Heat Exchanger Modeling by Neural Network Optimization for PETRONAS Penapisan Melaka Sdn. Bhd (PPMSB) Crude Preheat Train

by

Norazliza Binti Md. Tahir

Dissertation submitted in partial fulfillment of
The requirements for the
Bachelor of Engineering (Hons)
(Chemical Engineering)

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CERTIFICATION OF APPROVAL

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Approved by,

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Prof. Dr. V. R Radhakrishnan

UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

July 2005

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

NORAZLIZA BINTI MD. TAHIR

ABSTRACT

The title of this Final Year Research Project is 'Heat Exchanger Modeling by Neural Network Optimization for PETRONAS Penapisan Melaka Sdn. Bhd (PPMSB) Crude Preheat Train'. This project involves the post modeling of heat exchanger sensitivity analysis that covers neural network based model and implication of statistical analysis to predict the heat exchanger efficiency for maintenance scheduling strategy of Crude Preheat Train (CPT). The main objectives of this study are to minimize the error in the predicted values and enhance the robustness of the previous model to predict in future.

This Final Report consists of five major sections. The first section describes the introduction to Neural Network based Predictive Model, background of the CPT, fouling activity and Heat Exchanger Maintenance in PP(M)SB, problem statement that defined the significant of the post modeling heat exchanger sensitivity analysis, project objectives and scope of works done throughout the study. The next section consists of literature review and theory extracted from well established journals and web sites to provide relevant information for the project as references.

The third section entails the project methodology comprising series of stages for the project to be carried out. It follows by the fourth section that serves as the gist of the report that presents the findings and includes discussion on the results obtained and significance behind any failure occurs at each stage of the completed optimization strategies. The results are discussed in term of statistical analysis, comparison of results between different transfer functions configurations used and graphs of actual de-normalized versus predicted outlet temperature for both tube side and shell side. The final section of the report consists of the conclusion corresponds to the objectives set earlier and some recommendations for future improvement of the Neural Network model. The Final Report ends with a list of references and appendices.

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ABBREVIATIONS AND NOMENCLATURES

NN:	Neural Network
FYP:	Final Year Project
PP(M)SB:	PETRONAS Penapisan Melaka Sdn. Bhd
PSR:	PETRONAS Second Refinery
CPT:	Crude Preheat Train
CDU:	Crude Distillation Unit
LSWR:	Low Sulphur Waxy Residue
IVt:	Tube Integral Flow
ANOVA:	Analysis of Variances
RMSE:	Root Means Square Error
CDC:	Correct Directional Change
P:	Purelin Transfer Function
T:	Tan-sigmoid Transfer Function
L:	Log-sigmoid Transfer Function
To:	Shell side outlet temperature
to:	Tube side outlet temperature

CHAPTER 1
INTRODUCTION

The title of this Final Year Research Project is 'Heat Exchanger Modeling by Neural Network Optimization for PETRONAS Penapisan Melaka Sdn. Bhd (PPMSB) Crude Preheat Train'. The Neural Network (NN) Modeling used for this project is carried out with reference to Do Thanh Van's predictive model for heat exchanger efficiency in the Crude Preheat Train (CPT) of PP(M)SB. It is the post modeling of heat exchanger sensitivity analysis that covers neural network based model to predict and anticipate in future the heat exchanger efficiency using new test set of data for simulation, implication of statistical analysis and research based study for the optimization and maintenance scheduling strategy of CPT.

Fouling in crude oil preheat trains is a major problem that costs the industry billions of dollars per years (ESDU, 2000). In the refinery, the crude oil which is untreated petroleum tends to foul the heat exchangers due to the nature viscous characteristic and at the same time carries a lot of particles. By philosophy, the more energy recovered by the CPT the more beneficial it is to the operation. However, the dynamic behavior of fouling has hindered the proper application of many integration techniques to the preheat train design hence results in the least efficient heat recovery over a time period. [1]

The research on a predictive model for maintenance scheduling and performance of CPT in PP(M)SB will be developed by application of NN with the implication of Analysis of Variance (ANOVA). The network designs consider the fouling behavior and any parameters which promote significant fouling prior to predict future performance of the heat exchanger. This study is vital to aid the industrial practitioner in making more informed decision to plan on the suitable time for heat exchanger preventive maintenance scheduling prior to reduce the need of unplanned shutdown and to avoid the refinery production loss.

Prior to make this project feasible within the scope and time frame, this predictive model for Cold Low Sulphur Waxy Residue (LSWR) Pumparound Heat Exchanger, E-1104 A-D will be using the same NN architecture as previous model with current 24 predictors. The model is to be further developed, optimized and tested against the original data set A and new data set B to test on the robustness of the model in predicting future trend and compare the data behavior change. Any necessary amendment on the control strategy and modeling approach will be considered over the time period.

1.1. BACKGROUND OF STUDY

1.1.1 PETRONAS Penapisan (Melaka) Sdn. Bhd, PP(M)SB

PETRONAS Penapisan (Melaka) Sdn. Bhd, PP(M)SB is the PETRONAS second refinery after Petronas Penapisan (Kerteh) Sdn. Bhd. Located in Sungai Udang, PP(M)SB within an area of 926 acres consists of two crude refining trains, namely PETRONAS Second Refinery Phase 1 (PSR-1) and PETRONAS Second Refinery Phase 2 (PSR-2) plants. Both PSR-1 and PSR-2 are designed to operate as an integrated complex with common utility, offsite and marine facilities.

Table 1. Comparison between PSR-1 and PSR-2

Train	Facilities	Capacity	Ownership
PSR-1	Sweet train-hydroskimming	100,000 BPSD	PETRONAS
PSR-2	Sour train- deep conversion	100,000 BPSD	Malaysian Refining Company Sdn. Bhd

PSR-1 is wholly owned by PETRONAS and was incorporated on September 19, 1987 to process local sweet crude (i.e sulfur content less than 0.5 wt%). PSR-2 operated by Malaysian Refining Company (MRC) is a joint venture between PETRONAS (53%) and Conoco Philips USA (47%) and was incorporated in May 1991 to process Middle East sour crude (i.e crude with sulfur content of more than 0.5 wt%). [2]

1.1.2 Crude Preheat Train of PPMSB

The Crude Preheat Train in the Crude Distillation Unit (CDU) is a series of heat exchangers used to maximize heat recovery by having heat exchange from the CDU product pumparounds streams with the mixed crude from the storage tanks. The CPT in PP(M)SB has four Pre-Desalter and seven Post-Desalter heat exchangers. The mixed crude oil is preheated from the ambient temperature to 130 °C in the Pre-Desalter heat exchangers before entering the Desalter Vessel. The mixed crude then is further preheated up to 232 °C before entering the Preflash Drum, Furnace and the Distillation Column. [3]

For this final year research project, main focus of the modeling optimization is the continuation from the previous heat exchanger E-1104. It has a counter flow of one shell pass and six tube passes with crude oil as the shell side fluid and LSWR as the tube side fluid. Subject to the available time frame, NN based model for all eleven heat exchangers in the CPT of the CDU will be considered and developed gradually.

1.1.3 Fouling and Heat Exchanger Maintenance

Fouling in heat exchanger tends to reduce the overall heat transfer coefficient. The two main impacts of fouling on preheat train operation are reduced heat recovery and increased pressure drop. By theory, fouling happen when small particles and thick fluids with relatively low thermal conductivity deposit on the heat transfer surfaces, thus building up higher heat transfer resistance. The phenomena explain why a fouled heat exchanger could not meet the targeted heating or cooling requirement and need to be compensated by additional heating or cooling outside the heat exchanger which resulted in higher energy consumption.

There are two key parameters influencing the fouling rate of a heat exchange surface namely the film temperature and the fluid velocity at the vicinity of the surface. The first way in fouling mitigation technique is to clean the heat exchangers at regular intervals.

However, this benefit is rapidly lost after a few weeks as several exchangers are prone to rapid fouling. [4] In PP(M)SB, two common methods widely applied to remove deposit in the CPT heat exchangers namely mechanical cleaning and hotmelting.

Through mechanical cleaning, deposited material can be removed completely and the peak efficiency of the respective heat exchanger after cleaning may reach the design value. However, it might require 3 days of completely shutdown of the equipment for cleaning purpose. Meanwhile for hotmelting, the cleaning can be done on-line such that the crude will bypass the fouled heat exchanger when the heating medium is flowing through to melt off the foulants. Kerosene or diesel wash (i.e act as flushing oil) are used to effectively dissolve these foulants. However, hotmelting does not remove the deposit completely especially the heavy sludge but take lesser time (8 hours) as compared to mechanical cleaning. [3]

1.2 PROBLEM STATEMENT

Due to the frequent changes in process condition and irregular fouling rate in the heat exchanger, a reliable tool is needed to assess and monitor the effect of every individual fouling resistance on the preheat train overall fouling trend. [4] The former NN Predictive Model for Heat Exchanger Efficiency in the CPT of PPMSB developed by Do Thanh Van used to predict the suitable time to clean the exchanger so that maintenance task can be prepared hence reduce the shutdown time.

The successful of the previous NN predictive model architecture is only capture the historical data of original Data Set A Reset Tube Integral Flow (IVt) taken from 2/06/2002 till 16/02/2005 with 933 observations but not for the new Data Set B Reset taken from 17/02/2005 till 9/06/2005 with 111 observations (i.e lack of robustness). Based on the results obtained from the ANOVA test performed by Mr. Nasser M Ramli and Ms. Haslinda Zabiri, the ANOVA results shown that between the old data set and the new data set 11 variables are statistically the same while 14 variables are statistically different. The statistical different in data indicates the data set are not from the same population and cannot be physically mean. This condition explains why the prediction using the old model for the new data is not really good that might incorporates some sort of gradual change which has been masked in the huge old data set. Thus, the old model need to be re-validated by tested against the tail of the old Data Set A Reset IVt with 121 observations and then compared with the Data Set B Reset to observe the data behavior changes. From the comparison, a new NN-based model is required and built using different approach in normalization technique of the Tube Integral flow (IVt). Optimization of the new NN-based model is necessary if there is gradual drift in the crude properties by dropping unnecessary parameters, introducing feedback with time lagged into the model and changing the NN modeling architecture and configurations.

1.3 OBJECTIVES AND SCOPE OF STUDY

1.3.1 Objectives

The objectives of this final year research project are as listed below:

i. To construct and develop a Feed Forward Backpropagation (BP) NN architecture using MATLAB's "Network/Data Manager".
ii. To train, validate and make necessary amendment on the best NN configurations by using training set of data with optimum number of predictors.
iii. To simulate network using testing set of data to compute the tolerance, percentage error, Root Means Square Error (RMSE), Correct Directional Change (CDC), scatter plot and residual of the network via Statistical Analysis.
iv. To optimize and enhance robustness of the Heat Exchanger Predictive Model by introducing feedback mode and implication of ANOVA.
v. To perform literature study on the Fouling mitigation technique and optimization of heat recovery system in preheat train.
vi. To develop the NN based model for all eleven heat exchangers in the CPT of PPMSB subject to the available time frame.

1.3.2 Scope of Work

The scope of research works covers the post modeling of the heat exchanger sensitivity analysis predictive model as continuation from the one developed by Do Thanh Van. As in line with the objectives set earlier, the tasks include comparison of the data behavior trends of both the *Data Set B Reset* and the *tail of old Data Set A Reset IVt*, optimization of the new NN model with different normalization technique by tested against normalized Tube Integral Flow using the minimum and maximum value of the whole period for both Data Set A and Data Set B, application of feedback mode in NN new model, implication of Statistical Analysis by application of ANOVA and literature study for optimization of heat recovery system and fouling propensity in the preheat train of Crude Distillation Unit.

The first task required the author to study on the features, characteristics and proper chronological of NN architecture and training to be applied in the heat exchanger modeling. The NN model training, validation and testing phase will be conducted in the MATLAB NN Tool with the integration of calculation spreadsheet created using Microsoft Excel®. For this project, the variables used have been reduced from original 25 predictors to 24 predictors by dropping the Flash Point.

Further study will be conducted to determine the accuracy and compatibility in the simulated results with implication of Statistical Analysis. Necessary amendment on the best NN configurations and modeling approach will be required if there is significant data behavior change observed. The successful of the predictive modeling enable the expansion of the project scope to develop NN based model for all eleven heat exchangers in the CPT of PPMSB subject to the available time frame.

CHAPTER 2

LITERATURE REVIEW AND THEORY

2.1 COLD LSWR PUMPAROUND HEAT EXCHANGER E-1104 A-D

Since the prediction using the old model for the new data set is not so good, therefore this project will concentrate on the previous model heat exchanger E-1104 A-D. The heat exchanger chosen has a counter flow of one shell pass and six tube passes with crude oil as the shell side fluid and LSWR as the tube side fluid. It consists of two pairs of identical series heat exchangers connected in parallel. Figure 1 below shows the preheat train system for CDU in PP(M)SB. [3]

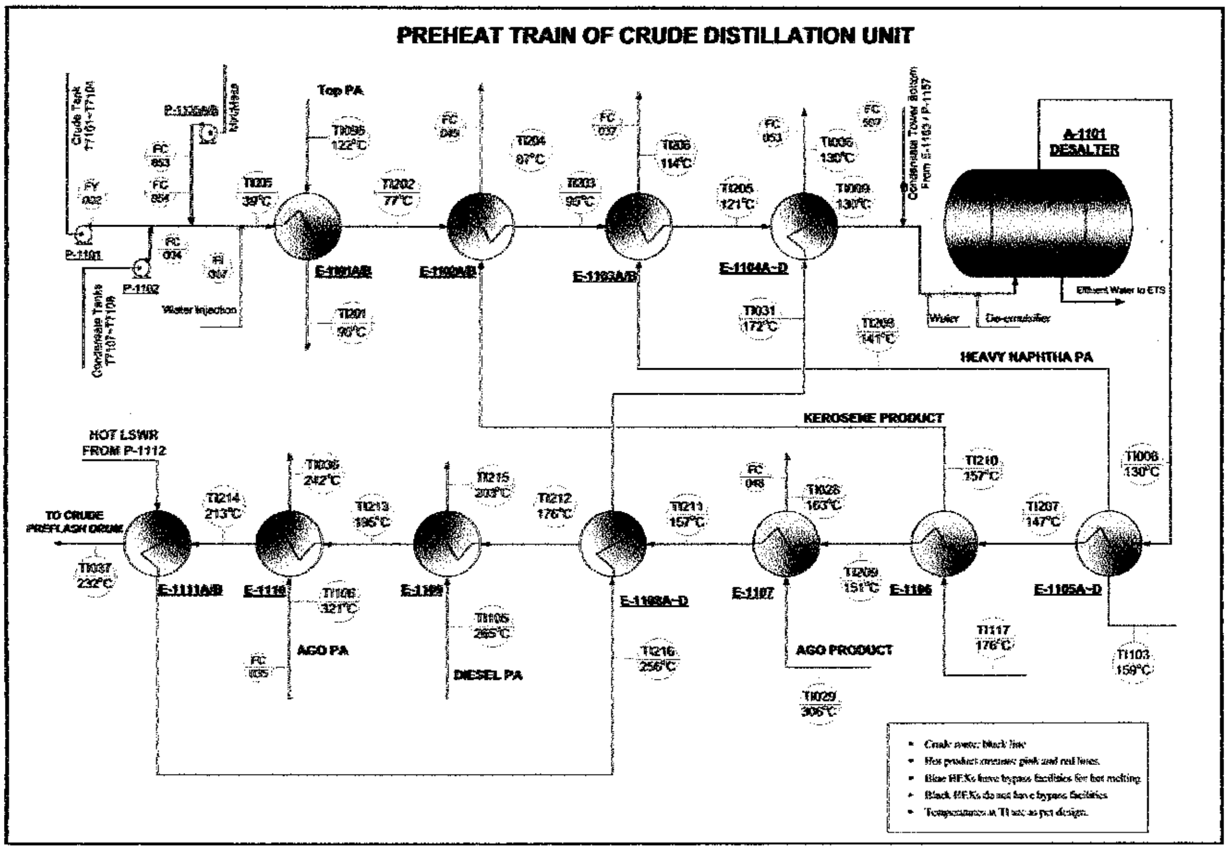


Figure 1. Preheat train system for Crude Distillation Unit

Legends of the Figure 1:

- Crude route is represented by the black line while the hot product streams are represented by the pink and red lines.
- The heat exchangers in blue have bypass facilities, whereas those in black do not.
- The temperature at the Temperature Indicator (TI) is as per design.

2.2 FOULING AND HEAT RECOVERY SYSTEM

2.2.1 Fouling in Heat Exchanger

By definition, fouling includes any kind of deposit of extraneous material that appears upon the heat transfer surface during the lifetime of the heat exchanger. An additional resistance to heat transfer is introduced and the operational capability of the heat exchanger is correspondingly reduced. In many cases, the deposit is heavy enough to significantly interfere with the fluid flow and increase the pressure drop required to maintain the flow rate through heat exchanger. [5]

Fouling of heat exchangers is one of the major concerns of the petroleum refining industry. It leads to operating problems, affects the efficiency of the heat recovery systems, and can seriously alter the profitability of a refinery through over consumption of fuel, throughput reduction during cleaning operations, significant increase in pressure drop, furnace bottlenecking, increase of maintenance costs etc. Since the preheat train of CDU is the heavy energy consumer in the refinery operation, the smart way to mitigate fouling is to start from the design step of the exchangers. In the refining industry where shell & tube heat exchanger are widely applied, the common methods used are: [4]

- Usage of anti-fouling additives.
- Careful sequential ordering of the processed crude.
- Adapt the lay out to facilitate heat exchanger cleaning operations such as mechanical cleaning (i.e turnaround), hotmelting, bypasses and shells connected in parallel.

In addition, splitting crude stream is encouraged as it is the only cold stream and needs to be contacted by many hot streams. Where pump-around streams are used as a source of heat, exchanger bypasses on the crude side are necessary to maintain a fixed duty which resulted in lower crude flow rates in the heat exchangers.

Chemical reaction fouling where deposition is caused by species generated through chemical reactions in the bulk fluid, viscous sublayer or tube walls tends to be the dominant fouling mechanisms in crude oil preheat trains (Watkinson and Wilson, 1997). Chronic chemical reaction fouling is very sensitive to high wall temperatures and low flow velocities. The network designs proposed by traditional energy integration approaches are likely to suffer severe fouling. Alternative approaches must therefore incorporate models for fouling behavior, to identify and avoid those conditions which promote significant fouling. [1]

2.2.2 Preheat train overall fouling trend

Fouling has significant impact on the refinery operation and utilization. However, the mechanism of fouling or factors contribute to it are still in research. Operating conditions mainly feed and product flow rate, are expected to vary on a daily basis due to crude slate changes and to throughput reduction due to fouling. Because of frequent changes in process conditions, a reliable tool is needed to assess the effect of every individual fouling resistance on the preheat train overall fouling trend by using the Normalized Furnace Inlet Temperature (NFIT) as the point of reference. The change in NFIT over the monitoring period is due only to changes in fouling resistances.

The NFIT monitoring approach which is widely applied in the Ebert and Panchal Model is according to the journal referred to M.Bories and T. Patureaux (2004). The validity of this approach has been demonstrated by a statistical analysis of fouling data collected in Chevron and Exxon refineries to determine whether it could explain the differences observed in the fouling rates of the exchangers of the preheat train in CDU.

In this model, the fouling resistance is obtained via the following formula:

$$R_f = \frac{1}{U_a} - \frac{1}{U_c} \qquad (1)$$

Where the fouling resistance, R_f appears to be linear function of time. Based on the observations done, ***heat exchangers upstream the Desalter*** unit present much ***lower fouling rates*** than those placed downstream. In general cases, the exchanger presenting the highest fouling rate is the hottest one just before the furnace. The preheat exchanger network scheme and the trend on heat exchanger fouling rates are attached in Appendix A-1 and A-2 respectively.

In agreement to the Ebert and Panchal Model, fouling model on minimize fouling while maximizing heat recovery according to the journal referred to B.L Yeap, D.I Wilson, G.T Polley and S.J.Pugh (2004) stated that the ***chemical reaction fouling is dominant fouling mechanism in the hottest exchangers*** (i.e near to the furnace). Chemical reaction fouling nature characteristic which is very sensitive to temperature and less sensitive to flow velocity appears to be contradicting to the design philosophy. The main objective of the preheat train which is to maximize heat recovery resulted in higher crude stream temperature and hence greater fouling, which eventually deteriorates the preheat train network performance over time.

2.3 NEURAL NETWORK MODELS

Most industrial processes such as chemical reactors and separation systems exhibit nonlinear behavior such that significant engineering time and effort is required to develop and validate detailed theoretical dynamics models. Neural Networks (NN) or Artificial Neural Networks (ANN) are important class of empirical non-linear models to model complex or little understood process with large input-output data sets and as well to replace models that are too complicated to be solved in real time (Ramchadran and Rhinehart, 1995; Su and McAvoy, 1997). [6]

2.3.1 Biological Analogy

The exceptional computational abilities of the human brain have motivated the concept of NN. The inherent characteristics of the brain can perform certain types of computation such as perception, pattern recognition, and motor control much faster than existing digital computers (Su and McAvoy, 1997; Haykin, 1999). This complex and nonlinear computation performed by the human brain has led to the development of ANN by using structural constituents called neurons and the synaptic interconnection between them. Each of the neuron has a branching input structure (dendrites), cell body and branching output structure (axon). The real power of the NN comes when neurons are combined into the multilayer structures.

2.3.2 Artificial Neural Network

Artificial neural networks are relatively crude electronic networks of "neurons" based on the neural structure of the brain. It process records one at a time, and "learn" by comparing their prediction of the record with the known actual record. The errors from the initial prediction of the first record is fed back into the network, and used to modify the networks algorithm the second time for many iterations. As shown in Figure 2, a neuron in an artificial neural network is:

i. A set of input values (xi) and associated weights (wi).
ii. A function (g) that sums the weights and maps the results to an output (y).

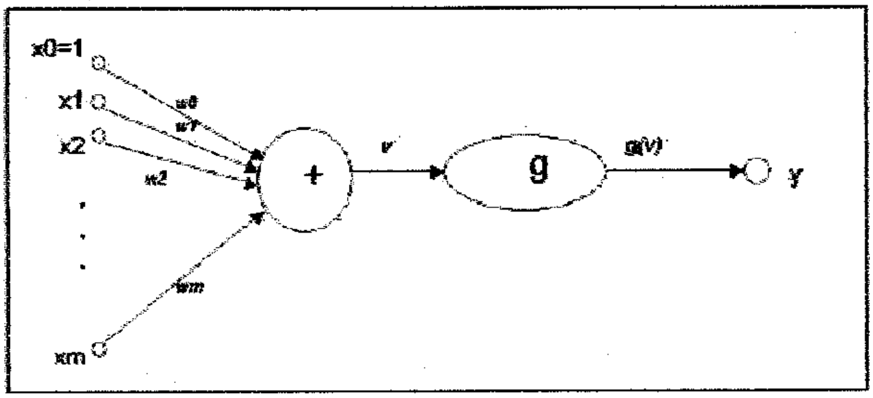


Figure 2. Signal diagram of Artificial Neural Network

Basically, the neurons (i.e nodes) are organized into several layers which are the *input*, *output* and *hidden layer* as shown in Figure 3. Each neuron in the hidden layer is connected to the neuron in adjacent layers via the connection weights. These weights are the unknown parameters that are estimated based on the data input/output from the process to be modeled. The number of the unknown parameters can be quite large and powerful nonlinear programming algorithms are required to fit the parameters to the data using the least-squares objective function (Edgar et al., 2001). If enough neurons are utilized, it is proven that any input-output process can be simulated accurately by a NN model (Su and McAvoy, 1997).

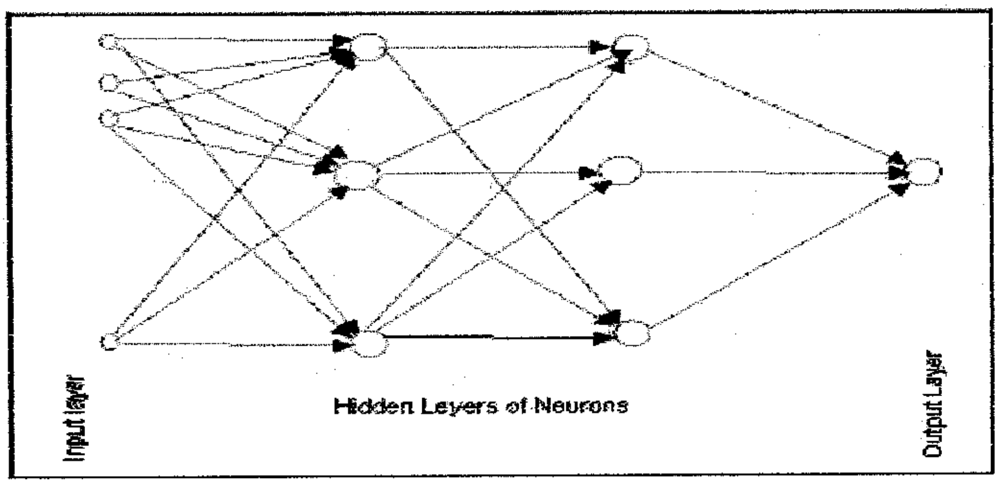


Figure 3. Multilayer Neural Network with three layers.

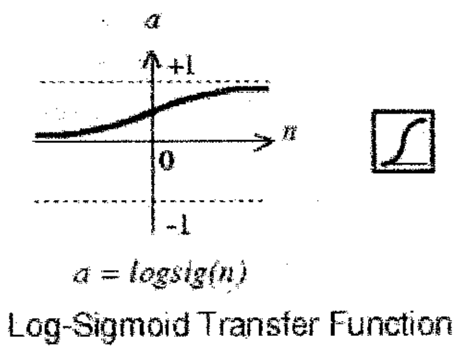
Training of a NN model involves estimating the unknown parameters which generally utilizes normal operating data taken in the operating region where the model is intended to be used. The network processes the records in the training data one at a time, using the weights and functions in the hidden layers and compares the resulting outputs against the desired outputs. Errors are then propagated back through the system, causing the system to adjust the weights for application to the next record to be processed. This process occurs over and over as the weights are continually tweaked. During the training of a network the same set of data is processed many times as the connection weights are continually refined.

After the parameters have been trained, another large set of data is used to validate whether the model is adequate. Changes in the NN architecture must be made often by trial and error if the resulting NN model is not satisfactory.

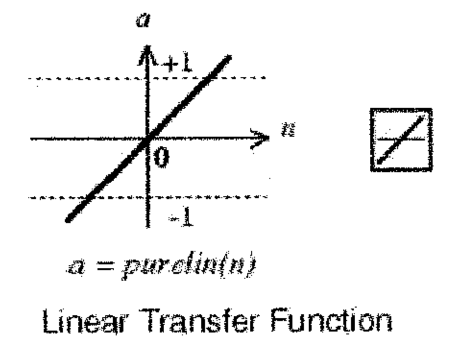
2.3.3 Feedforward Back Propagation Network

The feedforward, back-propagation architecture was developed in the early 1970's by several independent sources (Werbor; Parker; Rumelhart, Hinton and Williams). Currently, this synergistically developed back-propagation architecture is the most popular, effective, and easy-to-learn model for complex and multi-layered networks. Its greatest strength is in non-linear solutions to ill-defined problems by generalizing the Widrow-Hoff learning rule. The typical back-propagation network has an input layer, an output layer, and at least one hidden layer. Each layer is fully connected to the succeeding layer. The backpropagation (BP) algorithm is also known as *error backpropagation* or *back error propagation* or the *generalised delta rule*.

The *Training* process uses some variant of the Delta Rule, which starts with the calculated difference between the actual outputs and the desired outputs. The connection weights are increased in proportion to the error times a scaling factor for global accuracy provided the inputs, output and the desired output must be present at the same processing element. The complex part of this learning mechanism is for the system to determine which input contributed the most to an incorrect output and how does that element get changed to correct the error. An inactive node would not contribute to the error and would have no need to change its weights. The training inputs are applied to the input layer of the network, and desired outputs are compared at the output layer. During the learning process, a forward sweep is made through the network, and the output of each element is computed layer by layer. The difference between the output of the final layer and the desired output is back-propagated to the previous layer(s), usually modified by the derivative of the transfer function, and the connection weights are normally adjusted using the Delta Rule. This process proceeds for the previous layer(s) until the input layer is reached. Networks with biases, a sigmoid layer, and a linear output layer are capable of approximating any function with a finite number of discontinuities. The most commonly used transfer functions include PURELIN and LOG-SIGMOID as shown in Figure 4.



(a)



(b)

Figure 4. Purelin and log-sigmoid transfer functions.

2.3.4 Structuring the Feedforward Back Propagation Network

The number of layers and the number of processing elements per layer are important decisions. There is no quantifiable or best answer to the layout of the network for any particular application. However, the followings are the general rules in developing a NN model:

Rule One: As the complexity in the relationship between the input data and the desired output increases, the number of the processing elements in the hidden layer should also increase.

Rule Two: If the process being modeled is separable into multiple stages, then additional hidden layer(s) may be required. If the process is not separable into stages, then additional layers may simply enable memorization of the training set, and not a true general solution effective with other data.

Rule Three: The amount of training data available sets an upper bound for the number of processing elements in the hidden layer(s). To calculate this upper bound, use the number of cases in the training data set and divide that number by the sum of the number of nodes in the input and output layers in the network. Then divide that result again by a scaling factor between five and ten. Larger scaling factors are used for relatively less noisy data. Too many of the artificial neurons causing the training set will be memorized hence generalization of the data will not occur making the network useless on new data sets (i.e over trained of the model).

2.4 STATISTICAL ANALYSIS

2.4.1 Analysis of Variance (ANOVA)

The main purpose of Analysis of Variance (ANOVA) is to test differences in *means* (for groups or variables) for statistical significance. For this project, ANOVA test is performed to verify that the original and the three segmented sets (i.e Training, Validation and Test set) are from the same population. This is accomplished by analyzing the variance, by partitioning the total variance into the component that is due to true random error (i.e., within- group *SS*) and the components that are due to differences between means. These latter variance components are then tested for statistical significance. The comparison between the actual variation of the group averages and that expected is expressed in terms of the *F* ratio:

F = (found variation of the group averages)/ (expected variation of the group averages)

The null hypothesis is correct whenever *F* to be about 1 whilst "large" *F* indicates a location effect. The P-value (i.e probability) reports the significance level of the data such that:

- If P-value > 0.05 accept Null hypothesis.
- If P-value < 0.05 reject Null hypothesis.

2.4.2 Root Means Square Error (RMSE)

RMSE is used to determine the error between the predicted and calculated values by using the following formula: [3]

$$RMSE = \sqrt{\frac{\sum_{1}^{N}[\tilde{y}_i(t) - y_i(t)]^2}{N}} \qquad \textbf{(2)}$$

Where $y_i(t)$ is the actual value for the variable i at time, t

$\tilde{y}_i(t)$ is the forecast value

N is the total number of measurement value for variable i

The percentage error of RMSE of less than 5 % is considered good for the modeling. The RMSE and the percentage error were calculated using the Microsoft Excel® Spreadsheet. The following is the formula used for percentage error calculation:

$$Percentage error(\%) = \frac{RMSE}{Mean Actual Temperature} x100\% \quad (3)$$

2.4.3 Correct Directional Change (CDC)

CDC is the number of times the prediction observation followed the up and down movement of the known target variable. It is another important measurement to ensure the predicted results behave in correspond manner to the actual trend. The CDC formula is as follow with same nomenclature as RMSE calculation: [3]

$$CDC = \frac{100\%}{N-1}\sum_{t=2}^{N} D_t \quad (4)$$

Where $D_t = 1, if \left[y_i(t) - y_i(t-1)\right] x \left[\tilde{y}_i(t) - \tilde{y}_i(t-1)\right] > 0$

$D_t = 0, if \left[y_i(t) - y_i(t-1)\right] x \left[\tilde{y}_i(t) - \tilde{y}_i(t-1)\right] < 0$

CHAPTER 3
METHODOLOGY OF PROJECT WORK

3.1 PROJECT OVERVIEW

The project methodology for the post modeling of the heat exchanger sensitivity analysis predictive model will be similar to the previous model developed by Do Thanh Van. In general, the modeling and simulation work will utilize MATLAB Version 6.1. The NN model training, validation and testing phase will be conducted in the MATLAB Neural Network Toolbox's Network Data Manager with the integration of calculation spreadsheet created using Microsoft Excel®.

The relevant data of the preheat train used for this project is on daily average basis taken from 2/06/2002 to 16/02/2005 for Data Set A with 933 observations and the extension of new data for Data Set B taken from 17/02/2005 to 9/06/2005 with 111 observations. A new approach is applied by normalizing the Tube Integral Flow (IVt) using the minimum and maximum value of the whole period for both Data Set A and Data Set B. The original 'Reset' method in IVt calculation used in the previous model has been dropped for better accuracy of the results. For this project, the variables used have been reduced from original 25 predictors to 24 predictors by dropping the Flash Point. Prior to minimize error in the predicted results, *Feedback mode* has been applied for both Data Set A and Data Set B with time lagged by *two days* hence making a total of 28 predictors.

3.2 PROJECT METHODOLOGY

This project is carried out in series of stages as follows:

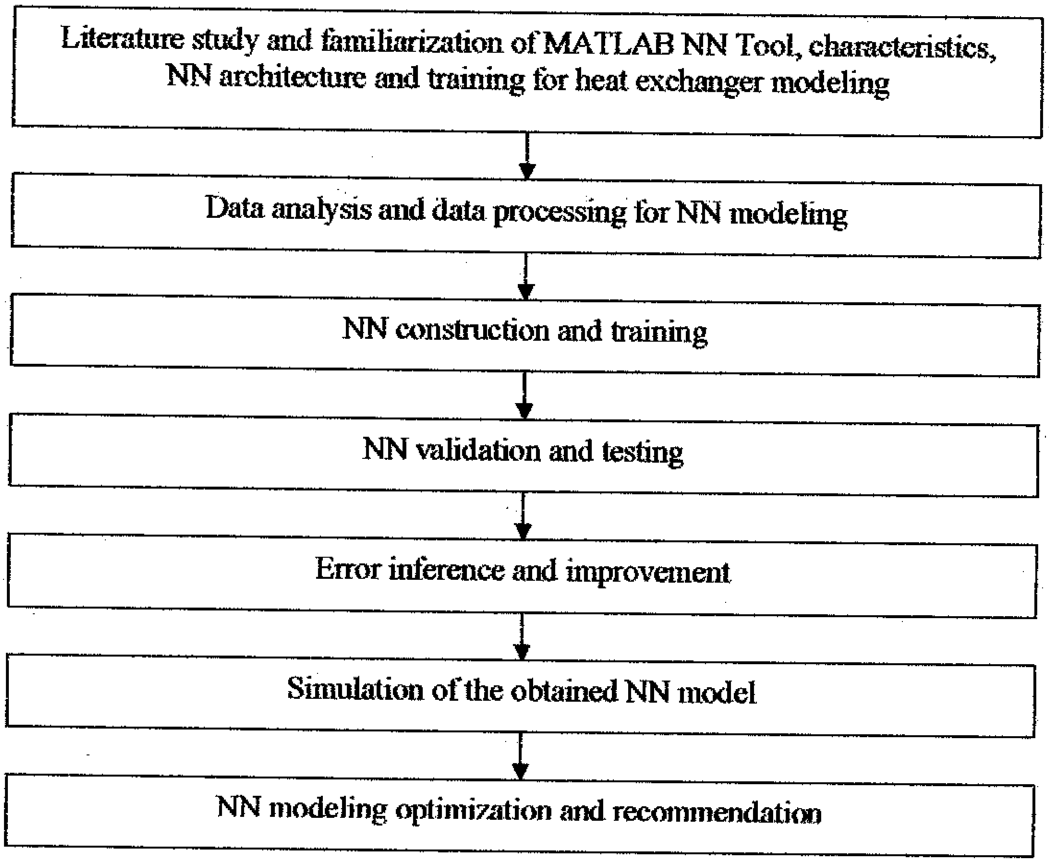


Figure 5. Project methodology for NN post modeling of heat exchanger

3.2.1 Literature Study and Familiarization of MATLAB NN Tool

Familiarization of MATLAB NN Tool is done by study the features, characteristics and proper chronological of NN architecture and training to be applied in the heat exchanger modeling. The MATLAB NN Tool is built with the integration of Microsoft Excel® calculation spreadsheets. All relevant data for the CPT modeling were organized in proper spreadsheets manner for ease of data analysis. The variables included process data (tube and shell side flow rates and temperature), lab data (different crude properties) and planning data (crude type and blend compositions).

3.2.2 Data Analysis and Processing for Neural Network Modeling

The original 'Reset' normalization technique in the previous model has been removed and the new NN-based model is constructed by normalizing the Tube Integral Flow (IVt) using the minimum and maximum value of temperature for the whole range of Data Set A and Data Set B. Initial 25 variables were reduced to 24 by dropping the flash point, which served as the new predictors to the NN model as shown in Table 2.

Table 2. The finalized 24 predictors for new NN model

Peak Efficiency Value	-
LSWR- Tube side inlet temperature (11TI031)	°C
Tube side Volumetric Flow rate (11FC053)	m^3/hr
Tube Integral flow	m^3
Crude – Shell side inlet temperature (11TI205)	°C
Shell side total Volumetric Flow rate	m^3/hr
Shell Integral flow	m^3
Basic Sediment and Water	vol.%
Salt Content	lb/1000bbls
Wax Content	wt %
Pour point	°C
Asphaltenes	wt %
Total Acid Number	mgKOH/g
Nitrogen Content	ppm
Ash Content	wt %
Kinematic Viscosity @ 70°C	cSt
Characterization Factor	-
Sodium (Na)	ppm
Density @ 15°C	kg/L
Crude feed component for CDU - Tapis	vol.%
Crude feed component for CDU - Miri	vol.%
Crude feed component for CDU - Terengganu	vol.%
Crude feed component for CDU - Bintulu	vol.%
Crude feed component for CDU - Masa	vol.%

Data Set A was taken from 2/06/2002 till 16/02/2005 with total 933 observations for process modeling whilst Data Set B covered data from 17/02/2005 till 9/06/2005 with 111 observations. For NN construction, Data Set A is randomized and re-arranged in ascending order according to *random number* and followed by partition into three main parts:

(a) 50 % of observation data equivalent to 466 sets for ***training*** data.

(b) 40 % of observation data equivalent to 373 sets for ***validation*** data.

(c) 10 % of observation data equivalent to 94 sets for ***testing*** data.

Normalization of the data was performed using the following general equation:

$$x_n = \frac{(x - x_{min})}{(x_{max} - x_{min})} \qquad (5)$$

Where,

x = true value

x_n = normalized value

x_{min} = minimum value

x_{max} = maximum value

3.2.3 Neural Network Construction, Training, Validation and Testing

<u>Neural Network Construction</u>

Numerous trial and errors are needed prior to find the optimum number of hidden layers, number of neurons per layers, transfer function configurations and the learning function. As for this project, there are 3 main transfer functions namely PURELIN (P), LOGSIG (L) and TANSIG (T).

PURELIN is a linear transfer function. If linear output neurons are used, the network outputs can take any values. The function LOGSIG generates outputs from 0 to 1 as the neuron's net input goes from negative to positive infinity. Meanwhile, TANSIG function is non-linear transfer function which is bounded between -1 to 1 and analytic everywhere. According to the journal referred to S.S.P. Rattan and W.W. Hsieh (2004), it has to be a constant function for a complex transfer function to be bounded and analytic everywhere. Using a complex transfer function like TANSIG without any constraint will lead to non-convergent solutions (Nitta, 1997). Thus, early researchers did not consider such functions as suitable complex transfer functions since it mainly focused on overcoming the unbounded nature of the analytic functions in the complex domain but preserved the arguments or phases (Georgiou & Koutsouseras, 1992; Hirose, 1992) [7].

Here, 6 best combinations of NN transfer functions that have been considered for process modeling were; PLP, TLT, LLL, LPL, TTL and TLP. The best configuration for the NN model was selected from the model that gave the lowest RMSE, R^2 and CDC values. The number of neurons is equal to the number of inputs/outputs for the respective first and last layers.

Training and Validation

Validation set is needed to evaluate the performance of the trained model. Validation set can avoid over training of the NN model by providing early stopping. Normally validation set error value is compared with the trained set error value to determine the optimum model parameters, such as the number of epochs, transfer functions options and how many layers are necessary.

Testing

Test data was fed into the successfully trained model for simulation. The model is used to predict the tube and shell outlet temperatures based on the input data. A graph is plotted to compare the actual denormalized values and predicted values generated from the optimum NN configuration.

3.2.4 Error Inference and Improvement

The purpose of NN model improvement is to further minimize the error in prediction value. The improvement strategies are:

- By trial and error method, create different NN models using different training functions, increasing epoch number, changing number of layers and changing number of neurons in each layer.
- Addition of *Feedback variables* with time lagged as new predictors to the model for training and validation.
- Calculate RMSE, CDC and correlation coefficient, R^2 for test data at different criterions. The value of R^2 for both tube and shell side can be directly obtained by plotting actual versus predicted values in x-y graph using Microsoft Excel.

The statistical Analysis above can be summarized in tabulated form for ease of comparison and analysis of the model performance.

3.2.5 Simulation of the obtained NN model

The simulation results (i.e predicates) generated by the optimum NN model for both test set of Data set A and Data set B will be presented in scatter x-y graph using Microsoft Excel. The graph consists of the actual and predicted values for both the tube and shell outlet temperature.

3.2.6 NN modeling optimization

Feedback mode with time lagged by two days is applied for both the tube and shell outlet temperature. The lagged variables were fed back into the models as the new inputs making total of 28 predictors and the model has been re-trained to generate more accurate predicted results. Details on the Feedback mode will be further discussed in the Result and Discussion section.

ANOVA test was carried out to compare the means and standard deviations of the new NN model. This was done to ensure the sets of data in Data Set B are from the same population. The overall optimization strategy flow diagram of this NN modeling is shown in Figure 6 below.

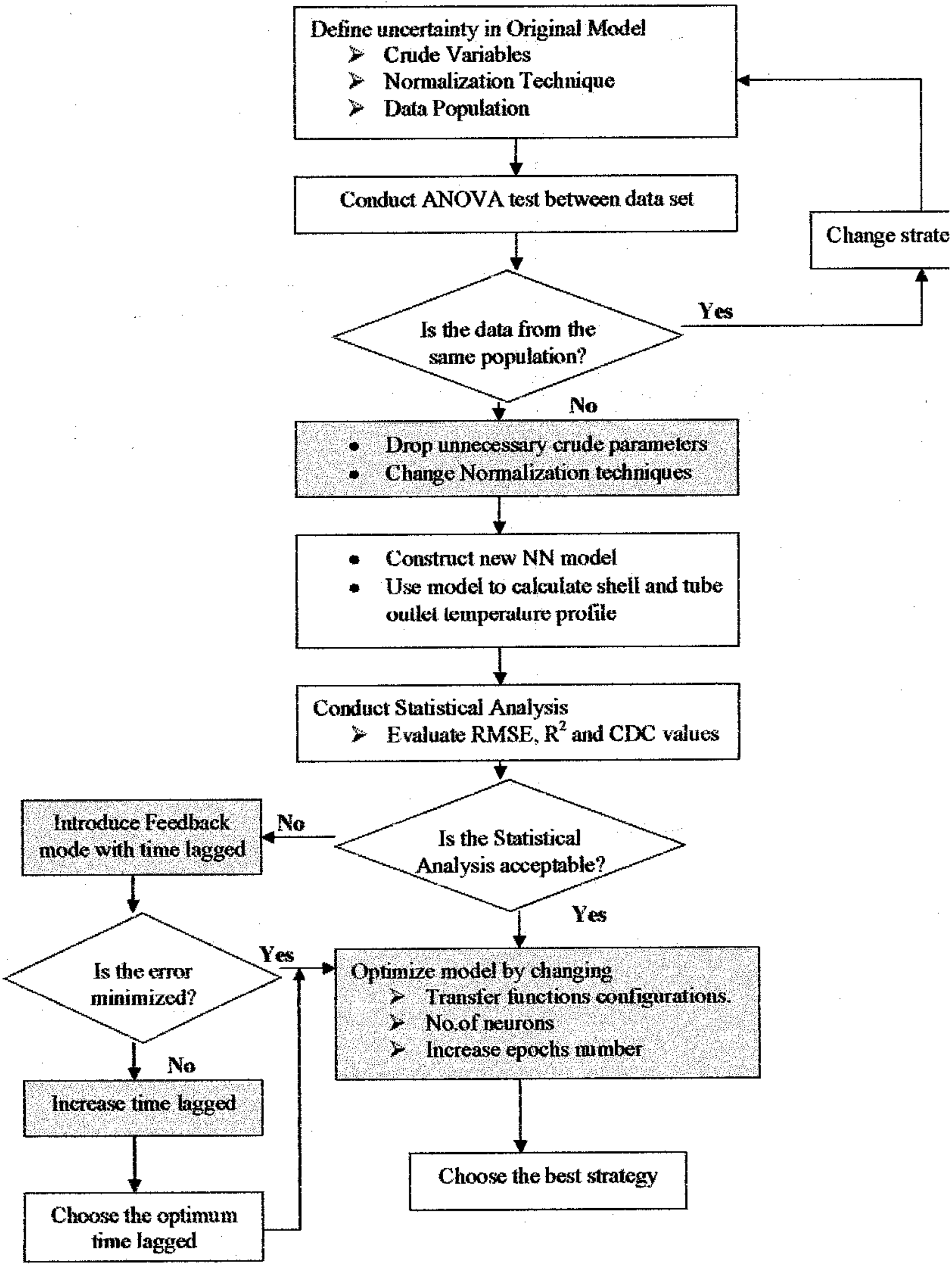


Figure 6. NN Modeling of Overall Optimization Strategy Flow Diagram

CHAPTER 4
RESULTS AND DISCUSSION

4.1 INITIAL FINDINGS

Due to lack of robustness of the previous NN predictive model, it can only capture the trend of tube and shell outlet temperature within the range of historical Data Set A Reset Tube Integral Flow (IVt) but not for the new Data Set B Reset. The ANOVA test conducted shown 11 variables are statistically the same while 14 variables are statistically different between the old data set and the new data set. The summary of the ANOVA test is shown in Table 3 below:

Table 3. Summary of ANOVA test between Data Set A Reset IVt and Data Set B Reset

Variables	P-value	Remarks
Ind: Index for cleaning time	1.91E-41	reject
Tin: Crude Shell side inlet temperature	4.71E-05	reject
IVc : Shell Integral flow	0.406177	accept
Vs: Shell side vol flow rate	0.800268	accept
ti: LSWR tube side inlet temp	0.710897	accept
IV t: Tube Integral flow	0.127711	accept
Vprod: tube side vol flow rate	0.000133	reject
TA: crude feed component for CDU (Tapis)	0.108277	accept
MR: crude feed component for CDU (Miri)	4.12E-09	reject
TC: Terengganu Condensate	1.92E-05	reject
BC: Bintulu Condensate	5.46E-21	reject
MA: Masa Crude	0.040933	reject
Density at 15 C	1.28E-14	reject
Flash points	0.619303	accept
Sed: Basic Sediment & water	0.075065	accept
TAN: total acid number	0.495126	accept
Pp: pour point	4.18E-50	reject
Sl: salt content	0.251915	accept
N2: Nitrogen content	3.05E-16	reject
Ash: Ash content	3.27E-09	reject
Wax: wax content	0.000234	reject
u: Kinematic viscosity at 70 C	2.36E-24	reject
CF: Characterization Factor	0.165629	accept
Asp: Asphaltenes	0.000839	reject
Na: Sodium	3.29E-06	reject
to(t): LSWR tube side outlet temp	5.55E-62	reject
Tout(t): Crude shell side outlet temp	0.184326	accept

The statistical different in means and standard deviations between Data Set A and Data Set B indicate those data set are not from the same population and cannot be physically mean. Here, the prediction using the old trained model for the new Data Set B resulted in significance error that might incorporates some sort of gradual change which has been masked in the huge old data set.

From the trend between the tail of the old Data Set A Reset IVt (i.e taken from 1/10/2004 to 16/2/2005 with 121 observations) and Data Set B Reset as shown in Figure 7 and Figure 8 respectively, the predicted de-normalized values for both shell and tube outlet temperatures of tail Data Set A was good whilst for Data Set B the values suddenly deteriorated. Thus, a new NN-based model using different approach in normalization technique is required to minimize the error in the predicted values. The followings are the statistical analysis done for the tail Data Set A and Data Set B:

Table 4. Statistical Analysis on Tail Data Set A Reset IVt and Data Set B Reset

Stat Analysis	Tube outlet (to)		Shell outlet (Tout)	
	Set B Reset	Set A tail	Set B Reset	Set A tail
RMSE	24.0785	2.7989 (1.8293%)	4.2224	1.3850 (1.166%)
CDC	89.3805	86.6667	74.3363	80
R2	0.682	0.9195	0.8397	0.9336

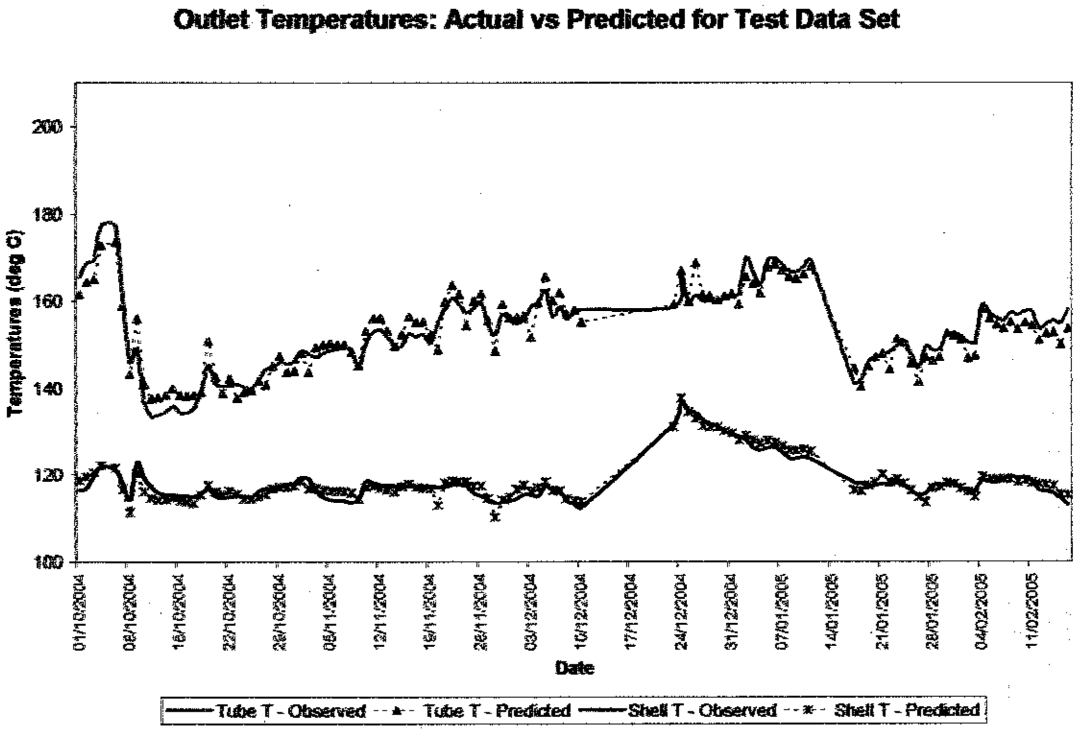


Figure 7. Graph of predicted and actual de-normalized outlet temperatures for tail of Data Set A Reset IVt.

