



**ANALYZING A METHOD TO DETERMINE THE UTILITY OF ADDING A
CLASSIFICATION SYSTEM TO A SEQUENCE FOR IMPROVED ACCURACY**

THESIS

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AFIT-ENC-MS-19-M-002

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Captain, USAF

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Abstract

Frequently, ensembles of classification systems are combined into a sequence in order to better enhance the accuracy in classifying objects of interest. However, there is a point in which adding an additional system to a sequence no longer enhances the system as either the increase in operational costs exceeds the benefit of improvements in classification or the addition of the system does not increase accuracy at all. This research will examine a utility measure to determine the valid or invalid nature of adding a classification system to a sequence of such systems based on the ratio of the change in accuracy to the increase in operational costs. Three general classification sequence strategies defined on a two-class population outcome will be examined: Believe the Positive, Believe the Negative and Believe the Extreme. Through simulation, this research will identify which characteristics of the individual classification systems and the sequence have the greatest impact on the utility measure and provide guidance on the threshold value for the utility measure that differentiates between when the addition of a system to the sequence may be useful (valid) and when it is not (invalid). This work expands upon known accuracy and cost equations for each of the different sequential strategies in order to generalize them to any fixed number of classification systems in a sequence. From these accuracy and cost calculations, the utility measure can be computed for different scenarios and recommendations are made as to the characteristics that enhance the utility of adding additional systems to a sequence in order to improve classification accuracy.

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ANALYZING A METHOD TO DETERMINE THE UTILITY OF ADDING A CLASSIFICATION SYSTEM TO A SEQUENCE FOR IMPROVED ACCURACY

I. Introduction

Classification systems generally seek to label observed events in a population by taking input into a system with the expectation of producing a response (a label) from a set of pre-selected outcomes. These systems are applied to a wide-range of classification tasks from identifying a disease based on different symptoms to identifying a target based on key features in an image.

As classification problems become more complex, new strategies have emerged to improve results of classification systems. One such solution is the sequencing of classification systems where multiple systems work with one another to classify an event or subject. In a sequence, if the first classification system does not produce a label for the event, the event is passed on to the next system in the sequence for classification. If that subsequent system does not classify the event, then the next system in the sequence would attempt to classify it. This process would continue until either the event is classified or the event has reached the end of the sequence at which point a label for the event would be chosen. In an ideal world, there would be infinite resources to make such a classification; however, many applications only have a finite set of resources with which to make the classification.

For example, in a target recognition scenario, an automated system within the aircraft may be in place to identify targets in real time. If the aircraft's system has a low probability to recognize the target, imagery may be sent to a centralized image processing unit that requires substantially more processing time to process, but would produce a more accurate response. It is feasible that if the centralized system has a low probability of identifying the targets, then the image can be sent to a professional analyst to classify targets in the area. If a single analyst has a low probability of identifying the target, then the image could move on to a panel of analysts to analyze the image. In this example, classification systems include automated systems and both individual and teams of analysts. As the event is moving through each "system", more time is consumed. The classification, however, may be required within a particular amount of time and

therefore, a tradeoff exists between the accuracy gained by passing the image to other classifiers and the time spent making the classification. This tradeoff becomes the basis for the decision of whether or not to add an additional classification system to the sequence.

This research aims to analyze a new utility measure that can be used to determine if a classification system should be added to a sequence. This utility measure considers the tradeoff between increased accuracy in classification and increased cost incurred by adding an additional classification system to a sequence. This research includes extending preexisting equations for sequential strategies using two classification systems and generalizing them for any finite length of classification systems. Additionally, this research aims to identify which factors related to characteristics of the sequence and the features used for classification have the largest effect on the utility measure. In turn, these factors may be used to determine when an addition of a classification system is valid, that is, improves classification accuracy with a reasonable cost. The results of this thesis enable decision makers to better weigh their options when confronted with the need to improve the accuracies of their classification sequences.

This thesis discusses classification systems and the utility of adding an additional test over four chapters. Chapter 2 begins with a background on classification systems, common sequential strategies, and known results for sequences of 2 classification systems. Chapter 3 extends the accuracy and cost formulas for two classification systems to any finite sequence of k classification systems. Additionally, the utility measure is derived and defined. Chapter 4 demonstrates the usefulness of the utility measure and identifies important factors and considerations when considering adding a classification system to a sequence through a large simulation for each sequential strategy. Chapter 5 provides concluding remarks on the utility measure and further research considerations when investigating the utility of adding classification systems to a sequence.

II. Background

2.1 Classification Systems:

A classification system (A) labels elements, e , in an event set of n partitions, $E = \{\varepsilon_1, \varepsilon_2, \dots, \varepsilon_m\}$ to a set of m distinct labels, $L = \{\ell_1, \ell_2, \dots, \ell_m\}$, that is $A(e_{\varepsilon_j}) = \ell_j$. Note that n needs not be equal to m but typically is. These labels represent classes which define the distinct partitions of the underlying event set, E . In a 2-class label set, examples include numerical labels such as $\{0,1\}$ and categorical labels such as $\{Diseased, Non-Diseased\}$, both of which may be representative of the two partitions in the event set dividing the population. The system, A , is designed to classify elements, $e_{\varepsilon_i} \in E$, based on observed data from each subject. The observed data from the event set is refined to a set of features, $F = \{f_1, f_2, \dots, f_m\}$, and is used to map the elements of the event set to the label set, $(A \rightarrow E \rightarrow F \rightarrow L)$. The system, A , is a function of parameter value(s), $\theta \in \Theta$, that affects how the classifier assigns labels to the elements through the associated features. When the parameter value(s) is(are) varied, the class to which the elements are mapped may change. Thus, for each classification system, A_θ , there is an associated $\theta \in \Theta$, and the collection of these systems is denoted by $\mathbb{A} = \{A_\theta : \theta \in \Theta\}$ and called a classification system family (CSF) [1].

2.1.1 Outcomes and Accuracy of Classification Systems. Unless a classification system is perfect, it will contain errors when mapping elements to a label set. It may assign a label associated with a partition from which the element did not originate. Therefore, the system also has a defined truth set, T , associated with the label set that provides the correct classification for each element in the event set, that is $T(e_{\varepsilon_i}) = \ell_i$. This research considers only 2-class CSFs and therefore, when a classification system labels an element in the event set, the label may result in either a misclassification or a correct classification. Misclassification occurs when an element $e_{\varepsilon_i} \in E$ has a distinct label $\ell_j \in L$ that is not equal to its truth

label, that is $A(e_{\varepsilon_i}) = \ell_j \neq T(e_{\varepsilon_i})$ where $i \neq j$. Alternatively, a correct classification occurs when an element has a label equal to its truth label $(A(e_{\varepsilon_i}) = \ell_i = T(e_{\varepsilon_i}))$. These outcomes can be further defined by their class-specific labeling. Consider a population partitioned on two groups under a 2-class CSF with labels of positive and negative, that is, let $E = \{\varepsilon_1, \varepsilon_2\}$ such that $T(e_{\varepsilon_1}) = \ell_1$ and $T(e_{\varepsilon_2}) = \ell_2$ where labels $L = \{\ell_1, \ell_2\}$ are defined such that $\ell_1 = "+"$ and $\ell_2 = "-"$. Misclassifications can be considered as either false positives (FP) or false negatives (FN). If system A labels e such that $A(e_{\varepsilon_2}) = "+" \neq T(e_{\varepsilon_2})$, then the system has incurred a FP. Likewise, if A labels e , such that $A(e_{\varepsilon_1}) = "-" \neq T(e_{\varepsilon_1})$, then the system has incurred a FN. Correct classifications for this 2-class system can be either true positives (TP) or true negatives (TN). If system A labels e such that $A(e_{\varepsilon_1}) = "+" = T(e_{\varepsilon_1})$, then the system has incurred a TP. Likewise, if A labels e such that $A(e_{\varepsilon_2}) = "-" = T(e_{\varepsilon_2})$, then the system has incurred a TN [2]. These outcomes may be arranged in a confusion matrix with the truth labels along the columns and the classification outcomes along the rows as shown in Table 2.1 [3].

Table 2.1: Two-class Confusion Matrix.

		TRUTH	
		Positive	Negative
CLASSIFICATION	"Positive"	True Positive	False Positive
	"Negative"	False Negative	True Negative

These outcomes may be used to measure the accuracy of a classification system through the probability of their occurrences. For a 2-class system, the accuracy of the system can be examined by determining the system's true positive rate (TPR), also known as sensitivity, and the system's true negative rate (TNR), also

known as specificity [9, 10]. TPR is calculated by determining the probability that a positive label is correctly placed on outcomes that should be classified as positive:

$$TPR = P[A(e) = \ell_1 | e \in \varepsilon_1], \quad (2.1)$$

where e denotes an element from a population and ε_1 denotes the partition of the population whose elements have a truth label of ℓ_1 . Likewise, TNR is calculated by determining the probability that a negative label is correctly placed on outcomes that should be classified as negative:

$$TNR = P[A(e) = \ell_2 | e \in \varepsilon_2], \quad (2.2)$$

where ε_2 denotes the partition of the population whose elements have a truth label of ℓ_2 . Note that

$$P[A(e) = \ell_1 | e \in \varepsilon_1] + P[A(e) = \ell_2 | e \in \varepsilon_1] = 1,$$

and likewise,

$$P[A(e) = \ell_1 | e \in \varepsilon_2] + P[A(e) = \ell_2 | e \in \varepsilon_2] = 1.$$

These complementary events are also defined. The complement of TNR, called the false positive rate (FPR), is more commonly used and defined as one minus the specificity [1, 2, 3, 10]:

$$FPR = 1 - TNR = 1 - P[A(e) = \ell_2 | e \in \varepsilon_2] = P[A(e) = \ell_1 | e \in \varepsilon_2]. \quad (2.3)$$

Similarly, the complement of TPR, called the false negative rate (FNR) is defined as

$$FNR = 1 - TPR = 1 - P[A(e) = \ell_1 | e \in \varepsilon_1] = P[A(e) = \ell_2 | e \in \varepsilon_1]. \quad (2.4)$$

2.1.2 Performance of Classification Systems. In this research, classification systems are assumed to produce a continuous outcome from which class assignment for each element is labeled. Performance of classification systems often relies on quantifying correct classifications and misclassifications. In an ideal system, all classifications would be either TPs or TNs and there would be no FPs or FNs (i.e., $TPR = 1$ and $FPR = 0$). Since not all classification systems are ideal and classification system accuracy often varies with parameter settings of the system, formal methods have been established

to compare the tradeoffs in accuracy. Notice that by varying the parameter value, $\theta \in \Theta$, the accuracy measurements for the classification system may vary (i.e., different values for TPR and FPR). These measurements are therefore predicated on θ and denoted as FPR_θ and TPR_θ . Further, although we denote the system with one θ , the parameter set may be multivariate (θ).

Receiver operating characteristic (ROC) curves illustrate the performance of a 2-class system as θ varies for a CSF, $\mathbb{A}$. The ROC curve is a plot of the FPR_θ against the TPR_θ for all $A_\theta \in \mathbb{A}$ used to examine the observable tradeoff between these two rates, thereby depicting the CSF's overall performance (Figure 2.1) [2]. The average performance of the CSF can be summarized by the area under the curve (AUC) by which larger AUC values indicate better performance [2, 10, 18]. Definitionally, the AUC measures how well a classifier distinguishes between partitions. AUC values for useful CSFs lie between 0.5 and 1 since AUC values under 0.5 would be worse than chance and a value of 1 would be a perfect classifier. The dotted line in Figure 2.1 represents when classification was left to chance (AUC of 0.5) and therefore, any ROC curve under this line would not be considered for analysis [6, 18]. Therefore, a ROC curve that is close to the upper left corner ($FPR = 0$ and $TPR = 1$) indicates better overall performance with larger AUC. Alternatively, a ROC curve that lies closer to the diagonal indicates worse performance and a less accurate classification system.

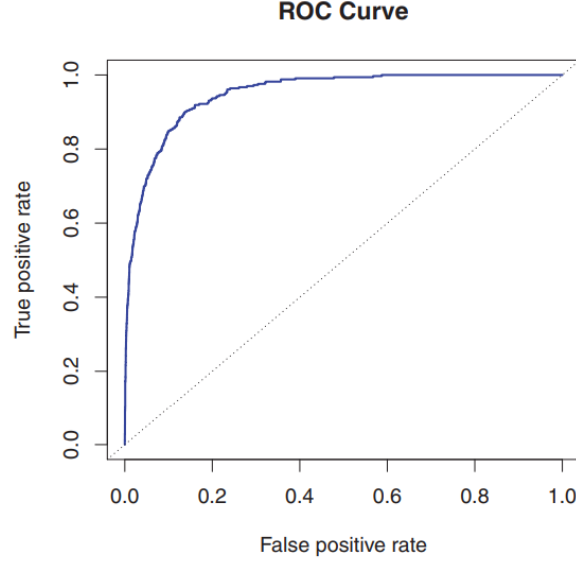


Figure 2.1: A receiver operating curve is represented by a solid line graphing the false positive rate and true positive rate against one another. The dotted line indicates performance of a perfect randomization with an area under the curve of 0.5.

2.1.3 Optimal Points. To determine which $\theta \in \Theta$ results in the best performance, CSFs require a metric for comparison. For this research, two measures are considered: Youden's Index and Bayes Cost. Youden's Index measures the correct classifications rates of a CSF while Bayes Cost measures the weighted sum of the misclassification rates of a CSF. Both optimality points are discussed in detail below.

The Youden's Index (J) was first suggested in 1950 by W. J. Youden to measure the performance of a 2-class system [4]. This measure has proved useful in summarizing the performance of diagnostic tests as a function of correct classifications [4, 5, 6]. For a 2-class system, J is defined as the sum of the sensitivity (TPR) and the specificity (TNR) minus one. Alternatively, J can also be calculated as the difference of the TPR and the FPR as show below:

$$J_{\theta} = TPR_{\theta} + TNR_{\theta} - 1 = TPR_{\theta} - (1 - TNR_{\theta}) = TPR_{\theta} - FPR_{\theta}. \quad (2.5)$$

Youden's index is often used with ROC curves and in conjunction, J can be computed for each point on the ROC curve. The optimality criterion for the CSF is thereby based upon maximizing J as defined by:

$$J = \max_{\theta \in \Theta} [TPR_{\theta} - FPR_{\theta}]. \quad (2.6)$$

As shown in Figure 2.2, J can also be denoted as the vertical difference between the ROC curve and the chance line with the maximum difference attributing the optimal criterion for the CSF [10]. Note that classification systems that perform better than chance will always have TPR values greater than the corresponding FPR values under a fixed θ and the associated A_θ will have a J_θ value bounded between 0 and 1 [4].

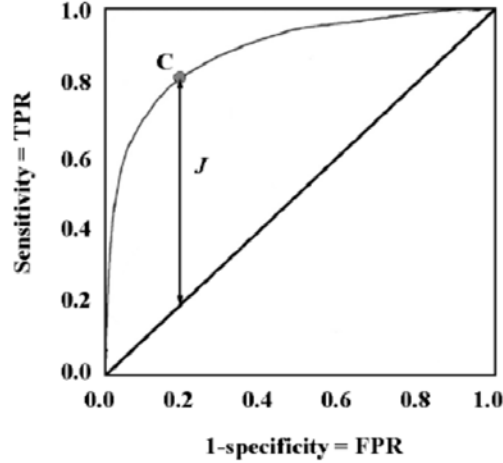


Figure 2.2: A receiver operating curve with the maximum Youden's Index, J , shown as the maximum distance between the ROC curve and the chance line.

Realistically, cost considerations are made for different misclassifications; that is, misclassification by the CSF may result in different costs as one error may be more damaging than another. To take costs of misclassifications into account, an additional weight, m , is calculated given by,

$$m = \frac{1 - p_+}{p_+} \times \frac{c_{FP} - c_{TN}}{c_{FN} - c_{TP}}, \quad (2.7)$$

where c corresponds to the cost of a specific classification (FP, TN, FN, or TP) and p_+ corresponds to the prevalence of a positive outcome. The Youden's Index value that incorporates this weight is called the Generalized Youden's Index (GYI) and is defined by:

$$GYI = \max_{\theta \in \Theta} [TPR_\theta - m \times TNR_\theta - 1]. \quad (2.8)$$

GYI alters the optimal distance between the ROC curve and the chance line [4, 16].

Bayes cost (BC) is an alternative measure that predicates on minimizing the misclassification rate of a CSF. The BC is calculated by summing the weighted probabilities of misclassifications. For a 2-class system, the equation is written as,

$$BC_{\theta} = c_{FP} \times p_{-} \times FPR_{\theta} + c_{FN} \times p_{+} \times FNR_{\theta}, \quad (2.9)$$

where c corresponds to the cost of a specific misclassification (FP or FN) and p corresponds to the prevalence of an outcome (p_{-} for negative outcomes and p_{+} for positive outcomes). This is then optimized by finding the BC values across $\theta \in \Theta$, denoted as BC_{θ} , and determining the minimum BC_{θ} value [2, 3, 6, 7]. Therefore, for any CSF, we can generalize the optimal BC for a given set of $\theta \in \Theta$ in a 2-class system as:

$$BC = \min_{\theta \in \Theta} [c_{FP} \times p_{-} \times FPR_{\theta} + c_{FN} \times p_{+} \times FNR_{\theta}]. \quad (2.10)$$

Under these definitions of GYI and BC , it can be shown that the optimal threshold found by minimizing BC, denoted as θ_{BC}^{*} , is equivalent to the optimal threshold found by maximizing GYI, denoted as θ_{GYI}^{*} , when the costs are defined as:

$$\frac{c_{FP}^{GYI} - c_{TN}^{GYI}}{c_{FN}^{GYI} - c_{TP}^{GYI}} = \frac{c_{FP}^{BC}}{c_{FN}^{BC}}, \quad (2.11)$$

where c^{BC} and c^{GYI} denote classification costs for BC and GYI , respectively. Thus, taking the argument of Equation 2.8, we can show the equivalence of the optimal threshold values, θ_{BC}^{*} and θ_{GYI}^{*} under the assumption of Equation 2.11 as follows [3, 7]:

$$\begin{aligned}
\theta_{GYI}^* &= \arg \max_{\theta \in \Theta} [TPR_{\theta} - m \times TNR_{\theta} - 1] \\
&= \arg \max_{\theta \in \Theta} \left[TPR_{\theta} - \frac{1 - p_+}{p_+} \times \frac{c_{FP} - c_{TN}}{c_{FN} - c_{TP}} \times TNR_{\theta} - 1 \right] \\
&= \arg \max_{\theta \in \Theta} \left[1 - FNR_{\theta} - \frac{p_-}{p_+} \times \frac{c_{FP}^{BC}}{c_{FN}^{BC}} \times (1 - FPR_{\theta}) - 1 \right] \\
&= \arg \max_{\theta \in \Theta} \left[-FNR_{\theta} - \frac{p_-}{p_+} \times \frac{c_{FP}^{BC}}{c_{FN}^{BC}} \times FPR_{\theta} \right] \\
&= \arg \max_{\theta \in \Theta} \left[\frac{1}{p_+ \times c_{FN}^{BC}} \left(-p_+ \times c_{FN}^{BC} \times FNR_{\theta} - p_- \times c_{FP}^{BC} \times FPR_{\theta} \right) \right] \\
&= \arg \max_{\theta \in \Theta} \left[\frac{-1}{\text{constant}} \left(p_+ \times c_{FN}^{BC} \times FNR_{\theta} + p_- \times c_{FP}^{BC} \times FPR_{\theta} \right) \right] \\
&= \arg \min_{\theta \in \Theta} \left[\frac{1}{\text{constant}} \left(p_+ \times c_{FN}^{BC} \times FNR_{\theta} + p_- \times c_{FP}^{BC} \times FPR_{\theta} \right) \right] \\
&= \arg \min_{\theta \in \Theta} [c_{FP} \times p_- \times FPR_{\theta} + c_{FN} \times p_+ \times FNR_{\theta}] = \theta_{BC}^*
\end{aligned} \tag{2.12}$$

2.2 Sequential Classification Systems:

As classification applications grow in complexity, the number of classification systems, hereinafter referred to as tests, available for labeling a subject increase as well. Using multiple tests is common practice and can improve accuracy in classifying subjects. Therefore, tests can be either administered non-sequentially or sequentially. Non-sequential testing decides *a priori* which tests are going to be used and uses all the selected tests on the subject regardless of the outcome [12, 13]. However, this approach can be infeasible and costly as final labels cannot be given unless outcomes are observed from every test. Instead, a single test or a subset of the tests may be sufficient to label a subject, as additional testing may provide minimal increases in accuracy while bolstering unnecessary costs [11, 12, 13, 17]. A sequential approach can be taken in which a decision is made after every test as to whether the subject continues to a subsequent test. The sequence can be a repeated application of the same test or application of multiple varying tests to a subject. Strategies of this approach efficiently decrease misclassifications while also reducing the cost of classification by eliminating the need to proceed to subsequent tests.

2.2.1 *Sequential Testing Strategies for 2-Test Sequences.* For this research, we consider three strategies which combine tests into sequences: Believe the Positive (BP), Believe the Negative (BN), and Believe the Extreme (BE) [8, 9, 12, 13]. Assuming a 2-class label-set of positive and negative for a test with threshold values θ , and two tests in sequence, these strategies have been defined.

Under the BP strategy, the sequence labels the subject as positive if the first test result lies above its threshold value, θ_1 . If the first test result falls below θ_1 , then the subject moves to the second test in the sequence. Under the second test, the final decision is made to classify the subject as positive if the test lies above its threshold, θ_2 , or negative if it falls below θ_2 . Letting X_1 and X_2 denote numerical feature values for a subject under test 1 and 2, respectively, the BP strategy for the 2-test sequence is mathematically expressed as follows:

$$A^{BP}(e) = \begin{cases} + & \text{if } (X_1 > \theta_1) \cup ((X_1 \leq \theta_1) \cap (X_2 > \theta_2)) \\ - & \text{if } (X_1 \leq \theta_1) \cap (X_2 \leq \theta_2) \end{cases} \quad (2.13)$$

Note that this is suppressed notation where $\cup$ and $\cap$ denote “and” and “or” clauses, respectively. For example,

$$(X_1 > \theta_1) \cup ((X_1 \leq \theta_1) \cap (X_2 > \theta_2))$$

denotes the statement

$$(X_1 > \theta_1) \text{ or } ((X_1 \leq \theta_1) \text{ and } (X_2 > \theta_2)).$$

Alternatively, the BN strategy labels the subject as negative if the first test result lies below its threshold value, θ_1 , otherwise the classification proceeds to the second test. Under the second test, the subject is labeled negative if the outcome of the second test falls below its threshold, θ_2 , or positive if it lies above θ_2 . Letting X_1 and X_2 denote the numerical feature values for a subject under test 1 and 2, respectively, the BN strategy is mathematically expressed as follows:

$$A^{BN}(e) = \begin{cases} + & \text{if } (X_1 > \theta_1) \cap (X_2 > \theta_2) \\ - & \text{if } (X_1 \leq \theta_1) \cup ((X_1 > \theta_1) \cap (X_2 \leq \theta_2)). \end{cases} \quad (2.14)$$

The BE strategy uses two threshold values per test, ϕ_i and θ_i , for all but the last test in the sequence, such that ϕ_i and θ_i relate the positive and negative labeling of each test, respectively, where $\phi_i > \theta_i$. If the first test result lies above ϕ_1 , then the test labels the subject as positive. If the first test result lies below θ_1 , the test labels the subject as negative. If neither condition is met, that is, the test result lies between ϕ_i and θ_i , then the subject continues to the second test. Under the second test in the sequence $\phi_2 = \theta_2$ so that a positive label is given if the result lies above the threshold and a negative label if the result falls below the threshold. Letting X_1 and X_2 numerical feature values for a subject under test 1 and 2, respectively, the BE strategy is mathematically expressed as follows:

$$A^{BE}(e) = \begin{cases} + & \text{if } (X_1 > \phi_1) \cup ((\theta_1 < X_1 \leq \phi_1) \cap (X_2 > \phi_2)) \\ - & \text{if } (X_1 \leq \theta_1) \cup ((\theta_1 < X_1 \leq \phi_1) \cap (X_2 \leq \theta_2)). \end{cases} \quad (2.15)$$

Figure 2.3 illustrates each strategy under a 2-class label system with two tests in a sequence and the continuation of each test based on the threshold values [9].

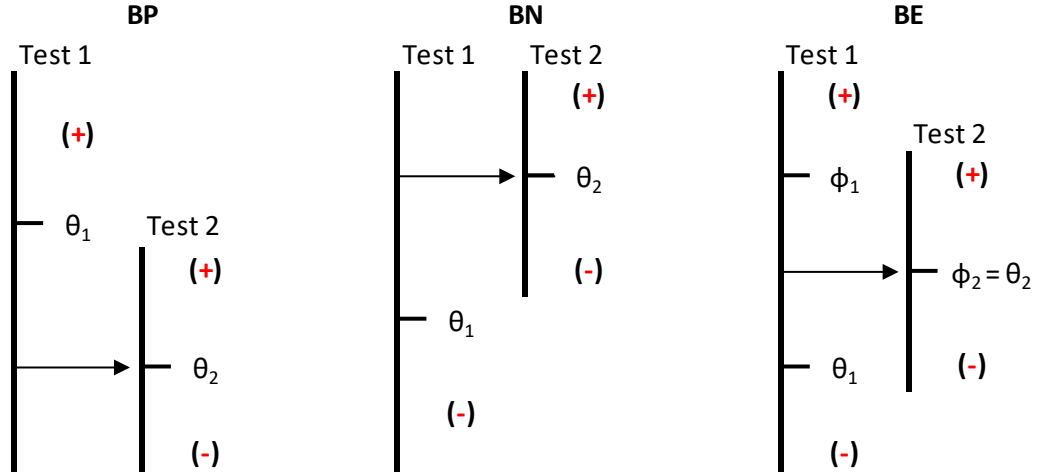


Figure 2.3: Tree diagram for sequential test strategies of Believe the Positive (BP), Believe the Negative (BN), and Believe the Extreme (BE). In the figure, +/- symbols indicate positive and negative test results, respectively, with given θ_i and ϕ_i threshold values.

2.2.2 Performance of 2-Test Sequences. As a specialized test, the 2-test sequence also uses accuracy measures of FPR_θ and TPR_θ to determine the performance of the sequence. FPR_θ and TPR_θ equations for the three testing strategies (BP, BN, and BE) are already well defined for the 2-test systems described above. Let X_{i+} and X_{i-} denote an numerical feature value of a subject, ℓ , under test $i \in \{1, 2\}$, from a population partitioned on two groups, $E = \{\varepsilon_1, \varepsilon_2\}$. Then the FPR and TPR equations for BP, BN, and BE are as follows [8, 15]:

$$FPR_\theta^{BP} = 1 - P[(X_{1-} \leq \theta_1) \cap (X_{2-} \leq \theta_2)] \quad (2.16)$$

$$TPR_\theta^{BP} = 1 - P[(X_{1+} \leq \theta_1) \cap (X_{2+} \leq \theta_2)] \quad (2.17)$$

$$FPR_\theta^{BN} = P[(X_{1-} > \theta_1) \cap (X_{2-} > \theta_2)] \quad (2.18)$$

$$TPR_\theta^{BN} = P[(X_{1+} > \theta_1) \cap (X_{2+} > \theta_2)] \quad (2.19)$$

$$FPR_\theta^{BN} = P[(X_{1-} > \phi_1) \cup ((\theta_1 < X_{1-} \leq \phi_1) \cap (X_{2-} > \phi_2))] \quad (2.20)$$

$$TPR_\theta^{BN} = P[(X_{1+} > \phi_1) \cup ((\theta_1 < X_{1+} \leq \phi_1) \cap (X_{2+} > \phi_2))] \quad (2.21)$$

These rates can be calculated directly using joint distributions of positive and negative test results [12, 15]. Let $F_{X_{1+}}$, $F_{X_{2+}}$, $F_{X_{1-}}$, and $F_{X_{2-}}$ denote the cumulative distribution functions (CDFs) of test results for the subjects from a positive (+) and negative (-) population in a 2-test sequence. Additionally, let $F_{X_{1+}, X_{2+}}$ and $F_{X_{1-}, X_{2-}}$ denote the joint CDFs of the positive and negative test results for test 1 and 2, respectively.

The expressions for FPR and TPR of the BP, BN, and BE strategies become:

$$FPR_\theta^{BP} = 1 - F_{X_{1-}, X_{2-}}(\theta_1, \theta_2), \quad (2.22)$$

$$TPR_\theta^{BP} = 1 - F_{X_{1+}, X_{2+}}(\theta_1, \theta_2), \quad (2.23)$$

$$FPR_\theta^{BN} = 1 - F_{X_{1-}}(\theta_1) - F_{X_{2-}}(\theta_2) + F_{X_{1-}, X_{2-}}(\theta_1, \theta_2), \quad (2.24)$$

$$TPR_{\theta}^{BN} = 1 - F_{X_{1+}}(\theta_1) - F_{X_{2+}}(\theta_2) + F_{X_{1+}, X_{2+}}(\theta_1, \theta_2), \quad (2.25)$$

$$FPR_{\theta}^{BE} = 1 - F_{X_{1-}}(\theta_1) + F_{X_{1-}, X_{2-}}(\theta_1, \phi_2) - F_{X_{1-}, X_{2-}}(\phi_1, \phi_2), \quad (2.26)$$

$$TPR_{\theta}^{BE} = 1 - F_{X_{1+}}(\theta_1) + F_{X_{1+}, X_{2+}}(\theta_1, \phi_2) - F_{X_{1+}, X_{2+}}(\phi_1, \phi_2). \quad (2.27)$$

As with single classification systems, for every threshold setting value there is an associated FPR and TPR pair. Plotting these pairs produce a cluster of possible ROC points. Under a fixed FPR, the TPR is maximized and the set of points generated in this manner produce a maximized ROC (MROC) curve. [12, 13, 15]. However, this research focuses on the tradeoff of adding a test to a sequence based on minimizing misclassifications and additional operational costs associated with each test.

2.2.3 Operational Cost for a 2-Test Sequence. Each test has an associated cost for being conducted and therefore, the expected operational cost (OC) for any sequence conducted is given by an individual test's inherent cost and the probability of the test occurring. The first test in a sequence is conducted on all subjects and is therefore fixed in all sequences; however, the second test classifies only a proportion of the first test's sample based on how many subjects the sequence has selected to continue to the second test. In doing this, the cost for the second test is only incurred for those proportion of subjects that continue to the second test in the sequence [8, 9, 15]. Therefore, the expected OC can be calculated using the probabilities of moving to the next test as follows:

$$OC_{\theta}^{BP} = C_1 + C_2 \left(P[X_{1+} \leq \theta_1] \times p_+ + P[X_{1-} \leq \theta_1] \times p_- \right), \quad (2.28)$$

$$OC_{\theta}^{BN} = C_1 + C_2 \left(P[X_{1+} > \theta_1] \times p_+ + P[X_{1-} > \theta_1] \times p_- \right), \quad (2.29)$$

$$OC_{\theta}^{BE} = C_1 + C_2 \left(P[\theta_1 < X_{1+} \leq \phi_1] \times p_+ + P[\theta_1 < X_{1-} \leq \phi_1] \times p_- \right). \quad (2.30)$$

Letting $F_{X_{1+}}$ and $F_{X_{1-}}$ denote the CDFs of the positive and negative test results, respectively, the equations can be further simplified. Thus, for the 2-test sequence, the expected OC of performing the BP, BN, and BE test sequences can be written as:

$$OC_{\theta}^{BP} = C_1 + C_2 \left(F_{x_{1+}}(\theta_1) \times p_+ + F_{x_{1-}}(\theta_1) \times p_- \right), \quad (2.31)$$

$$OC_{\theta}^{BN} = C_1 + C_2 \left((1 - F_{x_{1+}}(\theta_1)) \times p_+ + (1 - F_{x_{1-}}(\theta_1)) \times p_- \right), \quad (2.32)$$

$$OC_{\theta}^{BE} = C_1 + C_2 \left((F_{x_{1+}}(\phi_1) - F_{x_{1+}}(\theta_1)) \times p_+ + (F_{x_{1-}}(\phi_1) - F_{x_{1-}}(\theta_1)) \times p_- \right), \quad (2.33)$$

where C_i represents the actual cost of test i , $F_{x_{1+}}(\theta_1)$ and $F_{x_{1-}}(\theta_1)$ denote the CDFs of positive and negative responses, respectively, and p_+ and p_- denote the prevalence of the positive and negative populations, respectively. Note that this is a cost for a single element to be classified in a 2-test sequence. For calculating actual costs, this operational cost would be multiplied by the number of subjects, n , to determine the expected true cost of classifying all the subjects [8, 9].

2.3 Conclusion

Accuracy and costs are the key features in determining the efficiency of a test. Measures for the accuracy of a system may generally include misclassifications and correct classifications. These measures extend to classification sequences as well, combining multiple tests to improve these accuracy measures while increasing system costs.

The gap in literature then lies in knowing when to add another test to a classification sequence and in identifying factors that may affect the performance and costs of the sequences. For this research, the known 2-test sequence performance and cost equations are extended to k -length sequences. To determine the merit in adding an additional test to a sequence, the tradeoff of operational costs to the additional accuracy added by another test in the sequence is compared. By doing this, an optimal length can be identified for specific scenarios for the test strategies of BP, BN, and BE. Additionally, effects of different features within individual tests can be observed as to their influence upon a classification sequence.

III. Classification Systems Using K-Test Sequences

3.1 Introduction

This chapter examines the extension of the 2-test classification sequence to a k-test classification sequence. While the 2-test sequence is well established, this research examines more complex sequences that include greater than two tests in a sequence. There are two goals of this chapter: the first is to define the k-test sequence including expressions for accuracy and operational costs; and the second is to quantify a means to observe the differences in performances and costs between different sequence lengths. Observation in differences between lengths of sequences are conducted by simulating tests across six different factors including characteristics of the individual test and of the sequence. By looking across these factors, the research can establish how factors affect the addition of classifiers in a sequence and whether the addition of classifiers provides significant accuracy improvements for the additional test costs. This includes looking at the minimization of Bayes Cost and how the operational cost changes with adding new tests to the sequence.

3.2 Sequential Testing Strategies for K-Test Sequences

K-test sequences extend the strategies (BP, BN, BE) for a 2-test sequence stated in Chapter 2. While the labeling convention for the test strategies remains the same, the subject continues through the sequence until the subject is classified or reaches the final test in the sequence. Extending the strategies for a 2-test sequence to a length of 3-test, the expressions for each strategy can be generalized to k-test sequences.

3.2.1 Believe the Positive for K-Test Sequences. Under the BP strategy, the sequence labels the outcome as positive if the test result lies above a test's given threshold value, θ_i . If the test result falls below θ_i , then the subject moves to the next test in the sequence until the subject is labeled positive or reaches the end of the sequence becoming labeled as negative. For a 3-test sequence, this adds an additional test and

consequently an extra branch to the 2-test BP strategy depicted in Figure 2.3. Figure 3.1 illustrates the extension of the tree diagram from Figure 2.3.

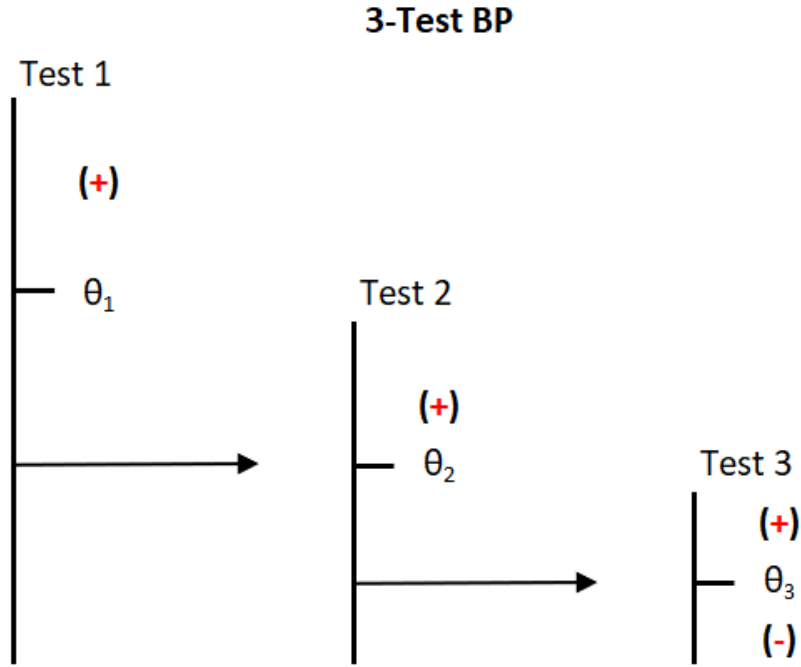


Figure 3.1: Tree diagram for Believe the Positive (BP) under a 3-test strategy. In the figure, +/- symbols indicate positive and negative test results, respectively, with given θ_i threshold values.

Like the 2-test BP strategy, the 3-test strategy cannot classify a subject as negative until it reaches the final (third) test. The test result for the subject must fall below all thresholds (θ_1 , θ_2 , and θ_3) for the subject to be labeled "-". A condition to label the subject "+" is also added if the test result falls below both θ_1 and θ_2 , but above θ_3 . Letting X_i denote a numerical feature value of a subject under test i , this extends Equation 2.13 for BP to a 3-test form:

$$A^{BP}(e) = \begin{cases} + & \text{if } (X_1 > \theta_1) \cup ((X_1 \leq \theta_1) \cap (X_2 > \theta_2)) \\ & \cup ((X_1 \leq \theta_1) \cap (X_2 \leq \theta_2) \cap (X_3 > \theta_3)) \\ - & \text{if } (X_1 \leq \theta_1) \cap (X_2 \leq \theta_2) \cap (X_3 \leq \theta_3). \end{cases} \quad (3.1)$$

Equation 3.1 can be further generalized as more tests are added to a sequence. For each new test in the sequence, another condition to label a subject "+" is added, and subsequently an additional requirement to

label a subject "-" under the BP strategy. The condition to label a subject "+" is predicated on a test result lying above θ_i , but all other test results falling below all θ_j where i denotes a test in the sequence and j denotes all preceding tests (i.e., $j \in \{1, \dots, i-1\}$). Conversely, the condition to label a subject "-" is predicated on all test results falling below θ_i thresholds in the sequence such that $i \in \{1, \dots, k\}$ and k denotes the number of tests in the sequence. Thus, the BP strategy expression can be generalized for a k-test sequence by extending Equation 3.1. Letting X_i denote a numerical feature value of a subject under test i and letting k denote the number of tests in a sequence, the k-test BP strategy is mathematically expressed as follows:

$$A^{BP}(e) = \begin{cases} + & \text{if } \bigcup_{i=1}^k \left(\left(\bigcap_{j=1}^{i-1} (X_j \leq \theta_j) \right) \cap (X_i > \theta_i) \right) \\ - & \text{if } \bigcap_{i=1}^k (X_i \leq \theta_i). \end{cases} \quad (3.2)$$

The performance measures for BP (FPR_{θ}^{BP} and TPR_{θ}^{BP}) can also be extended in conjunction with the k-test expressions for the BP strategy. Equation 3.2 generalizes the conditions for a negative outcome under a k-test BP strategy and can be used in conjunction with the definitions of FPR and TPR. Let X_{i-} and X_{i+} denote numerical feature values from a population group $\mathcal{E}_-$ and $\mathcal{E}_+$, respectively, where e is a subject in a classifier and i denotes a test in the sequence. The expression for FPR_{θ}^{BP} and TPR_{θ}^{BP} extends to [15]:

$$FPR_{\theta}^{BP} = 1 - P[A(e) = "-" | e \in \mathcal{E}_-] = 1 - P\left[\bigcap_{i=1}^k (X_{i-} \leq \theta_{i-})\right], \quad (3.3)$$

$$TPR_{\theta}^{BP} = 1 - P[A(e) = "-" | e \in \mathcal{E}_+] = 1 - P\left[\bigcap_{i=1}^k (X_{i+} \leq \theta_{i+})\right]. \quad (3.4)$$

These rates may also be calculated using joint distributions depicting the positive and negative test results. Extending Equations 2.22 and 2.23, the expressions for the joint CDFs of the negative and positive groups

can be written as $F_{X_{1-}, \dots, X_{k-}}(\theta_1, \dots, \theta_k)$ and $F_{X_{1+}, \dots, X_{k+}}(\theta_1, \dots, \theta_k)$, respectively. The rates for FPR_θ^{BP} and TPR_θ^{BP} can now be calculated as:

$$FPR_\theta^{BP} = 1 - F_{X_{1-}, \dots, X_{k-}}(\theta_1, \dots, \theta_k), \quad (3.5)$$

$$TPR_\theta^{BP} = 1 - F_{X_{1+}, \dots, X_{k+}}(\theta_1, \dots, \theta_k). \quad (3.6)$$

With these generalized expressions for accuracy, BP sequences of different lengths can be compared in their performance of classification of subjects. Additionally, systems can now be compared using costs to measure how much value is being added or lost based on adding or removing tests, respectively. Like the 2-test BP sequence, the k-test BP sequence uses BC and OC in calculating costs of the system.

Recall that BC is a function of FPR_θ and FNR_θ (or $(1 - TPR_\theta)$) and therefore, remains unchanged when left in suppressed notation. However, when using Equations 3.5 and 3.6, BC for the BP strategy, BC^{BP} , can be directly calculated with joint distributions as follows:

$$BC^{BP} = \min_{\theta \in \Theta} \left[c_{FP} \times p_- \times (1 - F_{X_{1-}, \dots, X_{k-}}(\theta_1, \dots, \theta_k)) + c_{FN} \times p_+ \times F_{X_{1+}, \dots, X_{k+}}(\theta_1, \dots, \theta_k) \right]. \quad (3.7)$$

Alternatively, the OC for BP changes as costs for additional tests must be added. Recall that OC is calculated based on the cost of a particular test and the probability of that test occurring. Using expected operational costs for each test, the total cost can be calculated by the sum of the expected operational costs of each individual test [8, 9, 15]. Under the BP strategy, test i only occurs if the preceding test results fall below thresholds (i.e., $X_j \leq \theta_j \forall j \in \{1, \dots, i-1\}$). Therefore, the probability of a test occurring under the BP strategy is based on the probability of all subsequent test results falling below a test's given threshold. Let C_i denote the cost of test i in the sequence and p_+ and p_- denote the prevalence of positive and negative responses, respectively. The OC under a BP strategy (OC_θ^{BP}) can be generalized to:

$$OC_\theta^{BP} = C_1 + \sum_{i=2}^k C_i \left(P \left[\bigcap_{j=1}^{i-1} (X_{j+} \leq \theta_j) \right] \times p_+ + P \left[\bigcap_{j=1}^{i-1} (X_{j-} \leq \theta_j) \right] \times p_- \right). \quad (3.8)$$

Using the joint CDFs as shown in Equation 3.5 and 3.6, this can be calculated directly. Thus, the calculation for OC_{θ}^{BP} becomes:

$$OC_{\theta}^{BP} = C_1 + \sum_{i=2}^k C_i \left(F_{X_{1+}, \dots, X_{i-1+}}(\theta_1, \dots, \theta_{i-1}) \times p_+ + F_{X_{1-}, \dots, X_{i-1-}}(\theta_1, \dots, \theta_{i-1}) \times p_- \right). \quad (3.9)$$

3.2.2 Believe the Negative for K-Test Sequences. Recall that under the BN strategy, the subject is labeled as negative if the test value lies below the threshold value, θ_i , otherwise the classification proceeds to the next level of testing until a negative label is placed, or the end of the sequence is reached becoming labeled positive. For a 3-test sequence, this adds an additional test and consequently another branch to the tree diagram for BN from Figure 2.3. Figure 3.2 illustrates the extended tree diagram of how a subject is classified by 3-test sequence under the BN strategy.

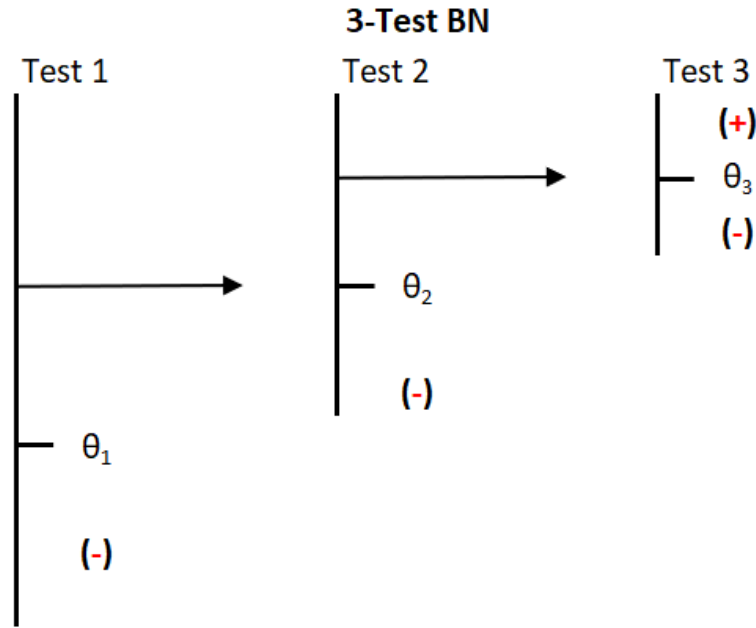


Figure 3.2: Tree diagram for Believe the Negative (BN) under a 3-test strategy. In the figure, +/- symbols indicate positive and negative test results, respectively, with given θ_i threshold values.

Like the 2-test BN strategy, the 3-test strategy cannot classify a subject as positive until it reaches the final (third) test. The subject must have test results that lie above all thresholds (θ_1 , θ_2 , and θ_3) to have a label of "+". With the added test, another condition for labeling the subject "-" is added to the strategy.

For the 3-test, the additional condition for a label of "-" occurs when the test results lie above both θ_1 and θ_2 but fall below θ_3 . This extends Equation 2.14 for the BN strategy to a 3-test form. Letting X_i denote a numerical feature value of a subject under test i , the BN strategy becomes:

$$A^{BN}(e) = \begin{cases} + & \text{if } (X_1 > \theta_1) \cap (X_2 > \theta_2) \cap (X_3 > \theta_3) \\ - & \text{if } (X_1 \leq \theta_1) \cup ((X_1 > \theta_1) \cap (X_2 \leq \theta_2)) \\ & \cup ((X_1 > \theta_1) \cap (X_2 > \theta_2) \cap (X_3 \leq \theta_3)). \end{cases} \quad (3.10)$$

Equation 3.3 can be further generalized as more tests are added to the sequence. For each new test in the BN sequence, another condition to label a subject "-" is added and subsequently an additional requirement to label a subject "+". The condition to label a subject "-" is predicated on a test result falling below θ_i but all other test results lying above all θ_j where i denotes a test in the sequence and j denotes all preceding tests (i.e., $j \in \{1, \dots, i-1\}$). Conversely, the condition to label a subject "+" is predicated on all test results lying above θ_i thresholds in the sequence such that $i \in \{1, \dots, k\}$ and k denotes the number of tests in the sequence. Thus, The BN strategy can be generalized for a k-test sequence by extending Equation 3.10. Letting X_i denote a numerical feature value of a subject under test i and letting k denote the number of tests in a sequence, the k-test BN strategy is mathematically expressed as follows:

$$A^{BN}(e) = \begin{cases} + & \text{if } \bigcap_{i=1}^k (X_i > \theta_i) \\ - & \text{if } \bigcup_{i=1}^k \left(\left(\bigcap_{j=1}^{i-1} (X_j > \theta_j) \right) \cap (X_i \leq \theta_i) \right). \end{cases} \quad (3.11)$$

The performance measures for BN (FPR_{θ}^{BN} and TPR_{θ}^{BN}) can also be extended in conjunction with the k-test expressions for the BN strategy. Equation 3.11 generalizes the conditions for a positive outcome under a k-test BN strategy and can be used in conjunction with the definitions of FPR and TPR. Let X_{i-} and X_{i+} denote numerical feature values from a population group ε_- and ε_+ , respectively, where e is a

subject in a classifier and i denotes the test in the sequence. The expression for FPR_{θ}^{BN} and TPR_{θ}^{BN} extends to [15]:

$$FPR_{\theta}^{BN} = P\left[A(e) = "+" | e \in \mathcal{E}_-\right] = P\left[\bigcap_{i=1}^k (X_{i-} > \theta_{i-})\right], \quad (3.12)$$

$$TPR_{\theta}^{BN} = P\left[A(e) = "+" | e \in \mathcal{E}_+\right] = P\left[\bigcap_{i=1}^k (X_{i+} > \theta_{i+})\right]. \quad (3.13)$$

These rates may be calculated directly using joint CDFs depicting the positive and negative population groups [12, 15]. By extending Equations 2.24 and 2.25, the expressions for the joint CDFs of the positive and negative groups can be written as $F_{X_{1-}, \dots, X_{k-}}(\theta_1, \dots, \theta_k)$ and $F_{X_{1+}, \dots, X_{k+}}(\theta_1, \dots, \theta_k)$, respectively. The rates for FPR_{θ}^{BN} and TPR_{θ}^{BN} can now be calculated as:

$$FPR_{\theta}^{BN} = 1 + \sum_{i=1}^k \left((-1)^i \sum_{j_1=1}^{k-i+1} \cdots \sum_{j_i=j_{i-1}+1}^k F_{X_{j_1-}, \dots, X_{j_i-}}(\theta_{j_1}, \dots, \theta_{j_i}) \right), \quad (3.14)$$

$$TPR_{\theta}^{BN} = 1 + \sum_{i=1}^k \left((-1)^i \sum_{j_1=1}^{k-i+1} \cdots \sum_{j_i=j_{i-1}+1}^k F_{X_{j_1+}, \dots, X_{j_i+}}(\theta_{j_1}, \dots, \theta_{j_i}) \right). \quad (3.15)$$

By generalizing the expressions for accuracy, different sequence lengths for BN can be compared against one another in their performance to classify subjects. Additionally, systems can now be compared based on costs and performance added and lost due to additional tests or less tests in the BN sequence. Like the 2-test BN sequence, the k -test BN sequence uses BC and OC in calculating costs of the systems. BN uses the same BC calculation as a function of FPR_{θ} and FNR_{θ} . Therefore, the suppressed notation

remains unchanged, but the full expression now utilizes both Equations 3.14 and 3.15 in calculating BC.

The BC calculation for the BN strategy (BC^{BN}) then becomes:

$$BC^{BN} = \min_{\theta \in \Theta} \left[c_{FP} \times p_- \times \left(1 + \sum_{i=1}^k \left((-1)^i \sum_{j_1=1}^{k-i+1} \cdots \sum_{j_i=j_{i-1}+1}^k F_{X_{j_1}, \dots, X_{j_i}}(\theta_{j_1}, \dots, \theta_{j_i}) \right) \right) \right. \\ \left. + c_{FN} \times p_+ \times \sum_{i=1}^k \left((-1)^i \sum_{j_1=1}^{k-i+1} \cdots \sum_{j_i=j_{i-1}+1}^k F_{X_{j_1}, \dots, X_{j_i}}(\theta_{j_1}, \dots, \theta_{j_i}) \right) \right]. \quad (3.16)$$

Alternatively, the OC for BN changes for each additional test. Like the BC strategy, calculating OC for BN is based on the cost of a test and the probability of that test occurring [8, 9, 15]. The cost of the test is given based on user-specified parameters. The probability of the test occurring is predicated on the conditions of moving to the next test. Under the BN strategy, test i only occurs if the preceding test results lie above thresholds (i.e., $X_j > \theta_j \forall j \in \{1, \dots, i-1\}$). Therefore, the probability of a test occurring under the BN strategy is based on the probability of all preceding test results lying above a test's given threshold. Letting C_i denote the cost of test i in the sequence and p_+ and p_- denote the prevalence of positive and negative responses, respectively, the OC under a BN strategy (OC_{θ}^{BN}) can be generalized to:

$$OC_{\theta}^{BN} = C_1 + \sum_{i=2}^k C_i \left(P \left[\bigcap_{j=1}^{i-1} (X_{j+} > \theta_j) \right] \times p_+ + P \left[\bigcap_{j=1}^{i-1} (X_{j-} > \theta_j) \right] \times p_- \right). \quad (3.17)$$

Using the joint CDFs as shown in Equations 3.14 and 3.15, this can be calculated directly. Thus, the calculation for OC^{BN} becomes:

$$OC_{\theta}^{BN} = C_1 + \sum_{h=2}^k C_i \left(\left(1 + \sum_{i=1}^{h-1} \left((-1)^i \sum_{j_1=1}^{(h-1)-i+1} \cdots \sum_{j_i=j_{i-1}+1}^{h-1} F_{X_{j_1}, \dots, X_{j_i}}(\theta_{j_1}, \dots, \theta_{j_i}) \right) \right) \times p_+ \right. \\ \left. + \left(1 + \sum_{i=1}^{h-1} \left((-1)^i \sum_{j_1=1}^{k-i+1} \cdots \sum_{j_i=j_{i-1}+1}^{h-1} F_{X_{j_1}, \dots, X_{j_i}}(\theta_{j_1}, \dots, \theta_{j_i}) \right) \right) \times p_- \right). \quad (3.18)$$

3.2.3 Believe the Extreme for K-Test Sequences. Like the BN and BP strategies, the BE strategy

can also be extended beyond a 2-test sequence. The BE strategy uses two threshold values of ϕ_i and θ_i

relating the positive and negative labeling regions of the classifier, respectively, such that $\phi_i > \theta_i$. If the test result lies above ϕ_i , then the classifier labels the subject as positive. If the test result lies below θ_i , the test labels the subject as negative. If neither condition is met, then the subject continues to the next classifier in the sequence until a label is given. In a 3-test sequence, the subject can continue in the sequence until it reaches the third and final test. Under the third test, $\phi_3 = \theta_3$ so that a positive label is given if the result lies above the threshold and a negative label if the result falls below the threshold value. Figure 3.3 illustrates a tree diagram of how a subject is classified by an individual test under the BE strategy or is passed to the next test in the sequence.

