.93 (0.01) | 56.53 (0.46) |
| 0.150 | 0.100 | 750 | 464.8 (4.44) | 16.8 (4.6) | 35.2 (4.44) | 0.93 (0.01) | 0.97 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 57.13 (0.62) |
| 0.150 | 0.100 | 1000 | 471.8 (2.95) | 26.2 (5.4) | 28.2 (2.95) | 0.94 (0.01) | 0.95 (0.01) | 0.93 (0) | 0.93 (0) | 0.94 (0) | 56.3 (0.28) |
| 0.200 | 0.001 | 200 | 384 (7.97) | 2.2 (1.3) | 116 (7.97) | 0.77 (0.02) | 0.99 (0) | 0.84 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 56.41 (0.84) |
| 0.200 | 0.001 | 250 | 407.4 (7.3) | 3.6 (1.67) | 92.6 (7.3) | 0.81 (0.01) | 0.99 (0) | 0.87 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 57.01 (0.32) |
| 0.200 | 0.001 | 500 | 452.6 (3.36) | 7.2 (2.95) | 47.4 (3.36) | 0.91 (0.01) | 0.99 (0.01) | 0.93 (0.01) | 0.93 (0) | 0.94 (0) | 56.58 (0.66) |
| 0.200 | 0.001 | 750 | 468.6 (3.51) | 13 (5.05) | 31.4 (3.51) | 0.94 (0.01) | 0.97 (0.01) | 0.94 (0) | 0.95 (0) | 0.96 (0) | 56.36 (0.64) |
| 0.200 | 0.001 | 1000 | 473.6 (2.88) | 18.8 (5.02) | 26.4 (2.88) | 0.95 (0.01) | 0.96 (0.01) | 0.94 (0) | 0.95 (0) | 0.95 (0) | 56.88 (0.93) |
| 0.200 | 0.010 | 200 | 384.8 (7.69) | 2.8 (1.3) | 115.2 (7.69) | 0.77 (0.02) | 0.99 (0) | 0.84 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 56.61 (0.85) |
| 0.200 | 0.010 | 250 | 407.8 (7.12) | 4.4 (2.07) | 92.2 (7.12) | 0.82 (0.01) | 0.99 (0) | 0.87 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 57.09 (1.02) |
| 0.200 | 0.010 | 500 | 453.8 (3.7) | 9 (3.24) | 46.2 (3.7) | 0.91 (0.01) | 0.98 (0.01) | 0.93 (0.01) | 0.93 (0.01) | 0.94 (0) | 56.15 (0.55) |
| 0.200 | 0.010 | 750 | 470.6 (3.78) | 15 (5.05) | 29.4 (3.78) | 0.94 (0.01) | 0.97 (0.01) | 0.94 (0) | 0.95 (0) | 0.96 (0) | 56.7 (1.16) |
| 0.200 | 0.010 | 1000 | 476 (3.39) | 22.4 (4.72) | 24 (3.39) | 0.95 (0.01) | 0.95 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 57.21 (1.25) |
| 0.200 | 0.050 | 200 | 385.2 (7.92) | 2.8 (1.3) | 114.8 (7.92) | 0.77 (0.02) | 0.99 (0) | 0.84 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 57.11 (1.33) |
| 0.200 | 0.050 | 250 | 408 (7.48) | 4.4 (2.07) | 92 (7.48) | 0.82 (0.01) | 0.99 (0) | 0.87 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 56.78 (0.76) |
| 0.200 | 0.050 | 500 | 454 (3.46) | 9.4 (3.58) | 46 (3.46) | 0.91 (0.01) | 0.98 (0.01) | 0.93 (0.01) | 0.93 (0.01) | 0.94 (0) | 56.8 (0.59) |