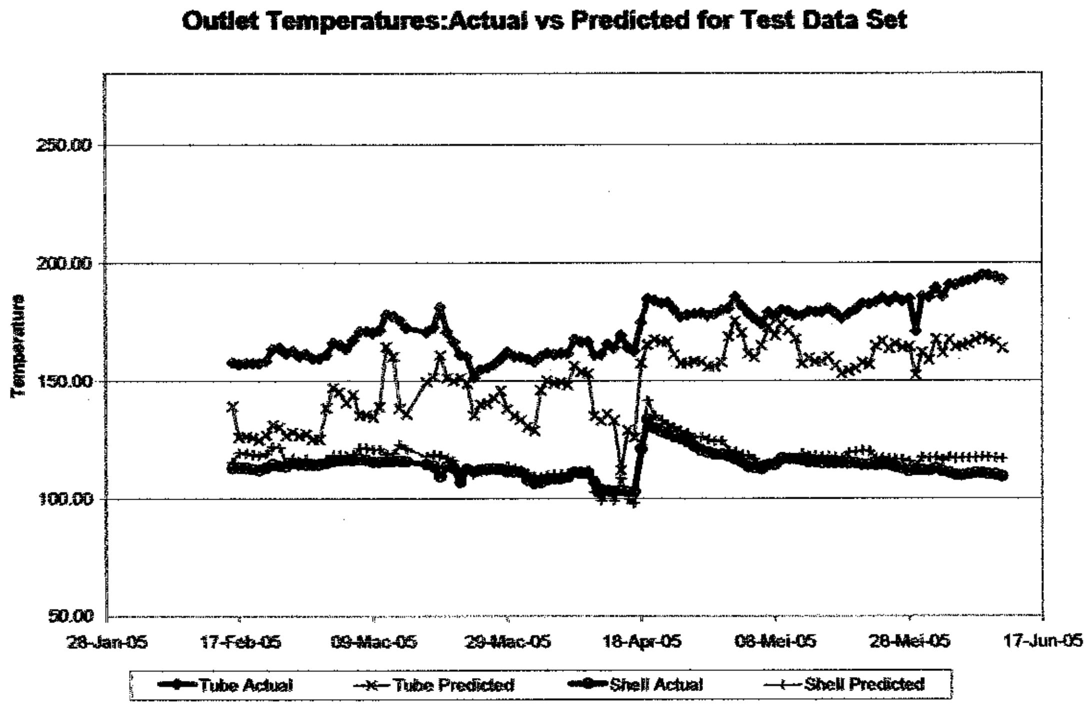


Figure 8. Graph of predicted and actual de-normalized outlet temperatures for Data Set B Reset

4.2 OPTIMIZATION STRATEGIES

This post modeling of heat exchanger sensitivity analysis utilizes neural network (NN) based model that covered a *step by step optimization approaches* done on the previous model which is developed by Do Than Van using original 25 predictors trained at 300 epochs number. The main objectives of this study are to minimize the error in the predicted values and enhance the robustness of this model to predict in future rather than memorizing the pattern of training data behavior. Basically this study is carried out in series of stages as follows:

4.2.1 Different Approach in Normalization Technique

In response to the matter in Section 4.1, a new NN model was constructed by normalizing the Tube Integral Flow (IVt) using the minimum and maximum value of the whole period for both Data Set A and Data Set B. The original 'Reset' normalization technique in the previous model has been removed. Original 25 variables used in the previous model were reduced to 24 variables by dropping the flash point, which served as the new predictors to the NN model.

The new NN model utilized the same NN configuration as previous model by using PLP transfer function at 300 epochs number. However, the predicted results were still not satisfied even though the results for Data Set B gave slight improvement to the tube and shell side RMSE values. The optimum configurations for the NN model are tabulated in Table 5 whilst the statistical analysis done for this new model is shown in Table 6.

Table 5. The optimum settings for new NN model construction

Parameters	Values
Network	Feed-forward back propagation
Training function	TRAINRP
Adaptation learning function	LEARNGDM
Performance function	MSE
Epochs	300
Number of layer	3

Layer 1: number of neurons Transfer function	24 PURELIN
Layer 2: number of neurons Transfer function	15 LOGSIG
Layer 3: number of neurons Transfer function	2 PURELIN
Min grad	1E-006
Max fail	5
delt_inc	1.2
delt_dec	0.5
delta0	0.07

Table 6. Comparison of Statistical Analysis between the new and original NN model

SET A

Stat Analysis	Tube outlet (to)		Shell outlet (Tout)	
	Original	New	Original	New
RMSE	2.1875	3.034	0.9523	1.5606
CDC	93.5484	93.5484	92.4731	93.5484
R2	0.9765	0.9547	0.9789	0.9395

SET B

Stat Analysis	Tube outlet (to)		Shell outlet (Tout)	
	Original	New	Original	New
RMSE	24.0785	22.9702	4.2224	2.9529
CDC	89.3805	90	74.3363	71.8182
R2	0.682	0.6271	0.8397	0.7333

Basically, the NN model is used to predict the tube and shell outlet temperatures based on the input data. Here, the predicted results for Data Set B would be of interest throughout the discussion to show the accuracy and robustness of the optimized model in predicting future trend. Figure 9 shown the graph of the actual de-normalized and predicted values generated from the new NN model with 24 predictors. The plots for the tube and shell side temperature coefficient of correlation are shown in Appendix B-1 and B-2 respectively.

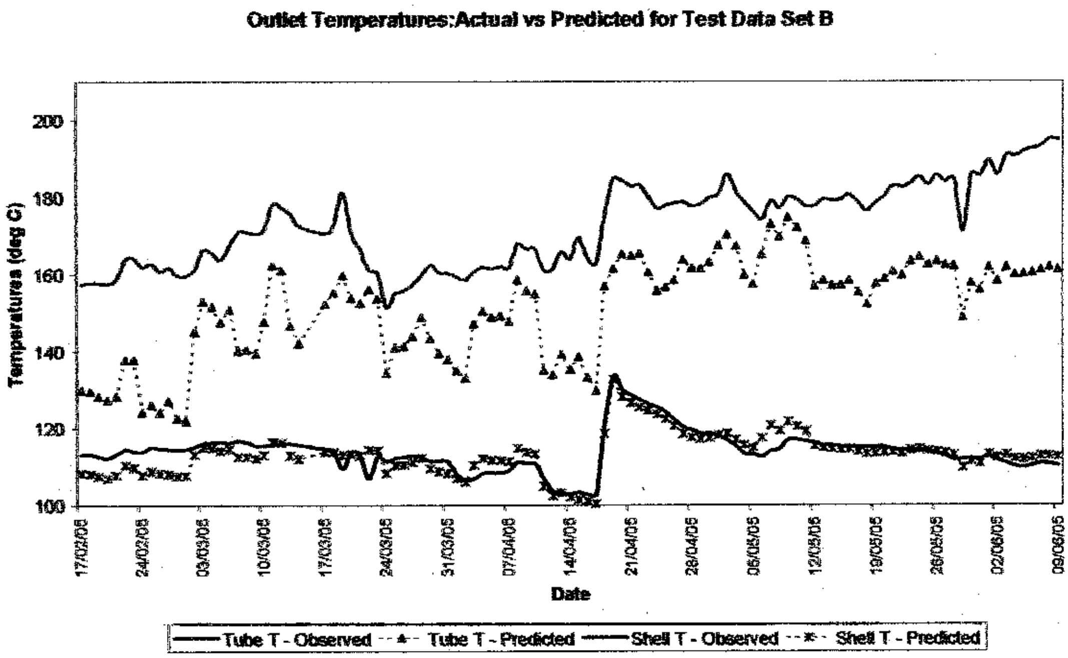


Figure 9. Graph of predicted and actual de-normalized outlet temperatures for new NN model with 24 predictors.

4.2.2 Introduction of Feedback Mode with Time Lagged

Prior to minimize error in the predicted values for Data Set B especially the tube side outlet temperature, the new NN model is further optimized by introducing the *feedback variables* with time lagged by *two days* in the Training, Validation and Testing data (Please refer to Appendix C-1 for raw data). The predicates (i.e output) of the NN model which refer to the tube side outlet temperature (to) and shell side outlet temperature (To) were lagged by 2 days and fed back into the model as the predictors (i.e input) at (t-1), (t-2), (T-1) and (T-2) as shown in Appendix C-2.

The feedback mode has been applied for both Data Set A and Data Set B with total of *28 predictors* (i.e original 24 predictors + 4 feedback variables) at 400 epochs number. From the comparison done between the three best combinations of NN transfer functions namely *PLP, TLT and LLL*, the combination of **PLP** transfer functions configuration appeared to give the **best overall performance** in term of RMSE and CDC for both the tube and shell side as compared to others.

Introduction of feedback variables into the new NN model resulted in *significant improvement* in the tube side outlet temperature (to) for Data Set B provided the RMSE values has been *reduced by half*. This is because the feedback variables comprise of lagged predicates values will be further used to compare with the desired output and back propagated to the previous layer causing the system to adjust the weights to be processed many times as the connection weights are continually refined. Thus, this improves the accuracy and reduces the sudden 'jump' of the predicted values. However, the RMSE value of the predicted shell side outlet temperature were slightly increased but within compromise values.

Besides, the epochs numbers that have been increased to 400 enable the data to be fully trained before the validation error started to increase. For this model, the epoch stopped at 233, the desired error was 0 and the performance was 0.000687244 as shown in Appendix C-3. The optimum configurations for the NN model are tabulated in Table 7 whilst the statistical analysis done for this feedback model is shown in Table 8.

Table 7. The optimum settings for feedback NN model construction

Parameters	**Values**
Network	Feed-forward back propagation
Training function Adaptation learning function	TRAINRP LEARNGDM
Performance function	MSE
Epochs	400
Number of layer	3
Layer 1 : number of neurons Transfer function	28 PURELIN
Layer 2: number of neurons Transfer function	15 LOGSIG
Layer 3: number of neurons Transfer function	2 PURELIN
Min grad	1E-006
Max fail	5
delt_inc	1.2
delt_dec	0.5
delta0	0.07

Table 8.Statistical Analysis between TLT, PLP and LLL transfer functions configuration

SET A

Stat Analysis	Tube outlet (to)			Shell outlet (Tout)		
	TLT	LLL	**PLP**	TLT	LLL	**PLP**
RMSE	3.6653	3.0799	**3.671**	1.3740	1.6153	**1.9765**
CDC	91.3043	91.3043	**93.4783**	89.1304	91.3043	**90.2174**
R2	0.9418	0.9527	**0.9339**	0.9545	0.9372	**0.9046**

SET B

Stat Analysis	Tube outlet (to)			Shell outlet (Tout)		
	TLT	LLL	**PLP**	TLT	LLL	**PLP**
RMSE	9.1282	12.9041	**10.0755**	7.0602	3.3233	**3.5194**
CDC	81.4815	76.8519	**84.2593**	62.037	65.7407	**69.4444**
R2	0.6326	0.2347	**0.4861**	0.3066	0.7738	**0.7468**

Figure 10 shown the graph of the actual de-normalized and predicted values generated from the NN feedback model with 28 predictors using PLP transfer functions whilst Figure 11 and 12 shown the graphs for both TLT and LLL configurations respectively. The plots for the tube and shell side temperature coefficient of correlation for PLP feedback NN model are shown in Appendix D.

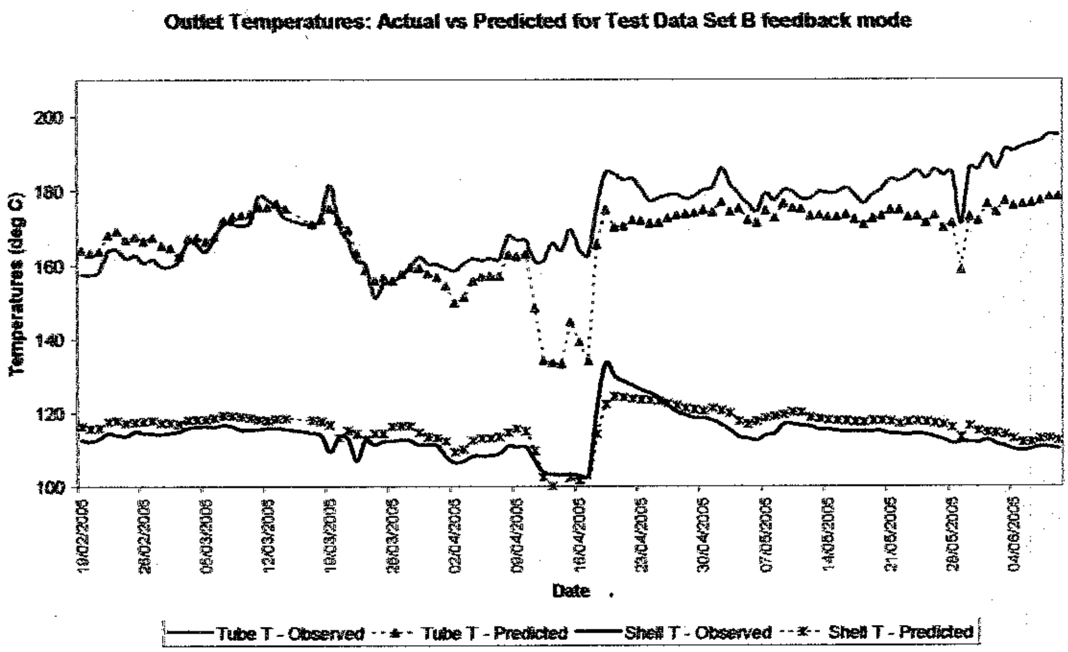


Figure 10. Graph of predicted and actual de-normalized outlet temperatures for new NN feedback model with 28 predictors using PLP

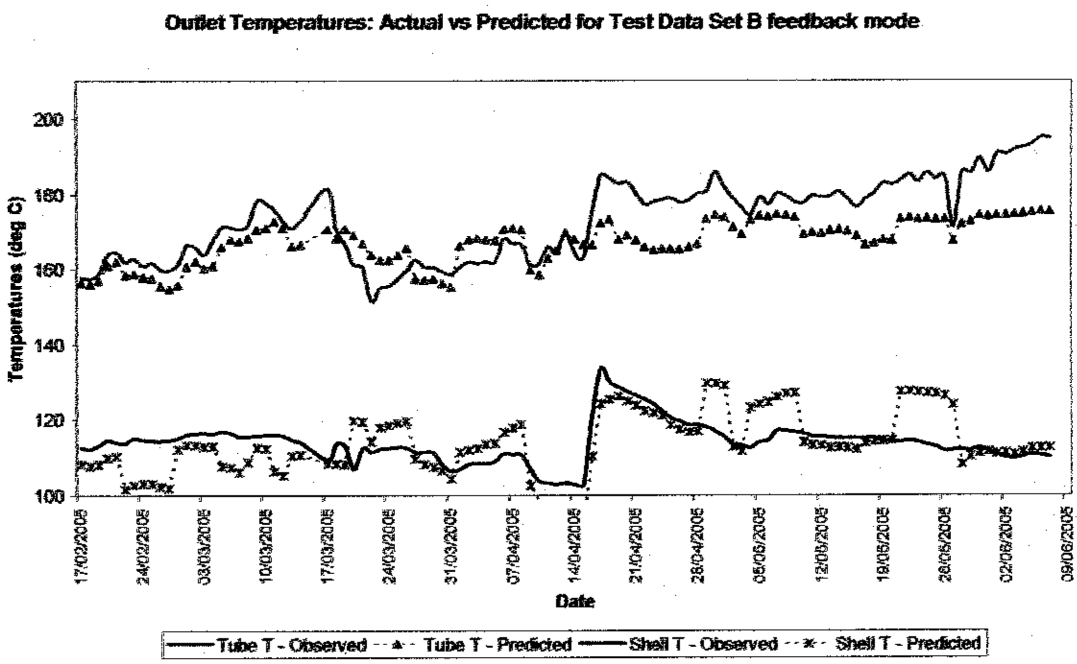


Figure 11. Graph of predicted and actual de-normalized outlet temperatures for new NN feedback model with 28 predictors using TLT

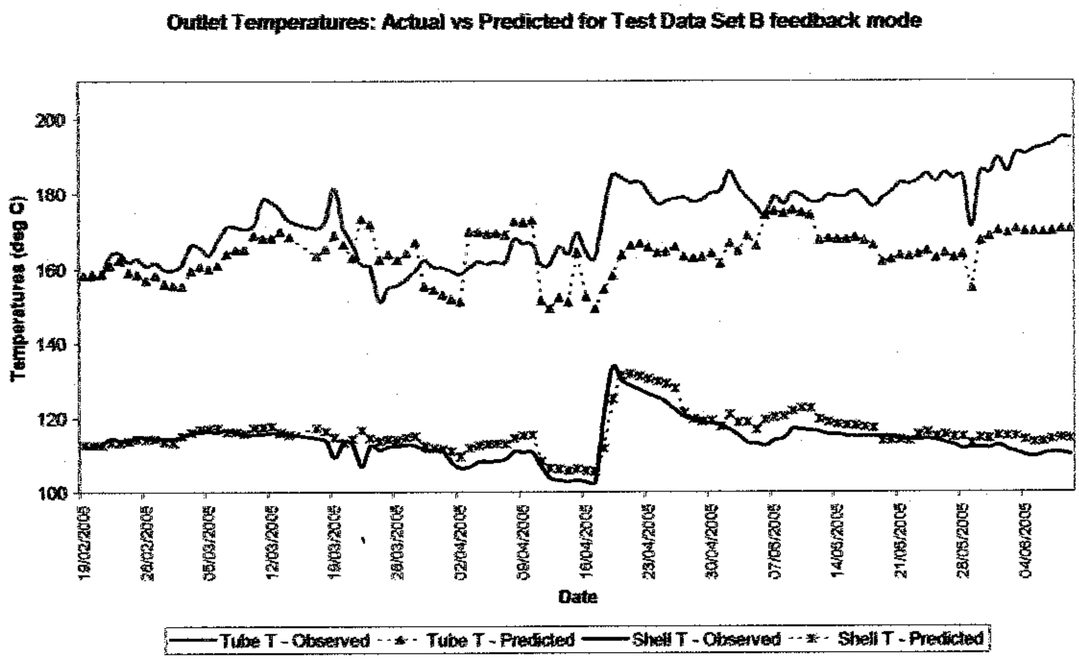


Figure 12. Graph of predicted and actual de-normalized outlet temperatures for new NN feedback model with 28 predictors using LLL

4.2.3 Increase Time Lagged in NN Feedback Mode

In response to the optimization strategy in Section 4.2.2, introduction of feedback mode with time lagged by 2 days able to reduce the RMSE values of the predicted tube side outlet temperature for Data Set B by half. Here, it is expected that by increasing the time lagged, the RMSE values will be further minimized.

The time lagged has been increased by 4 days for both the tube side outlet temperature (to) and shell side outlet temperature (To) at time (t-1), (t-2), (t-3), (t-4), and (T-1), (T-2), (T-3), (T-4) thus making a total of 32 predictors (i.e original 24 predictors +8 feedback variables). The new predictors had been trained at 400 epochs number using the optimum model with PLP transfer functions configuration.

From the statistical analysis done for Data Set B, increasing time lagged to 4 days resulted in *more deteriorated predicted values* in term of RMSE and R^2 as compared to feedback mode with time lagged by 2 days. However, the CDC values shown slight improvement. This phenomenon occurred because of the model might be "over-trained" and the model tends to memorize the patterns rather than generalizing the data hence making the NN model useless on the new data sets. As a conclusion, the optimum NN model settings for this post modeling study is *feedback NN model with time lagged by 2 days*.

The results on the statistical analysis is shown in Table 9 whilst Figure 13 shown the graph of the actual de-normalized and predicted values generated from the NN feedback model with time lagged by 4 days.

Table 9. Statistical Analysis between time lagged by 2 days and 4 days

SET A

Stat Analysis	Tube outlet (to)		Shell outlet (Tout)	
	lag 2	**lag 4**	lag 2	**lag 4**
RMSE	3.6710	3.2117	1.9765	2.2672
CDC	93.4783	88.3333	90.2174	70.8333
R2	0.9339	0.9471	0.9046	0.8793

SET B

Stat Analysis	Tube outlet (to)		Shell outlet (Tout)	
	lag 2	**lag 4**	lag 2	**lag 4**
RMSE	10.0755	**21.4678**	3.5194	**6.1395**
CDC	84.2593	88.3333	69.4444	70.8333
R2	0.4861	0.6692	0.7468	0.3282

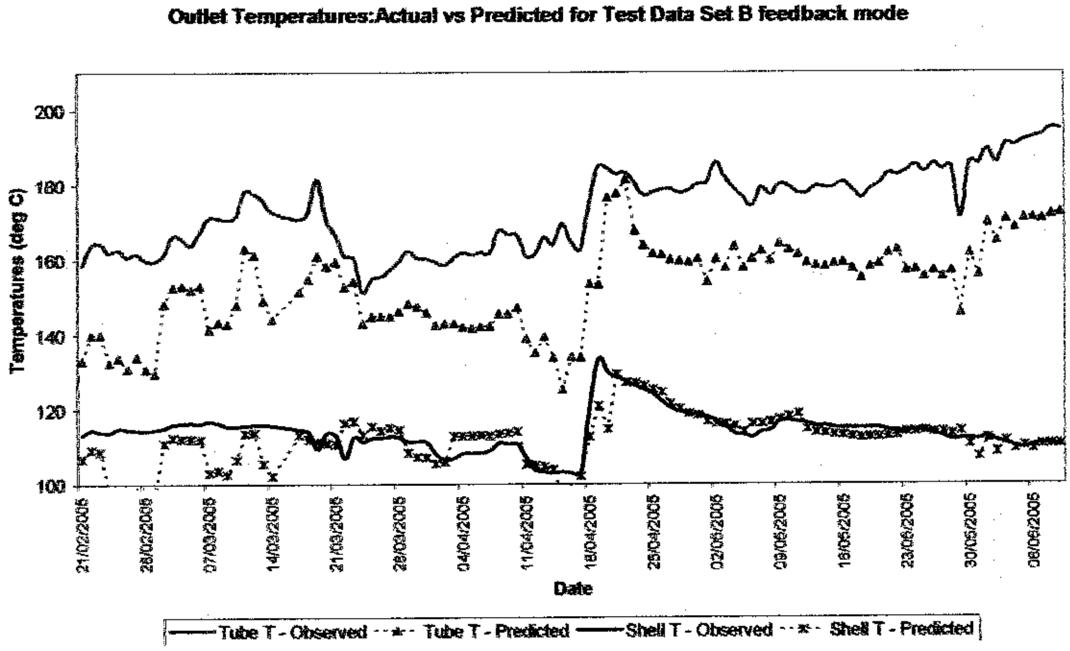


Figure 13. Graph of predicted and actual de-normalized outlet temperatures for NN feedback model with time lagged by 4 days.

4.2.4 Changing Number of Neurons in First/Middle Layer

At this stage, the optimization strategy is to give final polishing to the optimum NN model settings by changing the number of neurons in the first or the middle layer. By philosophy, as the complexity in the relationship between the input data and the desired output increases, the number of the processing elements in the hidden layer should also increase.

Via a lot of trials and errors, statistical analysis comparing three best NN transfer function configurations with different optimum number of neurons in different layers has been done respectively. The followings are the three best NN configurations with number of neurons at each layer inside the bracket for feedback NN model with time lagged by 2 days:

i. PLP [28,15,2]
ii. LLL [40,35,2]
iii. TLT [40,30,2]

Table 10 shown results on the statistical analysis of all the three configurations whilst Figure 14 and Figure 15 shown the trend on predicted temperature profile of Data Set B over time for both the LLL and TLT configurations respectively. For PLP configuration, the trend on the predicted temperature profile over time is given in Figure 10.

Table 10. Comparison of Statistical Analysis between TLT, LLL and PLP configurations

SET A

Stat Analysis	Tube outlet (to)			Shell outlet (Tout)		
	TLT [40,30,2]	LLL [40,35,2]	PLP [28,15,2]	TLT [40,30,2]	LLL [40,35,2]	PLP [28,15,2]
RMSE	3.2185	3.1359	3.671	2.0541	1.1922	1.9765
CDC	90.2174	91.3043	93.4783	85.8696	92.3913	90.2174
R2	0.9502	0.9525	0.9339	0.8991	0.9651	0.9046

SET B

Stat Analysis	Tube outlet (to)			Shell outlet (Tout)		
	TLT [40,30,2]	LLL [40,35,2]	PLP [28,15,2]	TLT [40,30,2]	LLL [40,35,2]	PLP [28,15,2]
RMSE	8.5287	9.9224	10.0755	4.6419	3.5250	3.5194
CDC	66.6667	72.2222	84.2593	60.1852	66.6667	69.4444
R2	0.4135	0.6204	0.4861	0.7632	0.7325	0.7468

Outlet Temperatures: Actual vs Predicted for Test Data Set B feedback mode

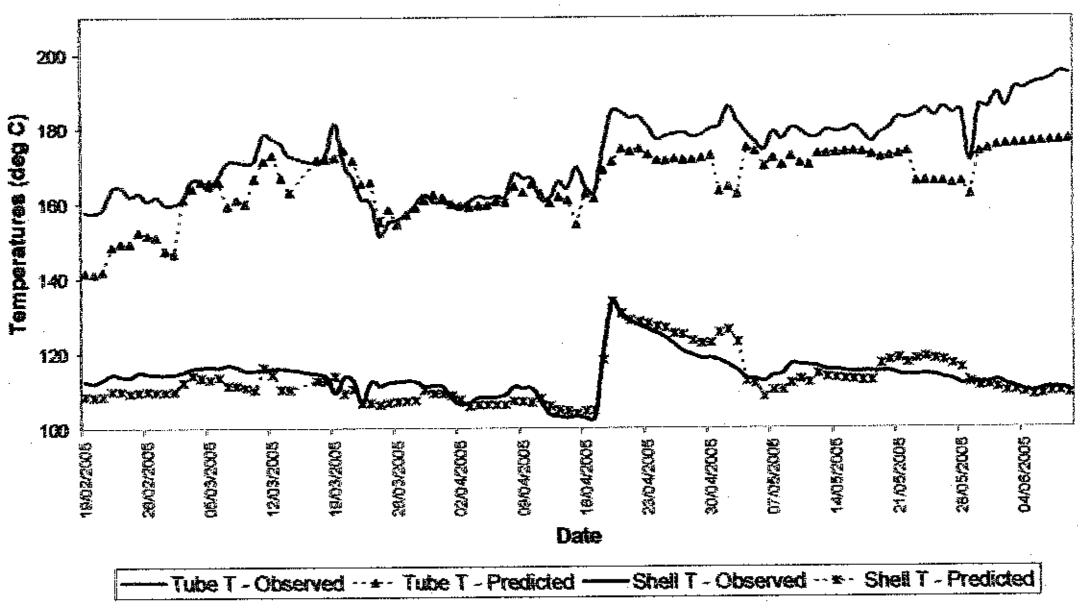


Figure 14. Graph of predicted and actual de-normalized outlet temperatures for NN feedback model for LLL [40,35,2] configurations.

Outlet Temperatures: Actual vs Predicted for Test Data Set B feedback mode

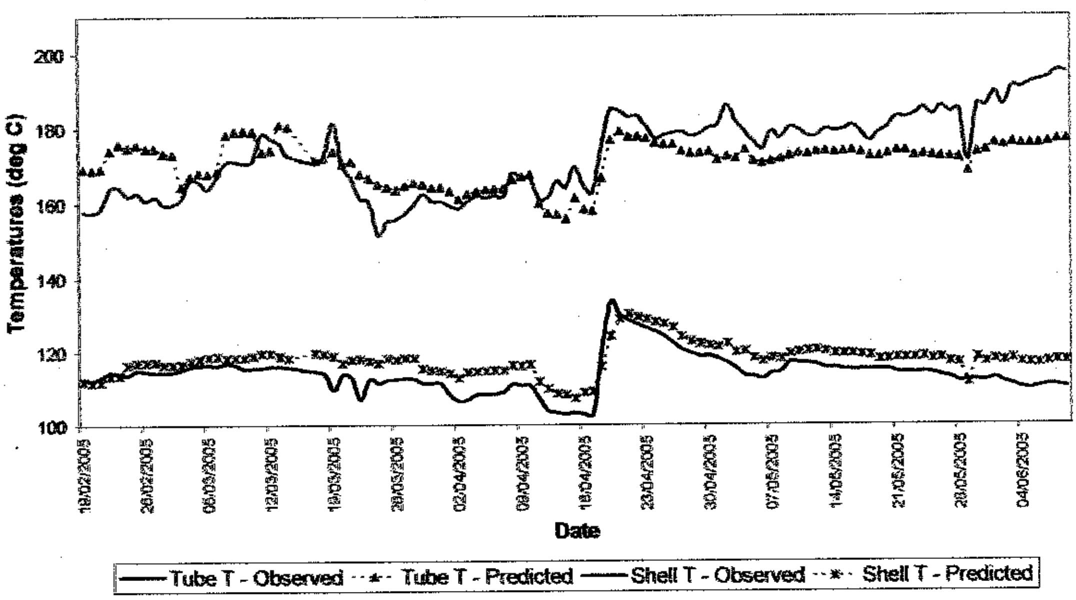


Figure 15. Graph of predicted and actual de-normalized outlet temperatures for NN feedback model for TLT [40,30,2] configurations.

From the comparison done on the statistical analysis results and trend of temperature profile between all the three NN transfer functions configurations, **PLP [28,15,2]** gives the **overall best performance** in term of RMSE, R^2 and CDC values.

Focusing on the results of the statistical analysis for Data Set B, even though the RMSE value of PLP configuration slightly higher than TLT and LLL configurations for the tube side, the CDC value of PLP is higher than the others. The higher the CDC values, the better the model can capture the direction change of the output during training process and can predict the change well. Based on Figure 10, the temperature profile plotted using PLP configuration follow the actual temperature trend and almost lies on the actual trend at the starting phase. These results indicate the model is good.

As for LLL configuration, the RMSE values is better than PLP but the starting and end phase of the predicted tube side outlet temperature profile shown fluctuation and deviated from the actual trend. Meanwhile, the TLT configuration gives the lowest RMSE value for the tube side but the temperature profile almost constant everywhere which is not good (i.e not following the actual trend) and indicating low CDC value.

4.2.5 Conduct ANOVA Test on Feedback mode PLP configuration (2 days lag)

From the optimum NN model settings, the trend of the temperature profile for both tube and shell side shown *drifting in data* between the first and the second half of the time range. Data Set B which covered data from 17/02/2005 till 9/06/2005 with 111 observations thus was segregated into 2 main parts to test on the population between data namely:

i. Part 1 - covered data from 19/02/2005 until 9/04/2005
ii. Part 2 – covered data from 10/04/2005 until 9/06/2005

ANOVA test has been conducted on the NN feedback model with time lagged by 2 days to ensure the sets of data in Data Set B are from the same population. Based on the results obtained, only 6 variables between the 2 main parts are statistically the same while remaining 22 variables are statistically different. The statistical different in data indicates the Data Set B are not from the same population and this explains why the error in Data Set B cannot be further optimized. According to the respective technologist in PP(M)SB, there were changes in the actual operating condition whereby the feed of the Crude Distillation Unit (CDU) has been reduced due to mechanical cleaning in heat exchanger E-1103 from 10/04/2005 until 18/04/2005 and the bypass stream of heat exchanger E-1104 was not opened during that time hence causing sudden drop in the actual tube and shell side outlet temperatures. The followings are the summary of the ANOVA test results:

Table 11. ANOVA test results

Variables	P-value	Remarks
Ind: Index for cleaning time	1.8E-124	reject
Tin: Crude Shell side inlet temperature	2.34E-06	reject
IVc : Shell Integral flow	5.22E-33	reject
Vs: Shell side vol flow rate	0.315317	accepted
ti: LSWR tube side inlet temp	5.89E-16	reject
IV t: Tube Integral flow	2.11E-33	reject
Vprod: tube side vol flow rate	0.038708	reject
TA: crude feed component for CDU (Tapis)	0.001548	reject
MR: crude feed component for CDU (Miri)	4.22E-06	reject
TC: Terengganu Condensate	0.003403	reject
BC: Bintulu Condensate	0.001583	reject
MA: Masa Crude	0.986997	accepted
Density at 15 C	2.07E-06	reject
Sed: Basic Sediment & water	0.00074	reject
TAN: total acid number	0.462966	accepted
Pp: pour point	0.396702	accepted
Sl: salt content	0.019643	reject
N2: Nitrogen content	4.19E-06	reject
Ash: Ash content	0.01255	reject
Wax: wax content	4.08E-06	reject
u: Kinematic viscosity at 70 C	0.290139	accepted
CF: Characterization Factor	2.87E-08	reject
Asp: Asphaltenes	0.952891	accepted
Na: Sodium	4.87E-05	reject
to (t-1)	1.15E-24	reject
to(t-2)	7.1E-24	reject
Tout (t-1)	0.001947	reject
Tout(t-2)	0.005533	reject
to(t): LSWR tube side outlet temp	6.49E-26	reject
Tout(t): Crude shell side outlet temp	0.000601	reject

In response to above matter, the statistical analysis done for the 2 main parts as shown in Table 12 **proved** that there is **drifting in Data Set B**. Due to changes in actual operating condition in CDU at PP(M)SB from 10/04/2005 until 18/04/2005, the statistical analysis shows that results for Part 1 is better than Part 2 in term of overall RMSE, R^2 and CDC values for both the tube and shell side outlet temperature.

Table 12. Statistical Analysis to test drifting in Data Set B

SET B ~part 1 (19/02/05 - 9/04/05)

Stat Analysis	Tube outlet (to)	Shell outlet (Tout)
	PLP [28,15,2]	PLP [28,15,2]
RMSE	4.0927	3.4934
CDC	85.1064	59.5745
R2	0.6733	0.7773

SET B ~ part 2 (10/04/05 - 9/06/05)

Stat Analysis	Tube outlet (to)	Shell outlet (Tout)
	PLP [28,15,2]	PLP [28,15,2]
RMSE	10.9752	3.4267
CDC	85	76.6667
R2	0.5422	0.7309

4.2.6 Adaptive Training of NN model

Since the Data Set B are in different populations due to process changes, the optimum NN feedback model used for this study can only predicts future trend up to maximum 2 months. Therefore, the NN model needs to be re-trained by implication of *Adaptive Training*. Here, Part 2 of Data Set B from 10/04/2005 until 9/06/2005 will be re-trained using new training data set to improve the accuracy of the predicted results. Linear networks that are adjusted at each time step based on the new input and target vectors can find the weight and bias that minimizes the network's sum-squared error for recent input and target vectors.

For Adaptive Training, the Part 2 of Data Set B has been segregated into 3 main partitions namely:

i. *Training Data* taken from 26/03/2005 until 13/05/2005 for 49 days observations
ii. *Validation Data* taken from 14/05/2005 until 28/05/2005 for 15 days observations
iii. *Testing Data* taken from 29/05/2005 until 9/06/2005 for 12 days observations

Table 13 shows the statistical analysis of the adaptive training whilst Figure 16 shows the graph of the actual de-normalized and predicted values generated from the new model. From the results obtained, the statistical analysis of the adaptive model is acceptable for both tube and shell side outlet temperature. A slight increment of RMSE value in tube side outlet temperature might due to the network not contain enough training data as the input to the feedback model to enable complete learning. Therefore, more new sets of actual operating data need to be obtained from PP(M)SB for the network's results of Adaptive Training to converge towards the targeted values.

Table 13. Statistical Measures of Part 2 Data Set B Adaptive Training

Stat Analysis	Tube outlet (to)	Shell outlet (Tout)
	Set B Adaptive	Set B Adaptive
RMSE	11.1462	2.1668
CDC	72.7273	54.5455
R2	0.4378	0.4552

For this study, only *single crude blend ratio* is considered. The ratio of crude blend is taken as 50% Tapis, 38.9% Miri and 11.1% Bintulu Condensate. This is the ratio of crude blend at which fouling rate is suspected to accelerate faster.

All of the data created were tested against the optimum NN model using PLP transfer function configuration with feedback mode at 400 epochs number. The optimum number of neurons used is 28, 15 and 2 for the first, middle and last layer respectively.

As an overall performance depicted in Figure 17, it is recommended that preventive maintenance; either mechanical cleaning or hotmelting will be carried out for Heat Exchanger after **150 operating days** when the efficiency drops below 30 %. The minimum efficiency of 30 % is adopted from the technical practice in PP(M)SB. Please refer to Appendix E-1 for the efficiency calculation spreadsheet.

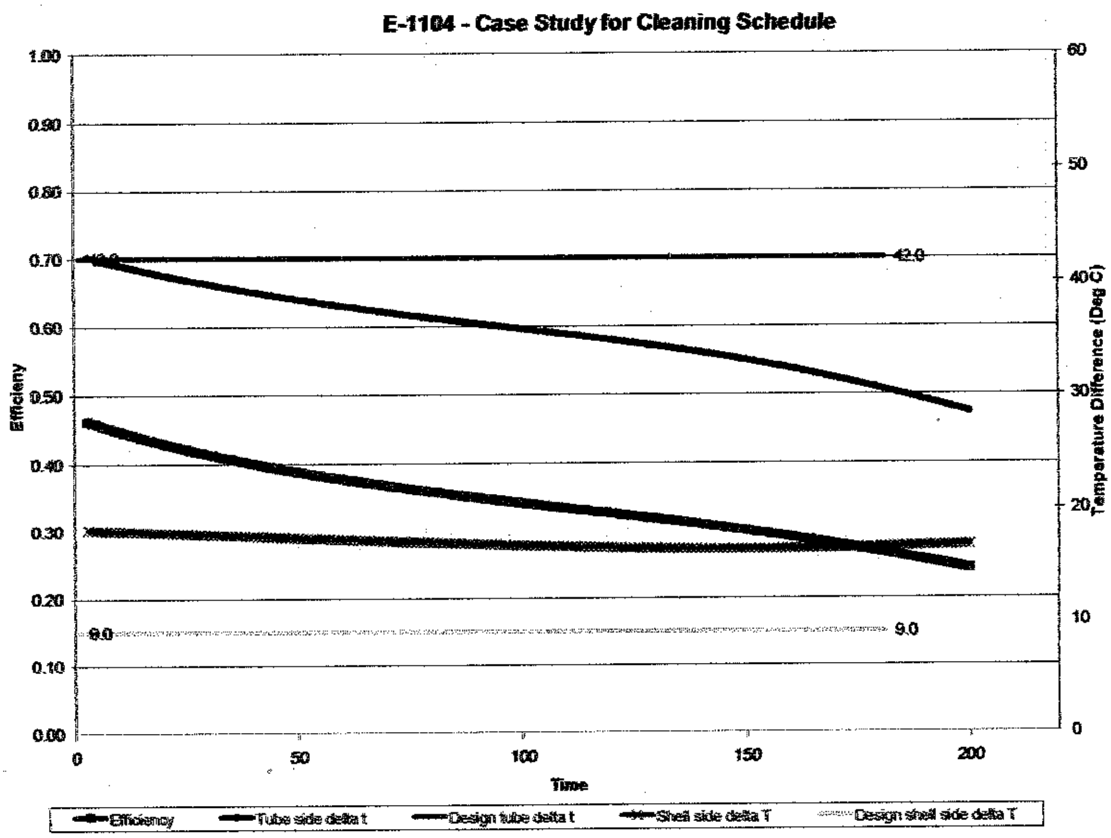


Figure 17. Predicted performance for heat exchanger maintenance scheduling for single crude blend

4.3.2 Case Study 2 ~ Various Crude Blend Ratios

A new set of data has been created based on the actual operation information in PP(M)SB. Most of the predictors (i.e inlet temperatures, average flow rate, crude blend ratio and properties) were kept constant throughout the 200 days. Since the current Neural Network model deals with feedback mode with time lagged by 2 days, the outlet temperatures of both tube and shell side need to be created as the feedback predictors to the model. For this case study, the predictors specifically the tube and shell side integral flow are the accumulative amount of fluid flowing through the equipment and change accordingly with time.

For more realistic operating condition, various crude blend ratios have been used considering 5 main types of crude which are Tapis, Miri, Terengganu Condensate, Bintulu Condensate and Masa crude. For this study, typical ratio of crude blend at which fouling is suspected to accelerate faster has been considered wisely. By philosophy, typical crude blend ratios which accelerate the fouling rate are crude blend containing Tapis crude and Terengganu Condensate. Miri and Masa crude are the light crudes which give the least foul to the heat exchanger

All of the data created were tested against the optimum NN model using PLP transfer function configuration with feedback mode at 400 epochs number. The optimum number of neurons used is 28, 15 and 2 for the first, middle and last layer respectively.

As an overall performance depicted in Figure 18, it is recommended that preventive maintenance; either mechanical cleaning or hotmelting will be carried out for Heat Exchanger after **84 operating days** when the efficiency drops below 30 %. The minimum efficiency of 30 % is adopted from the technical practice in PP(M)SB. Please refer to Appendix E-2 for the efficiency calculation spreadsheet.

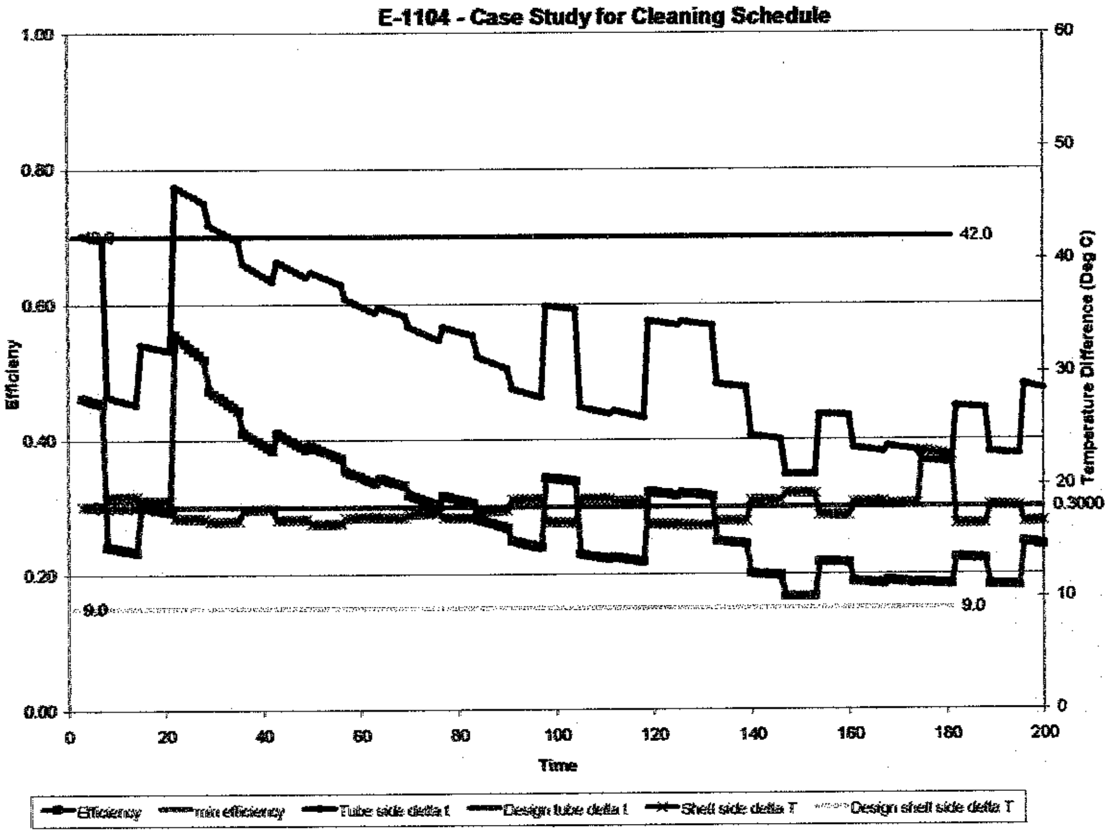


Figure 18. Predicted performance for E-1104 maintenance scheduling for various crude blend

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

The final draft dissertation of the Final Year Research Project entitled 'Heat Exchanger Modeling by Neural Network Optimization for PETRONAS Penapisan Melaka Sdn. Bhd (PPMSB) Crude Preheat Train' has successfully completed and the objectives set up earlier have been achieved within the given time frame. Systematic step by step optimization strategies have been conducted and a new optimized NN predictive model has been successfully constructed that consist of the following features:

i. New NN predictive model with current 28 variables, using PLP transfer function configurations and epochs number of 400.
ii. Introduction of feedback variables for both tube side and shell side outlet temperature with time lagged by two days able to reduce error in the predicted values significantly.
iii. Significant improvement in tube side outlet temperature (to) for Data Set B provided RMSE value is reduced by half.
iv. Slight increment in the RMSE value of the shell side predicted outlet temperature (To) but within acceptable values.

The optimization strategies conducted has enhanced the robustness of the NN model in predicting in future. Two case studies on heat exchanger maintenance scenario have been developed using the optimized model considering single crude blend and various crude blend ratio.

All in all, it can be concluded that the optimized model has performed well and this study can be used as reference for future development of NN application in the Heat Exchanger maintenance scheduling and as well for interconnection of heat exchanger in the Crude Preheat Train network model.

5.2 RECOMMENDATION ON PATH FORWARDS

Due to the limited time frame and knowledge constraints, there are few plans set earlier that the author has not been able to incorporate into this Final Year Research Project. As for any projects, there are still some rooms for improvement hence the followings are few recommendations to be considered for the future betterment of the Neural Network performance:

i. Back to the first principles and performs thorough study on the fouling of heat exchanger and fouling mitigation technique for better heat recovery system in the Crude Preheat Train.
ii. Develop and construct the Neural Network predictive model for all eleven heat exchangers in the Crude Preheat Train.
iii. Develop framework for interconnection of all eleven heat exchangers in the Crude Preheat Train for preventive maintenance scheduling in the real industrial applications.
iv. Further optimization of the existing feedback model by changing the transfer function configurations and number of neurons in the hidden layer. Best combinations of transfer function will be hidden layers of sigmoid function followed by output layers of linear neurons for feedforward back propagation Neural Network Architecture.

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APPENDICES

Appendix A: NFIT monitoring approach in the Ebert and Panchal Model

A-1 Preheat exchanger network scheme

A-2 Trend on heat exchanger fouling rates

Appendix B: Plots of temperature coefficient of correlation, R^2 for new NN model with 24 predictors (Data Set B)

B-1 Tube side temperature coefficient of correlation

B-2 Shell side temperature coefficient of correlation

Appendix C: NN Feedback Model with Time Lagged

C-1 Training, Validation and Testing Data sets of Feedback mode

C-2 Simplified diagram of NN Feedback Model mechanism

C-3 Performance Curve of NN Feedback Model

C-4 Optimum Neural Network Configuration

Appendix D: Graphs of simulated results generated from NN Feedback Model with Time Lagged by 2 days (Data Set B)

D-1 Plots of tube side temperature coefficient of correlation for PLP

D-2 Plots of shell side temperature coefficient of correlation for PLP

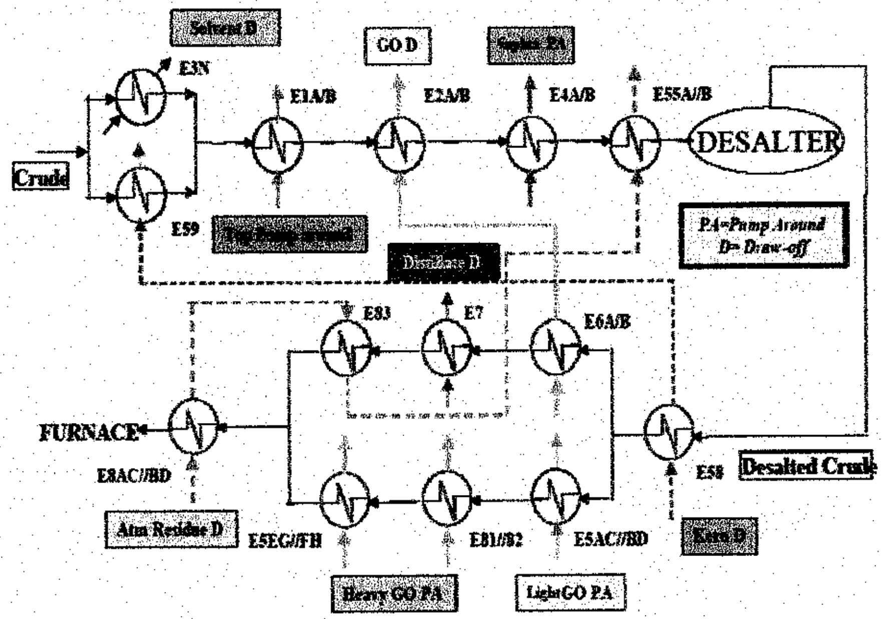
Appendix E: Case Study Heat Exchanger Efficiency Calculation Spreadsheets

E-1 Heat Exchanger Efficiency for Case Study 1

E-2 Heat Exchanger Efficiency for Case Study 2

Appendix A: NFIT monitoring approach in the Ebert and Panchal Model

A-1 Preheat exchanger network scheme

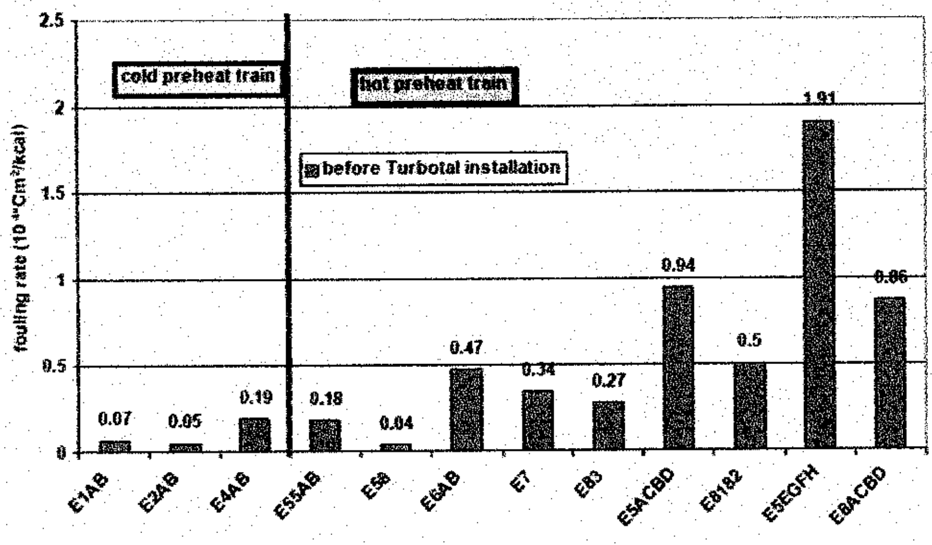


Legend of the diagram:

i. The Pre Desalter E55A/B is the Cold Atmospheric Residue D heat exchanger.