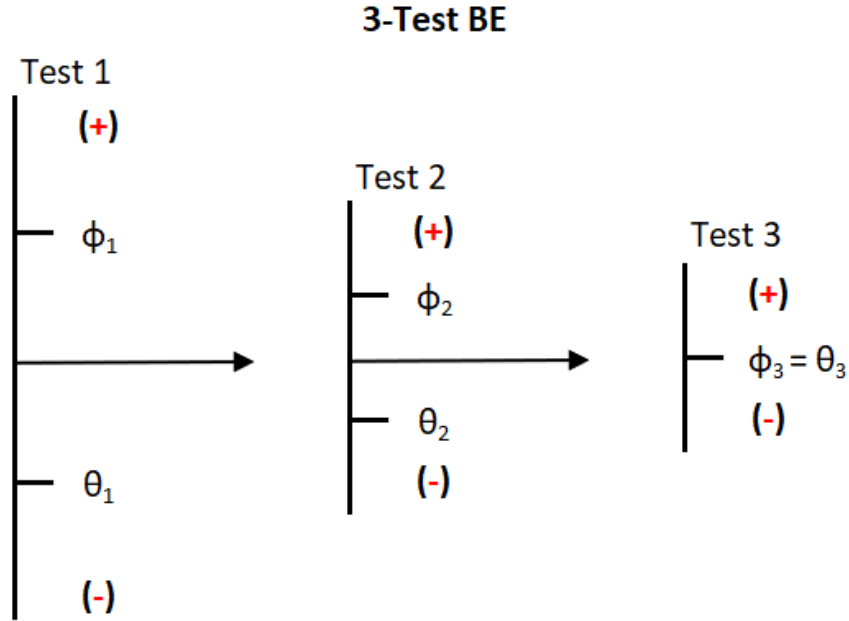


Figure 3.3: Tree diagram for Believe the Extreme (BE) under a 3-test strategy. In the figure, +/- symbols indicate positive and negative test results, respectively, with given ϕ_i and θ_i threshold values. Note that $\phi_i \geq \theta_i$.

Like the 2-test BE strategy, the 3-test strategy can classify a subject as positive or negative by any test in the sequence and the last test must give a label to the subject. With the addition of a third test, an additional condition is given to label a subject as "+" if third test's result lies above ϕ_3 after preceding tests have results that lie between ϕ_i and θ_i for $i \in \{1, 2\}$. Similarly, an additional condition is given to

label a subject as "-" if the third test's result falls below θ_3 after preceding tests have results that lie between ϕ_i and θ_i for $i \in \{1, 2\}$. Letting X_i denote a numerical feature value of a subject under test i , the 3-test BE expression can be expanded to:

$$A^{BE}(e) = \begin{cases} + & \text{if } (X_1 > \phi_1) \cup ((\theta_1 < X_1 \leq \phi_1) \cap (X_2 > \phi_2)) \\ & \cup ((\theta_1 < X_1 \leq \phi_1) \cap (\theta_2 < X_2 \leq \phi_2) \cap (X_3 > \phi_3)) \\ - & \text{if } (X_1 \leq \theta_1) \cup ((\theta_1 < X_1 \leq \phi_1) \cap (X_2 \leq \theta_2)) \\ & \cup ((\theta_1 < X_1 \leq \phi_1) \cap (\theta_2 < X_2 \leq \phi_2) \cap (X_3 \leq \theta_3)). \end{cases} \quad (3.19)$$

Equation 3.19 can be further generalized as more tests are added to a sequence. For each new test sequence, another condition to label "+" and "-" are added under the BE strategy. The condition to label a subject "+" is predicated on a test result lying above ϕ_i , but falling between ϕ_j and θ_j , where i denotes a test in the sequence and j all preceding tests (i.e., $j \in \{1, \dots, i-1\}$). Likewise, the condition to label a subject "-" is predicated on a test result falling below θ_i , but falling between ϕ_j and θ_j . Thus, the BE strategy expression can be generalized for a k-test sequence by extending Equation 3.19. Letting X_i denote a numerical feature value of a subject under test i and letting k denote the number of tests in a sequence, the k-test BE strategy is mathematically expressed as follows:

$$A^{BE}(e) = \begin{cases} + & \text{if } \bigcup_{i=1}^k \left(\left(\bigcap_{j=1}^{i-1} (\theta_j < X_j \leq \phi_j) \right) \cap (X_i > \phi_i) \right) \\ - & \text{if } \bigcup_{i=1}^k \left(\left(\bigcap_{j=1}^{i-1} (\theta_j < X_j \leq \phi_j) \right) \cap (X_i \leq \theta_i) \right). \end{cases} \quad (3.20)$$

The performance measures for BE (FPR_{θ}^{BE} and TPR_{θ}^{BE}) can also be extended in conjunction with the k-test expressions for the BE strategy. Equation 3.20 generalizes the conditions for a positive outcome under a k-test BE strategy and can be used in conjunction with the definitions of FPR and TPR. X_{i-} and

X_{i+} denote numerical feature values from a population group ε_- and ε_+ , respectively, where e is a subject in a classifier and i denotes a test in the sequence. The expression for FPR_θ^{BE} and TPR_θ^{BE} extends to [15]:

$$FPR_\theta^{BE} = P\left[A(e) = "+" \mid e \in \varepsilon_-\right] = P\left[\bigcup_{i=1}^k \left(\bigcap_{j=1}^{i-1} (\theta_j < X_{j-} \leq \phi_j)\right) \cap (X_{i-} > \phi_i)\right], \quad (3.21)$$

$$TPR_\theta^{BE} = P\left[A(e) = "+" \mid e \in \varepsilon_+\right] = P\left[\bigcup_{i=1}^k \left(\bigcap_{j=1}^{i-1} (\theta_j < X_{j+} \leq \phi_j)\right) \cap (X_{i+} > \phi_i)\right]. \quad (3.22)$$

Because of the complexity of these regions, the expressions for the k-test BE strategy is not easily generalized using joint CDFs. If the distributions of the population groups are known and probability density functions (PDFs) exist, these expressions are easily simplified as will be shown in Chapter 4. Since these expressions are not easily discernable, the BC and OC equations remain in their probability form using Equations 3.21 and 3.22.

For BC under the BE strategy (BC^{BE}), the suppressed notation remains the same as Equation 2.10; however, the expanded form implements the extended forms of FPR_θ^{BE} and TPR_θ^{BE} . Thus, BC^{BE} is calculated using the expression:

$$BC^{BE} = \min_{\theta \in \Theta} \left[c_{FP} \times p_- \times P\left[\bigcup_{i=1}^k \left(\bigcap_{j=1}^{i-1} (\theta_j < X_{j-} \leq \phi_j)\right) \cap (X_{i-} > \phi_i)\right] \right. \\ \left. + c_{FN} \times p_+ \times \left(1 - P\left[\bigcup_{i=1}^k \left(\bigcap_{j=1}^{i-1} (\theta_j < X_{j+} \leq \phi_j)\right) \cap (X_{i+} > \phi_i)\right]\right) \right]. \quad (3.23)$$

Like the previous strategies, the BE strategy uses test costs and probability of a test occurring to calculate OC. Under the BE strategy, test i only occurs if the preceding test results lie between each test's ϕ_j and θ_j values such that $j \in \{1, \dots, i-1\}$. Therefore, the probability of a test occurring under BE is based on the probability of all preceding test results lying between each test's given thresholds. Letting C_i

denote the cost of test i in the sequence and p_+ and p_- denote the prevalence of positive and negative responses, respectively, the OC under a BE strategy (OC_{θ}^{BE}) can be generalized to:

$$OC_{\theta}^{BE} = C_1 + \sum_{h=2}^k C_i \left(P \left[\bigcap_{j=1}^{i-1} (\theta_j < X_{j+} \leq \phi_j) \right] \times p_+ + P \left[\bigcap_{j=1}^{i-1} (\theta_j < X_{j-} \leq \phi_j) \right] \times p_- \right). \quad (3.24)$$

3.3 Trade-off Metric for Comparing Different Length Sequences

By adding additional tests to a sequence, ideally the accuracy of the sequence increases as misclassifications decrease (BC goes down); however, with each new test in place, an additional test cost is incurred by the sequence (OC goes up). Therefore, the gain in accuracy comes at a unit cost specified by the user (time, money, etc.). The addition of tests to a sequence is evaluated by quantifying this trade-off in accuracy to its cost. By determining the OC and BC for a k -test sequence, the trade-offs of accuracy and test cost can be compared between different sequence lengths.

This research reintroduces a utility measure (UM) to quantify the tradeoff between accuracy and cost when adding additional tests to a sequence as well as to find a point of diminishing return defined as the point at which the addition of a test to the sequence is not worth including (accuracy does not increase enough given the additional cost incurred) [15]. The UM begins by defining the total cost (TC) of a sequence as the sum of the BC and OC for a given sequence of length k . Then, the TC of two sequence lengths ($(k+1)$ and k) are compared by the difference of the longer and shorter test sequence and compared to a user-specified δ that accounts for a minimum tradeoff defined as:

$$TC_{k+1} - TC_k < \delta \quad (3.25)$$

Further expanding this ratio between the two costs, the UM can be created as a measure to compare two sequence lengths. Letting BC_k and OC_k denote the BC and OC for a k-test sequence, respectively, the UM can be calculated as follows:

$$\begin{aligned}
 TC_{k+1} - TC_k &= (BC_{k+1} + OC_{k+1}) - (BC_k + OC_k) < \delta \\
 (BC_{k+1} - BC_k) + (OC_{k+1} - OC_k) &< \delta \\
 (BC_{k+1} - BC_k) &< \delta + (OC_k - OC_{k+1}) \\
 UM &= \frac{(BC_{k+1} - BC_k)}{(OC_k - OC_{k+1})} > \delta^*
 \end{aligned} \tag{3.26}$$

Note the change in direction of the inequality from the last two lines of Equation 3.26 as $OC_k - OC_{k+1}$ is assumed to be negative (adding tests to a sequence inherently increases operational cost). The δ^* represents a threshold for which the UM must exceed for a test addition to be valid [15]. When this threshold is not exceeded, the improvement in accuracy gained from adding a test does not outweigh the added OC. Note for this research, the δ^* will be set to 0.0001 as will be discussed in Chapter 4.

Figure 3.4 depicts the relationship between the change in BC and the change in OC as a slope of the minimum BC between two test lengths. The curve on the left is a k-test sequence while the curve on the right is (k+1)-test sequence. Note how the slope is decreasing which indicates a positive UM with the sign change as described in Equation 3.26 [15].

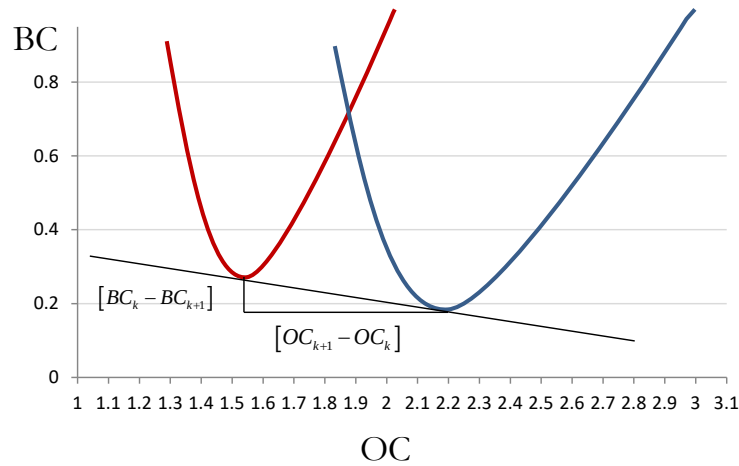


Figure 3.4: Depicts the relationship between the change in BC and the change in OC that creates the UM. The left curve represents a k-test sequence while the right curve represents a k+1-test sequence.

IV. Simulation

Simulation was used to demonstrate the usefulness of the UM in adding a test to a sequence and the factors important to consider when adding such a test. Different sequence lengths were simulated under the strategies of BN, BP, and BE with respect to accuracy and sequence cost. The simulation was predicated on taking elements from a population group with two partitions, $E = \{\varepsilon_+, \varepsilon_-\}$. The sequence then classified each element into one of two labels, $L = \{\ell_+, \ell_-\}$. This research simulated sequences with lengths of two, three, and four tests across scenarios with variations of six different factors: accuracy of test, population standard deviation ratio, correlation, test cost, prevalence, and misclassification cost. Additionally, the population groups were assumed to be normally distributed with ε_- having $\mu_- = 0$ and $\sigma_- = 1$, while ε_+ has μ_+ and σ_+ calculated from the quality of test and population standard deviation ratio. Accuracy and test costs were used to calculate the UM of adding a test to a sequence for varying lengths and scenarios. The simulation showed how the UM can be used to measure the tradeoff of accuracy and test costs in adding a test to a sequence.

4.1 Problem Formulation

4.1.1 Parameters. Accuracy of test and population standard deviation ratio, b , were used to determine the mean and standard deviation of the disease positive population, ε_+ . Accuracy of test was fixed to “good”, “fair”, or “poor”, corresponding to an AUC of 0.95, 0.85, and 0.75, respectively. Standard deviation ratio $\left(b = \frac{\sigma_-}{\sigma_+}\right)$ was fixed to 0.75, 1.00, and 1.25. Correlation values between test outcomes for positive and negative populations were varied at 0, 0.1, 0.3, and 0.5. Prevalence values for the positive population were varied at 0.1, 0.3, and 0.7. Tests costs considered cases of equal test costs and the doubling of test costs (i.e., $C_1 = 1, C_2 = 2, \dots$) the further an element goes through the sequence. Misclassification cost were considered to have either equal misclassifications or double costs for false positive classifications.

All combinations of factors were run for each test strategy and length for a total of 432 test scenarios per simulation. Table 4.1 summarizes these factors for the simulation.

Table 4.1: Varying Factors and Levels for Simulation.

AUC	$b = \frac{\sigma_-}{\sigma_+}$	ρ	Prevalence	Test Costs	Misclassification Cost
0.95	0.75	0	0.1	Equal	Equal
0.85	1	0.1	0.3	Double	Double
0.75	1.25	0.3	0.7		
		0.5			

4.1.2 *Setup*. First, the mean and standard deviation of the positive population group were calculated using the combinations of b and AUC values. Given the mean and standard deviation of the negative population group as $\mu_- = 0$ and $\sigma_- = 1$, respectively, the mean and variance for the positive population group were calculated as such:

$$\sigma_+ = \frac{\sigma_-}{b} \quad (4.1)$$

and

$$\mu_+ = \text{Norm.inv}(AUC, \mu_-, \sigma_-) \times \sqrt{1+b^2} \quad (4.2)$$

Additionally, the maximum and minimum values of θ and ϕ were determined by the floor of the $\pm 2\sigma$ range of the positive and negative population means, respectively. For this research, the values of θ and ϕ range between -2 and 4 with a step of 0.2. Table 4.2 shows the calculations for all possible μ_+ , σ_+ , and $\pm 2\sigma_+$ per combination of AUC and b values.

Table 4.2: Calculated Mean and Standard Deviation for Positive Population Group.

AUC	b	σ_+	μ_+	$+2\sigma_+$	$-2\sigma_+$
0.95	0.75	1.33	2.056	4.716	-0.604
	1.00	1.00	2.326	4.326	0.326
	1.25	0.80	2.633	4.233	1.033
0.85	0.75	1.33	1.296	3.956	-1.364
	1.00	1.00	1.466	3.466	-0.534
	1.25	0.80	1.659	3.259	0.059
0.75	0.75	1.33	0.843	3.503	-1.817
	1.00	1.00	0.954	2.954	-1.046
	1.25	0.80	1.080	2.680	-0.520

Each simulation ran through a specific test strategy of BN, BP, and BE under different sequence lengths of two, three, and four tests. The simulations were conducted on Jupyter Notebook v.5.6.0 using Python. Recall from Chapter 2 that the FPR, TPR, BP, and OC were calculated to evaluate the performance of each test strategy. Since the simulation assumed a normally distributed test outcome for each population group ($\varepsilon_+, \varepsilon_-$), the probability distribution function (pdf) could be used to calculate the four performance measurements. Thus, the pdf for the outcome features of the negative population was given by a multivariate normal distribution with mean vector $\mu = [0, 0, \dots, 0]$ and covariance matrix

$$\Sigma_- = \begin{bmatrix} 1 & \rho & \cdots & \rho \\ \rho & 1 & & \vdots \\ \vdots & & \ddots & \rho \\ \rho & \cdots & \rho & 1 \end{bmatrix}.$$

The pdf for the outcome features of the positive population was given by the analogous structure with the means and variances as provided in Table 4.2 for each scenario. This changed the equations for FPR, TPR, and OC (see Equations 3.1-3.6 and 3.13-3.18) into pdf forms that could be easily computed. Note that BC is a function of FPR and TPR, so the equation remained the same (see Equation 2.8). Letting $f_{X_{1-}, \dots, X_{k-}}$ and $f_{X_{1+}, \dots, X_{k+}}$ denote joint pdfs for the outcomes of the tests in a sequence, the calculations for FPR, TPR, and OC under each test strategy of BP, BN, and BE became:

$$FPR_{\theta}^{BP} = 1 - P \left[\bigcap_{i=1}^k (X_{i-} \leq \theta_{i-}) \right] = 1 - \int_{-\infty}^{\theta_1} \cdots \int_{-\infty}^{\theta_k} f_{X_{1-}, \dots, X_{k-}}(t_1, \dots, t_k) dt_k \dots dt_1 \quad (4.3)$$

$$TPR_{\theta}^{BP} = 1 - P \left[\bigcap_{i=1}^k (X_{i+} \leq \theta_{i+}) \right] = 1 - \int_{-\infty}^{\theta_1} \cdots \int_{-\infty}^{\theta_k} f_{X_{1+}, \dots, X_{k+}}(t_1, \dots, t_k) dt_k \dots dt_1 \quad (4.4)$$

$$\begin{aligned} OC_{\theta}^{BP} &= C_1 + \sum_{i=2}^k C_i \left(P \left[\bigcap_{j=1}^{i-1} (X_{j+} \leq \theta_j) \right] \times p_+ + P \left[\bigcap_{j=1}^{i-1} (X_{j-} \leq \theta_j) \right] \times p_- \right) \\ &= C_1 + \sum_{i=2}^k C_i \left(\int_{-\infty}^{\theta_{i-1}} \cdots \int_{-\infty}^{\theta_{k-1}} f_{X_{i-1+}, \dots, X_{k-1+}}(t_1, \dots, t_{k-1}) dt_{k-1} \dots dt_{i-1} \times p_+ \right. \\ &\quad \left. + \int_{-\infty}^{\theta_{i-1}} \cdots \int_{-\infty}^{\theta_{k-1}} f_{X_{i-1-}, \dots, X_{k-1-}}(t_1, \dots, t_{k-1}) dt_{k-1} \dots dt_{i-1} \times p_- \right) \end{aligned} \quad (4.5)$$

$$FPR_{\theta}^{BN} = P \left[\bigcap_{i=1}^k (X_{i-} > \theta_{i-}) \right] = \int_{\theta_1}^{\infty} \cdots \int_{\theta_k}^{\infty} f_{X_{1-}, \dots, X_{k-}}(t_1, \dots, t_k) dt_k \dots dt_1 \quad (4.6)$$

$$TPR_{\theta}^{BN} = P \left[\bigcap_{i=1}^k (X_{i+} > \theta_{i+}) \right] = \int_{\theta_1}^{\infty} \cdots \int_{\theta_k}^{\infty} f_{X_{1+}, \dots, X_{k+}}(t_1, \dots, t_k) dt_k \dots dt_1 \quad (4.7)$$

$$\begin{aligned} OC_{\theta}^{BN} &= C_1 + \sum_{i=2}^k C_i \left(P \left[\bigcap_{j=1}^{i-1} (X_{j+} > \theta_j) \right] \times p_+ + P \left[\bigcap_{j=1}^{i-1} (X_{j-} > \theta_j) \right] \times p_- \right) \\ &= C_1 + \sum_{i=2}^k C_i \left(\int_{\theta_{i-1}}^{\infty} \cdots \int_{\theta_{k-1}}^{\infty} f_{X_{i-1+}, \dots, X_{k-1+}}(t_1, \dots, t_{k-1}) dt_{k-1} \dots dt_{i-1} \times p_+ \right. \\ &\quad \left. + \int_{\theta_{i-1}}^{\infty} \cdots \int_{\theta_{k-1}}^{\infty} f_{X_{i-1-}, \dots, X_{k-1-}}(t_1, \dots, t_{k-1}) dt_{k-1} \dots dt_{i-1} \times p_- \right) \end{aligned} \quad (4.8)$$

$$\begin{aligned} FPR_{\theta, \phi}^{BE} &= P \left[\bigcup_{i=1}^k \left(\left(\bigcap_{j=1}^{i-1} (\theta_j < X_{j-} \leq \phi_j) \right) \cap (X_{i-} > \phi_i) \right) \right] \\ &= \sum_{i=1}^k \int_{\phi_i}^{\infty} \left(\int_{\theta_1}^{\phi_1} \cdots \int_{\theta_{i-1}}^{\phi_{i-1}} f_{X_{1-}, \dots, X_{i-}}(t_1, \dots, t_i) dt_{i-1} \dots dt_1 \right) dt_i \end{aligned} \quad (4.9)$$

$$\begin{aligned}
TPR_{\theta, \phi}^{BE} &= P \left[\bigcup_{i=1}^k \left(\bigcap_{j=1}^{i-1} (\theta_j < X_{j+} \leq \phi_j) \right) \cap (X_{i+} > \phi_i) \right] \\
&= \sum_{i=1}^k \int_{\phi_i}^{\infty} \left(\int_{\theta_1}^{\phi_1} \cdots \int_{\theta_{i-1}}^{\phi_{i-1}} f_{X_{1+}, \dots, X_{i+}}(t_1, \dots, t_i) dt_{i-1} \dots dt_1 \right) dt_i
\end{aligned} \tag{4.10}$$

$$\begin{aligned}
OC_{\theta}^{BE} &= C_1 + \sum_{h=2}^k C_i \left(P \left[\bigcap_{j=1}^{i-1} (\theta_j < X_{j+} \leq \phi_j) \right] \times p_+ + P \left[\bigcap_{j=1}^{i-1} (\theta_j < X_{j-} \leq \phi_j) \right] \times p_- \right) \\
&= C_1 + \sum_{i=2}^k C_i \left(\int_{\theta_{i-1}}^{\phi_{i-1}} \cdots \int_{\theta_{k-1}}^{\phi_{k-1}} f_{X_{i-1+}, \dots, X_{k-1+}}(t_1, \dots, t_{k-1}) dt_{k-1} \dots dt_{i-1} \times p_+ \right. \\
&\quad \left. + \int_{\theta_{i-1}}^{\phi_{i-1}} \cdots \int_{\theta_{k-1}}^{\phi_{k-1}} f_{X_{i-1-}, \dots, X_{k-1-}}(t_1, \dots, t_k) dt_{k-1} \dots dt_{i-1} \times p_- \right)
\end{aligned} \tag{4.11}$$

For each scenario, the simulation generated a family of performance values under $((\theta, \phi) \in \Theta)$. With a range of -2 to 4, the simulation iterated through 31 sets of values for each θ_i under the BP and BN strategies using a step size of 0.2. Thus, a total of 31^k set of parameters were generated for each of the 432 scenarios under BP and BN, where k denotes the length of the sequence. Under the BE strategy, the simulation iterated through 31 sets of values for each ϕ_i and θ_i such that $\phi_i > \theta_i$. A total of $31^k 15^{k-1}$ sets of parameters were generated for each of the 432 scenarios under BE. The minimum BC for each scenario was selected and the corresponding parameters, ϕ_i and θ_i were recorded.

4.2 Structure of Results

The results of the simulation were collected and organized into two separate appendices. Appendix A provides the rates and threshold values associated for all sequences and scenarios. For each scenario, the minimum BC was selected, generating a total of 432 sets of parameters for each strategy and test length, one for each scenario. The set of values for each scenario included the FPR, TPR, BC, OC, and corresponding ϕ_i and θ_i values for the minimum BC solution. This allowed for comparisons of accuracy across different sequence in addition to cost and threshold values. Appendix B provides summaries of the

change in accuracy and the UM values between different sequence lengths. This includes differences of FPR, TPR, BC, and OC between consecutive sequence lengths (i.e., 2-3 and 3-4). As with Appendix A, these summaries include all 432 scenarios for each strategy and test length in order to directly compare how adding a test either improved or worsened the sequence in terms of its cost and accuracy.

The discussion of results is divided into three sections for each of the test strategies (BP, BN, and BE). Within each of these sections, the differences in accuracies and costs are first discussed along with the associated UM value. This is to demonstrate how the UM can identify invalid sequences based on a worsening of performance when a test is added to a sequence. Invalid sequences contain a test with a threshold that is so high or so low that it renders a test unnecessary in the sequence (i.e., one test is almost completely ignored) [13]. For this research, a valid test was defined as one in which the threshold values remained within a range of $+\sigma_+$ and $-\sigma_-$ of the positive and negative population groups, respectively. Using this criterion, at least 15.85% of a population under a test would be classified since the simulation assumed a normally distributed population.

The results then discuss the relationships between the UM under invalid and valid sequences. For this research, UM values larger than 0.0001 were considered as valid test additions. Alternatively, UM values less than or equal to 0.0001 were invalid test additions as the utility of adding a test were inconsequential to the accuracy of the sequence (essentially an increase of 0.0001 in classification for each additional test). The threshold of 0.0001 for the UM was determined by how accuracies and thresholds changed between varying lengths of the sequences as will be discussed in the next section.

Lastly, the results discuss an analysis conducted on the UM to identify which factors have the biggest influence in determining the invalid and valid nature of a sequence. The UM values are transformed into binary responses of “valid” and “invalid” and interpreted using a nominal logistic regression in JMP 14 software. In relating these factors, the frequency of each response is graphed and the odds ratio for different characteristics in the scenarios are discussed with respect to the odds of producing an invalid sequence. For

the BE sequence, modeling results focused on the BE sequence degenerating into either a BP, BN , or invalid sequence.

4.3 Believe the Positive Results

4.3.1 *Comparing Varying BP Sequence Lengths.* For each scenario, the different sequence lengths for BP were compared against one another and an UM was calculated for each comparison. Table 4.3 depicts a sample of the BP strategy under a “Good” test accuracy, b of 1.25, and equal test costs. The Δ 's in the table indicate the change in accuracy (FPR or TPR) or cost (BC or OC) from a k -test sequence to a $(k+1)$ -test sequence. The “Lengths” column indicates the lengths of sequences that are compared against one another (e.g., “2-3” compares 2-test and 3-test sequences). Note that the UM is a ratio between the Δ_{BC} and the negative Δ_{OC} to quantify the tradeoff between misclassification costs and operating costs.

Looking at Table 4.3, the values of the UM were positive and decrease in comparing the lengths of “2-3” and “3-4” under a ρ of 0.1, indicating a diminishing return in the value of adding a test to the sequence. This is supported by looking at the change in accuracy (Δ_{BC}) and the change in operational cost (Δ_{OC}) of the sequence. While Δ_{OC} remained relatively equal, Δ_{BC} increased as improvement in accuracy decreased when the sequence lengthens from 2 to 3 and then to the 4-test length. The addition of the fourth test did not provide as much of an accuracy improvement as the addition of a third test; therefore, the UM decreased with the addition of a new test. Despite this decrease, the relatively high positive value of the UM alludes to a valid test addition to the sequence where adding tests continues to improve the accuracy of the system. Note that

Table 4.3: Sample BP Length Comparisons
 (“Good” Accuracy, $b = 1.25$, Equal Test Costs).

ρ	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
0.1	0.1	Equal	2-3	-0.00242	0.01468	-0.00365	0.93429	0.00390
			3-4	0.00042	0.02377	-0.00200	0.92044	0.00217
		Double	2-3	-0.00166	0.01108	-0.00409	0.94738	0.00432
			3-4	0.00133	0.05010	-0.00262	0.92985	0.00282
	0.3	Equal	2-3	-0.00940	0.00080	-0.00682	0.79776	0.00855
			3-4	-0.00322	0.00607	-0.00408	0.72909	0.00559
		Double	2-3	-0.00326	0.01497	-0.00906	0.78066	0.01160
			3-4	-0.00239	0.00477	-0.00477	0.80093	0.00596
	0.7	Equal	2-3	-0.02722	-0.00253	-0.00639	0.35383	0.01807
			3-4	0.00004	0.00509	-0.00355	0.37295	0.00952
		Double	2-3	-0.01239	0.00238	-0.00910	0.38379	0.02371
			3-4	-0.00390	0.00472	-0.00564	0.42999	0.01313
0.3	0.1	Equal	2-3	0.00002	0.00002	0.00002	0.97540	-0.00002
			3-4	0.00003	0.00002	0.00002	1.04750	-0.00002
		Double	2-3	0.00002	0.00007	0.00003	0.99866	-0.00003
			3-4	0.00003	0.00007	0.00005	0.87358	-0.00005
	0.3	Equal	2-3	0.00002	0.00000	0.00001	1.29655	-0.00001
			3-4	0.00002	0.00000	0.00001	0.69110	-0.00002
		Double	2-3	0.00002	0.00000	0.00003	0.73186	-0.00004
			3-4	0.00002	0.00000	0.00003	0.76485	-0.00004
	0.7	Equal	2-3	0.00001	0.00000	0.00000	1.66555	0.00000
			3-4	0.00001	0.00000	0.00000	0.29111	-0.00001
		Double	2-3	0.00002	0.00000	0.00001	1.01277	-0.00001
			3-4	0.00002	0.00000	0.00001	-0.37497	0.00003

*Note that $\Delta_{BC} = BC_{k+1} - BC_k$ and $\Delta_{OC} = OC_{k+1} - OC_k$

Alternatively, the UM values do not have an easily discernable pattern when $\rho = 0.3$. The Δ_{BC} ’s were slightly positive or zero showing no improvement in accuracy to the sequence. Additionally, the Δ_{OC} ’s remain positive (except for one) due to additional test costs incurred when adding another test to the sequence. This created additional costs without any improvement to the system, causing an overall negative effect with an addition of a test. Therefore, UM values that are relatively small or negative (< 0.0001) indicates that a sequence would not benefit from additional tests being added to the sequence. When such a test is added, the sequence is denoted as “invalid” as one or more tests become useless or ignored,

contributing only to the cost of the sequence, but not the accuracy. The reasoning for invalidity is further discussed in Section 4.3.3.

4.3.2 Accuracy, Costs, and Thresholds for Valid Sequences Under BP. Under the BP strategy, a valid sequence in this research is one where all test thresholds remain below a standard deviation above the mean. This ensures that at least 15.85% of the positive population under a specified test are classified since the nature of tests under the BP strategy labels elements positive or passes the element to the next test. Using the example for a BP strategy under a “Good” test accuracy, b of 1.25, equal test costs, and $\rho = 0.1$, this can be seen by looking at the threshold values of each test. Table 4.4 provides the accuracies, costs, and thresholds for the simulation under this scenario for each test length sequence. Note that $\mu_+ = 2.633$ and $\sigma_+ = 0.80$ for this scenario and that all thresholds were selected based on minimizing BC.

Table 4.4: Sample BP Calculations for Valid Test Additions
 (“Good” Accuracy, $b = 1.25$, Equal Test Costs, $\rho = 0.1$).

ρ	Prevalence	Misclassification Cost	Length	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
0.1	0.1	Equal	2	0.01626	0.81508	0.03313	1.92841	2.4	2.4		
			3	0.01384	0.82976	0.02948	2.86270	2.6	2.6	2.6	
			4	0.01426	0.85353	0.02748	3.78314	2.6	2.8	2.8	2.6
		Double	2	0.00927	0.72701	0.04399	1.94375	2.6	2.6		
			3	0.00762	0.73809	0.03990	2.89113	2.8	2.8	2.8	
			4	0.00894	0.78819	0.03727	3.82098	2.8	3.0	2.8	2.8
	0.3	Equal	2	0.04463	0.93160	0.05176	1.73246	2.0	2.0		
			3	0.03522	0.93241	0.04493	2.53022	2.4	2.2	2.2	
			4	0.03200	0.93848	0.04086	3.25931	2.4	2.4	2.4	2.4
		Double	2	0.02745	0.88327	0.07345	1.76506	2.2	2.2		
			3	0.02419	0.89824	0.06440	2.54572	2.4	2.4	2.4	
			4	0.02181	0.90301	0.05962	3.34665	2.6	2.6	2.4	2.6
	0.7	Equal	2	0.10520	0.98146	0.04454	1.32083	1.6	1.6		
			3	0.07798	0.97893	0.03814	1.67467	1.8	2.0	2.0	
			4	0.07802	0.98402	0.03459	2.04762	2.0	2.0	2.2	2.0
		Double	2	0.06984	0.96293	0.06786	1.35678	1.8	1.8		
			3	0.05745	0.96531	0.05876	1.74057	2.0	2.0	2.2	
			4	0.05355	0.97003	0.05311	2.17057	2.2	2.2	2.2	2.2

Notice that all threshold values remained less than one standard deviation above the positive population mean (< 3.433), indicating that each sequence is valid. Additionally, the threshold values were increasing

for each increase in length, approaching the upper bound for a valid sequence. As discussed in Section 4.3.1, the BC was improving as less misclassifications were occurring while OC was increasing with the lengthening of the sequence. This is the tradeoff measured by the UM as it calculates the ratio of the change in BC and OC from one test length to another. The UM remained positive as each sequence maintains a valid structure and continued to improve on the accuracy. This can be observed by looking at the BC values between different test lengths. However, for valid sequences, these BC values continued to decrease, and OC values continued to increase as tests were added to the sequence until at least one test had a threshold that is too large. This is the point at which adding a test to the sequence is invalid.

4.3.3 Accuracy, Costs, and Thresholds for Invalid Test Additions Under BP. Under the BP strategy, an invalid sequence is one where a threshold value lies above one standard deviation from the mean. Using the example for a BP strategy under a “Good” test accuracy, b of 1.25, equal test costs, and $\rho = 0.3$, Table 4.5 provides the accuracies, costs, and thresholds under this scenario as a sequence becomes invalid by adding tests. High threshold values are bolded to highlight where tests are unnecessary. Note again that $\mu_+ = 2.633$ and $\sigma_+ = 0.80$ for this scenario and that all thresholds were selected based on minimizing BC.

Table 4.5: Sample BP Calculations for Invalid Test Additions
 (“Good” Accuracy, $b = 1.25$, Equal Test Costs, $\rho = 0.3$).

ρ	Prevalence	Misclassification Cost	Length	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
0.3	0.1	Equal	2	0.01818	0.74845	0.04151	1.91242	2.2	2.6		
			3	0.01820	0.74847	0.04153	2.88782	2.6	4.0	2.2	
			4	0.01822	0.74849	0.04155	3.93531	4.0	4.0	2.6	2.2
		Double	2	0.00916	0.63557	0.05292	1.94375	2.6	2.6		
			3	0.00918	0.63564	0.05296	2.94241	4.0	2.6	2.6	
			4	0.00921	0.63571	0.05300	3.81599	2.6	4.0	2.6	4.0
	0.3	Equal	2	0.05482	0.90170	0.06786	1.67762	1.6	4.0		
			3	0.05484	0.90171	0.06788	2.97416	4.0	4.0	1.6	
			4	0.05486	0.90171	0.06789	3.66526	4.0	4.0	1.6	4.0
		Double	2	0.03005	0.82368	0.09497	1.73246	2.0	2.4		
			3	0.03007	0.82368	0.09500	2.46432	2.0	2.4	4.0	
			4	0.03010	0.82368	0.09503	3.22917	2.0	4.0	4.0	2.4
	0.7	Equal	2	0.11508	0.96338	0.06016	1.27428	1.2	4.0		
			3	0.11510	0.96338	0.06016	2.93983	4.0	4.0	1.2	
			4	0.11511	0.96338	0.06017	3.23094	4.0	4.0	1.2	4.0
		Double	2	0.08077	0.93838	0.09160	1.29468	1.4	4.0		
			3	0.08079	0.93838	0.09161	2.30745	4.0	1.4	4.0	
			4	0.08081	0.93838	0.09162	1.93248	1.4	4.0	4.0	4.0

Notice that for prevalence of 0.1, the 2-test sequence remained valid, but after increasing from a 2-test to a 3-test sequence, the sequence was no longer valid. In fact, as prevalence increased, every new test resulted in a sequence where the threshold value for at least one test was pushed to the upper bound of the threshold values. In the 3-test BP sequence, this caused one of three tests to pass almost all elements to the next test, or in the case of the last test in the sequence, classify all elements as negative. When one test was invalid, the 3-test sequence acted as though it were a 2-test sequence, and can be further evidenced by the almost identical BC values. Thus, when a test is included, there was effectively no difference in the way the 2-test and 3-test sequences classified elements. In short, these sequences contained tests that were relatively unused, causing the accuracies and BC values to remain relatively unchanged, while the OC continued to increase. The ratio of this change in BC and OC remained relatively small, as the UM values

for these scenarios fell below 0.0001. Such results are the reason why any UM less than 0.0001 was considered as an invalid test addition for this research.

4.3.4 Analysis of Test Additions to BP Sequences. The UM values for BP were transformed to binary responses of “valid” or “invalid” corresponding to whether the UM was greater or less than 0.0001, respectively. A nominal logistic regression was then run on the data using the varying accuracy, b , ρ , prevalence, test costs, and misclassification costs as predictors for whether the sequence was valid or not. From this, the factors of importance could be identified in determining the valid or invalid nature of adding a test to a BP sequence. Table 4.6 depicts the p-values associated with each factor in order of greatest to least significance. Note that the bolded factors are significant with respect to an $\alpha = 0.05$.

Table 4.6: Factors and Associated P-Values for BP Sequences.	
Factors	p-values
Accuracy	<0.001
b	<0.001
ρ	<0.001
Prevalence	<0.001
Test Costs	0.0141
Misclassification Costs	0.159

The four factors of accuracy, b , ρ , and prevalence had the most significance in determining whether adding a test to a BP sequence was valid or invalid. Accuracy, b , and ρ were expected to be significant as they impact the feature distribution for the positive population and thus the associated joint CDFs in calculating the accuracy and cost. The prevalence attributes to the effect a low frequency of positive population elements has on the BP strategy. Under a higher prevalence, a strategy that focuses on identifying positive elements was highly susceptible to an increase in the number of false positives. By looking at the odds ratios, this impact can be further observed. Table 4.7 provides the odds ratio of being invalid between the levels of the significant factors from Table 4.6.

Table 4.7: Odds Ratio for Significant Factors and Levels Under BP.

Factor	Level 1	Level 2	Odds Ratio	Lower 95%	Upper 95%	p-value
Accuracy	Poor	Good	210	43	1027	<0.0001
	Poor	Fair	174	36	824.667	<0.0001
b	1.25	1	16374	2124	126195	<0.0001
ρ	0.1	0	13	3	49	0.0002
	0.3	0	686	4819	33857	<0.0001
	0.3	0.1	385	82	1798	<0.0001
	0.5	0	5674	777	41386	<0.0001
	0.5	0.1	453	92	2209	<0.0001
Prevalence	0.1	0.3	19	5	63	<0.0001
	0.1	0.7	19	5	63	<0.0001

Odds ratios greater than 1 demonstrate how much higher the chance the test addition under BP is invalid versus valid by either decreasing accuracy, increasing b , increasing prevalence, or increasing ρ . For example, the odds ratio between a ρ of 0.1 and 0 is 12 which means that the odds of having an invalid test addition to the sequence is 12 times greater for a sequence with a $\rho = 0.1$ than a sequence with a $\rho = 0$. Taking the three most significant factors (accuracy, b , and ρ), the increase in the chance for an invalid test addition can be seen by graphing each scenario by its outcome (valid/invalid) as provided in Figure 4.1.

Figure 4.1 illustrates how factors individually and cohesively affect the outcomes of valid and invalid test additions. Notice that invalid test additions occurred as b and ρ increases in value. For $b = 1.25$ and $\rho = 0.3$ or 0.5 , all test additions were invalid while for $b = 0.75$ all test additions were valid. Under a “Good” accuracy, the sequence has a strict binary outcome when varying ρ and b for the scenarios (either valid or invalid ($\rho = 0.3, 0.5$ and $b=1.25$) with no crossover). Additionally, when $b = 1$, invalid test additions for the BP sequence occurred when the accuracy of the tests in the sequence were poor.

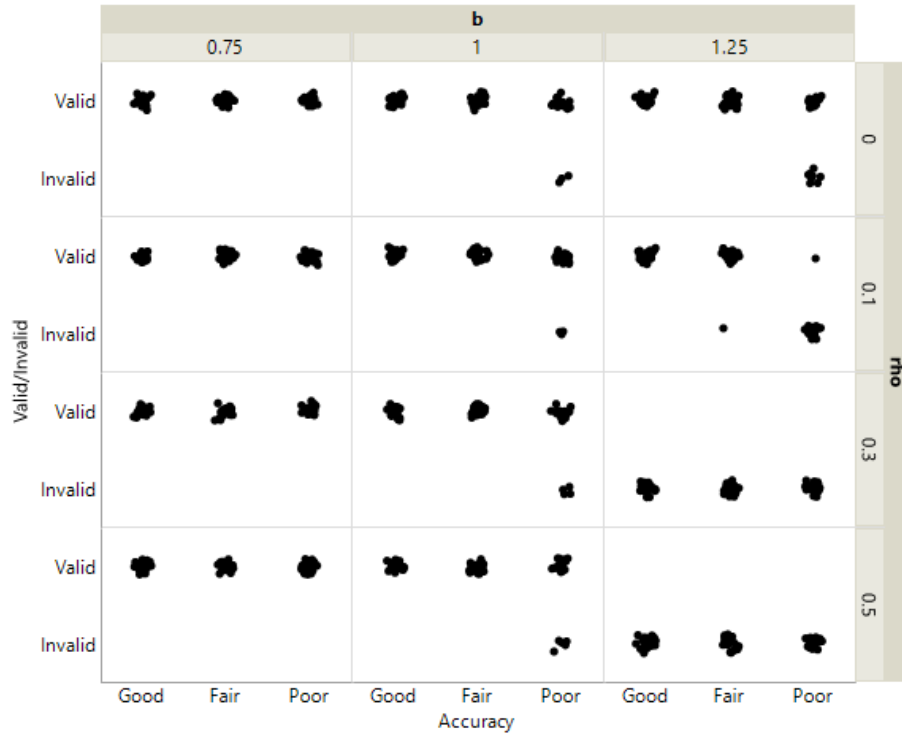


Figure 4.1: Graphic of Valid/Invalid vs. Accuracy and grouped by ρ and b . This illustrates how the sequence determines valid and invalid test additions to BP sequences based on specified values of significant factors.

4.4 Believe the Negative Results

4.4.1 *Comparing Varying BN Sequence Lengths.* For each scenario, different sequence lengths for BN were compared against one another and an UM was calculated for each comparison. Table 4.8 depicts a sample of the BN strategy under a “Fair” test accuracy, b of 0.75, and equal test costs. The Δ ’s in the table indicate the change in accuracy (FPR or TPR) and cost (BC or OC) from a k -test to a $(k+1)$ -test sequence. Table 4.8 is a sample of the whole BN comparison set to give a generalization of how the UM was interpreted for this test strategy. The remaining scenarios can be found in Appendix A.

Looking at Table 4.8, the UM for a ρ of 0 were greater than 0.0001 except when extending from a 3-test to a 4-test sequence for a prevalence of 0.7. For a ρ of 0 and a prevalence of 0.7, adding a third test increased BC as shown by the Δ_{BC} , and produced an invalid addition as this UM value was negative.

Table 4.8: Sample BN Length Comparisons
 (“Fair” Accuracy, $b = 0.75$, Equal Test Costs).

ρ	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
0	0.1	Equal	2-3	0.00022	0.02047	-0.00185	0.17793	0.01041
			3-4	-0.00058	0.00597	-0.00112	0.27727	0.00403
		Double	2-3	0.00099	0.03515	-0.00173	0.16407	0.01056
			3-4	-0.00062	0.00025	-0.00114	0.21788	0.00522
	0.3	Equal	2-3	0.00290	0.02186	-0.00453	0.43944	0.01031
			3-4	0.00150	0.01201	-0.00255	0.39863	0.00640
		Double	2-3	-0.00454	-0.00380	-0.00522	0.30602	0.01706
			3-4	0.00039	0.01249	-0.00320	0.42470	0.00754
	0.7	Equal	2-3	-0.03714	-0.01503	-0.00062	0.84294	0.00073
			3-4	-0.02019	-0.00911	0.00032	0.87020	-0.00037
		Double	2-3	0.00955	0.01551	-0.00513	0.75101	0.00683
			3-4	-0.01558	-0.00977	-0.00251	0.71689	0.00350
	0.1	Equal	2-3	0.00044	0.00644	-0.00025	0.20648	0.00120
			3-4	-0.00008	-0.00131	0.00006	0.92305	-0.00007
		Double	2-3	0.00023	0.00658	-0.00024	0.10718	0.00228
			3-4	-0.00002	-0.00087	0.00005	0.15424	-0.00030
	0.3	Equal	2-3	-0.00182	-0.00235	-0.00057	0.41723	0.00136
			3-4	-0.00073	-0.00272	0.00031	0.36421	-0.00084
		Double	2-3	0.00113	0.00779	-0.00076	0.29085	0.00260
			3-4	-0.00022	-0.00190	0.00026	0.12627	-0.00204
	0.7	Equal	2-3	-0.00968	-0.00556	0.00099	0.85477	-0.00116
			3-4	-0.00939	-0.00551	0.00104	0.99963	-0.00104

*Note that $\Delta_{BC} = BC_{k+1} - BC_k$ and $\Delta_{OC} = OC_{k+1} - OC_k$

The extension from a 2-test to 3-test sequence with $\rho = 0.1$ produced positive UM values except when prevalence was 0.7 (Table 4.8). However, the extension from a 3-test to 4-test sequence produced negative UM values. These results demonstrate that the addition of the third test was mostly valid, but that the addition of a fourth test to the BN sequence was invalid. Under a prevalence of 0.7, adding a third test was also an invalid test addition as the UM value was negative. This is supported by the positive Δ_{BC} values which indicate a worsening of the accuracy when an additional test was added to the sequence.

4.4.2 Accuracy, Costs, and Thresholds for Valid Sequences Under BN. Under the BN strategy, a valid sequence was one where all test thresholds remain above a standard deviation above the mean. This ensured that at least 15.85% of the negative population under a specified test were classified, since the

nature of tests under the BN strategy labels elements as negative or passes the element to the next test. Table 4.9 provides the accuracies, costs, and thresholds for a scenario under a “Fair” accuracy, b of 0.75, and equal test costs. Thresholds were based on minimizing the BC. Note that $\mu_- = 0$ and $\sigma_- = 1$ for all scenarios.

Table 4.9: Sample BN Calculations for Valid Test Additions
 (“Fair” Accuracy, $b = 0.75$, Equal Test Costs, $\rho = 0, 0.1$).

ρ	Prevalence	Misclassification Cost	Length	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
0	0.1	Equal	2	0.00929	0.24778	0.08359	1.15571	1.2	1.4		
			3	0.00951	0.26824	0.08173	1.33364	0.8	0.8	0.8	
			4	0.00893	0.27421	0.08062	1.61091	0.4	0.4	0.6	0.6
		Double	2	0.00300	0.16785	0.08862	1.09252	1.6	1.6		
			3	0.00399	0.20300	0.08689	1.25659	1.0	1.0	1.0	
			4	0.00338	0.20325	0.08575	1.47446	0.6	0.6	0.8	0.8
	0.3	Equal	2	0.05810	0.45083	0.20542	1.38763	0.6	0.8		
			3	0.06100	0.47269	0.20089	1.82708	0.2	0.2	0.4	
			4	0.06250	0.48470	0.19834	2.22571	0.0	0.0	0.0	0.0
		Double	2	0.02517	0.34540	0.23162	1.28086	1.0	1.0		
			3	0.02063	0.34160	0.22640	1.58688	0.6	0.6	0.6	
			4	0.02102	0.35409	0.22320	2.01158	0.2	0.2	0.4	0.4
	0.7	Equal	2	0.52671	0.85089	0.26239	1.81751	-0.6	-0.6		
			3	0.48957	0.83586	0.26177	2.66045	-0.8	-0.8	-0.8	
		Double	2	0.21037	0.66281	0.36226	1.68684	0.0	0.2		
			3	0.21992	0.67832	0.35713	2.43785	-0.4	-0.2	-0.2	
			4	0.20434	0.66855	0.35462	3.15474	-0.6	-0.4	-0.4	-0.4
0.1	0.1	Equal	2	0.00899	0.22476	0.08561	1.12034	1.4	1.4		
			3	0.00943	0.23120	0.08537	1.32682	0.8	1.0	1.0	
		Double	2	0.00298	0.14903	0.09045	1.09252	1.6	1.8		
			3	0.00321	0.15561	0.09021	1.19970	1.2	1.2	1.2	
		Equal	2	0.06799	0.45495	0.21111	1.38763	0.6	0.8		
			3	0.06618	0.45260	0.21054	1.80486	0.2	0.4	0.4	
	0.3	Double	2	0.02324	0.31554	0.23787	1.28086	1.0	1.2		
			3	0.02437	0.32334	0.23711	1.57171	0.6	0.8	0.6	
		Equal	2	0.06799	0.45495	0.21111	1.38763	0.6	0.8		
			3	0.06618	0.45260	0.21054	1.80486	0.2	0.4	0.4	
		Double	2	0.02324	0.31554	0.23787	1.28086	1.0	1.2		
			3	0.02437	0.32334	0.23711	1.57171	0.6	0.8	0.6	

The thresholds for all sequences under valid test additions remained greater than one standard deviation above the negative population mean (> -1). Additionally, as the sequence increased in length, the thresholds decreased to allow following tests in the sequence to classify as well. The thresholds began approaching the lower bound of -2 where an additional test thereafter would produce an invalid sequence;

however, remained above the threshold for these scenarios. As discussed in Section 4.4.1, although the BC was improving while the OC was increasing, the UM value was decreasing across different lengths of test.

4.4.3 Accuracy, Costs, and Thresholds for Invalid Sequences Under BN. Under the BN strategy, an invalid sequence was defined as one where a threshold value lies below a single standard deviation from the negative population mean. In an invalid sequence, at least one test in the sequence was unnecessary as almost all elements were passed from a test in the sequence due to the nature of a BN strategy. As such, tests with low thresholds such as these would not provide much improvement in accuracy for the sequence if at all. These tests are ignored under BN while still incurring a cost for the sequence. This was supported by the invalid test additions that occurred for BN. Table 4.10 provides the accuracies, costs, and thresholds for the different sequence lengths for invalid test additions under a “Fair” accuracy, $b = 0.75$, equal tests costs, and $\rho = 0$ or 0.1. Note again that $\mu_- = 0$ and $\sigma_- = 1$ and all thresholds were selected based on minimizing BC.

Table 4.10: Sample BN Calculations for Invalid Test Additions
 (“Fair” Accuracy, $b = 0.75$, Equal Test Costs).

ρ	Prevalence	Misclassification Cost	Length	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
0	0.7	Equal	3	0.48957	0.83586	0.26177	2.66045	-0.8	-0.8	-0.8	
			4	0.46938	0.82674	0.26209	3.53065	-1.0	-1.0	-1.0	-0.8
0.1	0.1	Equal	3	0.00943	0.23120	0.08537	1.32682	0.8	1.0	1.0	
			4	0.00935	0.22990	0.08543	2.24987	-2.0	1.0	0.8	1.0
		Double	3	0.00321	0.15561	0.09021	1.19970	1.2	1.2	1.2	
			4	0.00318	0.15474	0.09026	1.35394	1.2	-2.0	1.2	1.2
	0.3	Equal	3	0.06618	0.45260	0.21054	1.80486	0.2	0.4	0.4	
			4	0.06545	0.44987	0.21085	2.16907	0.4	-2.0	0.4	0.2
		Double	3	0.02437	0.32334	0.23711	1.57171	0.6	0.8	0.6	
			4	0.02415	0.32144	0.23737	1.69798	0.8	0.6	-2.0	0.6
	0.7	Equal	2	0.53802	0.85158	0.26530	1.81751	-0.6	-0.6		
			3	0.52834	0.84602	0.26629	2.67228	-0.6	-2.0	-0.6	
			4	0.51895	0.84050	0.26733	3.67191	-2.0	-0.6	-2.0	-0.6

Notice that expanding from a 3-test to a 4-test sequence added a test with a low threshold value (< -1). For a ρ of 0.1 and a prevalence of 0.7 the test addition from 2 to 3 was already invalid and therefore, any additional tests after that also generated another low threshold value. Under this scenario the 3-test

sequence passed almost all elements from test 2 to test 3, effectively ignoring test 2 altogether. Thus, the difference in accuracy was relatively small and the 3-test sequence acted as though it were a 2-test sequence, supported by their respective UM values which were negative (Table 4.9).

4.4.4 Analysis of Test Additions to BN Sequences. The UM values for BN were transformed to binary responses of “valid” or “invalid” corresponding to whether the UM was greater or less than 0.0001, respectively. A nominal logistic regression was then run on the data using accuracy, b , ρ , prevalence, test cost, and misclassification costs as predictors for whether the sequence was valid or not. From this, the factors of importance could be identified in determining the valid or invalid nature of adding a test to a BN sequence. Table 4.11 provides the p-values associated with each factor in order of greatest to least significance. Note that the bolded factors are significant with respect to an $\alpha = 0.05$.

Table 4.11: Factors and Associated P-Values for BN Sequences.	
Factors	p-values
Accuracy	<.0001
b	<.0001
ρ	<.0001
Prevalence	0.5017
Test Costs	0.2089
Misclassification Costs	0.7368

The three factors of accuracy, b , and ρ had the most significance in determining whether adding a test to a BN sequence was valid or invalid. Notice that unlike BP, prevalence was not significant for BN. These effects can be further observed looking at the odds ratios. Table 4.12 provides the odd ratios of being invalid between the levels of the significant factors from Table 4.11.

Table 4.12: Odds Ratio for Significant Factors and Levels Under BN.						
Factor	Level 1	Level 2	Odds Ratio	Lower 95%	Upper 95%	p-value
Accuracy	Fair	Good	6	2	14	<0.0001
	Poor	Good	41	14	116	<0.0001
	Poor	Fair	7	2	17	<0.0001
ρ	0.1	0	3	1	9	0.0048
	0.3	0	24	8	68	<0.0001
	0.3	0.1	7	2	18	<0.0001
	0.5	0	105	29	380	<0.0001
	0.5	0.1	30	9	100	<0.0001
	0.5	0.3	4	1	14	0.0121

Odds ratios greater than 1 demonstrate how much higher than chance the test addition is to be invalid under BN by either decreasing accuracy or increasing prevalence. For example, the odds ratio between a ρ of 0.1 and 0 is 3 which means that the odds of having an invalid test addition is 3 times greater for a sequence with a $\rho = 0.1$ than for a sequence with a $\rho = 0$. This is illustrated by graphing the frequency of valid and invalid test additions against each level of the three significant factors (accuracy, b , and ρ) from Table 4.11.