| 0.200 | 0.050 | 750 | 471 (4.06) | 17.6 (5.13) | 29 (4.06) | 0.94 (0.01) | 0.97 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.87 (0.47) |
| 0.200 | 0.050 | 1000 | 476.4 (3.65) | 26.2 (5.07) | 23.6 (3.65) | 0.95 (0.01) | 0.95 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.69 (0.45) |
| 0.200 | 0.100 | 200 | 385.2 (7.92) | 2.8 (1.3) | 114.8 (7.92) | 0.77 (0.02) | 0.99 (0) | 0.84 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 56.38 (0.74) |
| 0.200 | 0.100 | 250 | 408 (7.48) | 4.4 (2.07) | 92 (7.48) | 0.82 (0.01) | 0.99 (0) | 0.87 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 56.7 (0.97) |
| 0.200 | 0.100 | 500 | 454 (3.46) | 9.8 (3.49) | 46 (3.46) | 0.91 (0.01) | 0.98 (0.01) | 0.93 (0.01) | 0.93 (0.01) | 0.94 (0) | 56.46 (0.63) |
| 0.200 | 0.100 | 750 | 471.2 (3.96) | 17.6 (5.13) | 28.8 (3.96) | 0.94 (0.01) | 0.97 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.42 (0.6) |
| 0.200 | 0.100 | 1000 | 476.8 (3.9) | 26.8 (4.87) | 23.2 (3.9) | 0.95 (0.01) | 0.95 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.65 (0.7) |
| 0.300 | 0.001 | 200 | 392 (7.21) | 2.6 (1.82) | 108 (7.21) | 0.78 (0.01) | 0.99 (0) | 0.85 (0.01) | 0.86 (0.01) | 0.88 (0.01) | 57.55 (0.99) |
| 0.300 | 0.001 | 250 | 414.2 (6.76) | 4 (2.12) | 85.8 (6.76) | 0.83 (0.01) | 0.99 (0) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 56.87 (0.65) |
| 0.300 | 0.001 | 500 | 460.2 (3.27) | 7.2 (2.95) | 39.8 (3.27) | 0.92 (0.01) | 0.99 (0.01) | 0.94 (0.01) | 0.94 (0.01) | 0.95 (0) | 56.93 (1.13) |
| 0.300 | 0.001 | 750 | 475.8 (2.28) | 14 (4.58) | 24.2 (2.28) | 0.95 (0) | 0.97 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 56.95 (0.79) |
| 0.300 | 0.001 | 1000 | 480.6 (2.88) | 19.4 (5.03) | 19.4 (2.88) | 0.96 (0.01) | 0.96 (0.01) | 0.95 (0) | 0.95 (0) | 0.96 (0) | 57.75 (0.33) |
| 0.300 | 0.010 | 200 | 392.2 (7.46) | 3.2 (1.79) | 107.8 (7.46) | 0.78 (0.01) | 0.99 (0) | 0.85 (0.01) | 0.86 (0.01) | 0.88 (0.01) | 56.38 (0.27) |
| 0.300 | 0.010 | 250 | 414.2 (6.76) | 4.8 (2.49) | 85.8 (6.76) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 57.04 (1.08) |
| 0.300 | 0.010 | 500 | 460.6 (3.21) | 9 (3.24) | 39.4 (3.21) | 0.92 (0.01) | 0.98 (0.01) | 0.94 (0.01) | 0.94 (0.01) | 0.95 (0) | 56.82 (0.8) |
| 0.300 | 0.010 | 750 | 476.4 (2.61) | 16 (4.58) | 23.6 (2.61) | 0.95 (0.01) | 0.97 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 56.6 (0.66) |