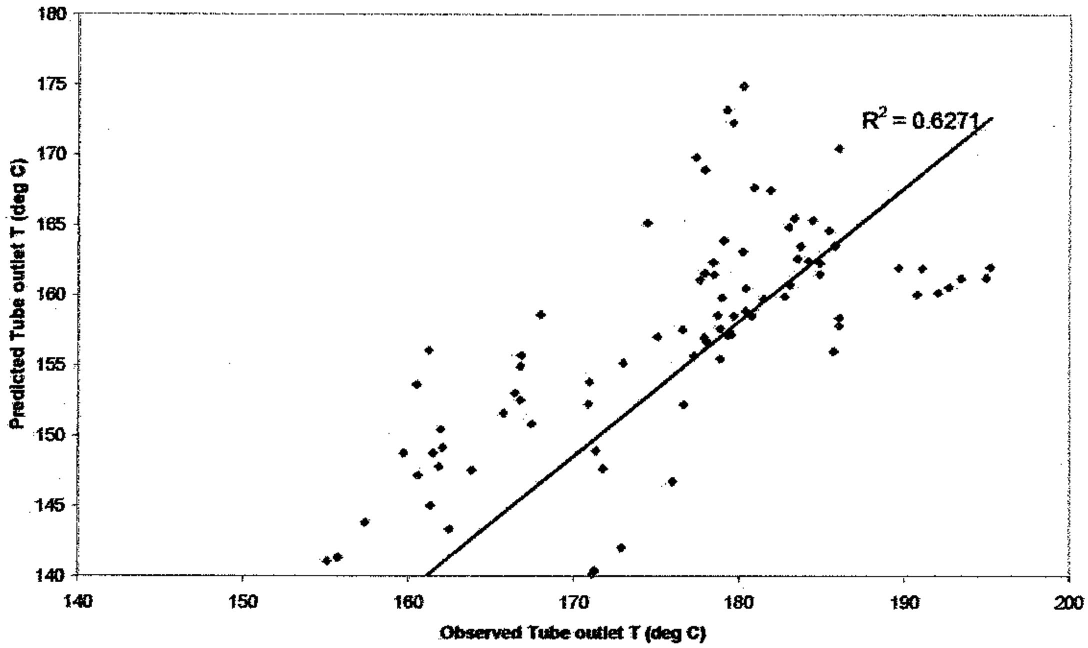
ii. The E8AC//BD (near the furnace) is the Hot Atmospheric Residue D heat exchanger.

A-2 Trend on heat exchanger fouling rates

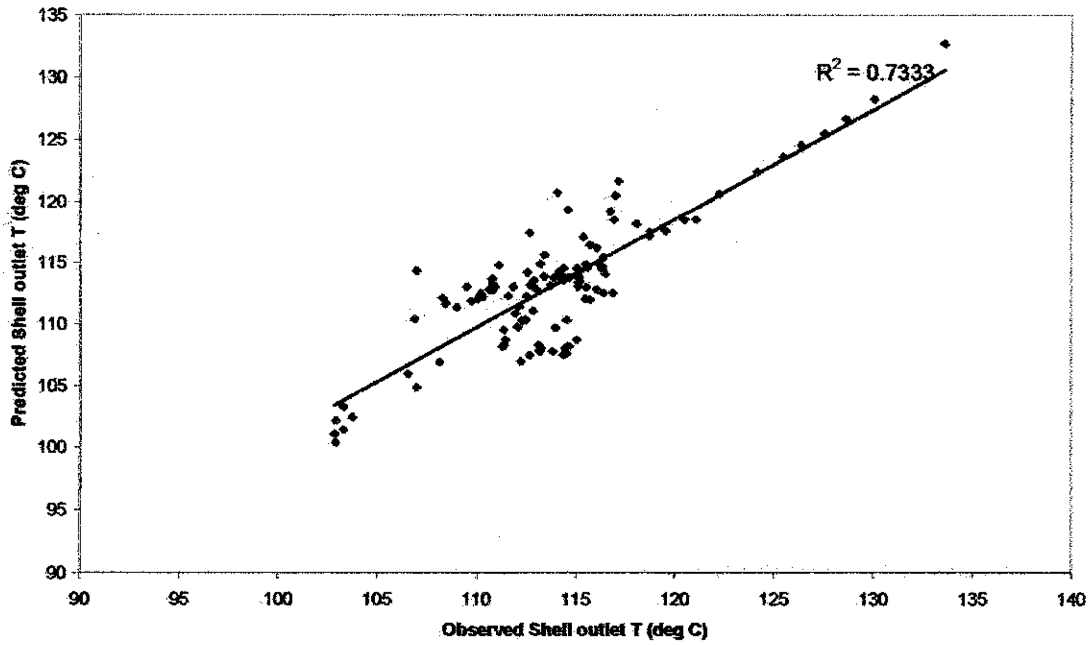


Appendix B: Plots of temperature coefficient of correlation, R^2 for new NN model with 24 predictors (Data Set B)

B-1 Tube side temperature coefficient of correlation



B-2 Shell side temperature coefficient of correlation



C-1 Normalized Training Data Sets of Feedback Mode

Ind	N-Tin	N-IVc	N-Vs	N-II	N-IVt	N-VPROD	N-TA	N-MR	N-TC	N-BC	N-MA	N-σ	N-Bed	N-TAN	N-Po	N-Si	N-N2	N-Ash	N-Wax	N-u	N-CP	N-Asp	N-Na	N-tof(t-1)	N-tof(t-2)	N-Tof(t-1)	N-Tof(t-2)	N-tof(t)	N-Tof(t)
0.4187	0.4364	0.1188	0.3663	0.7660	0.7080	0.5260	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7567	0.7203	0.4982	0.4855	0.7722	0.5024
0.2680	0.4133	0.2182	0.2917	0.4826	0.8386	0.3248	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6906	0.6642	0.3799	0.3867	0.6567	0.3157
0.5464	0.1224	0.1795	0.7078	0.6851	0.4301	0.4271	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4438	0.4315	0.2113	0.1989	0.4818	0.2230
0.9920	0.2832	0.1888	0.3040	0.3426	0.0790	0.2829	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.2929	0.2919	0.2346	0.2361	0.2579	0.2067
0.5464	0.1070	0.1008	0.2561	0.3583	0.4210	0.4001	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3228	0.3119	0.2029	0.1915	0.3300	0.2034
0.9920	0.1701	0.9732	0.2496	0.5989	0.3702	0.3798	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6198	0.6031	0.1762	0.1991	0.6488	0.1296
0.9920	0.2512	0.7043	0.3035	0.5154	0.2712	0.2178	0.6111	0.4808	0.4667	0.0000	0.0000	0.4304	0.6047	0.0903	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8034	0.4149	0.5814	0.6519	0.1283	0.1321	0.5581	0.1082
0.2934	0.8487	0.0174	0.3146	0.6928	0.8477	0.2553	0.3556	0.0000	0.0000	0.8333	0.9600	0.0001	0.3803	0.8428	0.4000	0.3177	0.0000	1.0000	0.6239	0.1760	0.5932	0.0000	0.9674	0.7031	0.7089	0.8100	0.8292	0.7208	0.7749
0.9920	0.2597	0.3078	0.4004	0.4844	0.1252	0.5726	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4108	0.3792	0.2161	0.2049	0.4874	0.2195
0.9920	0.3118	0.2449	0.2639	0.4211	0.0990	0.5754	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3480	0.3404	0.2703	0.2529	0.3367	0.2673
0.9920	0.2593	0.4849	0.2842	0.8971	0.1897	0.4643	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.7294	0.6945	0.2821	0.2942	0.7294	0.2518
0.9920	0.2891	0.6331	0.2877	0.6592	0.2443	0.4172	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6805	0.6923	0.1834	0.1666	0.6521	0.1977
0.9920	0.3201	0.5992	0.2908	0.6906	0.2305	0.5012	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6365	0.6614	0.2348	0.2182	0.6804	0.2457
0.4187	0.3843	0.2147	0.2290	0.6057	0.7477	0.3807	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.8782	0.9436	0.4595	0.4149	0.6816	0.3384
0.9920	0.3208	0.4426	0.3011	0.8407	0.1742	0.3096	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5959	0.5842	0.2543	0.2469	0.6345	0.2868
0.2680	0.4158	0.0475	0.3182	0.6723	0.7734	0.5442	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7365	0.7719	0.3955	0.4205	0.7387	0.3877
0.9920	0.3050	0.6453	0.3673	0.6344	0.2491	0.3959	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6038	0.6804	0.1933	0.2365	0.6388	0.1937
0.9920	0.2592	0.4970	0.2339	0.8321	0.1942	0.2680	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6267	0.6044	0.2612	0.2406	0.6288	0.2421
0.4649	0.4823	0.1934	0.3363	0.7162	0.6093	0.4023	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7450	0.7618	0.5004	0.4947	0.7587	0.5082
0.4485	0.3745	0.0633	0.3846	0.7783	0.6374	0.3104	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6653	0.6885	0.6642	0.6715	0.6473	0.6498
0.9920	0.3172	0.2304	0.2375	0.4472	0.0928	0.6794	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.3520	0.4766	0.2824	0.3118	0.3949	0.2842
0.5464	0.0512	0.3108	0.3471	0.6683	0.5000	0.4729	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5667	0.5348	0.1808	0.1644	0.6068	0.1334
0.5464	0.1087	0.1033	0.2598	0.5808	0.4220	0.3898	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3300	0.3228	0.2034	0.2029	0.3308	0.2198
0.2680	0.3023	0.0667	0.0828	0.4566	0.7811	0.3437	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.7248	0.9242	0.4394	0.5222	0.5385	0.2251
0.2934	0.4464	0.0860	0.2103	0.4527	0.8724	0.5335	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0791	0.4236	0.5702	0.5670	0.4188	0.4143	0.6125	0.4725
0.2934	0.4973	0.1147	0.2434	0.5235	0.8839	0.3617	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4786	0.0758	0.8665	0.2900	0.6802	0.6683	0.4702	0.4648	0.6770	0.4426
0.9920	0.3364	0.8078	0.2980	0.5803	0.3082	0.2970	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5325	0.5531	0.1903	0.2040	0.5994	0.2230
0.5464	0.1175	0.2857	0.7840	0.6709	0.4905	0.3419	0.0000	0.7692	0.0000	0.8333	0.6000	0.6936	0.0043	0.9281	0.0215	0.0846	0.6948	0.4987	0.0454	0.6013	0.0605	0.1664	0.3049	0.6134	0.6390	0.1869	0.1797	0.5885	0.1832
0.4649	0.3352	0.0980	0.3665	0.7873	0.5737	0.4873	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6928	0.6877	0.6502	0.6635	0.6827	0.6638
0.9920	0.3180	0.8541	0.2860	0.6011	0.3280	0.4081	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6253	0.7155	0.1882	0.1889	0.6527	0.2021
0.4485	0.4598	0.1143	0.3476	0.7614	0.6574	0.7748	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7626	0.7713	0.6363	0.6097	0.7584	0.5991
0.2680	0.4474	0.1137	0.3408	0.2945	0.7993	0.4920	0.3444	0.6731	0.6667	0.0000	0.2800	0.5942	0.3397	0.3683	0.2430	0.4672	0.6168	0.3015	0.2828	0.8093	0.5505	0.6002	0.3024	0.4798	0.4585	0.3751	0.3392	0.5113	0.3862
0.5464	0.0384	0.3182	0.2787	0.6983	0.5028	0.5390	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6012	0.5922	0.1217	0.1202	0.6351	0.1321
0.4649	0.4055	0.3486	0.3239	0.7796	0.5909	0.4355	0.8889	0.0000	0.2000	0.5833	0.0000	0.0202	0.8932	0.0001	0.7097	0.9663	0.0022	0.5261	0.9294	0.1081	0.6887	0.8280	0.8126	0.6967	0.6991	0.5079	0.5120	0.7246	0.4888
0.2934	0.4168	0.0788	0.2434	0.3942	0.8695	0.4813	0.8333	0.0385	0.6667	0.0000	0.0600	0.0326	0.8380	0.0604	0.6688	0.9076	0.0422	0.5354	0.8780	0.3939	0.9761	0.7785	0.7913	0.5153	0.5545	0.3550	0.3808	0.5777	0.3626
0.5464	0.0984	0.3713	0.3532	0.7042	0.5244	0.6881	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7633	0.7365	0.2619	0.2554	0.7205	0.2529
0.2680	0.3931	0.0645	0.0995	0.7093	0.7802	0.3102	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.9242	0.9266	0.5222	0.5434	0.7246	0.4354
0.4187	0.5364	0.0203	0.3733	0.6649	0.6681	0.6246	0.1556	0.6923	0.0000	0.6667	0.6400	0.6860	0.1573	0.6793	0.1742	0.2314	0.6893	0.4802	0.1720	0.5939	0.1011	0.3329	0.3798	0.6374	0.6499	0.7321	0.7318	0.5589	0.6507
0.9920	0.1993	0.2691	0.2246	0.4067	0.1089	0.5533	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3113	0.3102	0.1667	0.1513	0.3134	0.1521
0.4649	0.5863	0.0859	0.3705	0.7751	0.5572	0.5451	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6710	0.6048	0.6799	0.6550	0.6686	0.6730
0.4649	0.5555	0.1243	0.3632	0.8134	0.5834	0.4801	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7590	0.5395	0.8347	0.2581	0.7614	0.7770	0.6403	0.6373	0.7570	0.6442
0.4485	0.6688	0.0302	0.3551	0.7369	0.6259	0.2380	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6105	0.5240	0.7153	0.7062	0.6052	0.7079
0.9920	0.2895	0.6873	0.1931	0.6368	0.2645	0.4368	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3599	0.6009	0.6212	0.1974	1.0000	0.6019	0.5875	0.5776	0.1386	0.1702	0.6725	0.1847
0.9920	0.2888	0.2157	0.2525	0.4764	0.0856	0.6156	0.6333	0.6346	0.0000	0.0000	0.0000	0.8795	0.6192	0.1373	0.6452	0.7035	0.8942	0.2756	0.4766	0.7121	0.0921	1.0000	0.4779	0.4069	0.5270	0.2824	0.2475	0.2832	0.2600
0.2934	0.8349	0.0000	0.2348	0.6633	0.8413	0.4103	0.0000	0.8654	0.6667	0.0000	0.7000	0.7538	0.0000	0.7576	0.0000	0.1079	0.7851	0.4013	0.0000	1.0000	0.4353	0.2543	0.2142	0.6837	0.6767	0.2882	0.2954	0.6881	0.8285
0.4187	0.3855	0.1748	0.3323	0.8573	0.7313	0.6399	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8427	0.8869	0.3667	0.4641	0.8821	0.3944
0.4485	0.4873	0.0963	0.4049	0.7387	0.6501	0.4892	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7811	0.7956	0.5424	0.5491	0.7175	0.5729
0.9920	0.2314	0.3696	0.2564	0.3591	0.1449	0.1156	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3571	0.3616	0.1194	0.1230	0.3115	0.1027
0.5464	0.1208	0.3007	0.3730	0.6248	0.4962	0.4260	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5154	0.6026	0.1724	0.1853	0.5487	0.1947
0.9920	0.2042	0.3523	0.2513	0.3990	0.1424	0.2437	0.5556	0.4808	1.0000	0.0000	0.0000	0.2748	0.5313	0.0853	0.2957	0.7208	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.3893	0.3709	0.1246	0.1347	0.3442	0.0995
0.2680	0.4222	0.0351	0.3612	0.5537	0.7802	0.5772	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6988	0.6904	0.4343	0.4365	0.6844	0.4509
0.5464	0.3032	0.2213	0.2283	0.7425	0.4667	0.4474	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4987	0.5126	0.1702	0.1807	0.5088	0.1829
0.9920	0.2792	0.8042	0.3012	0.6831	0.2324	0.5429	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6723	0.6804	0.2168	0.2457	0.6788	0.2809
0.2680	0.4316	0.0986	0.3287	0.2178	0.7936	0.4036	0.0000	0.6731	0.6667	0.0000	0.9200	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.4709	0.5235	0.3450	0.3940	0.4698	0.3373
0.2934	0.4460	0.0813	0.1899	0.3978	0.8705	0.4478	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.5777	0.5133	0.3626	0.3550	0.5870	0.4443
0.4649	0.3281	0.1981	0.3172	0.7163	0.5996	0.3590	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6925	0.7135	0.3803	0.4394	0.6887	0.3894
0.5464	0.0465	0.3207	0.2728	0.7617	0.3039	0.6725	0.1556	0.7300	0.0000	0.0000	0.7400	0.9606	0.1547	0.7789	0.3419	0.1761	0.9834	0.9849	0.1592	0.9159	0.0424	0.3911	0.5000	0.6351	0.6012	0.1321	0.1217	0.6989	0.1656
0.9920	0.2703	0.8591	0.2741	0.6173	0.3279	0.4282	0.7444	0.2885	0.5333	0.0000	0.0000	0.3205	0.7415	0.0598	0.6065	0.8362	0.3352	0.3978	0.7005	0.5260	0.7079	0.8660	0.6100	0.6461	0.6527	0.1954	0.2021	0.6604	0.1823
0.5464	0.0936	0.0711	0.3190	0.5905	0.4097	0.4700	0.5556	0.7692	0.0000	0.0000	0.0000	1.0000	0.5385	0.1619	0.5699	0.6450	0.9991	0.2064	0.3691	0.7917	0.0000	1.0000	0.3707	0.3317	0.3313	0.2589	0.2630	0.3324	0.2428
0.5464	0.1169	0.2068	0.2560	0.8119	0.4609	0.6127	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5879	0.5043	0.2223	0.1913	0.5949	0.2285
0.5464	0.0704	0.0368	0.2653	0.5104	0.7961	0.5422	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2283	0.2209	0.1722	0.1712	0.2375	0.1642
0.4485	0.6626	0.0227	0.3371	0.7590	0.6232	0.3749	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5524	0.5448	0.7324	0.7701	0.6249	0.7245
0.5464	0.1196	0.0246	0.3663	0.4721	0.3913	0.4299	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2435	0.2475	0.2374	0.2451	0.2387	0.2112
0.5464	0.0992	0.3667	0.3671	0.7335	0.5722	0.6672	0.4444	0.7692	0.6667	0.0000	0.0000	0.6987	0.4316	0.1473	0.2796	0.6074	0.7010	0.1176	0.2921	0.8149	0.4737	0.8354	0.1817	0.7535	0.7424	0.2706	0.2441	0.7365	0.2554
0.2934	0.4941	0.0595	0.2130	0.3803	0.8622	0.2434	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.4819	0.4728	0.4296	0.4347	0.5335	0.4096
0.4649	0.3959	0.1984	0.2861	0.7723	0.6112	0.5515	0.0933	0.6538	0.0000	0.8333	0.8600	0.5985	0.0415	0.8593	0.0667	0.0949	0.5975	0.5991	0.1186	0.5441	0.1418	0.1119	0.4071	0.7630	0.7587	0.5000	0.5092	0.8301	0.2782
0.9920	0.3190	0.4083	0.2743	0.5029	0.1622	0.3835	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4670	0.4936	0.2424	0.2416	0.4528	0.2393
0.9920	0.4842	0.1291	0.3236	0.3500	0.0522	0.5286	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2270	0.2285	0.4336	0.4393	0.2353	0.4426
0.9920	0.2640	0.6211	0.2344	0.7371	0.2398	0.6099	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6008	0.6212	0.1974	1.0000	0.6019	0.7709	0.7667	0.2229	0.2117	0.7350	0.2023
0.2680	0.4872	0.1237	0.3395	0.3092	0.8030	0.3251	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5268	0.5327	0.4226	0.4103	0.5387	0.4268
0.9920	0.3113	0.2473	0.2652	0.3827	0.1000	0.4093	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3367	0.3480	0.2673	0.2703	0.2923	0.2486
0.5464	0.1935	0.0122	0.2809	0.4117	0.3866	0.3813	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1966	0.2320	0.2476	0.2171	0.1826	0.2591
0.4485	0.4706	0.1066	0.3994	0.6706	0.6542	0.6262	0.1222	0.6731	0.0000	0.8333	0.6800	0.6111	0.1261	0.7087	0.1140	0.2049	0.6104	0.4924	0.1590	0.5225	0.1216	0.2635	0.3634	0.7362	0.6974	0.5610	0.5523	0.7059	0.5947
0.2680	0.4358	0.1983	0.3063	0.4806	0.8313	0.3016	0.0000	0.6923	0.5333	0.0000	0.9200	0.6546	0.0077	0.9186	0.0839	0.0474	0.6948	0.6150	0.0854	0.9334	0.4679	0.1000	0.4250	0.6707	0.6114	0.3045	0.2997	0.6549	0.3109
0.5464	0.0244	0.1275	0.2470	0.5664	0.4314	0.3698	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3720	0.3662	0.0614	0.0984	0.3328	0.0746
0.9920	0.3104	0.1290	0.3183	0.3490	0.0695	0.3633	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2837	0.2641	0.2793	0.2450	0.2637	0.2510
0.4187	0.5777	0.0254	0.3286	0.5977	0.6701	0.5003	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.9055	0.5599	0.6094	0.6567	0.5147	0.6398
0.2680	0.4312	0.0426	0.3025	0.6880	0.7714	0.8810	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7760	0.8004	0.4210	0.4267	0.7739	0.4285
0.9920	0.3292	0.4480	0.2979	0.8491	0.1791	0.3839	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6345	0.3959	0.2989	0.2543	0.6634	0.3115
0.2680	0.4926	0.1609	0.2938	0.4281	0.8135	0.4481	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5858	0.5162	0.4421	0.3257	0.6128	0.4344
0.5464	0.0768	0.1609	0.3071	0.5546	0.4428	0.2509	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3149	0.2968	0.1599	0.1412	0.2498	0.1575
0.2934	0.5122	0.1075	0.2260	0.5173	0.8811	0.4058	0.5222	0.6731	0.0000	0.6667	0.0000	0.6879	0.5107	0.1321	0.3914	0.6585	0.6722	0.1847	0.3848	0.4652	0.0889	0.8664	0.2954	0.6523	0.6607	0.4594	0.4380	0.6758	0.4766
0.9920	0.2993	0.4009	0.2761	0.5326	0.1594	0.3844	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4924	0.4167	0.2348	0.1853	0.4731	0.3187

0.4649	0.6462	0.0432	0.3704	0.7373	0.5523	0.4965	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6167	0.6151	0.7434	0.7482	0.8400	0.7490
0.9920	0.2844	0.7633	0.3241	0.5488	0.2923	0.2803	0.6222	0.4615	0.6667	0.0000	0.2000	0.4132	0.6162	0.0896	0.4516	0.7482	0.4287	0.2781	0.5422	0.6330	0.6842	0.8332	0.4297	0.5556	0.5584	0.1402	0.1310	0.5787	0.1593
0.9920	0.2317	0.8833	0.2121	0.5349	0.3369	0.2008	0.5778	0.5769	0.5133	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.5787	0.5771	0.1006	0.1016	0.5721	0.0988
0.9920	0.2218	0.2646	0.2611	0.3801	0.1029	0.4632	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2781	0.2908	0.1819	0.2155	0.2049	0.1667
0.5464	0.0964	0.0564	0.2622	0.5192	0.4039	0.4578	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3120	0.2513	0.2849	0.2330	0.2562	0.2268
0.4649	0.4438	0.1833	0.3516	0.8334	0.6054	0.7120	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8128	0.8112	0.4863	0.4832	0.8985	0.5103
0.4485	0.6500	0.0404	0.3714	0.7858	0.6294	0.3490	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5776	0.5617	0.7386	0.7428	0.5987	0.7286
0.5464	0.1126	0.1672	0.2623	0.7658	0.4530	0.6120	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5130	0.4541	0.2469	0.2298	0.2983	0.2730
0.2680	0.4750	0.1559	0.3038	0.4194	0.8154	0.3574	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.8733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6254	0.6176	0.4186	0.4344	0.6072	0.6173
0.9920	0.2957	0.5257	0.2505	0.8695	0.2045	0.4040	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3188	0.4057	0.5875	0.7368	0.8327	0.4927	0.6385	0.6606	0.2843	0.2604	0.7162	0.2784
0.4187	0.3851	0.2025	0.3229	0.9515	0.7429	0.6118	0.5333	0.6154	0.0000	0.8333	0.3000	0.5798	0.5239	0.1182	0.3656	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.9117	0.9220	0.3760	0.3790	0.9481	0.4981
0.4649	0.5529	0.1192	0.3700	0.8321	0.5814	0.5449	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2595	0.7567	0.7660	0.6104	0.6297	0.7770	0.6573
0.2934	0.8950	0.0149	0.3199	0.6721	0.8469	0.2310	0.3556	0.0000	0.0000	0.8333	0.9600	0.0001	0.3803	0.8428	0.4000	0.3177	0.0000	1.0000	0.6239	0.1760	0.5932	0.0000	0.9674	0.7089	0.7092	0.8292	0.8558	0.7031	0.8100
0.5464	0.0905	0.0736	0.3084	0.6046	0.4106	0.5084	0.5556	0.7692	0.0000	0.0000	0.0000	1.0000	0.5385	0.1619	0.5699	0.6450	0.9991	0.2064	0.3691	0.7917	0.0000	1.0000	0.3707	0.3324	0.3317	0.2426	0.2589	0.3469	0.2183
0.9920	0.2433	0.2522	0.2526	0.3708	0.1019	0.4305	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2908	0.2923	0.2155	0.2406	0.2781	0.1819
0.4485	0.6802	0.0202	0.3243	0.6836	0.6223	0.3167	0.3111	0.5000	0.0000	0.8333	0.5200	0.4609	0.3154	0.5430	0.2624	0.3867	0.4568	0.9080	0.3483	0.3709	0.2337	0.7930	0.4786	0.5448	0.5594	0.7701	0.8451	0.5524	0.7324
0.9920	0.1970	0.8322	0.2496	0.8313	0.3175	0.7120	0.5556	0.3769	0.6667	0.0000	0.0000	0.5155	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7171	0.7552	0.1261	0.1722	0.8271	0.1615
0.4187	0.4575	0.1264	0.3812	0.7734	0.7110	0.6193	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6442	0.1121	0.0991	0.4236	0.8262	0.8137	0.4898	0.5139	0.7967	0.5098
0.9920	0.2808	0.7388	0.2834	0.5970	0.2831	0.4441	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6408	0.6237	0.1562	0.1470	0.6323	0.1751
0.4485	0.8527	0.0049	0.3980	0.6446	0.6170	0.2764	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3786	0.7013	0.1591	0.3711	0.8296	0.3860	0.6407	0.5846	1.0000	0.9868	0.5119	0.9288
0.9920	0.2166	0.8904	0.2422	0.6146	0.3396	0.4710	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7219	0.6017	0.1369	0.1078	0.6851	0.1159
0.9920	0.2392	0.6283	0.2108	0.7101	0.2426	0.4960	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3595	0.6009	0.6212	0.1974	1.0000	0.6019	0.7167	0.7171	0.1039	0.1938	0.6923	0.3566
0.9920	0.2264	0.7092	0.2801	0.4924	0.2729	0.3732	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5393	0.5341	0.0817	0.1062	0.5709	0.0805
0.5464	0.1029	0.3862	0.2545	0.6155	0.5346	0.3765	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6258	0.6654	0.1486	0.1585	0.8153	0.1763
0.9920	0.2008	0.8297	0.2566	0.6693	0.3165	0.6826	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7552	0.6139	0.1722	0.1359	0.7125	0.1281
0.9920	0.2576	0.7364	0.2751	0.6174	0.2822	0.4390	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6237	0.5503	0.1470	0.1251	0.6406	0.1362
0.4187	0.5486	0.0353	0.3744	0.6424	0.6740	0.5335	0.9000	0.0192	0.0000	0.6667	0.0000	0.1023	0.9030	0.0073	0.7570	0.9637	0.0839	0.5328	0.9270	0.0788	0.5363	0.8626	0.8336	0.5538	0.5317	0.6601	0.6478	0.5290	0.6335
0.2680	0.4390	0.1061	0.3454	0.2311	0.7964	0.3990	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2595	0.4676	0.4653	0.3448	0.3395	0.4809	0.3421
0.4649	0.5101	0.0812	0.3474	0.8274	0.5667	0.6868	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7363	0.6363	0.6445	0.6159	0.7990	0.6211
0.4187	0.3697	0.1723	0.3459	0.8173	0.7303	0.5700	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8969	1.0000	0.4641	0.5088	0.8427	0.3667
0.5464	0.1022	0.0686	0.3053	0.5919	0.4087	0.4746	0.5556	0.7692	0.0000	0.0000	0.0000	1.0000	0.5385	0.1619	0.5699	0.6450	0.9991	0.2064	0.3691	0.7917	0.0000	1.0000	0.3707	0.3313	0.3487	0.2630	0.2660	0.3317	0.2388
0.4187	0.4313	0.0709	0.3929	0.7956	0.6883	0.7213	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4756	0.0758	0.8665	0.2800	0.7928	0.7244	0.6807	0.5391	0.7178	0.6815
0.9920	0.2638	0.3698	0.2572	0.5218	0.1478	0.4929	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2595	0.4520	0.3707	0.1821	0.1412	0.4899	0.1579
0.4649	0.5294	0.1167	0.3717	0.8208	0.5804	0.5442	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2595	0.7660	0.7416	0.6297	0.6862	0.7867	0.6104
0.9920	0.1210	0.9509	0.2854	0.4831	0.3626	0.1308	0.0000	0.7692	0.6667	0.0000	0.8000	0.6649	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.5093	0.1676	0.3061	0.5736	0.6080	0.0897	0.1293	0.3335	0.0654
0.4485	0.6758	0.0328	0.3706	0.7287	0.6288	0.2217	0.3667	0.6731	0.0000	0.8333	0.2400	0.6242	0.3611	0.3335	0.2559	0.4937	0.6102	0.2816	0.2952	0.4418	0.1042	0.8318	0.2941	0.6052	0.6105	0.7079	0.7153	0.5844	0.7083
0.5464	0.1654	0.0147	0.4840	0.4313	0.3875	0.4334	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1826	0.1966	0.2591	0.2476	0.1886	0.2290
0.4649	0.5174	0.0635	0.3495	0.7066	0.5600	0.3332	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5781	0.6617	0.6357	0.6696	0.5791	0.6024
0.9920	0.1235	0.9608	0.3817	0.4222	0.3659	0.1187	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4902	0.4431	0.1039	0.0393	0.4617	0.1335
0.9920	0.2852	0.6603	0.3154	0.6057	0.7546	0.3471	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5763	0.6095	0.1867	0.1771	0.6101	0.1759
0.2934	0.4751	0.0715	0.2656	0.4294	0.8698	0.5159	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5797	0.5612	0.4317	0.4260	0.5949	0.4120
0.2934	0.4736	0.1171	0.2749	0.4750	0.8847	0.3751	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2595	0.6770	0.6802	0.4426	0.4702	0.6289	0.3953
0.9920	0.2401	0.3789	0.2378	0.4243	0.1520	0.1528	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2595	0.3853	0.3874	0.1238	0.1050	0.3787	0.1218
0.5464	0.0849	0.2580	0.3000	0.6328	0.4804	0.3144	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4720	0.4583	0.1665	0.1699	0.4880	0.1621
0.4485	0.5860	0.0607	0.3782	0.8027	0.6365	0.3196	0.4000	0.6731	0.0000	0.8333	0.1800	0.6260	0.3932	0.2823	0.2753	0.5330	0.6107	0.2529	0.3137	0.4308	0.1018	0.6820	0.2851	0.6885	0.6671	0.6715	0.6693	0.6455	0.6642
0.9920	0.3709	0.0191	0.1357	0.1545	0.0062	0.6693	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.0163	0.0120	0.1028	0.1007	0.1280	0.3038
0.9920	0.2892	0.5091	0.2346	0.6388	0.1985	0.3030	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5253	0.5203	0.5729	0.1826	0.2043	0.6563	0.2852
0.9920	0.2531	0.7314	0.3062	0.5305	0.2804	0.2895	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4579	0.4798	0.0901	0.0989	0.5503	0.1251
0.5464	0.0540	0.1370	0.2139	0.5914	0.4350	0.3443	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3572	0.3338	0.1231	0.0795	0.3491	0.1157
0.5464	0.1001	0.0698	0.2745	0.3017	0.4048	0.3850	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2562	0.3120	0.2286	0.2849	0.2467	0.2145
0.9920	0.1650	0.9170	0.2699	0.4758	0.3506	0.2715	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6339	0.6775	0.1371	0.1475	0.5482	0.1900
0.4649	0.5507	0.0862	0.3754	0.8291	0.5888	0.6508	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7262	0.7490	0.6123	0.6211	0.7728	0.7062
0.4649	0.5452	0.0898	0.3925	0.7692	0.5598	0.4736	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7718	0.7262	0.7002	0.6123	0.6775	0.6527
0.2680	0.4871	0.1758	0.3384	0.4908	0.8227	0.4724	0.0000	0.6923	0.3333	0.0000	0.9200	0.6546	0.0077	0.9185	0.0839	0.0474	0.6948	0.6150	0.0854	0.9334	0.4679	0.1002	0.4250	0.6460	0.5865	0.4023	0.4129	0.6860	0.4647
0.9920	0.3142	0.4662	0.1571	0.6976	0.1829	0.2332	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5253	0.6763	0.6661	0.3119	0.3147	0.6800	0.3034
0.5464	0.0946	0.3814	0.3302	0.7014	0.5286	0.6112	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7328	0.7179	0.2227	0.2656	0.7162	0.3079
0.4649	0.6120	0.0123	0.9718	0.6637	0.5413	0.4969	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5181	0.4475	0.7074	0.6582	0.4980	0.7040
0.9920	0.6009	0.1092	0.2075	0.5020	0.0444	0.6807	0.3111	1.0000	0.6667	0.0000	0.0000	0.8953	0.2932	0.1895	0.1505	0.3042	0.9006	0.0000	0.1088	0.9513	0.3158	0.8370	0.0000	0.2446	0.2410	0.4669	0.4630	0.3940	0.5963
0.9920	0.1988	0.8346	0.2614	0.8161	0.3186	0.6465	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.8271	0.7171	0.1615	0.1261	0.8085	0.1544
0.9920	0.2704	0.7956	0.2409	0.5093	0.1201	0.6639	0.6111	0.6731	0.0000	0.0000	0.0000	0.9139	0.5962	0.1444	0.6237	0.6881	0.9172	0.2557	0.4458	0.7348	0.0658	1.0000	0.4471	0.4313	0.4207	0.2371	0.2201	0.4229	0.2367
0.9920	0.2764	0.7437	0.2959	0.5894	0.2850	0.5268	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6086	0.6323	0.1640	0.1753	0.6520	0.1712
0.2680	0.4426	0.0050	0.3365	0.6835	0.7555	0.6048	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7164	0.6572	0.4976	0.4860	0.7100	0.4783
0.2680	0.4389	0.1362	0.2842	0.3507	0.8078	0.5577	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4891	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.5579	0.5466	0.3394	0.3758	0.5859	0.3224
0.9920	0.2576	0.7511	0.2512	0.6470	0.2880	0.5369	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6635	0.7116	0.1351	0.1680	0.6989	0.1524
0.9920	0.2709	0.2932	0.2278	0.5050	0.1191	0.4678	0.6111	0.6731	0.0000	0.0000	0.0000	0.9139	0.5962	0.1444	0.6237	0.6881	0.9172	0.2557	0.4458	0.7348	0.0658	1.0000	0.4471	0.4207	0.4304	0.2201	0.2326	0.4313	0.2371
0.9920	0.2897	0.6653	0.2908	0.6274	0.2529	0.2904	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6582	0.6803	0.1813	0.1851	0.6095	0.1771
0.4187	0.4125	0.1443	0.3807	0.7655	0.7184	0.6687	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8203	0.7441	0.5149	0.4870	0.8051	0.5065
0.9920	0.2438	0.7263	0.2992	0.4588	0.2788	0.1370	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6193	0.5576	0.0902	0.0881	0.4298	0.0989
0.2934	0.5047	0.0643	0.2201	0.3930	0.8640	0.3707	0.1222	0.6731	0.6667	0.0000	0.6800	0.5823	0.1261	0.7098	0.1140	0.2043	0.6170	0.4935	0.1588	0.8827	0.5663	0.2649	0.3651	0.5468	0.5335	0.4144	0.4096	0.5586	0.4277
0.9920	0.1319	0.9801	0.3029	0.5612	0.3769	0.3652	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6904	0.7233	0.1479	0.1763	0.5987	0.1348
0.4485	0.4025	0.0837	0.3918	0.8338	0.6491	0.6652	0.1333	0.6346	0.0000	0.8333	0.7000	0.5780	0.1385	0.7195	0.1290	0.2085	0.5765	0.5226	0.1836	0.5034	0.1487	0.2455	0.3973	0.7956	0.7920	0.5491	0.5693	0.7811	0.5424
0.9920	0.2899	0.7609	0.2874	0.5118	0.2915	0.1559	0.0600	0.6731	0.6667	0.0000	0.7920	0.5709	0.0662	0.8056	0.0779	0.1306	0.6170	0.5473	0.1241	0.9032	0.5707	0.1709	0.3827	0.5584	0.5635	0.1310	0.1319	0.5856	0.1402
0.9920	0.2387	0.7289	0.2962	0.4354	0.2796	0.0991	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4798	0.6193	0.0989	0.0902	0.4578	0.0901
0.2680	0.5324	0.1262	0.3277	0.3429	0.8039	0.3682	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5347	0.5269	0.4266	0.4224	0.5981	0.4699
0.9920	0.3172	0.6899	0.1712	0.7008	0.2655	0.6358	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.4212	0.1974	1.0000	0.6019	0.6735	0.5975	0.1847	0.1586	0.7508	0.2373
0.2934	0.7263	0.0249	0.3198	0.8166	0.6903	0.6419	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9146	0.0036	0.7677	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7297	0.7274	0.7436	0.7624	0.8353	0.7370
0.2680	0.4832	0.1683	0.3411	0.4234	0.8199	0.4179	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9447	0.3555	0.9053	0.8643	0.8519	0.6061	0.6140	0.4067	0.4069	0.6128	0.3989
0.9920	0.2272	0.8829	0.2257	0.6344	0.3406	0.4888	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6651	0.7219	0.1159	0.1369	0.6838	0.1259
0.2934	0.9353	0.0074	0.3252	0.6781	0.9441	0.4354	0.1778	0.7692	0.6667	0.0000	0.4800	0.6743	0.1752	0.5552	0.1247	0.2934	0.7013	0.3498	0.1440	0.9028	0.4926	0.4349	0.2566	0.7067	0.7909	0.9182	0.9724	0.7248	0.5908
0.9920	0.4769	0.0900	0.2295	0.2520	0.0366	0.4097	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1731	0.1756	0.3409	0.3526	0.1931	0.3808
0.9920	0.3429	0.5430	0.4102	0.5329	0.2104	0.2682	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5003	0.4624	0.2187	0.2153	0.5155	0.2234
0.5464	0.0722	0.3938	0.2707	0.6197	0.5337	0.4463	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6654	0.6263	0.1585	0.1341	0.6258	0.1490
0.9920	0.2827	0.7413	0.2874	0.5421	0.2841	0.4533	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6323	0.6406	0.1753	0.1562	0.6088	0.1640
0.9920	0.2577	0.2206	0.2798	0.4798	0.0676	0.4576	0.6333	0.6346	0.0000	0.0000	0.0000	0.8795	0.6192	0.1373	0.6452	0.7055	0.8842	0.2736	0.4788	0.7121	0.0921	1.0000	0.4779	0.3827	0.3912	0.2379	0.2600	0.3823	0.3268
0.9920	0.5156	0.1021	0.2438	0.3271	0.0414	0.4319	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2470	0.2275	0.4635	0.4458	0.2390	0.4333
0.2680	0.4149	0.0450	0.3236	0.6437	0.7724	0.5927	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7719	0.7760	0.4205	0.4210	0.7365	0.3989
0.4649	0.3692	0.0281	0.2431	0.6414	0.5468	0.3914	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5212	0.4613	0.6882	0.6765	0.5408	0.6579

0.4485	0.7229	0.0151	0.3621	0.7050	0.6205	0.3929	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3756	0.7013	0.1591	0.3711	0.8296	0.5860	0.5218	0.5291	0.8477	0.8796	0.5594	0.8451
0.4187	0.4282	0.1137	0.3821	0.7037	0.7060	0.9138	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7354	0.8174	0.5037	0.5310	0.7203	0.4855
0.9920	0.2705	0.5800	0.1935	0.5558	0.2235	0.2210	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.5230	0.5511	0.1390	0.1456	0.5419	0.1575
0.5464	0.1046	0.3633	0.7897	0.7499	0.5212	0.6807	0.4444	0.7692	0.6667	0.0000	0.0000	0.6887	0.4316	0.1473	0.2796	0.6074	0.7010	0.1176	0.2921	0.8149	0.4737	0.8354	0.1817	0.7424	0.6939	0.2441	0.2541	0.7535	0.2708
0.4649	0.3173	0.1631	0.3441	0.7353	0.5974	0.4466	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7296	0.6887	0.4203	0.3954	0.7399	0.4104
0.9920	0.2315	0.3449	0.3118	0.3754	0.1397	0.2061	0.5558	0.4808	1.0000	0.0000	0.0000	0.2748	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4982	0.6560	0.9079	0.7482	0.3180	0.3360	0.3977	0.1148	0.1510	0.3326	0.1145
0.5464	0.0820	0.1564	0.3153	0.5236	0.4419	0.1755	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.2968	0.2809	0.1412	0.1095	0.3149	0.1599
0.2680	0.4103	0.1909	0.3162	0.4652	0.8286	0.3943	0.8111	0.1731	0.5333	0.0000	0.0000	0.2172	0.8107	0.0376	0.6710	0.8906	0.2302	0.4499	0.7972	0.4578	0.7868	0.8653	0.7060	0.7060	0.6889	0.3467	0.3652	0.6393	0.3198
0.9920	0.3046	0.5728	0.2263	0.5824	0.2209	0.3398	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.5449	0.5414	0.1826	0.1788	0.5765	0.1975
0.4187	0.5586	0.0329	0.3992	0.6703	0.6730	0.6650	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.5317	0.5171	0.6478	0.6399	0.5538	0.6601
0.5464	0.1305	0.0222	0.2715	0.4860	0.3904	0.4903	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2475	0.2113	0.2451	0.2274	0.2435	0.2373
0.9920	0.2858	0.4825	0.2177	0.9167	0.1888	0.3963	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6945	0.6802	0.2942	0.3059	0.7384	0.2921
0.5464	0.1040	0.2803	0.4464	0.7195	0.4886	0.4397	0.6000	0.5000	0.6667	0.0000	0.0000	0.4477	0.5932	0.0969	0.4301	0.7304	0.4631	0.2578	0.5105	0.6557	0.6579	0.8335	0.3984	0.6244	0.5749	0.1841	0.1676	0.6290	0.1797
0.5464	0.1329	0.0786	0.2819	0.5328	0.4125	0.4120	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3094	0.3469	0.2068	0.2185	0.2942	0.2153
0.5464	0.1022	0.3608	0.3330	0.7276	0.5201	0.6644	0.4444	0.7692	0.6667	0.0000	0.0000	0.6887	0.4316	0.1473	0.2796	0.6074	0.7010	0.1176	0.2921	0.8149	0.4737	0.8354	0.1817	0.6939	0.7201	0.2541	0.2460	0.7424	0.2441
0.9920	0.2732	0.1938	0.2835	0.3905	0.0768	0.4618	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.2725	0.2579	0.1927	0.2067	0.3052	0.2173
0.9920	0.2478	0.6259	0.2178	0.7282	0.2416	0.5582	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.7171	0.7350	0.1938	0.2025	0.7167	0.1839
0.4187	0.4164	0.1521	0.3375	[illegible]	0.7237	0.5103	0.3444	0.6923	0.0000	0.6667	0.3000	0.6962	0.3389	0.3904	0.2839	0.4538	0.6891	0.3179	0.2769	0.5316	0.0876	0.6165	0.3268	0.8428	0.8572	0.5210	0.5304	0.8054	0.4025
0.2934	0.5910	0.0794	0.1889	0.7385	0.8564	0.5188	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8145	0.8329	0.6398	0.6697	0.7980	0.5982
0.5464	0.1244	0.2829	0.5572	0.7007	0.4896	0.3634	0.0000	0.7692	0.1333	0.6667	0.8000	0.6878	0.0043	0.8264	0.0215	0.0845	0.6961	0.4989	0.0454	0.6733	0.1495	0.1666	0.3052	0.6390	0.6244	0.1797	0.1841	0.6134	0.1869
0.4649	0.5121	0.0964	0.3707	0.7892	0.5727	0.5267	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6977	0.6729	0.6655	0.6582	0.6929	0.6302
0.5464	0.0831	0.3507	0.3233	0.7454	0.5160	0.6434	0.0000	0.7692	0.6667	0.0000	0.8000	0.6648	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.5053	0.1676	0.3065	0.6452	0.6055	0.2013	0.2044	0.7367	0.2275
0.9920	0.1504	0.0146	0.1150	0.0705	0.0042	0.5680	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.0141	0.0000	0.1072	0.1184	0.0120	0.1007
0.9920	0.4722	0.1316	0.3173	0.3361	0.0532	0.4479	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2358	0.2270	0.4426	0.4336	0.2246	0.4285
0.4649	0.6561	0.0180	0.3717	0.6436	0.5432	0.3647	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4861	0.4998	0.7015	0.7046	0.4886	0.7167
0.2934	0.5054	0.1123	0.2319	0.5264	0.8829	0.3822	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.6683	0.6758	0.4648	0.4786	0.6802	0.4793
0.9920	0.4662	0.2191	0.3304	0.2425	0.0483	0.3046	0.3111	1.0000	0.6667	0.0000	0.0000	0.8953	0.2932	0.1895	0.1505	0.5042	0.9006	0.0000	0.1088	0.9513	0.3158	0.8370	0.0000	0.2369	0.2597	0.4184	0.4425	0.1781	0.3627
0.9920	0.2332	0.8809	0.2191	0.5394	0.1360	0.2338	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.2684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.5771	0.5946	0.1016	0.1000	0.5787	0.1006
	0.1146	1.0000	0.3891	0.6574	0.3805	0.4674	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5994	0.5920	0.1398	0.0865	0.6847	0.1788
0.5464	0.1194	0.1765	0.8131	0.6711	0.4492	0.3893	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4315	0.4544	0.1989	0.2147	0.4438	0.2115
0.9920	0.2535	0.5042	0.2253	0.7260	0.1967	0.2457	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6177	0.6235	0.2375	0.2397	0.5729	0.2043
0.9920	0.2263	0.3571	0.2450	0.4145	0.1441	0.2310	0.5556	0.4808	1.0000	0.0000	0.0000	0.2748	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4982	0.6560	0.9079	0.7482	0.3180	0.3616	0.3442	0.1230	0.0995	0.3571	0.1194
0.9920	0.5081	0.0948	0.2572	0.2874	0.0385	0.4656	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2074	0.1931	0.4122	0.3808	0.2150	0.4240
0.9920	0.2321	0.8858	0.2042	0.5667	0.3277	0.2695	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5711	0.5787	0.0988	0.1006	0.6017	0.1079
0.5464	0.1133	0.3532	0.3247	0.7700	0.5171	0.6581	0.0000	0.7692	0.6667	0.0000	0.8000	0.6648	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.5053	0.1676	0.3065	0.7367	0.6452	0.2275	0.2013	0.7544	0.2549
0.9920	0.2929	0.5482	0.2902	0.5269	0.2121	0.2931	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5052	0.5155	0.2118	0.2234	0.5120	0.1820
0.9920	0.0825	0.9926	0.3083	0.5649	0.3778	0.3658	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5887	0.6904	0.1746	0.1479	0.5887	0.0921
0.2680	0.3788	0.0525	0.3273	0.6917	0.7754	0.5500	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7903	0.7287	0.4040	0.3877	0.7785	0.3848
0.4187	0.4372	0.1239	0.3710	0.7830	0.7100	0.6853	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8137	0.7723	0.5139	0.5024	0.8262	0.4898
0.4485	0.4901	0.0761	0.3797	0.7885	0.6420	0.5072	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6558	0.6536	0.6019	0.6192	0.6916	0.5949
0.9920	0.2984	0.3350	0.3177	0.4673	0.1360	0.4808	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3764	0.3891	0.1628	0.1675	0.4082	0.1874
0.9920	0.2187	0.7116	0.2827	0.4348	0.2737	0.0758	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5300	0.5393	0.0805	0.0817	0.4737	0.0808
0.9920	0.2264	0.7141	0.2990	0.4429	0.2745	0.1123	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4737	0.5300	0.0608	0.0805	0.4858	0.0698
0.9920	0.2695	0.1690	0.3293	0.3621	0.0675	0.5254	0.5558	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2311	0.2131	0.2400	0.2292	0.2641	0.2450
0.4649	0.5711	0.0533	0.3710	0.7765	0.5562	0.5786	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6048	0.6142	0.6550	0.6806	0.6710	0.6799
0.9920	0.2704	0.4352	0.2880	0.5802	0.1718	0.1232	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4143	0.4173	0.1497	0.1609	0.4610	0.1751
0.2680	0.4323	0.1036	0.3501	0.2306	0.7955	0.4653	0.3111	0.6731	0.6667	0.0000	0.3400	0.5924	0.3077	0.4195	0.2237	0.4277	0.6168	0.3303	0.2642	0.8203	0.5529	0.5500	0.3118	0.4653	0.4636	0.3395	0.3373	0.4676	0.3448
0.9920	0.2714	0.3201	0.2541	0.5169	0.1302	0.6189	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4490	0.4125	0.2283	0.2111	0.4414	0.2291
0.5464	0.0960	0.2754	0.3110	0.6704	0.4868	0.3278	0.6000	0.5000	0.6667	0.0000	0.0000	0.4477	0.5932	0.0969	0.4301	0.7304	0.4631	0.2578	0.5105	0.6557	0.6579	0.8335	0.3984	0.5559	0.5716	0.1481	0.1683	0.5749	0.1676
0.5464	0.0822	0.3282	0.3496	0.7108	0.5070	0.5574	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6515	0.6497	0.2150	0.2118	0.6294	0.1928
0.9920	0.2661	0.3128	0.2548	0.4611	0.1272	0.4802	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3782	0.4074	0.1902	0.2195	0.3862	0.2098
0.2934	0.4951	0.1051	0.2155	0.4898	0.8801	0.3828	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	0.7677	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.6607	0.6725	0.4360	0.4371	0.6523	0.4594
0.9920	0.3526	0.7857	0.2799	0.5711	0.3005	0.3173	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7793	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6517	0.6671	0.2266	0.2367	0.6174	0.2188
0.9920	0.3486	0.7931	0.2983	0.5107	0.3031	0.2008	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7793	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5604	0.6016	0.2007	0.1998	0.5983	0.1960
0.9920	0.2870	0.3960	0.2712	0.4715	0.1575	0.2015	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3622	0.3573	0.1508	0.1517	0.4167	0.1853
0.9920	0.3563	0.5380	0.2951	0.4776	0.2087	0.1536	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3995	0.3188	0.6057	0.5875	0.7368	0.8327	0.4927	0.4446	0.5396	0.2032	0.1861	0.4624	0.2153
0.2680	0.4174	0.0151	0.3385	0.6910	0.7597	0.6827	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7938	0.7262	0.4637	0.4695	0.7404	0.4427
0.4649	0.4415	0.1406	0.3437	0.7449	0.5891	0.3721	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7227	0.7581	0.5599	0.6323	0.6992	0.5120
0.2934	0.6210	0.0370	0.1779	0.7586	0.8554	0.5620	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8329	0.8270	0.6697	0.6636	0.8145	0.6398
0.9920	0.1125	0.0098	0.2329	0.1085	0.0021	0.7371	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.0040	0.0043	0.2064	0.0000	0.0003	0.1184
0.9920	0.2511	0.5752	0.2238	0.5871	0.2218	0.2753	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.5765	0.5449	0.1975	0.1826	0.5511	0.1456
0.9920	0.5691	0.0307	0.1023	0.1692	0.0114	0.6177	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1714	0.1719	0.4611	0.4743	0.1731	0.4629
0.9920	0.2822	0.8468	0.2628	0.5765	0.3232	0.3901	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5875	0.5541	0.1617	0.1630	0.6292	0.1504
0.9920	0.3011	0.1589	0.3587	0.2785	0.0638	0.3617	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1767	0.2506	0.2042	0.3029	0.1992	0.2275
0.4187	0.4331	0.1519	0.3892	0.8155	0.7215	0.7102	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8044	0.8416	0.5036	0.5002	0.8572	0.5304
0.5464	0.1026	0.0637	0.2860	0.6221	0.4067	0.9855	0.5556	0.7692	0.0000	0.0000	0.0000	1.0000	0.5385	0.1619	0.5699	0.6450	0.9991	0.2064	0.3691	0.7917	0.0000	1.0000	0.3707	0.2975	0.2467	0.2435	0.2145	0.3487	0.2660
0.9920	0.2511	0.3893	0.2361	0.4913	0.1486	0.3795	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.5510	0.6167	0.1673	0.3695	0.7590	0.3395	0.8347	0.2585	0.4684	0.4520	0.1975	0.1821	0.4394	0.1900
0.2680	0.3930	0.0275	0.3122	0.6111	0.7651	0.7183	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6894	0.6938	0.3878	0.3871	0.7077	0.3888
0.4649	0.6147	0.1040	0.3307	0.8340	0.5757	0.4317	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.9991	0.0906	0.9230	0.5790	0.0803	0.3996	0.7137	0.6927	0.6301	0.6658	0.7588	0.6920
0.9920	0.0946	0.9558	0.3543	0.4081	0.3642	0.1082	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5685	0.5535	0.0709	0.0654	0.4431	0.0393
0.4649	0.3164	0.1556	0.3396	0.7325	0.5947	0.3815	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7135	0.7230	0.4384	0.4586	0.6925	0.3903
0.4485	0.5888	0.0582	0.3639	0.8318	0.6356	0.3143	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6621	0.6427	0.6693	0.6612	0.6885	0.6715
0.4187	0.4026	0.2100	0.2814	0.9584	0.7459	0.4885	0.5333	0.8154	0.0000	0.8333	0.0000	0.5798	0.3239	0.1182	0.3656	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.9426	0.9540	0.4062	0.4264	0.9436	0.4149
0.9920	0.3084	0.6652	0.2968	0.5960	0.2564	0.4290	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6334	0.6101	0.1929	0.1756	0.6308	0.1929
0.9920	0.5491	0.0705	0.1894	0.2754	0.0293	0.6567	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2175	0.2126	0.4729	0.4689	0.2216	0.4771
0.9920	0.2490	0.2739	0.2403	0.4413	0.1108	0.9386	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3225	0.3134	0.1792	0.1521	0.3937	0.1790
0.9920	0.3112	0.3985	0.2737	0.5491	0.1584	0.4437	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4167	0.3622	0.1853	0.1508	0.4924	0.2340
0.4187	0.4298	0.2272	0.2591	0.5979	0.7525	0.4076	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7239	0.7067	0.3861	0.3885	0.7085	0.4037
0.9920	0.5598	0.0329	0.0954	0.1200	0.0125	0.6023	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1731	0.1714	0.4628	0.4611	0.1732	0.1548
0.4649	0.6534	0.0355	0.3658	0.6632	0.5495	0.3812	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5576	0.5667	0.6811	0.6716	0.5862	0.7020
0.5464	0.0926	0.0515	0.2899	0.5344	0.4018	0.4953	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2324	0.2598	0.2259	0.2262	0.2513	0.2330
0.4485	0.7594	0.0126	0.3612	0.6645	0.6196	0.2620	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3796	0.7013	0.1591	0.3711	0.8296	0.5860	0.5291	0.5393	0.8796	0.8983	0.5218	0.8477
0.5464	0.0694	0.3432	0.3219	0.7255	0.5131	0.3195	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7241	0.6808	0.2691	0.1967	0.6593	0.2270
0.9920	0.2681	0.5919	0.2338	0.5813	0.2278	0.2164	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5198	0.5452	0.1202	0.1507	0.5402	0.1524
0.9920	0.2707	0.3177	0.2577	0.5201	0.1292	0.6313	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4125	0.3962	0.2111	0.2058	0.4490	0.2283
0.9920	0.2582	0.6163	0.2213	0.7742	0.2374	0.6718	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.7156	0.6616	0.1979	0.1594	0.7667	0.2117
0.2934	0.8015	0.0224	0.3242	0.7128	0.8495	0.3105	0.5333	0.0000	0.0000	0.8333	0.6400	0.0096	0.3513	0.5616	0.5032	0.5341	0.0002	0.8418	0.7257	0.1173	0.5805	0.2761	0.9155	0.7274	0.7208	0.7624	0.7749	0.7297	0.7436