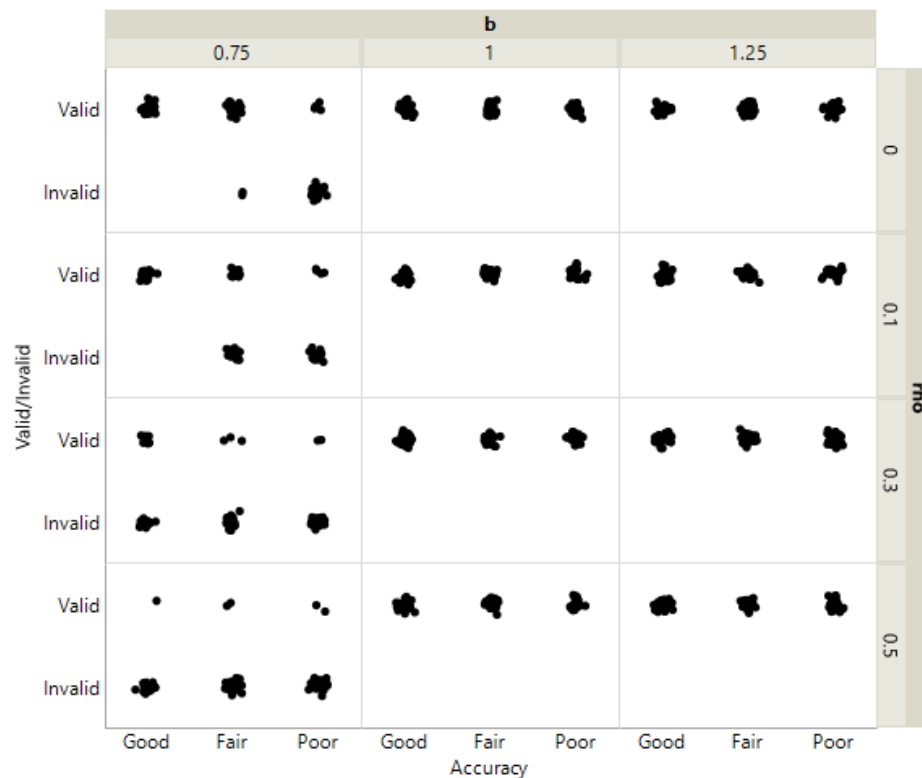


Figure 4.2: Graphic of Valid/Invalid vs. Accuracy and grouped by ρ and b . This illustrates how the sequence determines valid and invalid test additions to BN sequences based on specified values of significant factors.

Like the BP strategy, Figure 4.2 shows how the factors and levels each individually and cohesively affect the outcome of the test addition. While the frequency of invalid test additions increases as ρ increases (like the BP strategy), the frequency of invalid test decreases as b increases. When $b = 1$ or 1.25 , all sequences were valid. The BN sequence produces valid sequences under all scenarios; however, most of the sequences have invalid test additions when $b = 0.75$ and $\rho = 0.5$.

4.5 Believe the Extreme Results

4.5.1 *Comparing Varying BE Sequence Lengths.* For each scenario, sequence lengths of 2-test and 3-test for BE were compared against one another and an UM was calculated for each comparison. Table 4.13 depicts a sample of the BE strategy under a “Good” accuracy, b of 0.75, equal misclassification costs, equal test costs, and all correlation values. The Δ ’s in the table indicate the change in accuracy (FPR or TPR) and cost (BC or OC) from a 2-test to a 3-test sequence. Table 4.13 is a sample of the whole BE comparison set to give a generalization of how the UM was interpreted for this test strategy.

Table 4.13: Sample BE Length Comparisons
 (“Good” Accuracy, $b = 0.75$, Equal Test Costs).

ρ	Prevalence	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
0	0.1	2-3	-0.00220	0.09524	-0.01150	0.43801	0.02626
	0.3	2-3	-0.00209	0.09907	-0.03118	0.56104	0.05558
	0.7	2-3	-0.06898	0.04038	-0.04896	0.47205	0.10371
0.1	0.1	2-3	0.00077	0.11055	-0.01036	0.48858	0.02121
	0.3	2-3	-0.00440	0.08972	-0.03000	0.69334	0.04327
	0.7	2-3	-0.08410	0.03501	-0.04974	0.60551	0.08215
0.3	0.1	2-3	-0.00109	0.08765	-0.00975	0.90845	0.01073
	0.3	2-3	0.00154	0.10181	-0.02947	0.80861	0.03644
	0.7	2-3	-0.06436	0.05083	-0.05489	0.55739	0.09848
0.5	0.1	2-3	-0.00128	0.08075	-0.00923	0.91124	0.01013
	0.3	2-3	0.00122	0.09840	-0.02866	0.79249	0.03617
	0.7	2-3	-0.08344	0.04438	-0.05610	0.43850	0.12793

*Note that $\Delta_{BC} = BC_{k+1} - BC_k$ and $\Delta_{OC} = OC_{k+1} - OC_k$

Looking at Table 4.13, the UM for all scenarios were are greater than 0.0001. For all scenarios, the accuracy improved as demonstrated by strictly negative Δ_{BC} values and the cost increased with strictly positive Δ_{OC} values demonstrating that increasing test length for higher prevalence is more beneficial as the UM values are much higher when prevalence was 0.7. Results for the extension from a 3-test to 4-test sequence were not included in this comparison as additional resources were required to evaluate the search space of 207,792,225 solution sets.

4.5.2 *Accuracy, Costs, and Thresholds for 2-Test BE.* For a BE sequence, a valid sequence is one where either θ_i or ϕ_i are not too low or too high, respectively, per test. Notice that the bound on θ_i

corresponds to the negative population and the bound on ϕ_i corresponds to the positive population. Therefore, an invalid sequence contains a test that has both θ_i and ϕ_i that is too low or too high, respectively, in a single test. This causes the test to either classify almost all elements ($\theta_i = \phi_i$) or pass the elements to the next test in the sequence (high ϕ_i and low θ_i). Alternatively, if only ϕ_i was extremely high, the BE test acts as a BN test and if only θ_i was extremely low, the BE test acts as a BP test [8, 9]. For a 2-test sequence, this research looked at how the threshold values optimized with respect to all the UM values that indicated valid test additions. Based on the scenario with “Good” accuracy, $b = 0.75$, equal test costs, and equal misclassification costs, the UM values all remained greater than the given threshold of 0.0001. Table 4.14 provides the accuracies, costs, and thresholds under this scenario. Thresholds were based on minimizing the BC for each scenario.

Table 4.14: Sample BE Calculations for 2-Test Sequences
 (“Good” Accuracy, $b = 0.75$, Equal Test Costs).

ρ	Prevalence	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
0	0.1	0.01232	0.66860	0.04423	1.29011	2.8	0.6	1.8
	0.3	0.03826	0.77675	0.09376	1.43284	2.6	0.2	1.4
	0.7	0.24391	0.95738	0.10301	1.64474	3.4	-0.2	0.2
0.1	0.1	0.01058	0.63298	0.04623	1.29011	2.8	0.6	2.0
	0.3	0.04395	0.77437	0.09845	1.43284	2.6	0.2	1.4
	0.7	0.25915	0.95673	0.10803	1.64474	3.4	-0.2	0.2
0.3	0.1	0.01259	0.62812	0.04852	1.93622	2.6	-2.0	2.4
	0.3	0.04277	0.75515	0.10340	1.84797	2.4	-2.0	1.8
	0.7	0.26601	0.94602	0.11759	1.68065	3.4	-0.4	0.4
0.5	0.1	0.01220	0.61906	0.04907	1.93622	2.6	-2.0	2.4
	0.3	0.04158	0.74567	0.10540	1.84797	2.4	-2.0	1.8
	0.7	0.27384	0.94423	0.12119	1.80311	3.2	-2.0	0.6

Under a prevalence of 0.3 and 0.5, θ_1 met the minimum bound of -2 . However, this did not invalidate the sequence as the upper threshold of ϕ_1 remained relatively low and therefore, classified a sizeable portion of the elements. However, this changed the BE sequence to act as though it were a BP sequence. The sequence classified almost no targets as negative in the first test since the θ_1 is so low and instead passed those elements to the next test in the sequence. A similar scenario could occur with ϕ_i values pushed to the

maximum value of 4 while θ_i remains relatively high which would result in a test acting as though it was a BN. These results produced an extended set of outcomes for which the BE strategy can be analyzed. These outcomes include determining if the sequence is acting if it were a BE, BP (low θ_i threshold), or BN (high ϕ_i threshold) sequence or if the sequence was invalid altogether (both low θ_i threshold and high ϕ_i threshold).

4.5.3 *Accuracy, Costs, and Thresholds for 3-Test BE.* The BE strategy UM indicated that adding an additional test to a 2-test sequence is valid for all the simulated scenarios as the UM values were greater than 0.0001. This alluded to each test classifying and passing a sizeable portion of the elements, contributing to the improvement of accuracy in a sequence. By looking at the accuracy and thresholds of the 3-test sequences under the BE strategy, more can be understood about the behavior of the BE strategy. Table 4.15 provides the accuracy and thresholds under a BE strategy for a “Good” accuracy, $b = 0.75$, equal test cost, equal misclassification cost, all correlations, and all prevalences.

Table 4.15: Sample BE Calculations for 3-Test Sequences
 (“Good” Accuracy, $b = 0.75$, Equal Test Costs).

ρ Prevalence	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3	
0	0.1	0.01012	0.76384	0.03272	1.72812	3.0	0.0	2.4	0.2	2.0
	0.3	0.03618	0.87582	0.06258	1.99388	3.0	-0.4	2.0	-0.2	1.6
	0.7	0.17493	0.99776	0.05405	2.11680	3.4	-1.0	1.2	-1.4	1.2
0.1	0.1	0.01135	0.74353	0.03586	1.77869	3.0	0.0	2.4	0.0	2.2
	0.3	0.03954	0.86409	0.06845	2.12618	3.0	-0.6	2.0	-0.4	1.8
	0.7	0.17504	0.99175	0.05829	2.25025	3.4	-1.6	1.4	-2.0	1.2
0.3	0.1	0.01150	0.71577	0.03877	2.84468	2.8	-2.0	2.6	-2.0	2.6
	0.3	0.04431	0.85696	0.07393	2.65658	3.0	-2.0	2.0	-2.0	2.0
	0.7	0.20165	0.99685	0.06270	2.23804	3.4	-2.0	1.2	-2.0	1.2
0.5	0.1	0.01091	0.69981	0.03984	2.84746	2.8	-2.0	2.6	-2.0	2.6
	0.3	0.04280	0.84408	0.07674	2.64046	2.8	-2.0	2.0	-2.0	2.0
	0.7	0.19040	0.98861	0.06509	2.24162	3.4	-2.0	1.2	-2.0	1.2

Indicated in bold are the θ_i values that reach the minimum threshold value of -2. While this does not invalidate the sequence, it changes the behavior of the BE sequence to act like a BP sequence. For a $\rho = 0.3$ or 0.5 , the bottom thresholds were relatively low and therefore did not classify elements as negative,

passing them to the next test in the sequence. Additionally, for a $\rho = 0.1$ and a prevalence of 0.7, a single test had a threshold set at -2 while the other tests in the sequence remained as a normal BE. These scenarios created a new kind of sequence for which two strategies are combined into a hybrid sequence of tests that behave as BE and either BP or BN. From this, six possible outcomes from adding a test to the BE sequence can be extended to BE, BN, BP, BN/BE Hybrid, BP/Hybrid, and invalid.

4.5.4 *Analysis of Test Additions to BE Sequences.* As BE for 2-test and 3 test sequences all remain valid for each scenario, the frequency of the six possible outcomes for BE were analyzed. Table 4.16 provides a count of the outcomes under a 2-test and 3-test BE sequence.

Table 4.16: Frequency of BE Outcomes.

Outcome	2-Test Sequence	3-Test Sequence
BE	246	209
BP	106	106
BN	76	35
BE/BP Hybrid	0	12
BE/BN Hybrid	0	70
Invalid	4	0

Looking at Table 4.16, the number of pure BE sequences decreased when lengthening the sequence from a 2-test to 3 test sequence by 39. The count of BP sequences remained the same, but the count of BN sequences decreased. In contrast, the frequency of the hybrid behavior increased for BE. This trend could be attributed to the BE conforming to the behavior of either a BP or a BN. In this case, the BE would eventually have an invalid test addition in accordance with the behavior of the BP and BN strategies; however, the change in invalid counts presented a different behavior than that of the BP and BN. Unlike the BP and BN, the BE sequence improves from an invalid sequence to a working sequence where all the tests are utilized effectively. A nominal logistic regression was run on the BE results using whether or not the BE strategy was a pure BE sequence or not. The predictors used were accuracy, b , ρ , prevalence, test costs, and misclassification costs. Table 4.17 depicts the factors with the greatest significance in determining the outcome of a BE sequence.

Table 4.17: Factors and Associated P-values for BE Sequences.

Factors	p-values
Accuracy	<0.001
<i>b</i>	<0.001
ρ	<0.001
Prevalence	0.0054
Test Costs	0.8538
Misclassification Costs	0.0175

Five of the six factors were found to be significant with an $\alpha = 0.5$ (depicted in bold). These factors included accuracy, *b*, ρ , prevalence, and, unlike BP and BN, misclassification costs. These factors are directly used in the minimization of Bayes cost and therefore directly affect the threshold settings of the sequence. However, like BP and BN, the test cost is not a significant factor as it pertains only to the operational cost. These effects can be further observed looking at the odds ratios. Table 4.18 provides the odd ratios of being a pure BE sequence between the levels of the significant factors from Table 4.17.

Table 4.18: Odds Ratio for Significant Factors and Levels Under BE.

Factor	Level 1	Level 2	Odds Ratio	Lower 95%	Upper 95%	p-value
Accuracy	Good	Fair	9	3	23	<0.0001
	Good	Poor	28	9	84	<0.0001
	Fair	Poor	3	1	9	0.0451
<i>b</i>	1.25	0.75	2	1	6	0.0201
ρ	0	0.1	4	1	9	0.0040
	0	0.3	44	11	172	<0.0001
	0.1	0.3	12	3	45	0.0002
	0	0.5	21	6	69	<0.0001
	0.1	0.5	6	1	18	0.0019
Prevalence	0.7	0.1	4	1	10	0.0032
	0.7	0.3	3	1	7	0.0207
Misclassification Cost	Equal	Double	2	1	6	0.0201

Odds ratios greater than 1 demonstrate how much higher than chance the sequence is made up of solely pure BE tests by increasing accuracy, *b*, prevalence, and misclassification costs or by decreasing ρ . For example, the odds ratio between a ρ of 0.1 and 0.3 is 12 which means that the odds of having a pure BE sequence is 12 times greater for a sequence with a $\rho = 0.1$ than for a sequence with a $\rho = 0.3$. Figure 4.3 illustrates the increase in chance by graphing the frequency of being a BE sequence and not a BE sequence against each level of the three significant factors (accuracy, *b*, and ρ) from Table 4.17.

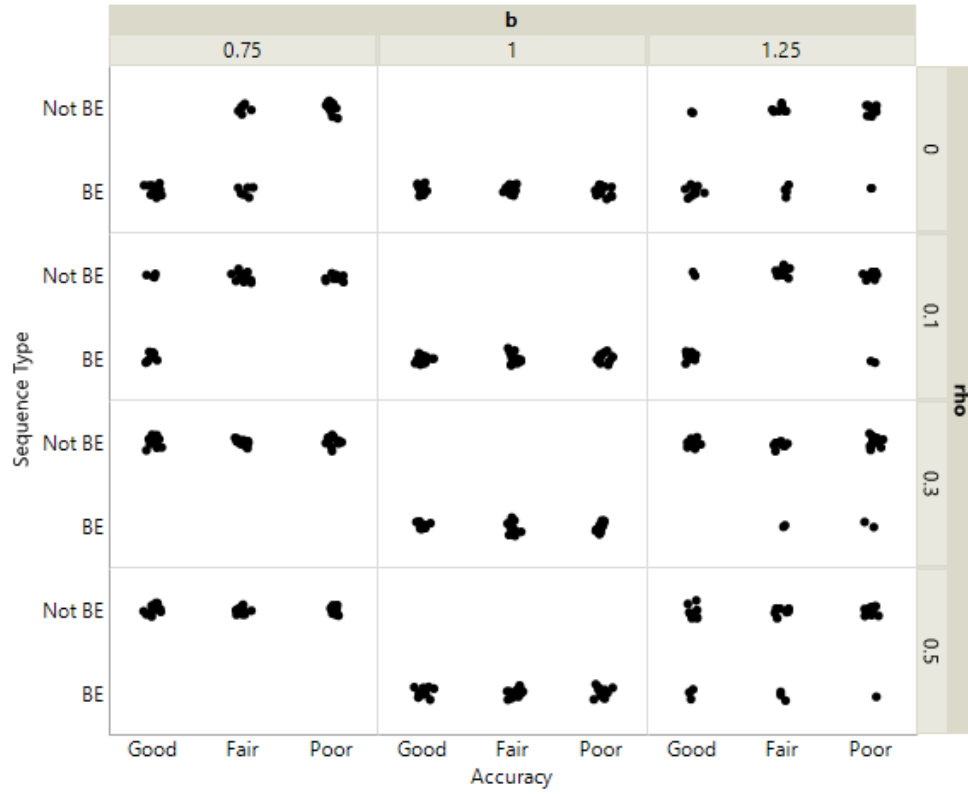


Figure 4.3: Graphic of Valid/Invalid vs. Accuracy and grouped by ρ and b . This illustrates how the sequence determines valid and invalid test additions to BN sequences based on specified values of significant factors.

Like the BN strategy, Figure 4.3 shows how the factors and levels each individually and cohesively affected the outcome of the type of sequence from a BE strategy. The sequence remained a pure BE when the standard deviation ratio was equal ($b = 1$). The frequency of non-pure BE sequences increased as the standard deviations become unequal between the features of the negative and positive population groups. For all BE sequences where $b = 0.75$ and $\rho = 0.3$ or 0.5 , no sequences remained pure BE meaning the sequence was either invalid (contained an unused test) or acted like either a BP (a low θ_i value) or BN (a high ϕ_i value) sequence.

V. Conclusion

The decision to add more tests to a sequence is of great importance. As technology improves, the systems in place to classify objects need reevaluation. The UM can be commonly employed to quantify the tradeoff in accuracy and unit costs when considering whether a new test should be implemented into an already established sequence. Factors that affect the UM can be used to give an initial estimate of how sequencing and an additional test will affect the whole system with respect to accuracy and cost. The investigated factors created generic scenarios that made assumptions on the distributions of the features in the population of interest. This provides a template for how a user may approach sequencing and lengthening of tests if a similar set of assumptions are met. If the sequence and population closely follow one of the simulated scenarios, then this research can provide an initial decision on whether sequencing or adding tests to the sequence is appropriate. Further, this work also provides general guidance as to which factors have the largest effect on accuracy and cost in a sequence.

In a more generic sense, a researcher can calculate the UM to build their own decision criterion. Low UM values identify when adding a test is unnecessary as the improvement in accuracy may not be worth the additional cost. Alternatively, positive UM values provide a decision point for end users to justify the addition of a test. Different users may have different thresholds for which the accuracy tradeoff is worth the cost. For example, a 1% increase in accuracy for a sequence could be worth an extra \$100,000. The UM in this research uses a generic test cost so that the end user can apply their specific unit costs. Although our previous example uses dollars, cost could also be expressed in other units such as time in applications that require short lead times for decision making. The choice to add a test to improve accuracy ultimately relies on the end user. This varies system to system and requires input from the user in order to generate the appropriate UM. However, this is easily implemented using the extended equations generated in Chapter 3 with the actual costs associated with the sequence.

Further research may consider reducing the scope of the scenarios in order to focus on more important factors and increasing the levels of these factors. This includes removing different test costs and

misclassification costs as these are system to system based and provided little to no impact on the outcome of the UM, with the exception of misclassification costs for BE. Additionally, a search method (tree-based methods, best-first Search, etc.) is recommended to find the optimal point for BC to reduce the computational time. This would allow for longer sequence exploration which may lead to determining under any case, what the maximum sequence length should be.

Appendix A. K-Length Simulation Results

2-Test Sequence Under Believe the Negative

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
1	Good	0.75	0	Equal	0.1	Equal	0.01324	0.54698	0.05722	1.17206	1.2	1.2
2	Good	0.75	0	Equal	0.1	Double	0.00652	0.47425	0.06431	1.13708	1.4	1.4
3	Good	0.75	0	Equal	0.3	Equal	0.04488	0.68379	0.12628	1.37632	0.8	0.8
4	Good	0.75	0	Equal	0.3	Double	0.02517	0.61754	0.14998	1.32819	1.0	1.0
5	Good	0.75	0	Equal	0.7	Equal	0.25000	0.88072	0.15849	1.76339	0.0	0.0
6	Good	0.75	0	Equal	0.7	Double	0.11873	0.79725	0.21316	1.68032	0.4	0.4
7	Good	0.75	0	Double	0.1	Equal	0.01324	0.54698	0.05722	1.34411	1.2	1.2
8	Good	0.75	0	Double	0.1	Double	0.00652	0.47425	0.06431	1.27415	1.4	1.4
9	Good	0.75	0	Double	0.3	Equal	0.04488	0.68379	0.12628	1.75264	0.8	0.8
10	Good	0.75	0	Double	0.3	Double	0.02517	0.61754	0.14998	1.65637	1.0	1.0
11	Good	0.75	0	Double	0.7	Equal	0.25000	0.88072	0.15849	2.52678	0.0	0.0
12	Good	0.75	0	Double	0.7	Double	0.11873	0.79725	0.21316	2.36064	0.4	0.4
13	Good	0.75	0.1	Equal	0.1	Equal	0.01245	0.51297	0.05991	1.17206	1.2	1.4
14	Good	0.75	0.1	Equal	0.1	Double	0.00628	0.44072	0.06723	1.13708	1.4	1.6
15	Good	0.75	0.1	Equal	0.3	Equal	0.05355	0.68589	0.13171	1.37632	0.8	0.8
16	Good	0.75	0.1	Equal	0.3	Double	0.02324	0.58421	0.15727	1.32819	1.0	1.2
17	Good	0.75	0.1	Equal	0.7	Equal	0.26594	0.88121	0.16294	1.76339	0.0	0.0
18	Good	0.75	0.1	Equal	0.7	Double	0.13242	0.79836	0.22060	1.68032	0.4	0.4
19	Good	0.75	0.1	Double	0.1	Equal	0.01245	0.51297	0.05991	1.34411	1.2	1.4
20	Good	0.75	0.1	Double	0.1	Double	0.00628	0.44072	0.06723	1.27415	1.4	1.6
21	Good	0.75	0.1	Double	0.3	Equal	0.05355	0.68589	0.13171	1.75264	0.8	0.8
22	Good	0.75	0.1	Double	0.3	Double	0.02324	0.58421	0.15727	1.65637	1.0	1.2
23	Good	0.75	0.1	Double	0.7	Equal	0.26594	0.88121	0.16294	2.52678	0.0	0.0
24	Good	0.75	0.1	Double	0.7	Double	0.13242	0.79836	0.22060	2.36064	0.4	0.4
25	Good	0.75	0.3	Equal	0.1	Equal	0.01121	0.44924	0.06516	1.13708	1.4	1.6

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
26	Good	0.75	0.3	Equal	0.1	Double	0.00587	0.37924	0.07265	1.10944	1.6	1.8
27	Good	0.75	0.3	Equal	0.3	Equal	0.05726	0.65716	0.14293	1.37632	0.8	1.0
28	Good	0.75	0.3	Equal	0.3	Double	0.02709	0.55718	0.17076	1.28603	1.2	1.2
29	Good	0.75	0.3	Equal	0.7	Equal	0.29849	0.88229	0.17195	1.76339	0.0	0.0
30	Good	0.75	0.3	Equal	0.7	Double	0.16090	0.80072	0.23604	1.68032	0.4	0.4
31	Good	0.75	0.3	Double	0.1	Equal	0.01121	0.44924	0.06516	1.27415	1.4	1.6
32	Good	0.75	0.3	Double	0.1	Double	0.00587	0.37924	0.07265	1.21889	1.6	1.8
33	Good	0.75	0.3	Double	0.3	Equal	0.05726	0.65716	0.14293	1.75264	0.8	1.0
34	Good	0.75	0.3	Double	0.3	Double	0.02709	0.55718	0.17076	1.57206	1.2	1.2
35	Good	0.75	0.3	Double	0.7	Equal	0.29849	0.88229	0.17195	2.52678	0.0	0.0
36	Good	0.75	0.3	Double	0.7	Double	0.16090	0.80072	0.23604	2.36064	0.4	0.4
37	Good	0.75	0.5	Equal	0.1	Equal	0.01390	0.45671	0.06684	1.97840	-2.0	2.2
38	Good	0.75	0.5	Equal	0.1	Double	0.00466	0.34145	0.07424	1.97840	-2.0	2.6
39	Good	0.75	0.5	Equal	0.3	Equal	0.05478	0.63334	0.14834	1.98070	-2.0	1.6
40	Good	0.75	0.5	Equal	0.3	Double	0.02275	0.51640	0.17692	1.98070	-2.0	2.0
41	Good	0.75	0.5	Equal	0.7	Equal	0.34376	0.89199	0.17874	1.98529	-2.0	0.4
42	Good	0.75	0.5	Equal	0.7	Double	0.15851	0.78512	0.24552	1.98529	-2.0	1.0
43	Good	0.75	0.5	Double	0.1	Equal	0.01390	0.45671	0.06684	2.95680	-2.0	2.2
44	Good	0.75	0.5	Double	0.1	Double	0.00466	0.34145	0.07424	2.95680	-2.0	2.6
45	Good	0.75	0.5	Double	0.3	Equal	0.05478	0.63334	0.14834	2.96139	-2.0	1.6
46	Good	0.75	0.5	Double	0.3	Double	0.02275	0.51640	0.17692	2.96139	-2.0	2.0
47	Good	0.75	0.5	Double	0.7	Equal	0.34376	0.89199	0.17874	2.97059	-2.0	0.4
48	Good	0.75	0.5	Double	0.7	Double	0.15851	0.78512	0.24552	2.97059	-2.0	1.0
49	Good	1	0	Equal	0.1	Equal	0.01324	0.75682	0.03623	1.19056	1.2	1.2
50	Good	1	0	Equal	0.1	Double	0.00652	0.67704	0.04404	1.15496	1.4	1.4
51	Good	1	0	Equal	0.3	Equal	0.04488	0.87706	0.06830	1.42925	0.8	0.8
52	Good	1	0	Equal	0.3	Double	0.02517	0.82375	0.08811	1.38334	1.0	1.0
53	Good	1	0	Equal	0.7	Equal	0.11873	0.94665	0.07297	1.78444	0.4	0.4
54	Good	1	0	Equal	0.7	Double	0.07521	0.91746	0.10291	1.75277	0.6	0.6
55	Good	1	0	Double	0.1	Equal	0.01324	0.75682	0.03623	1.38112	1.2	1.2

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
56	Good	1	0	Double	0.1	Double	0.00652	0.67704	0.04404	1.30993	1.4	1.4
57	Good	1	0	Double	0.3	Equal	0.04488	0.87706	0.06830	1.85851	0.8	0.8
58	Good	1	0	Double	0.3	Double	0.02517	0.82375	0.08811	1.76668	1.0	1.0
59	Good	1	0	Double	0.7	Equal	0.11873	0.94665	0.07297	2.56889	0.4	0.4
60	Good	1	0	Double	0.7	Double	0.07521	0.91746	0.10291	2.50553	0.6	0.6
61	Good	1	0.1	Equal	0.1	Equal	0.01245	0.72160	0.03904	1.19056	1.2	1.4
62	Good	1	0.1	Equal	0.1	Double	0.00628	0.63862	0.04744	1.15496	1.4	1.6
63	Good	1	0.1	Equal	0.3	Equal	0.04090	0.85226	0.07295	1.42925	0.8	1.0
64	Good	1	0.1	Equal	0.3	Double	0.02324	0.79335	0.09453	1.38334	1.0	1.2
65	Good	1	0.1	Equal	0.7	Equal	0.13242	0.94712	0.07675	1.78444	0.4	0.4
66	Good	1	0.1	Equal	0.7	Double	0.08653	0.91840	0.10904	1.75277	0.6	0.6
67	Good	1	0.1	Double	0.1	Equal	0.01245	0.72160	0.03904	1.38112	1.2	1.4
68	Good	1	0.1	Double	0.1	Double	0.00628	0.63862	0.04744	1.30993	1.4	1.6
69	Good	1	0.1	Double	0.3	Equal	0.04090	0.85226	0.07295	1.85851	0.8	1.0
70	Good	1	0.1	Double	0.3	Double	0.02324	0.79335	0.09453	1.76668	1.0	1.2
71	Good	1	0.1	Double	0.7	Equal	0.13242	0.94712	0.07675	2.56889	0.4	0.4
72	Good	1	0.1	Double	0.7	Double	0.08653	0.91840	0.10904	2.50553	0.6	0.6
73	Good	1	0.3	Equal	0.1	Equal	0.01535	0.69999	0.04381	1.15496	1.4	1.4
74	Good	1	0.3	Equal	0.1	Double	0.00826	0.61757	0.05311	1.12593	1.6	1.6
75	Good	1	0.3	Equal	0.3	Equal	0.04546	0.83426	0.08154	1.38334	1.0	1.0
76	Good	1	0.3	Equal	0.3	Double	0.02709	0.77289	0.10605	1.34154	1.2	1.2
77	Good	1	0.3	Equal	0.7	Equal	0.16090	0.94860	0.08425	1.78444	0.4	0.4
78	Good	1	0.3	Equal	0.7	Double	0.11063	0.92112	0.12159	1.75277	0.6	0.6
79	Good	1	0.3	Double	0.1	Equal	0.01535	0.69999	0.04381	1.30993	1.4	1.4
80	Good	1	0.3	Double	0.1	Double	0.00826	0.61757	0.05311	1.25187	1.6	1.6
81	Good	1	0.3	Double	0.3	Equal	0.04546	0.83426	0.08154	1.76668	1.0	1.0
82	Good	1	0.3	Double	0.3	Double	0.02709	0.77289	0.10605	1.68307	1.2	1.2
83	Good	1	0.3	Double	0.7	Equal	0.16090	0.94860	0.08425	2.56889	0.4	0.4
84	Good	1	0.3	Double	0.7	Double	0.11063	0.92112	0.12159	2.50553	0.6	0.6
85	Good	1	0.5	Equal	0.1	Equal	0.01386	0.64147	0.04833	1.12593	1.6	1.6

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
86	Good	1	0.5	Equal	0.1	Double	0.00767	0.55753	0.05805	1.10240	1.8	1.8
87	Good	1	0.5	Equal	0.3	Equal	0.04939	0.81423	0.09031	1.38334	1.0	1.2
88	Good	1	0.5	Equal	0.3	Double	0.03056	0.75111	0.11745	1.34154	1.2	1.4
89	Good	1	0.5	Equal	0.7	Equal	0.19198	0.95107	0.09184	1.78444	0.4	0.4
90	Good	1	0.5	Equal	0.7	Double	0.11349	0.90705	0.13316	1.75277	0.6	0.8
91	Good	1	0.5	Double	0.1	Equal	0.01386	0.64147	0.04833	1.25187	1.6	1.6
92	Good	1	0.5	Double	0.1	Double	0.00767	0.55753	0.05805	1.20480	1.8	1.8
93	Good	1	0.5	Double	0.3	Equal	0.04939	0.81423	0.09031	1.76668	1.0	1.2
94	Good	1	0.5	Double	0.3	Double	0.03056	0.75111	0.11745	1.68307	1.2	1.4
95	Good	1	0.5	Double	0.7	Equal	0.19198	0.95107	0.09184	2.56889	0.4	0.4
96	Good	1	0.5	Double	0.7	Double	0.11349	0.90705	0.13316	2.50553	0.6	0.8
97	Good	1.25	0	Equal	0.1	Equal	0.00652	0.88056	0.01781	1.16998	1.4	1.4
98	Good	1.25	0	Equal	0.1	Double	0.00443	0.84614	0.02335	1.16998	1.4	1.6
99	Good	1.25	0	Equal	0.3	Equal	0.01826	0.94352	0.02972	1.40945	1.0	1.2
100	Good	1.25	0	Equal	0.3	Double	0.01324	0.92810	0.04011	1.37678	1.2	1.2
101	Good	1.25	0	Equal	0.7	Equal	0.04488	0.97818	0.02874	1.76209	0.8	0.8
102	Good	1.25	0	Equal	0.7	Double	0.03361	0.96864	0.04212	1.76209	0.8	1.0
103	Good	1.25	0	Double	0.1	Equal	0.00652	0.88056	0.01781	1.33996	1.4	1.4
104	Good	1.25	0	Double	0.1	Double	0.00443	0.84614	0.02335	1.33996	1.4	1.6
105	Good	1.25	0	Double	0.3	Equal	0.01826	0.94352	0.02972	1.81890	1.0	1.2
106	Good	1.25	0	Double	0.3	Double	0.01324	0.92810	0.04011	1.75355	1.2	1.2
107	Good	1.25	0	Double	0.7	Equal	0.04488	0.97818	0.02874	2.52419	0.8	0.8
108	Good	1.25	0	Double	0.7	Double	0.03361	0.96864	0.04212	2.52419	0.8	1.0
109	Good	1.25	0.1	Equal	0.1	Equal	0.00899	0.88529	0.01956	1.16998	1.4	1.4
110	Good	1.25	0.1	Equal	0.1	Double	0.00440	0.82194	0.02572	1.14399	1.6	1.6
111	Good	1.25	0.1	Equal	0.3	Equal	0.02324	0.94500	0.03277	1.40945	1.0	1.2
112	Good	1.25	0.1	Equal	0.3	Double	0.01729	0.93036	0.04509	1.37678	1.2	1.2
113	Good	1.25	0.1	Equal	0.7	Equal	0.05355	0.97855	0.03108	1.76209	0.8	0.8
114	Good	1.25	0.1	Equal	0.7	Double	0.04090	0.96924	0.04607	1.76209	0.8	1.0
115	Good	1.25	0.1	Double	0.1	Equal	0.00899	0.88529	0.01956	1.33996	1.4	1.4

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
116	Good	1.25	0.1	Double	0.1	Double	0.00440	0.82194	0.02572	1.28799	1.6	1.6
117	Good	1.25	0.1	Double	0.3	Equal	0.02324	0.94500	0.03277	1.81890	1.0	1.2
118	Good	1.25	0.1	Double	0.3	Double	0.01729	0.93036	0.04509	1.75355	1.2	1.2
119	Good	1.25	0.1	Double	0.7	Equal	0.05355	0.97855	0.03108	2.52419	0.8	0.8
120	Good	1.25	0.1	Double	0.7	Double	0.04090	0.96924	0.04607	2.52419	0.8	1.0
121	Good	1.25	0.3	Equal	0.1	Equal	0.00826	0.85198	0.02223	1.14399	1.6	1.6
122	Good	1.25	0.3	Equal	0.1	Double	0.00587	0.81451	0.02912	1.14399	1.6	1.8
123	Good	1.25	0.3	Equal	0.3	Equal	0.02709	0.94119	0.03660	1.37678	1.2	1.2
124	Good	1.25	0.3	Equal	0.3	Double	0.01535	0.90407	0.05026	1.34843	1.4	1.4
125	Good	1.25	0.3	Equal	0.7	Equal	0.07263	0.98139	0.03481	1.76209	0.8	0.8
126	Good	1.25	0.3	Equal	0.7	Double	0.04546	0.96595	0.05111	1.74384	1.0	1.0
127	Good	1.25	0.3	Double	0.1	Equal	0.00826	0.85198	0.02223	1.28799	1.6	1.6
128	Good	1.25	0.3	Double	0.1	Double	0.00587	0.81451	0.02912	1.28799	1.6	1.8
129	Good	1.25	0.3	Double	0.3	Equal	0.02709	0.94119	0.03660	1.75355	1.2	1.2
130	Good	1.25	0.3	Double	0.3	Double	0.01535	0.90407	0.05026	1.69685	1.4	1.4
131	Good	1.25	0.3	Double	0.7	Equal	0.07263	0.98139	0.03481	2.52419	0.8	0.8
132	Good	1.25	0.3	Double	0.7	Double	0.04546	0.96595	0.05111	2.48769	1.0	1.0
133	Good	1.25	0.5	Equal	0.1	Equal	0.01023	0.85113	0.02410	1.14399	1.6	1.8
134	Good	1.25	0.5	Equal	0.1	Double	0.00553	0.78562	0.03139	1.12269	1.8	2.0
135	Good	1.25	0.5	Equal	0.3	Equal	0.03056	0.92887	0.04273	1.37678	1.2	1.4
136	Good	1.25	0.5	Equal	0.3	Double	0.01809	0.89664	0.05633	1.34843	1.4	1.6
137	Good	1.25	0.5	Equal	0.7	Equal	0.09058	0.97939	0.04160	1.78175	0.6	1.0
138	Good	1.25	0.5	Equal	0.7	Double	0.05966	0.96338	0.06143	1.76209	0.8	1.2
139	Good	1.25	0.5	Double	0.1	Equal	0.01023	0.85113	0.02410	1.28799	1.6	1.8
140	Good	1.25	0.5	Double	0.1	Double	0.00553	0.78562	0.03139	1.24537	1.8	2.0
141	Good	1.25	0.5	Double	0.3	Equal	0.03056	0.92887	0.04273	1.75355	1.2	1.4
142	Good	1.25	0.5	Double	0.3	Double	0.01809	0.89664	0.05633	1.69685	1.4	1.6
143	Good	1.25	0.5	Double	0.7	Equal	0.09058	0.97939	0.04160	2.56351	0.6	1.0
144	Good	1.25	0.5	Double	0.7	Double	0.05966	0.96338	0.06143	2.52419	0.8	1.2
145	Fair	0.75	0	Equal	0.1	Equal	0.00929	0.24778	0.08359	1.15571	1.2	1.4

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
146	Fair	0.75	0	Equal	0.1	Double	0.00300	0.16785	0.08862	1.09252	1.6	1.6
147	Fair	0.75	0	Equal	0.3	Equal	0.05810	0.45083	0.20542	1.38763	0.6	0.8
148	Fair	0.75	0	Equal	0.3	Double	0.02517	0.34540	0.23162	1.28086	1.0	1.0
149	Fair	0.75	0	Equal	0.7	Equal	0.52671	0.85089	0.26239	1.81751	-0.6	-0.6
150	Fair	0.75	0	Equal	0.7	Double	0.21037	0.66281	0.36226	1.68684	0.0	0.2
151	Fair	0.75	0	Double	0.1	Equal	0.00929	0.24778	0.08359	1.31141	1.2	1.4
152	Fair	0.75	0	Double	0.1	Double	0.00300	0.16785	0.08862	1.18504	1.6	1.6
153	Fair	0.75	0	Double	0.3	Equal	0.05810	0.45083	0.20542	1.77527	0.6	0.8
154	Fair	0.75	0	Double	0.3	Double	0.02517	0.34540	0.23162	1.56173	1.0	1.0
155	Fair	0.75	0	Double	0.7	Equal	0.52671	0.85089	0.26239	2.63503	-0.6	-0.6
156	Fair	0.75	0	Double	0.7	Double	0.21037	0.66281	0.36226	2.37369	0.0	0.2
157	Fair	0.75	0.1	Equal	0.1	Equal	0.00899	0.22476	0.08561	1.12034	1.4	1.4
158	Fair	0.75	0.1	Equal	0.1	Double	0.00298	0.14903	0.09045	1.09252	1.6	1.8
159	Fair	0.75	0.1	Equal	0.3	Equal	0.06799	0.45495	0.21111	1.38763	0.6	0.8
160	Fair	0.75	0.1	Equal	0.3	Double	0.02324	0.31554	0.23787	1.28086	1.0	1.2
161	Fair	0.75	0.1	Equal	0.7	Equal	0.53802	0.85158	0.26530	1.81751	-0.6	-0.6
162	Fair	0.75	0.1	Equal	0.7	Double	0.22600	0.66508	0.37004	1.68684	0.0	0.2
163	Fair	0.75	0.1	Double	0.1	Equal	0.00899	0.22476	0.08561	1.24068	1.4	1.4
164	Fair	0.75	0.1	Double	0.1	Double	0.00298	0.14903	0.09045	1.18504	1.6	1.8
165	Fair	0.75	0.1	Double	0.3	Equal	0.06799	0.45495	0.21111	1.77527	0.6	0.8
166	Fair	0.75	0.1	Double	0.3	Double	0.02324	0.31554	0.23787	1.56173	1.0	1.2
167	Fair	0.75	0.1	Double	0.7	Equal	0.53802	0.85158	0.26530	2.63503	-0.6	-0.6
168	Fair	0.75	0.1	Double	0.7	Double	0.22600	0.66508	0.37004	2.37369	0.0	0.2
169	Fair	0.75	0.3	Equal	0.1	Equal	0.00818	0.20282	0.08708	1.97634	-2.0	2.4
170	Fair	0.75	0.3	Equal	0.1	Double	0.00255	0.12904	0.09169	1.97634	-2.0	2.8
171	Fair	0.75	0.3	Equal	0.3	Equal	0.05462	0.40760	0.21595	1.97451	-2.0	1.6
172	Fair	0.75	0.3	Equal	0.3	Double	0.02270	0.29720	0.24262	1.97451	-2.0	2.0
173	Fair	0.75	0.3	Equal	0.7	Equal	0.57251	0.86358	0.26724	1.97085	-2.0	-0.2
174	Fair	0.75	0.3	Equal	0.7	Double	0.27230	0.69500	0.37688	1.97085	-2.0	0.6
175	Fair	0.75	0.3	Double	0.1	Equal	0.00818	0.20282	0.08708	2.95267	-2.0	2.4

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
176	Fair	0.75	0.3	Double	0.1	Double	0.00255	0.12904	0.09169	2.95267	-2.0	2.8
177	Fair	0.75	0.3	Double	0.3	Equal	0.05462	0.40760	0.21595	2.94902	-2.0	1.6
178	Fair	0.75	0.3	Double	0.3	Double	0.02270	0.29720	0.24262	2.94902	-2.0	2.0
179	Fair	0.75	0.3	Double	0.7	Equal	0.57251	0.86358	0.26724	2.94171	-2.0	-0.2
180	Fair	0.75	0.3	Double	0.7	Double	0.27230	0.69500	0.37688	2.94171	-2.0	0.6
181	Fair	0.75	0.5	Equal	0.1	Equal	0.00820	0.20307	0.08707	1.97634	-2.0	2.4
182	Fair	0.75	0.5	Equal	0.1	Double	0.00256	0.12921	0.09168	1.97634	-2.0	2.8
183	Fair	0.75	0.5	Equal	0.3	Equal	0.05478	0.40802	0.21594	1.97451	-2.0	1.6
184	Fair	0.75	0.5	Equal	0.3	Double	0.02275	0.29753	0.24259	1.97451	-2.0	2.0
185	Fair	0.75	0.5	Equal	0.7	Equal	0.57627	0.86393	0.26813	1.97085	-2.0	-0.2
186	Fair	0.75	0.5	Equal	0.7	Double	0.27377	0.69547	0.37744	1.97085	-2.0	0.6
187	Fair	0.75	0.5	Double	0.1	Equal	0.00820	0.20307	0.08707	2.95267	-2.0	2.4
188	Fair	0.75	0.5	Double	0.1	Double	0.00256	0.12921	0.09168	2.95267	-2.0	2.8
189	Fair	0.75	0.5	Double	0.3	Equal	0.05478	0.40802	0.21594	2.94902	-2.0	1.6
190	Fair	0.75	0.5	Double	0.3	Double	0.02275	0.29753	0.24259	2.94902	-2.0	2.0
191	Fair	0.75	0.5	Double	0.7	Equal	0.57627	0.86393	0.26813	2.94171	-2.0	-0.2
192	Fair	0.75	0.5	Double	0.7	Double	0.27377	0.69547	0.37744	2.94171	-2.0	0.6
193	Fair	1	0	Equal	0.1	Equal	0.01324	0.36576	0.07534	1.16404	1.2	1.2
194	Fair	1	0	Equal	0.1	Double	0.00652	0.27689	0.08405	1.12530	1.4	1.4
195	Fair	1	0	Equal	0.3	Equal	0.07521	0.65074	0.15743	1.43398	0.6	0.6
196	Fair	1	0	Equal	0.3	Double	0.03361	0.50758	0.19478	1.37246	0.8	1.0
197	Fair	1	0	Equal	0.7	Equal	0.33554	0.90653	0.16609	1.84026	-0.2	-0.2
198	Fair	1	0	Equal	0.7	Double	0.17702	0.80496	0.24274	1.75426	0.2	0.2
199	Fair	1	0	Double	0.1	Equal	0.01324	0.36576	0.07534	1.32808	1.2	1.2
200	Fair	1	0	Double	0.1	Double	0.00652	0.27689	0.08405	1.25060	1.4	1.4
201	Fair	1	0	Double	0.3	Equal	0.07521	0.65074	0.15743	1.86796	0.6	0.6
202	Fair	1	0	Double	0.3	Double	0.03361	0.50758	0.19478	1.74492	0.8	1.0
203	Fair	1	0	Double	0.7	Equal	0.33554	0.90653	0.16609	2.68052	-0.2	-0.2
204	Fair	1	0	Double	0.7	Double	0.17702	0.80496	0.24274	2.50852	0.2	0.2
205	Fair	1	0.1	Equal	0.1	Equal	0.01729	0.38066	0.07749	1.16404	1.2	1.2

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
206	Fair	1	0.1	Equal	0.1	Double	0.00628	0.25076	0.08622	1.12530	1.4	1.6
207	Fair	1	0.1	Equal	0.3	Equal	0.08653	0.65854	0.16301	1.43398	0.6	0.6
208	Fair	1	0.1	Equal	0.3	Double	0.04090	0.51921	0.20150	1.37246	0.8	1.0
209	Fair	1	0.1	Equal	0.7	Equal	0.35089	0.90766	0.16990	1.84026	-0.2	-0.2
210	Fair	1	0.1	Equal	0.7	Double	0.19237	0.80843	0.24952	1.75426	0.2	0.2
211	Fair	1	0.1	Double	0.1	Equal	0.01729	0.38066	0.07749	1.32808	1.2	1.2
212	Fair	1	0.1	Double	0.1	Double	0.00628	0.25076	0.08622	1.25060	1.4	1.6
213	Fair	1	0.1	Double	0.3	Equal	0.08653	0.65854	0.16301	1.86796	0.6	0.6
214	Fair	1	0.1	Double	0.3	Double	0.04090	0.51921	0.20150	1.74492	0.8	1.0
215	Fair	1	0.1	Double	0.7	Equal	0.35089	0.90766	0.16990	2.68052	-0.2	-0.2
216	Fair	1	0.1	Double	0.7	Double	0.19237	0.80843	0.24952	2.50852	0.2	0.2
217	Fair	1	0.3	Equal	0.1	Equal	0.01535	0.32520	0.08129	1.12530	1.4	1.4
218	Fair	1	0.3	Equal	0.1	Double	0.00587	0.21051	0.08952	1.09398	1.6	1.8
219	Fair	1	0.3	Equal	0.3	Equal	0.08935	0.63149	0.17310	1.43398	0.6	0.8
220	Fair	1	0.3	Equal	0.3	Double	0.03496	0.45346	0.21290	1.31485	1.0	1.2
221	Fair	1	0.3	Equal	0.7	Equal	0.38237	0.91089	0.17709	1.84026	-0.2	-0.2
222	Fair	1	0.3	Equal	0.7	Double	0.22385	0.81699	0.26242	1.75426	0.2	0.2
223	Fair	1	0.3	Double	0.1	Equal	0.01535	0.32520	0.08129	1.25060	1.4	1.4
224	Fair	1	0.3	Double	0.1	Double	0.00587	0.21051	0.08952	1.18796	1.6	1.8
225	Fair	1	0.3	Double	0.3	Equal	0.08935	0.63149	0.17310	1.86796	0.6	0.8
226	Fair	1	0.3	Double	0.3	Double	0.03496	0.45346	0.21290	1.62970	1.0	1.2
227	Fair	1	0.3	Double	0.7	Equal	0.38237	0.91089	0.17709	2.68052	-0.2	-0.2
228	Fair	1	0.3	Double	0.7	Double	0.22385	0.81699	0.26242	2.50852	0.2	0.2
229	Fair	1	0.5	Equal	0.1	Equal	0.01386	0.28158	0.08432	1.09398	1.6	1.6
230	Fair	1	0.5	Equal	0.1	Double	0.00405	0.15417	0.09188	1.05013	2.0	2.0
231	Fair	1	0.5	Equal	0.3	Equal	0.09469	0.61665	0.18129	1.37246	0.8	0.8
232	Fair	1	0.5	Equal	0.3	Double	0.03955	0.44448	0.22202	1.26198	1.2	1.2
233	Fair	1	0.5	Equal	0.7	Equal	0.41623	0.91571	0.18387	1.84026	-0.2	-0.2
234	Fair	1	0.5	Equal	0.7	Double	0.25771	0.82809	0.27496	1.75426	0.2	0.2
235	Fair	1	0.5	Double	0.1	Equal	0.01386	0.28158	0.08432	1.18796	1.6	1.6

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
236	Fair	1	0.5	Double	0.1	Double	0.00405	0.15417	0.09188	1.10027	2.0	2.0
237	Fair	1	0.5	Double	0.3	Equal	0.09469	0.61665	0.18129	1.74492	0.8	0.8
238	Fair	1	0.5	Double	0.3	Double	0.03955	0.44448	0.22202	1.52397	1.2	1.2
239	Fair	1	0.5	Double	0.7	Equal	0.41623	0.91571	0.18387	2.68052	-0.2	-0.2
240	Fair	1	0.5	Double	0.7	Double	0.25771	0.82809	0.27496	2.50852	0.2	0.2
241	Fair	1.25	0	Equal	0.1	Equal	0.01826	0.56999	0.05943	1.22764	1.0	1.2
242	Fair	1.25	0	Equal	0.1	Double	0.00929	0.44953	0.07177	1.17990	1.2	1.4
243	Fair	1.25	0	Equal	0.3	Equal	0.07521	0.82306	0.10573	1.47728	0.6	0.6
244	Fair	1.25	0	Equal	0.3	Double	0.04488	0.73713	0.14170	1.42138	0.8	0.8
245	Fair	1.25	0	Equal	0.7	Equal	0.21037	0.94752	0.09985	1.84666	0.0	0.2
246	Fair	1.25	0	Equal	0.7	Double	0.11873	0.88782	0.14977	1.78617	0.4	0.4
247	Fair	1.25	0	Double	0.1	Equal	0.01826	0.56999	0.05943	1.45527	1.0	1.2
248	Fair	1.25	0	Double	0.1	Double	0.00929	0.44953	0.07177	1.35981	1.2	1.4
249	Fair	1.25	0	Double	0.3	Equal	0.07521	0.82306	0.10573	1.95457	0.6	0.6
250	Fair	1.25	0	Double	0.3	Double	0.04488	0.73713	0.14170	1.84275	0.8	0.8
251	Fair	1.25	0	Double	0.7	Equal	0.21037	0.94752	0.09985	2.69333	0.0	0.2
252	Fair	1.25	0	Double	0.7	Double	0.11873	0.88782	0.14977	2.57235	0.4	0.4
253	Fair	1.25	0.1	Equal	0.1	Equal	0.01729	0.54330	0.06123	1.17990	1.2	1.2
254	Fair	1.25	0.1	Equal	0.1	Double	0.00899	0.42885	0.07329	1.13840	1.4	1.4
255	Fair	1.25	0.1	Equal	0.3	Equal	0.06799	0.78961	0.11071	1.47728	0.6	0.8
256	Fair	1.25	0.1	Equal	0.3	Double	0.04090	0.69981	0.14732	1.42138	0.8	1.0
257	Fair	1.25	0.1	Equal	0.7	Equal	0.19237	0.93503	0.10319	1.81831	0.2	0.2
258	Fair	1.25	0.1	Equal	0.7	Double	0.13242	0.89215	0.15495	1.78617	0.4	0.4
259	Fair	1.25	0.1	Double	0.1	Equal	0.01729	0.54330	0.06123	1.35981	1.2	1.2
260	Fair	1.25	0.1	Double	0.1	Double	0.00899	0.42885	0.07329	1.27680	1.4	1.4
261	Fair	1.25	0.1	Double	0.3	Equal	0.06799	0.78961	0.11071	1.95457	0.6	0.8
262	Fair	1.25	0.1	Double	0.3	Double	0.04090	0.69981	0.14732	1.84275	0.8	1.0
263	Fair	1.25	0.1	Double	0.7	Equal	0.19237	0.93503	0.10319	2.63661	0.2	0.2
264	Fair	1.25	0.1	Double	0.7	Double	0.13242	0.89215	0.15495	2.57235	0.4	0.4
265	Fair	1.25	0.3	Equal	0.1	Equal	0.02031	0.55900	0.06238	1.17990	1.2	1.4