| 0.300 | 0.010 | 1000 | 481 (2.74) | 23 (4.69) | 19 (2.74) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.95 (0) | 0.96 (0) | 56.52 (0.89) |
| 0.300 | 0.050 | 200 | 392.6 (7.37) | 3.2 (1.79) | 107.4 (7.37) | 0.79 (0.01) | 0.99 (0) | 0.85 (0.01) | 0.86 (0.01) | 0.88 (0.01) | 57.61 (0.95) |
| 0.300 | 0.050 | 250 | 414.2 (6.76) | 4.8 (2.49) | 85.8 (6.76) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 56.96 (0.73) |
| 0.300 | 0.050 | 500 | 460.6 (3.21) | 9.4 (3.58) | 39.4 (3.21) | 0.92 (0.01) | 0.98 (0.01) | 0.94 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 57 (0.33) |
| 0.300 | 0.050 | 750 | 476.4 (2.61) | 18.6 (4.67) | 23.6 (2.61) | 0.95 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 56.08 (0.36) |
| 0.300 | 0.050 | 1000 | 481.6 (2.7) | 26.8 (5.02) | 18.4 (2.7) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.95 (0) | 0.95 (0) | 56.92 (0.51) |
| 0.300 | 0.100 | 200 | 392.6 (7.37) | 3.2 (1.79) | 107.4 (7.37) | 0.79 (0.01) | 0.99 (0) | 0.85 (0.01) | 0.86 (0.01) | 0.88 (0.01) | 56.78 (0.98) |
| 0.300 | 0.100 | 250 | 414.2 (6.76) | 4.8 (2.49) | 85.8 (6.76) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 56.25 (0.37) |
| 0.300 | 0.100 | 500 | 460.6 (3.21) | 9.8 (3.49) | 39.4 (3.21) | 0.92 (0.01) | 0.98 (0.01) | 0.94 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 57.03 (1.16) |
| 0.300 | 0.100 | 750 | 476.6 (2.7) | 18.6 (4.67) | 23.4 (2.7) | 0.95 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 57.04 (0.64) |
| 0.300 | 0.100 | 1000 | 481.8 (2.59) | 27.4 (4.83) | 18.2 (2.59) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.95 (0) | 0.95 (0) | 56.58 (0.34) |
| 0.400 | 0.001 | 200 | 394.4 (6.43) | 2.8 (2.17) | 105.6 (6.43) | 0.79 (0.01) | 0.99 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 57.5 (0.68) |
| 0.400 | 0.001 | 250 | 416.8 (6.42) | 4.2 (2.39) | 83.2 (6.42) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.91 (0.01) | 56.98 (1.14) |
| 0.400 | 0.001 | 500 | 463 (2.92) | 7.2 (2.95) | 37 (2.92) | 0.93 (0.01) | 0.99 (0.01) | 0.94 (0) | 0.95 (0) | 0.95 (0) | 56.4 (1.09) |
| 0.400 | 0.001 | 750 | 477.2 (2.59) | 14.4 (4.51) | 22.8 (2.59) | 0.95 (0.01) | 0.97 (0.01) | 0.95 (0.01) | 0.96 (0) | 0.96 (0) | 56.84 (1) |