0.5464	0.1108	0.0860	0.3114	0.4747	0.4153	0.2909	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2882	0.2925	0.2045	0.2117	0.2586	0.1844
0.4187	0.5513	0.0025	0.3688	0.8324	0.6607	0.7156	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6124	0.7401	0.8181	0.5849	0.6406	0.7368
0.5464	0.1236	0.3763	0.3622	0.6950	0.5263	0.6565	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7203	0.7205	0.2615	0.2529	0.7129	0.2698
0.9920	0.2421	0.3375	0.2972	0.5267	0.1389	0.6111	0.5556	0.4808	1.0000	0.0000	0.0000	0.2749	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.4082	0.3764	0.1874	0.1628	0.4604	0.1990
0.9920	0.1356	0.9485	0.2662	0.5026	0.3617	0.2237	0.0000	0.7692	0.6667	0.0000	0.8000	0.6649	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.5053	0.1676	0.3063	0.6080	0.6632	0.1293	0.1305	0.5734	0.0887
0.5464	0.0659	0.3356	0.2791	0.7634	0.5100	0.6542	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6552	0.6521	0.1766	0.1996	0.6930	0.1844
0.4187	0.4380	0.0633	0.3234	0.7606	0.6830	0.7075	0.8000	0.1923	0.0000	0.6667	0.0000	0.2575	0.7991	0.0411	0.6602	0.8812	0.2429	0.4387	0.7805	0.1811	0.4179	0.8636	0.6881	0.6359	0.6267	0.5212	0.5317	0.6820	0.5211
0.4485	0.4078	0.0887	0.3494	0.9090	0.6469	0.6906	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7320	0.7428	0.5907	0.6180	0.7590	0.5893
0.9920	0.5658	0.0284	0.1208	0.1699	0.0104	0.5931	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1719	0.1743	0.4743	0.4906	0.1724	0.4611
0.9920	0.3558	0.7808	0.3202	0.6217	0.2986	0.4046	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8034	0.4140	0.6662	0.6491	0.2731	0.2225	0.8871	0.2387
0.9920	0.2581	0.2763	0.2236	0.4489	0.1118	0.5251	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3437	0.3225	0.1990	0.1792	0.3509	0.2032
0.9920	0.4425	0.1391	0.3200	0.3571	0.0560	0.4516	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2370	0.2337	0.4109	0.4176	0.2340	0.3938
0.9920	0.2619	0.6235	0.2212	0.7222	0.2405	0.5702	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7734	0.7514	0.3596	0.6009	0.6212	0.1974	1.0000	0.6019	0.7350	0.7709	0.2025	0.2229	0.7171	0.1938
0.9920	0.4392	0.0802	0.3126	0.1726	0.0331	0.2498	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1748	0.1816	0.3620	0.3884	0.1545	0.3010
0.4649	0.5382	0.1349	1.0000	0.7957	0.5872	0.4550	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7538	0.7603	0.6475	0.6575	0.7591	0.6723
0.4187	0.3970	0.2075	0.3146	0.9472	0.7449	0.5469	0.5333	0.6154	0.0000	0.8333	0.0000	0.5798	0.5239	0.1182	0.3696	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.9540	0.9481	0.4264	0.4091	0.9426	0.4062
0.5464	0.1068	0.3557	0.3319	0.7340	0.5181	0.5523	0.0000	0.7692	0.6667	0.0000	0.8000	0.6649	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.5053	0.1676	0.3063	0.7644	0.7367	0.2549	0.2275	0.7401	0.2460
0.5464	0.0743	0.1081	0.2492	0.5304	0.4238	0.3585	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3192	0.3336	0.1898	0.2058	0.3221	0.1723
0.2680	0.4455	0.1112	0.3439	0.2614	0.7983	0.4539	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3323	0.6510	0.6167	0.1673	0.3695	0.7380	0.5395	0.8347	0.2585	0.4565	0.4609	0.3392	0.3421	0.4798	0.3751
0.9920	0.1431	0.9358	0.2395	0.5051	0.1582	0.2099	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5502	0.5324	0.0935	0.0961	0.3717	0.1014
0.9920	0.2864	0.5212	0.1541	0.6502	0.2079	0.2294	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3198	0.6057	0.5875	0.7368	0.8327	0.4927	0.6907	0.6361	0.2531	0.2485	0.6608	0.2604
0.9920	0.2822	0.5163	0.2596	0.8289	0.2011	0.2648	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3198	0.6057	0.5875	0.7368	0.8327	0.4927	0.6210	0.6155	0.2583	0.2548	0.6361	0.2485
0.9920	0.2354	0.8223	0.2505	0.5519	0.3136	0.2891	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.5921	0.6570	0.1164	0.1544	0.5809	0.1108
0.4649	0.6445	0.0457	0.3647	0.7418	0.5533	0.4701	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6406	0.6167	0.7400	0.7434	0.6669	0.7304
0.4187	0.4371	0.0937	0.3551	0.7519	0.6978	0.5565	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5298	0.9291	0.0000	0.5553	0.8276	0.8118	0.6994	0.7094	0.4646	0.4671	0.7136	0.5122
0.9920	0.2882	0.2036	0.2587	0.3817	0.0806	0.2961	0.9111	0.0000	0.3333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3240	0.3171	0.2485	0.2281	0.3124	0.2200
0.9920	0.1664	0.9687	0.3078	0.5535	0.3683	0.3722	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5247	0.4986	0.1722	0.1498	0.6031	0.1991
0.9920	0.4019	0.1489	0.3218	0.3361	0.0600	0.4745	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2627	0.2910	0.3707	0.4187	0.2578	0.3480
0.9920	0.2933	0.6850	0.2664	0.5529	0.2636	0.2770	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5778	0.3761	0.1702	0.1725	0.5975	0.1586
0.5464	0.1011	0.0884	0.2896	0.5678	0.4162	0.5167	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2996	0.2882	0.1644	0.2045	0.3393	0.2114
0.4649	0.6311	0.0231	0.3644	0.6092	0.5450	0.2311	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5298	0.9291	0.0000	0.5553	0.8276	0.8118	0.5057	0.4888	0.7196	0.7167	0.4613	0.6785
0.4649	0.4355	0.2033	0.2930	0.7293	0.6132	0.4347	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.8118	0.8311	0.3921	0.3782	0.7887	0.3877
0.9920	0.2217	0.8781	0.2324	0.5536	0.3343	0.2991	0.5778	0.5769	0.5333	0.0000	0.0000	0.5789	0.5684	0.1145	0.4452	0.7024	0.3930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.6128	0.6023	0.1205	0.1349	0.5948	0.1000
0.9920	0.5372	0.0421	0.1390	0.1814	0.0166	0.6604	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1768	0.1787	0.4513	0.4595	0.1758	0.4425
0.2680	0.4867	0.1584	0.2896	0.3898	0.8163	0.2397	0.9111	0.0000	0.3333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6072	0.6254	0.4173	0.4186	0.5748	0.4160
0.9920	0.4265	0.1440	0.2747	0.3984	0.0579	0.6842	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2464	0.2340	0.3916	0.3938	0.2580	0.4187
0.9920	0.5584	0.0352	0.0920	0.1741	0.0135	0.3935	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1732	0.1731	0.4548	0.4628	0.1753	0.4572
0.9920	0.1344	0.9634	0.2984	0.4519	0.3667	0.2079	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5298	0.9291	0.0000	0.5553	0.8276	0.8118	0.4617	0.4902	0.1335	0.1039	0.4986	0.1488
0.5464	0.0983	0.3687	0.3624	0.7485	0.5233	0.7925	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7365	0.7535	0.2554	0.2706	0.7637	0.2619
0.9920	0.2262	0.3424	0.2962	0.3879	0.1389	0.2162	0.5556	0.4808	1.0000	0.0000	0.0000	0.2749	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.3977	0.4604	0.1510	0.1990	0.3360	0.1146
0.9920	0.3100	0.5943	0.2884	0.6803	0.2206	0.3690	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5402	0.5198	0.1524	0.1202	0.6814	0.2182
0.9920	0.2529	0.7359	0.3025	0.5581	0.2012	0.4384	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5503	0.4579	0.1251	0.0901	0.6247	0.1470
0.5464	0.0665	0.3913	0.2996	0.6502	0.5327	0.5606	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5298	0.9291	0.0000	0.5553	0.8276	0.8118	0.6263	0.6331	0.1341	0.1523	0.6634	0.1985
0.4485	0.5113	0.0811	0.3447	0.9177	0.6440	0.6561	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7236	0.6916	0.5942	0.5949	0.8104	0.6519
0.4187	0.4050	0.1468	0.3733	0.8020	0.7194	0.7170	0.1556	0.7885	0.0000	0.6667	0.5400	0.7751	0.1530	0.6103	0.1527	0.2349	0.7730	0.3819	0.1264	0.6324	0.0313	0.4187	0.2871	0.8051	0.8203	0.5065	0.5149	0.8406	0.5002
0.9920	0.2247	0.6117	0.1196	0.6852	0.2354	0.4578	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3596	0.6009	0.6212	0.1974	1.0000	0.6019	0.7118	0.6865	0.1971	0.1996	0.6666	0.1594
0.9920	0.2858	0.5823	0.2002	0.6224	0.2243	0.3703	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.5419	0.5230	0.1575	0.1390	0.6141	0.1931
0.9920	0.2966	0.1765	0.2919	0.3518	0.0704	0.3368	0.5778	0.5769	0.5333	0.0000	0.0000	0.5789	0.5684	0.1145	0.4452	0.7024	0.3930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.2637	0.2637	0.2510	0.2793	0.2830	0.2373
0.5464	0.1080	0.0271	0.2667	0.4493	0.3923	0.3616	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1318	1.0000	0.5242	0.2397	0.2435	0.2112	0.2374	0.2304	0.1723
0.4485	0.3944	0.0912	0.3651	0.8873	0.6480	0.7116	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7920	0.7520	0.5493	0.5907	0.7896	0.9491
0.9920	0.3211	0.2279	0.2519	0.4239	0.0918	0.6568	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1318	1.0000	0.5242	0.4766	0.3823	0.3118	0.2266	0.3520	0.2824
0.9920	0.3114	0.5235	0.0366	0.8438	0.2037	0.1199	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3198	0.6057	0.5875	0.7368	0.8327	0.4927	0.6606	0.6907	0.2604	0.2531	0.6365	0.2642
0.9920	0.2872	0.8395	0.2808	0.4934	0.3206	0.2429	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6697	0.8055	0.1434	0.1544	0.5477	0.1432
0.9920	0.3169	0.5606	0.2593	0.5698	0.2165	0.3432	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5419	0.5217	0.2152	0.2139	0.5859	0.2097
0.2934	0.4032	0.1244	0.2513	0.4956	0.8873	0.4008	0.8889	0.1923	0.0000	0.0000	0.0000	0.4835	0.8846	0.0546	0.8925	0.9091	0.4976	0.5085	0.8384	0.4506	0.3947	1.0000	0.8388	0.6517	0.6431	0.3643	0.3785	0.6457	0.3715
0.9920	0.2721	0.6066	0.5985	0.6902	0.2334	0.5556	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6786	0.6723	0.2009	0.2168	0.6863	0.1966
0.2680	0.5041	0.0737	0.3419	0.0883	0.7839	0.5499	0.8778	0.0000	0.5333	0.0000	0.0000	0.0537	0.9116	0.0003	0.7997	0.9724	0.0620	0.5419	0.9422	0.3962	0.9183	0.8595	0.8467	0.4138	0.5710	0.4659	0.5704	0.3751	0.4111
0.9920	0.2872	0.6604	0.3061	0.6899	0.2510	0.4332	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0903	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6511	0.6726	0.1918	0.1957	0.6869	0.1851
0.5464	0.1195	0.0810	0.2867	0.5284	0.4135	0.4139	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2942	0.3094	0.2153	0.2068	0.2925	0.2117
0.2934	0.4677	0.0548	0.1995	0.3392	0.9603	0.4094	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5791	0.0906	0.9230	0.5750	0.0803	0.3996	0.8272	0.8076	0.5934	0.6051	0.4728	0.4347
0.2680	0.3848	0.0500	0.3401	0.7129	0.7744	0.5441	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7287	0.7365	0.3877	0.3955	0.7605	0.4040
0.9920	0.2749	0.5847	0.2199	0.5944	0.2252	0.3054	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.6141	0.5419	0.1931	0.1575	0.5928	0.1886
0.9920	0.3218	0.6380	0.2575	0.6771	0.2464	0.4242	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6673	0.6531	0.2222	0.1977	0.6729	0.2267
0.9920	0.2381	0.9001	0.2402	0.6150	0.3435	0.5325	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6494	0.7038	0.1349	0.1396	0.6907	0.1324
0.4649	0.5056	0.0837	0.3635	0.7969	0.5679	0.5978	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7490	0.7363	0.6211	0.6445	0.7262	0.6123
0.5464	0.1021	0.2264	0.2153	0.7907	0.4686	0.5183	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5806	0.5349	0.2114	0.1879	0.5753	0.2011
0.5464	0.0965	0.1715	0.3835	0.6734	0.4473	0.4823	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4443	0.3971	0.2240	0.1864	0.4544	0.2147
0.4187	0.3931	0.1773	0.3352	0.8653	0.7323	0.6078	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8621	0.8427	0.3944	0.3667	0.8893	0.4046
0.2934	0.4512	0.0884	0.2074	0.4573	0.8734	0.4853	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.6125	0.5701	0.4225	0.4188	0.6130	0.4289
0.4485	0.5345	0.0709	0.3998	0.7504	0.6401	0.4214	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5298	0.9291	0.0000	0.5553	0.8276	0.8118	0.6457	0.6577	0.6235	0.6393	0.6398	0.6192
0.2934	1.0000	0.0024	0.3222	0.7251	0.8422	0.5496	0.0000	0.8654	0.6667	0.0000	0.7000	0.7538	0.0000	0.7576	0.0000	0.1079	0.7851	0.4013	0.0000	1.0000	0.4355	0.2543	0.2142	0.6921	0.6837	0.8285	0.2882	0.7808	0.9724
0.4187	0.5281	0.0051	0.3745	0.7555	0.6617	0.7016	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6406	0.6124	0.7369	0.8181	0.8147	0.6934
0.4649	0.4520	0.1858	0.3924	0.7936	0.6064	0.6434	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8986	0.8128	0.5103	0.4863	0.8855	0.5133
0.4187	0.4553	0.2171	0.3385	0.5834	0.7486	0.5020	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6816	0.8782	0.3384	0.4595	0.7011	0.4293
0.9920	0.2238	0.3400	0.2727	0.4607	0.1380	0.4310	0.5556	0.4808	1.0000	0.0000	0.0000	0.2748	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.4604	0.4082	0.1990	0.1874	0.3977	0.1510
0.9920	0.2609	0.2859	0.2312	0.4907	0.1160	0.6390	0.6111	0.6731	0.0000	0.0000	0.0000	0.9139	0.5962	0.1444	0.6237	0.6881	0.9172	0.2557	0.4458	0.7348	0.0658	1.0000	0.4471	0.4360	0.3813	0.2163	0.1955	0.4229	0.2184
0.9920	0.2776	0.2133	0.2495	0.4941	0.0849	0.7215	0.6333	0.6346	0.0000	0.0000	0.0000	0.8795	0.6192	0.1373	0.6452	0.7055	0.8842	0.2796	0.4766	0.7121	0.0921	1.0000	0.4779	0.5270	0.2969	0.2475	0.1771	0.4019	0.2624
0.9920	0.2112	0.3737	0.2428	0.4551	0.1495	0.2928	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.4394	0.4684	0.1500	0.1975	0.4059	0.1221
0.9920	0.5319	0.1141	0.3228	0.3351	0.0465	0.3696	0.3111	1.0000	0.6667	0.0000	0.0000	0.8953	0.2932	0.1895	0.1505	0.5042	0.9006	0.0000	0.1088	0.9513	0.3158	0.8370	0.0000	0.2803	0.3840	0.5217	0.5665	0.2697	0.4475
0.4649	0.4554	0.2058	0.2815	0.7178	0.6141	0.3920	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7987	0.8118	0.3877	0.3921	0.7900	0.4001
0.4187	0.3997	0.2000	0.3312	0.9122	0.7419	0.5972	0.5333	0.6154	0.0000	0.8333	0.0000	0.5798	0.5239	0.1182	0.3656	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.9220	0.8925	0.3790	0.3606	0.8117	0.3760
0.9920	0.1438	0.0122	0.1452	0.0807	0.0031	0.6187	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.0000	0.0040	0.1194	0.2064	0.0346	0.1072
0.4187	0.5191	0.0380	0.3689	0.6417	0.6790	0.5067	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1337	0.3806	0.6498	0.6890	0.1748	0.3680	0.4766	0.0758	0.8665	0.2800	0.5240	0.5538	0.6335	0.6601	0.5222	0.5802
0.2934	0.4985	0.0619	0.2316	0.3931	0.8631	0.3802	0.0000	0.6731	0.6667	0.0000	0.8000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5335	0.4619	0.4096	0.4296	0.5458	0.4144
0.9920	0.2694	0.2182	0.2667	0.4743	0.0866	0.5679	0.6333	0.6346	0.0000	0.0000	0.0000	0.8795	0.6192	0.1373	0.6452	0.7055	0.8842	0.2796	0.4766	0.7121	0.0921	1.0000	0.4779	0.3912	0.4019	0.2600	0.2624	0.3837	0.3479
0.9920	0.3735	0.1514	0.3157	0.3203	0.0610	0.4349	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2578	0.2627	0.3480	0.3707	0.2494	0.3117

0.9920	0.1654	0.9460	0.2753	0.5433	0.3609	0.2853	0.0000	0.7692	0.6667	0.0000	0.8000	0.6648	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.3053	0.1676	0.3065	0.6632	0.6045	0.1305	0.1147	0.6080	0.1291
0.9920	0.3304	0.6404	0.2219	0.6948	0.2473	0.4257	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6729	0.6673	0.2267	0.2222	0.6804	0.2363
0.9920	0.2991	0.5139	0.2603	0.8180	0.2002	0.2332	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6155	0.6563	0.2548	0.2632	0.6230	0.2381
0.4187	0.4131	0.2222	0.3370	0.5729	0.7506	0.5245	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7113	0.7011	0.4089	0.4283	0.7067	0.3881
0.5464	0.1057	0.2881	0.4795	0.7137	0.4914	0.5386	0.0000	0.7692	0.0000	0.8333	0.8000	0.6936	0.0043	0.8261	0.0215	0.0846	0.5948	0.4987	0.0454	0.6013	0.0605	0.1664	0.3049	0.3995	0.6134	0.1839	0.1869	0.6471	0.1978
0.2680	0.4525	0.0000	0.3383	0.6307	0.7535	0.5414	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7085	0.7239	0.4037	0.3861	0.6572	0.4880
0.9920	0.6047	0.0515	0.2060	0.2252	0.0208	0.7080	1.0000	0.0000	0.0000	0.0000	0.4000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1918	0.1728	0.4670	0.4254	0.2087	0.5103
0.5464	0.0427	0.3133	0.3050	0.6552	0.5010	0.4336	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6066	0.5867	0.1334	0.1608	0.5972	0.1202
0.9920	0.2295	0.3474	0.3092	0.4234	0.1406	0.3367	0.5556	0.4808	1.0000	0.0000	0.0000	0.2748	0.5513	0.0853	0.2957	0.7288	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.3326	0.3360	0.1145	0.1148	0.3709	0.1347
0.5464	0.0653	0.3888	0.3118	0.6208	0.5317	0.4737	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6331	0.7419	0.1523	0.1947	0.6263	0.1341
0.9920	0.2246	0.7067	0.2729	0.5025	0.2721	0.2008	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.3541	0.5614	0.1092	0.1283	0.5293	0.0817
0.5464	0.0821	0.0393	0.2854	0.4462	0.3971	0.3887	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2375	0.2283	0.1642	0.1722	0.1843	0.1312
0.9920	0.2191	0.9073	0.2213	0.6326	0.3466	0.6813	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.8538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.7509	0.6895	0.1308	0.1264	0.7226	0.1503
0.5464	0.1050	0.0048	0.3193	0.5039	0.3835	0.6487	0.6889	0.5385	0.0000	0.0000	0.0000	0.7934	0.6769	0.1196	0.6989	0.7491	0.8014	0.3253	0.5541	0.6353	0.1579	1.0000	0.5552	0.3080	0.3035	0.1772	0.2605	0.2752	0.2173
0.9920	0.2397	0.3005	0.3276	0.4457	0.1222	0.3071	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4159	0.4279	0.1957	0.2367	0.3568	0.1731
0.2680	0.4350	0.1859	0.3305	0.5019	0.8266	0.5315	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4991	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.6754	0.6909	0.4147	0.4182	0.6889	0.3652
0.9920	0.3015	0.6479	0.3389	0.6493	0.2501	0.3899	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6396	0.6038	0.1957	0.1933	0.6511	0.1918
0.9920	0.3217	0.4098	0.2713	0.5143	0.1613	0.4214	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4538	0.4731	0.2416	0.2197	0.4670	0.2424
0.5464	0.0441	0.1418	0.2277	0.5378	0.4369	0.2356	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3616	0.3491	0.1195	0.1157	0.3075	0.0840
0.2934	0.4528	0.0606	0.1986	0.4100	0.8715	0.4330	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.5670	0.5777	0.4143	0.3626	0.5701	0.4108
[illegible]	0.3425	0.7955	0.2768	0.5207	0.3039	0.2125	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5483	0.5604	0.1980	0.2007	0.5980	0.1980
0.9920	0.2488	0.9977	0.2299	0.3893	0.3425	0.4545	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7038	0.6838	0.1396	0.1259	0.6499	0.1343
0.9920	0.2717	0.3862	0.2945	0.3615	0.1543	0.0763	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3610	0.3662	0.0844	0.1141	0.3331	0.1304
0.9920	0.1615	0.0168	0.1187	0.0778	0.0052	0.5170	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.0120	0.0141	0.1007	0.1072	0.0163	0.1038
0.2934	0.5945	0.0464	0.1659	0.7607	0.8593	0.5360	0.6444	0.4615	0.0000	0.6667	0.0000	0.4983	0.6378	0.0924	0.5097	0.7554	0.4853	0.2952	0.5589	0.3402	0.2337	0.8652	0.4662	0.8076	0.7927	0.6051	0.5964	0.8272	0.5934
0.9920	0.2272	0.2109	0.2678	0.5930	0.0833	0.9481	0.6333	0.6346	0.0000	0.0000	0.0000	0.8791	0.6192	0.1773	0.6452	0.7055	0.8842	0.2756	0.4766	0.7121	0.0921	1.0000	0.4779	0.2969	0.3024	0.1771	0.2064	0.3270	0.2473
0.9920	0.3090	0.4499	0.1743	0.8371	0.1789	0.2175	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6442	0.6634	0.2941	0.3115	0.6172	0.2887
0.4187	0.3568	0.1975	0.3315	0.9151	0.7408	0.6442	0.5333	0.6154	0.0000	0.8333	0.0000	0.5798	0.3239	0.1182	0.3655	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.8929	0.8920	0.3606	0.3495	0.9220	0.3790
0.9920	0.2382	0.8370	0.2727	0.6277	0.3197	0.3253	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.3470	0.1114	0.3871	0.6930	0.5317	0.2174	0.4476	0.7012	0.6057	0.8341	0.3360	0.8055	0.8271	0.1544	0.1615	0.6897	0.1434
0.9920	0.4861	0.1241	0.3354	0.3294	0.0502	0.3828	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2109	0.1781	0.4174	0.3627	0.2285	0.4393
0.9920	0.4747	0.0851	0.2412	0.2246	0.0349	0.2827	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1693	0.1545	0.3410	0.3010	0.1756	0.3528
0.2680	0.4774	0.0886	0.2955	0.1400	0.7697	0.4017	0.7333	0.1154	0.6667	0.0000	0.1600	0.0985	0.7385	0.1627	0.5935	0.8036	0.1135	0.5424	0.7809	0.4577	0.9274	0.6934	0.7425	0.3849	0.3848	0.3489	0.3458	0.3992	0.3413
0.9920	0.4962	0.0777	0.2884	0.1980	0.0323	0.3103	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1816	0.2128	0.3884	0.4535	0.1798	0.3620
0.4649	0.6542	0.1066	0.3623	0.8238	0.5766	0.4022	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3986	0.7588	0.7137	0.6910	0.6301	0.7805	0.7130
0.4187	0.3358	0.1925	0.3280	0.6828	0.7388	0.6073	0.4222	0.7692	0.0000	1.0000	0.0000	0.6610	0.4103	0.1438	0.7215	0.5999	0.6324	0.0989	0.2764	0.3973	0.0347	0.7994	0.1415	0.8907	0.9492	0.3473	0.4216	0.8850	0.3485
0.9920	0.1771	0.9097	0.2345	0.6215	0.3476	0.6370	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.8538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.7226	0.7509	0.1603	0.1308	0.7011	0.1538
0.9920	0.3001	0.4802	0.1426	0.9133	0.1879	0.2612	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6802	0.6743	0.3059	0.3046	0.6945	0.2942
0.4649	0.4099	0.1757	0.3541	0.8179	0.6024	0.3790	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.3470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8303	0.8149	0.4785	0.4073	0.8446	0.4867
0.9920	0.3357	0.7708	0.3265	0.5960	0.2950	0.3483	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6269	0.5347	0.2378	0.2020	0.6173	0.2177
0.5464	0.1023	0.0909	0.3016	0.6079	0.4172	0.6041	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3393	0.2596	0.2114	0.1644	0.3763	0.2339
0.5464	0.0958	0.2553	0.2849	0.6280	0.4796	0.2713	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4583	0.4393	0.1699	0.1243	0.4720	0.1665
0.9920	0.2660	0.4994	0.2212	0.8292	0.1951	0.2400	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6298	0.6267	0.2401	0.2612	0.6235	0.2397
0.9920	0.1502	0.9804	0.2100	0.6722	0.3730	0.4699	0.0000	0.7692	0.0000	0.0000	1.0000	0.9701	0.0043	1.0000	0.2473	0.0000	1.0000	0.6774	0.0649	0.9749	0.0395	0.1775	0.5247	0.7384	0.6844	0.1338	0.1226	0.7150	0.1224
0.5464	0.1557	0.0098	0.2797	0.4407	0.3856	0.4995	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2320	0.2752	0.2171	0.2173	0.1966	0.2478
0.9920	0.2448	0.3104	0.2689	0.4607	0.1262	0.4719	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4074	0.4108	0.2195	0.2161	0.3792	0.1902
0.9920	0.2657	0.7533	0.2741	0.5386	0.2890	0.2421	0.0600	0.6731	0.6667	0.0000	0.7920	0.5789	0.0662	0.8056	0.0778	0.1306	0.6170	0.5473	0.1241	0.9032	0.5707	0.1709	0.3827	0.6989	0.6635	0.1634	0.1551	0.5821	0.1258
0.4187	0.4124	0.1418	0.3698	0.7952	0.7173	0.6897	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7441	0.8075	0.4970	0.5237	0.8292	0.5149
0.2680	0.4484	0.2157	0.3234	0.5154	0.8376	0.4033	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6642	0.7389	0.3867	0.4139	0.6806	0.3749
0.2680	0.4222	0.0128	0.3237	0.7463	0.7586	0.7240	0.2333	0.5000	0.0000	0.8333	0.6600	0.4367	0.2406	0.6633	0.2172	0.2941	0.4588	0.5756	0.3046	0.4165	0.2392	0.2749	0.5007	0.7282	0.7117	0.4895	0.4611	0.7838	0.4677
0.9920	0.3069	0.6922	0.2334	0.6671	0.2665	0.5537	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.7508	0.6735	0.2373	0.1847	0.7123	0.2171
0.9920	0.3112	0.8517	0.2768	0.5882	0.3251	0.3316	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.7155	0.6292	0.1889	0.1604	0.6285	0.1892
0.2934	0.4097	0.0932	0.2048	0.4786	0.8793	0.4347	0.3222	0.6923	0.0000	0.6667	0.3400	0.6950	0.3175	0.4244	0.2710	0.4276	0.6892	0.3370	0.2646	0.5389	0.0892	0.5831	0.3330	0.6064	0.6130	0.3963	0.4269	0.5899	0.3865
0.2934	0.3720	0.1268	0.2745	0.5168	0.8885	0.5574	0.8889	0.1923	0.0000	0.0000	0.0000	0.4835	0.8846	0.0546	0.8925	0.9091	0.4976	0.5085	0.8394	0.4506	0.3947	1.0000	0.8388	0.6457	0.6517	0.3315	0.3643	0.6844	0.2869
0.5464	0.0862	0.2679	0.3230	0.6971	0.4940	0.4072	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5113	0.5217	0.1808	0.1872	0.5082	0.1812
0.9920	0.2746	0.5331	0.2967	0.6926	0.2071	0.1732	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7940	0.3595	0.3188	0.6057	0.5875	0.7368	0.8327	0.4927	0.6306	0.6287	0.2398	0.2474	0.5980	0.1961
0.9920	0.1622	0.9218	0.2449	0.4402	0.3523	0.1565	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5211	0.5462	0.0920	0.1000	0.4867	0.1921
0.9920	0.3079	0.4778	0.1415	0.9119	0.1870	0.2487	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6743	0.6518	0.3046	0.2870	0.6882	0.3039
0.2680	0.4817	0.0837	0.3142	0.1263	0.7878	0.4257	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4036	0.3885	0.3524	0.3594	0.3848	0.3459
0.5464	0.1510	0.0000	0.1826	0.5169	0.3815	0.6517	0.0000	0.7692	0.0000	0.0000	1.0000	0.9701	0.0043	1.0000	0.2473	0.0000	1.0000	0.6774	0.0649	0.9749	0.0395	0.1775	0.5247	0.6947	0.5994	0.1788	0.1398	0.3338	0.2893
0.9920	0.2496	0.3054	0.2415	0.4918	0.1242	0.6259	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3792	0.3988	0.2049	0.1735	0.4108	0.2161
0.9920	0.3519	0.5372	0.2903	0.5370	0.2139	0.2621	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5256	0.5120	0.2240	0.1820	0.5309	0.2210
0.9920	0.2435	0.4898	0.2966	0.8479	0.1916	0.3614	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6828	0.7204	0.2241	0.2518	0.6424	0.2288
0.5464	0.0612	0.3482	0.3374	0.6879	0.5150	0.9081	0.0333	0.7115	0.6667	0.0000	0.8000	0.6131	0.0389	0.8184	0.0538	0.1087	0.6509	0.5305	0.0909	0.9274	0.5447	0.1656	0.3529	0.6055	0.6383	0.2044	0.2270	0.6453	0.2013
0.9920	0.3072	0.6948	0.2272	0.6160	0.2675	0.4154	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.7123	0.7508	0.2171	0.2373	0.6543	0.1960
0.5464	0.1071	0.0661	0.3029	0.5973	0.4077	0.4923	0.5556	0.7692	0.0000	0.0000	0.0000	1.0000	0.5385	0.1619	0.5699	0.6450	0.9991	0.2064	0.3691	0.7917	0.0000	1.0000	0.3707	0.3487	0.2975	0.2660	0.2435	0.3313	0.2630
0.9920	0.3297	0.7733	0.3273	0.5933	0.2959	0.3520	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6173	0.6269	0.2177	0.2378	0.6252	0.2137
0.5464	0.0860	0.3864	0.3146	0.6217	0.5307	0.4699	0.6333	0.4423	0.6667	0.0000	0.0000	0.3960	0.6278	0.0860	0.4624	0.7571	0.4114	0.2882	0.5580	0.6216	0.6974	0.8331	0.4454	0.7419	0.7162	0.1947	0.1879	0.6331	0.1523
0.9920	0.2431	0.8274	0.2148	0.7008	0.3154	0.7396	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.3470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.6139	0.5809	0.1359	0.1108	0.7552	0.1722
0.9920	0.2393	0.8201	0.2808	0.5800	0.3127	0.3124	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.3470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.6570	0.6093	0.1544	0.1563	0.5821	0.1564
0.5464	0.1078	0.2142	0.2713	0.7579	0.4639	0.4678	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5493	0.5736	0.1938	0.2113	0.4467	0.1917
0.2680	0.4630	0.1212	0.3305	0.2991	0.8071	0.3397	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5327	0.5154	0.4107	0.3949	0.5268	0.4224
0.5464	0.1069	0.2239	0.2430	0.7918	0.4676	0.5292	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5349	0.4987	0.1879	0.1702	0.5806	0.2114

0.9920	0.1483	0.9436	0.2823	0.5948	0.3599	0.3760	0.0000	0.7692	0.6667	0.0000	0.8000	0.6648	0.0043	0.8279	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.5053	0.1676	0.3063	0.6045	0.5717	0.1147	0.1014	0.6932	0.1305
0.9920	0.1151	0.9534	0.2783	0.5111	0.3634	0.2110	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5535	0.5736	0.0654	0.0897	0.5885	0.0709
0.5464	0.0181	0.1250	0.2312	0.5593	0.4305	0.3588	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3662	0.3440	0.0984	0.0747	0.2220	0.0614
0.4485	0.4734	0.1014	0.4018	0.6858	0.6521	0.5411	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7041	0.7175	0.5440	0.5729	0.6974	0.5523
0.9920	0.2374	0.3273	0.3121	0.4388	0.1331	0.4300	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3265	0.3989	0.1260	0.1818	0.3740	0.1585
0.9920	0.2495	0.8613	0.2452	0.6409	0.3288	0.4113	0.7444	0.2885	0.5333	0.0000	0.0000	0.3205	0.7415	0.0598	0.6065	0.8362	0.3352	0.3878	0.7005	0.5260	0.7979	0.8680	0.6100	0.6624	0.6461	0.1622	0.1954	0.6788	0.1501
0.9920	0.5194	0.1069	0.1908	0.3605	0.0434	0.5552	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2410	0.2316	0.4630	0.4535	0.2446	0.4869
0.4187	0.4193	0.1494	0.3813	0.7741	0.7205	0.6144	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0639	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8416	0.8051	0.5002	0.5065	0.8844	0.5836
0.9920	0.4334	0.1415	0.3063	0.3661	0.0570	0.4683	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6083	0.8341	0.3360	0.2340	0.2370	0.3938	0.4108	0.2484	0.3918
0.9920	0.2891	0.4279	0.2863	0.4763	0.1693	0.2069	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6083	0.8341	0.3360	0.4369	0.4593	0.1680	0.1887	0.4289	0.1764
0.9920	0.2417	0.8663	0.2587	0.6008	0.3307	0.3993	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.7160	0.6784	0.1540	0.1501	0.6581	0.1300
0.5464	0.1506	0.0442	0.2787	0.5389	0.3989	0.5078	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1989	0.1863	0.1676	0.1312	0.2551	0.2347
0.4187	0.4166	0.1621	0.3803	0.9149	0.7257	0.9142	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8996	0.8054	0.5220	0.4025	0.9583	0.5318
0.2680	0.3934	0.0550	0.3193	0.7284	0.7764	0.6384	0.8778	0.0000	0.5333	0.0000	0.0000	0.0537	0.9116	0.0033	0.7597	0.9724	0.0620	0.5419	0.9422	0.3562	0.9183	0.8595	0.8467	0.7785	0.7905	0.3848	0.4040	0.8192	0.4809
0.9920	0.5887	0.0862	0.2167	0.2369	0.0229	0.6797	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2140	0.2087	0.5206	0.5105	0.2881	0.5922
0.4187	0.4323	0.0734	0.3859	0.7968	0.6894	0.6823	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.7179	0.7928	0.6015	0.6607	0.7127	0.5873
0.9920	0.2400	0.2085	0.2483	0.3809	0.0824	0.3794	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3024	0.3124	0.2064	0.2200	0.2969	0.1771
0.9920	0.3126	[illegible]	0.2997	0.4999	0.1658	0.2742	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4669	0.4326	0.2452	0.2321	0.4364	0.2140
0.5464	0.1083	0.2808	0.3089	0.7071	0.4924	0.5406	0.0000	0.7692	0.0000	0.8333	0.8000	0.6936	0.0043	0.8251	0.0215	0.0846	0.6948	0.4987	0.0454	0.6013	0.0605	0.1664	0.3049	0.6471	0.3895	0.1978	0.1839	0.6498	0.1987
0.4187	0.5505	0.0127	0.3764	0.7406	0.6648	0.8065	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0639	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.5971	0.5910	0.7022	0.6968	0.6047	0.6958
0.9920	0.2845	0.7960	0.2736	0.5144	0.2899	0.1786	0.0800	0.6731	0.6667	0.0000	0.7920	0.5789	0.0662	0.8056	0.0774	0.1306	0.6170	0.5473	0.1241	0.9032	0.5707	0.1709	0.3827	0.5821	0.6989	0.1258	0.1634	0.5858	0.1319
0.4187	0.3824	0.1672	0.3766	0.9530	0.7280	1.0000	0.6000	0.6923	0.0000	0.0000	0.0000	0.9711	0.5846	0.1479	0.6129	0.6795	0.9336	0.2159	0.4304	0.7462	0.0526	1.0000	0.4318	0.9187	0.9585	0.5235	0.5318	1.0000	0.5888
0.5464	0.0846	0.0073	0.2843	0.4866	0.3843	0.6731	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2752	0.3080	0.2173	0.1772	0.2320	0.2171
0.9920	0.3109	0.6727	0.3183	0.5460	0.2593	0.3108	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6430	0.6375	0.2082	0.1906	0.5783	0.1834
0.2680	0.4595	0.1187	0.3277	0.3103	0.8012	0.4328	0.0000	0.6731	0.6667	0.0000	0.9000	0.5737	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5154	0.5113	0.3848	0.3962	0.5327	0.4102
0.9920	0.1749	0.9708	0.2665	0.5784	0.3693	0.3618	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6031	0.5243	0.1991	0.1722	0.6598	0.1762
0.9920	0.1521	0.9194	0.2528	0.4596	0.3515	0.2458	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5462	0.6339	0.1000	0.1371	0.5211	0.0820
0.9920	0.2383	0.3620	0.2437	0.4262	0.1457	0.2816	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3115	0.3571	0.1037	0.1194	0.3707	0.1412
0.4187	0.5788	0.0454	0.3641	0.6945	0.6780	0.5773	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.6032	0.5611	0.6784	0.6685	0.6040	0.6813
0.2934	0.4755	0.1003	0.2207	0.5083	0.8782	0.4837	0.9111	0.0000	0.0000	0.6667	0.0000	0.0653	0.9145	0.0036	0.7677	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.6969	0.5923	0.4303	0.3811	0.6725	0.4372
0.4187	0.5141	0.1062	0.2554	0.7481	0.7028	0.5555	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.7052	0.7366	0.6375	0.5333	0.7639	0.5804
0.9920	0.2864	0.6084	0.0926	0.7193	0.2344	0.5797	0.7222	0.4808	0.0000	0.0000	0.0000	0.2417	0.7115	0.1089	0.7312	0.7754	0.7514	0.1556	0.6009	0.8212	0.1974	1.0000	0.6019	0.6865	0.6786	0.1996	0.2009	0.7108	0.1971
0.9920	0.3254	0.4522	0.1364	0.8657	0.1778	0.2425	0.6667	0.3846	0.0000	0.6250	0.0000	0.4478	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.8171	0.6442	0.2887	0.2941	0.6463	0.3126
0.4649	0.6026	0.0305	0.3596	0.6738	0.5477	0.4104	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5408	0.5212	0.6576	0.6882	0.5687	0.6714
0.4649	0.4715	0.0660	0.3527	0.7534	0.5609	0.4640	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5791	0.5781	0.6034	0.6357	0.6253	0.5934
0.2680	0.4269	0.0300	0.3526	0.5523	0.7861	0.5605	0.8667	0.0385	0.6667	0.0000	0.0000	0.0244	0.8701	0.0078	0.6882	0.9480	0.0422	0.5058	0.8972	0.3829	0.9737	0.8301	0.7816	0.7077	0.6894	0.3888	0.3978	0.6504	0.4263
0.2934	0.6433	0.0247	0.1519	0.7837	0.8544	0.8051	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8270	0.7598	0.6656	0.6506	0.8329	0.6497
0.2934	0.5049	0.0667	0.2222	0.3926	0.8649	0.3495	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7980	0.5385	0.8347	0.2583	0.3596	0.5468	0.4277	0.4144	0.5642	0.4060
0.9920	0.1192	0.9584	0.2802	0.4489	0.3630	0.1985	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9561	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4431	0.5685	0.0393	0.0709	0.4902	0.1039
0.5464	0.0656	0.3332	0.2698	0.7331	0.5090	0.5753	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6521	0.6294	0.1996	0.1928	0.6552	0.1766
0.2680	0.4344	0.0622	0.0818	1.0000	0.7793	0.3698	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.9266	0.8303	0.5434	0.4800	0.9242	0.5222
0.4187	0.5841	0.0403	0.2271	0.6620	0.6760	0.4485	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.5212	0.5240	0.6002	0.6335	0.5611	0.6885
0.4649	0.2854	0.1681	0.3421	0.8458	0.5993	0.7042	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.7260	0.7359	0.4135	0.4104	0.8504	0.4250
0.9920	0.5157	0.0972	0.2367	0.3103	0.0395	0.5158	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2150	0.2074	0.4240	0.4122	0.2275	0.4498
0.9920	0.2481	0.7166	0.3107	0.5066	0.2753	0.2522	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4858	0.4737	0.0698	0.0608	0.5865	0.1129
0.2680	0.5062	0.1485	0.2996	0.3870	0.8125	0.3946	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5162	0.5644	0.3257	0.3015	0.5898	0.4421
0.2680	0.4891	0.0762	0.3221	0.0973	0.7849	0.4787	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3751	0.4138	0.4111	0.4659	0.2782	0.3673
0.2680	0.4961	0.1312	0.3124	0.3262	0.8058	0.3215	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4991	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.5560	0.5651	0.4573	0.4699	0.3486	0.3798
0.9920	0.5519	0.0658	0.1976	0.2450	0.0272	0.6400	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2080	0.2074	0.4704	0.4804	0.2126	0.4888
0.2680	0.4494	0.0573	0.2108	0.8097	0.7775	0.3805	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.8192	0.7785	0.4000	0.3948	0.8283	0.4800
0.5464	0.1193	0.0417	0.2794	0.4627	0.3980	0.3669	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1863	0.2375	0.1312	0.1642	0.1989	0.1678