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
266	Fair	1.25	0.3	Equal	0.1	Double	0.00826	0.41059	0.07380	1.10300	1.6	1.6
267	Fair	1.25	0.3	Equal	0.3	Equal	0.07263	0.79346	0.11280	1.42138	0.8	0.8
268	Fair	1.25	0.3	Equal	0.3	Double	0.04546	0.71151	0.15019	1.36560	1.0	1.0
269	Fair	1.25	0.3	Equal	0.7	Equal	0.22385	0.94505	0.10562	1.81831	0.2	0.2
270	Fair	1.25	0.3	Equal	0.7	Double	0.16090	0.90970	0.15975	1.78617	0.4	0.4
271	Fair	1.25	0.3	Double	0.1	Equal	0.02031	0.55900	0.06238	1.35981	1.2	1.4
272	Fair	1.25	0.3	Double	0.1	Double	0.00826	0.41059	0.07380	1.20600	1.6	1.6
273	Fair	1.25	0.3	Double	0.3	Equal	0.07263	0.79346	0.11280	1.84275	0.8	0.8
274	Fair	1.25	0.3	Double	0.3	Double	0.04546	0.71151	0.15019	1.73119	1.0	1.0
275	Fair	1.25	0.3	Double	0.7	Equal	0.22385	0.94505	0.10562	2.63661	0.2	0.2
276	Fair	1.25	0.3	Double	0.7	Double	0.16090	0.90970	0.15975	2.57235	0.4	0.4
277	Fair	1.25	0.5	Equal	0.1	Equal	0.01386	0.52413	0.06006	1.10300	1.6	1.6
278	Fair	1.25	0.5	Equal	0.1	Double	0.00767	0.43010	0.07080	1.07362	1.8	1.8
279	Fair	1.25	0.5	Equal	0.3	Equal	0.07647	0.79500	0.11503	1.42138	0.8	1.0
280	Fair	1.25	0.5	Equal	0.3	Double	0.03955	0.68087	0.15110	1.30957	1.2	1.2
281	Fair	1.25	0.5	Equal	0.7	Equal	0.22140	0.93243	0.11372	1.81831	0.2	0.4
282	Fair	1.25	0.5	Equal	0.7	Double	0.16168	0.90136	0.16606	1.78617	0.4	0.6
283	Fair	1.25	0.5	Double	0.1	Equal	0.01386	0.52413	0.06006	1.20600	1.6	1.6
284	Fair	1.25	0.5	Double	0.1	Double	0.00767	0.43010	0.07080	1.14725	1.8	1.8
285	Fair	1.25	0.5	Double	0.3	Equal	0.07647	0.79500	0.11503	1.84275	0.8	1.0
286	Fair	1.25	0.5	Double	0.3	Double	0.03955	0.68087	0.15110	1.61915	1.2	1.2
287	Fair	1.25	0.5	Double	0.7	Equal	0.22140	0.93243	0.11372	2.63661	0.2	0.4
288	Fair	1.25	0.5	Double	0.7	Double	0.16168	0.90136	0.16606	2.57235	0.4	0.6
289	Poor	0.75	0	Equal	0.1	Equal	0.00443	0.09640	0.09434	1.11039	1.4	1.6
290	Poor	0.75	0	Equal	0.1	Double	0.00129	0.05592	0.09673	1.06186	1.8	1.8
291	Poor	0.75	0	Equal	0.3	Equal	0.04488	0.26306	0.25250	1.30120	0.8	0.8
292	Poor	0.75	0	Equal	0.3	Double	0.01324	0.15561	0.27185	1.20668	1.2	1.2
293	Poor	0.75	0	Equal	0.7	Equal	0.95502	0.96729	0.30940	1.95476	-2.0	-2.0
294	Poor	0.75	0	Equal	0.7	Double	0.26801	0.56290	0.46678	1.95476	-2.0	0.6
295	Poor	0.75	0	Double	0.1	Equal	0.00443	0.09640	0.09434	1.22077	1.4	1.6

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
296	Poor	0.75	0	Double	0.1	Double	0.00129	0.05592	0.09673	1.12372	1.8	1.8
297	Poor	0.75	0	Double	0.3	Equal	0.04488	0.26306	0.25250	1.60240	0.8	0.8
298	Poor	0.75	0	Double	0.3	Double	0.01324	0.15561	0.27185	1.41337	1.2	1.2
299	Poor	0.75	0	Double	0.7	Equal	0.95502	0.96729	0.30940	2.90951	-2.0	-2.0
300	Poor	0.75	0	Double	0.7	Double	0.26801	0.56290	0.46678	2.90951	-2.0	0.6
301	Poor	0.75	0.1	Equal	0.1	Equal	0.00461	0.09247	0.09490	1.97404	-2.0	2.6
302	Poor	0.75	0.1	Equal	0.1	Double	0.00134	0.05213	0.09719	1.97404	-2.0	3.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.05406	0.28086	0.25358	1.96761	-2.0	1.6
304	Poor	0.75	0.1	Equal	0.3	Double	0.01374	0.15217	0.27359	1.96761	-2.0	2.2
305	Poor	0.75	0.1	Equal	0.7	Equal	0.95537	0.96735	0.30947	1.95476	-2.0	-2.0
306	Poor	0.75	0.1	Equal	0.7	Double	0.26970	0.56341	0.46743	1.95476	-2.0	0.6
307	Poor	0.75	0.1	Double	0.1	Equal	0.00461	0.09247	0.09490	2.94807	-2.0	2.6
308	Poor	0.75	0.1	Double	0.1	Double	0.00134	0.05213	0.09719	2.94807	-2.0	3.0
309	Poor	0.75	0.1	Double	0.3	Equal	0.05406	0.28086	0.25358	2.93522	-2.0	1.6
310	Poor	0.75	0.1	Double	0.3	Double	0.01374	0.15217	0.27359	2.93522	-2.0	2.2
311	Poor	0.75	0.1	Double	0.7	Equal	0.95537	0.96735	0.30947	2.90951	-2.0	-2.0
312	Poor	0.75	0.1	Double	0.7	Double	0.26970	0.56341	0.46743	2.90951	-2.0	0.6
313	Poor	0.75	0.3	Equal	0.1	Equal	0.00465	0.09283	0.09491	1.97404	-2.0	2.6
314	Poor	0.75	0.3	Equal	0.1	Double	0.00135	0.05235	0.09719	1.97404	-2.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.05462	0.28167	0.25373	1.96761	-2.0	1.6
316	Poor	0.75	0.3	Equal	0.3	Double	0.01388	0.15270	0.27362	1.96761	-2.0	2.2
317	Poor	0.75	0.3	Equal	0.7	Equal	0.95654	0.96749	0.30972	1.95476	-2.0	-2.0
318	Poor	0.75	0.3	Equal	0.7	Double	0.27230	0.56445	0.46827	1.95476	-2.0	0.6
319	Poor	0.75	0.3	Double	0.1	Equal	0.00465	0.09283	0.09491	2.94807	-2.0	2.6
320	Poor	0.75	0.3	Double	0.1	Double	0.00135	0.05235	0.09719	2.94807	-2.0	3.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.05462	0.28167	0.25373	2.93522	-2.0	1.6
322	Poor	0.75	0.3	Double	0.3	Double	0.01388	0.15270	0.27362	2.93522	-2.0	2.2
323	Poor	0.75	0.3	Double	0.7	Equal	0.95654	0.96749	0.30972	2.90951	-2.0	-2.0
324	Poor	0.75	0.3	Double	0.7	Double	0.27230	0.56445	0.46827	2.90951	-2.0	0.6
325	Poor	0.75	0.5	Equal	0.1	Equal	0.00466	0.09312	0.09488	1.97404	-2.0	2.6

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
326	Poor	0.75	0.5	Equal	0.1	Double	0.00135	0.05252	0.09718	1.97404	-2.0	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.05478	0.28240	0.25363	1.96761	-2.0	1.6
328	Poor	0.75	0.5	Equal	0.3	Double	0.01390	0.15315	0.27352	1.96761	-2.0	2.2
329	Poor	0.75	0.5	Equal	0.7	Equal	0.95855	0.96767	0.31020	1.95476	-2.0	-2.0
330	Poor	0.75	0.5	Equal	0.7	Double	0.27377	0.56549	0.46842	1.95476	-2.0	0.6
331	Poor	0.75	0.5	Double	0.1	Equal	0.00466	0.09312	0.09488	2.94807	-2.0	2.6
332	Poor	0.75	0.5	Double	0.1	Double	0.00135	0.05252	0.09718	2.94807	-2.0	3.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.05478	0.28240	0.25363	2.93522	-2.0	1.6
334	Poor	0.75	0.5	Double	0.3	Double	0.01390	0.15315	0.27352	2.93522	-2.0	2.2
335	Poor	0.75	0.5	Double	0.7	Equal	0.95855	0.96767	0.31020	2.90951	-2.0	-2.0
336	Poor	0.75	0.5	Double	0.7	Double	0.27377	0.56549	0.46842	2.90951	-2.0	0.6
337	Poor	1	0	Equal	0.1	Equal	0.00652	0.10742	0.09513	1.10546	1.4	1.4
338	Poor	1	0	Equal	0.1	Double	0.00129	0.03950	0.09837	1.05221	1.8	1.8
339	Poor	1	0	Equal	0.3	Equal	0.09450	0.45329	0.23016	1.45425	0.4	0.6
340	Poor	1	0	Equal	0.3	Double	0.02517	0.23194	0.26566	1.25554	1.0	1.0
341	Poor	1	0	Equal	0.7	Equal	0.52671	0.88340	0.23963	1.87565	-0.6	-0.6
342	Poor	1	0	Equal	0.7	Double	0.33554	0.76689	0.36450	1.78678	-0.2	-0.2
343	Poor	1	0	Double	0.1	Equal	0.00652	0.10742	0.09513	1.21091	1.4	1.4
344	Poor	1	0	Double	0.1	Double	0.00129	0.03950	0.09837	1.10442	1.8	1.8
345	Poor	1	0	Double	0.3	Equal	0.09450	0.45329	0.23016	1.90851	0.4	0.6
346	Poor	1	0	Double	0.3	Double	0.02517	0.23194	0.26566	1.51108	1.0	1.0
347	Poor	1	0	Double	0.7	Equal	0.52671	0.88340	0.23963	2.75130	-0.6	-0.6
348	Poor	1	0	Double	0.7	Double	0.33554	0.76689	0.36450	2.57357	-0.2	-0.2
349	Poor	1	0.1	Equal	0.1	Equal	0.00628	0.09679	0.09597	1.10546	1.4	1.6
350	Poor	1	0.1	Equal	0.1	Double	0.00133	0.03609	0.09878	1.05221	1.8	2.0
351	Poor	1	0.1	Equal	0.3	Equal	0.08653	0.42155	0.23410	1.38346	0.6	0.6
352	Poor	1	0.1	Equal	0.3	Double	0.03132	0.24785	0.26949	1.25554	1.0	1.0
353	Poor	1	0.1	Equal	0.7	Equal	0.53802	0.88500	0.24191	1.87565	-0.6	-0.6
354	Poor	1	0.1	Equal	0.7	Double	0.35089	0.77138	0.37057	1.78678	-0.2	-0.2
355	Poor	1	0.1	Double	0.1	Equal	0.00628	0.09679	0.09597	1.21091	1.4	1.6

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
356	Poor	1	0.1	Double	0.1	Double	0.00133	0.03609	0.09878	1.10442	1.8	2.0
357	Poor	1	0.1	Double	0.3	Equal	0.08653	0.42155	0.23410	1.76692	0.6	0.6
358	Poor	1	0.1	Double	0.3	Double	0.03132	0.24785	0.26949	1.51108	1.0	1.0
359	Poor	1	0.1	Double	0.7	Equal	0.53802	0.88500	0.24191	2.75130	-0.6	-0.6
360	Poor	1	0.1	Double	0.7	Double	0.35089	0.77138	0.37057	2.57357	-0.2	-0.2
361	Poor	1	0.3	Equal	0.1	Equal	0.00587	0.08098	0.09719	1.07523	1.6	1.8
362	Poor	1	0.3	Equal	0.1	Double	0.00094	0.02387	0.09930	1.02315	2.2	2.2
363	Poor	1	0.3	Equal	0.3	Equal	0.08935	0.40347	0.24150	1.38346	0.6	0.8
364	Poor	1	0.3	Equal	0.3	Double	0.02709	0.20824	0.27545	1.20139	1.2	1.2
365	Poor	1	0.3	Equal	0.7	Equal	0.60324	0.90702	0.24606	1.90864	-0.8	-0.6
366	Poor	1	0.3	Equal	0.7	Double	0.33713	0.74499	0.38078	1.78678	-0.2	0.0
367	Poor	1	0.3	Double	0.1	Equal	0.00587	0.08098	0.09719	1.15046	1.6	1.8
368	Poor	1	0.3	Double	0.1	Double	0.00094	0.02387	0.09930	1.04630	2.2	2.2
369	Poor	1	0.3	Double	0.3	Equal	0.08935	0.40347	0.24150	1.76692	0.6	0.8
370	Poor	1	0.3	Double	0.3	Double	0.02709	0.20824	0.27545	1.40277	1.2	1.2
371	Poor	1	0.3	Double	0.7	Equal	0.60324	0.90702	0.24606	2.81727	-0.8	-0.6
372	Poor	1	0.3	Double	0.7	Double	0.33713	0.74499	0.38078	2.57357	-0.2	0.0
373	Poor	1	0.5	Equal	0.1	Equal	0.00405	0.05646	0.09800	1.03525	2.0	2.0
374	Poor	1	0.5	Equal	0.1	Double	0.00066	0.01592	0.09959	1.01478	2.4	2.6
375	Poor	1	0.5	Equal	0.3	Equal	0.09469	0.39664	0.24729	1.31664	0.8	0.8
376	Poor	1	0.5	Equal	0.3	Double	0.02394	0.17840	0.28000	1.15486	1.4	1.4
377	Poor	1	0.5	Equal	0.7	Equal	0.58906	0.89557	0.24982	1.87565	-0.6	-0.6
378	Poor	1	0.5	Equal	0.7	Double	0.33333	0.72891	0.38977	1.73095	0.0	0.0
379	Poor	1	0.5	Double	0.1	Equal	0.00405	0.05646	0.09800	1.07050	2.0	2.0
380	Poor	1	0.5	Double	0.1	Double	0.00066	0.01592	0.09959	1.02957	2.4	2.6
381	Poor	1	0.5	Double	0.3	Equal	0.09469	0.39664	0.24729	1.63328	0.8	0.8
382	Poor	1	0.5	Double	0.3	Double	0.02394	0.17840	0.28000	1.30971	1.4	1.4
383	Poor	1	0.5	Double	0.7	Equal	0.58906	0.89557	0.24982	2.75130	-0.6	-0.6
384	Poor	1	0.5	Double	0.7	Double	0.33333	0.72891	0.38977	2.46190	0.0	0.0
385	Poor	1.25	0	Equal	0.1	Equal	0.01324	0.19381	0.09254	1.14611	1.2	1.2

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
386	Poor	1.25	0	Equal	0.1	Double	0.00300	0.06642	0.09876	1.07013	1.6	1.6
387	Poor	1.25	0	Equal	0.3	Equal	0.11873	0.64358	0.19004	1.49797	0.4	0.4
388	Poor	1.25	0	Equal	0.3	Double	0.04488	0.40538	0.24122	1.34899	0.8	0.8
389	Poor	1.25	0	Equal	0.7	Equal	0.42958	0.93667	0.17320	1.88936	-0.4	-0.4
390	Poor	1.25	0	Equal	0.7	Double	0.25000	0.83071	0.26850	1.81794	0.0	0.0
391	Poor	1.25	0	Double	0.1	Equal	0.01324	0.19381	0.09254	1.29222	1.2	1.2
392	Poor	1.25	0	Double	0.1	Double	0.00300	0.06642	0.09876	1.14026	1.6	1.6
393	Poor	1.25	0	Double	0.3	Equal	0.11873	0.64358	0.19004	1.99595	0.4	0.4
394	Poor	1.25	0	Double	0.3	Double	0.04488	0.40538	0.24122	1.69797	0.8	0.8
395	Poor	1.25	0	Double	0.7	Equal	0.42958	0.93667	0.17320	2.77871	-0.4	-0.4
396	Poor	1.25	0	Double	0.7	Double	0.25000	0.83071	0.26850	2.63588	0.0	0.0
397	Poor	1.25	0.1	Equal	0.1	Equal	0.01729	0.23228	0.09233	1.14611	1.2	1.2
398	Poor	1.25	0.1	Equal	0.1	Double	0.00202	0.05288	0.09835	1.04536	1.8	1.8
399	Poor	1.25	0.1	Equal	0.3	Equal	0.10693	0.60624	0.19298	1.49797	0.4	0.6
400	Poor	1.25	0.1	Equal	0.3	Double	0.05355	0.44057	0.24279	1.34899	0.8	0.8
401	Poor	1.25	0.1	Equal	0.7	Equal	0.44327	0.93855	0.17600	1.88936	-0.4	-0.4
402	Poor	1.25	0.1	Equal	0.7	Double	0.26594	0.83845	0.27265	1.81794	0.0	0.0
403	Poor	1.25	0.1	Double	0.1	Equal	0.01729	0.23228	0.09233	1.29222	1.2	1.2
404	Poor	1.25	0.1	Double	0.1	Double	0.00202	0.05288	0.09835	1.09071	1.8	1.8
405	Poor	1.25	0.1	Double	0.3	Equal	0.10693	0.60624	0.19298	1.99595	0.4	0.6
406	Poor	1.25	0.1	Double	0.3	Double	0.05355	0.44057	0.24279	1.69797	0.8	0.8
407	Poor	1.25	0.1	Double	0.7	Equal	0.44327	0.93855	0.17600	2.77871	-0.4	-0.4
408	Poor	1.25	0.1	Double	0.7	Double	0.26594	0.83845	0.27265	2.63588	0.0	0.0
409	Poor	1.25	0.3	Equal	0.1	Equal	0.01535	0.23487	0.09032	1.10352	1.4	1.4
410	Poor	1.25	0.3	Equal	0.1	Double	0.00422	0.10606	0.09698	1.04536	1.8	1.8
411	Poor	1.25	0.3	Equal	0.3	Equal	0.11063	0.62692	0.18937	1.42395	0.6	0.6
412	Poor	1.25	0.3	Equal	0.3	Double	0.04546	0.42111	0.23731	1.27593	1.0	1.0
413	Poor	1.25	0.3	Equal	0.7	Equal	0.38237	0.91398	0.17492	1.85784	-0.2	-0.2
414	Poor	1.25	0.3	Equal	0.7	Double	0.29849	0.86557	0.27320	1.81794	0.0	0.0
415	Poor	1.25	0.3	Double	0.1	Equal	0.01535	0.23487	0.09032	1.20704	1.4	1.4

Table A-1. 2-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
416	Poor	1.25	0.3	Double	0.1	Double	0.00422	0.10606	0.09698	1.09071	1.8	1.8
417	Poor	1.25	0.3	Double	0.3	Equal	0.11063	0.62692	0.18937	1.84790	0.6	0.6
418	Poor	1.25	0.3	Double	0.3	Double	0.04546	0.42111	0.23731	1.55185	1.0	1.0
419	Poor	1.25	0.3	Double	0.7	Equal	0.38237	0.91398	0.17492	2.71567	-0.2	-0.2
420	Poor	1.25	0.3	Double	0.7	Double	0.29849	0.86557	0.27320	2.63588	0.0	0.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.01386	0.25773	0.08671	1.07013	1.6	1.6
422	Poor	1.25	0.5	Equal	0.1	Double	0.00405	0.12500	0.09480	1.02800	2.0	2.0
423	Poor	1.25	0.5	Equal	0.3	Equal	0.09469	0.61272	0.18246	1.34899	0.8	0.8
424	Poor	1.25	0.5	Equal	0.3	Double	0.03955	0.44024	0.22329	1.20819	1.2	1.2
425	Poor	1.25	0.5	Equal	0.7	Equal	0.37115	0.90497	0.17786	1.85784	-0.2	0.0
426	Poor	1.25	0.5	Equal	0.7	Double	0.29189	0.86426	0.27015	1.81794	0.0	0.2
427	Poor	1.25	0.5	Double	0.1	Equal	0.01386	0.25773	0.08671	1.14026	1.6	1.6
428	Poor	1.25	0.5	Double	0.1	Double	0.00405	0.12500	0.09480	1.05599	2.0	2.0
429	Poor	1.25	0.5	Double	0.3	Equal	0.09469	0.61272	0.18246	1.69797	0.8	0.8
430	Poor	1.25	0.5	Double	0.3	Double	0.03955	0.44024	0.22329	1.41637	1.2	1.2
431	Poor	1.25	0.5	Double	0.7	Equal	0.37115	0.90497	0.17786	2.71567	-0.2	0.0
432	Poor	1.25	0.5	Double	0.7	Double	0.29189	0.86426	0.27015	2.63588	0.0	0.2

3-Test Sequence Under Believe the Negative

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
1	Good	0.75	0	Equal	0.1	Equal	0.00951	0.56544	0.05201	1.37545	0.8	0.8	0.8
2	Good	0.75	0	Equal	0.1	Double	0.00533	0.51065	0.05853	1.36191	0.8	1.0	1.0
3	Good	0.75	0	Equal	0.3	Equal	0.04091	0.71186	0.11508	1.81076	0.4	0.4	0.4
4	Good	0.75	0	Equal	0.3	Double	0.02063	0.64183	0.13633	1.70593	0.6	0.6	0.6
5	Good	0.75	0	Equal	0.7	Equal	0.21992	0.88158	0.14887	2.59844	-0.4	-0.2	-0.2
6	Good	0.75	0	Equal	0.7	Double	0.12500	0.82653	0.19643	2.45490	0.0	0.0	0.0
7	Good	0.75	0	Double	0.1	Equal	0.00951	0.56544	0.05201	1.96845	0.8	0.8	0.8
8	Good	0.75	0	Double	0.1	Double	0.00533	0.51065	0.05853	1.91429	0.8	1.0	1.0
9	Good	0.75	0	Double	0.3	Equal	0.04091	0.71186	0.11508	3.26610	0.4	0.4	0.4
10	Good	0.75	0	Double	0.3	Double	0.02063	0.64183	0.13633	2.96361	0.6	0.6	0.6
11	Good	0.75	0	Double	0.7	Equal	0.21992	0.88158	0.14887	5.71747	-0.4	-0.2	-0.2
12	Good	0.75	0	Double	0.7	Double	0.12500	0.82653	0.19643	5.29281	0.0	0.0	0.0
13	Good	0.75	0.1	Equal	0.1	Equal	0.01211	0.54290	0.05661	1.31720	1.0	0.8	0.8
14	Good	0.75	0.1	Equal	0.1	Double	0.00556	0.46341	0.06367	1.30538	1.0	1.0	1.2
15	Good	0.75	0.1	Equal	0.3	Equal	0.05561	0.71480	0.12448	1.82067	0.4	0.4	0.4
16	Good	0.75	0.1	Equal	0.3	Double	0.02437	0.61966	0.14823	1.69219	0.6	0.8	0.6
17	Good	0.75	0.1	Equal	0.7	Equal	0.24632	0.88231	0.15628	2.54570	-0.2	-0.2	-0.4
18	Good	0.75	0.1	Equal	0.7	Double	0.12763	0.81011	0.20950	2.43470	0.0	0.2	0.0
19	Good	0.75	0.1	Double	0.1	Equal	0.01211	0.54290	0.05661	2.00048	0.8	0.8	1.0
20	Good	0.75	0.1	Double	0.1	Double	0.00556	0.46341	0.06367	1.79118	1.0	1.0	1.2
21	Good	0.75	0.1	Double	0.3	Equal	0.05562	0.71479	0.12449	3.30575	0.4	0.4	0.4
22	Good	0.75	0.1	Double	0.3	Double	0.02437	0.61966	0.14822	2.90863	0.6	0.8	0.6
23	Good	0.75	0.1	Double	0.7	Equal	0.24633	0.88231	0.15628	5.73550	-0.4	-0.2	-0.2
24	Good	0.75	0.1	Double	0.7	Double	0.12762	0.81011	0.20950	5.13016	0.2	0.0	0.0
25	Good	0.75	0.3	Equal	0.1	Equal	0.01368	0.47220	0.06509	1.36799	0.8	1.2	1.2
26	Good	0.75	0.3	Equal	0.1	Double	0.00587	0.37896	0.07267	2.06821	-2.0	1.8	1.6
27	Good	0.75	0.3	Equal	0.3	Equal	0.05507	0.65405	0.14233	1.73218	0.6	0.6	0.6
28	Good	0.75	0.3	Equal	0.3	Double	0.02627	0.55409	0.17054	1.61355	0.8	1.0	0.8

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
29	Good	0.75	0.3	Equal	0.7	Equal	0.29862	0.88395	0.17082	2.55562	-0.2	-0.2	-0.4
30	Good	0.75	0.3	Equal	0.7	Double	0.15363	0.79660	0.23456	2.44519	0.0	0.2	0.2
31	Good	0.75	0.3	Double	0.1	Equal	0.01368	0.47222	0.06509	1.66449	1.2	1.2	0.8
32	Good	0.75	0.3	Double	0.1	Double	0.00587	0.37896	0.07267	1.66881	1.6	-2.0	1.8
33	Good	0.75	0.3	Double	0.3	Equal	0.05508	0.65403	0.14235	3.06859	0.6	0.6	0.6
34	Good	0.75	0.3	Double	0.3	Double	0.02625	0.55414	0.17051	2.78434	0.8	0.8	1.0
35	Good	0.75	0.3	Double	0.7	Equal	0.29859	0.88394	0.17082	5.70095	-0.2	-0.4	-0.2
36	Good	0.75	0.3	Double	0.7	Double	0.15359	0.79659	0.23454	5.17212	0.2	0.0	0.2
37	Good	0.75	0.5	Equal	0.1	Equal	0.01390	0.45641	0.06687	2.03658	-2.0	2.2	-2.0
38	Good	0.75	0.5	Equal	0.1	Double	0.00466	0.34125	0.07426	2.94086	-2.0	-2.0	2.6
39	Good	0.75	0.5	Equal	0.3	Equal	0.05476	0.63284	0.14848	2.20905	-2.0	1.6	-2.0
40	Good	0.75	0.5	Equal	0.3	Double	0.02274	0.51604	0.17703	2.15154	-2.0	2.0	-2.0
41	Good	0.75	0.5	Equal	0.7	Equal	0.34298	0.89110	0.17913	2.97122	-2.0	-2.0	0.4
42	Good	0.75	0.5	Equal	0.7	Double	0.15837	0.78441	0.24593	2.97122	-2.0	-2.0	1.0
43	Good	0.75	0.5	Double	0.1	Equal	0.01390	0.45641	0.06687	3.18953	-2.0	2.2	-2.0
44	Good	0.75	0.5	Double	0.1	Double	0.00466	0.34125	0.07426	1.23771	2.6	-2.0	-2.0
45	Good	0.75	0.5	Double	0.3	Equal	0.05477	0.63284	0.14848	6.84253	-2.0	-2.0	1.6
46	Good	0.75	0.5	Double	0.3	Double	0.02274	0.51604	0.17703	3.64477	-2.0	2.0	-2.0
47	Good	0.75	0.5	Double	0.7	Equal	0.34297	0.89110	0.17913	6.91429	-2.0	-2.0	0.4
48	Good	0.75	0.5	Double	0.7	Double	0.15836	0.78441	0.24593	6.91429	-2.0	-2.0	1.0
49	Good	1	0	Equal	0.1	Equal	0.00951	0.82138	0.02642	1.41242	0.8	0.8	0.8
50	Good	1	0	Equal	0.1	Double	0.00399	0.74765	0.03242	1.33858	1.0	1.0	1.0
51	Good	1	0	Equal	0.3	Equal	0.02592	0.89265	0.05035	1.87883	0.4	0.6	0.6
52	Good	1	0	Equal	0.3	Double	0.01593	0.85922	0.06454	1.80722	0.6	0.6	0.8
53	Good	1	0	Equal	0.7	Equal	0.08851	0.95712	0.05657	2.58750	0.0	0.2	0.2
54	Good	1	0	Equal	0.7	Double	0.06100	0.94065	0.07815	2.54436	0.2	0.2	0.4
55	Good	1	0	Double	0.1	Equal	0.00951	0.82138	0.02642	2.08105	0.8	0.8	0.8
56	Good	1	0	Double	0.1	Double	0.00399	0.74765	0.03242	1.88722	1.0	1.0	1.0
57	Good	1	0	Double	0.3	Equal	0.02592	0.89265	0.05035	3.44912	0.4	0.6	0.6
58	Good	1	0	Double	0.3	Double	0.01593	0.85922	0.06454	3.27021	0.6	0.6	0.8

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
59	Good	1	0	Double	0.7	Equal	0.08851	0.95712	0.05657	5.66401	0.0	0.2	0.2
60	Good	1	0	Double	0.7	Double	0.06100	0.94065	0.07815	5.54845	0.2	0.2	0.4
61	Good	1	0.1	Equal	0.1	Equal	0.00943	0.77824	0.03066	1.35559	1.0	0.8	1.0
62	Good	1	0.1	Equal	0.1	Double	0.00556	0.72585	0.03743	1.34441	1.0	1.0	1.2
63	Good	1	0.1	Equal	0.3	Equal	0.03058	0.88141	0.05698	1.81542	0.6	0.6	0.6
64	Good	1	0.1	Equal	0.3	Double	0.01559	0.82615	0.07398	1.73038	0.8	0.8	0.8
65	Good	1	0.1	Equal	0.7	Equal	0.09419	0.95124	0.06239	2.54912	0.2	0.2	0.2
66	Good	1	0.1	Equal	0.7	Double	0.06618	0.93186	0.08741	2.53223	0.2	0.4	0.4
67	Good	1	0.1	Double	0.1	Equal	0.00943	0.77821	0.03067	1.91055	1.0	1.0	0.8
68	Good	1	0.1	Double	0.1	Double	0.00557	0.72582	0.03744	1.78211	1.2	1.0	1.0
69	Good	1	0.1	Double	0.3	Equal	0.03057	0.88142	0.05697	3.30301	0.6	0.6	0.6
70	Good	1	0.1	Double	0.3	Double	0.01559	0.82617	0.07397	3.06300	0.8	0.8	0.8
71	Good	1	0.1	Double	0.7	Equal	0.09419	0.95123	0.06239	5.56747	0.2	0.2	0.2
72	Good	1	0.1	Double	0.7	Double	0.06617	0.93186	0.08740	5.43979	0.4	0.2	0.4
73	Good	1	0.3	Equal	0.1	Equal	0.01419	0.74674	0.03810	1.34527	1.0	1.2	1.0
74	Good	1	0.3	Equal	0.1	Double	0.00722	0.66553	0.04644	1.28233	1.2	1.4	1.2
75	Good	1	0.3	Equal	0.3	Equal	0.03832	0.85423	0.07055	1.81243	0.6	0.8	0.8
76	Good	1	0.3	Equal	0.3	Double	0.02153	0.79429	0.09186	1.72679	0.8	1.0	1.0
77	Good	1	0.3	Equal	0.7	Equal	0.13621	0.95334	0.07352	2.55909	0.2	0.2	0.2
78	Good	1	0.3	Equal	0.7	Double	0.08903	0.92643	0.10492	2.49674	0.4	0.4	0.4
79	Good	1	0.3	Double	0.1	Equal	0.01419	0.74673	0.03810	1.91396	1.0	1.2	1.0
80	Good	1	0.3	Double	0.1	Double	0.00722	0.66552	0.04645	1.78778	1.2	1.2	1.4
81	Good	1	0.3	Double	0.3	Equal	0.03832	0.85422	0.07056	3.29107	0.6	0.8	0.8
82	Good	1	0.3	Double	0.3	Double	0.02154	0.79430	0.09186	2.95681	1.0	0.8	1.0
83	Good	1	0.3	Double	0.7	Equal	0.13620	0.95335	0.07352	5.60737	0.2	0.2	0.2
84	Good	1	0.3	Double	0.7	Double	0.08906	0.92647	0.10491	5.41806	0.4	0.4	0.4
85	Good	1	0.5	Equal	0.1	Equal	0.01601	0.69792	0.04462	1.25757	1.4	1.2	1.2
86	Good	1	0.5	Equal	0.1	Double	0.00706	0.58661	0.05404	1.23902	1.4	1.6	1.6
87	Good	1	0.5	Equal	0.3	Equal	0.04651	0.83288	0.08269	1.74264	0.8	1.0	0.8
88	Good	1	0.5	Equal	0.3	Double	0.02797	0.77110	0.10783	1.68036	1.0	1.0	1.2

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
89	Good	1	0.5	Equal	0.7	Equal	0.16161	0.94839	0.08461	2.55283	0.2	0.4	0.2
90	Good	1	0.5	Equal	0.7	Double	0.09772	0.90930	0.12212	2.45771	0.6	0.4	0.6
91	Good	1	0.5	Double	0.1	Equal	0.01603	0.69793	0.04463	1.79156	1.2	1.4	1.2
92	Good	1	0.5	Double	0.1	Double	0.00706	0.58665	0.05404	1.64617	1.4	1.6	1.6
93	Good	1	0.5	Double	0.3	Equal	0.05524	0.85337	0.08266	3.19173	0.8	0.8	0.8
94	Good	1	0.5	Double	0.3	Double	0.02795	0.77110	0.10780	2.95474	1.0	1.0	1.2
95	Good	1	0.5	Double	0.7	Equal	0.16160	0.94835	0.08463	5.65189	0.2	0.2	0.4
96	Good	1	0.5	Double	0.7	Double	0.09773	0.90929	0.12213	5.26140	0.6	0.6	0.4
97	Good	1.25	0	Equal	0.1	Equal	0.00399	0.93944	0.00965	1.36083	1.0	1.0	1.0
98	Good	1.25	0	Equal	0.1	Double	0.00290	0.92408	0.01281	1.36083	1.0	1.0	1.2
99	Good	1.25	0	Equal	0.3	Equal	0.00951	0.96744	0.01642	1.77254	0.8	0.8	0.8
100	Good	1.25	0	Equal	0.3	Double	0.00712	0.95802	0.02256	1.77254	0.8	0.8	1.0
101	Good	1.25	0	Equal	0.7	Equal	0.03256	0.98926	0.01728	2.53515	0.4	0.4	0.6
102	Good	1.25	0	Equal	0.7	Double	0.02063	0.98353	0.02391	2.49661	0.6	0.6	0.6
103	Good	1.25	0	Double	0.1	Equal	0.00399	0.93944	0.00965	1.95881	1.0	1.0	1.0
104	Good	1.25	0	Double	0.1	Double	0.00290	0.92408	0.01281	1.95881	1.0	1.0	1.2
105	Good	1.25	0	Double	0.3	Equal	0.00951	0.96744	0.01642	3.19482	0.8	0.8	0.8
106	Good	1.25	0	Double	0.3	Double	0.00712	0.95802	0.02256	3.19482	0.8	0.8	1.0
107	Good	1.25	0	Double	0.7	Equal	0.03256	0.98926	0.01728	5.53421	0.4	0.4	0.6
108	Good	1.25	0	Double	0.7	Double	0.02063	0.98353	0.02391	5.42293	0.6	0.6	0.6
109	Good	1.25	0.1	Equal	0.1	Equal	0.00556	0.92776	0.01223	1.36646	1.0	1.0	1.2
110	Good	1.25	0.1	Equal	0.1	Double	0.00321	0.90035	0.01574	1.31090	1.2	1.2	1.2
111	Good	1.25	0.1	Equal	0.3	Equal	0.01559	0.96850	0.02036	1.77872	0.8	0.8	0.8
112	Good	1.25	0.1	Equal	0.3	Double	0.00736	0.94217	0.02765	1.71943	1.0	1.0	1.0
113	Good	1.25	0.1	Equal	0.7	Equal	0.03057	0.98390	0.02044	2.50009	0.6	0.6	0.6
114	Good	1.25	0.1	Equal	0.7	Double	0.02438	0.97868	0.02955	2.49080	0.6	0.8	0.6
115	Good	1.25	0.1	Double	0.1	Equal	0.00556	0.92774	0.01223	1.94616	1.0	1.2	1.0
116	Good	1.25	0.1	Double	0.1	Double	0.00321	0.90035	0.01574	1.83898	1.2	1.2	1.2
117	Good	1.25	0.1	Double	0.3	Equal	0.01559	0.96852	0.02036	3.21953	0.8	0.8	0.8
118	Good	1.25	0.1	Double	0.3	Double	0.00736	0.94217	0.02765	3.05881	1.0	1.0	1.0

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
119	Good	1.25	0.1	Double	0.7	Equal	0.03057	0.98391	0.02044	5.43687	0.6	0.6	0.6
120	Good	1.25	0.1	Double	0.7	Double	0.02437	0.97868	0.02955	5.39970	0.6	0.8	0.6
121	Good	1.25	0.3	Equal	0.1	Equal	0.00722	0.90789	0.01571	1.32080	1.2	1.2	1.4
122	Good	1.25	0.3	Equal	0.1	Double	0.00450	0.87985	0.02011	1.27420	1.4	1.4	1.4
123	Good	1.25	0.3	Equal	0.3	Equal	0.01777	0.95576	0.02571	1.73105	1.0	1.0	1.0
124	Good	1.25	0.3	Equal	0.3	Double	0.00922	0.92489	0.03544	1.67809	1.2	1.2	1.2
125	Good	1.25	0.3	Equal	0.7	Equal	0.05506	0.98702	0.02560	2.50823	0.6	0.6	0.6
126	Good	1.25	0.3	Equal	0.7	Double	0.03224	0.97532	0.03662	2.47086	0.8	0.8	0.8
127	Good	1.25	0.3	Double	0.1	Equal	0.00722	0.90785	0.01571	1.87859	1.2	1.2	1.4
128	Good	1.25	0.3	Double	0.1	Double	0.00451	0.87983	0.02013	1.75683	1.4	1.4	1.4
129	Good	1.25	0.3	Double	0.3	Equal	0.01776	0.95568	0.02573	3.10532	1.0	1.0	1.0
130	Good	1.25	0.3	Double	0.3	Double	0.00922	0.92489	0.03544	2.95882	1.2	1.2	1.2
131	Good	1.25	0.3	Double	0.7	Equal	0.05503	0.98717	0.02549	5.46943	0.6	0.6	0.6
132	Good	1.25	0.3	Double	0.7	Double	0.03218	0.97534	0.03657	5.35924	0.8	0.8	0.8
133	Good	1.25	0.5	Equal	0.1	Equal	0.00873	0.89664	0.01819	1.28119	1.4	1.4	1.6
134	Good	1.25	0.5	Equal	0.1	Double	0.00452	0.85113	0.02303	1.23832	1.6	1.8	1.6
135	Good	1.25	0.5	Equal	0.3	Equal	0.01602	0.92887	0.03256	1.64848	1.4	1.2	1.2
136	Good	1.25	0.5	Equal	0.3	Double	0.00873	0.89664	0.04323	1.63008	1.4	1.6	1.4
137	Good	1.25	0.5	Equal	0.7	Equal	0.06105	0.97939	0.03274	2.49450	0.6	1.0	0.6
138	Good	1.25	0.5	Equal	0.7	Double	0.03782	0.96338	0.04833	2.46932	0.8	0.8	1.2
139	Good	1.25	0.5	Double	0.1	Equal	0.00873	0.89664	0.01819	1.78481	1.4	1.4	1.6
140	Good	1.25	0.5	Double	0.1	Double	0.00453	0.85113	0.02304	1.67988	1.6	1.6	1.8
141	Good	1.25	0.5	Double	0.3	Equal	0.01602	0.92887	0.03255	2.95376	1.2	1.4	1.2
142	Good	1.25	0.5	Double	0.3	Double	0.00873	0.89664	0.04323	2.83987	1.4	1.4	1.6
143	Good	1.25	0.5	Double	0.7	Equal	0.06105	0.97939	0.03274	5.41450	0.6	1.0	0.6
144	Good	1.25	0.5	Double	0.7	Double	0.03783	0.96338	0.04833	5.35309	0.8	0.8	1.2
145	Fair	0.75	0	Equal	0.1	Equal	0.00951	0.26824	0.08173	1.33364	0.8	0.8	0.8
146	Fair	0.75	0	Equal	0.1	Double	0.00399	0.20300	0.08689	1.25659	1.0	1.0	1.0
147	Fair	0.75	0	Equal	0.3	Equal	0.06100	0.47269	0.20089	1.82708	0.2	0.2	0.4
148	Fair	0.75	0	Equal	0.3	Double	0.02063	0.34160	0.22640	1.58688	0.6	0.6	0.6

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification		FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost								
149	Fair	0.75	0	Equal	0.7	Equal		0.48957	0.83586	0.26177	2.66045	-0.8	-0.8	-0.8
150	Fair	0.75	0	Equal	0.7	Double		0.21992	0.67832	0.35713	2.43785	-0.4	-0.2	-0.2
151	Fair	0.75	0	Double	0.1	Equal		0.00951	0.26824	0.08173	1.83124	0.8	0.8	0.8
152	Fair	0.75	0	Double	0.1	Double		0.00399	0.20300	0.08689	1.62756	1.0	1.0	1.0
153	Fair	0.75	0	Double	0.3	Equal		0.06100	0.47269	0.20089	3.28060	0.2	0.2	0.4
154	Fair	0.75	0	Double	0.3	Double		0.02063	0.34160	0.22640	2.57227	0.6	0.6	0.6
155	Fair	0.75	0	Double	0.7	Equal		0.48957	0.83586	0.26177	5.93588	-0.8	-0.8	-0.8
156	Fair	0.75	0	Double	0.7	Double		0.21992	0.67832	0.35713	5.19631	-0.4	-0.2	-0.2
157	Fair	0.75	0.1	Equal	0.1	Equal		0.00943	0.23120	0.08537	1.32682	0.8	1.0	1.0
158	Fair	0.75	0.1	Equal	0.1	Double		0.00321	0.15561	0.09021	1.19970	1.2	1.2	1.2
159	Fair	0.75	0.1	Equal	0.3	Equal		0.06618	0.45260	0.21054	1.80486	0.2	0.4	0.4
160	Fair	0.75	0.1	Equal	0.3	Double		0.02437	0.32334	0.23711	1.57171	0.6	0.8	0.6
161	Fair	0.75	0.1	Equal	0.7	Equal		0.52834	0.84602	0.26629	2.67228	-0.6	-2.0	-0.6
162	Fair	0.75	0.1	Equal	0.7	Double		0.22070	0.66000	0.37042	2.36860	-0.2	-0.2	-0.2
163	Fair	0.75	0.1	Double	0.1	Equal		0.00943	0.23121	0.08536	1.69948	1.0	0.8	1.0
164	Fair	0.75	0.1	Double	0.1	Double		0.00321	0.15560	0.09021	1.48739	1.2	1.2	1.2
165	Fair	0.75	0.1	Double	0.3	Equal		0.06618	0.45258	0.21055	3.19173	0.2	0.4	0.4
166	Fair	0.75	0.1	Double	0.3	Double		0.02437	0.32332	0.23712	2.51158	0.6	0.8	0.6
167	Fair	0.75	0.1	Double	0.7	Equal		0.52833	0.84602	0.26629	6.36078	-2.0	-0.6	-0.6
168	Fair	0.75	0.1	Double	0.7	Double		0.22068	0.66000	0.37041	5.00699	-0.2	-0.2	-0.2
169	Fair	0.75	0.3	Equal	0.1	Equal		0.00817	0.20192	0.08716	1.06175	2.4	-2.0	-2.0
170	Fair	0.75	0.3	Equal	0.1	Double		0.00255	0.12851	0.09174	2.93589	-2.0	-2.0	2.8
171	Fair	0.75	0.3	Equal	0.3	Equal		0.05444	0.40554	0.21645	2.94008	-2.0	-2.0	1.6
172	Fair	0.75	0.3	Equal	0.3	Double		0.02264	0.29578	0.24297	2.94008	-2.0	-2.0	2.0
173	Fair	0.75	0.3	Equal	0.7	Equal		0.56608	0.85824	0.26906	2.94846	-2.0	-2.0	-0.2
174	Fair	0.75	0.3	Equal	0.7	Double		0.27042	0.69100	0.37855	2.94846	-2.0	-2.0	0.6
175	Fair	0.75	0.3	Double	0.1	Equal		0.00817	0.20192	0.08716	6.79088	-2.0	-2.0	2.4
176	Fair	0.75	0.3	Double	0.1	Double		0.00255	0.12851	0.09174	6.79088	-2.0	-2.0	2.8
177	Fair	0.75	0.3	Double	0.3	Equal		0.05444	0.40554	0.21645	1.97798	1.6	-2.0	-2.0
178	Fair	0.75	0.3	Double	0.3	Double		0.02264	0.29578	0.24297	6.81130	-2.0	-2.0	2.0

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
179	Fair	0.75	0.3	Double	0.7	Equal	0.56608	0.85823	0.26906	6.04674	-2.0	-0.2	-2.0
180	Fair	0.75	0.3	Double	0.7	Double	0.27042	0.69100	0.37855	5.21447	-2.0	0.6	-2.0
181	Fair	0.75	0.5	Equal	0.1	Equal	0.00820	0.20241	0.08714	2.93770	-2.0	-2.0	2.4
182	Fair	0.75	0.5	Equal	0.1	Double	0.00256	0.12884	0.09172	1.03739	2.8	-2.0	-2.0
183	Fair	0.75	0.5	Equal	0.3	Equal	0.05476	0.40637	0.21643	2.13526	-2.0	1.6	-2.0
184	Fair	0.75	0.5	Equal	0.3	Double	0.02274	0.29645	0.24291	2.94150	-2.0	-2.0	2.0
185	Fair	0.75	0.5	Equal	0.7	Equal	0.57343	0.85894	0.27077	2.74848	-2.0	-0.2	-2.0
186	Fair	0.75	0.5	Equal	0.7	Double	0.27330	0.69195	0.37962	2.94910	-2.0	-2.0	0.6
187	Fair	0.75	0.5	Double	0.1	Equal	0.00820	0.20241	0.08714	1.17894	2.4	-2.0	-2.0
188	Fair	0.75	0.5	Double	0.1	Double	0.00256	0.12884	0.09172	1.10522	2.8	-2.0	-2.0
189	Fair	0.75	0.5	Double	0.3	Equal	0.05476	0.40637	0.21643	3.59203	-2.0	1.6	-2.0
190	Fair	0.75	0.5	Double	0.3	Double	0.02274	0.29645	0.24291	6.81699	-2.0	-2.0	2.0
191	Fair	0.75	0.5	Double	0.7	Equal	0.57344	0.85894	0.27077	6.05222	-2.0	-0.2	-2.0
192	Fair	0.75	0.5	Double	0.7	Double	0.27330	0.69195	0.37962	5.21754	-2.0	0.6	-2.0
193	Fair	1	0	Equal	0.1	Equal	0.01593	0.48624	0.06572	1.46026	0.6	0.6	0.8
194	Fair	1	0	Equal	0.1	Double	0.00712	0.37927	0.07489	1.36162	0.8	0.8	1.0
195	Fair	1	0	Equal	0.3	Equal	0.07448	0.72221	0.13547	1.92908	0.2	0.2	0.2
196	Fair	1	0	Equal	0.3	Double	0.03256	0.59209	0.16796	1.80153	0.4	0.4	0.6
197	Fair	1	0	Equal	0.7	Equal	0.28155	0.90974	0.14765	2.66099	-0.4	-0.4	-0.4
198	Fair	1	0	Equal	0.7	Double	0.16777	0.84184	0.21138	2.57549	-0.2	-0.2	0.0
199	Fair	1	0	Double	0.1	Equal	0.01593	0.48624	0.06572	2.18606	0.6	0.6	0.8
200	Fair	1	0	Double	0.1	Double	0.00712	0.37927	0.07489	1.91569	0.8	0.8	1.0
201	Fair	1	0	Double	0.3	Equal	0.07448	0.72221	0.13547	3.58897	0.2	0.2	0.2
202	Fair	1	0	Double	0.3	Double	0.03256	0.59209	0.16796	3.20968	0.4	0.4	0.6
203	Fair	1	0	Double	0.7	Equal	0.28155	0.90974	0.14765	5.89417	-0.4	-0.4	-0.4
204	Fair	1	0	Double	0.7	Double	0.16777	0.84184	0.21138	5.62145	-0.2	-0.2	0.0
205	Fair	1	0.1	Equal	0.1	Equal	0.01559	0.43999	0.07003	1.37046	0.8	0.8	0.8
206	Fair	1	0.1	Equal	0.1	Double	0.00736	0.33929	0.07932	1.28635	1.0	1.0	1.0
207	Fair	1	0.1	Equal	0.3	Equal	0.07888	0.70009	0.14519	1.94086	0.2	0.2	0.4
208	Fair	1	0.1	Equal	0.3	Double	0.03057	0.54330	0.17981	1.69211	0.6	0.6	0.6

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
209	Fair	1	0.1	Equal	0.7	Equal	0.30790	0.91141	0.15438	2.66550	-0.4	-0.4	-0.4
210	Fair	1	0.1	Equal	0.7	Double	0.16956	0.82578	0.22369	2.51162	0.0	-0.2	0.0
211	Fair	1	0.1	Double	0.1	Equal	0.01559	0.43999	0.07003	1.95106	0.8	0.8	0.8
212	Fair	1	0.1	Double	0.1	Double	0.00735	0.33927	0.07931	1.72396	1.0	1.0	1.0
213	Fair	1	0.1	Double	0.3	Equal	0.06617	0.67047	0.14518	3.37050	0.4	0.2	0.4
214	Fair	1	0.1	Double	0.3	Double	0.03057	0.54327	0.17982	2.90049	0.6	0.6	0.6
215	Fair	1	0.1	Double	0.7	Equal	0.30790	0.91140	0.15439	5.91222	-0.4	-0.4	-0.4
216	Fair	1	0.1	Double	0.7	Double	0.16955	0.82578	0.22369	5.44637	0.0	-0.2	0.0
217	Fair	1	0.3	Equal	0.1	Equal	0.01778	0.39033	0.07697	1.30179	1.0	1.0	1.0
218	Fair	1	0.3	Equal	0.1	Double	0.00568	0.24416	0.08581	1.18008	1.4	1.2	1.4
219	Fair	1	0.3	Equal	0.3	Equal	0.08898	0.67141	0.16086	1.83646	0.4	0.4	0.4
220	Fair	1	0.3	Equal	0.3	Double	0.03833	0.51473	0.19924	1.68597	0.6	0.8	0.8
221	Fair	1	0.3	Equal	0.7	Equal	0.35991	0.91624	0.16660	2.67531	-0.4	-0.4	-0.4
222	Fair	1	0.3	Equal	0.7	Double	0.19770	0.82017	0.24450	2.49850	0.0	0.0	0.0
223	Fair	1	0.3	Double	0.1	Equal	0.01778	0.39032	0.07697	1.78572	1.0	1.0	1.0
224	Fair	1	0.3	Double	0.1	Double	0.00568	0.24417	0.08581	1.43593	1.4	1.4	1.2
225	Fair	1	0.3	Double	0.3	Equal	0.08898	0.67140	0.16087	3.34939	0.4	0.4	0.4
226	Fair	1	0.3	Double	0.3	Double	0.03831	0.51469	0.19923	2.65781	0.8	0.8	0.6
227	Fair	1	0.3	Double	0.7	Equal	0.35999	0.91623	0.16664	5.95143	-0.4	-0.4	-0.4
228	Fair	1	0.3	Double	0.7	Double	0.19770	0.82020	0.24448	5.39392	0.0	0.0	0.0
229	Fair	1	0.5	Equal	0.1	Equal	0.01602	0.32453	0.08196	1.23140	1.2	1.4	1.2
230	Fair	1	0.5	Equal	0.1	Double	0.00576	0.20370	0.09000	1.13462	1.6	1.6	1.6
231	Fair	1	0.5	Equal	0.3	Equal	0.08618	0.62175	0.17380	1.73919	0.6	0.6	0.6
232	Fair	1	0.5	Equal	0.3	Double	0.03947	0.46982	0.21432	1.51803	1.0	1.0	0.8
233	Fair	1	0.5	Equal	0.7	Equal	0.38123	0.91025	0.17719	2.66236	-0.4	-0.2	-0.4
234	Fair	1	0.5	Equal	0.7	Double	0.22403	0.81549	0.26358	2.43800	0.2	0.0	0.0
235	Fair	1	0.5	Double	0.1	Equal	0.01602	0.32456	0.08196	1.64824	1.2	1.2	1.4
236	Fair	1	0.5	Double	0.1	Double	0.00575	0.20375	0.08998	1.35050	1.6	1.6	1.6
237	Fair	1	0.5	Double	0.3	Equal	0.08619	0.62178	0.17380	3.08879	0.6	0.6	0.6
238	Fair	1	0.5	Double	0.3	Double	0.03947	0.46981	0.21432	2.52908	1.0	0.8	1.0

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
239	Fair	1	0.5	Double	0.7	Equal	0.38125	0.91027	0.17719	5.99687	-0.4	-0.4	-0.2
240	Fair	1	0.5	Double	0.7	Double	0.22403	0.81548	0.26358	5.24349	0.2	0.0	0.0
241	Fair	1.25	0	Equal	0.1	Equal	0.01593	0.70665	0.04368	1.49193	0.6	0.6	0.8
242	Fair	1.25	0	Equal	0.1	Double	0.00951	0.63287	0.05383	1.39580	0.8	0.8	0.8
243	Fair	1.25	0	Equal	0.3	Equal	0.04091	0.83654	0.07768	1.88329	0.4	0.4	0.4
244	Fair	1.25	0	Equal	0.3	Double	0.02592	0.77552	0.10363	1.85643	0.4	0.6	0.6
245	Fair	1.25	0	Equal	0.7	Equal	0.14481	0.95259	0.07663	2.63914	-0.2	0.0	0.0
246	Fair	1.25	0	Equal	0.7	Double	0.08851	0.91522	0.11245	2.57304	0.0	0.2	0.2
247	Fair	1.25	0	Double	0.1	Equal	0.01593	0.70665	0.04368	2.28386	0.6	0.6	0.8
248	Fair	1.25	0	Double	0.1	Double	0.00951	0.63287	0.05383	2.01982	0.8	0.8	0.8
249	Fair	1.25	0	Double	0.3	Equal	0.04091	0.83654	0.07768	3.46551	0.4	0.4	0.4
250	Fair	1.25	0	Double	0.3	Double	0.02592	0.77552	0.10363	3.35807	0.4	0.6	0.6
251	Fair	1.25	0	Double	0.7	Equal	0.14481	0.95259	0.07663	5.81156	-0.2	0.0	0.0
252	Fair	1.25	0	Double	0.7	Double	0.08851	0.91522	0.11245	5.59882	0.0	0.2	0.2
253	Fair	1.25	0.1	Equal	0.1	Equal	0.01559	0.66660	0.04737	1.40500	0.8	0.8	0.8
254	Fair	1.25	0.1	Equal	0.1	Double	0.00736	0.55020	0.05823	1.32117	1.0	1.0	1.0
255	Fair	1.25	0.1	Equal	0.3	Equal	0.05562	0.84808	0.08451	1.89417	0.4	0.4	0.4
256	Fair	1.25	0.1	Equal	0.3	Double	0.03056	0.76770	0.11248	1.78724	0.6	0.6	0.6
257	Fair	1.25	0.1	Equal	0.7	Equal	0.14892	0.94639	0.08220	2.60064	0.0	0.0	0.0
258	Fair	1.25	0.1	Equal	0.7	Double	0.09418	0.90682	0.12174	2.53054	0.2	0.2	0.2
259	Fair	1.25	0.1	Double	0.1	Equal	0.01559	0.66659	0.04737	2.05662	0.8	0.8	0.8
260	Fair	1.25	0.1	Double	0.1	Double	0.00736	0.55020	0.05822	1.82939	1.0	1.0	1.0
261	Fair	1.25	0.1	Double	0.3	Equal	0.05562	0.84809	0.08451	3.50902	0.4	0.4	0.4
262	Fair	1.25	0.1	Double	0.3	Double	0.03056	0.76770	0.11248	3.19439	0.6	0.6	0.6
263	Fair	1.25	0.1	Double	0.7	Equal	0.14891	0.94638	0.08221	5.70924	0.0	0.0	0.0
264	Fair	1.25	0.1	Double	0.7	Double	0.09418	0.90684	0.12172	5.48554	0.2	0.2	0.2
265	Fair	1.25	0.3	Equal	0.1	Equal	0.01776	0.66029	0.04996	1.33970	1.0	1.0	1.0
266	Fair	1.25	0.3	Equal	0.1	Double	0.00923	0.55856	0.06075	1.26595	1.2	1.2	1.2
267	Fair	1.25	0.3	Equal	0.3	Equal	0.05504	0.82741	0.09030	1.81263	0.6	0.6	0.6
268	Fair	1.25	0.3	Equal	0.3	Double	0.03218	0.75141	0.11964	1.71026	0.8	0.8	0.8