| 0.400 | 0.001 | 1000 | 482.4 (2.61) | 20.6 (4.93) | 17.6 (2.61) | 0.96 (0.01) | 0.96 (0.01) | 0.95 (0) | 0.96 (0) | 0.96 (0) | 57.81 (0.72) |
| 0.400 | 0.010 | 200 | 394.4 (6.43) | 3.4 (2.07) | 105.6 (6.43) | 0.79 (0.01) | 0.99 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 58.38 (4.01) |
| 0.400 | 0.010 | 250 | 416.8 (6.42) | 5 (2.74) | 83.2 (6.42) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 57.03 (0.97) |
| 0.400 | 0.010 | 500 | 463.2 (2.59) | 9 (3.24) | 36.8 (2.59) | 0.93 (0.01) | 0.98 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.64 (1.27) |
| 0.400 | 0.010 | 750 | 477.6 (2.7) | 16.6 (4.22) | 22.4 (2.7) | 0.96 (0.01) | 0.97 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 57.68 (0.93) |
| 0.400 | 0.010 | 1000 | 482.8 (2.86) | 23.8 (4.66) | 17.2 (2.86) | 0.97 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.95 (0) | 0.96 (0) | 56.4 (0.63) |
| 0.400 | 0.050 | 200 | 394.4 (6.43) | 3.4 (2.07) | 105.6 (6.43) | 0.79 (0.01) | 0.99 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 56.83 (0.42) |
| 0.400 | 0.050 | 250 | 416.8 (6.42) | 5 (2.74) | 83.2 (6.42) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 57.31 (0.95) |
| 0.400 | 0.050 | 500 | 463.2 (2.59) | 9.4 (3.58) | 36.8 (2.59) | 0.93 (0.01) | 0.98 (0.01) | 0.94 (0) | 0.94 (0.01) | 0.95 (0) | 57.03 (0.83) |
| 0.400 | 0.050 | 750 | 477.6 (2.7) | 19.2 (4.32) | 22.4 (2.7) | 0.96 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 57.22 (0.77) |
| 0.400 | 0.050 | 1000 | 482.8 (2.86) | 27.6 (5.13) | 17.2 (2.86) | 0.97 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.95 (0) | 0.96 (0) | 56.59 (0.45) |
| 0.400 | 0.100 | 200 | 394.4 (6.43) | 3.4 (2.07) | 105.6 (6.43) | 0.79 (0.01) | 0.99 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 56.75 (0.97) |
| 0.400 | 0.100 | 250 | 416.8 (6.42) | 5 (2.74) | 83.2 (6.42) | 0.83 (0.01) | 0.99 (0.01) | 0.88 (0.01) | 0.89 (0.01) | 0.9 (0.01) | 57 (0.96) |
| 0.400 | 0.100 | 500 | 463.2 (2.59) | 9.8 (3.49) | 36.8 (2.59) | 0.93 (0.01) | 0.98 (0.01) | 0.94 (0) | 0.94 (0.01) | 0.95 (0) | 56.5 (0.74) |
| 0.400 | 0.100 | 750 | 477.6 (2.7) | 19.2 (4.32) | 22.4 (2.7) | 0.96 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 56.78 (1.04) |
| 0.400 | 0.100 | 1000 | 482.8 (2.86) | 28.2 (4.92) | 17.2 (2.86) | 0.97 (0.01) | 0.94 (0.01) | 0.95 (0) | 0.95 (0) | 0.95 (0) | 57.1 (0.89) |