C-1 Normalized Validation Data Sets of Feedback Mode

Ind	N-Tin	N-Vc	N-Vs	N-d	N-Vt	N-VPROD	N-TA	N-MR	N-TC	N-SC	N-MA	N-ρ	N-Sed	N-TAN	N-Pp	N-Si	N-N2	N-Ash	N-Wax	N-μ	N-CP	N-Asp	N-Na	N-to(t-1)	N-to(t-2)	N-To(t-1)	N-To(t-2)	N-to(t)	N-To(t)
0.9920	0.4546	0.1366	0.3193	0.3608	0.0551	0.4803	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2337	0.2246	0.4176	0.4185	0.2370	0.4108
0.5464	0.0709	0.1442	0.2526	0.5934	0.4377	0.3277	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3075	0.3616	0.0840	0.1195	0.3581	0.1311
0.9920	0.1771	0.2619	0.2185	0.4135	0.1058	0.6297	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3063	0.2995	0.1516	0.1692	0.3154	0.1472
0.9920	0.5296	0.0996	0.2532	0.3356	0.0404	0.5420	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2275	0.2150	0.4458	0.4240	0.2470	0.4635
0.5464	0.1125	0.3738	0.3501	0.6993	0.5255	0.6710	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7205	0.7633	0.2529	0.2619	0.7203	0.2615
0.9920	0.3111	0.5630	0.2801	0.5566	0.2174	0.3005	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5599	0.5419	0.2097	0.2152	0.5476	0.2026
0.4187	0.3283	0.1874	0.3797	0.9255	0.7386	0.7996	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.9241	0.9280	0.4155	0.4008	0.9492	0.4216
0.4187	0.4686	0.0683	0.3449	0.8654	0.6871	0.9041	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.9665	0.2800	0.7244	0.6820	0.5391	0.5211	0.7928	0.6607
0.5464	0.0000	0.1154	0.2529	0.5744	0.4266	0.5122	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3199	0.3801	0.1090	0.2029	0.3429	0.0632
0.4485	0.5489	0.0684	0.3922	0.7516	0.6392	0.3455	0.8333	0.0962	0.0000	0.8333	0.0000	0.1149	0.8355	0.0189	0.6559	0.9200	0.0898	0.4732	0.8471	0.0568	0.4895	0.8283	0.7306	0.6577	0.6473	0.6393	0.6486	0.6457	0.6235
0.9920	0.3230	0.4639	0.1572	0.8994	0.1820	0.2883	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6661	0.6705	0.3147	0.3190	0.6763	0.3119
0.4187	0.4235	0.1596	0.3765	0.8667	0.7246	0.7171	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8054	0.8428	0.4025	0.5210	0.8896	0.5220
0.4649	0.5702	0.1269	0.3661	0.8353	0.5843	0.5045	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.7570	0.7614	0.6442	0.6403	0.7853	0.6662
0.9920	0.5285	0.0444	0.1487	0.1814	0.0177	0.6390	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1758	0.1768	0.4425	0.4513	0.1738	0.4309
0.5464	0.1123	0.0539	0.2586	0.5973	0.4028	0.6352	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2513	0.2324	0.2330	0.2259	0.3120	0.2849
0.2934	0.4156	0.0908	0.2135	0.4548	0.8744	0.4862	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.6130	0.6125	0.4269	0.4225	0.6064	0.3963
0.4649	0.3334	0.1656	0.3248	0.7259	0.5984	0.3716	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7359	0.7296	0.4104	0.4203	0.7260	0.4135
0.4649	0.5895	0.0482	0.3803	0.7246	0.5543	0.4596	0.3778	0.6731	0.0000	0.8333	0.2200	0.6248	0.3718	0.3164	0.2624	0.5068	0.6102	0.2720	0.3014	0.4382	0.1034	0.6486	0.2913	0.6469	0.6406	0.7304	0.7400	0.6142	0.6806
0.2934	0.5008	0.0571	0.1915	0.3317	0.8613	0.2930	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.4728	0.8272	0.4347	0.5934	0.4819	0.4296
0.9920	0.1544	0.9757	0.2206	0.6396	0.3711	0.4511	0.0000	0.7692	0.0000	0.0000	1.0000	0.9701	0.0043	1.0000	0.2473	0.0000	1.0000	0.6774	0.0649	0.9749	0.0395	0.1775	0.5247	0.6368	0.6198	0.1296	0.1762	0.6844	0.1226
0.4485	0.8063	0.0075	0.3734	0.6886	0.6178	0.3587	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3796	0.7013	0.1591	0.3711	0.8296	0.5960	0.5119	0.6407	0.9186	1.0000	0.5393	0.8983
0.9920	0.2958	0.1564	0.3391	0.2432	0.0629	0.3771	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2506	0.2494	0.3029	0.3117	0.1767	0.2042
0.4649	0.6614	0.0406	0.3776	0.6998	0.5514	0.4274	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6151	0.5832	0.7482	0.7029	0.6167	0.7434
0.9920	0.2838	0.2376	0.2491	0.4189	0.0960	0.6155	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.3532	0.3496	0.2766	0.2750	0.3343	0.2410
0.5464	0.0828	0.1614	0.3351	0.6290	0.4436	0.3209	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3418	0.3149	0.1675	0.1559	0.3925	0.1941
0.4649	0.6602	0.1091	0.3637	0.8347	0.5776	0.4279	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.7605	0.7588	0.7130	0.6910	0.7746	0.7160
0.9920	0.4839	0.1216	0.3286	0.2893	0.0492	0.5189	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1781	0.2369	0.3627	0.4184	0.2109	0.4174
0.2680	0.4894	0.1783	0.3423	0.5215	0.8236	0.5834	0.0000	0.6923	0.5333	0.0000	0.9200	0.6546	0.0077	0.9186	0.0839	0.0474	0.6948	0.6150	0.0854	0.9334	0.4679	0.1000	0.4250	0.6860	0.6460	0.4047	0.4023	0.7173	0.4168
0.4649	0.4325	0.1431	0.3294	0.7412	0.5900	0.3552	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6991	0.7227	0.5120	0.5599	0.6967	0.5079
0.9920	0.1525	0.9243	0.3645	0.4378	0.3531	0.1211	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4967	0.5211	0.1021	0.0920	0.4889	0.0887
0.4187	0.5747	0.0480	0.3705	0.6888	0.6790	0.5205	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.6040	0.6032	0.6813	0.6784	0.5987	0.6669
0.2680	0.4735	0.1534	0.3118	0.4343	0.8144	0.4696	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6176	0.5858	0.4344	0.4421	0.6254	0.4186
0.5464	0.0490	0.1323	0.1946	0.5709	0.4332	0.3319	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3177	0.3328	0.0582	0.0746	0.3338	0.0795
0.9920	0.5542	0.0375	0.1306	0.1823	0.0145	0.6882	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1753	0.1732	0.4532	0.4548	0.1787	0.4595
0.2934	0.4807	0.1027	0.2202	0.4982	0.8792	0.4308	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	0.7677	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.6725	0.6969	0.4371	0.4503	0.6607	0.4360
0.9920	0.2500	0.2787	0.2228	0.4678	0.1128	0.5948	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3505	0.3437	0.2032	0.1990	0.3694	0.2066
0.5464	0.0778	0.2704	0.3149	0.6878	0.4850	0.3795	0.6000	0.5000	0.6667	0.0000	0.0000	0.4477	0.5932	0.0969	0.4301	0.7304	0.4631	0.2578	0.5105	0.6557	0.6579	0.8335	0.3984	0.5692	0.5113	0.1812	0.1808	0.5716	0.1663
0.4485	0.5651	0.0480	0.3744	0.8153	0.6321	0.3692	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6261	0.5837	0.6987	0.6631	0.6255	0.6882
0.9920	0.3361	0.9102	0.2991	0.5846	0.3091	0.3604	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5944	0.5325	0.2038	0.1903	0.6232	0.2100
0.9920	0.4202	0.1465	0.2959	0.3381	0.0590	0.5141	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2910	0.2464	0.4187	0.3916	0.2627	0.3707
0.9920	0.3424	0.5405	0.3366	0.5150	0.2095	0.2541	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4624	0.4446	0.2153	0.2032	0.5003	0.2187
0.2934	0.8239	0.0199	0.3111	0.7054	0.8496	0.2652	0.3556	0.0000	0.0000	0.8333	0.9600	0.0001	0.3803	0.8428	0.4000	0.3177	0.0000	1.0000	0.6239	0.1760	0.5932	0.0000	0.9674	0.7208	0.7031	0.7749	0.8100	0.7274	0.7624
0.9920	0.2508	0.7190	0.3160	0.4683	0.2781	0.1519	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5565	0.4858	0.1129	0.0698	0.5169	0.1075
0.5464	0.1076	0.1897	0.2679	0.7747	0.4540	0.5947	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5483	0.5130	0.2730	0.2668	0.5474	0.2699
0.9920	0.2059	0.9049	0.2609	0.6633	0.3455	0.7350	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.6895	0.6800	0.1264	0.1324	0.7909	0.1308
0.4187	0.5580	0.0229	0.3411	0.5834	0.6691	0.4912	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.5599	0.6374	0.6567	0.7321	0.5055	0.6084
0.4649	0.3775	0.1481	0.3384	0.7674	0.5919	0.4096	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7246	0.6967	0.4889	0.5079	0.7108	0.4592
0.5464	0.1123	0.0934	0.3409	0.5737	0.4182	0.5021	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3763	0.3393	0.2339	0.2114	0.3496	0.2238
0.2680	0.4900	0.0812	0.3245	0.1336	0.7868	0.5221	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3985	0.3782	0.3584	0.3673	0.4036	0.3524
0.4187	0.4349	0.1111	0.3855	0.7361	0.7049	0.6096	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8174	0.7639	0.5310	0.5884	0.7554	0.5037
0.5464	0.1087	0.2288	0.1680	0.7650	0.4696	0.4087	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5753	0.5806	0.2011	0.2114	0.5375	0.1915
0.5464	0.0782	0.2409	0.3360	0.7110	0.4744	0.4268	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5548	0.5502	0.1837	0.1825	0.5286	0.1671
0.9920	0.3311	0.4132	0.2106	0.4794	0.1640	0.2896	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3985	0.4529	0.2129	0.2353	0.4326	0.2321
0.2680	0.4604	0.2008	0.3069	0.4669	0.8322	0.2382	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.6548	0.6707	0.3109	0.3045	0.6426	0.3291
0.9920	0.2732	0.4229	0.3026	0.5133	0.1675	0.3317	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4862	0.4364	0.2214	0.2140	0.4593	0.1887
0.9920	0.2818	0.2498	0.2683	0.3828	0.1010	0.4354	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2923	0.3367	0.2406	0.2673	0.2908	0.2155
0.4485	0.5878	0.0531	0.3780	0.7547	0.6339	0.2948	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6191	0.6255	0.6370	0.6882	0.6427	0.6612
0.4187	0.5877	0.1038	0.1553	0.6834	0.7019	0.3568	0.4667	0.6923	0.0000	0.6667	0.0800	0.7027	0.4564	0.2036	0.3548	0.5976	0.6890	0.2129	0.3447	0.4913	0.0789	0.7999	0.2925	0.7566	0.8647	0.5333	0.4916	0.7052	0.6375

0.4649	0.6144	0.0256	0.2639	0.6421	0.5459	0.2952	0.1778	0.6731	0.0000	0.8333	0.5800	0.6141	0.1795	0.6233	0.1462	0.2705	0.6103	0.4445	0.1900	0.5042	0.1176	0.3472	0.3477	0.4613	0.5057	0.6765	0.7196	0.5212	0.6882
0.4485	0.6600	0.0252	0.3519	0.7189	0.6241	0.3095	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6249	0.5524	0.7245	0.7324	0.5940	0.7062
0.5464	0.1064	0.0959	0.3414	0.5394	0.4192	0.3728	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3496	0.3763	0.2238	0.2339	0.3119	0.1915
0.9920	0.2225	0.3498	0.2818	0.4246	0.1415	0.3227	0.5556	0.4808	1.0000	0.0000	0.0000	0.2748	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.3709	0.3326	0.1347	0.1145	0.3693	0.1246
0.2680	0.5457	0.0712	0.2646	0.1684	0.7829	0.4997	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.5710	0.5345	0.5704	0.3251	0.4138	0.4659
0.5464	0.0615	0.1466	0.2592	0.5964	0.4386	0.3033	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3981	0.3075	0.1311	0.0840	0.3537	0.1149
0.9920	0.2808	0.3887	0.2739	0.3935	0.1551	0.1488	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3331	0.3610	0.1304	0.0844	0.3553	0.1521
0.2934	0.5964	0.0417	0.1745	0.7324	0.8574	0.4880	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.7960	0.8145	0.5982	0.6398	0.7927	0.5964
0.9920	0.3044	0.4709	0.1384	0.8830	0.1845	0.1782	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6398	0.6608	0.2918	0.3034	0.6395	0.2886
0.5464	0.0558	0.1491	0.2513	0.5687	0.4395	0.2607	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3537	0.3581	0.1149	0.1311	0.3362	0.0912
0.5464	0.1087	0.2117	0.2642	0.7680	0.4629	0.4908	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5736	0.5949	0.2113	0.2255	0.5493	0.1938
0.4649	0.4716	0.1883	0.3380	0.7073	0.6075	0.4165	0.7778	0.1923	0.0000	0.8333	0.0000	0.2010	0.7778	0.0376	0.6022	0.8742	0.1783	0.4210	0.7658	0.1137	0.4237	0.8291	0.6500	0.8653	0.8986	0.5133	0.5103	0.7616	0.4947
0.9920	0.2243	0.9025	0.2174	0.6195	0.3445	0.5506	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.6800	0.6494	0.1324	0.1345	0.6895	0.1264
0.5464	0.1003	0.3058	0.3334	0.6103	0.4981	0.4031	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5575	0.5437	0.1962	0.1947	0.5348	0.1644
0.4187	0.5236	0.0556	0.3921	0.6992	0.6819	0.5253	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5774	0.5791	0.6275	0.6376	0.6162	0.5905
0.5464	0.0854	0.2385	0.3102	0.7622	0.4734	0.4590	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5502	0.5488	0.1825	0.1745	0.5548	0.1837
0.4187	0.4262	0.0887	0.3501	0.7564	0.6957	0.6018	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7339	0.6660	0.3014	0.4398	0.7094	0.4671
0.4649	0.4240	0.1782	0.3554	0.7816	0.6034	0.4816	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8446	0.8303	0.4862	0.4785	0.8112	0.4832
0.9920	0.5453	0.0398	0.1393	0.1800	0.0156	0.6632	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1787	0.1753	0.4595	0.4532	0.1768	0.4513
0.9920	0.1590	0.9658	0.3198	0.4772	0.3675	0.2186	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4986	0.4617	0.1498	0.1335	0.5243	0.1722
0.9920	0.4687	0.1341	0.3320	0.3542	0.0541	0.4579	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2246	0.2358	0.4185	0.4426	0.2337	0.4176
0.5464	0.1207	0.2982	0.3303	0.5921	0.4953	0.3737	0.7667	0.1154	0.0000	0.8333	0.1000	0.1291	0.7705	0.1099	0.6129	0.8437	0.1075	0.5118	0.7992	0.0865	0.4803	0.7428	0.7305	0.6026	0.6101	0.1853	0.1864	0.5154	0.1724
0.9920	0.5642	0.0491	0.2329	0.2026	0.0197	0.6547	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1729	0.1738	0.4254	0.4309	0.1918	0.4670
0.2680	0.3961	0.0325	0.3574	0.5532	0.7672	0.6163	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6504	0.7077	0.4365	0.3988	0.6588	0.4343
0.4649	0.4810	0.1909	0.3398	0.7045	0.6084	0.3892	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7616	0.8653	0.4947	0.5133	0.7450	0.5004
0.4649	0.5442	0.1218	0.3687	0.8213	0.5824	0.4810	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.7770	0.7567	0.6573	0.6104	0.7614	0.6403
0.9920	0.3301	0.4592	0.1500	0.8980	0.1802	0.2761	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6084	0.6164	0.3048	0.3020	0.6705	0.3190
0.4649	0.5444	0.0736	0.3651	0.7650	0.5638	0.4297	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6286	0.6249	0.6099	0.5775	0.6435	0.6243
0.4649	0.5544	0.1142	0.3728	0.8264	0.5794	0.5523	0.4222	0.6731	0.6667	0.0000	0.1400	0.5984	0.4145	0.2488	0.2882	0.5591	0.6167	0.2344	0.3262	0.7837	0.5450	0.7175	0.2805	0.7416	0.7746	0.6862	0.7160	0.7660	0.6297
0.4187	0.3146	0.1900	0.3487	0.8777	0.7377	0.6495	0.4222	0.7692	0.0000	1.0000	0.0000	0.6610	0.4103	0.1438	0.2215	0.5999	0.6324	0.0989	0.2764	0.3873	0.0347	0.7994	0.1415	0.9492	0.9241	0.4216	0.4155	0.8907	0.3473
0.9920	0.2749	0.4377	0.2656	0.8349	0.1726	0.1627	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4610	0.4143	0.1751	0.1497	0.5842	0.2469
0.2680	0.5189	0.1287	0.3476	0.3368	0.8048	0.4794	0.3889	0.6923	0.5333	0.0000	0.2200	0.6755	0.3816	0.3230	0.3097	0.5059	0.6944	0.2803	0.3016	0.8051	0.4403	0.6848	0.3156	0.5651	0.5347	0.4699	0.4266	0.5560	0.4573
0.9920	0.3166	0.4475	0.2536	0.8464	0.1760	0.3141	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6634	0.6345	0.3115	0.2988	0.6442	0.2941
0.9920	0.2508	0.8250	0.2078	0.9803	0.3145	0.3475	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.5809	0.5921	0.1108	0.1164	0.6139	0.1359
0.4187	0.4450	0.0658	0.3154	0.8017	0.6860	0.7746	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.6820	0.6359	0.5211	0.5212	0.7244	0.5391
0.9920	0.4565	0.0876	0.2301	0.2284	0.0357	0.2849	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1756	0.1695	0.3528	0.3410	0.1731	0.3409
0.9920	0.2638	0.5871	0.2222	0.5615	0.2261	0.2148	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.5828	0.6141	0.1686	0.1931	0.5452	0.1507
0.9920	0.2783	0.1963	0.2785	0.3965	0.0777	0.4605	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3052	0.2725	0.2175	0.1927	0.3114	0.2222
0.9920	0.2222	0.2571	0.2585	0.3942	0.1038	0.5146	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2849	0.2781	0.1667	0.1819	0.2995	0.1692
0.4649	0.3787	0.1506	0.3401	0.7724	0.5928	0.4164	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7108	0.7246	0.4592	0.4869	0.7230	0.4586
0.5464	0.1017	0.1639	0.4649	0.6244	0.4445	0.3450	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3925	0.3418	0.1941	0.1675	0.4067	0.2028
0.5464	0.0669	0.3457	0.3298	0.6718	0.5141	0.4053	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6983	0.7241	0.2270	0.2691	0.6055	0.2044
0.4649	0.5391	0.0939	0.3747	0.7822	0.5718	0.4939	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6729	0.6775	0.6582	0.6527	0.6877	0.6655
0.9920	0.6029	0.0539	0.1998	0.2379	0.0219	0.7200	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2087	0.1918	0.5105	0.4670	0.2140	0.5206
0.4485	0.4612	0.0989	0.3975	0.7103	0.6511	0.5070	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.9628	0.1303	0.0791	0.3978	0.7175	0.7811	0.5729	0.5424	0.7041	0.5440
0.9920	0.2297	0.4873	0.2844	0.8706	0.1907	0.3988	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.7204	0.7284	0.2518	0.2821	0.6828	0.2241
0.4187	0.4705	0.1315	0.3893	0.7706	0.7131	0.6169	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.7998	0.7967	0.5052	0.5098	0.7911	0.5113
0.9920	0.3303	0.5581	0.2479	0.5526	0.2156	0.2720	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5217	0.5309	0.2159	0.2310	0.5419	0.2152
0.2934	0.9639	0.0049	0.3349	0.6542	0.8432	0.3911	0.0000	0.8654	0.6667	0.0000	0.7000	0.7538	0.0000	0.7576	0.0000	0.1079	0.7851	0.4013	0.0000	1.0000	0.4355	0.2543	0.2142	0.7808	0.6921	0.9724	0.8285	0.7067	0.9182
0.5464	0.0890	0.2336	0.2820	0.7789	0.4715	0.4312	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5771	0.5375	0.1936	0.1915	0.5488	0.1745
0.2680	0.4312	0.0075	0.3489	0.6869	0.7565	0.6173	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7100	0.7164	0.4783	0.4976	0.7117	0.4611
0.2680	0.4299	0.0961	0.3300	0.2283	0.7926	0.5041	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5235	0.4457	0.3940	0.3638	0.4709	0.3450
0.2934	0.5057	0.0691	0.2649	0.4163	0.8658	0.4658	0.7667	0.2115	0.6667	0.0000	0.0000	0.1894	0.7662	0.0416	0.5914	0.8654	0.2021	0.4116	0.7503	0.4852	0.8553	0.8314	0.6361	0.5612	0.5556	0.4260	0.4277	0.5797	0.4317
0.9920	0.2394	0.2980	0.3024	0.3047	0.1212	0.6302	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4279	0.4315	0.2367	0.2371	0.4159	0.1957
0.9920	0.0782	0.9951	0.3008	0.5640	0.3787	0.3191	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5887	0.5887	0.0921	0.1346	0.5820	0.0865
0.2680	0.4899	0.0862	0.2983	0.1251	0.7887	0.3739	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3848	0.4036	0.3458	0.3524	0.3849	0.3499
0.9920	0.2748	0.6187	0.2526	0.7679	0.2384	0.6904	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3596	0.6009	0.6212	0.1974	1.0000	0.6019	0.7667	0.7156	0.2117	0.1979	0.7709	0.2229
0.4187	0.3952	0.2247	0.3593	0.5869	0.7515	0.5596	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.9628	0.1303	0.0791	0.3978	0.7067	0.7113	0.3885	0.4089	0.7239	0.3861
0.2934	0.9193	0.0099	0.3270	0.6675	0.8451	0.3493	0.3556	0.0000	0.0000	0.8333	0.9600	0.0001	0.3803	0.8428	0.4000	0.3177	0.0000	1.0000	0.6239	0.1760	0.5932	0.0000	0.9674	0.7248	0.7067	0.9008	0.9182	0.7092	0.8558
0.4485	0.4486	0.1168	0.3599	0.7592	0.6585	0.7158	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7594	0.7626	0.5891	0.6363	0.7401	0.5649
0.9920	0.2941	0.1814	0.2924	0.3596	0.0722	0.3359	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.2726	0.2630	0.2370	0.2323	0.2722	0.2321
0.9920	0.2993	0.5654	0.2693	0.5550	0.2182	0.2852	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5476	0.5599	0.2026	0.2097	0.5437	0.1903
0.5464	0.0883	0.3083	0.2962	0.6340	0.4990	0.4424	0.5667	0.2692	0.0000	0.8333	0.3000	0.2609	0.5714	0.3126	0.4624	0.6378	0.2486	0.5259	0.6070	0.2141	0.3829	0.5743	0.6339	0.5348	0.5575	0.1644	0.1962	0.5667	0.1608
0.9920	0.3081	0.6578	0.3002	0.5926	0.2537	0.2122	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.8711	0.8334	0.4140	0.6095	0.6582	0.1771	0.1813	0.5763	0.1867
0.2680	0.4462	0.1162	0.3325	0.2946	0.8002	0.4037	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.5113	0.4798	0.3962	0.3751	0.5154	0.3948
0.4485	0.4629	0.1040	0.4019	0.7065	0.6531	0.7004	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6974	0.7041	0.5523	0.5440	0.7362	0.5610
0.9920	0.3006	0.6677	0.2986	0.6022	0.2574	0.4491	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.8711	0.8334	0.4140	0.6308	0.6334	0.1929	0.1929	0.6375	0.1906
0.4649	0.3296	0.1606	0.3305	0.7427	0.5965	0.4379	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	[illegible]	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6887	0.6925	0.3954	0.3903	0.7296	0.4203
0.9920	0.2433	0.2835	0.2277	0.5130	0.1149	0.7058	0.6111	0.6731	0.0000	0.0000	0.0000	0.9139	0.5962	0.1444	0.6237	0.6881	0.9172	0.2557	0.4498	0.7348	0.0658	1.0000	0.4471	0.3813	0.3694	0.1955	0.2066	0.4360	0.2163
0.4485	0.8003	0.0100	0.3727	0.6767	0.6187	0.2825	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3796	0.7013	0.1591	0.3711	0.8296	0.5860	0.5393	0.5119	0.8983	0.9186	0.5291	0.8796
0.9920	0.3125	0.2425	0.2450	0.4415	0.0980	0.5941	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.3404	0.3343	0.2529	0.2410	0.3480	0.2703
0.4187	0.4478	0.0608	0.3780	0.7164	0.6839	0.6587	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6267	0.6162	0.5317	0.5905	0.6359	0.5212
0.5464	0.1028	0.1741	0.2655	0.6526	0.4483	0.3967	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4544	0.4443	0.2147	0.2240	0.4315	0.1989
0.5464	0.1221	0.1921	0.2683	0.7637	0.4550	0.5450	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5474	0.5483	0.2699	0.2730	0.5372	0.2747
0.9920	0.3282	0.4546	0.1338	0.8512	0.1786	0.1676	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6463	0.6171	0.3134	0.2887	0.6164	0.3020
0.9920	0.2780	0.2883	0.2410	0.4998	0.1170	0.6435	0.6111	0.6731	0.0000	0.0000	0.0000	0.9139	0.5962	0.1444	0.6237	0.6881	0.9172	0.2557	0.4498	0.7348	0.0658	1.0000	0.4471	0.4229	0.4360	0.2184	0.2163	0.4304	0.2326
0.2680	0.3925	0.1933	0.3123	0.4383	0.8295	0.3527	0.7778	0.0962	0.5333	0.0000	0.1400	0.1442	0.7821	0.1446	0.6688	0.8333	0.1597	0.5803	0.8181	0.4380	0.8450	0.7450	0.7931	0.6393	0.7060	0.3198	0.3467	0.6114	0.2997
0.4649	0.4569	0.1380	0.3637	0.7730	0.5882	0.4018	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7581	0.7518	0.6323	0.6475	0.7227	0.5999

0.9920	0.2507	0.6140	0.1425	0.7333	0.2364	0.5543	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.6616	0.7118	0.1594	0.1971	0.7156	0.1979
0.2934	0.6090	0.0441	0.1641	0.7402	0.8584	0.5060	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.7927	0.7960	0.5964	0.5982	0.6076	0.6051
0.9920	0.2676	0.4328	0.2645	0.4604	0.1710	0.1579	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4173	0.4299	0.1609	0.1766	0.4143	0.1497
0.4649	0.5681	0.0584	0.3743	0.7751	0.5582	0.4985	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6666	0.6710	0.6720	0.6799	0.6617	0.6696
0.9920	0.2324	0.2715	0.2411	0.4182	0.1099	0.5191	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3134	0.3113	0.1521	0.1667	0.3225	0.1792
0.4187	0.4101	0.2050	0.3083	0.9647	0.7439	0.5503	0.5333	0.6154	0.0000	0.8333	0.0000	0.5798	0.5239	0.1182	0.3656	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.9481	0.9117	0.4091	0.3760	0.9540	0.4264
0.9920	0.3017	0.4205	0.3117	0.5443	0.1666	0.3926	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4364	0.4669	0.2140	0.2452	0.4862	0.2214
0.9920	0.2368	0.3765	0.2437	0.4318	0.1512	0.1794	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.3874	0.4059	0.1050	0.1221	0.3853	0.1238
0.4187	0.5664	0.0429	0.3315	0.6988	0.6770	0.6075	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.5611	0.5212	0.6685	0.6002	0.6032	0.6784
0.9920	0.1146	0.9877	0.2852	0.6515	0.3759	0.5942	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7233	0.6697	0.1763	0.1124	0.6904	0.1479
0.9920	0.2842	0.7584	0.2804	0.5067	0.2907	0.1531	0.0600	0.6731	0.6667	0.0000	0.7920	0.5789	0.0662	0.8056	0.0778	0.1306	0.6170	0.5473	0.1241	0.9032	0.5707	0.1709	0.3827	0.5655	0.5821	0.1319	0.1258	0.5584	0.1310
0.9920	0.1591	0.9315	0.2448	0.4937	0.3556	0.2778	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5576	0.4799	0.1235	0.1103	0.5590	0.1156
0.4187	0.5566	0.0531	0.3827	0.6563	0.6809	0.4030	0.5333	0.6538	0.0000	0.6667	0.0000	0.6707	0.5222	0.1285	0.4022	0.6673	0.6553	0.1947	0.4003	0.4539	0.1021	0.8663	0.3108	0.5791	0.5987	0.6376	0.6669	0.5774	0.6275
0.4485	0.6895	0.0176	0.3749	0.6838	0.6214	0.3722	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5594	0.5218	0.8451	0.8477	0.5448	0.7701
0.9920	0.2642	0.2908	0.2306	0.4946	0.1180	0.6188	0.6111	0.6731	0.0000	0.0000	0.0000	0.9139	0.5962	0.1444	0.6237	0.6881	0.9172	0.2557	0.4458	0.7348	0.0658	1.0000	0.4471	0.4304	0.4229	0.2326	0.2184	0.4207	0.2201
0.5464	0.0987	0.2311	0.3148	0.8077	0.4706	0.4901	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5375	0.5753	0.1915	0.2011	0.5771	0.1936
0.9920	0.2600	0.3030	0.2634	0.4656	0.1232	0.5312	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3568	0.4159	0.1735	0.1957	0.3792	0.2049
0.2680	0.4652	0.2132	0.3254	0.4920	0.8387	0.3575	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7389	0.7052	0.4139	0.3438	0.6642	0.3867
0.9920	0.2838	0.3911	0.2706	0.3971	0.1559	0.1280	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3553	0.3331	0.1521	0.1304	0.3573	0.1517
0.9920	0.2735	0.4923	0.2263	0.8210	0.1925	0.1989	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6524	0.6828	0.2268	0.2241	0.6044	0.2406
0.2680	0.5751	0.0690	0.1004	0.5202	0.7820	0.3488	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.5345	0.7246	0.3251	0.4354	0.5710	0.5704
0.9920	0.3312	0.7758	0.3180	0.6123	0.2968	0.3885	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6252	0.6173	0.2132	0.2177	0.6491	0.2225
0.9920	0.2601	0.7486	0.2699	0.6158	0.2871	0.4745	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.7116	0.6520	0.1880	0.1712	0.6635	0.1551
0.9920	0.2221	0.3250	0.3178	0.3890	0.1322	0.2994	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3989	0.4414	0.1818	0.2291	0.3265	0.1260
0.4485	0.5961	0.0556	0.3747	0.7849	0.6348	0.3061	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6427	0.6191	0.6612	0.6370	0.6621	0.6693
0.2934	0.6663	0.0323	0.1643	0.7829	0.8534	0.5996	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.7558	0.7928	0.6506	0.6677	0.8270	0.6656
0.9920	0.1423	0.9339	0.2395	0.4722	0.3565	0.2082	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5590	0.5576	0.1156	0.1235	0.5324	0.0961
0.5464	0.0323	0.1130	0.2593	0.5489	0.4257	0.4298	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3801	0.3221	0.2029	0.1723	0.3199	0.1090
0.2680	0.4877	0.2107	0.3148	0.5568	0.8358	0.4968	0.5222	0.6346	0.6667	0.0000	0.0000	0.5682	0.5124	0.1222	0.3548	0.6686	0.5828	0.1873	0.4007	0.7353	0.5658	0.6345	0.2894	0.7052	0.6923	0.3438	0.3538	0.7389	0.4139
0.9920	0.3223	0.6702	0.3040	0.6046	0.2583	0.4447	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6375	0.6308	0.1906	0.1929	0.6430	0.2082
0.9920	0.5497	0.0681	0.1960	0.2635	0.0282	0.6613	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2126	0.2080	0.4689	0.4704	0.2175	0.4728
0.5464	0.0750	0.3381	0.5390	0.7531	0.5111	0.5884	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6930	0.6552	0.1844	0.1766	0.6808	0.1967
0.4187	0.3766	0.1849	0.3578	0.9092	0.7355	0.7113	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.9280	0.9064	0.4008	0.3998	0.9241	0.4155
0.9920	0.2216	0.7215	0.2957	0.5123	0.2770	0.2486	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5169	0.5565	0.1075	0.1129	0.5576	0.0861
0.2680	0.3885	0.2207	0.3030	0.4970	0.8395	0.3659	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6567	0.6906	0.3152	0.3749	0.6767	0.2954
0.9920	0.1609	0.9268	0.1246	0.4155	0.3539	0.0851	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4889	0.4967	0.0887	0.1021	0.4799	0.1103
0.9920	0.2187	0.2667	0.2279	0.4037	0.1079	0.5183	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3102	0.3154	0.1513	0.1472	0.3113	0.1667
0.4485	0.5633	0.0658	0.3835	0.7772	0.6383	0.3174	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6473	0.6655	0.6486	0.6642	0.6577	0.6393
0.9920	0.3145	0.2352	0.2522	0.4329	0.0949	0.6482	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.3496	0.3649	0.2750	0.2843	0.3532	0.2766
0.4485	0.5091	0.0837	0.3473	0.8576	0.6450	0.4647	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.8104	0.7236	0.6519	0.5942	0.7428	0.6180
0.9920	0.2686	0.5066	0.2452	0.5776	0.1976	0.3114	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.5729	0.6177	0.2043	0.2375	0.5203	0.1826
0.2680	0.4614	0.0599	0.1100	0.9856	0.7784	0.3366	0.8222	0.0000	0.5333	0.0000	0.0000	0.0380	0.9062	0.0024	0.7451	0.9707	0.0457	0.5375	0.9387	0.3574	0.9422	0.8509	0.8372	0.8303	0.8192	0.4800	0.4000	0.9266	0.5434
0.9920	0.2556	0.7462	0.2794	0.6484	0.2860	0.6428	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6520	0.6086	0.1712	0.1640	0.7116	0.1680
0.9920	0.3448	0.7979	0.2713	0.5033	0.3048	0.2119	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5540	0.5483	0.1950	0.1960	0.5392	0.1921
0.4649	0.5297	0.1015	0.3598	0.8070	0.5747	0.5147	0.6000	0.2900	0.6667	0.0000	0.2600	0.2160	0.6043	0.2750	0.4860	0.6734	0.2372	0.5179	0.6361	0.5556	0.8392	0.6099	0.6457	0.6927	0.6928	0.6658	0.6502	0.7137	0.6301
0.4485	0.4636	0.0862	0.3213	0.8775	0.6460	0.5058	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7428	0.8104	0.6180	0.6519	0.7520	0.5907
0.4187	0.4402	0.0836	0.3886	0.7263	0.6937	0.5321	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6881	0.7477	0.5220	0.5830	0.6660	0.4998
0.5464	0.0763	0.1515	0.2717	0.4826	0.4404	0.0853	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3362	0.3537	0.0912	0.1149	0.2809	0.1095
0.9920	0.2456	0.8639	0.2483	0.6747	0.3297	0.4728	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.6784	0.6624	0.1501	0.1622	0.7160	0.1540
0.2680	0.4699	0.0911	0.2865	0.1949	0.7906	0.4522	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.3993	0.3849	0.3413	0.3489	0.4457	0.3638
0.4649	0.5685	0.0610	0.3581	0.6970	0.5592	0.2940	0.8333	0.0962	0.0000	0.8333	0.0000	0.1149	0.8355	0.0189	0.6559	0.9200	0.0898	0.4732	0.8471	0.0368	0.4895	0.8283	0.7306	0.6617	0.6666	0.6696	0.6720	0.5781	0.6357
0.9920	0.2874	0.1987	0.2703	0.3997	0.0787	0.4374	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3114	0.3052	0.2222	0.2175	0.3171	0.2281
0.5464	0.1048	0.0491	0.2659	0.5081	0.4009	0.4307	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2598	0.2551	0.2262	0.2347	0.2324	0.2259
0.5464	0.1022	0.0344	0.2493	0.4816	0.3951	0.5089	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2289	0.2390	0.1712	0.1814	0.2283	0.1722
0.2680	0.4514	0.0025	0.3443	0.6927	0.7545	0.6483	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6572	0.7085	0.4860	0.4037	0.7164	0.4976
0.9920	0.1988	0.7240	0.2808	0.9888	0.2778	0.4263	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5576	0.5169	0.0881	0.1075	0.6193	0.0902
0.5464	0.1033	0.1057	0.2511	0.5431	0.4229	0.3315	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3336	0.3300	0.2058	0.2034	0.3192	0.1898
0.9920	0.3359	0.5456	0.4210	0.5216	0.2113	0.2405	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5155	0.5003	0.2234	0.2167	0.5052	0.2118
0.5464	0.0314	0.1227	0.2215	0.6028	0.4295	0.4841	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3440	0.3394	0.0747	0.0794	0.3662	0.0984
0.9920	0.5926	0.0215	0.1253	0.1670	0.0072	0.7242	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1260	0.0163	0.3038	0.1028	0.1754	0.5014
0.4187	0.4482	0.1545	0.3886	0.8059	0.7226	0.6328	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8572	0.8044	0.5304	0.5036	0.8428	0.5210
0.9920	0.3062	0.1614	0.3614	0.2912	0.0647	0.4384	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1992	0.1767	0.2325	0.2042	0.2176	0.2463
0.9920	0.1532	0.9852	0.2499	0.6852	0.3749	0.5459	0.3556	0.7692	0.0000	0.0000	0.3600	0.9992	0.3462	0.4634	0.4538	0.4130	0.9994	0.3758	0.2597	0.8576	0.0142	0.7042	0.4261	0.6697	0.7150	0.1124	0.1225	0.7233	0.1763
0.9920	0.2766	0.3936	0.2696	0.4090	0.1567	0.1562	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3573	0.3553	0.1517	0.1521	0.3622	0.1508
0.4649	0.3872	0.1732	0.3601	0.8145	0.6014	0.5593	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8148	0.8604	0.4073	0.4040	0.8303	0.4785
0.4649	0.6386	0.0205	0.3697	0.6682	0.5441	0.4026	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4886	0.4861	0.7167	0.7035	0.5057	0.7196
0.5464	0.1211	0.0466	0.2640	0.5433	0.3999	0.5304	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2551	0.1989	0.2347	0.1676	0.2598	0.2262
0.2934	0.4425	0.0764	0.2599	0.3448	0.8687	0.2885	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5545	0.5948	0.3808	0.4120	0.5153	0.3550
0.9920	0.4761	0.0827	0.2885	0.2034	0.0340	0.2251	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1545	0.1748	0.3010	0.3620	0.1695	0.3410
0.2934	0.9044	0.0124	0.3255	0.6730	0.8460	0.3158	0.3556	0.0000	0.0000	0.8333	0.9600	0.0001	0.3803	0.8428	0.4000	0.3177	0.0000	1.0000	0.6239	0.1760	0.5932	0.0000	0.9674	0.7092	0.7248	0.8598	0.9008	0.7089	0.8292
0.4485	0.7006	0.0353	0.3902	0.7374	0.6276	0.2746	0.8778	0.0192	0.0000	0.8333	0.0000	0.0460	0.9816	0.0038	0.6989	0.9569	0.0184	0.5152	0.9126	0.0114	0.5421	0.8278	0.7955	0.5844	0.6052	0.7083	0.7079	0.5617	0.7428
0.5464	0.0938	0.3258	0.2369	0.7312	0.5099	0.6145	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6497	0.6989	0.2118	0.1656	0.6515	0.2150
0.9920	0.2695	0.4254	0.2789	0.4905	0.1684	0.2734	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4593	0.4862	0.1887	0.2214	0.4389	0.1680
0.4649	0.4657	0.1959	0.3310	0.7184	0.6103	0.4010	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7587	0.7450	0.5092	0.5004	0.7630	0.5000
0.4187	0.4389	0.2196	0.3523	0.5857	0.7496	0.5114	0.4333	0.6731	0.0000	0.8333	0.1200	0.6278	0.4252	0.2312	0.2946	0.5724	0.6102	0.2241	0.3323	0.4198	0.0995	0.7322	0.2757	0.7011	0.6816	0.4283	0.3384	0.7113	0.4089
0.2680	0.4220	0.0376	0.3056	0.7220	0.7692	0.7725	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6644	0.6588	0.4509	0.4348	0.8004	0.4267
0.4187	0.4301	0.1647	0.3719	0.6889	0.7269	0.7617	0.6000	0.6923	0.0000	0.0000	0.0000	0.9311	0.5846	0.1479	0.6129	0.6795	0.9336	0.2459	0.4304	0.7462	0.0526	1.0000	0.4318	0.9585	0.8896	0.5318	0.5220	0.9187	0.5235
0.9920	0.3108	0.6428	0.3272	0.6060	0.2483	0.3038	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6804	0.6729	0.2365	0.2267	0.6038	0.1933

0.5464	0.1036	0.2629	0.3130	0.6646	0.4822	0.3500	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5073	0.4880	0.1669	0.1621	0.5217	0.1872
0.4485	0.4739	0.0786	0.3466	0.8310	0.6430	0.5403	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6916	0.6558	0.5949	0.6019	0.7236	0.9942
0.9920	0.3427	0.5506	0.4165	0.5358	0.2130	0.2639	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5120	0.5052	0.1820	0.2118	0.5256	0.2240
0.9920	0.3476	0.5355	0.3225	0.4626	0.2079	0.1127	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3188	0.6057	0.5875	0.7368	0.8327	0.4927	0.5396	0.6306	0.1861	0.2398	0.4446	0.2032
0.5464	0.1058	0.2483	0.1277	0.6096	0.4771	0.1379	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.4658	0.4921	0.1489	0.1520	0.4283	0.1434
0.9920	0.5496	0.0634	0.1906	0.2385	0.0261	0.6652	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2074	0.2016	0.4804	0.4798	0.2080	0.4704
0.4649	0.5391	0.0762	0.3500	0.7481	0.5647	0.3992	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6435	0.6286	0.6243	0.6099	0.6363	0.6158
0.9920	0.3173	0.2328	0.2384	0.4286	0.0939	0.6228	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.3649	0.3520	0.2843	0.2824	0.3496	0.2750
0.4485	0.5296	0.1117	0.3683	0.7470	0.6563	0.7764	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.7713	0.7059	0.6097	0.5447	0.7626	0.6363
0.2934	0.6882	0.0274	0.3153	0.7635	0.8514	0.5861	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	0.7677	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.8353	0.7297	0.7170	0.7436	0.7928	0.6677
0.9920	0.2627	0.8177	0.2800	0.6188	0.3118	0.4448	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.6093	0.6168	0.1563	0.1855	0.6570	0.1544
0.9920	0.2254	0.3547	0.2457	0.4197	0.1432	0.2636	0.5556	0.4808	1.0000	0.0000	0.0000	0.2748	0.5513	0.0853	0.2957	0.7208	0.2897	0.2231	0.4882	0.6560	0.9079	0.7482	0.3180	0.3442	0.3693	0.0995	0.1246	0.3616	0.1230
0.4649	0.6415	0.0330	0.3594	0.6403	0.5486	0.3131	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5667	0.5408	0.6716	0.6578	0.5576	0.6811
0.5464	0.0804	0.1539	0.3190	0.5019	0.4411	0.1408	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.2809	0.3362	0.1095	0.0912	0.2988	0.1412
0.2934	0.4847	0.0979	0.2068	0.5252	0.8772	0.5325	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	0.7677	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.5923	0.5899	0.3811	0.3885	0.6969	0.4503
0.5464	0.0872	0.2459	0.2648	0.6481	0.4762	0.2510	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.4921	0.5286	0.1520	0.1671	0.4658	0.1489
0.9920	0.3034	0.4732	0.1502	0.8935	0.1854	0.2006	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6395	0.6398	0.2386	0.2918	0.6518	0.2870
0.9920	0.2763	0.4303	0.2867	0.4626	0.1702	0.1688	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.4299	0.4399	0.1766	0.1680	0.4173	0.1609
0.2680	0.4291	0.0401	0.3088	0.7025	0.7703	0.6769	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.8004	0.6644	0.4267	0.4509	0.7760	0.4210
0.9920	0.5891	0.1116	0.2839	0.3732	0.0455	0.4529	0.3111	1.0000	0.6667	0.0000	0.0000	0.8953	0.2932	0.1895	0.1505	0.5042	0.9006	0.0000	0.1088	0.9513	0.3198	0.8370	0.0000	0.3940	0.2446	0.5665	0.4689	0.2803	0.5217
0.4649	0.4292	0.2008	0.3003	0.7467	0.6122	0.4716	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.8311	0.7630	0.3782	0.5000	0.8118	0.3921
0.4187	0.4672	0.1013	0.3468	0.7349	0.7009	0.5985	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8647	0.8647	0.4916	0.5303	0.7566	0.5333
0.5464	0.1152	0.0761	0.3279	0.5474	0.4116	0.4141	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3469	0.3324	0.2185	0.2426	0.3094	0.2068
0.9920	0.1634	0.9291	0.2516	0.4942	0.3547	0.2906	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4799	0.4889	0.1103	0.0887	0.5576	0.1235
0.2680	0.4097	0.0201	0.3248	0.6049	0.7618	0.7721	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6770	0.7484	0.4348	0.4427	0.7124	0.4124
0.9920	0.1010	0.9975	0.2839	0.5771	0.3796	0.3238	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5820	0.5887	0.0965	0.0921	0.5994	0.1398
0.9920	0.3090	0.8127	0.3018	0.5859	0.3100	0.3351	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6232	0.5944	0.2100	0.2038	0.6168	0.1855
0.5464	0.1093	0.2530	0.2886	0.6159	0.4787	0.2415	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4395	0.4283	0.1243	0.1434	0.4583	0.1699
0.9920	0.3508	0.7833	0.2782	0.6019	0.2996	0.3951	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6671	0.6662	0.2367	0.2731	0.6517	0.2266
0.9920	0.3070	0.6752	0.3153	0.5446	0.2602	0.3209	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5793	0.6430	0.1834	0.2082	0.5841	0.1801
0.4485	0.5734	0.0429	0.3646	0.7758	0.6303	0.3423	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5967	0.5776	0.7286	0.7586	0.5837	0.6631
0.5464	0.1048	0.2933	0.3069	0.6770	0.4934	0.4904	0.0000	0.7692	0.0000	0.8333	0.8000	0.6936	0.0043	0.8261	0.0215	0.0846	0.6948	0.4987	0.0454	0.6013	0.0605	0.1664	0.3049	0.6418	0.6471	0.1987	0.1978	0.6101	0.1864
0.9920	0.5560	0.0610	0.1922	0.2426	0.0251	0.6858	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2016	0.2081	0.4798	0.5022	0.2074	0.4804
0.4187	0.4265	0.0912	0.3371	0.7467	0.6967	0.5614	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7094	0.7339	0.4671	0.5014	0.6994	0.4646
0.4187	0.4543	0.0861	0.3636	0.7750	0.6947	0.6645	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6660	0.6881	0.4998	0.5220	0.7339	0.5014
0.2680	0.4366	0.1086	0.3436	0.2320	0.7974	0.4133	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3698	0.7580	0.5395	0.8347	0.2585	0.4609	0.4676	0.3421	0.3448	0.4565	0.3392
0.9920	0.2928	0.1665	0.3498	0.3166	0.0666	0.4250	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2131	0.2176	0.2292	0.2463	0.2311	0.2400
0.2934	0.4622	0.0740	0.2627	0.3887	0.8677	0.3958	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5948	0.5797	0.4120	0.4317	0.5545	0.3808
0.9920	0.2240	0.2811	0.2263	0.4822	0.1138	0.6258	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3694	0.3505	0.2066	0.2032	0.3813	0.1955
0.4485	0.9728	0.0000	0.1926	0.6855	0.6150	0.3722	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3796	0.7013	0.1591	0.3711	0.8296	0.5860	0.7900	0.7987	0.4001	0.3877	0.5646	0.9868
0.9920	0.2920	0.5306	0.2713	0.8185	0.2063	0.2108	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3188	0.6057	0.5875	0.7368	0.8327	0.4927	0.6287	0.7152	0.2474	0.2786	0.6306	0.2398
0.9920	0.2854	0.4401	0.2725	0.8418	0.1734	0.1683	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5942	0.4610	0.2469	0.1751	0.5959	0.2543
0.9920	0.3028	0.6776	0.2954	0.5201	0.2611	0.2465	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5941	0.5793	0.1801	0.1834	0.5572	0.1652
0.4649	0.5978	0.0098	0.3434	0.6865	0.5402	0.6870	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4475	0.4248	0.6562	0.6394	0.5181	0.7074
0.4649	0.3657	0.1531	0.3423	0.7533	0.5937	0.4000	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7230	0.7108	0.4586	0.4592	0.7135	0.4384
0.2680	0.4934	0.1658	0.3307	0.4107	0.8190	0.4256	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6140	0.5798	0.4069	0.4097	0.6061	0.4067
0.9920	0.3279	0.5968	0.2883	0.6493	0.2295	0.4017	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6614	0.5402	0.2162	0.1524	0.6365	0.2348
0.9920	0.2538	0.8688	0.2524	0.5871	0.3316	0.3366	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.6541	0.7160	0.1300	0.1540	0.6324	0.1372
0.9920	0.2834	0.2060	0.2543	0.3742	0.0815	0.3500	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3124	0.3340	0.2200	0.2485	0.3024	0.2064
0.5464	0.1128	0.0295	0.2596	0.4701	0.3932	0.4615	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2304	0.2397	0.1723	0.2112	0.2390	0.1814
0.2680	0.3312	0.2232	0.0302	0.4966	0.8404	0.3285	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3698	0.7580	0.5395	0.8347	0.2585	0.6767	0.6567	0.2954	0.3152	0.6837	0.2682
0.4187	0.4417	0.2124	0.1272	0.9882	0.7469	0.1100	0.5333	0.6154	0.0000	0.8333	0.0000	0.5798	0.5239	0.1182	0.3636	0.6773	0.5592	0.1967	0.4161	0.3637	0.1342	0.8322	0.3032	0.9436	0.9426	0.4148	0.4062	0.8782	0.4595
0.4187	0.4360	0.1213	0.3754	0.8046	0.7090	0.5612	0.7556	0.1154	0.0000	0.8333	0.1200	0.1285	0.7598	0.1273	0.6065	0.8302	0.1075	0.5216	0.7929	0.0902	0.4811	0.7257	0.7337	0.7723	0.7567	0.5024	0.4982	0.8137	0.5139
0.9920	0.3246	0.4156	0.2539	0.5190	0.1648	0.3787	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4326	0.3985	0.2321	0.2129	0.4669	0.2452
0.9920	0.2547	0.3644	0.2574	0.4973	0.1466	0.4660	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3707	0.3115	0.1412	0.1037	0.4520	0.1821
0.9920	0.2960	0.5115	0.2597	0.8070	0.1994	0.2224	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6563	0.5203	0.2652	0.1826	0.6155	0.2548
0.9920	0.2364	0.8736	0.2473	0.5737	0.3334	0.3183	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.6023	0.6324	0.1349	0.1372	0.6126	0.1205
0.9920	0.2468	0.3325	0.3172	0.4323	0.1350	0.4135	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3981	0.3740	0.1675	0.1585	0.3764	0.1628
0.4187	0.5610	0.0101	0.3713	0.7249	0.6638	0.5919	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.5910	0.6147	0.6968	0.6934	0.5971	0.7022
0.5464	0.1076	0.3788	0.3460	0.7093	0.5276	0.6758	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7179	0.7203	0.2656	0.2615	0.7326	0.2227
0.4187	0.4655	0.0582	0.4024	0.7081	0.6829	0.6558	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6162	0.5774	0.5905	0.6275	0.6267	0.5317
0.9920	0.5176	0.0753	0.2876	0.2041	0.0313	0.3565	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2128	0.2216	0.4535	0.4771	0.1816	0.3884
0.4649	0.5688	0.1294	0.3667	0.8064	0.5853	0.4482	0.6667	0.5577	0.6667	0.0000	0.0000	0.4993	0.5585	0.1078	0.3978	0.7038	0.5146	0.2275	0.4633	0.6698	0.6194	0.8339	0.3515	0.7853	0.7570	0.6662	0.6442	0.7603	0.6575
0.9920	0.2337	0.5895	0.2201	0.5423	0.2270	0.1631	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.5452	0.5828	0.1507	0.1686	0.5198	0.1202
0.9920	0.3134	0.8566	0.2863	0.5883	0.3269	0.4064	0.7444	0.2885	0.5333	0.0000	0.0000	0.3205	0.7415	0.0598	0.6065	0.8362	0.3352	0.3978	0.7005	0.5260	0.7079	0.8660	0.6100	0.6527	0.6255	0.2021	0.1882	0.6461	0.1954
0.4187	0.4356	0.0988	0.3839	0.7898	0.6999	0.6781	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.8647	0.7136	0.5303	0.5122	0.8647	0.4916
0.9920	0.3416	0.8053	0.2801	0.5016	0.3074	0.1607	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5531	0.5799	0.2040	0.2169	0.5325	0.1903
0.9920	0.1493	0.9828	0.2406	0.6357	0.3740	0.3689	0.0000	0.7692	0.0000	0.0000	1.0000	0.9701	0.0043	1.0000	0.2473	[illegible]	1.0000	0.6774	0.0649	0.9749	0.0395	0.1775	0.5247	0.7150	0.7284	0.1225	0.1338	0.6697	0.1124
0.9920	0.5375	0.0729	0.2134	0.2601	0.0303	0.6008	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2216	0.2175	0.4771	0.4728	0.2128	0.4535
0.9920	0.5774	0.0261	0.1024	0.1733	0.0094	0.6184	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1745	0.1754	0.4906	0.5014	0.1719	0.4743
0.9920	0.2203	0.8880	0.2349	0.6694	0.3386	0.5986	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6017	0.5711	0.1079	0.0988	0.7219	0.1369
0.9920	0.2676	0.5188	0.2621	0.8610	0.2019	0.3761	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3188	0.6057	0.5875	0.7368	0.8327	0.4927	0.6361	0.6210	0.2485	0.2583	0.6907	0.2531
0.4649	0.5562	0.1319	0.7814	0.7944	0.5863	0.4498	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.7603	0.7853	0.6575	0.6662	0.7518	0.6475
0.9920	0.2501	0.1913	0.2866	0.3600	0.0758	0.3722	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.2579	0.2929	0.2067	0.2346	0.2725	0.1927
0.9920	0.3082	0.4685	0.1501	0.8807	0.1837	0.1853	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6608	0.6763	0.3034	0.3119	0.6398	0.2918
0.2934	0.4551	0.1196	0.2411	0.4854	0.8856	0.4292	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6289	0.6770	0.3855	0.4426	0.6431	0.3785
0.4485	0.5133	0.0735	0.3981	0.7610	0.6411	0.4045	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6536	0.6457	0.6192	0.6235	0.6598	0.6019
0.4187	0.5674	0.0152	0.3845	0.7941	0.6659	0.7375	0.4222	0.6923	0.0000	0.6667	0.1600	0.7003	0.4137	0.2715	0.3290	0.5453	0.6891	0.2511	0.3201	0.9059	0.0821	0.7332	0.3049	0.6047	0.5971	0.6958	0.7022	0.6459	0.7318