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification		FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost								
269	Fair	1.25	0.3	Equal	0.7	Equal		0.19770	0.95881	0.08814	2.61411	0.0	0.0	0.0
270	Fair	1.25	0.3	Equal	0.7	Double		0.13622	0.92962	0.13100	2.54700	0.2	0.2	0.2
271	Fair	1.25	0.3	Double	0.1	Equal		0.01775	0.66029	0.04995	1.90352	1.0	1.0	1.0
272	Fair	1.25	0.3	Double	0.1	Double		0.00923	0.55858	0.06075	1.70399	1.2	1.2	1.2
273	Fair	1.25	0.3	Double	0.3	Equal		0.05507	0.82740	0.09033	3.29595	0.6	0.6	0.6
274	Fair	1.25	0.3	Double	0.3	Double		0.03222	0.75138	0.11969	2.99827	0.8	0.8	0.8
275	Fair	1.25	0.3	Double	0.7	Equal		0.19774	0.95878	0.08818	5.76310	0.0	0.0	0.0
276	Fair	1.25	0.3	Double	0.7	Double		0.13624	0.92966	0.13098	5.55138	0.2	0.2	0.2
277	Fair	1.25	0.5	Equal	0.1	Equal		0.01093	0.60462	0.04937	1.22041	1.4	1.4	1.4
278	Fair	1.25	0.5	Equal	0.1	Double		0.00577	0.52413	0.05797	1.16789	1.6	1.6	1.6
279	Fair	1.25	0.5	Equal	0.3	Equal		0.07374	0.85856	0.09405	1.81429	0.6	0.8	0.6
280	Fair	1.25	0.5	Equal	0.3	Double		0.03376	0.75014	0.12223	1.63440	1.0	1.0	1.0
281	Fair	1.25	0.5	Equal	0.7	Equal		0.16158	0.93243	0.09577	2.50529	0.4	0.2	0.2
282	Fair	1.25	0.5	Equal	0.7	Double		0.11163	0.90136	0.13603	2.42744	0.6	0.4	0.4
283	Fair	1.25	0.5	Double	0.1	Equal		0.01092	0.60462	0.04937	1.60485	1.4	1.4	1.4
284	Fair	1.25	0.5	Double	0.1	Double		0.00575	0.52413	0.05794	1.46556	1.6	1.6	1.6
285	Fair	1.25	0.5	Double	0.3	Equal		0.07372	0.85856	0.09403	3.37288	0.6	0.6	0.8
286	Fair	1.25	0.5	Double	0.3	Double		0.03376	0.75014	0.12222	2.80640	1.0	1.0	1.0
287	Fair	1.25	0.5	Double	0.7	Equal		0.16159	0.93243	0.09578	5.44882	0.4	0.2	0.2
288	Fair	1.25	0.5	Double	0.7	Double		0.11163	0.90136	0.13603	5.29016	0.4	0.6	0.4
289	Poor	0.75	0	Equal	0.1	Equal		0.00533	0.10533	0.09427	1.29513	0.8	1.0	1.0
290	Poor	0.75	0	Equal	0.1	Double		0.00152	0.06139	0.09660	1.17309	1.2	1.2	1.2
291	Poor	0.75	0	Equal	0.3	Equal		0.04386	0.25873	0.25309	2.26387	-2.0	0.8	0.8
292	Poor	0.75	0	Equal	0.3	Double		0.01593	0.16801	0.27191	1.50922	0.6	0.6	0.8
293	Poor	0.75	0	Equal	0.7	Equal		0.93329	0.95134	0.31405	2.91837	-2.0	-2.0	-2.0
294	Poor	0.75	0	Equal	0.7	Double		0.26192	0.55362	0.46962	2.91837	-2.0	-2.0	0.6
295	Poor	0.75	0	Double	0.1	Equal		0.00533	0.10533	0.09427	1.69725	0.8	1.0	1.0
296	Poor	0.75	0	Double	0.1	Double		0.00152	0.06139	0.09660	1.40113	1.2	1.2	1.2
297	Poor	0.75	0	Double	0.3	Equal		0.04386	0.25873	0.25309	4.12025	-2.0	0.8	0.8
298	Poor	0.75	0	Double	0.3	Double		0.01593	0.16801	0.27191	2.32027	0.6	0.6	0.8

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
299	Poor	0.75	0	Double	0.7	Equal	0.93329	0.95134	0.31405	6.76395	-2.0	-2.0	-2.0
300	Poor	0.75	0	Double	0.7	Double	0.26192	0.55362	0.46962	6.76395	-2.0	-2.0	0.6
301	Poor	0.75	0.1	Equal	0.1	Equal	0.00456	0.09115	0.09499	1.98743	-2.0	2.6	-2.0
302	Poor	0.75	0.1	Equal	0.1	Double	0.00132	0.05140	0.09724	1.01888	3.0	-2.0	-2.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.05334	0.27667	0.25434	1.26100	1.6	-2.0	-2.0
304	Poor	0.75	0.1	Equal	0.3	Double	0.01358	0.14996	0.27402	2.92658	-2.0	-2.0	2.2
305	Poor	0.75	0.1	Equal	0.7	Equal	0.93431	0.95151	0.31424	2.91851	-2.0	-2.0	-2.0
306	Poor	0.75	0.1	Equal	0.7	Double	0.26527	0.55466	0.47090	1.94565	0.6	-2.0	-2.0
307	Poor	0.75	0.1	Double	0.1	Equal	0.00456	0.09115	0.09499	1.09428	2.6	-2.0	-2.0
308	Poor	0.75	0.1	Double	0.1	Double	0.00132	0.05140	0.09724	6.77435	-2.0	-2.0	3.0
309	Poor	0.75	0.1	Double	0.3	Equal	0.05334	0.27667	0.25434	1.76621	1.6	-2.0	-2.0
310	Poor	0.75	0.1	Double	0.3	Double	0.01358	0.14996	0.27402	3.15630	-2.0	2.2	-2.0
311	Poor	0.75	0.1	Double	0.7	Equal	0.93432	0.95151	0.31424	6.76454	-2.0	-2.0	-2.0
312	Poor	0.75	0.1	Double	0.7	Double	0.26527	0.55466	0.47090	6.76454	-2.0	-2.0	0.6
313	Poor	0.75	0.3	Equal	0.1	Equal	0.00465	0.09187	0.09500	1.98751	-2.0	2.6	-2.0
314	Poor	0.75	0.3	Equal	0.1	Double	0.00135	0.05184	0.09724	2.93167	-2.0	-2.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.05444	0.27829	0.25462	2.09034	-2.0	1.6	-2.0
316	Poor	0.75	0.3	Equal	0.3	Double	0.01385	0.15102	0.27408	2.02313	-2.0	2.2	-2.0
317	Poor	0.75	0.3	Equal	0.7	Equal	0.93753	0.95192	0.31491	2.91896	-2.0	-2.0	-2.0
318	Poor	0.75	0.3	Equal	0.7	Double	0.27042	0.55675	0.47253	1.94715	0.6	-2.0	-2.0
319	Poor	0.75	0.3	Double	0.1	Equal	0.00465	0.09187	0.09500	1.09458	2.6	-2.0	-2.0
320	Poor	0.75	0.3	Double	0.1	Double	0.00135	0.05184	0.09724	2.97387	-2.0	3.0	-2.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.05444	0.27829	0.25462	6.77452	-2.0	-2.0	1.6
322	Poor	0.75	0.3	Double	0.3	Double	0.01385	0.15102	0.27408	3.15732	-2.0	2.2	-2.0
323	Poor	0.75	0.3	Double	0.7	Equal	0.93752	0.95192	0.31491	6.76634	-2.0	-2.0	-2.0
324	Poor	0.75	0.3	Double	0.7	Double	0.27042	0.55675	0.47253	3.84792	0.6	-2.0	-2.0
325	Poor	0.75	0.5	Equal	0.1	Equal	0.00466	0.09245	0.09495	1.98754	-2.0	2.6	-2.0
326	Poor	0.75	0.5	Equal	0.1	Double	0.00135	0.05218	0.09721	2.93350	-2.0	-2.0	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.05476	0.27974	0.25441	1.26197	1.6	-2.0	-2.0
328	Poor	0.75	0.5	Equal	0.3	Double	0.01390	0.15192	0.27389	1.13221	2.2	-2.0	-2.0

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification		FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost								
329	Poor	0.75	0.5	Equal	0.7	Equal		0.94253	0.95244	0.31605	2.91969	-2.0	-2.0	-2.0
330	Poor	0.75	0.5	Equal	0.7	Double		0.27330	0.55884	0.47279	2.43273	-2.0	0.6	-2.0
331	Poor	0.75	0.5	Double	0.1	Equal		0.00466	0.09245	0.09495	1.09472	2.6	-2.0	-2.0
332	Poor	0.75	0.5	Double	0.1	Double		0.00135	0.05218	0.09721	2.97394	-2.0	3.0	-2.0
333	Poor	0.75	0.5	Double	0.3	Equal		0.05476	0.27974	0.25441	3.42750	-2.0	1.6	-2.0
334	Poor	0.75	0.5	Double	0.3	Double		0.01390	0.15192	0.27389	6.78037	-2.0	-2.0	2.2
335	Poor	0.75	0.5	Double	0.7	Equal		0.94258	0.95243	0.31607	6.76925	-2.0	-2.0	-2.0
336	Poor	0.75	0.5	Double	0.7	Double		0.27330	0.55884	0.47279	4.82142	-2.0	0.6	-2.0
337	Poor	1	0	Equal	0.1	Equal		0.00951	0.17670	0.09089	1.31867	0.8	0.8	0.8
338	Poor	1	0	Equal	0.1	Double		0.00290	0.09342	0.09587	1.23680	1.0	1.0	1.2
339	Poor	1	0	Equal	0.3	Equal		0.08851	0.49788	0.21259	1.93908	0.0	0.2	0.2
340	Poor	1	0	Equal	0.3	Double		0.03256	0.32191	0.24902	1.68867	0.4	0.4	0.6
341	Poor	1	0	Equal	0.7	Equal		0.48957	0.88549	0.22703	2.74047	-0.8	-0.8	-0.8
342	Poor	1	0	Equal	0.7	Double		0.28155	0.75883	0.33775	2.54634	-0.4	-0.4	-0.4
343	Poor	1	0	Double	0.1	Equal		0.00951	0.17670	0.09089	1.78110	0.8	0.8	0.8
344	Poor	1	0	Double	0.1	Double		0.00290	0.09342	0.09587	1.56529	1.0	1.0	1.2
345	Poor	1	0	Double	0.3	Equal		0.08851	0.49788	0.21259	3.55836	0.0	0.2	0.2
346	Poor	1	0	Double	0.3	Double		0.03256	0.32191	0.24902	2.84617	0.4	0.4	0.6
347	Poor	1	0	Double	0.7	Equal		0.48957	0.88549	0.22703	6.14463	-0.8	-0.8	-0.8
348	Poor	1	0	Double	0.7	Double		0.28155	0.75883	0.33775	5.51515	-0.4	-0.4	-0.4
349	Poor	1	0.1	Equal	0.1	Equal		0.00943	0.15420	0.09306	1.31220	0.8	1.0	1.0
350	Poor	1	0.1	Equal	0.1	Double		0.00236	0.06992	0.09725	1.16965	1.2	1.4	1.2
351	Poor	1	0.1	Equal	0.3	Equal		0.09418	0.48560	0.22025	1.84429	0.2	0.2	0.2
352	Poor	1	0.1	Equal	0.3	Double		0.03056	0.28659	0.25681	1.57050	0.6	0.6	0.6
353	Poor	1	0.1	Equal	0.7	Equal		0.50947	0.88792	0.23130	2.74367	-0.8	-0.8	-0.8
354	Poor	1	0.1	Equal	0.7	Double		0.30791	0.76624	0.34838	2.55239	-0.4	-0.4	-0.4
355	Poor	1	0.1	Double	0.1	Equal		0.00943	0.15421	0.09307	1.59379	1.0	1.0	0.8
356	Poor	1	0.1	Double	0.1	Double		0.00236	0.06991	0.09726	1.42083	1.2	1.2	1.4
357	Poor	1	0.1	Double	0.3	Equal		0.09417	0.48561	0.22024	3.32341	0.2	0.2	0.2
358	Poor	1	0.1	Double	0.3	Double		0.03057	0.28658	0.25683	2.51506	0.6	0.6	0.6

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
359	Poor	1	0.1	Double	0.7	Equal	0.50949	0.88790	0.23132	6.15741	-0.8	-0.8	-0.8
360	Poor	1	0.1	Double	0.7	Double	0.30787	0.76625	0.34835	5.53937	-0.4	-0.4	-0.4
361	Poor	1	0.3	Equal	0.1	Equal	0.00722	0.10678	0.09582	1.18904	1.2	1.2	1.4
362	Poor	1	0.3	Equal	0.1	Double	0.00155	0.04052	0.09873	1.08861	1.6	1.8	1.6
363	Poor	1	0.3	Equal	0.3	Equal	0.08895	0.43191	0.23269	1.72932	0.4	0.4	0.4
364	Poor	1	0.3	Equal	0.3	Double	0.02626	0.22701	0.26866	1.45214	0.8	1.0	0.8
365	Poor	1	0.3	Equal	0.7	Equal	0.55010	0.89458	0.23882	2.75116	-0.8	-0.8	-0.8
366	Poor	1	0.3	Equal	0.7	Double	0.32736	0.75702	0.36650	2.56589	-0.4	-0.4	-0.2
367	Poor	1	0.3	Double	0.1	Equal	0.00722	0.10675	0.09582	1.43086	1.2	1.4	1.2
368	Poor	1	0.3	Double	0.1	Double	0.00117	0.03375	0.09873	1.20400	1.6	1.8	1.8
369	Poor	1	0.3	Double	0.3	Equal	0.08899	0.43196	0.23271	3.00876	0.4	0.4	0.4
370	Poor	1	0.3	Double	0.3	Double	0.02624	0.22704	0.26862	2.05306	1.0	0.8	0.8
371	Poor	1	0.3	Double	0.7	Equal	0.55013	0.89457	0.23884	6.18736	-0.8	-0.8	-0.8
372	Poor	1	0.3	Double	0.7	Double	0.32737	0.75704	0.36649	5.44963	-0.4	-0.2	-0.4
373	Poor	1	0.5	Equal	0.1	Equal	0.00576	0.07810	0.09737	1.10037	1.6	1.6	1.6
374	Poor	1	0.5	Equal	0.1	Double	0.00080	0.02057	0.09938	1.03016	2.2	2.0	2.2
375	Poor	1	0.5	Equal	0.3	Equal	0.08622	0.39343	0.24232	1.62458	0.6	0.6	0.6
376	Poor	1	0.5	Equal	0.3	Double	0.02335	0.18738	0.27647	1.31839	1.2	1.0	1.2
377	Poor	1	0.5	Equal	0.7	Equal	0.59323	0.90389	0.24525	2.76049	-0.8	-0.8	-0.8
378	Poor	1	0.5	Equal	0.7	Double	0.32790	0.73713	0.38075	2.46855	-0.2	-0.2	-0.2
379	Poor	1	0.5	Double	0.1	Equal	0.00577	0.07810	0.09738	1.25104	1.6	1.6	1.6
380	Poor	1	0.5	Double	0.1	Double	0.00080	0.02059	0.09938	1.09853	2.0	2.2	2.2
381	Poor	1	0.5	Double	0.3	Equal	0.08617	0.39346	0.24228	2.73140	0.6	0.6	0.6
382	Poor	1	0.5	Double	0.3	Double	0.02338	0.18739	0.27652	1.80342	1.2	1.2	1.0
383	Poor	1	0.5	Double	0.7	Equal	0.59320	0.90392	0.24522	6.22470	-0.8	-0.8	-0.8
384	Poor	1	0.5	Double	0.7	Double	0.32789	0.73713	0.38074	5.30063	-0.2	-0.2	-0.2
385	Poor	1.25	0	Equal	0.1	Equal	0.02063	0.38207	0.08036	1.44450	0.6	0.6	0.6
386	Poor	1.25	0	Equal	0.1	Double	0.00712	0.21878	0.09094	1.33850	0.8	0.8	1.0
387	Poor	1.25	0	Equal	0.3	Equal	0.08851	0.68078	0.15772	2.01983	0.0	0.2	0.2
388	Poor	1.25	0	Equal	0.3	Double	0.04091	0.51631	0.20239	1.77416	0.4	0.4	0.4

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification		FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost								
389	Poor	1.25	0	Equal	0.7	Equal		0.31176	0.91992	0.14958	2.72275	-0.6	-0.4	-0.4
390	Poor	1.25	0	Equal	0.7	Double		0.19437	0.84434	0.22558	2.58383	-0.2	-0.2	-0.2
391	Poor	1.25	0	Double	0.1	Equal		0.02063	0.38207	0.08036	2.12969	0.6	0.6	0.6
392	Poor	1.25	0	Double	0.1	Double		0.00712	0.21878	0.09094	1.83886	0.8	0.8	1.0
393	Poor	1.25	0	Double	0.3	Equal		0.08851	0.68078	0.15772	3.80681	0.0	0.2	0.2
394	Poor	1.25	0	Double	0.3	Double		0.04091	0.51631	0.20239	3.10070	0.4	0.4	0.4
395	Poor	1.25	0	Double	0.7	Equal		0.31176	0.91992	0.14958	6.06161	-0.6	-0.4	-0.4
396	Poor	1.25	0	Double	0.7	Double		0.19437	0.84434	0.22558	5.61964	-0.2	-0.2	-0.2
397	Poor	1.25	0.1	Equal	0.1	Equal		0.01559	0.32251	0.08178	1.34981	0.8	0.8	0.8
398	Poor	1.25	0.1	Equal	0.1	Double		0.00736	0.21926	0.09131	1.25895	1.0	1.0	1.0
399	Poor	1.25	0.1	Equal	0.3	Equal		0.09415	0.67786	0.16254	1.93187	0.2	0.2	0.2
400	Poor	1.25	0.1	Equal	0.3	Double		0.04547	0.51729	0.20848	1.78992	0.4	0.4	0.6
401	Poor	1.25	0.1	Equal	0.7	Equal		0.30791	0.91171	0.15418	2.67932	-0.4	-0.4	-0.4
402	Poor	1.25	0.1	Equal	0.7	Double		0.22068	0.85510	0.23383	2.59125	-0.2	-0.2	-0.2
403	Poor	1.25	0.1	Double	0.1	Equal		0.01559	0.32252	0.08178	1.88413	0.8	0.8	0.8
404	Poor	1.25	0.1	Double	0.1	Double		0.00736	0.21923	0.09132	1.64031	1.0	1.0	1.0
405	Poor	1.25	0.1	Double	0.3	Equal		0.09418	0.67786	0.16256	3.58922	0.2	0.2	0.2
406	Poor	1.25	0.1	Double	0.3	Double		0.04547	0.51725	0.20848	2.87480	0.6	0.4	0.4
407	Poor	1.25	0.1	Double	0.7	Equal		0.30794	0.91171	0.15419	5.93856	-0.4	-0.4	-0.4
408	Poor	1.25	0.1	Double	0.7	Double		0.22069	0.85512	0.23383	5.64932	-0.2	-0.2	-0.2
409	Poor	1.25	0.3	Equal	0.1	Equal		0.01776	0.36016	0.07997	1.28077	1.0	1.0	1.0
410	Poor	1.25	0.3	Equal	0.1	Double		0.00451	0.18617	0.08949	1.14082	1.4	1.4	1.4
411	Poor	1.25	0.3	Equal	0.3	Equal		0.08899	0.67024	0.16122	1.82679	0.4	0.4	0.4
412	Poor	1.25	0.3	Equal	0.3	Double		0.03833	0.49224	0.20599	1.58240	0.8	0.6	0.8
413	Poor	1.25	0.3	Equal	0.7	Equal		0.35995	0.93322	0.15473	2.69445	-0.4	-0.4	-0.4
414	Poor	1.25	0.3	Equal	0.7	Double		0.19774	0.83427	0.23466	2.51339	0.0	0.0	0.0
415	Poor	1.25	0.3	Double	0.1	Equal		0.01776	0.36017	0.07997	1.72758	1.0	1.0	1.0
416	Poor	1.25	0.3	Double	0.1	Double		0.00450	0.18618	0.08949	1.35623	1.4	1.4	1.4
417	Poor	1.25	0.3	Double	0.3	Equal		0.08901	0.67026	0.16123	3.31122	0.4	0.4	0.4
418	Poor	1.25	0.3	Double	0.3	Double		0.03833	0.49225	0.20599	2.78156	0.6	0.8	0.8

Table A-2. 3-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
						Cost							
419	Poor	1.25	0.3	Double	0.7	Equal	0.35993	0.93324	0.15471	5.99910	-0.4	-0.4	-0.4
420	Poor	1.25	0.3	Double	0.7	Double	0.19773	0.83431	0.23462	5.41766	0.0	0.0	0.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.01970	0.44024	0.07371	1.22572	1.2	1.2	1.2
422	Poor	1.25	0.5	Equal	0.1	Double	0.00576	0.25773	0.08460	1.10838	1.6	1.6	1.6
423	Poor	1.25	0.5	Equal	0.3	Equal	0.08618	0.68837	0.15382	1.72676	0.6	0.6	0.6
424	Poor	1.25	0.5	Equal	0.3	Double	0.03377	0.53253	0.18752	1.47944	1.0	1.0	1.0
425	Poor	1.25	0.5	Equal	0.7	Equal	0.29801	0.90497	0.15592	2.56277	0.0	-0.2	-0.2
426	Poor	1.25	0.5	Equal	0.7	Double	0.22402	0.86426	0.22943	2.52383	0.0	0.0	0.2
427	Poor	1.25	0.5	Double	0.1	Equal	0.01967	0.44024	0.07368	1.61068	1.2	1.2	1.2
428	Poor	1.25	0.5	Double	0.1	Double	0.00576	0.25773	0.08459	1.29327	1.6	1.6	1.6
429	Poor	1.25	0.5	Double	0.3	Equal	0.08618	0.68837	0.15382	3.05913	0.6	0.6	0.6
430	Poor	1.25	0.5	Double	0.3	Double	0.03377	0.53253	0.18752	2.36592	1.0	1.0	1.0
431	Poor	1.25	0.5	Double	0.7	Equal	0.29801	0.90497	0.15592	5.74907	-0.2	-0.2	0.0
432	Poor	1.25	0.5	Double	0.7	Double	0.22402	0.86426	0.22943	5.30413	0.2	0.0	0.0

4-Test Sequence Under Believe the Negative

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
1	Good	0.75	0	Equal	0.1	Equal	0.01122	0.61405	0.04869	1.68714	0.4	0.4	0.4	0.6
2	Good	0.75	0	Equal	0.1	Double	0.00437	0.53074	0.05479	1.55104	0.6	0.6	0.6	0.8
3	Good	0.75	0	Equal	0.3	Equal	0.03724	0.72613	0.10823	2.31785	0.0	0.2	0.2	0.2
4	Good	0.75	0	Equal	0.3	Double	0.02102	0.67193	0.12785	2.19527	0.2	0.2	0.4	0.4
5	Good	0.75	0	Equal	0.7	Equal	0.20434	0.88400	0.14250	3.40778	-0.6	-0.4	-0.4	-0.4
6	Good	0.75	0	Equal	0.7	Double	0.11259	0.83068	0.18608	3.20827	-0.2	-0.2	-0.2	-0.2
7	Good	0.75	0	Double	0.1	Equal	0.01122	0.61405	0.04869	3.39549	0.4	0.4	0.4	0.6
8	Good	0.75	0	Double	0.1	Double	0.00437	0.53074	0.05479	2.88276	0.6	0.6	0.6	0.8
9	Good	0.75	0	Double	0.3	Equal	0.03724	0.72613	0.10823	6.24261	0.0	0.2	0.2	0.2
10	Good	0.75	0	Double	0.3	Double	0.02102	0.67193	0.12785	5.75481	0.2	0.2	0.4	0.4
11	Good	0.75	0	Double	0.7	Equal	0.20434	0.88400	0.14250	11.82335	-0.6	-0.4	-0.4	-0.4
12	Good	0.75	0	Double	0.7	Double	0.11259	0.83068	0.18608	10.89819	-0.2	-0.2	-0.2	-0.2
13	Good	0.75	0.1	Equal	0.1	Equal	0.01186	0.56048	0.05463	1.57072	0.6	0.6	0.6	0.6
14	Good	0.75	0.1	Equal	0.1	Double	0.00509	0.47606	0.06156	1.45455	0.8	0.8	0.8	0.8
15	Good	0.75	0.1	Equal	0.3	Equal	0.04882	0.71405	0.11996	2.23642	0.2	0.2	0.2	0.2
16	Good	0.75	0.1	Equal	0.3	Double	0.02515	0.64080	0.14296	2.07403	0.4	0.4	0.4	0.4
17	Good	0.75	0.1	Equal	0.7	Equal	0.23879	0.88487	0.15223	3.41959	-0.6	-0.4	-0.4	-0.4
18	Good	0.75	0.1	Equal	0.7	Double	0.12632	0.81841	0.20291	3.17867	-0.2	0.0	-0.2	-0.2
19	Good	0.75	0.1	Double	0.1	Equal	0.01185	0.56047	0.05462	2.99883	0.6	0.6	0.6	0.6
20	Good	0.75	0.1	Double	0.1	Double	0.00510	0.47606	0.06157	2.56921	0.8	0.8	0.8	0.8
21	Good	0.75	0.1	Double	0.3	Equal	0.04882	0.71406	0.11996	6.04030	0.2	0.2	0.2	0.2
22	Good	0.75	0.1	Double	0.3	Double	0.02515	0.64081	0.14297	5.33278	0.4	0.4	0.4	0.4
23	Good	0.75	0.1	Double	0.7	Equal	0.21887	0.87635	0.15222	11.63804	-0.4	-0.4	-0.4	-0.4
24	Good	0.75	0.1	Double	0.7	Double	0.12633	0.81840	0.20291	10.66223	0.0	-0.2	-0.2	-0.2
25	Good	0.75	0.3	Equal	0.1	Equal	0.01418	0.47642	0.06512	1.52610	1.0	-2.0	1.2	1.0
26	Good	0.75	0.3	Equal	0.1	Double	0.00587	0.37867	0.07269	1.26754	1.8	-2.0	-2.0	1.6
27	Good	0.75	0.3	Equal	0.3	Equal	0.05497	0.65345	0.14245	2.73149	-2.0	0.6	0.6	0.6
28	Good	0.75	0.3	Equal	0.3	Double	0.02623	0.55364	0.17063	1.89185	0.8	0.8	-2.0	1.0

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
29	Good	0.75	0.3	Equal	0.7	Equal	0.28588	0.87860	0.17075	3.37764	-0.4	-0.4	-0.4	-0.4
30	Good	0.75	0.3	Equal	0.7	Double	0.15318	0.79582	0.23484	2.98496	0.2	0.2	0.0	-2.0
31	Good	0.75	0.3	Double	0.1	Equal	0.01418	0.47641	0.06512	3.03559	1.0	-2.0	1.2	1.0
32	Good	0.75	0.3	Double	0.1	Double	0.00587	0.37867	0.07269	1.69439	1.8	1.6	-2.0	-2.0
33	Good	0.75	0.3	Double	0.3	Equal	0.05498	0.65347	0.14245	4.94681	0.6	0.6	0.6	-2.0
34	Good	0.75	0.3	Double	0.3	Double	0.02622	0.55365	0.17062	4.08243	1.0	0.8	0.8	-2.0
35	Good	0.75	0.3	Double	0.7	Equal	0.28596	0.87859	0.17078	11.80501	-0.4	-0.4	-0.4	-0.4
36	Good	0.75	0.3	Double	0.7	Double	0.15315	0.79582	0.23482	10.00182	0.2	0.0	0.2	-2.0
37	Good	0.75	0.5	Equal	0.1	Equal	0.01390	0.45610	0.06690	3.88877	-2.0	-2.0	-2.0	2.2
38	Good	0.75	0.5	Equal	0.1	Double	0.00466	0.34105	0.07428	1.11884	2.6	-2.0	-2.0	-2.0
39	Good	0.75	0.5	Equal	0.3	Equal	0.05475	0.63235	0.14862	3.90973	-2.0	-2.0	-2.0	1.6
40	Good	0.75	0.5	Equal	0.3	Double	0.02274	0.51567	0.17713	2.32227	-2.0	2.0	-2.0	-2.0
41	Good	0.75	0.5	Equal	0.7	Equal	0.34222	0.89020	0.17952	3.95153	-2.0	-2.0	-2.0	0.4
42	Good	0.75	0.5	Equal	0.7	Double	0.15822	0.78371	0.24634	3.56782	-2.0	-2.0	1.0	-2.0
43	Good	0.75	0.5	Double	0.1	Equal	0.01390	0.45610	0.06690	1.81652	2.2	-2.0	-2.0	-2.0
44	Good	0.75	0.5	Double	0.1	Double	0.00466	0.34105	0.07428	7.11321	-2.0	-2.0	2.6	-2.0
45	Good	0.75	0.5	Double	0.3	Equal	0.05475	0.63235	0.14862	5.70030	-2.0	1.6	-2.0	-2.0
46	Good	0.75	0.5	Double	0.3	Double	0.02274	0.51567	0.17713	8.20839	-2.0	-2.0	2.0	-2.0
47	Good	0.75	0.5	Double	0.7	Equal	0.34222	0.89021	0.17952	11.08403	0.4	-2.0	-2.0	-2.0
48	Good	0.75	0.5	Double	0.7	Double	0.15822	0.78370	0.24634	10.13193	-2.0	1.0	-2.0	-2.0
49	Good	1	0	Equal	0.1	Equal	0.00711	0.85502	0.02090	1.69825	0.4	0.6	0.6	0.6
50	Good	1	0	Equal	0.1	Double	0.00437	0.82299	0.02557	1.60849	0.6	0.6	0.6	0.8
51	Good	1	0	Equal	0.3	Equal	0.02102	0.91521	0.04015	2.32834	0.2	0.2	0.4	0.4
52	Good	1	0	Equal	0.3	Double	0.01410	0.89614	0.05089	2.20516	0.4	0.4	0.4	0.4
53	Good	1	0	Equal	0.7	Equal	0.06250	0.96058	0.04635	3.32076	0.0	0.0	0.0	0.0
54	Good	1	0	Equal	0.7	Double	0.04426	0.94754	0.06327	3.31019	0.0	0.0	0.2	0.2
55	Good	1	0	Double	0.1	Equal	0.00711	0.85502	0.02090	3.42854	0.4	0.6	0.6	0.6
56	Good	1	0	Double	0.1	Double	0.00437	0.82299	0.02557	3.17453	0.6	0.6	0.6	0.8
57	Good	1	0	Double	0.3	Equal	0.02102	0.91521	0.04015	6.43395	0.2	0.2	0.4	0.4

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
58	Good	1	0	Double	0.3	Double	0.01410	0.89614	0.05089	5.97425	0.4	0.4	0.4	0.4
59	Good	1	0	Double	0.7	Equal	0.06250	0.96058	0.04635	11.46385	0.0	0.0	0.0	0.0
60	Good	1	0	Double	0.7	Double	0.04426	0.94754	0.06327	11.37930	0.0	0.0	0.2	0.2
61	Good	1	0.1	Equal	0.1	Equal	0.00957	0.82879	0.02573	1.62051	0.6	0.6	0.8	0.6
62	Good	1	0.1	Equal	0.1	Double	0.00510	0.77797	0.03138	1.51704	0.8	0.8	0.8	0.8
63	Good	1	0.1	Equal	0.3	Equal	0.02515	0.89871	0.04799	2.22557	0.4	0.4	0.4	0.4
64	Good	1	0.1	Equal	0.3	Double	0.01427	0.85929	0.06218	2.18223	0.4	0.6	0.6	0.6
65	Good	1	0.1	Equal	0.7	Equal	0.08709	0.96112	0.05335	3.33297	0.0	0.0	0.0	0.0
66	Good	1	0.1	Equal	0.7	Double	0.04883	0.93591	0.07416	3.24323	0.2	0.2	0.2	0.2
67	Good	1	0.1	Double	0.1	Equal	0.00957	0.82879	0.02573	3.22951	0.6	0.6	0.8	0.6
68	Good	1	0.1	Double	0.1	Double	0.00510	0.77798	0.03138	2.88615	0.8	0.8	0.8	0.8
69	Good	1	0.1	Double	0.3	Equal	0.02516	0.89871	0.04799	6.09875	0.4	0.4	0.4	0.4
70	Good	1	0.1	Double	0.3	Double	0.01427	0.85930	0.06219	5.58959	0.6	0.6	0.6	0.4
71	Good	1	0.1	Double	0.7	Equal	0.08707	0.96111	0.05334	11.54218	0.0	0.0	0.0	0.0
72	Good	1	0.1	Double	0.7	Double	0.04882	0.93592	0.07415	11.12040	0.2	0.2	0.2	0.2
73	Good	1	0.3	Equal	0.1	Equal	0.01175	0.75915	0.03466	1.45672	1.0	1.0	0.8	0.8
74	Good	1	0.3	Equal	0.1	Double	0.00689	0.69946	0.04246	1.44534	1.0	1.0	1.2	1.0
75	Good	1	0.3	Equal	0.3	Equal	0.03582	0.87056	0.06391	2.14837	0.6	0.6	0.4	0.6
76	Good	1	0.3	Equal	0.3	Double	0.01946	0.81290	0.08337	2.09553	0.6	0.8	0.8	0.8
77	Good	1	0.3	Equal	0.7	Equal	0.12513	0.95707	0.06759	3.33018	0.0	0.2	0.0	0.0
78	Good	1	0.3	Equal	0.7	Double	0.07936	0.93106	0.09588	3.20803	0.4	0.2	0.2	0.2
79	Good	1	0.3	Double	0.1	Equal	0.01176	0.75919	0.03466	2.80701	1.0	0.8	1.0	0.8
80	Good	1	0.3	Double	0.1	Double	0.00689	0.69949	0.04246	2.71156	1.0	1.0	1.0	1.2
81	Good	1	0.3	Double	0.3	Equal	0.03581	0.87055	0.06390	5.81474	0.6	0.6	0.6	0.4
82	Good	1	0.3	Double	0.3	Double	0.01947	0.81294	0.08338	5.55583	0.6	0.8	0.8	0.8
83	Good	1	0.3	Double	0.7	Equal	0.12512	0.95707	0.06759	11.70511	0.0	0.0	0.0	0.2
84	Good	1	0.3	Double	0.7	Double	0.07936	0.93105	0.09588	11.27289	0.2	0.2	0.2	0.4
85	Good	1	0.5	Equal	0.1	Equal	0.01354	0.69763	0.04243	1.45526	1.0	1.2	1.2	1.2
86	Good	1	0.5	Equal	0.1	Double	0.00716	0.61313	0.05158	1.32741	1.4	1.4	1.2	1.4

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
87	Good	1	0.5	Equal	0.3	Equal	0.04676	0.84797	0.07834	2.06736	0.8	0.8	0.6	0.6
88	Good	1	0.5	Equal	0.3	Double	0.02431	0.77234	0.10233	2.01442	0.8	1.0	1.0	1.0
89	Good	1	0.5	Equal	0.7	Equal	0.14070	0.94591	0.08007	3.29492	0.2	0.2	0.2	0.2
90	Good	1	0.5	Equal	0.7	Double	0.09459	0.91632	0.11533	3.19910	0.4	0.4	0.4	0.4
91	Good	1	0.5	Double	0.1	Equal	0.01355	0.69758	0.04244	2.60497	1.2	1.2	1.0	1.2
92	Good	1	0.5	Double	0.1	Double	0.00717	0.61313	0.05158	2.28016	1.4	1.4	1.4	1.2
93	Good	1	0.5	Double	0.3	Equal	0.04677	0.84792	0.07836	5.98494	0.6	0.6	0.8	0.8
94	Good	1	0.5	Double	0.3	Double	0.02432	0.77236	0.10234	5.05464	1.0	1.0	1.0	0.8
95	Good	1	0.5	Double	0.7	Equal	0.14074	0.94592	0.08008	11.44973	0.2	0.2	0.2	0.2
96	Good	1	0.5	Double	0.7	Double	0.09458	0.91637	0.11529	10.99256	0.4	0.4	0.4	0.4
97	Good	1.25	0	Equal	0.1	Equal	0.00201	0.95683	0.00613	1.53397	0.8	0.8	0.8	0.8
98	Good	1.25	0	Equal	0.1	Double	0.00201	0.95683	0.00794	1.53397	0.8	0.8	0.8	0.8
99	Good	1.25	0	Equal	0.3	Equal	0.00566	0.97809	0.01053	2.15060	0.6	0.6	0.6	0.6
100	Good	1.25	0	Equal	0.3	Double	0.00437	0.97273	0.01430	2.15060	0.6	0.6	0.6	0.8
101	Good	1.25	0	Equal	0.7	Equal	0.01721	0.99098	0.01148	3.27750	0.2	0.4	0.4	0.4
102	Good	1.25	0	Equal	0.7	Double	0.01410	0.98954	0.01578	3.24193	0.4	0.4	0.4	0.4
103	Good	1.25	0	Double	0.1	Equal	0.00201	0.95683	0.00613	2.97619	0.8	0.8	0.8	0.8
104	Good	1.25	0	Double	0.1	Double	0.00201	0.95683	0.00794	2.97619	0.8	0.8	0.8	0.8
105	Good	1.25	0	Double	0.3	Equal	0.00566	0.97809	0.01053	5.85687	0.6	0.6	0.6	0.6
106	Good	1.25	0	Double	0.3	Double	0.00437	0.97273	0.01430	5.85687	0.6	0.6	0.6	0.8
107	Good	1.25	0	Double	0.7	Equal	0.01721	0.99098	0.01148	11.29965	0.2	0.4	0.4	0.4
108	Good	1.25	0	Double	0.7	Double	0.01410	0.98954	0.01578	11.18842	0.4	0.4	0.4	0.4
109	Good	1.25	0.1	Equal	0.1	Equal	0.00402	0.95017	0.00860	1.48284	1.0	0.8	0.8	0.8
110	Good	1.25	0.1	Equal	0.1	Double	0.00199	0.92524	0.01106	1.46730	1.0	1.0	1.0	1.0
111	Good	1.25	0.1	Equal	0.3	Equal	0.00957	0.97373	0.01458	2.10106	0.8	0.6	0.6	0.6
112	Good	1.25	0.1	Equal	0.3	Double	0.00510	0.95890	0.01947	2.08018	0.8	0.8	0.8	0.8
113	Good	1.25	0.1	Equal	0.7	Equal	0.02516	0.98977	0.01471	3.25056	0.4	0.4	0.4	0.4
114	Good	1.25	0.1	Equal	0.7	Double	0.01721	0.98425	0.02135	3.21444	0.6	0.4	0.4	0.6
115	Good	1.25	0.1	Double	0.1	Equal	0.00402	0.95018	0.00860	2.97068	0.8	1.0	0.8	0.8

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
116	Good	1.25	0.1	Double	0.1	Double	0.00199	0.92521	0.01106	2.78804	1.0	1.0	1.0	1.0
117	Good	1.25	0.1	Double	0.3	Equal	0.00957	0.97373	0.01458	5.75164	0.8	0.6	0.6	0.6
118	Good	1.25	0.1	Double	0.3	Double	0.00510	0.95891	0.01946	5.63127	0.8	0.8	0.8	0.8
119	Good	1.25	0.1	Double	0.7	Equal	0.02515	0.98978	0.01470	11.24099	0.4	0.4	0.4	0.4
120	Good	1.25	0.1	Double	0.7	Double	0.01721	0.98424	0.02136	11.20074	0.4	0.4	0.6	0.6
121	Good	1.25	0.3	Equal	0.1	Equal	0.00472	0.91953	0.01229	1.42447	1.2	1.2	1.0	1.2
122	Good	1.25	0.3	Equal	0.1	Double	0.00393	0.91188	0.01589	1.42159	1.2	1.2	1.2	1.2
123	Good	1.25	0.3	Equal	0.3	Equal	0.01676	0.97032	0.02064	2.10812	0.8	0.8	0.8	0.8
124	Good	1.25	0.3	Equal	0.3	Double	0.00839	0.94736	0.02754	2.03021	1.0	1.0	1.0	1.0
125	Good	1.25	0.3	Equal	0.7	Equal	0.03130	0.98420	0.02045	3.21564	0.6	0.6	0.6	0.6
126	Good	1.25	0.3	Equal	0.7	Double	0.02661	0.98042	0.02967	3.18055	0.8	0.6	0.6	0.6
127	Good	1.25	0.3	Double	0.1	Equal	0.00472	0.91949	0.01230	2.68489	1.2	1.2	1.2	1.0
128	Good	1.25	0.3	Double	0.1	Double	0.00393	0.91183	0.01589	2.68491	1.2	1.2	1.2	1.2
129	Good	1.25	0.3	Double	0.3	Equal	0.01676	0.97028	0.02065	5.79783	0.8	0.8	0.8	0.8
130	Good	1.25	0.3	Double	0.3	Double	0.00839	0.94725	0.02757	5.49854	1.0	1.0	1.0	1.0
131	Good	1.25	0.3	Double	0.7	Equal	0.03584	0.98620	0.02041	11.19651	0.6	0.4	0.6	0.6
132	Good	1.25	0.3	Double	0.7	Double	0.02663	0.98037	0.02972	11.12975	0.6	0.6	0.6	0.8
133	Good	1.25	0.5	Equal	0.1	Equal	0.00511	0.89664	0.01493	1.37874	1.4	1.4	1.6	1.4
134	Good	1.25	0.5	Equal	0.1	Double	0.00249	0.85113	0.01937	1.33264	1.6	1.6	1.6	1.8
135	Good	1.25	0.5	Equal	0.3	Equal	0.01826	0.95276	0.02695	2.00258	1.2	1.0	1.0	1.0
136	Good	1.25	0.5	Equal	0.3	Double	0.00991	0.92887	0.03522	1.96670	1.2	1.4	1.2	1.2
137	Good	1.25	0.5	Equal	0.7	Equal	0.04506	0.97939	0.02795	3.22273	0.6	0.6	0.6	1.0
138	Good	1.25	0.5	Equal	0.7	Double	0.03193	0.96974	0.04034	3.15663	0.8	1.0	0.8	0.8
139	Good	1.25	0.5	Double	0.1	Equal	0.00510	0.89664	0.01493	2.54400	1.4	1.6	1.4	1.4
140	Good	1.25	0.5	Double	0.1	Double	0.00249	0.85113	0.01937	2.39337	1.6	1.6	1.8	1.6
141	Good	1.25	0.5	Double	0.3	Equal	0.01826	0.95276	0.02695	5.47860	1.2	1.0	1.0	1.0
142	Good	1.25	0.5	Double	0.3	Double	0.00991	0.92887	0.03521	5.29798	1.2	1.2	1.4	1.2
143	Good	1.25	0.5	Double	0.7	Equal	0.04505	0.97939	0.02794	11.17856	0.6	0.6	0.6	1.0
144	Good	1.25	0.5	Double	0.7	Double	0.03193	0.96974	0.04034	10.91628	0.8	0.8	0.8	1.0

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
145	Fair	0.75	0	Equal	0.1	Equal	0.00893	0.27421	0.08062	1.61091	0.4	0.4	0.6	0.6
146	Fair	0.75	0	Equal	0.1	Double	0.00338	0.20325	0.08575	1.47446	0.6	0.6	0.8	0.8
147	Fair	0.75	0	Equal	0.3	Equal	0.06250	0.48470	0.19834	2.22571	0.0	0.0	0.0	0.0
148	Fair	0.75	0	Equal	0.3	Double	0.02102	0.35409	0.22320	2.01158	0.2	0.2	0.4	0.4
149	Fair	0.75	0	Equal	0.7	Equal	0.46938	0.82674	0.26209	3.53065	-1.0	-1.0	-1.0	-0.8
150	Fair	0.75	0	Equal	0.7	Double	0.20434	0.66855	0.35462	3.15474	-0.6	-0.4	-0.4	-0.4
151	Fair	0.75	0	Double	0.1	Equal	0.00893	0.27421	0.08062	2.95897	0.4	0.4	0.6	0.6
152	Fair	0.75	0	Double	0.1	Double	0.00338	0.20325	0.08575	2.45718	0.6	0.6	0.8	0.8
153	Fair	0.75	0	Double	0.3	Equal	0.06250	0.48470	0.19834	5.78977	0.0	0.0	0.0	0.0
154	Fair	0.75	0	Double	0.3	Double	0.02102	0.35409	0.22320	4.75664	0.2	0.2	0.4	0.4
155	Fair	0.75	0	Double	0.7	Equal	0.46938	0.82674	0.26209	12.52754	-1.0	-1.0	-1.0	-0.8
156	Fair	0.75	0	Double	0.7	Double	0.20434	0.66855	0.35462	10.44204	-0.6	-0.4	-0.4	-0.4
157	Fair	0.75	0.1	Equal	0.1	Equal	0.00935	0.22990	0.08543	2.24987	-2.0	1.0	0.8	1.0
158	Fair	0.75	0.1	Equal	0.1	Double	0.00318	0.15474	0.09026	1.35394	1.2	-2.0	1.2	1.2
159	Fair	0.75	0.1	Equal	0.3	Equal	0.06545	0.44987	0.21085	2.16907	0.4	-2.0	0.4	0.2
160	Fair	0.75	0.1	Equal	0.3	Double	0.02415	0.32144	0.23737	1.69798	0.8	0.6	-2.0	0.6
161	Fair	0.75	0.1	Equal	0.7	Equal	0.51895	0.84050	0.26733	3.67191	-2.0	-0.6	-2.0	-0.6
162	Fair	0.75	0.1	Equal	0.7	Double	0.21762	0.65585	0.37148	2.89680	-0.2	-0.2	-0.2	-2.0
163	Fair	0.75	0.1	Double	0.1	Equal	0.00935	0.22989	0.08543	4.25031	-2.0	1.0	1.0	0.8
164	Fair	0.75	0.1	Double	0.1	Double	0.00318	0.15474	0.09026	1.83676	1.2	1.2	-2.0	1.2
165	Fair	0.75	0.1	Double	0.3	Equal	0.06545	0.44987	0.21085	5.81703	0.4	-2.0	0.4	0.2
166	Fair	0.75	0.1	Double	0.3	Double	0.02415	0.32144	0.23737	6.19088	-2.0	0.6	0.6	0.8
167	Fair	0.75	0.1	Double	0.7	Equal	0.51895	0.84051	0.26733	13.13113	-2.0	-0.6	-2.0	-0.6
168	Fair	0.75	0.1	Double	0.7	Double	0.21760	0.65585	0.37147	10.04525	-0.2	-0.2	-2.0	-0.2
169	Fair	0.75	0.3	Equal	0.1	Equal	0.00816	0.20102	0.08724	1.08929	2.4	-2.0	-2.0	-2.0
170	Fair	0.75	0.3	Equal	0.1	Double	0.00255	0.12797	0.09179	3.87766	-2.0	-2.0	-2.0	2.8
171	Fair	0.75	0.3	Equal	0.3	Equal	0.05427	0.40350	0.21694	3.89038	-2.0	-2.0	-2.0	1.6
172	Fair	0.75	0.3	Equal	0.3	Double	0.02259	0.29438	0.24332	3.89036	-2.0	-2.0	-2.0	2.0
173	Fair	0.75	0.3	Equal	0.7	Equal	0.55996	0.85295	0.27092	3.71905	-2.0	-2.0	-0.2	-2.0

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
174	Fair	0.75	0.3	Equal	0.7	Double	0.26859	0.68705	0.38022	2.67183	0.6	-2.0	-2.0	-2.0
175	Fair	0.75	0.3	Double	0.1	Equal	0.00816	0.20102	0.08724	1.39916	2.4	-2.0	-2.0	-2.0
176	Fair	0.75	0.3	Double	0.1	Double	0.00255	0.12797	0.09179	14.32510	-2.0	-2.0	-2.0	2.8
177	Fair	0.75	0.3	Double	0.3	Equal	0.05427	0.40350	0.21694	4.86925	-2.0	1.6	-2.0	-2.0
178	Fair	0.75	0.3	Double	0.3	Double	0.02259	0.29438	0.24332	4.20590	-2.0	2.0	-2.0	-2.0
179	Fair	0.75	0.3	Double	0.7	Equal	0.55995	0.85295	0.27092	13.01686	-2.0	-2.0	-0.2	-2.0
180	Fair	0.75	0.3	Double	0.7	Double	0.26860	0.68705	0.38022	8.86900	0.6	-2.0	-2.0	-2.0
181	Fair	0.75	0.5	Equal	0.1	Equal	0.00820	0.20176	0.08720	2.96532	-2.0	-2.0	2.4	-2.0
182	Fair	0.75	0.5	Equal	0.1	Double	0.00255	0.12847	0.09175	2.95289	-2.0	-2.0	2.8	-2.0
183	Fair	0.75	0.5	Equal	0.3	Equal	0.05475	0.40474	0.21690	2.29551	-2.0	1.6	-2.0	-2.0
184	Fair	0.75	0.5	Equal	0.3	Double	0.02274	0.29538	0.24322	1.32975	2.0	-2.0	-2.0	-2.0
185	Fair	0.75	0.5	Equal	0.7	Equal	0.57075	0.85404	0.27340	3.28462	-0.2	-2.0	-2.0	-2.0
186	Fair	0.75	0.5	Equal	0.7	Double	0.21105	0.63555	0.38175	2.51354	0.8	-2.0	-2.0	-2.0
187	Fair	0.75	0.5	Double	0.1	Equal	0.00820	0.20176	0.08720	1.39988	2.4	-2.0	-2.0	-2.0
188	Fair	0.75	0.5	Double	0.1	Double	0.00255	0.12847	0.09175	14.36838	-2.0	-2.0	-2.0	2.8
189	Fair	0.75	0.5	Double	0.3	Equal	0.05475	0.40473	0.21690	4.87399	-2.0	1.6	-2.0	-2.0
190	Fair	0.75	0.5	Double	0.3	Double	0.02274	0.29538	0.24322	7.65583	-2.0	-2.0	2.0	-2.0
191	Fair	0.75	0.5	Double	0.7	Equal	0.57076	0.85404	0.27340	11.76424	-0.2	-2.0	-2.0	-2.0
192	Fair	0.75	0.5	Double	0.7	Double	0.21105	0.63555	0.38174	10.93819	-2.0	-2.0	0.8	-2.0
193	Fair	1	0	Equal	0.1	Equal	0.01410	0.53873	0.05881	1.67576	0.4	0.4	0.4	0.4
194	Fair	1	0	Equal	0.1	Double	0.00711	0.44973	0.06782	1.62903	0.4	0.6	0.6	0.6
195	Fair	1	0	Equal	0.3	Equal	0.06250	0.74369	0.12064	2.39005	0.0	0.0	0.0	0.0
196	Fair	1	0	Equal	0.3	Double	0.03134	0.64796	0.14948	2.19788	0.2	0.2	0.2	0.2
197	Fair	1	0	Equal	0.7	Equal	0.25054	0.91358	0.13566	3.50987	-0.6	-0.6	-0.6	-0.4
198	Fair	1	0	Equal	0.7	Double	0.14414	0.85113	0.19070	3.36139	-0.4	-0.4	-0.2	-0.2
199	Fair	1	0	Double	0.1	Equal	0.01410	0.53873	0.05881	3.31026	0.4	0.4	0.4	0.4
200	Fair	1	0	Double	0.1	Double	0.00711	0.44973	0.06782	3.04085	0.4	0.6	0.6	0.6
201	Fair	1	0	Double	0.3	Equal	0.06250	0.74369	0.12064	6.61403	0.0	0.0	0.0	0.0
202	Fair	1	0	Double	0.3	Double	0.03134	0.64796	0.14948	5.73936	0.2	0.2	0.2	0.2

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
203	Fair	1	0	Double	0.7	Equal	0.25054	0.91358	0.13566	12.32992	-0.6	-0.6	-0.6	-0.4
204	Fair	1	0	Double	0.7	Double	0.14414	0.85113	0.19070	11.49738	-0.4	-0.4	-0.2	-0.2
205	Fair	1	0.1	Equal	0.1	Equal	0.01427	0.47716	0.06513	1.56217	0.6	0.6	0.4	0.6
206	Fair	1	0.1	Equal	0.1	Double	0.00627	0.36899	0.07439	1.51457	0.6	0.8	0.8	0.8
207	Fair	1	0.1	Equal	0.3	Equal	0.06501	0.70710	0.13338	2.36099	0.0	0.2	0.0	0.2
208	Fair	1	0.1	Equal	0.3	Double	0.03493	0.61003	0.16589	2.17244	0.2	0.4	0.2	0.4
209	Fair	1	0.1	Equal	0.7	Equal	0.28498	0.91547	0.14467	3.52122	-0.6	-0.6	-0.6	-0.4
210	Fair	1	0.1	Equal	0.7	Double	0.15909	0.84150	0.20640	3.29545	-0.2	-0.4	-0.2	-0.2
211	Fair	1	0.1	Double	0.1	Equal	0.01427	0.47717	0.06512	3.18313	0.4	0.6	0.6	0.6
212	Fair	1	0.1	Double	0.1	Double	0.00627	0.36900	0.07439	2.41532	0.8	0.8	0.8	0.6
213	Fair	1	0.1	Double	0.3	Equal	0.06502	0.70711	0.13338	6.31917	0.0	0.2	0.2	0.0
214	Fair	1	0.1	Double	0.3	Double	0.03493	0.61003	0.16590	5.75800	0.2	0.2	0.4	0.4
215	Fair	1	0.1	Double	0.7	Equal	0.28496	0.91546	0.14466	12.40629	-0.6	-0.6	-0.6	-0.4
216	Fair	1	0.1	Double	0.7	Double	0.15909	0.84148	0.20642	11.02404	-0.2	-0.2	-0.2	-0.4
217	Fair	1	0.3	Equal	0.1	Equal	0.01677	0.40967	0.07412	1.46742	0.8	0.8	0.8	0.8
218	Fair	1	0.3	Equal	0.1	Double	0.00690	0.29043	0.08337	1.35026	1.0	1.0	1.2	1.0
219	Fair	1	0.3	Equal	0.3	Equal	0.07936	0.67323	0.15358	2.23059	0.2	0.4	0.2	0.2
220	Fair	1	0.3	Equal	0.3	Double	0.03581	0.53118	0.19078	1.96855	0.6	0.4	0.6	0.6
221	Fair	1	0.3	Equal	0.7	Equal	0.30568	0.90241	0.16002	3.46003	-0.4	-0.6	-0.4	-0.4
222	Fair	1	0.3	Equal	0.7	Double	0.20571	0.84260	0.23361	3.28686	-0.2	-0.2	-0.2	-0.2
223	Fair	1	0.3	Double	0.1	Equal	0.01675	0.40964	0.07411	2.64905	0.8	0.8	0.8	0.8
224	Fair	1	0.3	Double	0.1	Double	0.00689	0.29045	0.08335	2.22591	1.0	1.0	1.0	1.2
225	Fair	1	0.3	Double	0.3	Equal	0.07937	0.67323	0.15359	5.99258	0.2	0.4	0.2	0.2
226	Fair	1	0.3	Double	0.3	Double	0.03581	0.53116	0.19078	4.69224	0.6	0.6	0.6	0.4
227	Fair	1	0.3	Double	0.7	Equal	0.30563	0.90238	0.16002	12.06799	-0.4	-0.4	-0.6	-0.4
228	Fair	1	0.3	Double	0.7	Double	0.20576	0.84258	0.23365	11.24400	-0.2	-0.2	-0.2	-0.2
229	Fair	1	0.5	Equal	0.1	Equal	0.01568	0.33602	0.08051	1.36982	1.0	1.2	1.0	1.2
230	Fair	1	0.5	Equal	0.1	Double	0.00615	0.22225	0.08884	1.22011	1.4	1.4	1.4	1.4
231	Fair	1	0.5	Equal	0.3	Equal	0.08393	0.63013	0.16971	2.11070	0.4	0.6	0.4	0.4