# Table of Best-Performing Parameters

## Best Performance Times

Because we used a slower computer to develop the package, we will report computing times from the faster machine.

lilyCompTimes\_df <- read\_csv("../resultsData/DMRMethodTimes\_Lily.csv")

## Parsed with column specification:  
## cols(  
## Method = col\_character(),  
## Delta = col\_double(),  
## Mean = col\_double(),  
## StdDev = col\_double()  
## )

res3\_ls <- list()

## DMRcate

This method shows best performance with lambda = 500 and C = 5.

resDMRc3\_df <-   
 dmrcate\_tab %>%   
 filter(lambda == 500) %>%   
 filter(C == 5) %>%   
 ungroup() %>%   
 select(-one\_of("lambda", "C"))  
DMRcTimes\_df <-  
 lilyCompTimes\_df %>%   
 filter(Method == "DMRcate") %>%   
 mutate(time = paste0(round(Mean, 2), " (", round(StdDev, 2), ")")) %>%   
 select(-one\_of("Mean", "StdDev")) %>%   
 rename("delta" = "Delta")  
  
res3\_ls$DMRcate <-  
 resDMRc3\_df %>%  
 left\_join(DMRcTimes\_df, by = "delta") %>%   
 select(delta, Method, everything())  
  
res3\_ls$DMRcate %>%   
 select(-Method) %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 | time |
| 0.025 | 32.4 (4.34) | 0.2 (0.45) | 467.6 (4.34) | 0.06 (0.01) | 0.99 (0.01) | 0.25 (0.01) | 0.23 (0.02) | 0.12 (0.02) | 20.66 (0.24) |
| 0.050 | 178.4 (9.63) | 3 (1.22) | 321.6 (9.63) | 0.36 (0.02) | 0.98 (0.01) | 0.52 (0.02) | 0.55 (0.02) | 0.52 (0.02) | 20.46 (0.43) |
| 0.100 | 325.6 (9.29) | 8.2 (3.35) | 174.4 (9.29) | 0.65 (0.02) | 0.98 (0.01) | 0.75 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 20.65 (1.69) |
| 0.150 | 376.4 (6.69) | 9.8 (3.03) | 123.6 (6.69) | 0.75 (0.01) | 0.98 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 20.29 (0.47) |
| 0.200 | 385 (5.79) | 10.2 (2.86) | 115 (5.79) | 0.77 (0.01) | 0.97 (0.01) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 20.45 (1.43) |
| 0.300 | 397.8 (1.79) | 10.2 (2.59) | 102.2 (1.79) | 0.8 (0) | 0.98 (0.01) | 0.85 (0) | 0.86 (0) | 0.88 (0) | 20.57 (1.2) |
| 0.400 | 401.2 (2.86) | 9.8 (4.44) | 98.8 (2.86) | 0.8 (0.01) | 0.98 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 20.19 (0.95) |

## ProbeLasso

This method shows best performance with adjPvalProbe = 0.05 and meanLassoRadius = 1000. The minDmrSep parameter had no discernable effect, so we left this parameter at its default value.

resPL3\_df <-   
 pl\_tab %>%   
 filter(adjPval == 0.05) %>%   
 filter(mLassoRad == 1000) %>%   
 filter(minDmrSep == 1000) %>%   
 ungroup() %>%   
 select(-one\_of("adjPval", "mLassoRad", "minDmrSep"))  
PLtimes\_df <-   
 lilyCompTimes\_df %>%   
 filter(Method == "ProbeLasso") %>%   
 mutate(time = paste0(round(Mean, 2), " (", round(StdDev, 2), ")")) %>%   
 select(-one\_of("Mean", "StdDev")) %>%   
 rename("delta" = "Delta")  
  
res3\_ls$ProbeLasso <-   
 resPL3\_df %>%  
 left\_join(PLtimes\_df, by = "delta") %>%   
 select(delta, Method, everything())  
  
res3\_ls$ProbeLasso %>%   
 select(-Method) %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 | time |
| 0.025 | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) | 6.52 (0.42) |
| 0.050 | 211.6 (10.92) | 20.6 (5.03) | 288.4 (10.92) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.57 (0.02) | 17.25 (0.83) |
| 0.100 | 361.6 (7.02) | 35.8 (7.36) | 138.4 (7.02) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) | 18.13 (0.16) |
| 0.150 | 405.6 (7.6) | 40.2 (8.53) | 94.4 (7.6) | 0.81 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 18.25 (0.09) |
| 0.200 | 415.2 (9.31) | 41 (7.45) | 84.8 (9.31) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.02) | 0.85 (0.01) | 0.87 (0.01) | 19.2 (1.92) |
| 0.300 | 424.6 (8.56) | 42 (7.48) | 75.4 (8.56) | 0.85 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.87 (0.01) | 0.89 (0.01) | 18.18 (0.06) |
| 0.400 | 427.2 (8.04) | 42 (7.48) | 72.8 (8.04) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) | 18.59 (0.22) |

## Bumphunter

This method shows best performance with pickCutoffQ = 0.95 and maxGap = 250.

resBump3\_df <-   
 bump\_tab %>%   
 filter(cutoffQ == 0.95) %>%   
 filter(maxGap == 250) %>%   
 ungroup() %>%   
 select(-one\_of("cutoffQ", "maxGap"))  
BumpTimes\_df <-  
 lilyCompTimes\_df %>%   
 filter(Method == "Bumphunter") %>%   
 mutate(time = paste0(round(Mean, 2), " (", round(StdDev, 2), ")")) %>%   
 select(-one\_of("Mean", "StdDev")) %>%   
 rename("delta" = "Delta")  
  
res3\_ls$Bumphunter <-   
 resBump3\_df %>%  
 left\_join(BumpTimes\_df, by = "delta") %>%   
 select(delta, Method, everything())  
  