0.4187	0.5887	0.0279	0.3372	0.6077	0.6710	0.4732	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.5147	0.5055	0.6288	0.6084	0.5171	0.6399
0.5464	0.0909	0.3307	0.2642	0.7283	0.5080	0.5699	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6294	0.6515	0.1928	0.2150	0.6521	0.1996
0.5464	0.1225	0.0835	0.3006	0.5227	0.4144	0.3824	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2925	0.2942	0.2117	0.2153	0.2882	0.2045
0.4187	0.5633	0.0076	0.3729	0.7098	0.6628	0.5880	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.6147	0.6406	0.6934	0.7369	0.5910	0.6968
0.9920	0.2884	0.1790	0.2914	0.3650	0.0713	0.3842	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.2630	0.2637	0.2323	0.2510	0.2726	0.2370
0.4187	0.5717	0.0178	0.3744	0.7917	0.6670	0.7529	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0798	0.8665	0.2800	0.6459	0.6047	0.7318	0.6958	0.6374	0.7321
0.4187	0.4345	0.0759	0.3790	0.8003	0.6905	0.7366	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0798	0.8665	0.2800	0.7127	0.7179	0.5975	0.6015	0.7376	0.5971
0.9920	0.3365	0.7882	0.2702	0.5598	0.3014	0.2855	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6174	0.6517	0.2188	0.2266	0.6016	0.1998
0.9920	0.2351	0.8953	0.2507	0.6423	0.3415	0.5657	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6838	0.6651	0.1259	0.1159	0.7038	0.1396
0.2934	0.6828	0.0299	0.3218	0.7219	0.8524	0.4606	0.8000	0.1923	0.0000	0.6667	0.0000	0.2575	0.7991	0.0411	0.6602	0.8812	0.2429	0.4387	0.7805	0.1811	0.4179	0.8636	0.6881	0.7928	0.8353	0.6677	0.7170	0.7558	0.6506
0.9920	0.2364	0.8785	0.2144	0.5354	0.3352	0.2493	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.5946	0.6126	0.1000	0.1205	0.5771	0.1016
0.9920	0.2600	0.3153	0.2639	0.4876	0.1282	0.5593	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3862	0.3782	0.2058	0.1902	0.4125	0.2111
0.9920	0.2364	0.3300	0.3162	0.4462	0.1341	0.4737	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3740	0.3265	0.1585	0.1260	0.3881	0.1675
0.4649	0.5772	0.0023	0.3352	0.5957	0.5373	0.4638	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.3804	0.6388	0.6506	0.2060	0.4286	0.6641
0.9920	0.3073	0.6628	0.2989	0.6011	0.2555	0.4428	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6101	0.5763	0.1756	0.1867	0.6334	0.1929
0.2680	0.4241	0.1884	0.3251	0.5232	0.8276	0.5562	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4991	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.6889	0.6754	0.3652	0.4147	0.7060	0.3467
0.5464	0.1249	0.1946	0.2596	0.7459	0.4580	0.4605	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5372	0.5474	0.2747	0.2699	0.5104	0.2621
0.5464	0.1434	0.0173	0.2713	0.4508	0.3884	0.4267	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1886	0.1826	0.2390	0.2591	0.2113	0.2274
0.4649	0.6765	0.0381	0.3748	0.6978	0.5504	0.4300	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.9979	0.0908	0.9628	0.1303	0.0791	0.3978	0.5832	0.5576	0.7029	0.6811	0.6151	0.7482
0.5464	0.0898	0.3408	0.2867	0.7867	0.5121	0.6656	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6808	0.6930	0.1967	0.1844	0.7241	0.2691
0.2680	0.4270	0.0101	0.3450	0.6958	0.7576	0.6330	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7117	0.7100	0.4611	0.4763	0.7282	0.4695
0.2680	0.4652	0.2083	0.3219	0.5171	0.8348	0.3960	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6923	0.6574	0.3538	0.3557	0.7052	0.3438
0.5464	0.0186	0.1203	0.2175	0.5756	0.4286	0.4722	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3394	0.3429	0.0794	0.0632	0.3440	0.0747
0.5464	0.1045	0.2957	0.3094	0.6746	0.4943	0.4830	0.0000	0.7692	0.0000	0.8333	0.8000	0.6936	0.0043	0.8261	0.0215	0.0846	0.6948	0.4987	0.0454	0.6013	0.0605	0.1664	0.3049	0.6101	0.6418	0.1864	0.1987	0.6026	0.1853
0.9920	0.3035	0.6801	0.2888	0.5419	0.2619	0.2668	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5572	0.5841	0.1652	0.1801	0.5761	0.1725
0.5464	0.1102	0.2092	0.3471	0.7993	0.4619	0.5348	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5949	0.5879	0.2255	0.2223	0.5736	0.2113
0.4187	0.4373	0.0962	0.3485	0.8372	0.6988	0.7570	0.1111	0.5962	0.0000	0.6667	0.8200	0.5945	0.1188	0.8173	0.1699	0.1552	0.6050	0.6178	0.1932	0.5701	0.1739	0.1792	0.4857	0.7136	0.6994	0.5122	0.4646	0.8647	0.5303
0.9920	0.3371	0.4569	0.1125	0.8560	0.1794	0.1228	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6164	0.6463	0.3020	0.3134	0.6084	0.3048
0.4649	0.6151	0.0155	0.3698	0.6415	0.5423	0.3937	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4998	0.5181	0.7046	0.7074	0.4861	0.7035
0.9920	0.2968	0.5703	0.2750	0.5596	0.2200	0.2764	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5414	0.5437	0.1788	0.1903	0.5449	0.1826
0.5464	0.0295	0.1299	0.2128	0.5507	0.4323	0.3200	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3328	0.3220	0.0746	0.0614	0.3177	0.0582
0.9920	0.1968	0.2643	0.2134	0.4055	0.1069	0.5705	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3154	0.3063	0.1472	0.1516	0.3102	0.1513
0.5464	0.1075	0.1690	0.3582	0.6547	0.4463	0.4483	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3971	0.4067	0.1864	0.2028	0.4443	0.2240
0.2934	0.5019	0.1099	0.2429	0.5154	0.8820	0.3609	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0798	0.8665	0.2800	0.6758	0.6523	0.4786	0.4594	0.6883	0.4648
0.5464	0.1135	0.0320	0.2527	0.4691	0.3941	0.4827	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2390	0.2304	0.1814	0.1723	0.2289	0.1712
0.4187	0.4375	0.1086	0.3741	0.7921	0.7039	0.7548	0.5444	0.6346	0.0000	0.6667	0.0000	0.6535	0.5338	0.1250	0.4129	0.6760	0.6385	0.2046	0.4159	0.4425	0.1153	0.8662	0.3262	0.7639	0.7052	0.5884	0.6375	0.8174	0.5310
0.5464	0.1159	0.2043	0.2542	0.8032	0.4599	0.6268	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5043	0.5406	0.1913	0.2526	0.5879	0.2273
0.5464	0.0706	0.1105	0.2638	0.6183	0.4247	0.5257	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3221	0.3192	0.1723	0.1898	0.3801	0.2029
0.9920	0.3083	0.4755	0.1390	0.9069	0.1862	0.2415	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6518	0.6395	0.2870	0.2886	0.6743	0.3046
0.2680	0.4598	0.1337	0.2867	0.3390	0.8068	0.5528	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4991	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.5466	0.5560	0.3758	0.4573	0.5579	0.3384
0.2934	0.4334	0.1220	0.2375	0.4966	0.8866	0.4326	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	0.3333	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6431	0.6289	0.3785	0.3855	0.6517	0.3643
0.4485	0.5456	0.0506	0.3579	0.7652	0.6330	0.2689	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.6255	0.6261	0.6882	0.6987	0.6191	0.6370
0.5464	0.0512	0.1394	0.2120	0.6026	0.4359	0.3808	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3491	0.3572	0.1157	0.1231	0.3616	0.1195
0.9920	0.2996	0.6826	0.2964	0.5417	0.2628	0.2676	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5761	0.5572	0.1725	0.1652	0.5776	0.1702
0.9920	0.2942	0.5679	0.2840	0.5525	0.2191	0.2825	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5437	0.5476	0.1903	0.2026	0.5414	0.1788
0.9920	0.1490	0.9412	0.2040	0.5373	0.3991	0.3113	0.0000	0.7692	0.6667	0.0000	0.8000	0.6648	0.0043	0.8275	0.0215	0.0838	0.7014	0.4998	0.0451	0.9615	0.9053	0.1676	0.3065	0.5717	0.5502	0.1014	0.0935	0.6045	0.1147
0.4187	0.4275	0.1392	0.3930	0.7409	0.7163	0.5688	0.6000	0.5385	0.0000	0.6667	0.0000	0.5674	0.5915	0.1070	0.4667	0.7200	0.5538	0.2548	0.4940	0.3857	0.1811	0.8656	0.4037	0.8075	0.8026	0.5237	0.5359	0.7441	0.4970
0.9920	0.1900	0.2595	0.2328	0.4053	0.1048	0.5766	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2995	0.2849	0.1692	0.1667	0.3063	0.1516
0.5464	0.0385	0.3158	0.2900	0.6631	0.5019	0.4596	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.9979	0.0908	0.5628	0.1303	0.0791	0.3978	0.5922	0.6066	0.1202	0.1334	0.6012	0.1217
0.5464	0.1002	0.3231	0.5134	0.7308	0.5049	0.6019	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6989	0.6351	0.1656	0.1321	0.6497	0.2118
0.4649	0.5560	0.0508	0.3706	0.7200	0.5552	0.4275	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6142	0.6469	0.6806	0.7304	0.6048	0.6550
0.5464	0.0822	0.2434	0.2784	0.6652	0.4733	0.3358	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5286	0.5548	0.1671	0.1837	0.4921	0.1520
0.2680	0.4309	0.1386	0.2833	0.3624	0.8068	0.5214	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4991	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.5649	0.5579	0.3214	0.3384	0.5681	0.3146
0.5464	0.0974	0.2360	0.2370	0.7745	0.4725	0.4313	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5488	0.5771	0.1745	0.1936	0.5502	0.1825
0.2680	0.4496	0.0936	0.3256	0.2647	0.7915	0.6507	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.4457	0.3993	0.3638	0.3413	0.5235	0.3940
0.5464	0.0605	0.1346	0.2077	0.5957	0.4341	0.3759	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3338	0.3177	0.0795	0.0582	0.3572	0.1231
0.5464	0.1091	0.2166	0.3659	0.7354	0.4649	0.3892	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5447	0.5493	0.1917	0.1938	0.5176	0.1807
0.2680	0.4977	0.0787	0.3201	0.1113	0.7899	0.4505	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3782	0.3751	0.3673	0.4111	0.3885	0.3594
0.4649	0.6428	0.1116	0.3665	0.7999	0.5785	0.3590	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.7746	0.7605	0.7160	0.7130	0.7416	0.6862
0.4485	0.5094	0.1092	0.3999	0.7398	0.6552	0.8074	0.5778	0.5385	0.0000	0.8333	0.0000	0.5109	0.5701	0.1038	0.4086	0.7126	0.4910	0.2369	0.4787	0.3183	0.1868	0.8316	0.3653	0.7059	0.7362	0.5447	0.5610	0.7713	0.6097
0.9920	0.3583	0.1539	0.3079	0.3317	0.0619	0.4408	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2494	0.2578	0.3117	0.3480	0.2506	0.3029
0.9920	0.3518	0.8004	0.2800	0.5395	0.3056	0.3001	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5392	0.5540	0.1921	0.1950	0.5799	0.2169
0.9920	0.3480	0.8028	0.2789	0.5190	0.3065	0.2234	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.5759	0.5392	0.2169	0.1921	0.5531	0.2040

C-1 Normalized Testing Data Sets A of Feedback Mode

Ind	N-Tin	N-Vc	N-Vs	N-d	N-Vt	N-VPROD	N-TA	N-MR	N-TC	N-SC	N-MA	N-ρ	N-Sed	N-TAN	N-Pp	N-SI	N-N2	N-Ash	N-Wax	N-μ	N-CF	N-Asp	N-Na	N-to(t-1)	N-to(t-2)	N-To(t-1)	N-To(t-2)	N-to(t)	N-To(t)
0.5464	0.1214	0.1848	0.2708	0.7239	0.4520	0.5399	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4541	0.4618	0.2298	0.2290	0.5130	0.2668
0.4649	0.4294	0.1808	0.3527	0.7731	0.6044	0.4862	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8112	0.8446	0.4832	0.4862	0.8128	0.4863
0.4649	0.5824	0.0000	0.1084	0.5400	0.5365	0.2465	0.8333	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6388	0.6153	0.2060	0.1763	0.3804	0.6506
0.9920	0.5647	0.0586	0.2283	0.2384	0.0240	0.6509	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.2081	0.2140	0.5022	0.5206	0.2016	0.4798
0.9920	0.2808	0.6529	0.3010	0.6763	0.2519	0.3842	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6803	0.6511	0.1851	0.1918	0.6582	0.1813
0.4187	0.3814	0.1698	0.3757	0.8625	0.7292	0.6992	0.2667	0.6923	0.0000	0.6667	0.4400	0.6920	0.2641	0.5093	0.2387	0.3622	0.6892	0.3947	0.2337	0.5573	0.0932	0.4997	0.3486	1.0000	0.9187	0.5088	0.5235	0.8969	0.4641
0.5464	0.1015	0.3839	0.3147	0.7105	0.5297	0.6785	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.7182	0.7326	0.1879	0.2227	0.7419	0.1947
0.4187	0.4347	0.1163	0.3689	0.7453	0.7070	0.5590	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7203	0.7554	0.4855	0.5037	0.7567	0.4982
0.9920	0.3154	0.8493	0.2629	0.6529	0.3242	0.3866	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6292	0.5875	0.1604	0.1617	0.7155	0.1889
0.9920	0.3118	0.6356	0.2632	0.6719	0.2454	0.4240	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6531	0.6805	0.1977	0.1834	0.6673	0.2222
0.9920	0.3070	0.2012	0.2623	0.4100	0.0796	0.4614	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.3171	0.3114	0.2281	0.2222	0.3340	0.2485
0.9920	0.1748	0.9121	0.2529	0.6092	0.3487	0.5408	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.7011	0.7226	0.1538	0.1603	0.6775	0.1475
0.4187	0.4606	0.1290	0.4035	0.7765	0.7121	0.6473	0.0000	0.6923	0.0000	0.6667	0.9200	0.6776	0.0077	0.9174	0.0839	0.0481	0.6895	0.6141	0.0856	0.6452	0.1121	0.0991	0.4236	0.7967	0.8262	0.5098	0.4898	0.7998	0.5052
0.9920	0.2211	0.3838	0.2547	0.3901	0.1536	0.0726	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.3662	0.3787	0.1141	0.1218	0.3610	0.0844
0.4649	0.3339	0.0787	0.3218	0.8245	0.5657	0.6391	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.6363	0.6435	0.6158	0.6243	0.7363	0.6445
0.9920	0.2902	0.2400	0.2469	0.4289	0.0970	0.5991	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8348	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.3343	0.3532	0.2410	0.2766	0.3404	0.2529
0.9920	0.2543	0.5776	0.1956	0.5436	0.2226	0.1929	0.6111	0.4808	0.0000	0.8333	0.0000	0.4592	0.6047	0.0929	0.4409	0.7392	0.4395	0.2672	0.5260	0.2842	0.2263	0.8312	0.4122	0.5511	0.5765	0.1456	0.1975	0.5230	0.1390
0.4187	0.3758	0.1798	0.3467	0.8857	0.7334	0.6667	0.0667	0.6923	0.0000	0.6667	0.8000	0.6812	0.0718	0.8153	0.1226	0.1267	0.6894	0.5567	0.1226	0.6232	0.1074	0.1993	0.4048	0.8893	0.8821	0.4046	0.3944	0.9064	0.3998
0.2680	0.4962	0.1834	0.3245	0.4819	0.8256	0.4119	0.1667	0.6923	0.5333	0.0000	0.6200	0.6635	0.1679	0.6632	0.1806	0.2440	0.6948	0.4715	0.1781	0.8784	0.4561	0.3508	0.3781	0.6989	0.7173	0.4182	0.4168	0.6754	0.4147
0.9920	0.5903	0.0238	0.1281	0.1665	0.0083	0.6850	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1754	0.1260	0.5014	0.3038	0.1745	0.4906
0.4187	0.6227	0.0000	0.3420	0.8469	0.6596	0.6269	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6105	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7401	0.7594	0.5649	0.5891	0.6124	0.8181
0.4485	0.7010	0.0379	0.3731	0.7580	0.6285	0.3094	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5617	0.5844	0.7428	0.7083	0.5776	0.7586
0.4187	0.5626	0.0505	0.3787	0.6669	0.6800	0.4371	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.5987	0.6040	0.6669	0.6813	0.5791	0.6376
0.9920	0.1620	0.9781	0.1778	0.6782	0.3720	0.4943	0.0000	0.7692	0.0000	0.0000	1.0000	0.9701	0.0043	1.0000	0.2473	0.0000	1.0000	0.6774	0.0649	0.9749	0.0395	0.1775	0.5247	0.6844	0.6368	0.1226	0.1296	0.7284	0.1338
0.2680	0.4374	0.0176	0.3061	0.5838	0.7608	0.6128	0.0000	0.6731	0.0000	0.8333	0.9000	0.6045	0.0085	0.8964	0.0430	0.0604	0.6109	0.5979	0.0908	0.5628	0.1303	0.0791	0.3978	0.7484	0.7938	0.4427	0.4637	0.6770	0.4348
0.5464	0.1048	0.2654	0.3134	0.6516	0.4832	0.3006	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5217	0.5073	0.1872	0.1669	0.5113	0.1808
0.9920	0.1419	0.9364	0.2447	0.4861	0.3573	0.2508	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5324	0.5590	0.0961	0.1156	0.5502	0.0935
0.4187	0.5800	0.0304	0.3496	0.6370	0.6720	0.5054	0.2333	0.6923	0.0000	0.6667	0.5000	0.6902	0.2321	0.5603	0.2194	0.3230	0.6892	0.4134	0.2152	0.5683	0.0955	0.4497	0.3580	0.5171	0.5147	0.6399	0.6288	0.5317	0.6478
0.4649	0.5701	0.0048	0.3481	0.5838	0.5383	0.4763	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.4286	0.3804	0.6641	0.6506	0.4248	0.6394
0.9920	0.2583	0.8712	0.2539	0.5623	0.3325	0.2702	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.6324	0.6541	0.1372	0.1300	0.6023	0.1349
0.5464	0.1216	0.1824	0.2545	0.6707	0.4511	0.4058	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.4618	0.4438	0.2290	0.2115	0.4541	0.2298
0.9920	0.5169	0.1166	0.3222	0.2937	0.0474	0.3746	0.3111	1.0000	0.6667	0.0000	0.0000	0.8953	0.2932	0.1895	0.1505	0.5042	0.9006	0.0000	0.1088	0.9513	0.3158	0.8370	0.0000	0.2697	0.2803	0.4425	0.5217	0.2369	0.4184
0.2680	0.4037	0.1958	0.3018	0.5030	0.8304	0.3764	0.0000	0.6923	0.5333	0.0000	0.9200	0.6546	0.0077	0.9186	0.0839	0.0474	0.6948	0.6150	0.0854	0.9334	0.4679	0.1000	0.4250	0.6114	0.6393	0.2997	0.3198	0.6707	0.3045
0.9920	0.3178	0.1715	0.3273	0.3741	0.0685	0.4951	0.5556	0.5769	0.6667	0.0000	0.0000	0.5165	0.5470	0.1114	0.3871	0.6950	0.5317	0.2174	0.4476	0.7012	0.6053	0.8341	0.3360	0.2641	0.2311	0.2450	0.2400	0.2837	0.2793
0.4187	0.3473	0.1950	0.3322	0.8847	0.7398	0.6082	0.4222	0.7692	0.0000	1.0000	0.0000	0.6610	0.4103	0.1438	0.2215	0.5999	0.6324	0.0989	0.2764	0.3873	0.0347	0.7994	0.1415	0.8920	0.8907	0.3495	0.3473	0.8925	0.3606
0.4649	0.5475	0.0913	0.3755	0.7667	0.5708	0.4601	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6775	0.7716	0.6527	0.7002	0.6729	0.6582
0.5464	0.0245	0.1178	0.2319	0.5717	0.4276	0.4525	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3429	0.3199	0.0632	0.1090	0.3394	0.0794
0.9920	0.2945	0.6970	0.2258	0.6273	0.2684	0.4311	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.6543	0.7123	0.1960	0.2171	0.6630	0.1882
0.9920	0.2589	0.6307	0.2429	0.7007	0.2435	0.4576	0.7222	0.4808	0.0000	0.0000	0.0000	0.7417	0.7115	0.1089	0.7312	0.7754	0.7514	0.3556	0.6009	0.6212	0.1974	1.0000	0.6019	0.6923	0.7167	0.1666	0.1839	0.6805	0.1834
0.2680	0.5214	0.1608	0.3223	0.3733	0.8171	0.3442	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5748	0.6072	0.4140	0.4173	0.5798	0.4097
0.9920	0.5291	0.0467	0.1442	0.1814	0.0187	0.6009	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.1738	0.1758	0.4309	0.4425	0.1729	0.4254
0.5464	0.1194	0.3033	0.3529	0.6325	0.4972	0.4444	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5437	0.5154	0.1947	0.1724	0.5575	0.1962
0.2680	0.4797	0.2058	0.3229	0.5058	0.8339	0.3561	0.3778	0.6731	0.6667	0.0000	0.2200	0.5960	0.3718	0.3171	0.2624	0.5066	0.6168	0.2728	0.3014	0.7984	0.5482	0.6505	0.2930	0.6574	0.6426	0.3557	0.3291	0.6923	0.3538
0.2680	0.4014	0.0250	0.3119	0.5891	0.7640	0.7151	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	0.3333	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.6938	0.7124	0.3871	0.4124	0.6894	0.3878
0.9920	0.2919	0.1864	0.3146	0.3843	0.0740	0.3968	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.2919	0.2722	0.2361	0.2321	0.2929	0.2346
0.9920	0.3503	0.7906	0.2681	0.5171	0.3023	0.2066	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6016	0.6174	0.1998	0.2188	0.5604	0.2007
0.5464	0.1242	0.0198	0.2479	0.4989	0.3894	0.5365	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.2113	0.1886	0.2274	0.2390	0.2475	0.2451
0.9920	0.2924	0.1640	0.3396	0.2871	0.0656	0.3932	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2176	0.1992	0.2463	0.2325	0.2131	0.2292
0.9920	0.2968	0.8444	0.2617	0.5345	0.3224	0.3053	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5541	0.5427	0.1630	0.1432	0.5875	0.1617
0.2680	0.4933	0.1809	0.3367	0.5073	0.8247	0.5025	0.0000	0.6923	0.5333	0.0000	0.9200	0.6546	0.0077	0.9186	0.0839	0.0474	0.6948	0.6150	0.0854	0.9334	0.4679	0.1000	0.4250	0.7173	0.6860	0.4168	0.4047	0.6989	0.4182
0.9920	0.2455	0.3226	0.3089	0.4730	0.1313	0.5114	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4414	0.4490	0.2291	0.2283	0.3989	0.1818
0.9920	0.2967	0.5282	0.2701	0.8137	0.2054	0.2110	0.6667	0.3846	0.6667	0.0000	0.0000	0.3444	0.6624	0.0750	0.4946	0.7840	0.3595	0.3188	0.6057	0.5875	0.7368	0.8327	0.4927	0.7152	0.6385	0.2786	0.2842	0.6287	0.2474
0.5464	0.1112	0.3987	0.2682	0.6299	0.5355	0.4177	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.6153	0.6258	0.1763	0.1486	0.6388	0.2060
0.2680	0.5037	0.1708	0.3217	0.3954	0.8209	0.3053	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.6128	0.6061	0.3989	0.4067	0.5865	0.4129
0.2680	0.3944	0.0226	0.3096	0.5862	0.7629	0.7236	0.1444	0.6731	0.0000	0.8333	0.6400	0.6123	0.1474	0.6745	0.1269	0.2311	0.6104	0.4732	0.1714	0.5152	0.1200	0.2970	0.3571	0.7124	0.6770	0.4124	0.4348	0.6938	0.3871
0.9920	0.3394	0.5557	0.2679	0.5278	0.2147	0.2374	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5309	0.5256	0.2310	0.2240	0.5217	0.2159
0.5464	0.0619	0.2729	0.3071	0.6640	0.4859	0.3230	0.6000	0.5000	0.6667	0.0000	0.0000	0.4477	0.5932	0.0969	0.4301	0.7304	0.4631	0.2578	0.5109	0.6557	0.6579	0.8335	0.3984	0.5716	0.5692	0.1683	0.1812	0.5559	0.1481
0.9920	0.2685	0.5018	0.2083	0.8276	0.1959	0.2143	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6235	0.6298	0.2397	0.2401	0.6177	0.2375

0.5464	0.1027	0.2019	0.2546	0.7246	0.4589	0.4589	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5406	0.5179	0.2626	0.2631	0.5043	0.1913
0.4485	0.5703	0.0455	0.3694	0.8173	0.6312	0.4096	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	0.7097	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.5887	0.5967	0.6631	0.7286	0.6261	0.6987
0.9920	0.2753	0.8152	0.3125	0.5776	0.3109	0.3391	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6168	0.6232	0.1855	0.2100	0.6093	0.1563
0.9920	0.2854	0.4947	0.2090	0.8300	0.1933	0.2485	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6044	0.6524	0.2406	0.2268	0.6267	0.2612
0.2680	0.4649	0.1460	0.2853	0.3146	0.8117	0.2633	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.5644	0.5754	0.3015	0.3121	0.5162	0.3257
0.2680	0.4850	0.1733	0.3159	0.4502	0.8218	0.4066	0.2889	0.4808	0.5333	0.0000	0.6200	0.4741	0.2949	0.6284	0.2989	0.3372	0.5079	0.5847	0.3485	0.7534	0.6008	0.3448	0.5499	0.5865	0.6128	0.4129	0.3989	0.6460	0.4023
0.4485	0.8876	0.0024	0.3598	0.7661	0.6160	0.5442	0.7333	0.2692	0.0000	0.8333	0.0000	0.2698	0.7316	0.0525	0.5591	0.8379	0.2486	0.3796	0.7013	0.1591	0.3711	0.8296	0.5860	0.5646	0.7900	0.9868	0.4001	0.6407	1.0000
0.2680	0.4258	0.1011	0.3473	0.2251	0.7945	0.4946	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0803	0.3996	0.4636	0.4709	0.3373	0.3450	0.4653	0.3395
0.9920	0.3107	0.4034	0.2840	0.5382	0.1603	0.4717	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4731	0.4924	0.2197	0.2348	0.4936	0.2416
0.5464	0.0883	0.2604	0.3058	0.6427	0.4813	0.3604	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.4880	0.4720	0.1621	0.1665	0.5073	0.1669
0.4187	0.4234	0.0810	0.3927	0.7541	0.6926	0.6169	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.7477	0.7376	0.5830	0.5971	0.6881	0.5220
0.9920	0.1743	0.9146	0.2279	0.5774	0.3497	0.3973	0.6667	0.5769	0.0000	0.0000	0.0000	0.8278	0.6538	0.1267	0.6774	0.7316	0.8346	0.3055	0.5230	0.6780	0.1316	1.0000	0.5242	0.6775	0.7011	0.1475	0.1538	0.6339	0.1371
0.5464	0.0864	0.2506	0.2268	0.6142	0.4779	0.2046	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.4283	0.4658	0.1434	0.1489	0.4395	0.1243
0.9920	0.3098	0.8419	0.2585	0.4996	0.3215	0.2351	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5427	0.6697	0.1432	0.1434	0.5541	0.1630
0.5464	0.1038	0.2778	0.3122	0.7092	0.4877	0.4140	0.6000	0.5000	0.6667	0.0000	0.0000	0.4477	0.5932	0.0969	0.4301	0.7304	0.4631	0.2578	0.5105	0.6557	0.6579	0.8335	0.3984	0.5749	0.5559	0.1676	0.1481	0.6244	0.1841
0.5464	0.1145	0.1994	0.2903	0.7795	0.4579	0.4945	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.5179	0.5104	0.2631	0.2621	0.5406	0.2626
0.9920	0.2903	0.6017	0.2928	0.6801	0.2314	0.5077	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.6804	0.6365	0.2457	0.2348	0.6723	0.2168
0.5464	0.1035	0.1665	0.3021	0.5960	0.4454	0.3621	0.9111	0.0000	0.5333	0.0000	0.0000	0.0623	0.9145	0.0037	0.7677	0.9733	0.0708	0.5443	0.9442	0.3555	0.9053	0.8643	0.8519	0.4067	0.3925	0.2028	0.1941	0.3971	0.1864
0.2680	0.4936	0.2033	0.3168	0.4759	0.8331	0.2384	0.0000	0.6731	0.6667	0.0000	0.9000	0.5757	0.0085	0.8979	0.0430	0.0595	0.6171	0.5991	0.0906	0.9230	0.5750	0.0809	0.3996	0.6426	0.6548	0.3291	0.3109	0.6574	0.3557
0.2680	0.4251	0.1411	0.2878	0.3801	0.8098	0.4824	0.5111	0.6923	0.5333	0.0000	0.0000	0.6821	0.4991	0.1360	0.3806	0.6498	0.6943	0.1752	0.3694	0.7648	0.4316	0.8683	0.2813	0.5681	0.5649	0.3146	0.3214	0.5754	0.3121
0.9920	0.5209	0.1045	0.2116	0.3485	0.0424	0.5651	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2316	0.2470	0.4535	0.4635	0.2410	0.4630
0.4187	0.4376	0.1366	0.3833	0.7907	0.7152	0.7192	0.5111	0.6923	0.0000	0.8667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8026	0.7911	0.5359	0.5113	0.8075	0.5237
0.4187	0.4311	0.0785	0.3697	0.8056	0.6915	0.7443	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	0.3806	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.7376	0.7127	0.5971	0.5975	0.7477	0.5830
0.9920	0.3281	0.4615	0.1637	0.8915	0.1811	0.2667	0.6667	0.3846	0.0000	0.6250	0.0000	0.4476	0.6802	0.0805	0.5548	0.7870	0.4356	0.3326	0.6133	0.3109	0.2780	0.8697	0.5255	0.6705	0.6084	0.3190	0.3048	0.6661	0.3147
0.9920	0.4851	0.1266	0.3285	0.3332	0.0512	0.4992	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.2285	0.2109	0.4393	0.4174	0.2270	0.4336
0.4649	0.4764	0.0685	0.3770	0.7580	0.5619	0.4436	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.6253	0.5791	0.5934	0.6034	0.6249	0.5775
0.4649	0.3018	0.1707	0.3588	0.8108	0.6004	0.5900	0.5556	0.5769	0.0000	0.8333	0.0000	0.5453	0.5470	0.1110	0.3871	0.6949	0.5252	0.2167	0.4474	0.3410	0.1605	0.8319	0.3342	0.8604	0.7260	0.4040	0.4135	0.8148	0.4073
0.9920	0.3465	0.7683	0.3077	0.5898	0.2941	0.4028	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5347	0.5787	0.2020	0.1541	0.6269	0.2378
0.9920	0.2883	0.1839	0.2980	0.3813	0.0731	0.4235	0.5778	0.5769	0.5333	0.0000	0.0000	0.5788	0.5684	0.1145	0.4452	0.7024	0.5930	0.2352	0.4629	0.6966	0.5105	0.8676	0.3740	0.2722	0.2726	0.2321	0.2370	0.2919	0.2361
0.5464	0.1069	0.0984	0.2548	0.5495	0.4201	0.3934	1.0000	0.0000	0.0000	0.0000	0.0000	0.3113	1.0000	0.0176	1.0000	1.0000	0.3249	0.6125	1.0000	0.3370	0.5263	1.0000	1.0000	0.3119	0.3496	0.1915	0.2238	0.3228	0.2029
0.2680	0.4279	0.1435	0.2893	0.3678	0.8107	0.3999	0.5556	0.6154	0.5333	0.0000	0.0000	0.6132	0.5453	0.1217	0.4237	0.6848	0.6269	0.2152	0.4316	0.7193	0.4842	0.8679	0.3430	0.5754	0.5681	0.3121	0.3146	0.5644	0.3015
0.9920	0.3389	0.7658	0.3094	0.5015	0.2932	0.2238	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.5787	0.5556	0.1541	0.1402	0.5347	0.2020
0.5464	0.1254	0.0024	0.2875	0.4739	0.3825	0.4519	0.0000	0.7692	0.0000	0.0000	1.0000	0.9701	0.0043	1.0000	0.2473	0.0000	1.0000	0.6774	0.0649	0.9749	0.0395	0.1775	0.5247	0.3035	0.6847	0.2605	0.1788	0.3080	0.1772
0.9920	0.4957	0.0924	0.2300	0.2761	0.0375	0.4865	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	0.7097	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.1931	0.1731	0.3808	0.3409	0.2074	0.4122
0.9920	0.2585	0.7018	0.2905	0.5359	0.2703	0.2948	0.6111	0.4808	0.6667	0.0000	0.0000	0.4304	0.6047	0.0933	0.4409	0.7393	0.4459	0.2679	0.5263	0.6444	0.6711	0.8334	0.4140	0.6519	0.6630	0.1321	0.1882	0.5814	0.1283

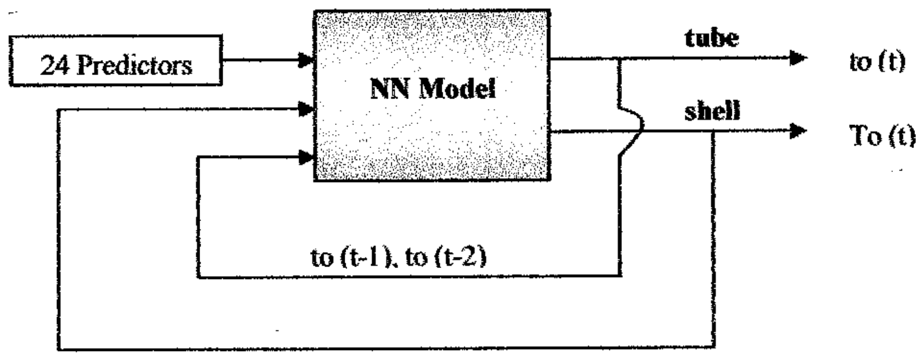
C-1 Normalized Testing Data Sets B of Feedback Mode

Ind	N-Tin	N-Vc	N-Vs	N-It	N-Vt	N-VPROD	N-TA	N-MR	N-TC	N-BC	N-MA	N-ρ	N-Sed	N-TAN	N-Pp	N-SI	N-N2	N-Ash	N-Wax	N-μ	N-CF	N-Asp	N-Ns	N-to(t-1)	N-to(t-2)	N-To(t-1)	N-To(t-2)	N-to(t)	N-To(t)
0.2934	0.3533	0.1344	0.3157	0.5107	0.8943	0.4326	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	1.0538	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6812	0.6744	0.2910	0.2888	0.6802	0.2754
0.2934	0.3382	0.1369	0.3290	0.5093	0.8952	0.4264	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	1.0538	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6802	0.6812	0.2754	0.2910	0.6775	0.2626
0.2934	0.3700	0.1394	0.3375	0.5270	0.8962	0.3890	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	1.0538	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6775	0.6802	0.2626	0.2754	0.6912	0.2895
0.2934	0.4049	0.1419	0.3370	0.5825	0.8971	0.5182	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	1.0538	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.6912	0.6775	0.2895	0.2626	0.7562	0.3290
0.2934	0.3760	0.1444	0.3394	0.5875	0.8981	0.5358	0.5000	0.6731	0.6667	0.0000	0.0000	0.6026	0.4893	0.1294	1.0538	0.6510	0.6167	0.1673	0.3695	0.7580	0.5395	0.8347	0.2585	0.7562	0.6912	0.3290	0.2895	0.7632	0.3130
0.2934	0.3644	0.1469	0.3324	0.5560	0.8991	0.4399	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	1.0538	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.7632	0.7562	0.3130	0.3290	0.7332	0.3091
0.2934	0.3849	0.1494	0.3622	0.5559	0.9000	0.4876	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	1.0538	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.7332	0.7632	0.3091	0.3130	0.7435	0.3438
0.2934	0.3807	0.1519	0.3496	0.5268	0.9010	0.4774	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	1.0538	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.7435	0.7332	0.3438	0.3091	0.7182	0.3324
0.2934	0.3693	0.1544	0.3396	0.5340	0.9020	0.5436	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	1.0538	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.7182	0.7435	0.3324	0.3438	0.7302	0.3276
0.2934	0.3685	0.1570	0.3405	0.5114	0.9030	0.4551	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	1.0538	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.7302	0.7182	0.3276	0.3324	0.7061	0.3243
0.2934	0.3748	0.1595	0.3321	0.5106	0.9039	0.4270	0.5000	0.6731	0.0000	0.8333	0.0000	0.6314	0.4893	0.1290	1.0538	0.6510	0.6101	0.1667	0.3694	0.3978	0.0947	0.8326	0.2569	0.7061	0.7302	0.3243	0.3276	0.7049	0.3289
0.2934	0.3902	0.1620	0.3426	0.5243	0.9049	0.4910	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7049	0.7061	0.3289	0.3243	0.7249	0.3450
0.2934	0.4042	0.1645	0.3561	0.5797	0.9058	0.6521	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7249	0.7049	0.3450	0.3289	0.7890	0.3740
0.2934	0.4083	0.1670	0.3608	0.5721	0.9069	0.6041	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7890	0.7249	0.3740	0.3450	0.7805	0.3811
0.2934	0.4188	0.1695	0.3679	0.5508	0.9079	0.4928	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7805	0.7890	0.3811	0.3740	0.7564	0.3851
0.2934	0.4110	0.1721	0.3705	0.5903	0.9089	0.5384	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7564	0.7805	0.3851	0.3811	0.8019	0.3792
0.2934	0.4201	0.1746	0.3634	0.6289	0.9099	0.6438	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	1.0516	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8019	0.7564	0.3792	0.3851	0.8483	0.3963
0.2934	0.4198	0.1772	0.3613	0.6280	0.9109	0.6473	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	1.0516	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8483	0.8019	0.3963	0.3792	0.8497	0.3823
0.2934	0.4109	0.1797	0.3586	0.6203	0.9120	0.6349	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	1.0516	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.8497	0.8483	0.3823	0.3963	0.8437	0.3561
0.2934	0.4080	0.1822	0.3522	0.6261	0.9130	0.6782	0.6222	0.5000	0.0000	0.6667	0.0000	0.5330	0.6145	0.0998	1.0731	0.7376	0.5197	0.2749	0.5254	0.3629	0.2074	0.8654	0.4349	0.8437	0.8497	0.3561	0.3823	0.8561	0.3572
0.2934	0.3964	0.1848	0.3528	0.6997	0.9141	0.8712	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.8561	0.8437	0.3572	0.3561	0.9402	0.3630
0.2934	0.4041	0.1873	0.3511	0.6971	0.9153	0.7743	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9402	0.8561	0.3630	0.3572	0.9303	0.3724
0.2934	0.4105	0.1898	0.3558	0.6874	0.9164	0.7090	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	1.0516	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.9303	0.9402	0.3724	0.3630	0.9094	0.3729
0.2934	0.4054	0.1923	0.3462	0.6566	0.9174	0.6313	0.5111	0.6923	0.0000	0.6667	0.0000	0.7051	0.4991	0.1357	1.0516	0.6498	0.6890	0.1748	0.3693	0.4766	0.0758	0.8665	0.2800	0.9094	0.9303	0.3729	0.3724	0.8701	0.3634
0.2934	0.4364	0.1999	0.2387	0.6194	0.9185	0.5024	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8701	0.9094	0.3634	0.3729	0.8452	0.3318
0.2934	0.3945	0.2023	0.3214	0.6635	0.9195	0.6141	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8452	0.8701	0.3318	0.3634	0.8715	0.3106
0.2934	0.2998	0.2048	0.3277	0.7575	0.9205	0.8542	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8715	0.8452	0.3106	0.3318	0.9794	0.1837
0.2934	0.3799	0.2073	0.2871	0.6181	0.9216	0.6411	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.9794	0.8715	0.1837	0.3106	0.8458	0.3054
0.2934	0.3598	0.2097	0.3222	0.5294	0.9227	0.7861	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8458	0.9794	0.3054	0.1837	0.7933	0.2838
0.2934	0.2870	0.2122	0.2987	0.4539	0.9238	0.6919	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.7933	0.8458	0.2838	0.3054	0.7237	0.1110
0.2934	0.3491	0.2147	0.3328	0.4387	0.9249	0.6153	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.7237	0.7933	0.1110	0.2838	0.7143	0.2719
0.2934	0.3377	0.2172	0.3248	0.3354	0.9259	0.3209	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.7143	0.7237	0.2719	0.1110	0.6015	0.2384
0.2934	0.3576	0.2197	0.3248	0.3785	0.9268	0.3900	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.6015	0.7143	0.2384	0.2719	0.6457	0.2639
0.2934	0.3650	0.2222	0.3201	0.3920	0.9277	0.3624	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.6457	0.6015	0.2639	0.2384	0.6541	0.2698
0.2934	0.3728	0.2247	0.3163	0.4130	0.9286	0.3764	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.6541	0.6457	0.2698	0.2639	0.6746	0.2795
0.2934	0.3536	0.2272	0.3139	0.4404	0.9296	0.4637	0.5000	0.0000	0.0000	0.8333	0.7000	0.0078	0.5192	0.6143	0.8154	0.4935	0.0001	0.8714	0.7066	0.1283	0.5829	0.2244	0.9252	0.6746	0.6541	0.2795	0.2698	0.7042	0.2711
0.2934	0.3021	0.2297	0.3453	0.4716	0.9305	0.6152	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7042	0.6746	0.2711	0.2795	0.7391	0.2374
0.2934	0.3080	0.2322	0.3317	0.4497	0.9316	0.5256	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7391	0.7042	0.2374	0.2711	0.7153	0.2402
0.2934	0.3002	0.2347	0.3355	0.4486	0.9325	0.4911	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7153	0.7391	0.2402	0.2374	0.7135	0.2355
0.2934	0.2645	0.2372	0.3496	0.4294	0.9335	0.4849	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7135	0.7153	0.2355	0.2402	0.7016	0.1442
0.2934	0.2436	0.2397	0.3250	0.4121	0.9345	0.4690	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7016	0.7135	0.1442	0.2355	0.6908	0.0985
0.2934	0.2532	0.2422	0.2880	0.4274	0.9355	0.4855	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.6908	0.7016	0.0985	0.1442	0.7152	0.1086
0.2934	0.3114	0.2447	0.2362	0.4419	0.9364	0.4671	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.7152	0.6908	0.1086	0.0985	0.7329	0.1491
0.2934	0.3188	0.2471	0.2377	0.4411	0.9374	0.4160	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.7329	0.7152	0.1491	0.1086	0.7270	0.1521
0.2934	0.3190	0.2495	0.2364	0.4499	0.9383	0.4087	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.7270	0.7329	0.1521	0.1491	0.7339	0.1537
0.2934	0.3257	0.2519	0.2451	0.4515	0.9393	0.3666	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.7339	0.7270	0.1537	0.1521	0.7313	0.1693
0.2934	0.3423	0.2543	0.2898	0.5194	0.9402	0.5466	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.7313	0.7339	0.1693	0.1537	0.8086	0.2309
0.2934	0.3343	0.2568	0.3056	0.5102	0.9412	0.4931	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.8086	0.7313	0.2309	0.1693	0.7938	0.2208
0.2934	0.3338	0.2593	0.3077	0.5130	0.9422	0.4662	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.7938	0.8086	0.2208	0.2309	0.7932	0.2205
0.2934	0.1892	0.2618	0.0597	0.4682	0.9431	0.3209	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7932	0.7938	0.2205	0.2208	0.7233	0.1110
0.2934	0.0686	0.2640	-0.0034	0.4817	0.9440	0.3741	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7233	0.7932	0.1110	0.2205	0.7268	0.0179
0.2934	0.0389	0.2662	0.0386	0.5337	0.9449	0.4959	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7268	0.7233	0.0179	0.1110	0.7835	0.0043
0.2934	0.0349	0.2684	-0.0148	0.5207	0.9459	0.3822	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.7835	0.7268	0.0043	0.0179	0.7602	-0.0057
0.2934	0.0303	0.2706	-0.0112	0.5870	0.9468	0.5108	0.5889	0.3846	0.0000	0.6667	0.0000	0.4428	0.6486	0.0846	1.0812	0.7680	0.4269	0.3053	0.5783	0.2900	0.2596	0.8498	0.4771	0.7602	0.7835	-0.0057	0.0043	0.8304	0.0050
0.2934	0.0333	0.2727	0.0121	0.5351	0.9478	0.3581	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8304	0.7602	0.0050	-0.0057	0.7649	-0.0081
0.2934	0.0403	0.2749	0.0274	0.5177	0.9487	0.2832	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7649	0.8304	-0.0081	0.0050	0.7440	-0.0068
0.2934	0.6518	0.2771	0.1705	0.6121	0.9496	0.3737	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.7440	0.7649	-0.0068	-0.0081	0.8975	0.5172
0.2934	1.0772	0.2795	0.3037	0.6979	0.9505	0.4727	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8975	0.7440	0.5172	-0.0068	1.0217	0.8791
0.2934	0.9491	0.2820	0.2942	0.7061	0.9515	0.5171	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	1.0217	0.8975	0.8791	0.5172	1.0164	0.7769
0.2934	0.9016	0.2844	0.2815	0.6912	0.9525	0.4946	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	1.0164	1.0217	0.7769	0.8791	0.9981	0.7357
0.2934	0.8627	0.2869	0.2835	0.7005	0.9535	0.4949	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.9981	1.0164	0.7357	0.7769	1.0023	0.7042
0.2934	0.8310	0.2893	0.2945	[illegible]	0.9544	0.3694	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	1.0023	0.9981	0.7042	0.7357	0.9653	0.6709
0.2934	0.8098	0.2918	0.2802	0.6359	0.9553	0.2805	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.9653	1.0023	0.6709	0.7042	0.9257	0.6439
0.2934	0.7738	0.2943	0.2972	0.6488	0.9562	0.2959	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.9257	0.9653	0.6439	0.6709	0.9358	0.6074
0.2934	0.7165	0.2967	0.3006	0.6552	0.9571	0.3520	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.9358	0.9257	0.6074	0.6439	0.9436	0.5518
0.2934	0.6519	0.2992	0.2859	0.6578	0.9580	0.3965	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9436	0.9358	0.5518	0.6074	0.9483	0.5005
0.2934	0.6236	0.3017	0.2880	0.6443	0.9589	0.3481	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9483	0.9436	0.5005	0.5518	0.9338	0.4734
0.2934	0.5992	0.3041	0.2953	0.6507	0.9598	0.3624	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9338	0.9483	0.4734	0.5005	0.9409	0.4491
0.2934	0.5988	0.3066	0.3000	0.6675	0.9608	0.4078	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9409	0.9338	0.4491	0.4734	0.9630	0.4505
0.2934	0.6042	0.3091	0.3132	0.6668	0.9617	0.4696	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	0.9630	0.9409	0.4505	0.4491	0.9716	0.4307
0.2934	0.5779	0.3116	0.3002	0.7253	0.9627	0.6430	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	0.9716	0.9630	0.4307	0.4505	1.0362	0.3976