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
232	Fair	1	0.5	Equal	0.3	Double	0.03695	0.47456	0.20936	1.82241	0.8	0.8	0.8	0.8
233	Fair	1	0.5	Equal	0.7	Equal	0.35449	0.90535	0.17260	3.45717	-0.4	-0.4	-0.4	-0.4
234	Fair	1	0.5	Equal	0.7	Double	0.21481	0.81751	0.25663	3.19271	0.0	0.0	-0.2	0.0
235	Fair	1	0.5	Double	0.1	Equal	0.01568	0.33605	0.08051	2.26627	1.0	1.2	1.2	1.0
236	Fair	1	0.5	Double	0.1	Double	0.00616	0.22232	0.08886	1.77906	1.4	1.4	1.4	1.4
237	Fair	1	0.5	Double	0.3	Equal	0.09457	0.65505	0.16969	5.86338	0.4	0.4	0.4	0.4
238	Fair	1	0.5	Double	0.3	Double	0.03694	0.47456	0.20934	4.33952	0.8	0.8	0.8	0.8
239	Fair	1	0.5	Double	0.7	Equal	0.35449	0.90537	0.17259	12.16082	-0.4	-0.4	-0.4	-0.4
240	Fair	1	0.5	Double	0.7	Double	0.21480	0.81752	0.25662	10.74588	0.0	0.0	0.0	-0.2
241	Fair	1.25	0	Equal	0.1	Equal	0.01410	0.78823	0.03387	1.72378	0.4	0.4	0.4	0.4
242	Fair	1.25	0	Equal	0.1	Double	0.00711	0.70358	0.04244	1.67908	0.4	0.6	0.6	0.6
243	Fair	1.25	0	Equal	0.3	Equal	0.03134	0.87047	0.06079	2.31743	0.2	0.2	0.2	0.2
244	Fair	1.25	0	Equal	0.3	Double	0.02102	0.82833	0.08093	2.30137	0.2	0.2	0.4	0.4
245	Fair	1.25	0	Equal	0.7	Equal	0.11259	0.96034	0.06154	3.39652	-0.2	-0.2	-0.2	-0.2
246	Fair	1.25	0	Equal	0.7	Double	0.06250	0.92597	0.08932	3.29352	0.0	0.0	0.0	0.0
247	Fair	1.25	0	Double	0.1	Equal	0.01410	0.78823	0.03387	3.56171	0.4	0.4	0.4	0.4
248	Fair	1.25	0	Double	0.1	Double	0.00711	0.70358	0.04244	3.30449	0.4	0.6	0.6	0.6
249	Fair	1.25	0	Double	0.3	Equal	0.03134	0.87047	0.06079	6.37745	0.2	0.2	0.2	0.2
250	Fair	1.25	0	Double	0.3	Double	0.02102	0.82833	0.08093	6.24894	0.2	0.2	0.4	0.4
251	Fair	1.25	0	Double	0.7	Equal	0.11259	0.96034	0.06154	11.79061	-0.2	-0.2	-0.2	-0.2
252	Fair	1.25	0	Double	0.7	Double	0.06250	0.92597	0.08932	11.27378	0.0	0.0	0.0	0.0
253	Fair	1.25	0.1	Equal	0.1	Equal	0.01427	0.73546	0.03930	1.70281	0.4	0.6	0.6	0.6
254	Fair	1.25	0.1	Equal	0.1	Double	0.00774	0.65187	0.04875	1.59801	0.6	0.6	0.8	0.8
255	Fair	1.25	0.1	Equal	0.3	Equal	0.04882	0.88089	0.06991	2.34426	0.2	0.2	0.2	0.2
256	Fair	1.25	0.1	Equal	0.3	Double	0.02515	0.80890	0.09254	2.18752	0.4	0.4	0.4	0.4
257	Fair	1.25	0.1	Equal	0.7	Equal	0.14334	0.96215	0.06950	3.40991	-0.2	-0.2	-0.2	-0.2
258	Fair	1.25	0.1	Equal	0.7	Double	0.08709	0.93057	0.10086	3.30780	0.0	0.0	0.0	0.0
259	Fair	1.25	0.1	Double	0.1	Equal	0.01427	0.73544	0.03930	3.44715	0.4	0.6	0.6	0.6
260	Fair	1.25	0.1	Double	0.1	Double	0.00774	0.65189	0.04875	2.82247	0.8	0.6	0.8	0.6

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
261	Fair	1.25	0.1	Double	0.3	Equal	0.04882	0.88089	0.06991	6.54664	0.2	0.2	0.2	0.2
262	Fair	1.25	0.1	Double	0.3	Double	0.02515	0.80888	0.09255	5.85580	0.4	0.4	0.4	0.4
263	Fair	1.25	0.1	Double	0.7	Equal	0.14336	0.96213	0.06951	11.87843	-0.2	-0.2	-0.2	-0.2
264	Fair	1.25	0.1	Double	0.7	Double	0.08709	0.93058	0.10085	11.36640	0.0	0.0	0.0	0.0
265	Fair	1.25	0.3	Equal	0.1	Equal	0.01675	0.72057	0.04301	1.53055	0.8	0.8	0.8	0.8
266	Fair	1.25	0.3	Equal	0.1	Double	0.00841	0.62403	0.05273	1.42171	1.0	1.0	1.0	1.0
267	Fair	1.25	0.3	Equal	0.3	Equal	0.05487	0.86860	0.07783	2.24767	0.4	0.4	0.4	0.4
268	Fair	1.25	0.3	Equal	0.3	Double	0.03129	0.80301	0.10290	2.09942	0.6	0.6	0.6	0.6
269	Fair	1.25	0.3	Equal	0.7	Equal	0.14029	0.95082	0.07651	3.34457	0.0	0.0	0.0	0.0
270	Fair	1.25	0.3	Equal	0.7	Double	0.09037	0.91727	0.11213	3.23859	0.2	0.2	0.2	0.2
271	Fair	1.25	0.3	Double	0.1	Equal	0.01674	0.72059	0.04301	2.97516	0.8	0.8	0.8	0.8
272	Fair	1.25	0.3	Double	0.1	Double	0.00840	0.62399	0.05272	2.55962	1.0	1.0	1.0	1.0
273	Fair	1.25	0.3	Double	0.3	Equal	0.05489	0.86857	0.07785	6.23616	0.4	0.4	0.4	0.4
274	Fair	1.25	0.3	Double	0.3	Double	0.03132	0.80298	0.10295	5.59011	0.6	0.6	0.6	0.6
275	Fair	1.25	0.3	Double	0.7	Equal	0.14029	0.95085	0.07649	11.60679	0.0	0.0	0.0	0.0
276	Fair	1.25	0.3	Double	0.7	Double	0.09036	0.91728	0.11212	11.08413	0.2	0.2	0.2	0.2
277	Fair	1.25	0.5	Equal	0.1	Equal	0.01179	0.68087	0.04253	1.36940	1.2	1.2	1.2	1.2
278	Fair	1.25	0.5	Equal	0.1	Double	0.00615	0.60462	0.05062	1.29071	1.4	1.4	1.4	1.4
279	Fair	1.25	0.5	Equal	0.3	Equal	0.05307	0.85856	0.07958	2.12349	0.6	0.8	0.6	0.6
280	Fair	1.25	0.5	Equal	0.3	Double	0.02143	0.75014	0.10496	1.88307	1.0	1.0	1.0	1.0
281	Fair	1.25	0.5	Equal	0.7	Equal	0.12650	0.93243	0.08525	3.20647	0.4	0.2	0.2	0.2
282	Fair	1.25	0.5	Equal	0.7	Double	0.08394	0.90136	0.11941	3.09188	0.6	0.4	0.4	0.4
283	Fair	1.25	0.5	Double	0.1	Equal	0.01180	0.68087	0.04254	2.46079	1.2	1.2	1.2	1.2
284	Fair	1.25	0.5	Double	0.1	Double	0.00615	0.60462	0.05061	2.16726	1.4	1.4	1.4	1.4
285	Fair	1.25	0.5	Double	0.3	Equal	0.05308	0.85856	0.07958	5.84629	0.6	0.6	0.8	0.6
286	Fair	1.25	0.5	Double	0.3	Double	0.02141	0.75014	0.10494	4.79603	1.0	1.0	1.0	1.0
287	Fair	1.25	0.5	Double	0.7	Equal	0.12652	0.93243	0.08526	11.12258	0.2	0.4	0.2	0.2
288	Fair	1.25	0.5	Double	0.7	Double	0.08394	0.90136	0.11941	10.64206	0.4	0.4	0.6	0.4
289	Poor	0.75	0	Equal	0.1	Equal	0.00437	0.09616	0.09432	1.44003	0.6	0.6	0.6	0.8

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
290	Poor	0.75	0	Equal	0.1	Double	0.00151	0.06114	0.09660	1.33039	0.8	0.8	0.8	1.0
291	Poor	0.75	0	Equal	0.3	Equal	0.05549	0.28395	0.25366	3.27574	-2.0	-2.0	0.6	0.8
292	Poor	0.75	0	Equal	0.3	Double	0.01557	0.16524	0.27223	2.47219	-2.0	0.6	0.6	0.8
293	Poor	0.75	0	Equal	0.7	Equal	0.91206	0.93565	0.31866	3.86429	-2.0	-2.0	-2.0	-2.0
294	Poor	0.75	0	Equal	0.7	Double	0.25596	0.54449	0.47243	3.86429	-2.0	-2.0	-2.0	0.6
295	Poor	0.75	0	Double	0.1	Equal	0.00437	0.09616	0.09432	2.30484	0.6	0.6	0.6	0.8
296	Poor	0.75	0	Double	0.1	Double	0.00151	0.06114	0.09660	1.92648	0.8	0.8	0.8	1.0
297	Poor	0.75	0	Double	0.3	Equal	0.05549	0.28395	0.25366	9.56544	-2.0	-2.0	0.6	0.8
298	Poor	0.75	0	Double	0.3	Double	0.01557	0.16524	0.27223	5.54597	-2.0	0.6	0.6	0.8
299	Poor	0.75	0	Double	0.7	Equal	0.91206	0.93565	0.31866	14.33137	-2.0	-2.0	-2.0	-2.0
300	Poor	0.75	0	Double	0.7	Double	0.25596	0.54449	0.47243	14.33137	-2.0	-2.0	-2.0	0.6
301	Poor	0.75	0.1	Equal	0.1	Equal	0.00451	0.08986	0.09508	2.94383	-2.0	-2.0	2.6	-2.0
302	Poor	0.75	0.1	Equal	0.1	Double	0.00131	0.05069	0.09729	1.98678	-2.0	3.0	-2.0	-2.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.05263	0.27255	0.25508	3.04691	-2.0	-2.0	1.6	-2.0
304	Poor	0.75	0.1	Equal	0.3	Double	0.01342	0.14779	0.27446	2.07737	-2.0	2.2	-2.0	-2.0
305	Poor	0.75	0.1	Equal	0.7	Equal	0.91403	0.93599	0.31902	3.86486	-2.0	-2.0	-2.0	-2.0
306	Poor	0.75	0.1	Equal	0.7	Double	0.26097	0.54607	0.47434	2.89790	-2.0	0.6	-2.0	-2.0
307	Poor	0.75	0.1	Double	0.1	Equal	0.00451	0.08986	0.09508	14.26257	-2.0	-2.0	-2.0	2.6
308	Poor	0.75	0.1	Double	0.1	Double	0.00131	0.05069	0.09729	3.02439	-2.0	3.0	-2.0	-2.0
309	Poor	0.75	0.1	Double	0.3	Equal	0.05263	0.27256	0.25508	2.72891	1.6	-2.0	-2.0	-2.0
310	Poor	0.75	0.1	Double	0.3	Double	0.01342	0.14779	0.27446	7.20704	-2.0	-2.0	2.2	-2.0
311	Poor	0.75	0.1	Double	0.7	Equal	0.91403	0.93598	0.31902	14.33536	-2.0	-2.0	-2.0	-2.0
312	Poor	0.75	0.1	Double	0.7	Double	0.26097	0.54607	0.47434	7.58464	0.6	-2.0	-2.0	-2.0
313	Poor	0.75	0.3	Equal	0.1	Equal	0.00464	0.09093	0.09509	1.04719	2.6	-2.0	-2.0	-2.0
314	Poor	0.75	0.3	Equal	0.1	Double	0.00135	0.05134	0.09729	1.98688	-2.0	3.0	-2.0	-2.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.05427	0.27498	0.25549	2.21194	-2.0	1.6	-2.0	-2.0
316	Poor	0.75	0.3	Equal	0.3	Double	0.01382	0.14937	0.27454	2.98244	-2.0	-2.0	2.2	-2.0
317	Poor	0.75	0.3	Equal	0.7	Equal	0.91992	0.93677	0.32024	3.86656	-2.0	-2.0	-2.0	-2.0
318	Poor	0.75	0.3	Equal	0.7	Double	0.26860	0.54923	0.47670	3.86656	-2.0	-2.0	-2.0	0.6

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
319	Poor	0.75	0.3	Double	0.1	Equal	0.00464	0.09093	0.09509	3.10893	-2.0	2.6	-2.0	-2.0
320	Poor	0.75	0.3	Double	0.1	Double	0.00135	0.05134	0.09729	3.02504	-2.0	3.0	-2.0	-2.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.05427	0.27497	0.25550	4.39892	-2.0	1.6	-2.0	-2.0
322	Poor	0.75	0.3	Double	0.3	Double	0.01382	0.14937	0.27454	14.30925	-2.0	-2.0	-2.0	2.2
323	Poor	0.75	0.3	Double	0.7	Equal	0.91989	0.93677	0.32023	14.34713	-2.0	-2.0	-2.0	-2.0
324	Poor	0.75	0.3	Double	0.7	Double	0.26860	0.54923	0.47669	10.53315	-2.0	-2.0	0.6	-2.0
325	Poor	0.75	0.5	Equal	0.1	Equal	0.00466	0.09178	0.09502	1.04729	2.6	-2.0	-2.0	-2.0
326	Poor	0.75	0.5	Equal	0.1	Double	0.00135	0.05185	0.09724	2.93993	-2.0	-2.0	3.0	-2.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.05475	0.27714	0.25518	3.87439	-2.0	-2.0	-2.0	1.6
328	Poor	0.75	0.5	Equal	0.3	Double	0.01390	0.15070	0.27425	3.87440	-2.0	-2.0	-2.0	2.2
329	Poor	0.75	0.5	Equal	0.7	Equal	0.92843	0.93776	0.32210	3.86915	-2.0	-2.0	-2.0	-2.0
330	Poor	0.75	0.5	Equal	0.7	Double	0.27285	0.55238	0.47704	2.90591	-2.0	0.6	-2.0	-2.0
331	Poor	0.75	0.5	Double	0.1	Equal	0.00466	0.09178	0.09502	1.20223	2.6	-2.0	-2.0	-2.0
332	Poor	0.75	0.5	Double	0.1	Double	0.00135	0.05185	0.09724	6.83740	-2.0	-2.0	3.0	-2.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.05475	0.27714	0.25518	7.75843	-2.0	-2.0	1.6	-2.0
334	Poor	0.75	0.5	Double	0.3	Double	0.01390	0.15070	0.27425	1.81821	2.2	-2.0	-2.0	-2.0
335	Poor	0.75	0.5	Double	0.7	Equal	0.92843	0.93776	0.32209	14.36495	-2.0	-2.0	-2.0	-2.0
336	Poor	0.75	0.5	Double	0.7	Double	0.27285	0.55238	0.47704	8.60686	-2.0	0.6	-2.0	-2.0
337	Poor	1	0	Equal	0.1	Equal	0.01122	0.22861	0.08724	1.61107	0.4	0.4	0.4	0.6
338	Poor	1	0	Equal	0.1	Double	0.00338	0.12829	0.09325	1.45629	0.6	0.6	0.8	0.8
339	Poor	1	0	Equal	0.3	Equal	0.08389	0.52822	0.20025	2.44152	-0.2	-0.2	0.0	0.0
340	Poor	1	0	Equal	0.3	Double	0.03134	0.35989	0.23590	2.02230	0.2	0.2	0.2	0.2
341	Poor	1	0	Equal	0.7	Equal	0.46938	0.88906	0.21847	3.63871	-1.0	-1.0	-1.0	-0.8
342	Poor	1	0	Equal	0.7	Double	0.27742	0.78039	0.32018	3.34793	-0.6	-0.6	-0.6	-0.6
343	Poor	1	0	Double	0.1	Equal	0.01122	0.22861	0.08724	2.97256	0.4	0.4	0.4	0.6
344	Poor	1	0	Double	0.1	Double	0.00338	0.12829	0.09325	2.35267	0.6	0.6	0.8	0.8
345	Poor	1	0	Double	0.3	Equal	0.08389	0.52822	0.20025	6.66322	-0.2	-0.2	0.0	0.0
346	Poor	1	0	Double	0.3	Double	0.03134	0.35989	0.23590	4.80156	0.2	0.2	0.2	0.2
347	Poor	1	0	Double	0.7	Equal	0.46938	0.88906	0.21847	12.99256	-1.0	-1.0	-1.0	-0.8

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
348	Poor	1	0	Double	0.7	Double	0.27742	0.78039	0.32018	11.42396	-0.6	-0.6	-0.6	-0.6
349	Poor	1	0.1	Equal	0.1	Equal	0.01185	0.19983	0.09068	1.48686	0.6	0.6	0.6	0.6
350	Poor	1	0.1	Equal	0.1	Double	0.00317	0.09914	0.09580	1.34076	0.8	1.0	0.8	1.0
351	Poor	1	0.1	Equal	0.3	Equal	0.08707	0.50072	0.21073	2.27437	0.0	0.0	0.0	0.0
352	Poor	1	0.1	Equal	0.3	Double	0.02962	0.31151	0.24802	1.87238	0.4	0.4	0.2	0.4
353	Poor	1	0.1	Equal	0.7	Equal	0.49570	0.89187	0.22440	3.62608	-1.0	-1.0	-0.8	-1.0
354	Poor	1	0.1	Equal	0.7	Double	0.28499	0.76663	0.33435	3.33531	-0.6	-0.6	-0.4	-0.6
355	Poor	1	0.1	Double	0.1	Equal	0.01186	0.19981	0.09069	2.55082	0.6	0.6	0.6	0.6
356	Poor	1	0.1	Double	0.1	Double	0.00317	0.09914	0.09580	1.83479	1.0	0.8	1.0	0.8
357	Poor	1	0.1	Double	0.3	Equal	0.08709	0.50074	0.21074	6.02185	0.0	0.0	0.0	0.0
358	Poor	1	0.1	Double	0.3	Double	0.02962	0.31151	0.24801	4.12912	0.4	0.4	0.4	0.2
359	Poor	1	0.1	Double	0.7	Equal	0.49569	0.89187	0.22440	13.04414	-1.0	-1.0	-1.0	-0.8
360	Poor	1	0.1	Double	0.7	Double	0.28498	0.76664	0.33434	11.17336	-0.6	-0.4	-0.6	-0.6
361	Poor	1	0.3	Equal	0.1	Equal	0.00841	0.12741	0.09483	1.29411	1.0	1.0	1.0	1.0
362	Poor	1	0.3	Equal	0.1	Double	0.00172	0.04845	0.09826	1.14615	1.4	1.4	1.4	1.4
363	Poor	1	0.3	Equal	0.3	Equal	0.09039	0.45323	0.22730	2.12619	0.2	0.2	0.2	0.2
364	Poor	1	0.3	Equal	0.3	Double	0.03129	0.26620	0.26395	1.73646	0.6	0.6	0.6	0.6
365	Poor	1	0.3	Equal	0.7	Equal	0.54779	0.89974	0.23452	3.62311	-1.0	-0.8	-1.0	-1.0
366	Poor	1	0.3	Equal	0.7	Double	0.30566	0.75167	0.35722	3.27357	-0.4	-0.6	-0.4	-0.4
367	Poor	1	0.3	Double	0.1	Equal	0.00840	0.12738	0.09482	1.93132	1.0	1.0	1.0	1.0
368	Poor	1	0.3	Double	0.1	Double	0.00171	0.04850	0.09824	1.42195	1.4	1.4	1.4	1.4
369	Poor	1	0.3	Double	0.3	Equal	0.09040	0.45321	0.22732	5.46574	0.2	0.2	0.2	0.2
370	Poor	1	0.3	Double	0.3	Double	0.03128	0.26624	0.26392	3.73985	0.6	0.6	0.6	0.6
371	Poor	1	0.3	Double	0.7	Equal	0.54781	0.89975	0.23452	12.87338	-0.8	-1.0	-1.0	-1.0
372	Poor	1	0.3	Double	0.7	Double	0.30562	0.75166	0.35721	10.84581	-0.4	-0.4	-0.4	-0.6
373	Poor	1	0.5	Equal	0.1	Equal	0.00615	0.08573	0.09696	1.16642	1.4	1.4	1.4	1.4
374	Poor	1	0.5	Equal	0.1	Double	0.00093	0.02447	0.09923	1.04963	2.0	2.0	1.8	1.8
375	Poor	1	0.5	Equal	0.3	Equal	0.09457	0.42312	0.23926	1.99421	0.4	0.4	0.4	0.4
376	Poor	1	0.5	Equal	0.3	Double	0.02432	0.19935	0.27425	1.48756	1.0	1.0	1.0	0.8

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
377	Poor	1	0.5	Equal	0.7	Equal	0.57783	0.90075	0.24282	3.60491	-0.8	-1.0	-0.8	-1.0
378	Poor	1	0.5	Equal	0.7	Double	0.35457	0.76725	0.37566	3.26922	-0.4	-0.4	-0.4	-0.4
379	Poor	1	0.5	Double	0.1	Equal	0.00616	0.08572	0.09697	1.54118	1.4	1.4	1.4	1.4
380	Poor	1	0.5	Double	0.1	Double	0.00093	0.02448	0.09923	1.16747	2.0	1.8	1.8	2.0
381	Poor	1	0.5	Double	0.3	Equal	0.09453	0.42312	0.23924	5.00744	0.4	0.4	0.4	0.4
382	Poor	1	0.5	Double	0.3	Double	0.02430	0.19931	0.27423	2.89778	1.0	1.0	0.8	1.0
383	Poor	1	0.5	Double	0.7	Equal	0.57784	0.90072	0.24285	12.95657	-1.0	-0.8	-0.8	-1.0
384	Poor	1	0.5	Double	0.7	Double	0.35451	0.76726	0.37562	11.15645	-0.4	-0.4	-0.4	-0.4
385	Poor	1.25	0	Equal	0.1	Equal	0.02102	0.48072	0.07085	1.81904	0.2	0.2	0.4	0.4
386	Poor	1.25	0	Equal	0.1	Double	0.00711	0.30651	0.08214	1.60454	0.4	0.6	0.6	0.6
387	Poor	1.25	0	Equal	0.3	Equal	0.07241	0.71562	0.13600	2.49674	-0.2	0.0	0.0	0.0
388	Poor	1.25	0	Equal	0.3	Double	0.03724	0.58837	0.17563	2.28603	0.0	0.2	0.2	0.2
389	Poor	1.25	0	Equal	0.7	Equal	0.27742	0.93037	0.13196	3.52569	-0.6	-0.6	-0.6	-0.6
390	Poor	1.25	0	Equal	0.7	Double	0.18454	0.87735	0.19658	3.39293	-0.4	-0.4	-0.4	-0.4
391	Poor	1.25	0	Double	0.1	Equal	0.02102	0.48072	0.07085	3.79502	0.2	0.2	0.4	0.4
392	Poor	1.25	0	Double	0.1	Double	0.00711	0.30651	0.08214	2.88900	0.4	0.6	0.6	0.6
393	Poor	1.25	0	Double	0.3	Equal	0.07241	0.71562	0.13600	6.93734	-0.2	0.0	0.0	0.0
394	Poor	1.25	0	Double	0.3	Double	0.03724	0.58837	0.17563	5.93636	0.0	0.2	0.2	0.2
395	Poor	1.25	0	Double	0.7	Equal	0.27742	0.93037	0.13196	12.38456	-0.6	-0.6	-0.6	-0.6
396	Poor	1.25	0	Double	0.7	Double	0.18454	0.87735	0.19658	11.66915	-0.4	-0.4	-0.4	-0.4
397	Poor	1.25	0.1	Equal	0.1	Equal	0.02079	0.44862	0.07385	1.67396	0.4	0.4	0.6	0.4
398	Poor	1.25	0.1	Equal	0.1	Double	0.00628	0.26929	0.08437	1.40301	0.8	0.8	0.6	0.8
399	Poor	1.25	0.1	Equal	0.3	Equal	0.08708	0.72433	0.14366	2.41129	0.0	0.0	0.0	0.0
400	Poor	1.25	0.1	Equal	0.3	Double	0.04882	0.61080	0.18510	2.20116	0.2	0.2	0.2	0.2
401	Poor	1.25	0.1	Equal	0.7	Equal	0.31171	0.93459	0.13930	3.53839	-0.6	-0.6	-0.6	-0.6
402	Poor	1.25	0.1	Equal	0.7	Double	0.19659	0.86848	0.21002	3.35682	-0.4	-0.2	-0.4	-0.4
403	Poor	1.25	0.1	Double	0.1	Equal	0.02079	0.44861	0.07385	3.16012	0.4	0.6	0.4	0.4
404	Poor	1.25	0.1	Double	0.1	Double	0.00628	0.26931	0.08437	2.38288	0.8	0.6	0.8	0.8
405	Poor	1.25	0.1	Double	0.3	Equal	0.08710	0.72431	0.14367	6.72170	0.0	0.0	0.0	0.0

Table A-3. 4-Test Sequence under Believe the Negative

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
406	Poor	1.25	0.1	Double	0.3	Double	0.04882	0.61082	0.18510	5.74340	0.2	0.2	0.2	0.2
407	Poor	1.25	0.1	Double	0.7	Equal	0.31170	0.93459	0.13930	12.47038	-0.6	-0.6	-0.6	-0.6
408	Poor	1.25	0.1	Double	0.7	Double	0.19660	0.86849	0.21002	11.78320	-0.4	-0.4	-0.4	-0.2
409	Poor	1.25	0.3	Equal	0.1	Equal	0.01675	0.42298	0.07278	1.45077	0.8	0.8	0.8	0.8
410	Poor	1.25	0.3	Equal	0.1	Double	0.00839	0.32137	0.08297	1.33279	1.0	1.0	1.0	1.0
411	Poor	1.25	0.3	Equal	0.3	Equal	0.09037	0.72986	0.14430	2.28946	0.2	0.2	0.2	0.2
412	Poor	1.25	0.3	Equal	0.3	Double	0.03130	0.52988	0.18486	1.89887	0.6	0.6	0.6	0.6
413	Poor	1.25	0.3	Equal	0.7	Equal	0.28592	0.92136	0.14083	3.45568	-0.4	-0.4	-0.4	-0.4
414	Poor	1.25	0.3	Equal	0.7	Double	0.20576	0.87434	0.21142	3.31850	-0.2	-0.2	-0.2	-0.2
415	Poor	1.25	0.3	Double	0.1	Equal	0.01674	0.42297	0.07277	2.58958	0.8	0.8	0.8	0.8
416	Poor	1.25	0.3	Double	0.1	Double	0.00840	0.32139	0.08298	2.14367	1.0	1.0	1.0	1.0
417	Poor	1.25	0.3	Double	0.3	Equal	0.09044	0.72980	0.14437	6.31306	0.2	0.2	0.2	0.2
418	Poor	1.25	0.3	Double	0.3	Double	0.03134	0.52980	0.18494	4.58499	0.6	0.6	0.6	0.6
419	Poor	1.25	0.3	Double	0.7	Equal	0.28590	0.92131	0.14086	12.08910	-0.4	-0.4	-0.4	-0.4
420	Poor	1.25	0.3	Double	0.7	Double	0.20569	0.87443	0.21132	11.38281	-0.2	-0.2	-0.2	-0.2
421	Poor	1.25	0.5	Equal	0.1	Equal	0.02144	0.53253	0.06604	1.39093	1.0	1.0	1.0	1.0
422	Poor	1.25	0.5	Equal	0.1	Double	0.00617	0.34444	0.07665	1.20378	1.4	1.4	1.4	1.4
423	Poor	1.25	0.5	Equal	0.3	Equal	0.06061	0.68837	0.13592	1.99361	0.6	0.6	0.6	0.6
424	Poor	1.25	0.5	Equal	0.3	Double	0.03696	0.61272	0.16792	1.82160	0.8	0.8	0.8	0.8
425	Poor	1.25	0.5	Equal	0.7	Equal	0.25036	0.90497	0.14163	3.32555	-0.2	0.0	-0.2	-0.2
426	Poor	1.25	0.5	Equal	0.7	Double	0.18201	0.86426	0.20423	3.18267	0.0	0.2	0.0	0.0
427	Poor	1.25	0.5	Double	0.1	Equal	0.02142	0.53253	0.06602	2.50290	1.0	1.0	1.0	1.0
428	Poor	1.25	0.5	Double	0.1	Double	0.00615	0.34444	0.07663	1.78523	1.4	1.4	1.4	1.4
429	Poor	1.25	0.5	Double	0.3	Equal	0.06060	0.68837	0.13591	5.19380	0.6	0.6	0.6	0.6
430	Poor	1.25	0.5	Double	0.3	Double	0.03693	0.61272	0.16789	4.47833	0.8	0.8	0.8	0.8
431	Poor	1.25	0.5	Double	0.7	Equal	0.25038	0.90497	0.14163	11.39811	0.0	-0.2	-0.2	-0.2
432	Poor	1.25	0.5	Double	0.7	Double	0.18196	0.86426	0.20420	10.83702	0.0	0.0	0.2	0.0

2-Test Sequence Under Believe the Positive

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
1	Good	0.75	0	Equal	0.1	Equal	0.01633	0.63786	0.05091	1.95029	2.4	2.4
2	Good	0.75	0	Equal	0.1	Double	0.00720	0.53155	0.05981	1.95782	2.6	2.8
3	Good	0.75	0	Equal	0.3	Equal	0.04498	0.76649	0.10154	1.83030	2.0	2.0
4	Good	0.75	0	Equal	0.3	Double	0.02761	0.70517	0.12711	1.84995	2.2	2.2
5	Good	0.75	0	Equal	0.7	Equal	0.21690	0.93218	0.11254	1.48603	1.2	1.2
6	Good	0.75	0	Equal	0.7	Double	0.10660	0.86593	0.15781	1.56270	1.6	1.6
7	Good	0.75	0	Double	0.1	Equal	0.01633	0.63786	0.05091	2.90058	2.4	2.4
8	Good	0.75	0	Double	0.1	Double	0.00720	0.53155	0.05981	2.91565	2.6	2.8
9	Good	0.75	0	Double	0.3	Equal	0.04498	0.76649	0.10154	2.66060	2.0	2.0
10	Good	0.75	0	Double	0.3	Double	0.02761	0.70517	0.12711	2.69989	2.2	2.2
11	Good	0.75	0	Double	0.7	Equal	0.21690	0.93218	0.11254	1.97205	1.2	1.2
12	Good	0.75	0	Double	0.7	Double	0.10660	0.86593	0.15781	2.12540	1.6	1.6
13	Good	0.75	0.1	Equal	0.1	Equal	0.01626	0.63315	0.05132	1.95029	2.4	2.4
14	Good	0.75	0.1	Equal	0.1	Double	0.00509	0.48997	0.06017	1.96392	2.8	2.8
15	Good	0.75	0.1	Equal	0.3	Equal	0.04463	0.76146	0.10280	1.83030	2.0	2.0
16	Good	0.75	0.1	Equal	0.3	Double	0.02745	0.70019	0.12838	1.84995	2.2	2.2
17	Good	0.75	0.1	Equal	0.7	Equal	0.21285	0.92882	0.11368	1.48603	1.2	1.2
18	Good	0.75	0.1	Equal	0.7	Double	0.10520	0.86144	0.16011	1.56270	1.6	1.6
19	Good	0.75	0.1	Double	0.1	Equal	0.01626	0.63315	0.05132	2.90058	2.4	2.4
20	Good	0.75	0.1	Double	0.1	Double	0.00509	0.48997	0.06017	2.92784	2.8	2.8
21	Good	0.75	0.1	Double	0.3	Equal	0.04463	0.76146	0.10280	2.66060	2.0	2.0
22	Good	0.75	0.1	Double	0.3	Double	0.02745	0.70019	0.12838	2.69989	2.2	2.2
23	Good	0.75	0.1	Double	0.7	Equal	0.21285	0.92882	0.11368	1.97205	1.2	1.2
24	Good	0.75	0.1	Double	0.7	Double	0.10520	0.86144	0.16011	2.12540	1.6	1.6
25	Good	0.75	0.3	Equal	0.1	Equal	0.01599	0.62367	0.05202	1.95029	2.4	2.4
26	Good	0.75	0.3	Equal	0.1	Double	0.00505	0.48244	0.06084	1.96392	2.8	2.8
27	Good	0.75	0.3	Equal	0.3	Equal	0.05576	0.78034	0.10493	1.80767	1.8	2.0
28	Good	0.75	0.3	Equal	0.3	Double	0.02687	0.69021	0.13056	1.84995	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
29	Good	0.75	0.3	Equal	0.7	Equal	0.20305	0.92198	0.11553	1.48603	1.2	1.2
30	Good	0.75	0.3	Equal	0.7	Double	0.12435	0.87326	0.16332	1.52501	1.4	1.6
31	Good	0.75	0.3	Double	0.1	Equal	0.01599	0.62367	0.05202	2.90058	2.4	2.4
32	Good	0.75	0.3	Double	0.1	Double	0.00505	0.48244	0.06084	2.92784	2.8	2.8
33	Good	0.75	0.3	Double	0.3	Equal	0.05576	0.78034	0.10493	2.61534	1.8	2.0
34	Good	0.75	0.3	Double	0.3	Double	0.02687	0.69021	0.13056	2.69989	2.2	2.2
35	Good	0.75	0.3	Double	0.7	Equal	0.20305	0.92198	0.11553	1.97205	1.2	1.2
36	Good	0.75	0.3	Double	0.7	Double	0.12435	0.87326	0.16332	2.05002	1.4	1.6
37	Good	0.75	0.5	Equal	0.1	Equal	0.01541	0.61409	0.05246	1.95029	2.4	2.4
38	Good	0.75	0.5	Equal	0.1	Double	0.00692	0.51131	0.06133	1.95782	2.6	2.8
39	Good	0.75	0.5	Equal	0.3	Equal	0.05315	0.77037	0.10609	1.80767	1.8	2.0
40	Good	0.75	0.5	Equal	0.3	Double	0.02576	0.68016	0.13202	1.84995	2.2	2.2
41	Good	0.75	0.5	Equal	0.7	Equal	0.19059	0.91493	0.11673	1.48603	1.2	1.2
42	Good	0.75	0.5	Equal	0.7	Double	0.13757	0.88287	0.16453	1.52501	1.4	1.4
43	Good	0.75	0.5	Double	0.1	Equal	0.01541	0.61409	0.05246	2.90058	2.4	2.4
44	Good	0.75	0.5	Double	0.1	Double	0.00692	0.51131	0.06133	2.91565	2.6	2.8
45	Good	0.75	0.5	Double	0.3	Equal	0.05315	0.77037	0.10609	2.61534	1.8	2.0
46	Good	0.75	0.5	Double	0.3	Double	0.02576	0.68016	0.13202	2.69989	2.2	2.2
47	Good	0.75	0.5	Double	0.7	Equal	0.19059	0.91493	0.11673	1.97205	1.2	1.2
48	Good	0.75	0.5	Double	0.7	Double	0.13757	0.88287	0.16453	2.05002	1.4	1.4
49	Good	1	0	Equal	0.1	Equal	0.01633	0.71971	0.04272	1.94556	2.4	2.4
50	Good	1	0	Equal	0.1	Double	0.00930	0.63047	0.05369	1.95659	2.6	2.6
51	Good	1	0	Equal	0.3	Equal	0.04498	0.86151	0.07304	1.79572	2.0	2.0
52	Good	1	0	Equal	0.3	Double	0.02761	0.79768	0.09935	1.82521	2.2	2.2
53	Good	1	0	Equal	0.7	Equal	0.13113	0.95856	0.06834	1.39980	1.4	1.6
54	Good	1	0	Equal	0.7	Double	0.10660	0.94531	0.10224	1.44727	1.6	1.6
55	Good	1	0	Double	0.1	Equal	0.01633	0.71971	0.04272	2.89113	2.4	2.4
56	Good	1	0	Double	0.1	Double	0.00930	0.63047	0.05369	2.91319	2.6	2.6
57	Good	1	0	Double	0.3	Equal	0.04498	0.86151	0.07304	2.59144	2.0	2.0
58	Good	1	0	Double	0.3	Double	0.02761	0.79768	0.09935	2.65041	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
59	Good	1	0	Double	0.7	Equal	0.13113	0.95856	0.06834	1.79959	1.4	1.6
60	Good	1	0	Double	0.7	Double	0.10660	0.94531	0.10224	1.89453	1.6	1.6
61	Good	1	0.1	Equal	0.1	Equal	0.01626	0.70385	0.04425	1.94556	2.4	2.4
62	Good	1	0.1	Equal	0.1	Double	0.00927	0.61563	0.05513	1.95659	2.6	2.6
63	Good	1	0.1	Equal	0.3	Equal	0.04463	0.84710	0.07711	1.79572	2.0	2.0
64	Good	1	0.1	Equal	0.3	Double	0.02745	0.78198	0.10384	1.82521	2.2	2.2
65	Good	1	0.1	Equal	0.7	Equal	0.15253	0.96157	0.07266	1.39980	1.4	1.4
66	Good	1	0.1	Equal	0.7	Double	0.10520	0.93566	0.10816	1.44727	1.6	1.6
67	Good	1	0.1	Double	0.1	Equal	0.01626	0.70385	0.04425	2.89113	2.4	2.4
68	Good	1	0.1	Double	0.1	Double	0.00927	0.61563	0.05513	2.91319	2.6	2.6
69	Good	1	0.1	Double	0.3	Equal	0.04463	0.84710	0.07711	2.59144	2.0	2.0
70	Good	1	0.1	Double	0.3	Double	0.02745	0.78198	0.10384	2.65041	2.2	2.2
71	Good	1	0.1	Double	0.7	Equal	0.15253	0.96157	0.07266	1.79959	1.4	1.4
72	Good	1	0.1	Double	0.7	Double	0.10520	0.93566	0.10816	1.89453	1.6	1.6
73	Good	1	0.3	Equal	0.1	Equal	0.01599	0.67145	0.04725	1.94556	2.4	2.4
74	Good	1	0.3	Equal	0.1	Double	0.00916	0.58505	0.05797	1.95659	2.6	2.6
75	Good	1	0.3	Equal	0.3	Equal	0.05576	0.84769	0.08472	1.76466	1.8	2.0
76	Good	1	0.3	Equal	0.3	Double	0.02687	0.74986	0.11266	1.82521	2.2	2.2
77	Good	1	0.3	Equal	0.7	Equal	0.14617	0.94565	0.08189	1.39980	1.4	1.4
78	Good	1	0.3	Equal	0.7	Double	0.10134	0.91470	0.12052	1.44727	1.6	1.6
79	Good	1	0.3	Double	0.1	Equal	0.01599	0.67145	0.04725	2.89113	2.4	2.4
80	Good	1	0.3	Double	0.1	Double	0.00916	0.58505	0.05797	2.91319	2.6	2.6
81	Good	1	0.3	Double	0.3	Equal	0.05576	0.84769	0.08472	2.52933	1.8	2.0
82	Good	1	0.3	Double	0.3	Double	0.02687	0.74986	0.11266	2.65041	2.2	2.2
83	Good	1	0.3	Double	0.7	Equal	0.14617	0.94565	0.08189	1.79959	1.4	1.4
84	Good	1	0.3	Double	0.7	Double	0.10134	0.91470	0.12052	1.89453	1.6	1.6
85	Good	1	0.5	Equal	0.1	Equal	0.01541	0.63674	0.05020	1.94556	2.4	2.4
86	Good	1	0.5	Equal	0.1	Double	0.00887	0.55203	0.06077	1.95659	2.6	2.6
87	Good	1	0.5	Equal	0.3	Equal	0.06419	0.84370	0.09182	1.76466	1.8	1.8
88	Good	1	0.5	Equal	0.3	Double	0.03380	0.75376	0.12119	1.79572	2.0	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
89	Good	1	0.5	Equal	0.7	Equal	0.19059	0.95293	0.09012	1.35651	1.2	1.2
90	Good	1	0.5	Equal	0.7	Double	0.11747	0.91111	0.13271	1.39980	1.4	1.6
91	Good	1	0.5	Double	0.1	Equal	0.01541	0.63674	0.05020	2.89113	2.4	2.4
92	Good	1	0.5	Double	0.1	Double	0.00887	0.55203	0.06077	2.91319	2.6	2.6
93	Good	1	0.5	Double	0.3	Equal	0.06419	0.84370	0.09182	2.52933	1.8	1.8
94	Good	1	0.5	Double	0.3	Double	0.03380	0.75376	0.12119	2.59144	2.0	2.2
95	Good	1	0.5	Double	0.7	Equal	0.19059	0.95293	0.09012	1.71302	1.2	1.2
96	Good	1	0.5	Double	0.7	Double	0.11747	0.91111	0.13271	1.79959	1.4	1.6
97	Good	1.25	0	Equal	0.1	Equal	0.01633	0.85146	0.02955	1.92841	2.4	2.4
98	Good	1.25	0	Equal	0.1	Double	0.00930	0.76621	0.04012	1.94375	2.6	2.6
99	Good	1.25	0	Equal	0.3	Equal	0.03634	0.93694	0.04435	1.73246	2.0	2.2
100	Good	1.25	0	Equal	0.3	Double	0.02761	0.91348	0.06462	1.76506	2.2	2.2
101	Good	1.25	0	Equal	0.7	Equal	0.07057	0.97784	0.03668	1.35678	1.8	1.8
102	Good	1.25	0	Equal	0.7	Double	0.05786	0.96809	0.05706	1.35678	1.8	2.0
103	Good	1.25	0	Double	0.1	Equal	0.01633	0.85146	0.02955	2.85682	2.4	2.4
104	Good	1.25	0	Double	0.1	Double	0.00930	0.76621	0.04012	2.88749	2.6	2.6
105	Good	1.25	0	Double	0.3	Equal	0.03634	0.93694	0.04435	2.46493	2.0	2.2
106	Good	1.25	0	Double	0.3	Double	0.02761	0.91348	0.06462	2.53013	2.2	2.2
107	Good	1.25	0	Double	0.7	Equal	0.07057	0.97784	0.03668	1.71357	1.8	1.8
108	Good	1.25	0	Double	0.7	Double	0.05786	0.96809	0.05706	1.71357	1.8	2.0
109	Good	1.25	0.1	Equal	0.1	Equal	0.01626	0.81508	0.03313	1.92841	2.4	2.4
110	Good	1.25	0.1	Equal	0.1	Double	0.00927	0.72701	0.04399	1.94375	2.6	2.6
111	Good	1.25	0.1	Equal	0.3	Equal	0.04463	0.93160	0.05176	1.73246	2.0	2.0
112	Good	1.25	0.1	Equal	0.3	Double	0.02745	0.88327	0.07345	1.76506	2.2	2.2
113	Good	1.25	0.1	Equal	0.7	Equal	0.10520	0.98146	0.04454	1.32083	1.6	1.6
114	Good	1.25	0.1	Equal	0.7	Double	0.06984	0.96293	0.06786	1.35678	1.8	1.8
115	Good	1.25	0.1	Double	0.1	Equal	0.01626	0.81508	0.03313	2.85682	2.4	2.4
116	Good	1.25	0.1	Double	0.1	Double	0.00927	0.72701	0.04399	2.88749	2.6	2.6
117	Good	1.25	0.1	Double	0.3	Equal	0.04463	0.93160	0.05176	2.46493	2.0	2.0
118	Good	1.25	0.1	Double	0.3	Double	0.02745	0.88327	0.07345	2.53013	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
119	Good	1.25	0.1	Double	0.7	Equal	0.10520	0.98146	0.04454	1.64167	1.6	1.6
120	Good	1.25	0.1	Double	0.7	Double	0.06984	0.96293	0.06786	1.71357	1.8	1.8
121	Good	1.25	0.3	Equal	0.1	Equal	0.01818	0.74845	0.04151	1.91242	2.2	2.6
122	Good	1.25	0.3	Equal	0.1	Double	0.00916	0.63557	0.05292	1.94375	2.6	2.6
123	Good	1.25	0.3	Equal	0.3	Equal	0.05482	0.90170	0.06786	1.67762	1.6	4.0
124	Good	1.25	0.3	Equal	0.3	Double	0.03005	0.82368	0.09497	1.73246	2.0	2.4
125	Good	1.25	0.3	Equal	0.7	Equal	0.11508	0.96338	0.06016	1.27428	1.2	4.0
126	Good	1.25	0.3	Equal	0.7	Double	0.08077	0.93838	0.09160	1.29468	1.4	4.0
127	Good	1.25	0.3	Double	0.1	Equal	0.01818	0.74845	0.04151	2.82484	2.2	2.6
128	Good	1.25	0.3	Double	0.1	Double	0.00916	0.63557	0.05292	2.88749	2.6	2.6
129	Good	1.25	0.3	Double	0.3	Equal	0.05482	0.90170	0.06786	2.35523	1.6	4.0
130	Good	1.25	0.3	Double	0.3	Double	0.03005	0.82368	0.09497	2.46493	2.0	2.4
131	Good	1.25	0.3	Double	0.7	Equal	0.11508	0.96338	0.06016	1.54856	1.2	4.0
132	Good	1.25	0.3	Double	0.7	Double	0.08077	0.93838	0.09160	1.58936	1.4	4.0
133	Good	1.25	0.5	Equal	0.1	Equal	0.02276	0.78562	0.04193	1.89565	2.0	4.0
134	Good	1.25	0.5	Equal	0.1	Double	0.00822	0.61459	0.05333	1.92841	2.4	4.0
135	Good	1.25	0.5	Equal	0.3	Equal	0.05481	0.90170	0.06785	1.67762	1.6	4.0
136	Good	1.25	0.5	Equal	0.3	Double	0.03594	0.85113	0.09498	1.70380	1.8	4.0
137	Good	1.25	0.5	Equal	0.7	Equal	0.11507	0.96338	0.06016	1.27428	1.2	4.0
138	Good	1.25	0.5	Equal	0.7	Double	0.08076	0.93838	0.09159	1.29468	1.4	4.0
139	Good	1.25	0.5	Double	0.1	Equal	0.02276	0.78562	0.04193	2.79131	2.0	4.0
140	Good	1.25	0.5	Double	0.1	Double	0.00822	0.61459	0.05333	2.85682	2.4	4.0
141	Good	1.25	0.5	Double	0.3	Equal	0.05481	0.90170	0.06785	2.35523	1.6	4.0
142	Good	1.25	0.5	Double	0.3	Double	0.03594	0.85113	0.09498	2.40761	1.8	4.0
143	Good	1.25	0.5	Double	0.7	Equal	0.11507	0.96338	0.06016	1.54856	1.2	4.0
144	Good	1.25	0.5	Double	0.7	Double	0.08076	0.93838	0.09159	1.58936	1.4	4.0
145	Fair	0.75	0	Equal	0.1	Equal	0.01633	0.36597	0.07810	1.96590	2.4	2.4
146	Fair	0.75	0	Equal	0.1	Double	0.00510	0.24238	0.08495	1.97783	2.8	2.8
147	Fair	0.75	0	Equal	0.3	Equal	0.07057	0.58086	0.17514	1.85836	1.8	1.8
148	Fair	0.75	0	Equal	0.3	Double	0.02761	0.43566	0.20796	1.89863	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
149	Fair	0.75	0	Equal	0.7	Equal	0.37883	0.87392	0.20190	1.50960	0.8	0.8
150	Fair	0.75	0	Equal	0.7	Double	0.21690	0.77775	0.28572	1.60048	1.2	1.2
151	Fair	0.75	0	Double	0.1	Equal	0.01633	0.36597	0.07810	2.93180	2.4	2.4
152	Fair	0.75	0	Double	0.1	Double	0.00510	0.24238	0.08495	2.95566	2.8	2.8
153	Fair	0.75	0	Double	0.3	Equal	0.07057	0.58086	0.17514	2.71672	1.8	1.8
154	Fair	0.75	0	Double	0.3	Double	0.02761	0.43566	0.20796	2.79726	2.2	2.2
155	Fair	0.75	0	Double	0.7	Equal	0.37883	0.87392	0.20190	2.01920	0.8	0.8
156	Fair	0.75	0	Double	0.7	Double	0.21690	0.77775	0.28572	2.20096	1.2	1.2
157	Fair	0.75	0.1	Equal	0.1	Equal	0.01626	0.36340	0.07829	1.96590	2.4	2.4
158	Fair	0.75	0.1	Equal	0.1	Double	0.00509	0.24094	0.08508	1.97783	2.8	2.8
159	Fair	0.75	0.1	Equal	0.3	Equal	0.06984	0.57648	0.17594	1.85836	1.8	1.8
160	Fair	0.75	0.1	Equal	0.3	Double	0.02745	0.43246	0.20870	1.89863	2.2	2.2
161	Fair	0.75	0.1	Equal	0.7	Equal	0.37016	0.86953	0.20238	1.50960	0.8	0.8
162	Fair	0.75	0.1	Equal	0.7	Double	0.21285	0.77274	0.28680	1.60048	1.2	1.2
163	Fair	0.75	0.1	Double	0.1	Equal	0.01626	0.36340	0.07829	2.93180	2.4	2.4
164	Fair	0.75	0.1	Double	0.1	Double	0.00509	0.24094	0.08508	2.95566	2.8	2.8
165	Fair	0.75	0.1	Double	0.3	Equal	0.06984	0.57648	0.17594	2.71672	1.8	1.8
166	Fair	0.75	0.1	Double	0.3	Double	0.02745	0.43246	0.20870	2.79726	2.2	2.2
167	Fair	0.75	0.1	Double	0.7	Equal	0.37016	0.86953	0.20238	2.01920	0.8	0.8
168	Fair	0.75	0.1	Double	0.7	Double	0.21285	0.77274	0.28680	2.20096	1.2	1.2
169	Fair	0.75	0.3	Equal	0.1	Equal	0.01599	0.35811	0.07858	1.96590	2.4	2.4
170	Fair	0.75	0.3	Equal	0.1	Double	0.00505	0.23790	0.08529	1.97783	2.8	2.8
171	Fair	0.75	0.3	Equal	0.3	Equal	0.06764	0.56766	0.17705	1.85836	1.8	1.8
172	Fair	0.75	0.3	Equal	0.3	Double	0.02687	0.42591	0.20984	1.89863	2.2	2.2
173	Fair	0.75	0.3	Equal	0.7	Equal	0.39676	0.88071	0.20253	1.46119	0.6	0.8
174	Fair	0.75	0.3	Equal	0.7	Double	0.20305	0.76269	0.28795	1.60048	1.2	1.2
175	Fair	0.75	0.3	Double	0.1	Equal	0.01599	0.35811	0.07858	2.93180	2.4	2.4
176	Fair	0.75	0.3	Double	0.1	Double	0.00505	0.23790	0.08529	2.95566	2.8	2.8
177	Fair	0.75	0.3	Double	0.3	Equal	0.06764	0.56766	0.17705	2.71672	1.8	1.8
178	Fair	0.75	0.3	Double	0.3	Double	0.02687	0.42591	0.20984	2.79726	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
179	Fair	0.75	0.3	Double	0.7	Equal	0.39676	0.88071	0.20253	1.92238	0.6	0.8
180	Fair	0.75	0.3	Double	0.7	Double	0.20305	0.76269	0.28795	2.20096	1.2	1.2
181	Fair	0.75	0.5	Equal	0.1	Equal	0.01541	0.35259	0.07861	1.96590	2.4	2.4
182	Fair	0.75	0.5	Equal	0.1	Double	0.00491	0.23462	0.08538	1.97783	2.8	2.8
183	Fair	0.75	0.5	Equal	0.3	Equal	0.06419	0.55872	0.17732	1.85836	1.8	1.8
184	Fair	0.75	0.5	Equal	0.3	Double	0.02576	0.41917	0.21032	1.89863	2.2	2.2
185	Fair	0.75	0.5	Equal	0.7	Equal	0.41094	0.88978	0.20043	1.46119	0.6	0.6
186	Fair	0.75	0.5	Equal	0.7	Double	0.19059	0.75258	0.28755	1.60048	1.2	1.2
187	Fair	0.75	0.5	Double	0.1	Equal	0.01541	0.35259	0.07861	2.93180	2.4	2.4
188	Fair	0.75	0.5	Double	0.1	Double	0.00491	0.23462	0.08538	2.95566	2.8	2.8
189	Fair	0.75	0.5	Double	0.3	Equal	0.06419	0.55872	0.17732	2.71672	1.8	1.8
190	Fair	0.75	0.5	Double	0.3	Double	0.02576	0.41917	0.21032	2.79726	2.2	2.2
191	Fair	0.75	0.5	Double	0.7	Equal	0.41094	0.88978	0.20043	1.92238	0.6	0.6
192	Fair	0.75	0.5	Double	0.7	Double	0.19059	0.75258	0.28755	2.20096	1.2	1.2
193	Fair	1	0	Equal	0.1	Equal	0.01633	0.31951	0.08274	1.97511	2.4	2.4
194	Fair	1	0	Equal	0.1	Double	0.00510	0.17383	0.09180	1.98859	2.8	2.8
195	Fair	1	0	Equal	0.3	Equal	0.10660	0.69375	0.16649	1.82766	1.6	1.6
196	Fair	1	0	Equal	0.3	Double	0.04498	0.50520	0.21142	1.89510	2.0	2.0
197	Fair	1	0	Equal	0.7	Equal	0.33690	0.91893	0.15782	1.41340	0.8	1.0
198	Fair	1	0	Equal	0.7	Double	0.21690	0.84380	0.23948	1.54213	1.2	1.2
199	Fair	1	0	Double	0.1	Equal	0.01633	0.31951	0.08274	2.95023	2.4	2.4
200	Fair	1	0	Double	0.1	Double	0.00510	0.17383	0.09180	2.97719	2.8	2.8
201	Fair	1	0	Double	0.3	Equal	0.10660	0.69375	0.16649	2.65532	1.6	1.6
202	Fair	1	0	Double	0.3	Double	0.04498	0.50520	0.21142	2.79020	2.0	2.0
203	Fair	1	0	Double	0.7	Equal	0.33690	0.91893	0.15782	1.82679	0.8	1.0
204	Fair	1	0	Double	0.7	Double	0.21690	0.84380	0.23948	2.08427	1.2	1.2
205	Fair	1	0.1	Equal	0.1	Equal	0.01626	0.31257	0.08338	1.97511	2.4	2.4
206	Fair	1	0.1	Equal	0.1	Double	0.00509	0.17090	0.09208	1.98859	2.8	2.8
207	Fair	1	0.1	Equal	0.3	Equal	0.10520	0.67808	0.17022	1.82766	1.6	1.6
208	Fair	1	0.1	Equal	0.3	Double	0.04463	0.49306	0.21456	1.89510	2.0	2.0