res3\_ls$Bumphunter %>%   
 select(-Method) %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 | time |
| 0.025 | 144 (7.87) | 68.8 (3.27) | 356 (7.87) | 0.29 (0.02) | 0.63 (0.02) | 0.36 (0.02) | 0.38 (0.02) | 0.44 (0.02) | 157.32 (4.42) |
| 0.050 | 247.6 (10.92) | 68.4 (3.36) | 252.4 (10.92) | 0.5 (0.02) | 0.75 (0.02) | 0.56 (0.02) | 0.58 (0.02) | 0.63 (0.02) | 159.82 (3.88) |
| 0.100 | 280.2 (11.73) | 65.6 (2.88) | 219.8 (11.73) | 0.56 (0.02) | 0.79 (0.02) | 0.64 (0.02) | 0.65 (0.02) | 0.7 (0.02) | 162.67 (6.92) |
| 0.150 | 280.6 (11.95) | 63.2 (2.86) | 219.4 (11.95) | 0.56 (0.02) | 0.8 (0.02) | 0.66 (0.02) | 0.65 (0.02) | 0.7 (0.02) | 160.47 (10.11) |
| 0.200 | 280.2 (11.78) | 62 (3.16) | 219.8 (11.78) | 0.56 (0.02) | 0.81 (0.02) | 0.67 (0.02) | 0.66 (0.02) | 0.71 (0.02) | 157.13 (6.39) |
| 0.300 | 280.2 (11.78) | 57 (5.15) | 219.8 (11.78) | 0.56 (0.02) | 0.82 (0.02) | 0.68 (0.02) | 0.67 (0.02) | 0.71 (0.02) | 155.06 (9.56) |
| 0.400 | 280 (11.83) | 51.6 (6.15) | 220 (11.83) | 0.56 (0.02) | 0.84 (0.03) | 0.68 (0.02) | 0.68 (0.03) | 0.72 (0.02) | 155.89 (12.24) |

## Comb-p

This method shows best performance with seed = 0.05 and dist = 750.

res3\_ls$Comb\_p <-   
 comb\_tab %>%   
 rename("Method" = "method") %>%   
 ungroup() %>%   
 filter(combSeed == 0.05) %>%   
 filter(combDist == 750) %>%   
 select(-one\_of("combSeed", "combDist"))  
   
res3\_ls$Comb\_p %>%   
 select(-Method) %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 | time |
| 0.025 | 198.2 (8.11) | 11.8 (2.86) | 301.8 (8.11) | 0.4 (0.02) | 0.95 (0.02) | 0.55 (0.01) | 0.57 (0.02) | 0.55 (0.02) | 55.33 (0.58) |
| 0.050 | 352.4 (10.55) | 13.4 (3.58) | 147.6 (10.55) | 0.7 (0.02) | 0.97 (0.01) | 0.78 (0.02) | 0.8 (0.02) | 0.81 (0.02) | 56.2 (0.37) |
| 0.100 | 447.8 (3.11) | 16 (4.36) | 52.2 (3.11) | 0.9 (0.01) | 0.97 (0.01) | 0.91 (0.01) | 0.92 (0.01) | 0.93 (0) | 56.51 (0.53) |
| 0.150 | 464.6 (4.16) | 16.8 (4.6) | 35.4 (4.16) | 0.93 (0.01) | 0.97 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 57.13 (0.47) |
| 0.200 | 471 (4.06) | 17.6 (5.13) | 29 (4.06) | 0.94 (0.01) | 0.97 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.87 (0.47) |
| 0.300 | 476.4 (2.61) | 18.6 (4.67) | 23.6 (2.61) | 0.95 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 56.08 (0.36) |
| 0.400 | 477.6 (2.7) | 19.2 (4.32) | 22.4 (2.7) | 0.96 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 57.22 (0.77) |

## Save Combined Table

res3\_df <-  
 res3\_ls %>%   
 bind\_rows() %>%   
 arrange(delta)  
  