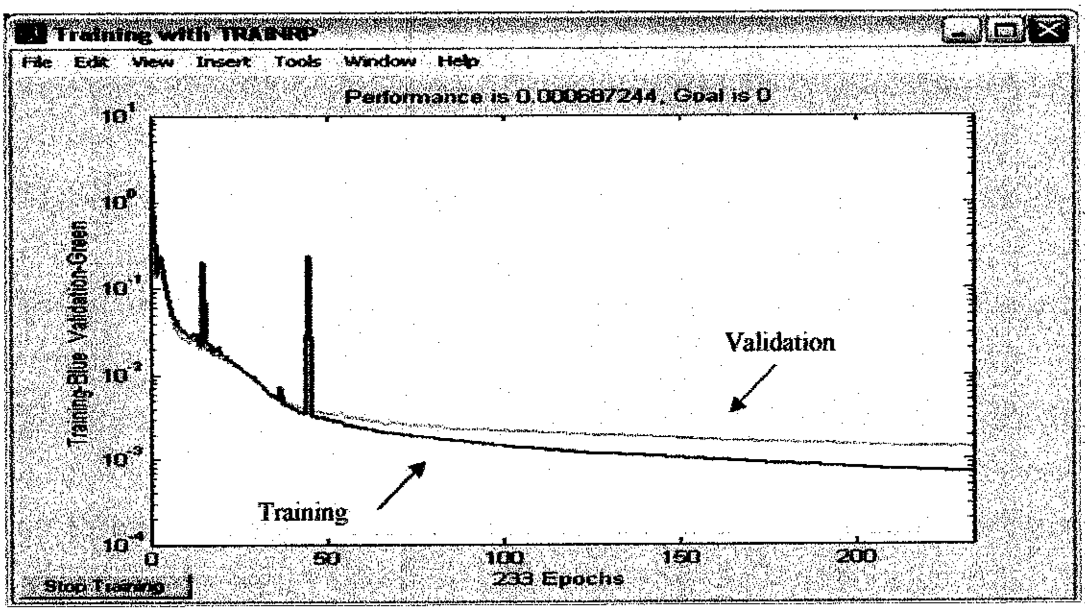
0.2934	0.4758	0.3165	0.2710	0.6406	0.9647	0.5372	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9843	1.0362	0.3528	0.3970	0.9470	0.2966
0.2934	0.4759	0.3189	0.1924	0.6112	0.9657	0.4698	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9470	0.9843	0.2966	0.3528	0.9170	0.2904
0.2934	0.4607	0.3213	0.2129	0.5891	0.9667	0.4098	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.9170	0.9470	0.2904	0.2966	0.8899	0.2749
0.2934	0.4966	0.3237	0.2237	0.6425	0.9676	0.5250	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.8899	0.9170	0.2749	0.2904	0.9506	0.3154
0.2934	0.4948	0.3261	0.2413	0.6271	0.9686	0.4615	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.9506	0.8899	0.3154	0.2749	0.9271	0.3306
0.2934	0.5305	0.3285	0.2706	0.6566	0.9696	0.5438	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.9271	0.9506	0.3306	0.3154	0.9635	0.4041
0.2934	0.5281	0.3309	0.2975	0.6496	0.9706	0.4929	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.9635	0.9271	0.4041	0.3306	0.9557	0.3999
0.2934	0.5220	0.3334	0.3129	0.6278	0.9715	0.4381	0.5111	0.0000	0.0000	0.6667	0.7200	0.0637	0.5299	0.6337	0.8065	0.4882	0.0658	0.8979	0.7153	0.1994	0.5779	0.2437	0.9662	0.9557	0.9635	0.3999	0.4041	0.9341	0.3919
0.2934	0.4977	0.3359	0.3380	0.6234	0.9725	0.4448	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9341	0.9557	0.3919	0.3999	0.9333	0.3821
0.2934	0.4566	0.3384	0.3283	0.6434	0.9734	0.5122	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9333	0.9341	0.3821	0.3919	0.9561	0.3568
0.2934	0.4603	0.3409	0.3275	0.6403	0.9744	0.4640	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9561	0.9333	0.3568	0.3821	0.9516	0.3593
0.2934	0.4485	0.3434	0.3248	0.6411	0.9754	0.4772	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9516	0.9561	0.3593	0.3568	0.9543	0.3486
0.2934	0.4451	0.3459	0.3296	0.6562	0.9764	0.5083	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9543	0.9516	0.3486	0.3593	0.9701	0.3447
0.2934	0.4451	0.3484	0.3362	0.6343	0.9773	0.4348	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9701	0.9543	0.3447	0.3486	0.9456	0.3455
0.2934	0.4542	0.3509	0.3317	0.6082	0.9783	0.3569	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	0.9456	0.9701	0.3455	0.3447	0.9178	0.3460
0.2934	0.4456	0.3534	0.3403	0.6314	0.9792	0.4220	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9178	0.9456	0.3460	0.3455	0.9458	0.3473
0.2934	0.4441	0.3559	0.3527	0.6496	0.9801	0.4517	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9458	0.9178	0.3473	0.3460	0.9650	0.3465
0.2934	0.4257	0.3584	0.3580	0.6801	0.9811	0.5229	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9650	0.9458	0.3465	0.3473	0.9986	0.3252
0.2934	0.4262	0.3610	0.3578	0.6736	0.9821	0.4907	0.8889	0.0000	0.6667	0.0000	0.0000	0.0000	0.8932	0.0002	1.1290	0.9666	0.0064	0.5269	0.9300	0.3602	1.0000	0.8298	0.8143	0.9986	0.9650	0.3252	0.3465	0.9948	0.3235
0.2934	0.4311	0.3635	0.3484	0.6806	0.9831	0.4582	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	0.9948	0.9986	0.3235	0.3252	1.0069	0.3178
0.2934	0.4354	0.3660	0.3439	0.6971	0.9840	0.4908	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	1.0069	0.9948	0.3178	0.3235	1.0285	0.3247
0.2934	0.4331	0.3685	0.3449	0.6761	0.9850	0.4042	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	1.0285	1.0069	0.3247	0.3178	1.0044	0.3182
0.2934	0.4167	0.3710	0.3240	0.6997	0.9859	0.4513	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	1.0044	1.0285	0.3182	0.3247	1.0334	0.2963
0.2934	0.4175	0.3735	0.2973	0.6791	0.9869	0.4068	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	1.0334	1.0044	0.2963	0.3182	1.0126	0.2815
0.2934	0.3883	0.3760	0.2829	0.6873	0.9878	0.4400	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	1.0126	1.0334	0.2815	0.2963	1.0218	0.2516
0.2934	0.3889	0.3785	0.1922	0.5376	0.9888	0.0862	0.5000	0.0000	0.6667	0.0000	0.7000	-0.0210	0.5192	0.6154	0.8154	0.4933	0.0060	0.8731	0.7072	0.4885	1.0276	0.2258	0.9278	1.0218	1.0126	0.2516	0.2815	0.8507	0.2576
0.2934	0.3560	0.3808	0.3030	0.7244	0.9896	0.5739	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	0.8507	1.0218	0.2576	0.2516	1.0363	0.2596
0.2934	0.3434	0.3833	0.3367	0.7034	0.9906	0.5570	0.8889	0.0000	0.0000	0.8333	0.0000	0.0288	0.8932	0.0000	1.1290	0.9661	0.0005	0.5258	0.9291	0.0000	0.5553	0.8276	0.8118	1.0363	0.8507	0.2596	0.2576	1.0325	0.2544
0.2934	0.3518	0.3858	0.3312	0.7270	0.9916	0.6898	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.0325	1.0363	0.2544	0.2596	1.0816	0.2762
0.2934	0.3496	0.3883	0.3261	0.6750	0.9926	0.5978	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.0816	1.0325	0.2762	0.2544	1.0363	0.2449
0.2934	0.3450	0.3908	0.3368	0.7271	0.9937	0.7009	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.0363	1.0816	0.2449	0.2762	1.0994	0.2250
0.2934	0.3201	0.3933	0.3292	0.7204	0.9947	0.6605	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.0994	1.0363	0.2250	0.2449	1.0957	0.1994
0.2934	0.3105	0.3958	0.3215	0.7302	0.9958	0.6677	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.0957	1.0994	0.1994	0.2250	1.1117	0.1901
0.2934	0.3287	0.3983	0.3191	0.7341	0.9969	0.6496	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.1117	1.0957	0.1901	0.1994	1.1198	0.2073
0.2934	0.3526	0.4008	0.3194	0.7383	0.9979	0.6337	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.1198	1.1117	0.2073	0.1901	1.1294	0.2207
0.2934	0.3477	0.4033	0.3164	0.7547	0.9989	0.6596	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.1294	1.1198	0.2207	0.2073	1.1518	0.2170
0.2934	0.3414	0.4058	0.3178	0.7489	1.0000	0.6415	0.9111	0.0000	0.0000	0.6667	0.0000	0.0853	0.9145	0.0036	1.1290	0.9730	0.0661	0.5433	0.9434	0.0674	0.5495	0.8625	0.8499	1.1518	1.1294	0.2170	0.2207	1.1486	0.2051

Appendix C: NN Feedback Model with Time Lagged

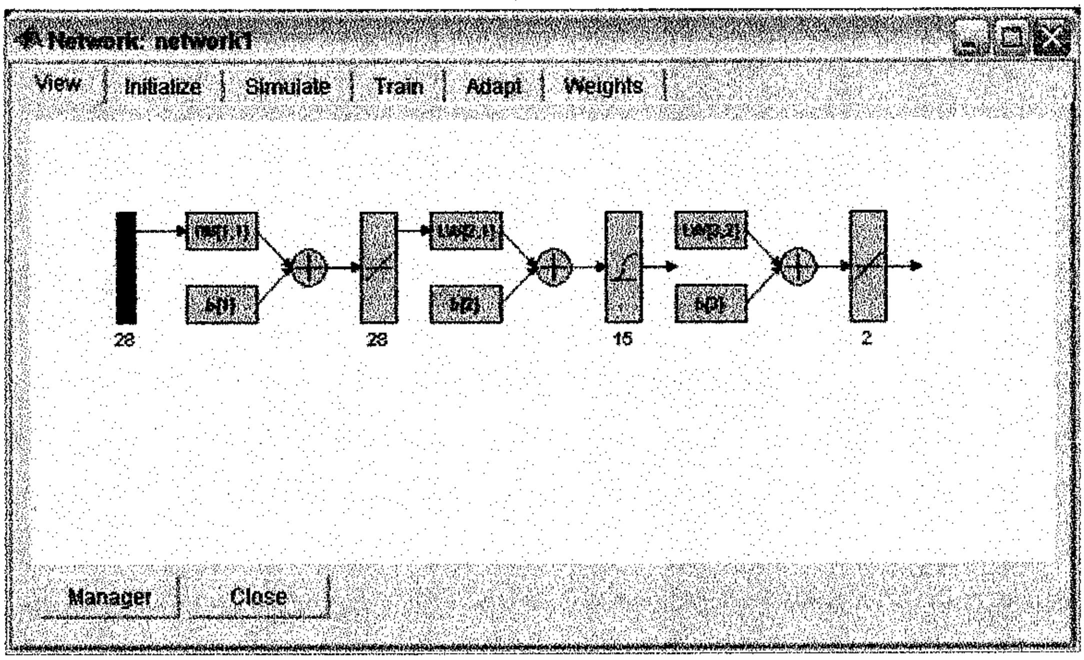
C-2 Simplified diagram of NN Feedback Model mechanism



C-3 Performance Curve of NN Feedback Model

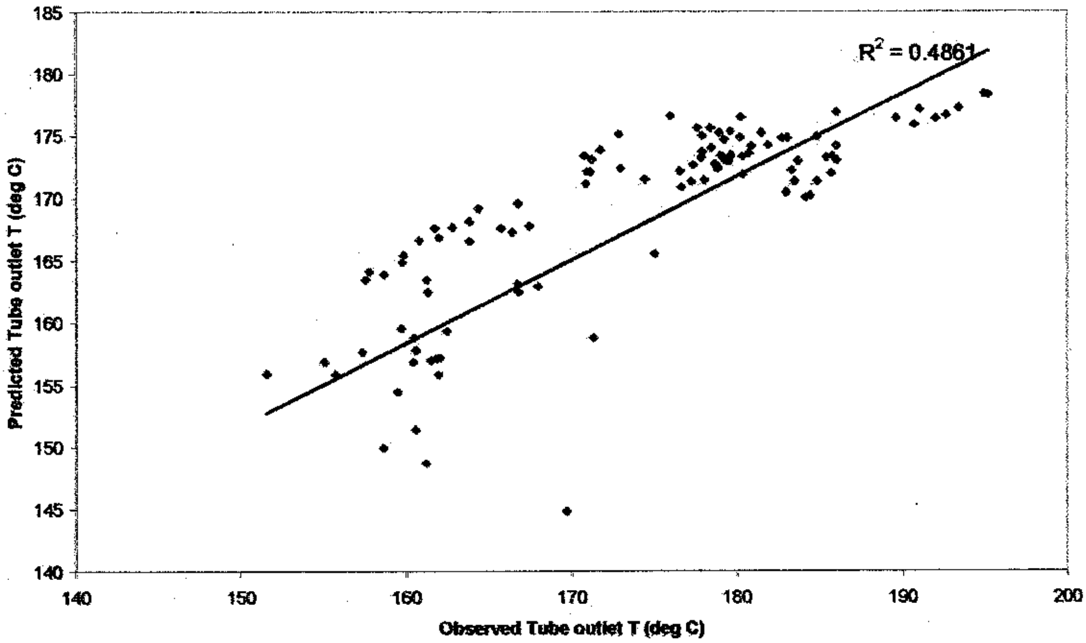


C-4 Optimum Neural Network Configuration

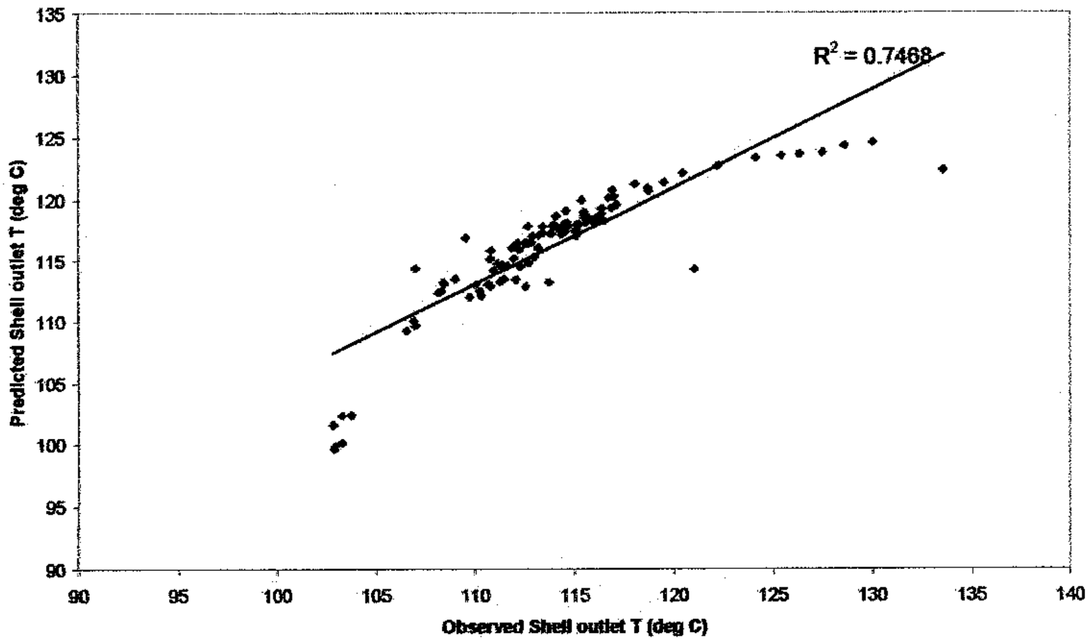


Appendix D: Graphs of simulated results generated from NN Feedback Model with Time Lagged by 2 days (Data Set B)

D-1 Plots of tube side temperature coefficient of correlation for PLP



D-2 Plots of shell side temperature coefficient of correlation for PLP



E-1 Heat Exchanger Efficiency Spreadsheet for Case Study 1

Description		LSWR - Tube side inlet (11TI031)	LSWR - Tube side outlet (11TI006)	Tube side temp different	Crude - Shell side inlet (11TI205)	Crude - Shell side outlet (11TI009)	Shell side temp different	Log mean Temp	Temp Efficiency Factor		LMTD Correction Factor	Duty	Shell Side Total Vol Flow Rate	Tube side Vol Flow Rate (11FC053)	Tube side Mass Flow Rate	Density: Product	Sp Heat Capacity: Product		Actual Heat Transfer Coefficient	Efficiency
Unit		°C	°C	°C	°C	°C	°C	°C	-	-	-	MW	m3/hr	m3/hr	kg/hr	kg/m3	W.hr/kg.°C	W/°C	W/m2.°C	
Parameter		$t_{H,in}$	$t_{H,out}$	delta t	$T_{C,in}$	$T_{C,out}$	delta T	LMTD	S	R	Ft	Q		V_{PROD}	G_{PROD}	ρ_{PROD}	$C_{P,PROD}$	UA	U_{ACTUAL}	U_{ACTUAL}/U_{DESIGN}
Design		172.0	130.0	42.0	121.0	130.0	9.0	21.42	0.82	0.21	0.87	2.65		104.10	96001.00	922.20	0.66	142473.12	293.00	-
Start Date	End Date																			
3		175.00	132.88	42.12	110.00	128.09	18.09	33.47	0.6480	0.4296	0.871	2.9360	640	115.00	106052.98	922.20	0.6572	100749.97	135.42	0.4622
4		175.00	132.98	42.02	110.00	128.08	18.08	33.54	0.6464	0.4303	0.871	2.9288	640	115.00	106052.98	922.20	0.6572	100262.00	134.76	0.4599
5		175.00	133.08	41.92	110.00	128.07	18.07	33.60	0.6450	0.4310	0.871	2.9222	640	115.00	106052.98	922.20	0.6572	99812.46	134.16	0.4579
6		175.00	133.17	41.83	110.00	128.05	18.05	33.67	0.6435	0.4316	0.871	2.9156	640	115.00	106052.98	922.20	0.6572	99365.27	133.56	0.4558
7		175.00	133.27	41.73	110.00	128.04	18.04	33.74	0.6419	0.4323	0.872	2.9084	640	115.00	106052.98	922.20	0.6572	98885.08	132.91	0.4536
8		175.00	133.37	41.63	110.00	128.02	18.02	33.81	0.6405	0.4329	0.872	2.9017	640	115.00	106052.98	922.20	0.6572	98437.75	132.31	0.4516
9		175.00	133.46	41.54	110.00	128.01	18.01	33.88	0.6390	0.4336	0.872	2.8951	640	115.00	106052.98	922.20	0.6572	97997.66	131.72	0.4495
10		175.00	133.55	41.45	110.00	127.99	17.99	33.94	0.6377	0.4341	0.872	2.8890	640	115.00	106052.98	922.20	0.6572	97594.60	131.18	0.4477
11		175.00	133.65	41.35	110.00	127.98	17.98	34.00	0.6362	0.4348	0.872	2.8824	640	115.00	106052.98	922.20	0.6572	97158.82	130.59	0.4457
12		175.00	133.73	41.27	110.00	127.97	17.97	34.07	0.6349	0.4354	0.873	2.8763	640	115.00	106052.98	922.20	0.6572	96759.70	130.05	0.4439
13		175.00	133.83	41.17	110.00	127.95	17.95	34.13	0.6334	0.4361	0.873	2.8697	640	115.00	106052.98	922.20	0.6572	96328.14	129.47	0.4419
14		175.00	133.92	41.08	110.00	127.94	17.94	34.19	0.6321	0.4366	0.873	2.8636	640	115.00	106052.98	922.20	0.6572	95928.13	128.94	0.4401
15		175.00	134.00	41.00	110.00	127.92	17.92	34.26	0.6307	0.4372	0.873	2.8575	640	115.00	106052.98	922.20	0.6572	95534.72	128.41	0.4382
16		175.00	134.09	40.91	110.00	127.91	17.91	34.32	0.6294	0.4377	0.873	2.8515	640	115.00	106052.98	922.20	0.6572	95143.12	127.88	0.4365
17		175.00	134.18	40.82	110.00	127.89	17.89	34.38	0.6280	0.4383	0.874	2.8454	640	115.00	106052.98	922.20	0.6572	94753.32	127.36	0.4347
18		175.00	134.26	40.74	110.00	127.88	17.88	34.44	0.6267	0.4389	0.874	2.8393	640	115.00	106052.98	922.20	0.6572	94360.66	126.83	0.4329
19		175.00	134.34	40.66	110.00	127.86	17.86	34.49	0.6255	0.4394	0.874	2.8338	640	115.00	106052.98	922.20	0.6572	94007.80	126.35	0.4312
20		175.00	134.43	40.57	110.00	127.85	17.85	34.56	0.6241	0.4400	0.874	2.8277	640	115.00	106052.98	922.20	0.6572	93623.17	125.84	0.4295
21		175.00	134.51	40.49	110.00	127.83	17.83	34.61	0.6229	0.4404	0.874	2.8222	640	115.00	106052.98	922.20	0.6572	93268.80	125.36	0.4279
22		175.00	134.59	40.41	110.00	127.82	17.82	34.67	0.6217	0.4409	0.874	2.8167	640	115.00	106052.98	922.20	0.6572	92920.45	124.89	0.4263
23		175.00	134.68	40.32	110.00	127.80	17.80	34.73	0.6204	0.4415	0.875	2.8106	640	115.00	106052.98	922.20	0.6572	92540.73	124.38	0.4245
24		175.00	134.76	40.24	110.00	127.79	17.79	34.78	0.6191	0.4420	0.875	2.8051	640	115.00	106052.98	922.20	0.6572	92190.88	123.91	0.4229
25		175.00	134.84	40.16	110.00	127.77	17.77	34.84	0.6179	0.4425	0.875	2.7995	640	115.00	106052.98	922.20	0.6572	91846.95	123.45	0.4213
26		175.00	134.91	40.09	110.00	127.76	17.76	34.89	0.6168	0.4429	0.875	2.7946	640	115.00	106052.98	922.20	0.6572	91536.83	123.03	0.4199
27		175.00	134.99	40.01	110.00	127.74	17.74	34.95	0.6156	0.4434	0.875	2.7890	640	115.00	106052.98	922.20	0.6572	91191.14	122.57	0.4183
28		175.00	135.07	39.93	110.00	127.73	17.73	35.00	0.6144	0.4439	0.875	2.7835	640	115.00	106052.98	922.20	0.6572	90851.27	122.11	0.4168
29		175.00	135.14	39.86	110.00	127.71	17.71	35.05	0.6133	0.4444	0.875	2.7785	640	115.00	106052.98	922.20	0.6572	90544.80	121.70	0.4154
30		175.00	135.22	39.78	110.00	127.70	17.70	35.11	0.6121	0.4448	0.876	2.7730	640	115.00	106052.98	922.20	0.6572	90203.18	121.24	0.4138
31		175.00	135.29	39.71	110.00	127.68	17.68	35.16	0.6110	0.4453	0.876	2.7680	640	115.00	106052.98	922.20	0.6572	89899.07	120.83	0.4124
32		175.00	135.37	39.63	110.00	127.67	17.67	35.22	0.6097	0.4457	0.876	2.7625	640	115.00	106052.98	922.20	0.6572	89560.08	120.38	0.4108
33		175.00	135.44	39.56	110.00	127.65	17.65	35.27	0.6086	0.4462	0.876	2.7575	640	115.00	106052.98	922.20	0.6572	89258.30	119.97	0.4095
34		175.00	135.51	39.49	110.00	127.64	17.64	35.32	0.6075	0.4466	0.876	2.7526	640	115.00	106052.98	922.20	0.6572	88957.60	119.57	0.4081
35		175.00	135.58	39.42	110.00	127.62	17.62	35.37	0.6065	0.4470	0.876	2.7476	640	115.00	106052.98	922.20	0.6572	88653.75	119.16	0.4067
36		175.00	135.65	39.35	110.00	127.61	17.61	35.42	0.6054	0.4475	0.876	2.7426	640	115.00	106052.98	922.20	0.6572	88355.22	118.76	0.4053
37		175.00	135.72	39.28	110.00	127.59	17.59	35.47	0.6043	0.4478	0.877	2.7377	640	115.00	106052.98	922.20	0.6572	88053.56	118.35	0.4039
38		175.00	135.79	39.21	110.00	127.58	17.58	35.52	0.6032	0.4483	0.877	2.7327	640	115.00	106052.98	922.20	0.6572	87757.18	117.95	0.4026
39		175.00	135.86	39.14	110.00	127.56	17.56	35.56	0.6022	0.4487	0.877	2.7283	640	115.00	106052.98	922.20	0.6572	87492.75	117.60	0.4014
40		175.00	135.93	39.07	110.00	127.54	17.54	35.61	0.6011	0.4490	0.877	2.7233	640	115.00	106052.98	922.20	0.6572	87194.21	117.20	0.4000
41		175.00	135.99	39.01	110.00	127.53	17.53	35.66	0.6001	0.4494	0.877	2.7189	640	115.00	106052.98	922.20	0.6572	86931.58	116.84	0.3988
42		175.00	136.06	38.94	110.00	127.51	17.51	35.71	0.5990	0.4498	0.877	2.7139	640	115.00	106052.98	922.20	0.6572	86635.06	116.44	0.3974
43		175.00	136.13	38.87	110.00	127.50	17.50	35.76	0.5980	0.4502	0.877	2.7095	640	115.00	106052.98	922.20	0.6572	86374.19	116.09	0.3962
44		175.00	136.19	38.81	110.00	127.48	17.48	35.80	0.5971	0.4505	0.877	2.7051	640	115.00	106052.98	922.20	0.6572	86110.08	115.74	0.3950
45		175.00	136.26	38.74	110.00	127.47	17.47	35.85	0.5960	0.4509	0.878	2.7001	640	115.00	106052.98	922.20	0.6572	85820.54	115.35	0.3937

46		175.00	136.33	38.67	110.00	127.45	17.45	35.90	0.5950	0.4513	0.878	2.6957	640	115.00	106052.98	922.20	0.6572	85562.23	115.00	0.3925
47		175.00	136.39	38.61	110.00	127.44	17.44	35.94	0.5940	0.4516	0.878	2.6912	640	115.00	106052.98	922.20	0.6572	85300.71	114.65	0.3913
48		175.00	136.45	38.55	110.00	127.42	17.42	35.99	0.5930	0.4520	0.878	2.6868	640	115.00	106052.98	922.20	0.6572	85044.02	114.31	0.3901
49		175.00	136.52	38.48	110.00	127.41	17.41	36.03	0.5921	0.4523	0.878	2.6824	640	115.00	106052.98	922.20	0.6572	84784.15	113.96	0.3889
50		175.00	136.58	38.42	110.00	127.39	17.39	36.08	0.5911	0.4527	0.878	2.6780	640	115.00	106052.98	922.20	0.6572	84529.06	113.61	0.3878
51		175.00	136.64	38.36	110.00	127.38	17.38	36.12	0.5901	0.4530	0.878	2.6736	640	115.00	106052.98	922.20	0.6572	84270.82	113.27	0.3866
52		175.00	136.70	38.30	110.00	127.36	17.36	36.16	0.5893	0.4533	0.878	2.6697	640	115.00	106052.98	922.20	0.6572	84047.00	112.97	0.3856
53		175.00	136.76	38.24	110.00	127.34	17.34	36.21	0.5883	0.4536	0.878	2.6653	640	115.00	106052.98	922.20	0.6572	83790.27	112.62	0.3844
54		175.00	136.83	38.17	110.00	127.33	17.33	36.25	0.5873	0.4540	0.879	2.6609	640	115.00	106052.98	922.20	0.6572	83538.26	112.28	0.3832
55		175.00	136.88	38.12	110.00	127.32	17.32	36.29	0.5865	0.4543	0.879	2.6570	640	115.00	106052.98	922.20	0.6572	83316.43	111.98	0.3822
56		175.00	136.94	38.06	110.00	127.30	17.30	36.34	0.5855	0.4546	0.879	2.6526	640	115.00	106052.98	922.20	0.6572	83061.99	111.64	0.3810
57		175.00	137.00	38.00	110.00	127.29	17.29	36.38	0.5846	0.4549	0.879	2.6487	640	115.00	106052.98	922.20	0.6572	82841.45	111.35	0.3800
58		175.00	137.05	37.95	110.00	127.27	17.27	36.42	0.5838	0.4551	0.879	2.6448	640	115.00	106052.98	922.20	0.6572	82617.67	111.05	0.3790
59		175.00	137.12	37.88	110.00	127.25	17.25	36.46	0.5828	0.4555	0.879	2.6404	640	115.00	106052.98	922.20	0.6572	82369.23	110.71	0.3779
60		175.00	137.17	37.83	110.00	127.24	17.24	36.50	0.5819	0.4558	0.879	2.6365	640	115.00	106052.98	922.20	0.6572	82150.56	110.42	0.3769
61		175.00	137.23	37.77	110.00	127.22	17.22	36.55	0.5811	0.4560	0.879	2.6327	640	115.00	106052.98	922.20	0.6572	81928.68	110.12	0.3758
62		175.00	137.28	37.72	110.00	127.21	17.21	36.59	0.5802	0.4563	0.879	2.6288	640	115.00	106052.98	922.20	0.6572	81711.19	109.83	0.3748
63		175.00	137.34	37.66	110.00	127.19	17.19	36.63	0.5794	0.4565	0.879	2.6249	640	115.00	106052.98	922.20	0.6572	81490.51	109.53	0.3738
64		175.00	137.40	37.60	110.00	127.18	17.18	36.67	0.5785	0.4568	0.880	2.6211	640	115.00	106052.98	922.20	0.6572	81274.19	109.24	0.3728
65		175.00	137.45	37.55	110.00	127.16	17.16	36.71	0.5777	0.4571	0.880	2.6172	640	115.00	106052.98	922.20	0.6572	81058.44	108.95	0.3718
66		175.00	137.51	37.49	110.00	127.15	17.15	36.75	0.5768	0.4573	0.880	2.6133	640	115.00	106052.98	922.20	0.6572	80839.55	108.66	0.3708
67		175.00	137.56	37.44	110.00	127.13	17.13	36.79	0.5760	0.4576	0.880	2.6095	640	115.00	106052.98	922.20	0.6572	80624.95	108.37	0.3699
68		175.00	137.62	37.38	110.00	127.12	17.12	36.82	0.5751	0.4579	0.880	2.6056	640	115.00	106052.98	922.20	0.6572	80410.93	108.08	0.3689
69		175.00	137.67	37.33	110.00	127.10	17.10	36.87	0.5743	0.4582	0.880	2.6017	640	115.00	106052.98	922.20	0.6572	80193.78	107.79	0.3679
70		175.00	137.73	37.27	110.00	127.09	17.09	36.91	0.5734	0.4585	0.880	2.5979	640	115.00	106052.98	922.20	0.6572	79980.89	107.50	0.3669
71		175.00	137.78	37.22	110.00	127.07	17.07	36.94	0.5727	0.4587	0.880	2.5946	640	115.00	106052.98	922.20	0.6572	79796.77	107.25	0.3661
72		175.00	137.83	37.17	110.00	127.06	17.06	36.98	0.5718	0.4589	0.880	2.5907	640	115.00	106052.98	922.20	0.6572	79581.28	106.96	0.3651
73		175.00	137.89	37.11	110.00	127.04	17.04	37.02	0.5710	0.4592	0.880	2.5868	640	115.00	106052.98	922.20	0.6572	79369.99	106.68	0.3641
74		175.00	137.93	37.07	110.00	127.03	17.03	37.05	0.5702	0.4594	0.880	2.5835	640	115.00	106052.98	922.20	0.6572	79187.26	106.43	0.3633
75		175.00	137.99	37.01	110.00	127.01	17.01	37.10	0.5694	0.4597	0.881	2.5796	640	115.00	106052.98	922.20	0.6572	78973.40	106.15	0.3623
76		175.00	138.04	36.96	110.00	127.00	17.00	37.13	0.5686	0.4599	0.881	2.5763	640	115.00	106052.98	922.20	0.6572	78791.58	105.90	0.3614
77		175.00	138.09	36.91	110.00	126.98	16.98	37.17	0.5678	0.4602	0.881	2.5725	640	115.00	106052.98	922.20	0.6572	78582.35	105.62	0.3605
78		175.00	138.14	36.86	110.00	126.97	16.97	37.20	0.5671	0.4604	0.881	2.5691	640	115.00	106052.98	922.20	0.6572	78401.40	105.38	0.3597
79		175.00	138.20	36.80	110.00	126.96	16.96	37.24	0.5662	0.4607	0.881	2.5653	640	115.00	106052.98	922.20	0.6572	78193.19	105.10	0.3587
80		175.00	138.24	36.76	110.00	126.94	16.94	37.28	0.5655	0.4608	0.881	2.5620	640	115.00	106052.98	922.20	0.6572	78009.58	104.85	0.3579
81		175.00	138.29	36.71	110.00	126.93	16.93	37.31	0.5647	0.4611	0.881	2.5586	640	115.00	106052.98	922.20	0.6572	77829.92	104.61	0.3570
82		175.00	138.35	36.65	110.00	126.91	16.91	37.35	0.5639	0.4614	0.881	2.5548	640	115.00	106052.98	922.20	0.6572	77623.18	104.33	0.3561
83		175.00	138.39	36.61	110.00	126.90	16.90	37.39	0.5632	0.4616	0.881	2.5515	640	115.00	106052.98	922.20	0.6572	77444.39	104.09	0.3553
84		175.00	138.44	36.56	110.00	126.88	16.88	37.42	0.5624	0.4618	0.881	2.5482	640	115.00	106052.98	922.20	0.6572	77266.00	103.85	0.3544
85		175.00	138.49	36.51	110.00	126.87	16.87	37.46	0.5617	0.4621	0.881	2.5448	640	115.00	106052.98	922.20	0.6572	77088.01	103.61	0.3536
86		175.00	138.55	36.45	110.00	126.86	16.86	37.49	0.5608	0.4624	0.881	2.5410	640	115.00	106052.98	922.20	0.6572	76883.16	103.34	0.3527
87		175.00	138.59	36.41	110.00	126.84	16.84	37.53	0.5601	0.4626	0.882	2.5377	640	115.00	106052.98	922.20	0.6572	76706.02	103.10	0.3519
88		175.00	138.64	36.36	110.00	126.83	16.83	37.56	0.5594	0.4628	0.882	2.5343	640	115.00	106052.98	922.20	0.6572	76529.27	102.86	0.3511
89		175.00	138.69	36.31	110.00	126.81	16.81	37.60	0.5586	0.4630	0.882	2.5310	640	115.00	106052.98	922.20	0.6572	76352.91	102.62	0.3503
90		175.00	138.74	36.26	110.00	126.80	16.80	37.63	0.5579	0.4633	0.882	2.5277	640	115.00	106052.98	922.20	0.6572	76176.94	102.39	0.3494
91		175.00	138.78	36.22	110.00	126.79	16.79	37.67	0.5572	0.4635	0.882	2.5244	640	115.00	106052.98	922.20	0.6572	76001.36	102.15	0.3486
92		175.00	138.84	36.16	110.00	126.77	16.77	37.71	0.5563	0.4638	0.882	2.5205	640	115.00	106052.98	922.20	0.6572	75799.27	101.88	0.3477
93		175.00	138.89	36.11	110.00	126.76	16.76	37.74	0.5556	0.4641	0.882	2.5172	640	115.00	106052.98	922.20	0.6572	75624.52	101.65	0.3469
94		175.00	138.93	36.07	110.00	126.75	16.75	37.77	0.5549	0.4643	0.882	2.5139	640	115.00	106052.98	922.20	0.6572	75450.15	101.41	0.3461
95		175.00	138.98	36.02	110.00	126.73	16.73	37.81	0.5541	0.4645	0.882	2.5106	640	115.00	106052.98	922.20	0.6572	75276.16	101.18	0.3453
96		175.00	139.03	35.97	110.00	126.72	16.72	37.84	0.5534	0.4647	0.882	2.5073	640	115.00	106052.98	922.20	0.6572	75102.56	100.94	0.3445
97		175.00	139.08	35.92	110.00	126.70	16.70	37.88	0.5527	0.4650	0.882	2.5040	640	115.00	106052.98	922.20	0.6572	74929.33	100.71	0.3437
98		175.00	139.12	35.88	110.00	126.69	16.69	37.91	0.5519	0.4653	0.882	2.5006	640	115.00	106052.98	922.20	0.6572	74759.81	100.48	0.3429
99		175.00	139.17	35.83	110.00	126.68	16.68	37.94	0.5512	0.4655	0.882	2.4973	640	115.00	106052.98	922.20	0.6572	74587.33	100.25	0.3422

100		175.00	139.22	35.78	110.00	126.67	16.67	37.98	0.5505	0.4658	0.882	2.4940	640	115.00	106052.98	922.20	0.6572	74415.22	100.02	0.3414
101		175.00	139.27	35.73	110.00	126.66	16.66	38.01	0.5497	0.4661	0.883	2.4907	640	115.00	106052.98	922.20	0.6572	74246.78	99.79	0.3406
102		175.00	139.31	35.69	110.00	126.64	16.64	38.05	0.5490	0.4663	0.883	2.4874	640	115.00	106052.98	922.20	0.6572	74075.41	99.56	0.3398
103		175.00	139.36	35.64	110.00	126.63	16.63	38.08	0.5483	0.4667	0.883	2.4841	640	115.00	106052.98	922.20	0.6572	73907.68	99.34	0.3390
104		175.00	139.42	35.58	110.00	126.62	16.62	38.12	0.5474	0.4670	0.883	2.4802	640	115.00	106052.98	922.20	0.6572	73710.81	99.07	0.3381
105		175.00	139.46	35.54	110.00	126.61	16.61	38.15	0.5467	0.4673	0.883	2.4769	640	115.00	106052.98	922.20	0.6572	73543.84	98.85	0.3374
106		175.00	139.51	35.49	110.00	126.59	16.59	38.18	0.5460	0.4676	0.883	2.4736	640	115.00	106052.98	922.20	0.6572	73373.97	98.62	0.3366
107		175.00	139.56	35.44	110.00	126.58	16.58	38.22	0.5452	0.4679	0.883	2.4703	640	115.00	106052.98	922.20	0.6572	73207.70	98.40	0.3358
108		175.00	139.61	35.39	110.00	126.57	16.57	38.25	0.5445	0.4681	0.883	2.4669	640	115.00	106052.98	922.20	0.6572	73038.55	98.17	0.3351
109		175.00	139.65	35.35	110.00	126.56	16.56	38.28	0.5438	0.4685	0.883	2.4636	640	115.00	106052.98	922.20	0.6572	72872.98	97.95	0.3343
110		175.00	139.70	35.30	110.00	126.55	16.55	38.32	0.5430	0.4688	0.883	2.4603	640	115.00	106052.98	922.20	0.6572	72707.74	97.73	0.3335
111		175.00	139.76	35.24	110.00	126.54	16.54	38.35	0.5422	0.4693	0.803	2.4564	640	115.00	106052.98	922.20	0.6572	72517.00	97.47	0.3327
112		175.00	139.81	35.19	110.00	126.53	16.53	38.39	0.5415	0.4696	0.883	2.4531	640	115.00	106052.98	922.20	0.6572	72352.49	97.25	0.3319
113		175.00	139.85	35.15	110.00	126.51	16.51	38.42	0.5407	0.4698	0.883	2.4498	640	115.00	106052.98	922.20	0.6572	72185.14	97.02	0.3311
114		175.00	139.90	35.10	110.00	126.50	16.50	38.45	0.5400	0.4702	0.883	2.4465	640	115.00	106052.98	922.20	0.6572	72021.32	96.80	0.3304
115		175.00	139.96	35.04	110.00	126.49	16.49	38.49	0.5391	0.4706	0.883	2.4426	640	115.00	106052.98	922.20	0.6572	71832.19	96.55	0.3295
116		175.00	140.00	35.00	110.00	126.49	16.49	38.52	0.5384	0.4711	0.884	2.4393	640	115.00	106052.98	922.20	0.6572	71672.23	96.33	0.3288
117		175.00	140.06	34.94	110.00	126.48	16.48	38.56	0.5376	0.4715	0.884	2.4354	640	115.00	106052.98	922.20	0.6572	71483.91	96.08	0.3279
118		175.00	140.11	34.89	110.00	126.46	16.46	38.59	0.5368	0.4719	0.884	2.4321	640	115.00	106052.98	922.20	0.6572	71321.50	95.86	0.3272
119		175.00	140.15	34.85	110.00	126.45	16.45	38.62	0.5361	0.4722	0.884	2.4288	640	115.00	106052.98	922.20	0.6572	71159.42	95.64	0.3264
120		175.00	140.21	34.79	110.00	126.44	16.44	38.66	0.5352	0.4727	0.884	2.4249	640	115.00	106052.98	922.20	0.6572	70972.29	95.39	0.3256
121		175.00	140.27	34.73	110.00	126.44	16.44	38.70	0.5344	0.4732	0.884	2.4211	640	115.00	106052.98	922.20	0.6572	70788.69	95.15	0.3247
122		175.00	140.31	34.69	110.00	126.43	16.43	38.73	0.5337	0.4736	0.884	2.4178	640	115.00	106052.98	922.20	0.6572	70627.68	94.93	0.3240
123		175.00	140.37	34.63	110.00	126.42	16.42	38.76	0.5328	0.4741	0.884	2.4139	640	115.00	106052.98	922.20	0.6572	70444.85	94.68	0.3232
124		175.00	140.42	34.58	110.00	126.41	16.41	38.80	0.5319	0.4746	0.884	2.4100	640	115.00	106052.98	922.20	0.6572	70259.36	94.43	0.3223
125		175.00	140.47	34.53	110.00	126.40	16.40	38.83	0.5312	0.4750	0.884	2.4067	640	115.00	106052.98	922.20	0.6572	70102.46	94.22	0.3216
126		175.00	140.53	34.47	110.00	126.40	16.40	38.87	0.5304	0.4756	0.884	2.4028	640	115.00	106052.98	922.20	0.6572	69920.80	93.98	0.3207
127		175.00	140.58	34.42	110.00	126.39	16.39	38.90	0.5295	0.4762	0.884	2.3990	640	115.00	106052.98	922.20	0.6572	69739.54	93.74	0.3199
128		175.00	140.64	34.36	110.00	126.38	16.38	38.94	0.5287	0.4767	0.884	2.3951	640	115.00	106052.98	922.20	0.6572	69558.68	93.49	0.3191
129		175.00	140.69	34.31	110.00	126.37	16.37	38.97	0.5278	0.4773	0.884	2.3912	640	115.00	106052.98	922.20	0.6572	69378.22	93.25	0.3183
130		175.00	140.75	34.25	110.00	126.37	16.37	39.01	0.5269	0.4779	0.884	2.3874	640	115.00	106052.98	922.20	0.6572	69198.15	93.01	0.3174
131		175.00	140.80	34.20	110.00	126.36	16.36	39.05	0.5261	0.4784	0.884	2.3835	640	115.00	106052.98	922.20	0.6572	69018.48	92.77	0.3166
132		175.00	140.86	34.14	110.00	126.35	16.35	39.08	0.5252	0.4790	0.885	2.3796	640	115.00	106052.98	922.20	0.6572	68839.20	92.53	0.3158
133		175.00	140.92	34.08	110.00	126.35	16.35	39.12	0.5243	0.4797	0.885	2.3752	640	115.00	106052.98	922.20	0.6572	68635.64	92.25	0.3149
134		175.00	140.98	34.02	110.00	126.34	16.34	39.15	0.5234	0.4804	0.885	2.3714	640	115.00	106052.98	922.20	0.6572	68460.15	92.02	0.3140
135		175.00	141.03	33.97	110.00	126.34	16.34	39.19	0.5226	0.4810	0.885	2.3675	640	115.00	106052.98	922.20	0.6572	68282.09	91.78	0.3132
136		175.00	141.10	33.90	110.00	126.33	16.33	39.23	0.5216	0.4818	0.885	2.3631	640	115.00	106052.98	922.20	0.6572	68082.83	91.51	0.3123
137		175.00	141.15	33.85	110.00	126.33	16.33	39.26	0.5207	0.4825	0.885	2.3592	640	115.00	106052.98	922.20	0.6572	67908.51	91.27	0.3115
138		175.00	141.22	33.78	110.00	126.32	16.32	39.30	0.5197	0.4832	0.885	2.3548	640	115.00	106052.98	922.20	0.6572	67707.22	91.00	0.3106
139		175.00	141.28	33.72	110.00	126.32	16.32	39.34	0.5188	0.4840	0.885	2.3504	640	115.00	106052.98	922.20	0.6572	67509.34	90.74	0.3097
140		175.00	141.34	33.66	110.00	126.32	16.32	39.38	0.5178	0.4848	0.885	2.3459	640	115.00	106052.98	922.20	0.6572	67311.92	90.47	0.3088
141		175.00	141.41	33.59	110.00	126.31	16.31	39.42	0.5168	0.4856	0.885	2.3415	640	115.00	106052.98	922.20	0.6572	67114.97	90.21	0.3079
142		175.00	141.47	33.53	110.00	126.31	16.31	39.45	0.5158	0.4865	0.885	2.3371	640	115.00	106052.98	922.20	0.6572	66921.36	89.95	0.3070
143		175.00	141.53	33.47	110.00	126.31	16.31	39.49	0.5149	0.4873	0.885	2.3327	640	115.00	106052.98	922.20	0.6572	66725.32	89.68	0.3061
144		175.00	141.60	33.40	110.00	126.31	16.31	39.53	0.5139	0.4881	0.885	2.3283	640	115.00	106052.98	922.20	0.6572	66529.74	89.42	0.3052
145		175.00	141.66	33.34	110.00	126.31	16.31	39.57	0.5129	0.4891	0.885	2.3238	640	115.00	106052.98	922.20	0.6572	66337.46	89.16	0.3043
146		175.00	141.73	33.27	110.00	126.30	16.30	39.61	0.5118	0.4900	0.885	2.3189	640	115.00	106052.98	922.20	0.6572	66118.83	88.87	0.3033
147		175.00	141.79	33.21	110.00	126.30	16.30	39.65	0.5108	0.4910	0.885	2.3145	640	115.00	106052.98	922.20	0.6572	65927.48	88.61	0.3024
148		175.00	141.87	33.13	110.00	126.30	16.30	39.69	0.5097	0.4920	0.886	2.3095	640	115.00	106052.98	922.20	0.6572	65712.73	88.32	0.3014
149		175.00	141.94	33.06	110.00	126.30	16.30	39.73	0.5087	0.4931	0.886	2.3045	640	115.00	106052.98	922.20	0.6572	65498.51	88.04	0.3005
150		175.00	142.01	32.99	110.00	126.30	16.30	39.77	0.5076	0.4941	0.886	2.2995	640	115.00	106052.98	922.20	0.6572	65284.84	87.75	0.2995
151		175.00	142.07	32.93	110.00	126.30	16.30	39.81	0.5066	0.4951	0.886	2.2951	640	115.00	106052.98	922.20	0.6572	65095.36	87.49	0.2986
152		175.00	142.15	32.85	110.00	126.30	16.30	39.85	0.5054	0.4963	0.886	2.2896	640	115.00	106052.98	922.20	0.6572	64859.10	87.18	0.2975
153		175.00	142.22	32.78	110.00	126.31	16.31	39.89	0.5043	0.4975	0.886	2.2846	640	115.00	106052.98	922.20	0.6572	64649.78	86.89	0.2966