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
209	Fair	1	0.1	Equal	0.7	Equal	0.37016	0.92565	0.16310	1.41340	0.8	0.8
210	Fair	1	0.1	Equal	0.7	Double	0.21285	0.82890	0.24749	1.54213	1.2	1.2
211	Fair	1	0.1	Double	0.1	Equal	0.01626	0.31257	0.08338	2.95023	2.4	2.4
212	Fair	1	0.1	Double	0.1	Double	0.00509	0.17090	0.09208	2.97719	2.8	2.8
213	Fair	1	0.1	Double	0.3	Equal	0.10520	0.67808	0.17022	2.65532	1.6	1.6
214	Fair	1	0.1	Double	0.3	Double	0.04463	0.49306	0.21456	2.79020	2.0	2.0
215	Fair	1	0.1	Double	0.7	Equal	0.37016	0.92565	0.16310	1.82679	0.8	0.8
216	Fair	1	0.1	Double	0.7	Double	0.21285	0.82890	0.24749	2.08427	1.2	1.2
217	Fair	1	0.3	Equal	0.1	Equal	0.01599	0.29686	0.08470	1.97511	2.4	2.4
218	Fair	1	0.3	Equal	0.1	Double	0.00505	0.16352	0.09273	1.98859	2.8	2.8
219	Fair	1	0.3	Equal	0.3	Equal	0.10134	0.64601	0.17714	1.82766	1.6	1.6
220	Fair	1	0.3	Equal	0.3	Double	0.04346	0.46740	0.22062	1.89510	2.0	2.0
221	Fair	1	0.3	Equal	0.7	Equal	0.35108	0.90316	0.17311	1.41340	0.8	0.8
222	Fair	1	0.3	Equal	0.7	Double	0.23877	0.83062	0.26183	1.47689	1.0	1.2
223	Fair	1	0.3	Double	0.1	Equal	0.01599	0.29686	0.08470	2.95023	2.4	2.4
224	Fair	1	0.3	Double	0.1	Double	0.00505	0.16352	0.09273	2.97719	2.8	2.8
225	Fair	1	0.3	Double	0.3	Equal	0.10134	0.64601	0.17714	2.65532	1.6	1.6
226	Fair	1	0.3	Double	0.3	Double	0.04346	0.46740	0.22062	2.79020	2.0	2.0
227	Fair	1	0.3	Double	0.7	Equal	0.35108	0.90316	0.17311	1.82679	0.8	0.8
228	Fair	1	0.3	Double	0.7	Double	0.23877	0.83062	0.26183	1.95379	1.0	1.2
229	Fair	1	0.5	Equal	0.1	Equal	0.01541	0.27818	0.08605	1.97511	2.4	2.4
230	Fair	1	0.5	Equal	0.1	Double	0.00491	0.15374	0.09347	1.98859	2.8	2.8
231	Fair	1	0.5	Equal	0.3	Equal	0.09573	0.61162	0.18353	1.82766	1.6	1.6
232	Fair	1	0.5	Equal	0.3	Double	0.04145	0.43899	0.22633	1.89510	2.0	2.0
233	Fair	1	0.5	Equal	0.7	Equal	0.41094	0.91701	0.18138	1.35305	0.6	0.6
234	Fair	1	0.5	Equal	0.7	Double	0.25480	0.82719	0.27385	1.47689	1.0	1.0
235	Fair	1	0.5	Double	0.1	Equal	0.01541	0.27818	0.08605	2.95023	2.4	2.4
236	Fair	1	0.5	Double	0.1	Double	0.00491	0.15374	0.09347	2.97719	2.8	2.8
237	Fair	1	0.5	Double	0.3	Equal	0.09573	0.61162	0.18353	2.65532	1.6	1.6
238	Fair	1	0.5	Double	0.3	Double	0.04145	0.43899	0.22633	2.79020	2.0	2.0

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
239	Fair	1	0.5	Double	0.7	Equal	0.41094	0.91701	0.18138	1.70609	0.6	0.6
240	Fair	1	0.5	Double	0.7	Double	0.25480	0.82719	0.27385	1.95379	1.0	1.0
241	Fair	1.25	0	Equal	0.1	Equal	0.02761	0.43672	0.08118	1.96759	2.2	2.2
242	Fair	1.25	0	Equal	0.1	Double	0.00720	0.18748	0.09422	1.98873	2.6	2.8
243	Fair	1.25	0	Equal	0.3	Equal	0.10660	0.77858	0.14104	1.80060	1.6	1.6
244	Fair	1.25	0	Equal	0.3	Double	0.05786	0.62102	0.19470	1.85099	1.8	2.0
245	Fair	1.25	0	Equal	0.7	Equal	0.29214	0.95797	0.11706	1.35848	1.0	1.0
246	Fair	1.25	0	Equal	0.7	Double	0.18653	0.89443	0.18582	1.43108	1.2	1.4
247	Fair	1.25	0	Double	0.1	Equal	0.02761	0.43672	0.08118	2.93517	2.2	2.2
248	Fair	1.25	0	Double	0.1	Double	0.00720	0.18748	0.09422	2.97746	2.6	2.8
249	Fair	1.25	0	Double	0.3	Equal	0.10660	0.77858	0.14104	2.60121	1.6	1.6
250	Fair	1.25	0	Double	0.3	Double	0.05786	0.62102	0.19470	2.70197	1.8	2.0
251	Fair	1.25	0	Double	0.7	Equal	0.29214	0.95797	0.11706	1.71696	1.0	1.0
252	Fair	1.25	0	Double	0.7	Double	0.18653	0.89443	0.18582	1.86217	1.2	1.4
253	Fair	1.25	0.1	Equal	0.1	Equal	0.02188	0.36074	0.08362	1.96759	2.2	2.4
254	Fair	1.25	0.1	Equal	0.1	Double	0.00509	0.14151	0.09502	1.99397	2.8	2.8
255	Fair	1.25	0.1	Equal	0.3	Equal	0.10520	0.73952	0.15179	1.80060	1.6	1.6
256	Fair	1.25	0.1	Equal	0.3	Double	0.05736	0.58547	0.20466	1.85099	1.8	2.0
257	Fair	1.25	0.1	Equal	0.7	Equal	0.28599	0.93657	0.13020	1.35848	1.0	1.0
258	Fair	1.25	0.1	Equal	0.7	Double	0.21285	0.89065	0.20426	1.43108	1.2	1.2
259	Fair	1.25	0.1	Double	0.1	Equal	0.02188	0.36074	0.08362	2.93517	2.2	2.4
260	Fair	1.25	0.1	Double	0.1	Double	0.00509	0.14151	0.09502	2.98794	2.8	2.8
261	Fair	1.25	0.1	Double	0.3	Equal	0.10520	0.73952	0.15179	2.60121	1.6	1.6
262	Fair	1.25	0.1	Double	0.3	Double	0.05736	0.58547	0.20466	2.70197	1.8	2.0
263	Fair	1.25	0.1	Double	0.7	Equal	0.28599	0.93657	0.13020	1.71696	1.0	1.0
264	Fair	1.25	0.1	Double	0.7	Double	0.21285	0.89065	0.20426	1.86217	1.2	1.2
265	Fair	1.25	0.3	Equal	0.1	Equal	0.02277	0.33501	0.08700	1.94981	2.0	4.0
266	Fair	1.25	0.3	Equal	0.1	Double	0.00469	0.11985	0.09646	1.98873	2.6	4.0
267	Fair	1.25	0.3	Equal	0.3	Equal	0.11508	0.71698	0.16547	1.69043	1.2	4.0
268	Fair	1.25	0.3	Equal	0.3	Double	0.05482	0.52945	0.21791	1.80060	1.6	4.0

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
269	Fair	1.25	0.3	Equal	0.7	Equal	0.34458	0.94224	0.14381	1.21383	0.4	4.0
270	Fair	1.25	0.3	Equal	0.7	Double	0.21187	0.85856	0.22613	1.29926	0.8	4.0
271	Fair	1.25	0.3	Double	0.1	Equal	0.02277	0.33501	0.08700	2.89962	2.0	4.0
272	Fair	1.25	0.3	Double	0.1	Double	0.00469	0.11985	0.09646	2.97746	2.6	4.0
273	Fair	1.25	0.3	Double	0.3	Equal	0.11508	0.71698	0.16547	2.38085	1.2	4.0
274	Fair	1.25	0.3	Double	0.3	Double	0.05482	0.52945	0.21791	2.60121	1.6	4.0
275	Fair	1.25	0.3	Double	0.7	Equal	0.34458	0.94224	0.14381	1.42765	0.4	4.0
276	Fair	1.25	0.3	Double	0.7	Double	0.21187	0.85856	0.22613	1.59852	0.8	4.0
277	Fair	1.25	0.5	Equal	0.1	Equal	0.02276	0.33501	0.08699	1.94981	2.0	4.0
278	Fair	1.25	0.5	Equal	0.1	Double	0.00262	0.08486	0.09623	1.99698	3.0	3.0
279	Fair	1.25	0.5	Equal	0.3	Equal	0.11507	0.71698	0.16546	1.69043	1.2	4.0
280	Fair	1.25	0.5	Equal	0.3	Double	0.05481	0.52945	0.21790	1.80060	1.6	4.0
281	Fair	1.25	0.5	Equal	0.7	Equal	0.34458	0.94224	0.14380	1.21383	0.4	4.0
282	Fair	1.25	0.5	Equal	0.7	Double	0.21186	0.85856	0.22612	1.29926	0.8	4.0
283	Fair	1.25	0.5	Double	0.1	Equal	0.02276	0.33501	0.08699	2.89962	2.0	4.0
284	Fair	1.25	0.5	Double	0.1	Double	0.00262	0.08486	0.09623	2.99395	3.0	3.0
285	Fair	1.25	0.5	Double	0.3	Equal	0.11507	0.71698	0.16546	2.38085	1.2	4.0
286	Fair	1.25	0.5	Double	0.3	Double	0.05481	0.52945	0.21790	2.60121	1.6	4.0
287	Fair	1.25	0.5	Double	0.7	Equal	0.34458	0.94224	0.14380	1.42765	0.4	4.0
288	Fair	1.25	0.5	Double	0.7	Double	0.21186	0.85856	0.22612	1.59852	0.8	4.0
289	Poor	0.75	0	Equal	0.1	Equal	0.00930	0.17882	0.09049	1.97965	2.6	2.6
290	Poor	0.75	0	Equal	0.1	Double	0.00270	0.10294	0.09456	1.98753	3.0	3.0
291	Poor	0.75	0	Equal	0.3	Equal	0.07057	0.41704	0.22429	1.88629	1.8	1.8
292	Poor	0.75	0	Equal	0.3	Double	0.02761	0.28499	0.25316	1.92347	2.2	2.2
293	Poor	0.75	0	Equal	0.7	Equal	0.57042	0.86323	0.26686	1.47773	0.4	0.4
294	Poor	0.75	0	Equal	0.7	Double	0.29214	0.70097	0.38460	1.62702	1.0	1.0
295	Poor	0.75	0	Double	0.1	Equal	0.00930	0.17882	0.09049	2.95931	2.6	2.6
296	Poor	0.75	0	Double	0.1	Double	0.00270	0.10294	0.09456	2.97507	3.0	3.0
297	Poor	0.75	0	Double	0.3	Equal	0.07057	0.41704	0.22429	2.77258	1.8	1.8
298	Poor	0.75	0	Double	0.3	Double	0.02761	0.28499	0.25316	2.84694	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
299	Poor	0.75	0	Double	0.7	Equal	0.57042	0.86323	0.26686	1.95547	0.4	0.4
300	Poor	0.75	0	Double	0.7	Double	0.29214	0.70097	0.38460	2.25403	1.0	1.0
301	Poor	0.75	0.1	Equal	0.1	Equal	0.00927	0.17790	0.09056	1.97965	2.6	2.6
302	Poor	0.75	0.1	Equal	0.1	Double	0.00269	0.10256	0.09460	1.98753	3.0	3.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.06984	0.41401	0.22469	1.88629	1.8	1.8
304	Poor	0.75	0.1	Equal	0.3	Double	0.02745	0.28317	0.25348	1.92347	2.2	2.2
305	Poor	0.75	0.1	Equal	0.7	Equal	0.55673	0.85872	0.26592	1.47773	0.4	0.4
306	Poor	0.75	0.1	Equal	0.7	Double	0.28599	0.69600	0.38439	1.62702	1.0	1.0
307	Poor	0.75	0.1	Double	0.1	Equal	0.00927	0.17790	0.09056	2.95931	2.6	2.6
308	Poor	0.75	0.1	Double	0.1	Double	0.00269	0.10256	0.09460	2.97507	3.0	3.0
309	Poor	0.75	0.1	Double	0.3	Equal	0.06984	0.41401	0.22469	2.77258	1.8	1.8
310	Poor	0.75	0.1	Double	0.3	Double	0.02745	0.28317	0.25348	2.84694	2.2	2.2
311	Poor	0.75	0.1	Double	0.7	Equal	0.55673	0.85872	0.26592	1.95547	0.4	0.4
312	Poor	0.75	0.1	Double	0.7	Double	0.28599	0.69600	0.38439	2.25403	1.0	1.0
313	Poor	0.75	0.3	Equal	0.1	Equal	0.00916	0.17593	0.09065	1.97965	2.6	2.6
314	Poor	0.75	0.3	Equal	0.1	Double	0.00268	0.10169	0.09465	1.98753	3.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.06764	0.40779	0.22501	1.88629	1.8	1.8
316	Poor	0.75	0.3	Equal	0.3	Double	0.02687	0.27936	0.25381	1.92347	2.2	2.2
317	Poor	0.75	0.3	Equal	0.7	Equal	0.61763	0.88880	0.26313	1.42492	0.2	0.2
318	Poor	0.75	0.3	Equal	0.7	Double	0.27185	0.68604	0.38288	1.62702	1.0	1.0
319	Poor	0.75	0.3	Double	0.1	Equal	0.00916	0.17593	0.09065	2.95931	2.6	2.6
320	Poor	0.75	0.3	Double	0.1	Double	0.00268	0.10169	0.09465	2.97507	3.0	3.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.06764	0.40779	0.22501	2.77258	1.8	1.8
322	Poor	0.75	0.3	Double	0.3	Double	0.02687	0.27936	0.25381	2.84694	2.2	2.2
323	Poor	0.75	0.3	Double	0.7	Equal	0.61763	0.88880	0.26313	1.84983	0.2	0.2
324	Poor	0.75	0.3	Double	0.7	Double	0.27185	0.68604	0.38288	2.25403	1.0	1.0
325	Poor	0.75	0.5	Equal	0.1	Equal	0.00887	0.17376	0.09061	1.97965	2.6	2.6
326	Poor	0.75	0.5	Equal	0.1	Double	0.00262	0.10070	0.09464	1.98753	3.0	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.06419	0.40136	0.22452	1.88629	1.8	1.8
328	Poor	0.75	0.5	Equal	0.3	Double	0.02576	0.27531	0.25347	1.92347	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
329	Poor	0.75	0.5	Equal	0.7	Equal	0.58377	0.88054	0.25876	1.42492	0.2	0.2
330	Poor	0.75	0.5	Equal	0.7	Double	0.25480	0.67601	0.37967	1.62702	1.0	1.0
331	Poor	0.75	0.5	Double	0.1	Equal	0.00887	0.17376	0.09061	2.95931	2.6	2.6
332	Poor	0.75	0.5	Double	0.1	Double	0.00262	0.10070	0.09464	2.97507	3.0	3.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.06419	0.40136	0.22452	2.77258	1.8	1.8
334	Poor	0.75	0.5	Double	0.3	Double	0.02576	0.27531	0.25347	2.84694	2.2	2.2
335	Poor	0.75	0.5	Double	0.7	Equal	0.58377	0.88054	0.25876	1.84983	0.2	0.2
336	Poor	0.75	0.5	Double	0.7	Double	0.25480	0.67601	0.37967	2.25403	1.0	1.0
337	Poor	1	0	Equal	0.1	Equal	0.00510	0.06382	0.09821	1.99446	2.8	2.8
338	Poor	1	0	Equal	0.1	Double	0.00032	0.00813	0.09976	1.99945	3.6	3.6
339	Poor	1	0	Equal	0.3	Equal	0.10660	0.45106	0.23930	1.88391	1.6	1.6
340	Poor	1	0	Equal	0.3	Double	0.02761	0.20141	0.27824	1.95836	2.2	2.2
341	Poor	1	0	Equal	0.7	Equal	0.57042	0.91600	0.22993	1.39951	0.4	0.4
342	Poor	1	0	Equal	0.7	Double	0.33690	0.77250	0.36139	1.54364	0.8	1.0
343	Poor	1	0	Double	0.1	Equal	0.00510	0.06382	0.09821	2.98891	2.8	2.8
344	Poor	1	0	Double	0.1	Double	0.00032	0.00813	0.09976	2.99890	3.6	3.6
345	Poor	1	0	Double	0.3	Equal	0.10660	0.45106	0.23930	2.76782	1.6	1.6
346	Poor	1	0	Double	0.3	Double	0.02761	0.20141	0.27824	2.91672	2.2	2.2
347	Poor	1	0	Double	0.7	Equal	0.57042	0.91600	0.22993	1.79902	0.4	0.4
348	Poor	1	0	Double	0.7	Double	0.33690	0.77250	0.36139	2.08728	0.8	1.0
349	Poor	1	0.1	Equal	0.1	Equal	0.00509	0.06320	0.09827	1.99446	2.8	2.8
350	Poor	1	0.1	Equal	0.1	Double	0.00032	0.00810	0.09976	1.99945	3.6	3.6
351	Poor	1	0.1	Equal	0.3	Equal	0.10520	0.44036	0.24154	1.88391	1.6	1.6
352	Poor	1	0.1	Equal	0.3	Double	0.02745	0.19777	0.27910	1.95836	2.2	2.2
353	Poor	1	0.1	Equal	0.7	Equal	0.55673	0.90410	0.23415	1.39951	0.4	0.4
354	Poor	1	0.1	Equal	0.7	Double	0.37016	0.79182	0.36782	1.54364	0.8	0.8
355	Poor	1	0.1	Double	0.1	Equal	0.00509	0.06320	0.09827	2.98891	2.8	2.8
356	Poor	1	0.1	Double	0.1	Double	0.00032	0.00810	0.09976	2.99890	3.6	3.6
357	Poor	1	0.1	Double	0.3	Equal	0.10520	0.44036	0.24154	2.76782	1.6	1.6
358	Poor	1	0.1	Double	0.3	Double	0.02745	0.19777	0.27910	2.91672	2.2	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
359	Poor	1	0.1	Double	0.7	Equal	0.55673	0.90410	0.23415	1.79902	0.4	0.4
360	Poor	1	0.1	Double	0.7	Double	0.37016	0.79182	0.36782	2.08728	0.8	0.8
361	Poor	1	0.3	Equal	0.1	Equal	0.00505	0.06129	0.09841	1.99446	2.8	2.8
362	Poor	1	0.3	Equal	0.1	Double	0.00032	0.00801	0.09977	1.99945	3.6	3.6
363	Poor	1	0.3	Equal	0.3	Equal	0.10134	0.41738	0.24573	1.88391	1.6	1.6
364	Poor	1	0.3	Equal	0.3	Double	0.02687	0.18885	0.28096	1.95836	2.2	2.2
365	Poor	1	0.3	Equal	0.7	Equal	0.61763	0.91963	0.24155	1.33160	0.2	0.2
366	Poor	1	0.3	Equal	0.7	Double	0.35108	0.75991	0.37871	1.54364	0.8	0.8
367	Poor	1	0.3	Double	0.1	Equal	0.00505	0.06129	0.09841	2.98891	2.8	2.8
368	Poor	1	0.3	Double	0.1	Double	0.00032	0.00801	0.09977	2.99890	3.6	3.6
369	Poor	1	0.3	Double	0.3	Equal	0.10134	0.41738	0.24573	2.76782	1.6	1.6
370	Poor	1	0.3	Double	0.3	Double	0.02687	0.18885	0.28096	2.91672	2.2	2.2
371	Poor	1	0.3	Double	0.7	Equal	0.61763	0.91963	0.24155	1.66320	0.2	0.2
372	Poor	1	0.3	Double	0.7	Double	0.35108	0.75991	0.37871	2.08728	0.8	0.8
373	Poor	1	0.5	Equal	0.1	Equal	0.00378	0.04804	0.09860	1.99446	2.8	3.0
374	Poor	1	0.5	Equal	0.1	Double	0.00031	0.00777	0.09979	1.99945	3.6	3.6
375	Poor	1	0.5	Equal	0.3	Equal	0.09573	0.39153	0.24956	1.88391	1.6	1.6
376	Poor	1	0.5	Equal	0.3	Double	0.02576	0.17736	0.28286	1.95836	2.2	2.2
377	Poor	1	0.5	Equal	0.7	Equal	0.62885	0.91593	0.24750	1.26905	0.0	0.2
378	Poor	1	0.5	Equal	0.7	Double	0.37262	0.76325	0.38930	1.47093	0.6	0.8
379	Poor	1	0.5	Double	0.1	Equal	0.00378	0.04804	0.09860	2.98891	2.8	3.0
380	Poor	1	0.5	Double	0.1	Double	0.00031	0.00777	0.09979	2.99890	3.6	3.6
381	Poor	1	0.5	Double	0.3	Equal	0.09573	0.39153	0.24956	2.76782	1.6	1.6
382	Poor	1	0.5	Double	0.3	Double	0.02576	0.17736	0.28286	2.91672	2.2	2.2
383	Poor	1	0.5	Double	0.7	Equal	0.62885	0.91593	0.24750	1.53810	0.0	0.2
384	Poor	1	0.5	Double	0.7	Double	0.37262	0.76325	0.38930	1.94185	0.6	0.8
385	Poor	1.25	0	Equal	0.1	Equal	0.00006	0.00026	0.10003	1.99997	4.0	4.0
386	Poor	1.25	0	Equal	0.1	Double	0.00006	0.00026	0.10009	1.99997	4.0	4.0
387	Poor	1.25	0	Equal	0.3	Equal	0.15499	0.57025	0.23742	1.85096	1.4	1.4
388	Poor	1.25	0	Equal	0.3	Double	0.03634	0.19561	0.29219	1.96151	2.0	2.2

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
389	Poor	1.25	0	Equal	0.7	Equal	0.47329	0.92472	0.19468	1.37646	0.6	0.6
390	Poor	1.25	0	Equal	0.7	Double	0.33690	0.83276	0.31920	1.46817	0.8	1.0
391	Poor	1.25	0	Double	0.1	Equal	0.00006	0.00026	0.10003	2.99994	4.0	4.0
392	Poor	1.25	0	Double	0.1	Double	0.00006	0.00026	0.10009	2.99994	4.0	4.0
393	Poor	1.25	0	Double	0.3	Equal	0.15499	0.57025	0.23742	2.70191	1.4	1.4
394	Poor	1.25	0	Double	0.3	Double	0.03634	0.19561	0.29219	2.92302	2.0	2.2
395	Poor	1.25	0	Double	0.7	Equal	0.47329	0.92472	0.19468	1.75292	0.6	0.6
396	Poor	1.25	0	Double	0.7	Double	0.33690	0.83276	0.31920	1.93634	0.8	1.0
397	Poor	1.25	0.1	Equal	0.1	Equal	0.00006	0.00026	0.10003	1.99997	4.0	4.0
398	Poor	1.25	0.1	Equal	0.1	Double	0.00006	0.00026	0.10009	1.99997	4.0	4.0
399	Poor	1.25	0.1	Equal	0.3	Equal	0.12928	0.48327	0.24551	1.85096	1.4	1.6
400	Poor	1.25	0.1	Equal	0.3	Double	0.02745	0.14805	0.29402	1.97826	2.2	2.2
401	Poor	1.25	0.1	Equal	0.7	Equal	0.51190	0.92162	0.20843	1.29750	0.4	0.6
402	Poor	1.25	0.1	Equal	0.7	Double	0.37016	0.83282	0.33912	1.46817	0.8	0.8
403	Poor	1.25	0.1	Double	0.1	Equal	0.00006	0.00026	0.10003	2.99994	4.0	4.0
404	Poor	1.25	0.1	Double	0.1	Double	0.00006	0.00026	0.10009	2.99994	4.0	4.0
405	Poor	1.25	0.1	Double	0.3	Equal	0.12928	0.48327	0.24551	2.70191	1.4	1.6
406	Poor	1.25	0.1	Double	0.3	Double	0.02745	0.14805	0.29402	2.95652	2.2	2.2
407	Poor	1.25	0.1	Double	0.7	Equal	0.51190	0.92162	0.20843	1.59500	0.4	0.6
408	Poor	1.25	0.1	Double	0.7	Double	0.37016	0.83282	0.33912	1.93634	0.8	0.8
409	Poor	1.25	0.3	Equal	0.1	Equal	0.00006	0.00025	0.10003	1.99997	4.0	4.0
410	Poor	1.25	0.3	Equal	0.1	Double	0.00006	0.00025	0.10009	1.99997	4.0	4.0
411	Poor	1.25	0.3	Equal	0.3	Equal	0.11508	0.44024	0.24849	1.79181	1.2	4.0
412	Poor	1.25	0.3	Equal	0.3	Double	0.02277	0.12500	0.29439	1.96151	2.0	4.0
413	Poor	1.25	0.3	Equal	0.7	Equal	0.50000	0.91143	0.21200	1.18206	0.0	4.0
414	Poor	1.25	0.3	Equal	0.7	Double	0.34458	0.80224	0.34518	1.29750	0.4	4.0
415	Poor	1.25	0.3	Double	0.1	Equal	0.00006	0.00025	0.10003	2.99994	4.0	4.0
416	Poor	1.25	0.3	Double	0.1	Double	0.00006	0.00025	0.10009	2.99994	4.0	4.0
417	Poor	1.25	0.3	Double	0.3	Equal	0.11508	0.44024	0.24849	2.58363	1.2	4.0
418	Poor	1.25	0.3	Double	0.3	Double	0.02277	0.12500	0.29439	2.92302	2.0	4.0

Table A-4. 2-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2
419	Poor	1.25	0.3	Double	0.7	Equal	0.50000	0.91143	0.21200	1.36412	0.0	4.0
420	Poor	1.25	0.3	Double	0.7	Double	0.34458	0.80224	0.34518	1.59500	0.4	4.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.00134	0.01496	0.09971	1.99934	3.2	3.2
422	Poor	1.25	0.5	Equal	0.1	Double	0.00006	0.00139	0.09997	1.99997	4.0	4.0
423	Poor	1.25	0.5	Equal	0.3	Equal	0.11507	0.44024	0.24848	1.79181	1.2	4.0
424	Poor	1.25	0.5	Equal	0.3	Double	0.02276	0.12500	0.29437	1.96151	2.0	4.0
425	Poor	1.25	0.5	Equal	0.7	Equal	0.50000	0.91143	0.21200	1.18206	0.0	4.0
426	Poor	1.25	0.5	Equal	0.7	Double	0.34458	0.80224	0.34518	1.29750	0.4	4.0
427	Poor	1.25	0.5	Double	0.1	Equal	0.00134	0.01496	0.09971	2.99867	3.2	3.2
428	Poor	1.25	0.5	Double	0.1	Double	0.00006	0.00139	0.09997	2.99994	4.0	4.0
429	Poor	1.25	0.5	Double	0.3	Equal	0.11507	0.44024	0.24848	2.58363	1.2	4.0
430	Poor	1.25	0.5	Double	0.3	Double	0.02276	0.12500	0.29437	2.92302	2.0	4.0
431	Poor	1.25	0.5	Double	0.7	Equal	0.50000	0.91143	0.21200	1.36412	0.0	4.0
432	Poor	1.25	0.5	Double	0.7	Double	0.34458	0.80224	0.34518	1.59500	0.4	4.0

3-Test Sequence Under Believe the Positive

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
1	Good	0.75	0	Equal	0.1	Equal	0.01392	0.71466	0.04106	2.89279	2.6	2.6	2.6
2	Good	0.75	0	Equal	0.1	Double	0.00765	0.63972	0.04979	2.90996	2.8	2.8	2.8
3	Good	0.75	0	Equal	0.3	Equal	0.04113	0.83991	0.07682	2.61907	2.2	2.2	2.2
4	Good	0.75	0	Equal	0.3	Double	0.02439	0.78207	0.09953	2.66448	2.4	2.4	2.4
5	Good	0.75	0	Equal	0.7	Equal	0.15555	0.95091	0.08103	1.92457	1.6	1.6	1.6
6	Good	0.75	0	Equal	0.7	Double	0.10396	0.92386	0.11568	2.00372	1.8	1.8	1.8
7	Good	0.75	0	Double	0.1	Equal	0.01392	0.71466	0.04106	6.65553	2.6	2.6	2.6
8	Good	0.75	0	Double	0.1	Double	0.00765	0.63972	0.04979	6.71199	2.8	2.8	2.8
9	Good	0.75	0	Double	0.3	Equal	0.04113	0.83991	0.07682	5.77637	2.2	2.2	2.2
10	Good	0.75	0	Double	0.3	Double	0.02439	0.78207	0.09953	5.92339	2.4	2.4	2.4
11	Good	0.75	0	Double	0.7	Equal	0.15555	0.95091	0.08103	3.57288	1.6	1.6	1.6
12	Good	0.75	0	Double	0.7	Double	0.10396	0.92386	0.11568	3.81661	1.8	1.8	1.8
13	Good	0.75	0.1	Equal	0.1	Equal	0.01384	0.70627	0.04183	2.89325	2.6	2.6	2.6
14	Good	0.75	0.1	Equal	0.1	Double	0.00762	0.63187	0.05052	2.91034	2.8	2.8	2.8
15	Good	0.75	0.1	Equal	0.3	Equal	0.04067	0.83181	0.07892	2.62067	2.2	2.2	2.2
16	Good	0.75	0.1	Equal	0.3	Double	0.02419	0.77361	0.10179	2.66595	2.4	2.4	2.4
17	Good	0.75	0.1	Equal	0.7	Equal	0.15168	0.94592	0.08336	1.92813	1.6	1.6	1.6
18	Good	0.75	0.1	Equal	0.7	Double	0.10190	0.91764	0.11879	2.00734	1.8	1.8	1.8
19	Good	0.75	0.1	Double	0.1	Equal	0.01384	0.70628	0.04183	6.65733	2.6	2.6	2.6
20	Good	0.75	0.1	Double	0.1	Double	0.00762	0.63188	0.05053	6.71351	2.8	2.8	2.8
21	Good	0.75	0.1	Double	0.3	Equal	0.04067	0.83182	0.07892	5.78279	2.2	2.2	2.2
22	Good	0.75	0.1	Double	0.3	Double	0.02420	0.77361	0.10179	5.92924	2.4	2.4	2.4
23	Good	0.75	0.1	Double	0.7	Equal	0.15168	0.94592	0.08336	3.58712	1.6	1.6	1.6
24	Good	0.75	0.1	Double	0.7	Double	0.10189	0.91765	0.11878	3.83108	1.8	1.8	1.8
25	Good	0.75	0.3	Equal	0.1	Equal	0.01349	0.68970	0.04317	2.89422	2.6	2.6	2.6
26	Good	0.75	0.3	Equal	0.1	Double	0.00747	0.61630	0.05182	2.91113	2.8	2.8	2.8
27	Good	0.75	0.3	Equal	0.3	Equal	0.03904	0.81573	0.08261	2.62408	2.2	2.2	2.2
28	Good	0.75	0.3	Equal	0.3	Double	0.02342	0.75676	0.10575	2.66898	2.4	2.4	2.4
29	Good	0.75	0.3	Equal	0.7	Equal	0.14172	0.93560	0.08760	1.93562	1.6	1.6	1.6

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
30	Good	0.75	0.3	Equal	0.7	Double	0.09603	0.90500	0.12412	2.01482	1.8	1.8	1.8
31	Good	0.75	0.3	Double	0.1	Equal	0.01351	0.68970	0.04319	6.66122	2.6	2.6	2.6
32	Good	0.75	0.3	Double	0.1	Double	0.00746	0.61632	0.05179	6.71670	2.8	2.8	2.8
33	Good	0.75	0.3	Double	0.3	Equal	0.03905	0.81573	0.08262	5.79641	2.2	2.2	2.2
34	Good	0.75	0.3	Double	0.3	Double	0.02341	0.75684	0.10573	5.94138	2.4	2.4	2.4
35	Good	0.75	0.3	Double	0.7	Equal	0.14169	0.93558	0.08760	3.61707	1.6	1.6	1.6
36	Good	0.75	0.3	Double	0.7	Double	0.09604	0.90500	0.12412	3.86102	1.8	1.8	1.8
37	Good	0.75	0.5	Equal	0.1	Equal	0.01272	0.67325	0.04412	2.89535	2.6	2.6	2.6
38	Good	0.75	0.5	Equal	0.1	Double	0.00713	0.60082	0.05274	2.91202	2.8	2.8	2.8
39	Good	0.75	0.5	Equal	0.3	Equal	0.05066	0.83530	0.08487	2.59289	2.0	2.2	2.0
40	Good	0.75	0.5	Equal	0.3	Double	0.02192	0.74018	0.10863	2.67226	2.4	2.4	2.4
41	Good	0.75	0.5	Equal	0.7	Equal	0.18137	0.94948	0.08978	1.86573	1.4	1.4	1.4
42	Good	0.75	0.5	Equal	0.7	Double	0.10215	0.90444	0.12818	1.96365	1.6	1.8	1.8
43	Good	0.75	0.5	Double	0.1	Equal	0.01270	0.67323	0.04411	6.66574	2.6	2.6	2.6
44	Good	0.75	0.5	Double	0.1	Double	0.00707	0.60082	0.05265	6.72026	2.8	2.8	2.8
45	Good	0.75	0.5	Double	0.3	Equal	0.05067	0.83531	0.08488	5.71095	2.0	2.2	2.0
46	Good	0.75	0.5	Double	0.3	Double	0.02191	0.74014	0.10864	5.95448	2.4	2.4	2.4
47	Good	0.75	0.5	Double	0.7	Equal	0.18137	0.94947	0.08978	3.41290	1.4	1.4	1.4
48	Good	0.75	0.5	Double	0.7	Double	0.10209	0.90442	0.12816	3.72921	1.6	1.8	1.8
49	Good	1	0	Equal	0.1	Equal	0.01392	0.77537	0.03499	2.88518	2.6	2.6	2.6
50	Good	1	0	Equal	0.1	Double	0.00765	0.68252	0.04551	2.90786	2.8	2.8	2.8
51	Good	1	0	Equal	0.3	Equal	0.04113	0.90900	0.05609	2.56657	2.2	2.2	2.2
52	Good	1	0	Equal	0.3	Double	0.02439	0.85161	0.07867	2.62575	2.4	2.4	2.4
53	Good	1	0	Equal	0.7	Equal	0.10396	0.97317	0.04997	1.84036	1.8	1.8	1.8
54	Good	1	0	Equal	0.7	Double	0.06671	0.94846	0.07610	1.93713	2.0	2.0	2.0
55	Good	1	0	Double	0.1	Equal	0.01392	0.77537	0.03499	6.62752	2.6	2.6	2.6
56	Good	1	0	Double	0.1	Double	0.00765	0.68252	0.04551	6.69962	2.8	2.8	2.8
57	Good	1	0	Double	0.3	Equal	0.04113	0.90900	0.05609	5.61588	2.2	2.2	2.2
58	Good	1	0	Double	0.3	Double	0.02439	0.85161	0.07867	5.79681	2.4	2.4	2.4
59	Good	1	0	Double	0.7	Equal	0.10396	0.97317	0.04997	3.36386	1.8	1.8	1.8
60	Good	1	0	Double	0.7	Double	0.06671	0.94846	0.07610	3.64116	2.0	2.0	2.0

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
61	Good	1	0.1	Equal	0.1	Equal	0.01384	0.74873	0.03759	2.88668	2.6	2.6	2.6
62	Good	1	0.1	Equal	0.1	Double	0.00762	0.65680	0.04803	2.90916	2.8	2.8	2.8
63	Good	1	0.1	Equal	0.3	Equal	0.04066	0.88760	0.06218	2.57139	2.2	2.2	2.2
64	Good	1	0.1	Equal	0.3	Double	0.02419	0.82655	0.08591	2.63055	2.4	2.4	2.4
65	Good	1	0.1	Equal	0.7	Equal	0.11892	0.96905	0.05734	1.82907	1.8	1.6	1.8
66	Good	1	0.1	Equal	0.7	Double	0.07798	0.94381	0.08612	1.92375	2.0	1.8	2.0
67	Good	1	0.1	Double	0.1	Equal	0.01384	0.74871	0.03759	6.63355	2.6	2.6	2.6
68	Good	1	0.1	Double	0.1	Double	0.00762	0.65678	0.04804	6.70480	2.8	2.8	2.8
69	Good	1	0.1	Double	0.3	Equal	0.04067	0.88760	0.06219	5.63517	2.2	2.2	2.2
70	Good	1	0.1	Double	0.3	Double	0.02420	0.82657	0.08590	5.81603	2.4	2.4	2.4
71	Good	1	0.1	Double	0.7	Equal	0.11891	0.96905	0.05734	3.39902	1.8	1.8	1.6
72	Good	1	0.1	Double	0.7	Double	0.07798	0.94381	0.08612	3.58764	2.0	1.8	2.0
73	Good	1	0.3	Equal	0.1	Equal	0.01348	0.69599	0.04253	2.88985	2.6	2.6	2.6
74	Good	1	0.3	Equal	0.1	Double	0.00748	0.60592	0.05288	2.91190	2.8	2.8	2.8
75	Good	1	0.3	Equal	0.3	Equal	0.04705	0.86321	0.07397	2.53499	2.0	2.2	2.2
76	Good	1	0.3	Equal	0.3	Double	0.02871	0.80163	0.09971	2.59597	2.2	2.4	2.4
77	Good	1	0.3	Equal	0.7	Equal	0.14169	0.96049	0.07016	1.77658	1.6	1.6	1.6
78	Good	1	0.3	Equal	0.7	Double	0.09604	0.93379	0.10397	1.86789	1.8	1.8	1.8
79	Good	1	0.3	Double	0.1	Equal	0.01684	0.72625	0.04253	6.61523	2.6	2.4	2.6
80	Good	1	0.3	Double	0.1	Double	0.00749	0.60591	0.05288	6.71577	2.8	2.8	2.8
81	Good	1	0.3	Double	0.3	Equal	0.04704	0.86324	0.07396	5.60749	2.2	2.0	2.2
82	Good	1	0.3	Double	0.3	Double	0.02872	0.80158	0.09973	5.85568	2.4	2.4	2.2
83	Good	1	0.3	Double	0.7	Equal	0.14169	0.96049	0.07016	3.21177	1.6	1.6	1.6
84	Good	1	0.3	Double	0.7	Double	0.09604	0.93383	0.10394	3.47400	1.8	1.8	1.8
85	Good	1	0.5	Equal	0.1	Equal	0.01589	0.67215	0.04709	2.88582	2.6	2.4	2.6
86	Good	1	0.5	Equal	0.1	Double	0.00707	0.55326	0.05739	2.91499	2.8	2.8	2.8
87	Good	1	0.5	Equal	0.3	Equal	0.05751	0.85293	0.08438	2.53120	2.0	2.0	2.0
88	Good	1	0.5	Equal	0.3	Double	0.03161	0.77339	0.11224	2.63468	2.4	2.2	2.2
89	Good	1	0.5	Equal	0.7	Equal	0.16494	0.95266	0.08262	1.77425	1.6	1.4	1.4
90	Good	1	0.5	Equal	0.7	Double	0.10214	0.91364	0.12174	1.86559	1.8	1.6	1.8
91	Good	1	0.5	Double	0.1	Equal	0.01587	0.67215	0.04707	6.66044	2.6	2.6	2.4

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
92	Good	1	0.5	Double	0.1	Double	0.00716	0.55326	0.05756	6.72812	2.8	2.8	2.8
93	Good	1	0.5	Double	0.3	Equal	0.05749	0.85295	0.08436	5.53335	2.0	2.0	2.0
94	Good	1	0.5	Double	0.3	Double	0.03163	0.77340	0.11227	5.83255	2.4	2.2	2.2
95	Good	1	0.5	Double	0.7	Equal	0.16494	0.95265	0.08263	3.10753	1.4	1.6	1.4
96	Good	1	0.5	Double	0.7	Double	0.10214	0.91362	0.12175	3.46479	1.8	1.6	1.8
97	Good	1.25	0	Equal	0.1	Equal	0.01392	0.88695	0.02383	2.85875	2.6	2.6	2.6
98	Good	1.25	0	Equal	0.1	Double	0.00765	0.80220	0.03354	2.88735	2.8	2.8	2.8
99	Good	1.25	0	Equal	0.3	Equal	0.03000	0.95631	0.03411	2.48368	2.2	2.4	2.4
100	Good	1.25	0	Equal	0.3	Double	0.02091	0.92818	0.05082	2.53476	2.4	2.4	2.6
101	Good	1.25	0	Equal	0.7	Equal	0.06671	0.99015	0.02691	1.72476	2.0	2.0	2.0
102	Good	1.25	0	Equal	0.7	Double	0.04113	0.97455	0.04249	1.82263	2.2	2.2	2.2
103	Good	1.25	0	Double	0.1	Equal	0.01392	0.88695	0.02383	6.54753	2.6	2.6	2.6
104	Good	1.25	0	Double	0.1	Double	0.00765	0.80220	0.03354	6.63340	2.8	2.8	2.8
105	Good	1.25	0	Double	0.3	Equal	0.03000	0.95631	0.03411	5.40460	2.2	2.4	2.4
106	Good	1.25	0	Double	0.3	Double	0.02091	0.92818	0.05082	5.53578	2.4	2.4	2.6
107	Good	1.25	0	Double	0.7	Equal	0.06671	0.99015	0.02691	3.08687	2.0	2.0	2.0
108	Good	1.25	0	Double	0.7	Double	0.04113	0.97455	0.04249	3.34983	2.2	2.2	2.2
109	Good	1.25	0.1	Equal	0.1	Equal	0.01384	0.82976	0.02948	2.86270	2.6	2.6	2.6
110	Good	1.25	0.1	Equal	0.1	Double	0.00762	0.73809	0.03990	2.89113	2.8	2.8	2.8
111	Good	1.25	0.1	Equal	0.3	Equal	0.03522	0.93241	0.04493	2.53022	2.4	2.2	2.2
112	Good	1.25	0.1	Equal	0.3	Double	0.02419	0.89824	0.06440	2.54572	2.4	2.4	2.4
113	Good	1.25	0.1	Equal	0.7	Equal	0.07798	0.97893	0.03814	1.67467	1.8	2.0	2.0
114	Good	1.25	0.1	Equal	0.7	Double	0.05745	0.96531	0.05876	1.74057	2.0	2.0	2.2
115	Good	1.25	0.1	Double	0.1	Equal	0.01384	0.82969	0.02949	6.56330	2.6	2.6	2.6
116	Good	1.25	0.1	Double	0.1	Double	0.00762	0.73809	0.03990	6.64854	2.8	2.8	2.8
117	Good	1.25	0.1	Double	0.3	Equal	0.03523	0.93240	0.04494	5.44451	2.2	2.4	2.2
118	Good	1.25	0.1	Double	0.3	Double	0.02420	0.89824	0.06441	5.57962	2.4	2.4	2.4
119	Good	1.25	0.1	Double	0.7	Equal	0.07798	0.97894	0.03814	3.08370	2.0	1.8	2.0
120	Good	1.25	0.1	Double	0.7	Double	0.05746	0.96532	0.05875	3.15012	2.0	2.0	2.2
121	Good	1.25	0.3	Equal	0.1	Equal	0.01820	0.74847	0.04153	2.88782	2.6	4.0	2.2
122	Good	1.25	0.3	Equal	0.1	Double	0.00918	0.63564	0.05296	2.94241	4.0	2.6	2.6

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
123	Good	1.25	0.3	Equal	0.3	Equal	0.05484	0.90171	0.06788	2.97416	4.0	4.0	1.6
124	Good	1.25	0.3	Equal	0.3	Double	0.03007	0.82368	0.09500	2.46432	2.0	2.4	4.0
125	Good	1.25	0.3	Equal	0.7	Equal	0.11510	0.96338	0.06016	2.93983	4.0	4.0	1.2
126	Good	1.25	0.3	Equal	0.7	Double	0.08079	0.93838	0.09161	2.30745	4.0	1.4	4.0
127	Good	1.25	0.3	Double	0.1	Equal	0.01820	0.74847	0.04153	6.66378	2.6	4.0	2.2
128	Good	1.25	0.3	Double	0.1	Double	0.00918	0.63564	0.05296	6.60031	2.6	2.6	4.0
129	Good	1.25	0.3	Double	0.3	Equal	0.05484	0.90171	0.06788	6.90649	4.0	4.0	1.6
130	Good	1.25	0.3	Double	0.3	Double	0.03007	0.82368	0.09500	5.84244	2.4	4.0	2.0
131	Good	1.25	0.3	Double	0.7	Equal	0.11510	0.96338	0.06016	4.14154	4.0	1.2	4.0
132	Good	1.25	0.3	Double	0.7	Double	0.08079	0.93838	0.09161	2.86497	1.4	4.0	4.0
133	Good	1.25	0.5	Equal	0.1	Equal	0.02278	0.78562	0.04194	2.99020	4.0	4.0	2.0
134	Good	1.25	0.5	Equal	0.1	Double	0.00824	0.61459	0.05336	2.85955	2.4	4.0	4.0
135	Good	1.25	0.5	Equal	0.3	Equal	0.05482	0.90170	0.06786	2.68620	4.0	1.6	4.0
136	Good	1.25	0.5	Equal	0.3	Double	0.03595	0.85113	0.09499	2.42330	1.8	4.0	4.0
137	Good	1.25	0.5	Equal	0.7	Equal	0.11508	0.96338	0.06016	2.27966	4.0	1.2	4.0
138	Good	1.25	0.5	Equal	0.7	Double	0.08077	0.93838	0.09160	2.93197	4.0	4.0	1.4
139	Good	1.25	0.5	Double	0.1	Equal	0.02278	0.78562	0.04194	6.60047	4.0	2.0	4.0
140	Good	1.25	0.5	Double	0.1	Double	0.00824	0.61459	0.05337	6.96413	4.0	4.0	2.4
141	Good	1.25	0.5	Double	0.3	Equal	0.05482	0.90170	0.06786	5.75464	4.0	1.6	4.0
142	Good	1.25	0.5	Double	0.3	Double	0.03595	0.85113	0.09499	5.86815	4.0	1.8	4.0
143	Good	1.25	0.5	Double	0.7	Equal	0.11508	0.96338	0.06016	6.75080	4.0	4.0	1.2
144	Good	1.25	0.5	Double	0.7	Double	0.08077	0.93838	0.09160	6.75080	4.0	4.0	1.4
145	Fair	0.75	0	Equal	0.1	Equal	0.01392	0.41562	0.07096	2.93418	2.6	2.6	2.6
146	Fair	0.75	0	Equal	0.1	Double	0.00765	0.34056	0.07971	2.94900	2.8	2.8	2.8
147	Fair	0.75	0	Equal	0.3	Equal	0.06671	0.65498	0.15020	2.69638	2.0	2.0	2.0
148	Fair	0.75	0	Equal	0.3	Double	0.03558	0.55064	0.18463	2.74860	2.2	2.2	2.4
149	Fair	0.75	0	Equal	0.7	Equal	0.30701	0.89522	0.16545	1.99099	1.2	1.2	1.2
150	Fair	0.75	0	Equal	0.7	Double	0.17874	0.81489	0.23683	2.12234	1.4	1.6	1.6
151	Fair	0.75	0	Double	0.1	Equal	0.01392	0.41562	0.07096	6.79141	2.6	2.6	2.6
152	Fair	0.75	0	Double	0.1	Double	0.00765	0.34056	0.07971	6.84033	2.8	2.8	2.8
153	Fair	0.75	0	Double	0.3	Equal	0.06671	0.65498	0.15020	6.02493	2.0	2.0	2.0

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
154	Fair	0.75	0	Double	0.3	Double	0.03558	0.55064	0.18463	6.19714	2.2	2.2	2.4
155	Fair	0.75	0	Double	0.7	Equal	0.30701	0.89522	0.16545	3.76299	1.2	1.2	1.2
156	Fair	0.75	0	Double	0.7	Double	0.17874	0.81489	0.23683	4.20503	1.4	1.6	1.6
157	Fair	0.75	0.1	Equal	0.1	Equal	0.01384	0.41075	0.07138	2.93440	2.6	2.6	2.6
158	Fair	0.75	0.1	Equal	0.1	Double	0.00762	0.33684	0.08003	2.94915	2.8	2.8	2.8
159	Fair	0.75	0.1	Equal	0.3	Equal	0.06569	0.64700	0.15188	2.69777	2.0	2.0	2.0
160	Fair	0.75	0.1	Equal	0.3	Double	0.03523	0.54386	0.18616	2.74967	2.2	2.2	2.4
161	Fair	0.75	0.1	Equal	0.7	Equal	0.29655	0.88813	0.16728	1.99571	1.2	1.2	1.2
162	Fair	0.75	0.1	Equal	0.7	Double	0.19568	0.82528	0.23971	2.09746	1.4	1.4	1.6
163	Fair	0.75	0.1	Double	0.1	Equal	0.01384	0.41074	0.07138	6.79229	2.6	2.6	2.6
164	Fair	0.75	0.1	Double	0.1	Double	0.00762	0.33684	0.08003	6.84094	2.8	2.8	2.8
165	Fair	0.75	0.1	Double	0.3	Equal	0.06569	0.64700	0.15188	6.03051	2.0	2.0	2.0
166	Fair	0.75	0.1	Double	0.3	Double	0.03523	0.54385	0.18616	6.25722	2.2	2.4	2.2
167	Fair	0.75	0.1	Double	0.7	Equal	0.29657	0.88812	0.16729	3.78187	1.2	1.2	1.2
168	Fair	0.75	0.1	Double	0.7	Double	0.19569	0.82529	0.23971	4.22095	1.4	1.6	1.4
169	Fair	0.75	0.3	Equal	0.1	Equal	0.01351	0.40081	0.07208	2.93491	2.6	2.6	2.6
170	Fair	0.75	0.3	Equal	0.1	Double	0.00631	0.30824	0.08054	2.95302	2.8	3.0	2.8
171	Fair	0.75	0.3	Equal	0.3	Equal	0.06249	0.63116	0.15439	2.70092	2.0	2.0	2.0
172	Fair	0.75	0.3	Equal	0.3	Double	0.03904	0.55465	0.18827	2.75205	2.2	2.2	2.2
173	Fair	0.75	0.3	Equal	0.7	Equal	0.33118	0.90065	0.16890	1.93093	1.0	1.2	1.0
174	Fair	0.75	0.3	Equal	0.7	Double	0.20075	0.82625	0.24207	2.10639	1.4	1.4	1.4
175	Fair	0.75	0.3	Double	0.1	Equal	0.01351	0.40083	0.07208	6.79436	2.6	2.6	2.6
176	Fair	0.75	0.3	Double	0.1	Double	0.00632	0.30825	0.08055	6.86455	3.0	2.8	2.8
177	Fair	0.75	0.3	Double	0.3	Equal	0.06249	0.63119	0.15439	6.04310	2.0	2.0	2.0
178	Fair	0.75	0.3	Double	0.3	Double	0.03904	0.55465	0.18826	6.21092	2.2	2.2	2.2
179	Fair	0.75	0.3	Double	0.7	Equal	0.33115	0.90066	0.16888	3.50254	1.0	1.0	1.2
180	Fair	0.75	0.3	Double	0.7	Double	0.20074	0.82625	0.24206	4.14121	1.4	1.4	1.4
181	Fair	0.75	0.5	Equal	0.1	Equal	0.01272	0.39067	0.07238	2.93560	2.6	2.6	2.6
182	Fair	0.75	0.5	Equal	0.1	Double	0.00712	0.32120	0.08070	2.94995	2.8	2.8	2.8
183	Fair	0.75	0.5	Equal	0.3	Equal	0.07811	0.66502	0.15517	2.68554	2.0	1.8	1.8
184	Fair	0.75	0.5	Equal	0.3	Double	0.03620	0.54044	0.18855	2.75485	2.2	2.2	2.2