# write\_csv(res3\_df, path = "../resultsData/Best\_params\_results.csv")  
res3\_df %>%   
 kable()

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| delta | Method | TP | FP | FN | Pwr | Precis | AuPR | MCC | F1 | time |
| 0.025 | DMRcate | 32.4 (4.34) | 0.2 (0.45) | 467.6 (4.34) | 0.06 (0.01) | 0.99 (0.01) | 0.25 (0.01) | 0.23 (0.02) | 0.12 (0.02) | 20.66 (0.24) |
| 0.025 | ProbeLasso | 0 (0) | 0 (0) | 500 (0) | 0 (0) | NaN (NA) | NaN (NA) | NaN (NA) | NaN (NA) | 6.52 (0.42) |
| 0.025 | Bumphunter | 144 (7.87) | 68.8 (3.27) | 356 (7.87) | 0.29 (0.02) | 0.63 (0.02) | 0.36 (0.02) | 0.38 (0.02) | 0.44 (0.02) | 157.32 (4.42) |
| 0.025 | Comb-p | 198.2 (8.11) | 11.8 (2.86) | 301.8 (8.11) | 0.4 (0.02) | 0.95 (0.02) | 0.55 (0.01) | 0.57 (0.02) | 0.55 (0.02) | 55.33 (0.58) |
| 0.050 | DMRcate | 178.4 (9.63) | 3 (1.22) | 321.6 (9.63) | 0.36 (0.02) | 0.98 (0.01) | 0.52 (0.02) | 0.55 (0.02) | 0.52 (0.02) | 20.46 (0.43) |
| 0.050 | ProbeLasso | 211.6 (10.92) | 20.6 (5.03) | 288.4 (10.92) | 0.42 (0.02) | 0.93 (0.01) | 0.57 (0.02) | 0.58 (0.02) | 0.57 (0.02) | 17.25 (0.83) |
| 0.050 | Bumphunter | 247.6 (10.92) | 68.4 (3.36) | 252.4 (10.92) | 0.5 (0.02) | 0.75 (0.02) | 0.56 (0.02) | 0.58 (0.02) | 0.63 (0.02) | 159.82 (3.88) |
| 0.050 | Comb-p | 352.4 (10.55) | 13.4 (3.58) | 147.6 (10.55) | 0.7 (0.02) | 0.97 (0.01) | 0.78 (0.02) | 0.8 (0.02) | 0.81 (0.02) | 56.2 (0.37) |
| 0.100 | DMRcate | 325.6 (9.29) | 8.2 (3.35) | 174.4 (9.29) | 0.65 (0.02) | 0.98 (0.01) | 0.75 (0.01) | 0.77 (0.01) | 0.78 (0.01) | 20.65 (1.69) |
| 0.100 | ProbeLasso | 361.6 (7.02) | 35.8 (7.36) | 138.4 (7.02) | 0.72 (0.01) | 0.93 (0.01) | 0.79 (0.01) | 0.79 (0.01) | 0.81 (0.01) | 18.13 (0.16) |
| 0.100 | Bumphunter | 280.2 (11.73) | 65.6 (2.88) | 219.8 (11.73) | 0.56 (0.02) | 0.79 (0.02) | 0.64 (0.02) | 0.65 (0.02) | 0.7 (0.02) | 162.67 (6.92) |
| 0.100 | Comb-p | 447.8 (3.11) | 16 (4.36) | 52.2 (3.11) | 0.9 (0.01) | 0.97 (0.01) | 0.91 (0.01) | 0.92 (0.01) | 0.93 (0) | 56.51 (0.53) |
| 0.150 | DMRcate | 376.4 (6.69) | 9.8 (3.03) | 123.6 (6.69) | 0.75 (0.01) | 0.98 (0.01) | 0.82 (0.01) | 0.83 (0.01) | 0.85 (0.01) | 20.29 (0.47) |