154		175.00	142.29	32.71	110.00	126.31	16.31	39.93	0.5032	0.4986	0.886	2.2796	640	115.00	106052.98	922.20	0.6572	64438.22	86.61	0.2956
155		175.00	142.37	32.63	110.00	126.31	16.31	39.97	0.5021	0.4997	0.886	2.2747	640	115.00	106052.98	922.20	0.6572	64229.92	86.33	0.2946
156		175.00	142.44	32.56	110.00	126.31	16.31	40.02	0.5008	0.5010	0.886	2.2691	640	115.00	106052.98	922.20	0.6572	63996.05	86.02	0.2936
157		175.00	142.52	32.48	110.00	126.31	16.31	40.06	0.4996	0.5023	0.886	2.2636	640	115.00	106052.98	922.20	0.6572	63765.52	85.71	0.2925
158		175.00	142.60	32.40	110.00	126.32	16.32	40.10	0.4985	0.5035	0.886	2.2587	640	115.00	106052.98	922.20	0.6572	63558.84	85.43	0.2916
159		175.00	142.67	32.33	110.00	126.32	16.32	40.15	0.4973	0.5048	0.886	2.2531	640	115.00	106052.98	922.20	0.6572	63329.48	85.12	0.2905
160		175.00	142.75	32.25	110.00	126.32	16.32	40.19	0.4961	0.5062	0.886	2.2476	640	115.00	106052.98	922.20	0.6572	63100.72	84.81	0.2895
161		175.00	142.83	32.17	110.00	126.33	16.33	40.23	0.4949	0.5077	0.886	2.2421	640	115.00	106052.98	922.20	0.6572	62875.24	84.51	0.2884
162		175.00	142.91	32.09	110.00	126.33	16.33	40.28	0.4937	0.5090	0.886	2.2366	640	115.00	106052.98	922.20	0.6572	62647.68	84.20	0.2874
163		175.00	143.00	32.00	110.00	126.34	16.34	40.33	0.4923	0.5105	0.886	2.2305	640	115.00	106052.98	922.20	0.6572	62397.79	83.87	0.2862
164		175.00	143.08	31.92	110.00	126.34	16.34	40.37	0.4911	0.5120	0.886	2.2250	640	115.00	106052.98	922.20	0.6572	62174.11	83.57	0.2852
165		175.00	143.17	31.83	110.00	126.35	16.35	40.41	0.4898	0.5136	0.887	2.2189	640	115.00	106052.98	922.20	0.6572	61928.20	83.24	0.2841
166		175.00	143.25	31.75	110.00	126.36	16.36	40.46	0.4885	0.5151	0.887	2.2133	640	115.00	106052.98	922.20	0.6572	61705.72	82.94	0.2831
167		175.00	143.33	31.67	110.00	126.36	16.36	40.50	0.4872	0.5166	0.887	2.2073	640	115.00	106052.98	922.20	0.6572	61458.53	82.61	0.2819
168		175.00	143.42	31.58	110.00	126.37	16.37	40.55	0.4858	0.5183	0.887	2.2012	640	115.00	106052.98	922.20	0.6572	61214.63	82.28	0.2808
169		175.00	143.51	31.49	110.00	126.38	16.38	40.60	0.4845	0.5201	0.887	2.1951	640	115.00	106052.98	922.20	0.6572	60973.97	81.95	0.2797
170		175.00	143.59	31.41	110.00	126.39	16.39	40.64	0.4832	0.5217	0.887	2.1890	640	115.00	106052.98	922.20	0.6572	60731.41	81.63	0.2786
171		175.00	143.69	31.31	110.00	126.39	16.39	40.69	0.4817	0.5235	0.887	2.1824	640	115.00	106052.98	922.20	0.6572	60467.10	81.27	0.2774
172		175.00	143.78	31.22	110.00	126.40	16.40	40.74	0.4804	0.5253	0.887	2.1763	640	115.00	106052.98	922.20	0.6572	60228.47	80.95	0.2763
173		175.00	143.86	31.14	110.00	126.41	16.41	40.78	0.4790	0.5270	0.887	2.1703	640	115.00	106052.98	922.20	0.6572	59987.97	80.63	0.2752
174		175.00	143.96	31.04	110.00	126.42	16.42	40.83	0.4776	0.5290	0.887	2.1636	640	115.00	106052.98	922.20	0.6572	59728.40	80.28	0.2740
175		175.00	144.05	30.95	110.00	126.43	16.43	40.88	0.4761	0.5308	0.887	2.1570	640	115.00	106052.98	922.20	0.6572	59467.09	79.93	0.2728
176		175.00	144.14	30.86	110.00	126.44	16.44	40.93	0.4748	0.5327	0.887	2.1509	640	115.00	106052.98	922.20	0.6572	59231.14	79.61	0.2717
177		175.00	144.24	30.76	110.00	126.45	16.45	40.98	0.4733	0.5346	0.887	2.1443	640	115.00	106052.98	922.20	0.6572	58973.78	79.27	0.2705
178		175.00	144.33	30.67	110.00	126.46	16.46	41.03	0.4718	0.5366	0.887	2.1377	640	115.00	106052.98	922.20	0.6572	58717.17	78.92	0.2694
179		175.00	144.43	30.57	110.00	126.47	16.47	41.08	0.4704	0.5386	0.887	2.1310	640	115.00	106052.98	922.20	0.6572	58461.29	78.58	0.2682
180		175.00	144.53	30.47	110.00	126.48	16.48	41.13	0.4688	0.5408	0.887	2.1238	640	115.00	106052.98	922.20	0.6572	58184.32	78.20	0.2669
181		175.00	144.62	30.38	110.00	126.49	16.49	41.18	0.4673	0.5428	0.888	2.1172	640	115.00	106052.98	922.20	0.6572	57929.98	77.86	0.2657
182		175.00	144.72	30.28	110.00	126.50	16.50	41.23	0.4659	0.5449	0.888	2.1106	640	115.00	106052.98	922.20	0.6572	57676.37	77.52	0.2646
183		175.00	144.81	30.19	110.00	126.51	16.51	41.27	0.4644	0.5471	0.888	2.1040	640	115.00	106052.98	922.20	0.6572	57425.88	77.19	0.2634
184		175.00	144.92	30.08	110.00	126.52	16.52	41.33	0.4628	0.5493	0.888	2.0968	640	115.00	106052.98	922.20	0.6572	57152.12	76.82	0.2622
185		175.00	145.01	29.99	110.00	126.53	16.53	41.38	0.4613	0.5514	0.888	2.0901	640	115.00	106052.98	922.20	0.6572	56900.72	76.48	0.2610
186		175.00	145.12	29.88	110.00	126.55	16.55	41.43	0.4598	0.5537	0.888	2.0830	640	115.00	106052.98	922.20	0.6572	56630.93	76.12	0.2598
187		175.00	145.22	29.78	110.00	126.56	16.56	41.48	0.4582	0.5560	0.888	2.0758	640	115.00	106052.98	922.20	0.6572	56359.61	75.75	0.2585
188		175.00	145.32	29.68	110.00	126.57	16.57	41.53	0.4566	0.5583	0.888	2.0686	640	115.00	106052.98	922.20	0.6572	56089.13	75.39	0.2573
189		175.00	145.42	29.58	110.00	126.58	16.58	41.58	0.4551	0.5605	0.888	2.0620	640	115.00	106052.98	922.20	0.6572	55843.03	75.06	0.2562
190		175.00	145.52	29.48	110.00	126.59	16.59	41.63	0.4535	0.5629	0.888	2.0548	640	115.00	106052.98	922.20	0.6572	55574.11	74.70	0.2549
191		175.00	145.62	29.38	110.00	126.61	16.61	41.68	0.4519	0.5653	0.888	2.0476	640	115.00	106052.98	922.20	0.6572	55308.29	74.34	0.2537
192		175.00	145.73	29.27	110.00	126.62	16.62	41.74	0.4504	0.5676	0.888	2.0404	640	115.00	106052.98	922.20	0.6572	55040.98	73.98	0.2525
193		175.00	145.83	29.17	110.00	126.63	16.63	41.79	0.4488	0.5701	0.888	2.0332	640	115.00	106052.98	922.20	0.6572	54776.74	73.62	0.2513
194		175.00	145.93	29.07	110.00	126.64	16.64	41.84	0.4472	0.5725	0.888	2.0261	640	115.00	106052.98	922.20	0.6572	54511.03	73.27	0.2501
195		175.00	146.04	28.96	110.00	126.66	16.66	41.89	0.4456	0.5750	0.888	2.0189	640	115.00	106052.98	922.20	0.6572	54248.34	72.91	0.2489
196		175.00	146.14	28.86	110.00	126.67	16.67	41.94	0.4440	0.5774	0.888	2.0117	640	115.00	106052.98	922.20	0.6572	53984.20	72.56	0.2476
197		175.00	146.24	28.76	110.00	126.68	16.68	41.99	0.4424	0.5800	0.889	2.0045	640	115.00	106052.98	922.20	0.6572	53723.05	72.21	0.2464
198		175.00	146.34	28.66	110.00	126.69	16.69	42.04	0.4409	0.5824	0.889	1.9973	640	115.00	106052.98	922.20	0.6572	53460.47	71.86	0.2452
199		175.00	146.46	28.54	110.00	126.70	16.70	42.10	0.4391	0.5852	0.889	1.9896	640	115.00	106052.98	922.20	0.6572	53180.23	71.48	0.2440
200		175.00	146.56	28.44	110.00	126.71	16.71	42.15	0.4376	0.5877	0.889	1.9824	640	115.00	106052.98	922.20	0.6572	52919.23	71.13	0.2428

E-2 Heat Exchanger Efficiency Spreadsheets for Case Study 2

Description		LSWR - Tube side inlet (11TI031)	LSWR - Tube side outlet (11TI005)	Tube side temp different	Crude - Shell side inlet (11TI205)	Crude - Shell side outlet (11TI009)	Shell side temp different	Log mean Temp	Temp Efficiency Factor		LMTD Correction Factor	Duty	Shell Side Total Vol Flow Rate	Tube side Vol Flow Rate (11FC053)	Tube side Mass Flow Rate	Density Product	Sp Heat Capacity Product		Actual Heat Transfer Coefficient	Efficiency
Unit		°C	°C	°C	°C	°C	°C	°C	-	-	-	MW	m3/hr	m3/hr	kg/hr	kg/m3	W.hr/kg.°C	W/°C	W/m2.°C	
Parameter		$t_{H,in}$	$t_{H,out}$	delta t	$T_{C,in}$	$T_{C,out}$	delta T	LMTD	S	R	Ft	Q		V_{PROD}	G_{PROD}	ρ_{PROD}	$C_{P,PROD}$	UA	U_{ACTUAL}	U_{ACTUAL}/U_{DESIGN}
Design		172.0	130.0	42.0	121.0	130.0	9.0	21.42	0.82	0.21	0.87	2.65		104.10	96001.00	922.20	0.66	142473.12	293.00	-
Start Date	End Date																			
1		175.00	116.78	58.22	110.00	121.25	11.25	22.69	0.8957	0.1932	0.841	4.0581	640	115.00	106052.98	922.20	0.6572	212652.96	289.82	0.9755
2		175.00	116.98	58.02	110.00	121.20	11.20	22.92	0.8927	0.1931	0.842	4.0443	640	115.00	106052.98	922.20	0.6572	209300.00	281.32	0.9601
3		175.00	132.89	42.11	110.00	128.09	18.09	33.47	0.6479	0.4296	0.871	2.9354	640	115.00	106052.98	922.20	0.6572	100708.81	135.36	0.4620
4		175.00	132.99	42.01	110.00	128.08	18.08	33.54	0.6463	0.4303	0.871	2.9283	640	115.00	106052.98	922.20	0.6572	100221.08	134.71	0.4597
5		175.00	133.09	41.91	110.00	128.06	18.06	33.62	0.6447	0.4310	0.871	2.9211	640	115.00	106052.98	922.20	0.6572	99736.09	134.05	0.4575
6		175.00	133.19	41.81	110.00	128.05	18.05	33.68	0.6433	0.4317	0.871	2.9144	640	115.00	106052.98	922.20	0.6572	99289.30	133.45	0.4555
7		175.00	133.28	41.72	110.00	128.04	18.04	33.75	0.6418	0.4323	0.872	2.9078	640	115.00	106052.98	922.20	0.6572	98844.82	132.86	0.4534
8		175.00	147.13	27.87	110.00	128.87	18.87	41.47	0.4288	0.6769	0.887	1.9426	640	115.00	106052.98	922.20	0.6572	52806.86	70.98	0.2422
9		175.00	147.26	27.74	110.00	128.88	18.88	41.53	0.4268	0.6807	0.887	1.9338	640	115.00	106052.98	922.20	0.6572	52485.39	70.54	0.2408
10		175.00	147.38	27.62	110.00	128.90	18.90	41.59	0.4249	0.6844	0.887	1.9250	640	115.00	106052.98	922.20	0.6572	52165.05	70.11	0.2393
11		175.00	147.51	27.49	110.00	128.92	18.92	41.65	0.4229	0.6883	0.887	1.9161	640	115.00	106052.98	922.20	0.6572	51848.03	69.69	0.2378
12		175.00	147.64	27.36	110.00	128.94	18.94	41.71	0.4210	0.6921	0.887	1.9073	640	115.00	106052.98	922.20	0.6572	51529.89	69.26	0.2364
13		175.00	147.76	27.24	110.00	128.96	18.96	41.77	0.4190	0.6961	0.888	1.8984	640	115.00	106052.98	922.20	0.6572	51215.04	68.84	0.2349
14		175.00	147.89	27.11	110.00	128.98	18.98	41.82	0.4171	0.7002	0.888	1.8896	640	115.00	106052.98	922.20	0.6572	50901.24	68.42	0.2335
15		175.00	142.53	32.47	110.00	128.62	18.62	39.05	0.4995	0.5734	0.883	2.2631	640	115.00	106052.98	922.20	0.6572	65617.11	88.20	0.3010
16		175.00	142.63	32.37	110.00	128.61	18.61	39.11	0.4980	0.5748	0.883	2.2564	640	115.00	106052.98	922.20	0.6572	65319.16	87.79	0.2996
17		175.00	142.72	32.28	110.00	128.60	18.60	39.17	0.4966	0.5761	0.883	2.2498	640	115.00	106052.98	922.20	0.6572	65022.28	87.40	0.2983
18		175.00	142.82	32.18	110.00	128.59	18.59	39.22	0.4951	0.5775	0.884	2.2432	640	115.00	106052.98	922.20	0.6572	64726.47	87.00	0.2969
19		175.00	142.90	32.10	110.00	128.58	18.58	39.28	0.4938	0.5788	0.884	2.2371	640	115.00	106052.98	922.20	0.6572	64455.51	86.63	0.2957
20		175.00	143.00	32.00	110.00	128.57	18.57	39.34	0.4923	0.5802	0.884	2.2305	640	115.00	106052.98	922.20	0.6572	64161.71	86.24	0.2943
21		175.00	143.09	31.91	110.00	128.56	18.56	39.39	0.4910	0.5814	0.884	2.2244	640	115.00	106052.98	922.20	0.6572	63892.60	85.88	0.2931
22		175.00	128.53	46.47	110.00	127.07	17.07	30.94	0.7149	0.3675	0.864	3.2388	640	115.00	106052.98	922.20	0.6572	121162.12	162.85	0.5558
23		175.00	128.78	46.22	110.00	127.06	17.06	31.12	0.7111	0.3691	0.865	3.2216	640	115.00	106052.98	922.20	0.6572	119741.56	160.94	0.5493
24		175.00	129.03	45.97	110.00	127.05	17.05	31.29	0.7073	0.3709	0.865	3.2045	640	115.00	106052.98	922.20	0.6572	118349.90	159.07	0.5429
25		175.00	129.26	45.74	110.00	127.04	17.04	31.46	0.7036	0.3725	0.866	3.1879	640	115.00	106052.98	922.20	0.6572	117016.97	157.28	0.5368
26		175.00	129.50	45.50	110.00	127.03	17.03	31.63	0.7000	0.3742	0.867	3.1714	640	115.00	106052.98	922.20	0.6572	115710.10	155.52	0.5308
27		175.00	129.74	45.26	110.00	127.01	17.01	31.80	0.6963	0.3759	0.867	3.1548	640	115.00	106052.98	922.20	0.6572	114416.42	153.79	0.5249
28		175.00	129.98	45.02	110.00	127.00	17.00	31.97	0.6927	0.3776	0.868	3.1382	640	115.00	106052.98	922.20	0.6572	113147.49	152.08	0.5190
29		175.00	131.94	43.06	110.00	126.75	16.75	33.39	0.6624	0.3890	0.872	3.0012	640	115.00	106052.98	922.20	0.6572	103060.97	138.52	0.4728
30		175.00	132.18	42.82	110.00	126.76	16.76	33.54	0.6588	0.3913	0.873	2.9846	640	115.00	106052.98	922.20	0.6572	101972.08	137.06	0.4678
31		175.00	132.42	42.58	110.00	126.76	16.76	33.69	0.6551	0.3937	0.873	2.9680	640	115.00	106052.98	922.20	0.6572	100896.60	135.61	0.4628
32		175.00	132.66	42.34	110.00	126.77	16.77	33.85	0.6514	0.3961	0.873	2.9515	640	115.00	106052.98	922.20	0.6572	99839.11	134.19	0.4580
33		175.00	132.89	42.11	110.00	126.78	16.78	34.00	0.6478	0.3985	0.874	2.9349	640	115.00	106052.98	922.20	0.6572	98789.42	132.78	0.4532
34		175.00	133.13	41.87	110.00	126.79	16.79	34.15	0.6441	0.4010	0.874	2.9183	640	115.00	106052.98	922.20	0.6572	97756.98	131.39	0.4484
35		175.00	133.37	41.63	110.00	126.80	16.80	34.30	0.6405	0.4036	0.875	2.9017	640	115.00	106052.98	922.20	0.6572	96736.60	130.02	0.4438
36		175.00	135.41	39.59	110.00	127.78	17.78	35.20	0.6090	0.4491	0.876	2.7592	640	115.00	106052.98	922.20	0.6572	89507.86	120.31	0.4106
37		175.00	135.68	39.32	110.00	127.80	17.80	35.35	0.6050	0.4526	0.876	2.7410	640	115.00	106052.98	922.20	0.6572	88494.30	118.94	0.4060
38		175.00	135.93	39.07	110.00	127.82	17.82	35.50	0.6011	0.4560	0.876	2.7233	640	115.00	106052.98	922.20	0.6572	87523.20	117.64	0.4015
39		175.00	136.19	38.81	110.00	127.84	17.84	35.65	0.5971	0.4597	0.877	2.7051	640	115.00	106052.98	922.20	0.6572	86536.17	116.31	0.3970
40		175.00	136.44	38.56	110.00	127.86	17.86	35.80	0.5932	0.4633	0.877	2.6874	640	115.00	106052.98	922.20	0.6572	85586.24	115.04	0.3926
41		175.00	136.71	38.29	110.00	127.89	17.89	35.95	0.5891	0.4671	0.877	2.6691	640	115.00	106052.98	922.20	0.6572	84620.46	113.74	0.3882
42		175.00	136.95	38.05	110.00	127.91	17.91	36.09	0.5854	0.4707	0.878	2.6520	640	115.00	106052.98	922.20	0.6572	83720.44	112.53	0.3841
43		175.00	135.22	39.78	110.00	126.89	16.89	35.44	0.6121	0.4246	0.877	2.7730	640	115.00	106052.98	922.20	0.6572	89204.71	119.90	0.4092

44		175.00	135.44	39.56	110.00	126.90	16.90	35.57	0.6086	0.4273	0.877	2.7575	640	115.00	106052.98	922.20	0.6572	88345.47	118.74	0.4053
45		175.00	135.67	39.33	110.00	126.92	16.92	35.71	0.6051	0.4301	0.878	2.7415	640	115.00	106052.98	922.20	0.6572	87463.77	117.56	0.4012
46		175.00	135.89	39.11	110.00	126.93	16.93	35.84	0.6017	0.4329	0.878	2.7261	640	115.00	106052.98	922.20	0.6572	86621.40	116.43	0.3974
47		175.00	136.12	38.88	110.00	126.95	16.95	35.98	0.5982	0.4358	0.878	2.7100	640	115.00	106052.98	922.20	0.6572	85756.84	115.26	0.3934
48		175.00	136.34	38.66	110.00	126.96	16.96	36.11	0.5947	0.4387	0.879	2.6946	640	115.00	106052.98	922.20	0.6572	84930.67	114.15	0.3896
49		175.00	136.56	38.44	110.00	126.97	16.97	36.24	0.5913	0.4416	0.879	2.6791	640	115.00	106052.98	922.20	0.6572	84112.25	113.05	0.3859
50		175.00	136.14	38.86	110.00	126.53	16.53	36.17	0.5978	0.4254	0.879	2.7084	640	115.00	106052.98	922.20	0.6572	85189.40	114.50	0.3908
51		175.00	136.33	38.67	110.00	126.53	16.53	36.28	0.5950	0.4274	0.879	2.6957	640	115.00	106052.98	922.20	0.6572	84503.00	113.58	0.3876
52		175.00	136.51	38.49	110.00	126.53	16.53	36.39	0.5922	0.4295	0.880	2.6830	640	115.00	106052.98	922.20	0.6572	83822.03	112.66	0.3845
53		175.00	136.68	38.32	110.00	126.53	16.53	36.50	0.5895	0.4314	0.880	2.6708	640	115.00	106052.98	922.20	0.6572	83175.67	111.80	0.3816
54		175.00	136.86	38.14	110.00	126.53	16.53	36.61	0.5867	0.4335	0.880	2.6581	640	115.00	106052.98	922.20	0.6572	82505.10	110.89	0.3785
55		175.00	137.04	37.96	110.00	126.53	16.53	36.72	0.5840	0.4356	0.880	2.6459	640	115.00	106052.98	922.20	0.6572	81872.28	110.04	0.3756
56		175.00	137.21	37.79	110.00	126.53	16.53	36.82	0.5813	0.4376	0.880	2.6338	640	115.00	106052.98	922.20	0.6572	81240.37	109.19	0.3727
57		175.00	138.54	36.46	110.00	127.06	17.06	37.40	0.5610	0.4680	0.881	2.5415	640	115.00	106052.98	922.20	0.6572	77119.30	103.65	0.3538
58		175.00	138.74	36.26	110.00	127.08	17.08	37.52	0.5578	0.4710	0.881	2.5272	640	115.00	106052.98	922.20	0.6572	76424.95	102.72	0.3506
59		175.00	138.94	36.06	110.00	127.09	17.09	37.63	0.5547	0.4741	0.882	2.5133	640	115.00	106052.98	922.20	0.6572	75766.40	101.84	0.3476
60		175.00	139.15	35.85	110.00	127.11	17.11	37.75	0.5516	0.4773	0.882	2.4990	640	115.00	106052.98	922.20	0.6572	75086.03	100.92	0.3444
61		175.00	139.35	35.65	110.00	127.13	17.13	37.86	0.5485	0.4803	0.882	2.4852	640	115.00	106052.98	922.20	0.6572	74434.06	100.05	0.3415
62		175.00	139.54	35.46	110.00	127.14	17.14	37.97	0.5455	0.4835	0.882	2.4714	640	115.00	106052.98	922.20	0.6572	73790.22	99.18	0.3385
63		175.00	139.74	35.26	110.00	127.16	17.16	38.08	0.5424	0.4867	0.882	2.4575	640	115.00	106052.98	922.20	0.6572	73151.06	98.32	0.3356
64		175.00	139.27	35.73	110.00	127.08	17.08	37.84	0.5496	0.4780	0.882	2.4901	640	115.00	106052.98	922.20	0.6572	74626.11	100.30	0.3423
65		175.00	139.42	35.58	110.00	127.07	17.07	37.92	0.5474	0.4798	0.882	2.4802	640	115.00	106052.98	922.20	0.6572	74145.87	99.66	0.3401
66		175.00	139.56	35.44	110.00	127.07	17.07	38.01	0.5452	0.4818	0.882	2.4703	640	115.00	106052.98	922.20	0.6572	73671.62	99.02	0.3380
67		175.00	139.70	35.30	110.00	127.07	17.07	38.09	0.5430	0.4836	0.882	2.4603	640	115.00	106052.98	922.20	0.6572	73196.72	98.38	0.3358
68		175.00	139.85	35.15	110.00	127.07	17.07	38.18	0.5408	0.4855	0.883	2.4504	640	115.00	106052.98	922.20	0.6572	72724.44	97.75	0.3336
69		175.00	139.98	35.02	110.00	127.07	17.07	38.26	0.5388	0.4873	0.883	2.4410	640	115.00	106052.98	922.20	0.6572	72283.84	97.16	0.3316
70		175.00	140.99	34.01	110.00	127.38	17.38	38.72	0.5232	0.5109	0.883	2.3703	640	115.00	106052.98	922.20	0.6572	69308.52	93.16	0.3179
71		175.00	141.19	33.81	110.00	127.40	17.40	38.82	0.5201	0.5146	0.883	2.3564	640	115.00	106052.98	922.20	0.6572	68703.65	92.34	0.3152
72		175.00	141.39	33.61	110.00	127.42	17.42	38.93	0.5171	0.5183	0.884	2.3426	640	115.00	106052.98	922.20	0.6572	68105.88	91.54	0.3124
73		175.00	141.58	33.42	110.00	127.44	17.44	39.03	0.5141	0.5219	0.884	2.3294	640	115.00	106052.98	922.20	0.6572	67533.63	90.77	0.3098
74		175.00	141.78	33.22	110.00	127.47	17.47	39.13	0.5111	0.5257	0.884	2.3156	640	115.00	106052.98	922.20	0.6572	66943.63	89.98	0.3071
75		175.00	141.97	33.03	110.00	127.49	17.49	39.23	0.5082	0.5294	0.884	2.3023	640	115.00	106052.98	922.20	0.6572	66378.78	89.22	0.3045
76		175.00	142.16	32.84	110.00	127.51	17.51	39.33	0.5052	0.5332	0.884	2.2890	640	115.00	106052.98	922.20	0.6572	65820.38	88.47	0.3019
77		175.00	141.03	33.97	110.00	127.05	17.05	38.88	0.5226	0.5019	0.884	2.3675	640	115.00	106052.98	922.20	0.6572	68894.67	92.60	0.3160
78		175.00	141.16	33.84	110.00	127.04	17.04	38.96	0.5206	0.5036	0.884	2.3587	640	115.00	106052.98	922.20	0.6572	68495.06	92.06	0.3142
79		175.00	141.28	33.72	110.00	127.04	17.04	39.03	0.5188	0.5053	0.884	2.3504	640	115.00	106052.98	922.20	0.6572	68121.95	91.56	0.3125
80		175.00	141.40	33.60	110.00	127.04	17.04	39.10	0.5169	0.5070	0.884	2.3421	640	115.00	106052.98	922.20	0.6572	67750.48	91.06	0.3108
81		175.00	141.53	33.47	110.00	127.04	17.04	39.17	0.5150	0.5089	0.884	2.3332	640	115.00	106052.98	922.20	0.6572	67359.17	90.54	0.3090
82		175.00	141.64	33.36	110.00	127.03	17.03	39.24	0.5133	0.5105	0.884	2.3255	640	115.00	106052.98	922.20	0.6572	67015.31	90.07	0.3074
83		175.00	141.76	33.24	110.00	127.03	17.03	39.31	0.5115	0.5122	0.885	2.3172	640	115.00	106052.98	922.20	0.6572	66648.64	89.58	0.3057
84		175.00	143.67	31.33	110.00	127.60	17.60	40.14	0.4821	0.5616	0.886	2.1841	640	115.00	106052.98	922.20	0.6572	61437.71	82.58	0.2818
85		175.00	143.84	31.16	110.00	127.62	17.62	40.23	0.4794	0.5654	0.886	2.1719	640	115.00	106052.98	922.20	0.6572	60952.31	81.93	0.2796
86		175.00	144.01	30.99	110.00	127.64	17.64	40.32	0.4767	0.5693	0.886	2.1598	640	115.00	106052.98	922.20	0.6572	60472.12	81.28	0.2774
87		175.00	144.19	30.81	110.00	127.66	17.66	40.41	0.4740	0.5732	0.886	2.1476	640	115.00	106052.98	922.20	0.6572	59991.90	80.63	0.2752
88		175.00	144.36	30.64	110.00	127.69	17.69	40.49	0.4715	0.5771	0.886	2.1360	640	115.00	106052.98	922.20	0.6572	59539.14	80.03	0.2731
89		175.00	144.52	30.48	110.00	127.71	17.71	40.57	0.4689	0.5811	0.886	2.1244	640	115.00	106052.98	922.20	0.6572	59088.63	79.42	0.2711
90		175.00	144.69	30.31	110.00	127.73	17.73	40.65	0.4663	0.5850	0.886	2.1128	640	115.00	106052.98	922.20	0.6572	58637.85	78.81	0.2690
91		175.00	146.50	28.50	110.00	128.68	18.68	41.21	0.4385	0.6553	0.887	1.9868	640	115.00	106052.98	922.20	0.6572	54363.78	73.07	0.2494
92		175.00	146.62	28.38	110.00	128.69	18.69	41.28	0.4366	0.6585	0.887	1.9780	640	115.00	106052.98	922.20	0.6572	54030.10	72.62	0.2479
93		175.00	146.76	28.24	110.00	128.69	18.69	41.35	0.4345	0.6618	0.887	1.9686	640	115.00	106052.98	922.20	0.6572	53674.37	72.14	0.2462
94		175.00	146.88	28.12	110.00	128.70	18.70	41.41	0.4326	0.6650	0.887	1.9598	640	115.00	106052.98	922.20	0.6572	53343.30	71.70	0.2447
95		175.00	147.00	28.00	110.00	128.70	18.70	41.48	0.4307	0.6679	0.887	1.9515	640	115.00	106052.98	922.20	0.6572	53032.07	71.28	0.2433
96		175.00	147.13	27.87	110.00	128.71	18.71	41.54	0.4288	0.6712	0.887	1.9426	640	115.00	106052.98	922.20	0.6572	52703.42	70.84	0.2418
97		175.00	147.25	27.75	110.00	128.71	18.71	41.61	0.4270	0.6742	0.887	1.9343	640	115.00	106052.98	922.20	0.6572	52394.47	70.42	0.2404

98		175.00	139.14	35.86	110.00	126.69	16.69	37.92	0.5517	0.4655	0.882	2.4995	640	115.00	106052.98	922.20	0.6572	74706.72	100.41	0.3427
99		175.00	139.19	35.81	110.00	126.68	16.68	37.95	0.5510	0.4657	0.882	2.4962	640	115.00	106052.98	922.20	0.6572	74534.34	100.18	0.3419
100		175.00	139.23	35.77	110.00	126.67	16.67	37.99	0.5502	0.4660	0.882	2.4929	640	115.00	106052.98	922.20	0.6572	74362.34	99.95	0.3411
101		175.00	139.28	35.72	110.00	126.66	16.66	38.02	0.5495	0.4663	0.883	2.4896	640	115.00	106052.98	922.20	0.6572	74194.02	99.72	0.3404
102		175.00	139.33	35.67	110.00	126.64	16.64	38.05	0.5488	0.4665	0.883	2.4863	640	115.00	106052.98	922.20	0.6572	74022.75	99.49	0.3396
103		175.00	139.38	35.62	110.00	126.63	16.63	38.09	0.5480	0.4668	0.883	2.4830	640	115.00	106052.98	922.20	0.6572	73851.85	99.26	0.3388
104		175.00	139.42	35.58	110.00	126.62	16.62	38.12	0.5473	0.4671	0.883	2.4796	640	115.00	106052.98	922.20	0.6572	73684.59	99.04	0.3380
105		175.00	148.14	26.86	110.00	128.73	18.73	42.07	0.4133	0.6972	0.888	1.8725	640	115.00	106052.98	922.20	0.6572	50116.58	67.36	0.2299
106		175.00	148.24	26.76	110.00	128.73	18.73	42.13	0.4117	0.7000	0.888	1.8653	640	115.00	106052.98	922.20	0.6572	49856.92	67.01	0.2287
107		175.00	148.33	26.67	110.00	128.73	18.73	42.18	0.4102	0.7025	0.888	1.8587	640	115.00	106052.98	922.20	0.6572	49615.99	66.69	0.2276
108		175.00	148.43	26.57	110.00	128.73	18.73	42.23	0.4088	0.7050	0.888	1.8520	640	115.00	106052.98	922.20	0.6572	49375.73	66.37	0.2265
109		175.00	148.52	26.48	110.00	128.73	18.73	42.28	0.4073	0.7075	0.888	1.8454	640	115.00	106052.98	922.20	0.6572	49136.15	66.04	0.2254
110		175.00	148.62	26.38	110.00	128.73	18.73	42.33	0.4059	0.7101	0.888	1.8388	640	115.00	106052.98	922.20	0.6572	48897.24	65.72	0.2243
111		175.00	148.71	26.29	110.00	128.73	18.73	42.38	0.4044	0.7126	0.888	1.8321	640	115.00	106052.98	922.20	0.6572	48659.00	65.40	0.2232
112		175.00	148.44	26.56	110.00	128.49	18.49	42.35	0.4087	0.6959	0.888	1.8515	640	115.00	106052.98	922.20	0.6572	49208.99	66.14	0.2257
113		175.00	148.54	26.46	110.00	128.50	18.50	42.40	0.4071	0.6990	0.889	1.8443	640	115.00	106052.98	922.20	0.6572	48956.58	65.80	0.2246
114		175.00	148.65	26.35	110.00	128.50	18.50	42.45	0.4054	0.7022	0.889	1.8366	640	115.00	106052.98	922.20	0.6572	48683.05	65.43	0.2233
115		175.00	148.75	26.25	110.00	128.51	18.51	42.50	0.4038	0.7053	0.889	1.8294	640	115.00	106052.98	922.20	0.6572	48430.10	65.09	0.2222
116		175.00	148.86	26.14	110.00	128.52	18.52	42.56	0.4022	0.7083	0.889	1.8222	640	115.00	106052.98	922.20	0.6572	48177.88	64.76	0.2210
117		175.00	148.95	26.05	110.00	128.52	18.52	42.60	0.4007	0.7112	0.889	1.8156	640	115.00	106052.98	922.20	0.6572	47946.00	64.44	0.2199
118		175.00	149.05	25.95	110.00	128.53	18.53	42.65	0.3993	0.7140	0.889	1.8089	640	115.00	106052.98	922.20	0.6572	47714.73	64.13	0.2189
119		175.00	140.49	34.51	110.00	126.49	16.49	38.80	0.5310	0.4778	0.884	2.4056	640	115.00	106052.98	922.20	0.6572	70128.70	94.26	0.3217
120		175.00	140.54	34.46	110.00	126.48	16.48	38.84	0.5301	0.4783	0.884	2.4017	640	115.00	106052.98	922.20	0.6572	69946.89	94.01	0.3209
121		175.00	140.61	34.39	110.00	126.48	16.48	38.88	0.5291	0.4791	0.884	2.3973	640	115.00	106052.98	922.20	0.6572	69743.51	93.74	0.3199
122		175.00	140.66	34.34	110.00	126.48	16.48	38.91	0.5283	0.4798	0.884	2.3935	640	115.00	106052.98	922.20	0.6572	69565.57	93.50	0.3191
123		175.00	140.72	34.28	110.00	126.47	16.47	38.95	0.5273	0.4805	0.884	2.3890	640	115.00	106052.98	922.20	0.6572	69360.09	93.23	0.3182
124		175.00	140.79	34.21	110.00	126.46	16.46	38.99	0.5263	0.4813	0.884	2.3846	640	115.00	106052.98	922.20	0.6572	69158.13	92.95	0.3173
125		175.00	140.85	34.15	110.00	126.46	16.46	39.03	0.5254	0.4821	0.884	2.3802	640	115.00	106052.98	922.20	0.6572	68956.65	92.68	0.3163
126		175.00	140.53	34.47	110.00	126.40	16.40	38.87	0.5302	0.4757	0.884	2.4023	640	115.00	106052.98	922.20	0.6572	69895.75	93.95	0.3206
127		175.00	140.59	34.41	110.00	126.39	16.39	38.91	0.5294	0.4762	0.884	2.3984	640	115.00	106052.98	922.20	0.6572	69711.51	93.70	0.3198
128		175.00	140.65	34.35	110.00	126.38	16.38	38.94	0.5285	0.4767	0.884	2.3946	640	115.00	106052.98	922.20	0.6572	69530.72	93.46	0.3190
129		175.00	140.70	34.30	110.00	126.37	16.37	38.98	0.5277	0.4773	0.884	2.3907	640	115.00	106052.98	922.20	0.6572	69350.32	93.21	0.3181
130		175.00	140.76	34.24	110.00	126.36	16.36	39.02	0.5268	0.4779	0.884	2.3868	640	115.00	106052.98	922.20	0.6572	69170.31	92.97	0.3173
131		175.00	140.81	34.19	110.00	126.36	16.36	39.05	0.5260	0.4786	0.884	2.3830	640	115.00	106052.98	922.20	0.6572	68993.70	92.73	0.3165
132		175.00	140.87	34.13	110.00	126.35	16.35	39.09	0.5251	0.4791	0.885	2.3791	640	115.00	106052.98	922.20	0.6572	68814.47	92.49	0.3157
133		175.00	146.06	28.94	110.00	126.79	16.79	41.84	0.4452	0.5803	0.888	2.0172	640	115.00	106052.98	922.20	0.6572	54275.37	72.95	0.2490
134		175.00	146.11	28.89	110.00	126.79	16.79	41.87	0.4444	0.5811	0.888	2.0134	640	115.00	106052.98	922.20	0.6572	54124.78	72.75	0.2483
135		175.00	146.17	28.83	110.00	126.78	16.78	41.91	0.4435	0.5821	0.888	2.0095	640	115.00	106052.98	922.20	0.6572	53976.70	72.55	0.2476
136		175.00	146.23	28.77	110.00	126.78	16.78	41.94	0.4427	0.5830	0.888	2.0056	640	115.00	106052.98	922.20	0.6572	53826.67	72.35	0.2469
137		175.00	146.27	28.73	110.00	126.77	16.77	41.97	0.4419	0.5839	0.888	2.0023	640	115.00	106052.98	922.20	0.6572	53699.87	72.18	0.2463
138		175.00	146.33	28.67	110.00	126.77	16.77	42.00	0.4411	0.5848	0.889	1.9984	640	115.00	106052.98	922.20	0.6572	53550.35	71.98	0.2457
139		175.00	146.38	28.62	110.00	126.76	16.76	42.03	0.4404	0.5855	0.889	1.9951	640	115.00	106052.98	922.20	0.6572	53421.78	71.80	0.2451
140		175.00	150.70	24.30	110.00	128.61	18.61	43.48	0.3739	0.7656	0.890	1.6940	640	115.00	106052.98	922.20	0.6572	43776.23	58.84	0.2008
141		175.00	150.74	24.26	110.00	128.60	18.60	43.51	0.3732	0.7668	0.890	1.6907	640	115.00	106052.98	922.20	0.6572	43660.49	58.68	0.2003
142		175.00	150.79	24.21	110.00	128.59	18.59	43.54	0.3724	0.7680	0.890	1.6874	640	115.00	106052.98	922.20	0.6572	43544.92	58.53	0.1998
143		175.00	150.84	24.16	110.00	128.59	18.59	43.57	0.3717	0.7693	0.890	1.6841	640	115.00	106052.98	922.20	0.6572	43429.51	58.37	0.1992
144		175.00	150.89	24.11	110.00	128.58	18.58	43.59	0.3710	0.7705	0.890	1.6808	640	115.00	106052.98	922.20	0.6572	43314.28	58.22	0.1987
145		175.00	150.93	24.07	110.00	128.57	18.57	43.62	0.3702	0.7716	0.890	1.6774	640	115.00	106052.98	922.20	0.6572	43197.44	58.06	0.1982
146		175.00	150.97	24.03	110.00	128.56	18.56	43.65	0.3696	0.7726	0.890	1.6747	640	115.00	106052.98	922.20	0.6572	43101.10	57.93	0.1977
147		175.00	154.12	20.88	110.00	129.25	19.25	44.93	0.3212	0.9218	0.892	1.4553	640	115.00	106052.98	922.20	0.6572	36326.23	48.83	0.1666
148		175.00	154.11	20.89	110.00	129.24	19.24	44.93	0.3213	0.9210	0.892	1.4559	640	115.00	106052.98	922.20	0.6572	36339.04	48.84	0.1667
149		175.00	154.11	20.89	110.00	129.23	19.23	44.94	0.3213	0.9205	0.892	1.4559	640	115.00	106052.98	922.20	0.6572	36334.63	48.84	0.1667
150		175.00	154.11	20.89	110.00	129.21	19.21	44.94	0.3213	0.9198	0.892	1.4559	640	115.00	106052.98	922.20	0.6572	36328.76	48.83	0.1667
151		175.00	154.10	20.90	110.00	129.20	19.20	44.95	0.3215	0.9190	0.892	1.4564	640	115.00	106052.98	922.20	0.6572	36341.57	48.85	0.1667

152		175.00	154.10	20.90	110.00	129.19	19.19	44.95	0.3215	0.9185	0.892	1.4564	640	115.00	106052.98	922.20	0.6572	36337.16	48.84	0.1667
153		175.00	154.10	20.90	110.00	129.18	19.18	44.95	0.3216	0.9175	0.892	1.4570	640	115.00	106052.98	922.20	0.6572	36348.51	48.86	0.1667
154		175.00	148.79	26.21	110.00	127.28	17.28	43.10	0.4033	0.6591	0.890	1.8272	640	115.00	106052.98	922.20	0.6572	47646.98	64.04	0.2186
155		175.00	148.80	26.20	110.00	127.27	17.27	43.11	0.4030	0.6593	0.890	1.8261	640	115.00	106052.98	922.20	0.6572	47604.35	63.98	0.2184
156		175.00	148.83	26.17	110.00	127.26	17.26	43.13	0.4027	0.6595	0.890	1.8244	640	115.00	106052.98	922.20	0.6572	47540.44	63.90	0.2181
157		175.00	148.84	26.16	110.00	127.25	17.25	43.14	0.4024	0.6596	0.890	1.8233	640	115.00	106052.98	922.20	0.6572	47497.87	63.84	0.2179
158		175.00	148.86	26.14	110.00	127.25	17.25	43.15	0.4022	0.6597	0.890	1.8222	640	115.00	106052.98	922.20	0.6572	47455.33	63.78	0.2177
159		175.00	148.87	26.13	110.00	127.24	17.24	43.17	0.4020	0.6597	0.890	1.8211	640	115.00	106052.98	922.20	0.6572	47410.88	63.72	0.2175
160		175.00	148.90	26.10	110.00	127.23	17.23	43.18	0.4016	0.6601	0.890	1.8194	640	115.00	106052.98	922.20	0.6572	47349.08	63.64	0.2172
161		175.00	151.76	23.24	110.00	128.44	18.44	44.12	0.3576	0.7934	0.891	1.6200	640	115.00	106052.98	922.20	0.6572	41225.44	55.41	0.1891
162		175.00	151.82	23.18	110.00	128.44	18.44	44.15	0.3566	0.7958	0.891	1.6156	640	115.00	106052.98	922.20	0.6572	41082.20	55.22	0.1885
163		175.00	151.88	23.12	110.00	128.45	18.45	44.17	0.3557	0.7980	0.891	1.6117	640	115.00	106052.98	922.20	0.6572	40958.93	55.05	0.1879
164		175.00	151.94	23.06	110.00	128.45	18.45	44.20	0.3548	0.8003	0.891	1.6073	640	115.00	106052.98	922.20	0.6572	40816.12	54.86	0.1872
165		175.00	152.00	23.00	110.00	128.46	18.46	44.23	0.3539	0.8024	0.891	1.6034	640	115.00	106052.98	922.20	0.6572	40691.55	54.69	0.1867
166		175.00	152.05	22.95	110.00	128.46	18.46	44.26	0.3531	0.8045	0.891	1.5995	640	115.00	106052.98	922.20	0.6572	40567.17	54.53	0.1861
167		175.00	152.11	22.89	110.00	128.47	18.47	44.28	0.3522	0.8066	0.891	1.5957	640	115.00	106052.98	922.20	0.6572	40442.96	54.36	0.1855
168		175.00	151.61	23.39	110.00	128.22	18.22	44.14	0.3599	0.7789	0.891	1.6305	640	115.00	106052.98	922.20	0.6572	41462.83	55.73	0.1902
169		175.00	151.68	23.32	110.00	128.23	18.23	44.18	0.3588	0.7817	0.891	1.6255	640	115.00	106052.98	922.20	0.6572	41304.66	55.52	0.1895
170		175.00	151.75	23.25	110.00	128.24	18.24	44.21	0.3577	0.7845	0.891	1.6205	640	115.00	106052.98	922.20	0.6572	41146.76	55.30	0.1888
171		175.00	151.81	23.19	110.00	128.25	18.25	44.24	0.3567	0.7871	0.891	1.6161	640	115.00	106052.98	922.20	0.6572	41007.19	55.12	0.1881
172		175.00	151.89	23.11	110.00	128.26	18.26	44.27	0.3556	0.7899	0.891	1.6111	640	115.00	106052.98	922.20	0.6572	40848.15	54.90	0.1874
173		175.00	151.95	23.05	110.00	128.27	18.27	44.30	0.3546	0.7925	0.891	1.6067	640	115.00	106052.98	922.20	0.6572	40709.02	54.72	0.1867
174		175.00	152.02	22.98	110.00	128.27	18.27	44.33	0.3535	0.7952	0.891	1.6018	640	115.00	106052.98	922.20	0.6572	40550.50	54.50	0.1860
175		175.00	152.92	22.08	110.00	132.97	22.97	42.47	0.3396	1.0405	0.888	1.5388	640	115.00	106052.98	922.20	0.6572	40789.41	54.82	0.1871
176		175.00	152.96	22.04	110.00	132.90	22.90	42.53	0.3392	1.0389	0.888	1.5366	640	115.00	106052.98	922.20	0.6572	40678.64	54.68	0.1866
177		175.00	152.99	22.01	110.00	132.83	22.83	42.58	0.3387	1.0371	0.888	1.5343	640	115.00	106052.98	922.20	0.6572	40566.39	54.52	0.1861
178		175.00	153.01	21.99	110.00	132.76	22.76	42.62	0.3383	1.0351	0.888	1.5327	640	115.00	106052.98	922.20	0.6572	40474.86	54.40	0.1857
179		175.00	153.04	21.96	110.00	132.69	22.69	42.68	0.3378	1.0333	0.888	1.5305	640	115.00	106052.98	922.20	0.6572	40363.20	54.25	0.1852
180		175.00	153.07	21.93	110.00	132.62	22.62	42.73	0.3373	1.0316	0.889	1.5283	640	115.00	106052.98	922.20	0.6572	40253.61	54.10	0.1847
181		175.00	153.10	21.90	110.00	132.55	22.55	42.78	0.3370	1.0294	0.889	1.5266	640	115.00	106052.98	922.20	0.6572	40161.09	53.98	0.1842
182		175.00	148.08	26.92	110.00	126.52	16.52	43.07	0.4141	0.6137	0.890	1.8763	640	115.00	106052.98	922.20	0.6572	48952.11	65.80	0.2246
183		175.00	148.10	26.90	110.00	126.51	16.51	43.09	0.4138	0.6140	0.890	1.8747	640	115.00	106052.98	922.20	0.6572	48889.45	65.71	0.2243
184		175.00	148.14	26.86	110.00	126.51	16.51	43.11	0.4133	0.6144	0.890	1.8725	640	115.00	106052.98	922.20	0.6572	48807.29	65.60	0.2239
185		175.00	148.17	26.83	110.00	126.50	16.50	43.13	0.4128	0.6149	0.890	1.8703	640	115.00	106052.98	922.20	0.6572	48725.21	65.49	0.2235
186		175.00	148.20	26.80	110.00	126.49	16.49	43.15	0.4123	0.6154	0.890	1.8680	640	115.00	106052.98	922.20	0.6572	48643.23	65.38	0.2231
187		175.00	148.23	26.77	110.00	126.49	16.49	43.17	0.4118	0.6158	0.890	1.8658	640	115.00	106052.98	922.20	0.6572	48561.33	65.27	0.2228
188		175.00	148.26	26.74	110.00	126.48	16.48	43.19	0.4113	0.6163	0.890	1.8636	640	115.00	106052.98	922.20	0.6572	48479.52	65.16	0.2224
189		175.00	152.19	22.81	110.00	128.13	18.13	44.49	0.3509	0.7951	0.891	1.5896	640	115.00	106052.98	922.20	0.6572	40090.02	53.88	0.1839
190		175.00	152.21	22.79	110.00	128.12	18.12	44.50	0.3506	0.7951	0.891	1.5885	640	115.00	106052.98	922.20	0.6572	40047.90	53.83	0.1837
191		175.00	152.23	22.77	110.00	128.11	18.11	44.52	0.3502	0.7954	0.891	1.5868	640	115.00	106052.98	922.20	0.6572	39989.59	53.75	0.1834
192		175.00	152.25	22.75	110.00	128.09	18.09	44.54	0.3500	0.7954	0.891	1.5857	640	115.00	106052.98	922.20	0.6572	39947.54	53.69	0.1833
193		175.00	152.27	22.73	110.00	128.08	18.08	44.55	0.3498	0.7955	0.891	1.5846	640	115.00	106052.98	922.20	0.6572	39907.13	53.64	0.1831
194		175.00	152.28	22.72	110.00	128.07	18.07	44.57	0.3495	0.7954	0.891	1.5835	640	115.00	106052.98	922.20	0.6572	39865.13	53.58	0.1829
195		175.00	152.30	22.70	110.00	128.06	18.06	44.58	0.3493	0.7955	0.891	1.5824	640	115.00	106052.98	922.20	0.6572	39824.77	53.53	0.1827
196		175.00	146.14	28.86	110.00	126.66	16.66	41.94	0.4440	0.5773	0.888	2.0117	640	115.00	106052.98	922.20	0.6572	53981.97	72.56	0.2476
197		175.00	146.24	28.76	110.00	126.68	16.68	41.99	0.4424	0.5799	0.889	2.0045	640	115.00	106052.98	922.20	0.6572	53720.84	72.21	0.2464
198		175.00	146.34	28.66	110.00	126.69	16.69	42.05	0.4409	0.5823	0.889	1.9973	640	115.00	106052.98	922.20	0.6572	53458.26	71.85	0.2452
199		175.00	146.46	28.54	110.00	126.70	16.70	42.10	0.4391	0.5851	0.889	1.9896	640	115.00	106052.98	922.20	0.6572	53178.04	71.48	0.2439
200		175.00	146.56	28.44	110.00	126.71	16.71	42.15	0.4376	0.5875	0.889	1.9824	640	115.00	106052.98	922.20	0.6572	52917.06	71.13	0.2427