| 0.150 | ProbeLasso | 405.6 (7.6) | 40.2 (8.53) | 94.4 (7.6) | 0.81 (0.02) | 0.93 (0.01) | 0.85 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 18.25 (0.09) |
| 0.150 | Bumphunter | 280.6 (11.95) | 63.2 (2.86) | 219.4 (11.95) | 0.56 (0.02) | 0.8 (0.02) | 0.66 (0.02) | 0.65 (0.02) | 0.7 (0.02) | 160.47 (10.11) |
| 0.150 | Comb-p | 464.6 (4.16) | 16.8 (4.6) | 35.4 (4.16) | 0.93 (0.01) | 0.97 (0.01) | 0.93 (0.01) | 0.94 (0.01) | 0.95 (0.01) | 57.13 (0.47) |
| 0.200 | DMRcate | 385 (5.79) | 10.2 (2.86) | 115 (5.79) | 0.77 (0.01) | 0.97 (0.01) | 0.83 (0.01) | 0.84 (0.01) | 0.86 (0.01) | 20.45 (1.43) |
| 0.200 | ProbeLasso | 415.2 (9.31) | 41 (7.45) | 84.8 (9.31) | 0.83 (0.02) | 0.93 (0.01) | 0.86 (0.02) | 0.85 (0.01) | 0.87 (0.01) | 19.2 (1.92) |
| 0.200 | Bumphunter | 280.2 (11.78) | 62 (3.16) | 219.8 (11.78) | 0.56 (0.02) | 0.81 (0.02) | 0.67 (0.02) | 0.66 (0.02) | 0.71 (0.02) | 157.13 (6.39) |
| 0.200 | Comb-p | 471 (4.06) | 17.6 (5.13) | 29 (4.06) | 0.94 (0.01) | 0.97 (0.01) | 0.94 (0) | 0.94 (0) | 0.95 (0) | 56.87 (0.47) |
| 0.300 | DMRcate | 397.8 (1.79) | 10.2 (2.59) | 102.2 (1.79) | 0.8 (0) | 0.98 (0.01) | 0.85 (0) | 0.86 (0) | 0.88 (0) | 20.57 (1.2) |
| 0.300 | ProbeLasso | 424.6 (8.56) | 42 (7.48) | 75.4 (8.56) | 0.85 (0.02) | 0.93 (0.01) | 0.87 (0.01) | 0.87 (0.01) | 0.89 (0.01) | 18.18 (0.06) |
| 0.300 | Bumphunter | 280.2 (11.78) | 57 (5.15) | 219.8 (11.78) | 0.56 (0.02) | 0.82 (0.02) | 0.68 (0.02) | 0.67 (0.02) | 0.71 (0.02) | 155.06 (9.56) |
| 0.300 | Comb-p | 476.4 (2.61) | 18.6 (4.67) | 23.6 (2.61) | 0.95 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 56.08 (0.36) |
| 0.400 | DMRcate | 401.2 (2.86) | 9.8 (4.44) | 98.8 (2.86) | 0.8 (0.01) | 0.98 (0.01) | 0.85 (0.01) | 0.87 (0.01) | 0.88 (0.01) | 20.19 (0.95) |
| 0.400 | ProbeLasso | 427.2 (8.04) | 42 (7.48) | 72.8 (8.04) | 0.85 (0.02) | 0.93 (0.01) | 0.88 (0.01) | 0.87 (0.01) | 0.89 (0.01) | 18.59 (0.22) |
| 0.400 | Bumphunter | 280 (11.83) | 51.6 (6.15) | 220 (11.83) | 0.56 (0.02) | 0.84 (0.03) | 0.68 (0.02) | 0.68 (0.03) | 0.72 (0.02) | 155.89 (12.24) |
| 0.400 | Comb-p | 477.6 (2.7) | 19.2 (4.32) | 22.4 (2.7) | 0.96 (0.01) | 0.96 (0.01) | 0.95 (0.01) | 0.95 (0) | 0.96 (0) | 57.22 (0.77) |