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
185	Fair	0.75	0.5	Equal	0.7	Equal	0.32221	0.89919	0.16723	1.91565	1.0	1.0	1.0
186	Fair	0.75	0.5	Equal	0.7	Double	0.18138	0.81039	0.24155	2.11604	1.4	1.4	1.4
187	Fair	0.75	0.5	Double	0.1	Equal	0.01271	0.39068	0.07237	6.79711	2.6	2.6	2.6
188	Fair	0.75	0.5	Double	0.1	Double	0.00710	0.32119	0.08066	6.84412	2.8	2.8	2.8
189	Fair	0.75	0.5	Double	0.3	Equal	0.07812	0.66503	0.15517	5.93771	1.8	2.0	1.8
190	Fair	0.75	0.5	Double	0.3	Double	0.03619	0.54040	0.18855	6.22212	2.2	2.2	2.2
191	Fair	0.75	0.5	Double	0.7	Equal	0.32223	0.89918	0.16724	3.55022	1.0	1.0	1.0
192	Fair	0.75	0.5	Double	0.7	Double	0.18137	0.81036	0.24157	4.17981	1.4	1.4	1.4
193	Fair	1	0	Equal	0.1	Equal	0.02439	0.43866	0.07809	2.92847	2.4	2.4	2.4
194	Fair	1	0	Equal	0.1	Double	0.00765	0.24906	0.08886	2.96662	2.8	2.8	2.8
195	Fair	1	0	Equal	0.3	Equal	0.10396	0.74887	0.14811	2.63414	1.8	1.8	1.8
196	Fair	1	0	Equal	0.3	Double	0.04113	0.54594	0.19380	2.77875	2.2	2.2	2.2
197	Fair	1	0	Equal	0.7	Equal	0.30701	0.93827	0.13532	1.88640	1.2	1.2	1.2
198	Fair	1	0	Equal	0.7	Double	0.20130	0.87577	0.20774	2.01807	1.4	1.4	1.6
199	Fair	1	0	Double	0.1	Equal	0.02439	0.43866	0.07809	6.76364	2.4	2.4	2.4
200	Fair	1	0	Double	0.1	Double	0.00765	0.24906	0.08886	6.88929	2.8	2.8	2.8
201	Fair	1	0	Double	0.3	Equal	0.10396	0.74887	0.14811	5.80830	1.8	1.8	1.8
202	Fair	1	0	Double	0.3	Double	0.04113	0.54594	0.19380	6.27329	2.2	2.2	2.2
203	Fair	1	0	Double	0.7	Equal	0.30701	0.93827	0.13532	3.46135	1.2	1.2	1.2
204	Fair	1	0	Double	0.7	Double	0.20130	0.87577	0.20774	3.85741	1.4	1.4	1.6
205	Fair	1	0.1	Equal	0.1	Equal	0.02077	0.39187	0.07950	2.93609	2.4	2.6	2.4
206	Fair	1	0.1	Equal	0.1	Double	0.00762	0.24129	0.08958	2.96692	2.8	2.8	2.8
207	Fair	1	0.1	Equal	0.3	Equal	0.10189	0.72226	0.15465	2.63895	1.8	1.8	1.8
208	Fair	1	0.1	Equal	0.3	Double	0.04067	0.52455	0.19957	2.78172	2.2	2.2	2.2
209	Fair	1	0.1	Equal	0.7	Equal	0.29658	0.92019	0.14484	1.89805	1.2	1.2	1.2
210	Fair	1	0.1	Equal	0.7	Double	0.21659	0.87097	0.22027	2.02992	1.4	1.4	1.4
211	Fair	1	0.1	Double	0.1	Equal	0.02076	0.39185	0.07950	6.76666	2.4	2.4	2.6
212	Fair	1	0.1	Double	0.1	Double	0.00762	0.24129	0.08958	6.89049	2.8	2.8	2.8
213	Fair	1	0.1	Double	0.3	Equal	0.10189	0.72223	0.15465	5.82754	1.8	1.8	1.8
214	Fair	1	0.1	Double	0.3	Double	0.04067	0.52458	0.19956	6.28518	2.2	2.2	2.2
215	Fair	1	0.1	Double	0.7	Equal	0.29656	0.92018	0.14484	3.50793	1.2	1.2	1.2

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
216	Fair	1	0.1	Double	0.7	Double	0.21661	0.87097	0.22028	3.90482	1.4	1.4	1.4
217	Fair	1	0.3	Equal	0.1	Equal	0.01685	0.33097	0.08207	2.93757	2.4	2.6	2.6
218	Fair	1	0.3	Equal	0.1	Double	0.00630	0.20304	0.09104	2.97507	3.0	2.8	2.8
219	Fair	1	0.3	Equal	0.3	Equal	0.09603	0.66956	0.16635	2.64938	1.8	1.8	1.8
220	Fair	1	0.3	Equal	0.3	Double	0.03904	0.48131	0.21026	2.78836	2.2	2.2	2.2
221	Fair	1	0.3	Equal	0.7	Equal	0.35737	0.92351	0.16075	1.79542	1.0	1.0	1.0
222	Fair	1	0.3	Equal	0.7	Double	0.22630	0.84614	0.24348	2.05453	1.4	1.4	1.2
223	Fair	1	0.3	Double	0.1	Equal	0.01685	0.33096	0.08207	6.81575	2.6	2.4	2.6
224	Fair	1	0.3	Double	0.1	Double	0.00631	0.20303	0.09105	6.90734	2.8	3.0	2.8
225	Fair	1	0.3	Double	0.3	Equal	0.09604	0.66959	0.16635	5.86928	1.8	1.8	1.8
226	Fair	1	0.3	Double	0.3	Double	0.03907	0.48137	0.21028	6.31172	2.2	2.2	2.2
227	Fair	1	0.3	Double	0.7	Equal	0.35739	0.92350	0.16077	3.22790	1.0	1.0	1.0
228	Fair	1	0.3	Double	0.7	Double	0.22630	0.84613	0.24349	4.00327	1.4	1.4	1.2
229	Fair	1	0.5	Equal	0.1	Equal	0.01586	0.29892	0.08438	2.93952	2.4	2.6	2.6
230	Fair	1	0.5	Equal	0.1	Double	0.00488	0.16487	0.09230	2.97200	2.8	3.0	3.0
231	Fair	1	0.5	Equal	0.3	Equal	0.08768	0.61513	0.17684	2.66145	1.8	1.8	1.8
232	Fair	1	0.5	Equal	0.3	Double	0.03617	0.43586	0.21988	2.79624	2.2	2.2	2.2
233	Fair	1	0.5	Equal	0.7	Equal	0.38127	0.91472	0.17408	1.78987	1.0	0.8	0.8
234	Fair	1	0.5	Equal	0.7	Double	0.24629	0.83633	0.26234	1.94940	1.2	1.2	1.2
235	Fair	1	0.5	Double	0.1	Equal	0.01587	0.29893	0.08439	6.82357	2.6	2.4	2.6
236	Fair	1	0.5	Double	0.1	Double	0.00488	0.16490	0.09230	6.93233	3.0	3.0	2.8
237	Fair	1	0.5	Double	0.3	Equal	0.08765	0.61509	0.17683	5.91755	1.8	1.8	1.8
238	Fair	1	0.5	Double	0.3	Double	0.03617	0.43584	0.21988	6.34326	2.2	2.2	2.2
239	Fair	1	0.5	Double	0.7	Equal	0.38127	0.91471	0.17408	3.20571	1.0	0.8	0.8
240	Fair	1	0.5	Double	0.7	Double	0.24627	0.83632	0.26234	3.71332	1.2	1.2	1.2
241	Fair	1.25	0	Equal	0.1	Equal	0.02439	0.44295	0.07766	2.93328	2.4	2.4	2.4
242	Fair	1.25	0	Equal	0.1	Double	0.00765	0.21346	0.09242	2.97458	2.8	2.8	2.8
243	Fair	1.25	0	Equal	0.3	Equal	0.10396	0.81490	0.12830	2.59902	1.8	1.8	1.8
244	Fair	1.25	0	Equal	0.3	Double	0.05826	0.66811	0.18113	2.69611	2.0	2.0	2.2
245	Fair	1.25	0	Equal	0.7	Equal	0.25223	0.96062	0.10323	1.74903	1.2	1.4	1.4
246	Fair	1.25	0	Equal	0.7	Double	0.17874	0.91741	0.16506	1.89926	1.4	1.6	1.6

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
247	Fair	1.25	0	Double	0.1	Equal	0.02439	0.44295	0.07766	6.77257	2.4	2.4	2.4
248	Fair	1.25	0	Double	0.1	Double	0.00765	0.21346	0.09242	6.91040	2.8	2.8	2.8
249	Fair	1.25	0	Double	0.3	Equal	0.10396	0.81490	0.12830	5.69412	1.8	1.8	1.8
250	Fair	1.25	0	Double	0.3	Double	0.05826	0.66811	0.18113	5.99457	2.0	2.0	2.2
251	Fair	1.25	0	Double	0.7	Equal	0.25223	0.96062	0.10323	3.13393	1.2	1.4	1.4
252	Fair	1.25	0	Double	0.7	Double	0.17874	0.91741	0.16506	3.56557	1.4	1.6	1.6
253	Fair	1.25	0.1	Equal	0.1	Equal	0.02419	0.40093	0.08168	2.93516	2.4	2.4	2.4
254	Fair	1.25	0.1	Equal	0.1	Double	0.00762	0.19677	0.09403	2.97523	2.8	2.8	2.8
255	Fair	1.25	0.1	Equal	0.3	Equal	0.10190	0.75119	0.14598	2.61099	1.8	1.8	1.8
256	Fair	1.25	0.1	Equal	0.3	Double	0.05745	0.60734	0.19823	2.70637	2.0	2.0	2.2
257	Fair	1.25	0.1	Equal	0.7	Equal	0.29657	0.94893	0.12472	1.74377	1.2	1.2	1.2
258	Fair	1.25	0.1	Equal	0.7	Double	0.19569	0.88793	0.19586	2.01794	1.6	1.4	1.4
259	Fair	1.25	0.1	Double	0.1	Equal	0.02420	0.40091	0.08169	6.78011	2.4	2.4	2.4
260	Fair	1.25	0.1	Double	0.1	Double	0.00762	0.19679	0.09403	6.91299	2.8	2.8	2.8
261	Fair	1.25	0.1	Double	0.3	Equal	0.10189	0.75108	0.14600	5.74198	1.8	1.8	1.8
262	Fair	1.25	0.1	Double	0.3	Double	0.05746	0.60741	0.19822	6.12296	2.0	2.2	2.0
263	Fair	1.25	0.1	Double	0.7	Equal	0.29656	0.94891	0.12473	3.11292	1.2	1.2	1.2
264	Fair	1.25	0.1	Double	0.7	Double	0.19570	0.88795	0.19585	3.85615	1.6	1.4	1.4
265	Fair	1.25	0.3	Equal	0.1	Equal	0.02280	0.33502	0.08702	2.99959	4.0	4.0	2.0
266	Fair	1.25	0.3	Equal	0.1	Double	0.00472	0.11993	0.09650	2.97252	2.6	4.0	4.0
267	Fair	1.25	0.3	Equal	0.3	Equal	0.11510	0.71698	0.16548	2.99897	4.0	4.0	1.2
268	Fair	1.25	0.3	Equal	0.3	Double	0.05484	0.52945	0.21794	2.60340	1.6	4.0	4.0
269	Fair	1.25	0.3	Equal	0.7	Equal	0.34459	0.94224	0.14381	2.99773	4.0	4.0	0.4
270	Fair	1.25	0.3	Equal	0.7	Double	0.21188	0.85856	0.22613	1.63471	0.8	4.0	4.0
271	Fair	1.25	0.3	Double	0.1	Equal	0.02280	0.33502	0.08702	6.78392	4.0	2.0	4.0
272	Fair	1.25	0.3	Double	0.1	Double	0.00472	0.11993	0.09650	6.93509	4.0	2.6	4.0
273	Fair	1.25	0.3	Double	0.3	Equal	0.11510	0.71698	0.16548	5.81727	4.0	1.2	4.0
274	Fair	1.25	0.3	Double	0.3	Double	0.05484	0.52945	0.21794	6.21105	4.0	1.6	4.0
275	Fair	1.25	0.3	Double	0.7	Equal	0.34459	0.94224	0.14381	2.37587	0.4	4.0	4.0
276	Fair	1.25	0.3	Double	0.7	Double	0.21188	0.85856	0.22613	4.34159	4.0	0.8	4.0
277	Fair	1.25	0.5	Equal	0.1	Equal	0.02278	0.33501	0.08700	2.94597	4.0	2.0	4.0

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
278	Fair	1.25	0.5	Equal	0.1	Double	0.00263	0.08486	0.09625	2.99105	3.0	4.0	3.0
279	Fair	1.25	0.5	Equal	0.3	Equal	0.11508	0.71698	0.16546	2.39478	1.2	4.0	4.0
280	Fair	1.25	0.5	Equal	0.3	Double	0.05482	0.52945	0.21791	2.60340	1.6	4.0	4.0
281	Fair	1.25	0.5	Equal	0.7	Equal	0.34458	0.94224	0.14380	1.45088	0.4	4.0	4.0
282	Fair	1.25	0.5	Equal	0.7	Double	0.21186	0.85856	0.22612	2.33535	4.0	0.8	4.0
283	Fair	1.25	0.5	Double	0.1	Equal	0.02278	0.33501	0.08700	6.68367	2.0	4.0	4.0
284	Fair	1.25	0.5	Double	0.1	Double	0.00262	0.08486	0.09622	6.97026	3.0	4.0	3.0
285	Fair	1.25	0.5	Double	0.3	Equal	0.11508	0.71698	0.16546	5.81730	4.0	1.2	4.0
286	Fair	1.25	0.5	Double	0.3	Double	0.05482	0.52945	0.21791	6.21108	4.0	1.6	4.0
287	Fair	1.25	0.5	Double	0.7	Equal	0.34458	0.94224	0.14380	3.94803	4.0	0.4	4.0
288	Fair	1.25	0.5	Double	0.7	Double	0.21186	0.85856	0.22612	4.34160	4.0	0.8	4.0
289	Poor	0.75	0	Equal	0.1	Equal	0.01183	0.23720	0.08693	2.95340	2.6	2.6	2.8
290	Poor	0.75	0	Equal	0.1	Double	0.00404	0.15036	0.09224	2.97481	3.0	3.0	3.0
291	Poor	0.75	0	Equal	0.3	Equal	0.06671	0.47403	0.20449	2.77078	2.0	2.0	2.0
292	Poor	0.75	0	Equal	0.3	Double	0.02439	0.32194	0.23757	2.85720	2.4	2.4	2.4
293	Poor	0.75	0	Equal	0.7	Equal	0.51043	0.88443	0.23403	1.93211	0.8	0.8	0.8
294	Poor	0.75	0	Equal	0.7	Double	0.22323	0.71001	0.33693	2.27203	1.4	1.4	1.4
295	Poor	0.75	0	Double	0.1	Equal	0.01183	0.23720	0.08693	6.85430	2.6	2.6	2.8
296	Poor	0.75	0	Double	0.1	Double	0.00404	0.15036	0.09224	6.92418	3.0	3.0	3.0
297	Poor	0.75	0	Double	0.3	Equal	0.06671	0.47403	0.20449	6.26954	2.0	2.0	2.0
298	Poor	0.75	0	Double	0.3	Double	0.02439	0.32194	0.23757	6.55463	2.4	2.4	2.4
299	Poor	0.75	0	Double	0.7	Equal	0.51043	0.88443	0.23403	3.56910	0.8	0.8	0.8
300	Poor	0.75	0	Double	0.7	Double	0.22323	0.71001	0.33693	4.66442	1.4	1.4	1.4
301	Poor	0.75	0.1	Equal	0.1	Equal	0.01178	0.23504	0.08709	2.95743	2.6	2.8	2.6
302	Poor	0.75	0.1	Equal	0.1	Double	0.00404	0.14929	0.09233	2.97485	3.0	3.0	3.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.06569	0.46827	0.20550	2.77175	2.0	2.0	2.0
304	Poor	0.75	0.1	Equal	0.3	Double	0.02419	0.31850	0.23832	2.85764	2.4	2.4	2.4
305	Poor	0.75	0.1	Equal	0.7	Equal	0.49053	0.87708	0.23321	1.93823	0.8	0.8	0.8
306	Poor	0.75	0.1	Equal	0.7	Double	0.24444	0.72631	0.33825	2.19983	1.2	1.4	1.4
307	Poor	0.75	0.1	Double	0.1	Equal	0.01178	0.23503	0.08710	6.87942	2.8	2.6	2.6
308	Poor	0.75	0.1	Double	0.1	Double	0.00404	0.14929	0.09234	6.92434	3.0	3.0	3.0

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
309	Poor	0.75	0.1	Double	0.3	Equal	0.06569	0.46828	0.20550	6.27342	2.0	2.0	2.0
310	Poor	0.75	0.1	Double	0.3	Double	0.02419	0.31851	0.23832	6.55640	2.4	2.4	2.4
311	Poor	0.75	0.1	Double	0.7	Equal	0.49051	0.87707	0.23321	3.59359	0.8	0.8	0.8
312	Poor	0.75	0.1	Double	0.7	Double	0.24443	0.72629	0.33825	4.53835	1.4	1.2	1.4
313	Poor	0.75	0.3	Equal	0.1	Equal	0.01150	0.23040	0.08731	2.96216	2.8	2.6	2.6
314	Poor	0.75	0.3	Equal	0.1	Double	0.00399	0.14688	0.09250	2.97496	3.0	3.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.07403	0.48406	0.20660	2.77406	2.0	2.0	1.8
316	Poor	0.75	0.3	Equal	0.3	Double	0.02341	0.31137	0.23936	2.85867	2.4	2.4	2.4
317	Poor	0.75	0.3	Equal	0.7	Equal	0.48500	0.87746	0.23128	1.91688	0.8	0.6	0.8
318	Poor	0.75	0.3	Equal	0.7	Double	0.27316	0.75273	0.33699	2.17680	1.2	1.2	1.2
319	Poor	0.75	0.3	Double	0.1	Equal	0.01151	0.23041	0.08732	6.88034	2.8	2.6	2.6
320	Poor	0.75	0.3	Double	0.1	Double	0.00398	0.14688	0.09248	6.92476	3.0	3.0	3.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.07403	0.48404	0.20661	6.28266	2.0	2.0	1.8
322	Poor	0.75	0.3	Double	0.3	Double	0.02342	0.31138	0.23937	6.56052	2.4	2.4	2.4
323	Poor	0.75	0.3	Double	0.7	Equal	0.48496	0.87748	0.23125	3.64472	0.8	0.8	0.6
324	Poor	0.75	0.3	Double	0.7	Double	0.27316	0.75267	0.33702	4.36487	1.2	1.2	1.2
325	Poor	0.75	0.5	Equal	0.1	Equal	0.01278	0.24267	0.08723	2.95429	2.6	2.6	2.6
326	Poor	0.75	0.5	Equal	0.1	Double	0.00385	0.14420	0.09251	2.97511	3.0	3.0	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.08767	0.52051	0.20522	2.72095	1.8	1.8	1.8
328	Poor	0.75	0.5	Equal	0.3	Double	0.03618	0.37193	0.23907	2.82284	2.2	2.2	2.2
329	Poor	0.75	0.5	Equal	0.7	Equal	0.49620	0.88962	0.22613	1.85156	0.6	0.6	0.6
330	Poor	0.75	0.5	Equal	0.7	Double	0.24628	0.73599	0.33257	2.18721	1.2	1.2	1.2
331	Poor	0.75	0.5	Double	0.1	Equal	0.01265	0.24264	0.08713	6.85786	2.6	2.6	2.6
332	Poor	0.75	0.5	Double	0.1	Double	0.00379	0.14421	0.09241	6.92536	3.0	3.0	3.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.08767	0.52052	0.20521	6.11121	1.8	1.8	1.8
334	Poor	0.75	0.5	Double	0.3	Double	0.03160	0.35031	0.23914	6.49040	2.2	2.4	2.2
335	Poor	0.75	0.5	Double	0.7	Equal	0.49625	0.88960	0.22615	3.34693	0.6	0.6	0.6
336	Poor	0.75	0.5	Double	0.7	Double	0.24626	0.73603	0.33253	4.40650	1.2	1.2	1.2
337	Poor	1	0	Equal	0.1	Equal	0.00765	0.09419	0.09746	2.98348	2.8	2.8	2.8
338	Poor	1	0	Equal	0.1	Double	0.00048	0.01216	0.09964	2.99835	3.6	3.6	3.6
339	Poor	1	0	Equal	0.3	Equal	0.10396	0.48558	0.22710	2.75843	1.8	1.8	1.8

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
340	Poor	1	0	Equal	0.3	Double	0.03558	0.26056	0.27165	2.87861	2.2	2.2	2.4
341	Poor	1	0	Equal	0.7	Equal	0.51043	0.91548	0.21229	1.86481	0.8	0.8	0.8
342	Poor	1	0	Equal	0.7	Double	0.30701	0.78700	0.33330	2.16812	1.2	1.2	1.2
343	Poor	1	0	Double	0.1	Equal	0.00765	0.09419	0.09746	6.94501	2.8	2.8	2.8
344	Poor	1	0	Double	0.1	Double	0.00048	0.01216	0.09964	6.99450	3.6	3.6	3.6
345	Poor	1	0	Double	0.3	Equal	0.10396	0.48558	0.22710	6.20328	1.8	1.8	1.8
346	Poor	1	0	Double	0.3	Double	0.03558	0.26056	0.27165	6.59772	2.2	2.2	2.4
347	Poor	1	0	Double	0.7	Equal	0.51043	0.91548	0.21229	3.37195	0.8	0.8	0.8
348	Poor	1	0	Double	0.7	Double	0.30701	0.78700	0.33330	4.30541	1.2	1.2	1.2
349	Poor	1	0.1	Equal	0.1	Equal	0.00762	0.09242	0.09761	2.98355	2.8	2.8	2.8
350	Poor	1	0.1	Equal	0.1	Double	0.00048	0.01210	0.09965	2.99835	3.6	3.6	3.6
351	Poor	1	0.1	Equal	0.3	Equal	0.10190	0.46673	0.23131	2.76136	1.8	1.8	1.8
352	Poor	1	0.1	Equal	0.3	Double	0.02973	0.22687	0.27357	2.91851	2.4	2.4	2.2
353	Poor	1	0.1	Equal	0.7	Equal	0.52790	0.91132	0.22044	1.83971	0.8	0.6	0.8
354	Poor	1	0.1	Equal	0.7	Double	0.32925	0.78915	0.34514	2.17986	1.2	1.2	1.0
355	Poor	1	0.1	Double	0.1	Equal	0.00762	0.09241	0.09762	6.94529	2.8	2.8	2.8
356	Poor	1	0.1	Double	0.1	Double	0.00048	0.01211	0.09965	6.99451	3.6	3.6	3.6
357	Poor	1	0.1	Double	0.3	Equal	0.10190	0.46677	0.23130	6.21499	1.8	1.8	1.8
358	Poor	1	0.1	Double	0.3	Double	0.02974	0.22687	0.27357	6.65175	2.2	2.4	2.4
359	Poor	1	0.1	Double	0.7	Equal	0.52791	0.91134	0.22043	3.42599	0.8	0.8	0.6
360	Poor	1	0.1	Double	0.7	Double	0.32924	0.78916	0.34513	4.35240	1.2	1.2	1.0
361	Poor	1	0.3	Equal	0.1	Equal	0.00515	0.06693	0.09794	2.99044	3.0	3.0	2.8
362	Poor	1	0.3	Equal	0.1	Double	0.00048	0.01185	0.09967	2.99836	3.6	3.6	3.6
363	Poor	1	0.3	Equal	0.3	Equal	0.09604	0.42804	0.23882	2.76827	1.8	1.8	1.8
364	Poor	1	0.3	Equal	0.3	Double	0.02343	0.18591	0.27702	2.92041	2.4	2.4	2.4
365	Poor	1	0.3	Equal	0.7	Equal	0.54593	0.90132	0.23285	1.76158	0.6	0.6	0.6
366	Poor	1	0.3	Equal	0.7	Double	0.35737	0.78605	0.36419	2.05572	1.0	1.0	1.0
367	Poor	1	0.3	Double	0.1	Equal	0.00515	0.06693	0.09794	6.95486	2.8	3.0	3.0
368	Poor	1	0.3	Double	0.1	Double	0.00047	0.01179	0.09967	6.99455	3.6	3.6	3.6
369	Poor	1	0.3	Double	0.3	Equal	0.09604	0.42808	0.23880	6.24264	1.8	1.8	1.8
370	Poor	1	0.3	Double	0.3	Double	0.02344	0.18592	0.27705	6.73758	2.4	2.4	2.4

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
371	Poor	1	0.3	Double	0.7	Equal	0.54598	0.90131	0.23288	3.10447	0.6	0.6	0.6
372	Poor	1	0.3	Double	0.7	Double	0.35737	0.78606	0.36418	3.99232	1.0	1.0	1.0
373	Poor	1	0.5	Equal	0.1	Equal	0.00379	0.05182	0.09823	2.99066	3.0	3.0	3.0
374	Poor	1	0.5	Equal	0.1	Double	0.00037	0.00958	0.09970	2.99864	3.6	3.8	3.6
375	Poor	1	0.5	Equal	0.3	Equal	0.08767	0.38668	0.24537	2.77696	1.8	1.8	1.8
376	Poor	1	0.5	Equal	0.3	Double	0.02188	0.16811	0.28020	2.92317	2.4	2.4	2.4
377	Poor	1	0.5	Equal	0.7	Equal	0.58618	0.90512	0.24227	1.65472	0.4	0.4	0.4
378	Poor	1	0.5	Equal	0.7	Double	0.35322	0.75987	0.38003	2.08519	1.0	1.0	0.8
379	Poor	1	0.5	Double	0.1	Equal	0.00384	0.05187	0.09827	6.96916	3.0	3.0	3.0
380	Poor	1	0.5	Double	0.1	Double	0.00044	0.01118	0.09968	6.99466	3.6	3.6	3.6
381	Poor	1	0.5	Double	0.3	Equal	0.08768	0.38667	0.24537	6.27738	1.8	1.8	1.8
382	Poor	1	0.5	Double	0.3	Double	0.02198	0.16809	0.28034	6.74859	2.4	2.4	2.4
383	Poor	1	0.5	Double	0.7	Equal	0.58623	0.90516	0.24226	2.81984	0.4	0.4	0.4
384	Poor	1	0.5	Double	0.7	Double	0.35320	0.75984	0.38003	3.94426	1.0	0.8	1.0
385	Poor	1.25	0	Equal	0.1	Equal	0.00010	0.00039	0.10005	2.99989	4.0	4.0	4.0
386	Poor	1.25	0	Equal	0.1	Double	0.00010	0.00039	0.10013	2.99989	4.0	4.0	4.0
387	Poor	1.25	0	Equal	0.3	Equal	0.15555	0.59103	0.23158	2.68988	1.6	1.6	1.6
388	Poor	1.25	0	Equal	0.3	Double	0.04113	0.22309	0.29066	2.91246	2.2	2.2	2.2
389	Poor	1.25	0	Equal	0.7	Equal	0.47738	0.93924	0.18574	1.74692	0.8	0.8	1.0
390	Poor	1.25	0	Equal	0.7	Double	0.34114	0.85577	0.30565	1.97144	1.0	1.2	1.2
391	Poor	1.25	0	Double	0.1	Equal	0.00010	0.00039	0.10005	6.99961	4.0	4.0	4.0
392	Poor	1.25	0	Double	0.1	Double	0.00010	0.00039	0.10013	6.99961	4.0	4.0	4.0
393	Poor	1.25	0	Double	0.3	Equal	0.15555	0.59103	0.23158	5.96110	1.6	1.6	1.6
394	Poor	1.25	0	Double	0.3	Double	0.04113	0.22309	0.29066	6.69333	2.2	2.2	2.2
395	Poor	1.25	0	Double	0.7	Equal	0.47738	0.93924	0.18574	3.05132	0.8	0.8	1.0
396	Poor	1.25	0	Double	0.7	Double	0.34114	0.85577	0.30565	3.75033	1.0	1.2	1.2
397	Poor	1.25	0.1	Equal	0.1	Equal	0.00010	0.00039	0.10005	2.99989	4.0	4.0	4.0
398	Poor	1.25	0.1	Equal	0.1	Double	0.00009	0.00039	0.10013	2.99989	4.0	4.0	4.0
399	Poor	1.25	0.1	Equal	0.3	Equal	0.13551	0.49841	0.24534	2.69892	1.6	1.6	1.8
400	Poor	1.25	0.1	Equal	0.3	Double	0.02748	0.14813	0.29404	2.94427	2.2	4.0	2.2
401	Poor	1.25	0.1	Equal	0.7	Equal	0.51191	0.92163	0.20843	1.57775	0.6	0.4	4.0

Table A-5. 3-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3
402	Poor	1.25	0.1	Equal	0.7	Double	0.37017	0.83286	0.33910	1.95889	0.8	3.8	0.8
403	Poor	1.25	0.1	Double	0.1	Equal	0.00010	0.00039	0.10005	6.99961	4.0	4.0	4.0
404	Poor	1.25	0.1	Double	0.1	Double	0.00009	0.00039	0.10013	6.99961	4.0	4.0	4.0
405	Poor	1.25	0.1	Double	0.3	Equal	0.13551	0.49845	0.24532	5.99728	1.6	1.6	1.8
406	Poor	1.25	0.1	Double	0.3	Double	0.02748	0.14813	0.29404	6.86399	4.0	2.2	2.2
407	Poor	1.25	0.1	Double	0.7	Equal	0.51189	0.92164	0.20842	3.39202	0.6	4.0	0.4
408	Poor	1.25	0.1	Double	0.7	Double	0.37019	0.83285	0.33912	3.16025	0.8	0.8	3.8
409	Poor	1.25	0.3	Equal	0.1	Equal	0.00009	0.00029	0.10006	2.99989	4.0	4.0	4.0
410	Poor	1.25	0.3	Equal	0.1	Double	0.00009	0.00029	0.10014	2.99989	4.0	4.0	4.0
411	Poor	1.25	0.3	Equal	0.3	Equal	0.11510	0.44024	0.24850	2.78735	4.0	1.2	4.0
412	Poor	1.25	0.3	Equal	0.3	Double	0.02280	0.12500	0.29442	2.90807	2.0	4.0	4.0
413	Poor	1.25	0.3	Equal	0.7	Equal	0.50001	0.91143	0.21200	2.21198	4.0	0.0	4.0
414	Poor	1.25	0.3	Equal	0.7	Double	0.34459	0.80224	0.34519	1.63256	0.4	4.0	4.0
415	Poor	1.25	0.3	Double	0.1	Equal	0.00009	0.00033	0.10005	6.99962	4.0	4.0	4.0
416	Poor	1.25	0.3	Double	0.1	Double	0.00009	0.00031	0.10014	6.99962	4.0	4.0	4.0
417	Poor	1.25	0.3	Double	0.3	Equal	0.11510	0.44024	0.24850	5.73310	1.2	4.0	4.0
418	Poor	1.25	0.3	Double	0.3	Double	0.02280	0.12500	0.29442	6.78619	4.0	2.0	4.0
419	Poor	1.25	0.3	Double	0.7	Equal	0.50001	0.91143	0.21200	2.21210	0.0	4.0	4.0
420	Poor	1.25	0.3	Double	0.7	Double	0.34459	0.80224	0.34519	4.34021	4.0	0.4	4.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.00135	0.01496	0.09972	2.99829	3.2	4.0	3.2
422	Poor	1.25	0.5	Equal	0.1	Double	0.00009	0.00139	0.10002	2.99978	4.0	4.0	4.0
423	Poor	1.25	0.5	Equal	0.3	Equal	0.11508	0.44024	0.24848	2.57919	1.2	4.0	4.0
424	Poor	1.25	0.5	Equal	0.3	Double	0.02278	0.12500	0.29439	2.94654	4.0	2.0	4.0
425	Poor	1.25	0.5	Equal	0.7	Equal	0.50000	0.91143	0.21200	2.99899	4.0	4.0	0.0
426	Poor	1.25	0.5	Equal	0.7	Double	0.34458	0.80224	0.34518	2.33505	4.0	0.4	4.0
427	Poor	1.25	0.5	Double	0.1	Equal	0.00134	0.01496	0.09971	6.98786	3.2	3.2	4.0
428	Poor	1.25	0.5	Double	0.1	Double	0.00009	0.00139	0.10003	6.99916	4.0	4.0	4.0
429	Poor	1.25	0.5	Double	0.3	Equal	0.11508	0.44024	0.24848	6.14946	4.0	1.2	4.0
430	Poor	1.25	0.5	Double	0.3	Double	0.02278	0.12500	0.29439	6.99811	4.0	4.0	2.0
431	Poor	1.25	0.5	Double	0.7	Equal	0.50000	0.91143	0.21200	2.21210	0.0	4.0	4.0
432	Poor	1.25	0.5	Double	0.7	Double	0.34458	0.80224	0.34518	4.34022	4.0	0.4	4.0

4-Test Sequence Under Believe the Positive

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
1	Good	0.75	0	Equal	0.1	Equal	0.01227	0.76281	0.03476	3.82275	2.6	2.8	2.8	2.8
2	Good	0.75	0	Equal	0.1	Double	0.00539	0.66548	0.04315	3.86477	3.0	3.0	3.0	3.0
3	Good	0.75	0	Equal	0.3	Equal	0.03239	0.86886	0.06202	3.41279	2.4	2.4	2.4	2.4
4	Good	0.75	0	Equal	0.3	Double	0.01851	0.81215	0.08228	3.48217	2.6	2.6	2.6	2.6
5	Good	0.75	0	Equal	0.7	Equal	0.12435	0.96320	0.06306	2.32583	1.8	1.8	1.8	2.0
6	Good	0.75	0	Equal	0.7	Double	0.07969	0.93873	0.09070	2.44331	2.0	2.0	2.0	2.2
7	Good	0.75	0	Double	0.1	Equal	0.01227	0.76281	0.03476	14.07362	2.6	2.8	2.8	2.8
8	Good	0.75	0	Double	0.1	Double	0.00539	0.66548	0.04315	14.28244	3.0	3.0	3.0	3.0
9	Good	0.75	0	Double	0.3	Equal	0.03239	0.86886	0.06202	11.90982	2.4	2.4	2.4	2.4
10	Good	0.75	0	Double	0.3	Double	0.01851	0.81215	0.08228	12.26651	2.6	2.6	2.6	2.6
11	Good	0.75	0	Double	0.7	Equal	0.12435	0.96320	0.06306	6.39350	1.8	1.8	1.8	2.0
12	Good	0.75	0	Double	0.7	Double	0.07969	0.93873	0.09070	6.94039	2.0	2.0	2.0	2.2
13	Good	0.75	0.1	Equal	0.1	Equal	0.01220	0.75169	0.03581	3.82400	2.6	2.8	2.8	2.8
14	Good	0.75	0.1	Equal	0.1	Double	0.00537	0.65497	0.04417	3.86578	3.0	3.0	3.0	3.0
15	Good	0.75	0.1	Equal	0.3	Equal	0.03746	0.87181	0.06468	3.39211	2.4	2.2	2.4	2.4
16	Good	0.75	0.1	Equal	0.3	Double	0.02180	0.81746	0.08528	3.47626	2.6	2.6	2.4	2.6
17	Good	0.75	0.1	Equal	0.7	Equal	0.13222	0.96236	0.06601	2.33442	1.8	1.8	1.8	1.8
18	Good	0.75	0.1	Equal	0.7	Double	0.08597	0.93834	0.09474	2.45235	2.0	2.0	2.0	2.0
19	Good	0.75	0.1	Double	0.1	Equal	0.01220	0.75170	0.03581	14.08198	2.6	2.8	2.8	2.8
20	Good	0.75	0.1	Double	0.1	Double	0.00537	0.65497	0.04417	14.28930	3.0	3.0	3.0	3.0
21	Good	0.75	0.1	Double	0.3	Equal	0.03746	0.87181	0.06468	11.85473	2.4	2.4	2.2	2.4
22	Good	0.75	0.1	Double	0.3	Double	0.02180	0.81746	0.08529	12.15983	2.6	2.4	2.6	2.6
23	Good	0.75	0.1	Double	0.7	Equal	0.13224	0.96236	0.06602	6.44774	1.8	1.8	1.8	1.8
24	Good	0.75	0.1	Double	0.7	Double	0.08596	0.93834	0.09474	6.99820	2.0	2.0	2.0	2.0
25	Good	0.75	0.3	Equal	0.1	Equal	0.01381	0.74766	0.03766	3.81714	2.6	2.6	2.8	2.8
26	Good	0.75	0.3	Equal	0.1	Double	0.00641	0.65537	0.04600	3.86787	3.0	3.0	3.0	2.8
27	Good	0.75	0.3	Equal	0.3	Equal	0.04070	0.86465	0.06909	3.37415	2.2	2.4	2.2	2.4
28	Good	0.75	0.3	Equal	0.3	Double	0.02420	0.81140	0.09045	3.47087	2.6	2.4	2.6	2.4

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
29	Good	0.75	0.3	Equal	0.7	Equal	0.12169	0.95092	0.07086	2.35251	1.8	1.8	1.8	1.8
30	Good	0.75	0.3	Equal	0.7	Double	0.08011	0.92358	0.10156	2.47097	2.0	2.0	2.0	2.0
31	Good	0.75	0.3	Double	0.1	Equal	0.01182	0.72990	0.03765	14.11182	2.8	2.6	2.8	2.8
32	Good	0.75	0.3	Double	0.1	Double	0.00641	0.65537	0.04601	14.30343	3.0	3.0	3.0	2.8
33	Good	0.75	0.3	Double	0.3	Equal	0.04071	0.86464	0.06910	11.85481	2.4	2.2	2.4	2.2
34	Good	0.75	0.3	Double	0.3	Double	0.02421	0.81141	0.09047	12.18274	2.4	2.6	2.6	2.4
35	Good	0.75	0.3	Double	0.7	Equal	0.12175	0.95092	0.07088	6.56254	1.8	1.8	1.8	1.8
36	Good	0.75	0.3	Double	0.7	Double	0.08010	0.92355	0.10158	7.11765	2.0	2.0	2.0	2.0
37	Good	0.75	0.5	Equal	0.1	Equal	0.01458	0.74276	0.03885	3.82556	2.6	2.8	2.6	2.6
38	Good	0.75	0.5	Equal	0.1	Double	0.00600	0.63484	0.04731	3.86636	3.0	3.0	2.8	3.0
39	Good	0.75	0.5	Equal	0.3	Equal	0.04561	0.86823	0.07146	3.36263	2.2	2.2	2.2	2.2
40	Good	0.75	0.5	Equal	0.3	Double	0.02784	0.81814	0.09353	3.43488	2.4	2.4	2.4	2.4
41	Good	0.75	0.5	Equal	0.7	Equal	0.14489	0.95607	0.07422	2.32467	1.8	1.6	1.6	1.6
42	Good	0.75	0.5	Equal	0.7	Double	0.08121	0.91711	0.10675	2.49051	2.0	2.0	2.0	1.8
43	Good	0.75	0.5	Double	0.1	Equal	0.01461	0.74275	0.03887	14.08705	2.6	2.8	2.6	2.6
44	Good	0.75	0.5	Double	0.1	Double	0.00708	0.65424	0.04733	14.23227	2.8	3.0	2.8	3.0
45	Good	0.75	0.5	Double	0.3	Equal	0.04555	0.86823	0.07142	11.68968	2.2	2.2	2.2	2.2
46	Good	0.75	0.5	Double	0.3	Double	0.02782	0.81815	0.09351	12.05550	2.4	2.4	2.4	2.4
47	Good	0.75	0.5	Double	0.7	Equal	0.14491	0.95607	0.07423	6.24619	1.6	1.6	1.8	1.6
48	Good	0.75	0.5	Double	0.7	Double	0.09050	0.92507	0.10675	7.03514	2.0	1.8	2.0	1.8
49	Good	1	0	Equal	0.1	Equal	0.01436	0.82803	0.03012	3.79974	2.6	2.6	2.8	2.8
50	Good	1	0	Equal	0.1	Double	0.00899	0.76196	0.03998	3.83273	2.8	2.8	2.8	3.0
51	Good	1	0	Equal	0.3	Equal	0.03239	0.92144	0.04624	3.35319	2.4	2.4	2.4	2.4
52	Good	1	0	Equal	0.3	Double	0.02200	0.88107	0.06648	3.38716	2.4	2.6	2.6	2.6
53	Good	1	0	Equal	0.7	Equal	0.08794	0.98082	0.03981	2.25319	2.0	2.0	2.0	2.0
54	Good	1	0	Equal	0.7	Double	0.05446	0.95907	0.06133	2.39539	2.2	2.2	2.2	2.2
55	Good	1	0	Double	0.1	Equal	0.01436	0.82803	0.03012	13.94400	2.6	2.6	2.8	2.8
56	Good	1	0	Double	0.1	Double	0.00899	0.76196	0.03998	14.09855	2.8	2.8	2.8	3.0
57	Good	1	0	Double	0.3	Equal	0.03239	0.92144	0.04624	11.61636	2.4	2.4	2.4	2.4

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
58	Good	1	0	Double	0.3	Double	0.02200	0.88107	0.06648	11.82845	2.4	2.6	2.6	2.6
59	Good	1	0	Double	0.7	Equal	0.08794	0.98082	0.03981	6.16967	2.0	2.0	2.0	2.0
60	Good	1	0	Double	0.7	Double	0.05446	0.95907	0.06133	6.76562	2.2	2.2	2.2	2.2
61	Good	1	0.1	Equal	0.1	Equal	0.01631	0.81362	0.03332	3.81955	2.8	2.6	2.6	2.6
62	Good	1	0.1	Equal	0.1	Double	0.00894	0.72742	0.04335	3.84075	2.8	2.8	3.0	2.8
63	Good	1	0.1	Equal	0.3	Equal	0.03746	0.90808	0.05380	3.31021	2.2	2.4	2.4	2.4
64	Good	1	0.1	Equal	0.3	Double	0.02522	0.86669	0.07530	3.39971	2.4	2.6	2.6	2.4
65	Good	1	0.1	Equal	0.7	Equal	0.09786	0.97295	0.04829	2.23970	2.0	1.8	2.0	2.0
66	Good	1	0.1	Equal	0.7	Double	0.06998	0.95562	0.07305	2.30955	2.0	2.2	2.0	2.2
67	Good	1	0.1	Double	0.1	Equal	0.01632	0.81364	0.03332	13.97158	2.6	2.6	2.8	2.6
68	Good	1	0.1	Double	0.1	Double	0.00894	0.72741	0.04336	14.17968	2.8	3.0	2.8	2.8
69	Good	1	0.1	Double	0.3	Equal	0.03746	0.90809	0.05380	11.60920	2.4	2.4	2.2	2.4
70	Good	1	0.1	Double	0.3	Double	0.02522	0.86667	0.07531	11.91032	2.4	2.6	2.6	2.4
71	Good	1	0.1	Double	0.7	Equal	0.09785	0.97295	0.04829	6.20945	2.0	2.0	1.8	2.0
72	Good	1	0.1	Double	0.7	Double	0.06998	0.95563	0.07305	6.48690	2.0	2.2	2.0	2.2
73	Good	1	0.3	Equal	0.1	Equal	0.01773	0.76626	0.03933	3.80810	2.6	2.6	2.6	2.6
74	Good	1	0.3	Equal	0.1	Double	0.00984	0.68132	0.04957	3.84457	2.8	2.8	2.8	2.8
75	Good	1	0.3	Equal	0.3	Equal	0.04564	0.88169	0.06744	3.31058	2.2	2.2	2.4	2.2
76	Good	1	0.3	Equal	0.3	Double	0.03047	0.83736	0.09146	3.39130	2.4	2.4	2.4	2.4
77	Good	1	0.3	Equal	0.7	Equal	0.12173	0.96123	0.06366	2.18543	1.8	1.8	1.8	1.8
78	Good	1	0.3	Equal	0.7	Double	0.08009	0.93359	0.09454	2.32310	2.0	2.0	2.0	2.0
79	Good	1	0.3	Double	0.1	Equal	0.01769	0.76626	0.03930	13.99210	2.6	2.6	2.6	2.6
80	Good	1	0.3	Double	0.1	Double	0.00984	0.68129	0.04958	14.17718	2.8	2.8	2.8	2.8
81	Good	1	0.3	Double	0.3	Equal	0.04564	0.88165	0.06746	11.62226	2.4	2.2	2.2	2.2
82	Good	1	0.3	Double	0.3	Double	0.03051	0.83733	0.09152	11.86229	2.4	2.4	2.4	2.4
83	Good	1	0.3	Double	0.7	Equal	0.12172	0.96120	0.06368	6.01399	1.8	1.8	1.8	1.8
84	Good	1	0.3	Double	0.7	Double	0.08011	0.93352	0.09460	6.60360	2.0	2.0	2.0	2.0
85	Good	1	0.5	Equal	0.1	Equal	0.01633	0.69870	0.04483	3.81785	2.6	2.6	2.6	2.6
86	Good	1	0.5	Equal	0.1	Double	0.00813	0.59341	0.05529	3.85326	2.8	2.8	2.8	3.0

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
87	Good	1	0.5	Equal	0.3	Equal	0.04558	0.83894	0.08022	3.32910	2.2	2.2	2.2	2.2
88	Good	1	0.5	Equal	0.3	Double	0.02785	0.77485	0.10653	3.41920	2.4	2.4	2.4	2.4
89	Good	1	0.5	Equal	0.7	Equal	0.15601	0.95536	0.07805	2.10225	1.6	1.6	1.6	1.6
90	Good	1	0.5	Equal	0.7	Double	0.10786	0.92820	0.11497	2.23293	1.8	1.8	1.8	1.8
91	Good	1	0.5	Double	0.1	Equal	0.01624	0.69866	0.04475	14.05554	2.6	2.6	2.6	2.6
92	Good	1	0.5	Double	0.1	Double	0.00915	0.61301	0.05516	14.23414	2.8	2.8	2.8	2.8
93	Good	1	0.5	Double	0.3	Equal	0.04563	0.83889	0.08027	11.61241	2.2	2.2	2.2	2.2
94	Good	1	0.5	Double	0.3	Double	0.02783	0.77487	0.10650	12.04241	2.4	2.4	2.4	2.4
95	Good	1	0.5	Double	0.7	Equal	0.15604	0.95543	0.07801	5.74336	1.6	1.6	1.6	1.6
96	Good	1	0.5	Double	0.7	Double	0.10784	0.92820	0.11497	6.30976	1.8	1.8	1.8	1.8
97	Good	1.25	0	Equal	0.1	Equal	0.01227	0.90436	0.02061	3.77308	2.6	2.8	2.8	2.8
98	Good	1.25	0	Equal	0.1	Double	0.00899	0.86613	0.02956	3.80024	2.8	2.8	2.8	3.0
99	Good	1.25	0	Equal	0.3	Equal	0.02548	0.96527	0.02825	3.24166	2.4	2.4	2.6	2.6
100	Good	1.25	0	Equal	0.3	Double	0.01851	0.94534	0.04232	3.32836	2.6	2.6	2.6	2.6
101	Good	1.25	0	Equal	0.7	Equal	0.04899	0.99019	0.02156	2.12811	2.2	2.2	2.2	2.4
102	Good	1.25	0	Equal	0.7	Double	0.03796	0.98316	0.03456	2.16469	2.2	2.4	2.4	2.4
103	Good	1.25	0	Double	0.1	Equal	0.01227	0.90436	0.02061	13.83543	2.6	2.8	2.8	2.8
104	Good	1.25	0	Double	0.1	Double	0.00899	0.86613	0.02956	13.93659	2.8	2.8	2.8	3.0
105	Good	1.25	0	Double	0.3	Equal	0.02548	0.96527	0.02825	11.19104	2.4	2.4	2.6	2.6
106	Good	1.25	0	Double	0.3	Double	0.01851	0.94534	0.04232	11.52900	2.6	2.6	2.6	2.6
107	Good	1.25	0	Double	0.7	Equal	0.04899	0.99019	0.02156	5.79363	2.2	2.2	2.2	2.4
108	Good	1.25	0	Double	0.7	Double	0.03796	0.98316	0.03456	6.00440	2.2	2.4	2.4	2.4
109	Good	1.25	0.1	Equal	0.1	Equal	0.01426	0.85353	0.02748	3.78314	2.6	2.8	2.8	2.6
110	Good	1.25	0.1	Equal	0.1	Double	0.00894	0.78819	0.03727	3.82098	2.8	3.0	2.8	2.8
111	Good	1.25	0.1	Equal	0.3	Equal	0.03200	0.93848	0.04086	3.25931	2.4	2.4	2.4	2.4
112	Good	1.25	0.1	Equal	0.3	Double	0.02181	0.90301	0.05962	3.34665	2.6	2.6	2.4	2.6
113	Good	1.25	0.1	Equal	0.7	Equal	0.07802	0.98402	0.03459	2.04762	2.0	2.0	2.2	2.0
114	Good	1.25	0.1	Equal	0.7	Double	0.05355	0.97003	0.05311	2.17057	2.2	2.2	2.2	2.2
115	Good	1.25	0.1	Double	0.1	Equal	0.01426	0.85350	0.02749	13.88989	2.8	2.6	2.6	2.8

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
116	Good	1.25	0.1	Double	0.1	Double	0.00894	0.78820	0.03728	14.03711	2.8	2.8	3.0	2.8
117	Good	1.25	0.1	Double	0.3	Equal	0.03200	0.93847	0.04086	11.28841	2.4	2.4	2.4	2.4
118	Good	1.25	0.1	Double	0.3	Double	0.02181	0.90302	0.05962	11.71384	2.6	2.6	2.6	2.4
119	Good	1.25	0.1	Double	0.7	Equal	0.07802	0.98401	0.03460	5.67434	2.0	2.2	2.0	2.0
120	Good	1.25	0.1	Double	0.7	Double	0.05355	0.97003	0.05311	6.04882	2.2	2.2	2.2	2.2
121	Good	1.25	0.3	Equal	0.1	Equal	0.01822	0.74849	0.04155	3.93531	4.0	4.0	2.6	2.2
122	Good	1.25	0.3	Equal	0.1	Double	0.00921	0.63571	0.05300	3.81599	2.6	4.0	2.6	4.0
123	Good	1.25	0.3	Equal	0.3	Equal	0.05486	0.90171	0.06789	3.66526	4.0	4.0	1.6	4.0
124	Good	1.25	0.3	Equal	0.3	Double	0.03010	0.82368	0.09503	3.22917	2.0	4.0	4.0	2.4
125	Good	1.25	0.3	Equal	0.7	Equal	0.11511	0.96338	0.06017	3.23094	4.0	4.0	1.2	4.0
126	Good	1.25	0.3	Equal	0.7	Double	0.08081	0.93838	0.09162	1.93248	1.4	4.0	4.0	4.0
127	Good	1.25	0.3	Double	0.1	Equal	0.01823	0.74848	0.04155	14.32489	4.0	2.6	4.0	2.2
128	Good	1.25	0.3	Double	0.1	Double	0.00921	0.63571	0.05300	14.32490	4.0	2.6	4.0	2.6
129	Good	1.25	0.3	Double	0.3	Equal	0.05486	0.90171	0.06789	10.64850	1.6	4.0	4.0	4.0
130	Good	1.25	0.3	Double	0.3	Double	0.03010	0.82368	0.09503	11.97034	4.0	2.0	4.0	2.4
131	Good	1.25	0.3	Double	0.7	Equal	0.11511	0.96338	0.06017	5.04184	1.2	4.0	4.0	4.0
132	Good	1.25	0.3	Double	0.7	Double	0.08081	0.93838	0.09162	14.28756	4.0	4.0	4.0	1.4
133	Good	1.25	0.5	Equal	0.1	Equal	0.02279	0.78562	0.04195	3.80023	4.0	2.0	4.0	4.0
134	Good	1.25	0.5	Equal	0.1	Double	0.00826	0.61459	0.05340	3.98204	4.0	4.0	4.0	2.4
135	Good	1.25	0.5	Equal	0.3	Equal	0.05482	0.90170	0.06787	3.05986	1.6	4.0	4.0	4.0
136	Good	1.25	0.5	Equal	0.3	Double	0.03596	0.85113	0.09501	3.94649	4.0	4.0	4.0	1.8
137	Good	1.25	0.5	Equal	0.7	Equal	0.11508	0.96338	0.06016	1.85650	1.2	4.0	4.0	4.0
138	Good	1.25	0.5	Equal	0.7	Double	0.08078	0.93838	0.09160	1.93249	1.4	4.0	4.0	4.0
139	Good	1.25	0.5	Double	0.1	Equal	0.02279	0.78562	0.04195	14.17163	4.0	4.0	2.0	4.0
140	Good	1.25	0.5	Double	0.1	Double	0.00825	0.61459	0.05339	14.03043	2.4	4.0	4.0	4.0
141	Good	1.25	0.5	Double	0.3	Equal	0.05482	0.90170	0.06787	10.64867	1.6	4.0	4.0	4.0
142	Good	1.25	0.5	Double	0.3	Double	0.03596	0.85113	0.09501	12.64896	4.0	4.0	1.8	4.0
143	Good	1.25	0.5	Double	0.7	Equal	0.11508	0.96338	0.06016	9.07969	4.0	4.0	1.2	4.0
144	Good	1.25	0.5	Double	0.7	Double	0.08078	0.93838	0.09160	9.30203	4.0	4.0	1.4	4.0

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
145	Fair	0.75	0	Equal	0.1	Equal	0.01851	0.51143	0.06552	3.88009	2.6	2.6	2.6	2.6
146	Fair	0.75	0	Equal	0.1	Double	0.00539	0.34554	0.07515	3.92949	3.0	3.0	3.0	3.0
147	Fair	0.75	0	Equal	0.3	Equal	0.07135	0.72239	0.13323	3.46646	2.0	2.0	2.2	2.2
148	Fair	0.75	0	Equal	0.3	Double	0.03239	0.59800	0.16594	3.62726	2.4	2.4	2.4	2.4
149	Fair	0.75	0	Equal	0.7	Equal	0.28596	0.92036	0.14153	2.43118	1.4	1.4	1.4	1.4
150	Fair	0.75	0	Equal	0.7	Double	0.15307	0.83981	0.20397	2.65879	1.6	1.8	1.8	1.8
151	Fair	0.75	0	Double	0.1	Equal	0.01851	0.51143	0.06552	14.35870	2.6	2.6	2.6	2.6
152	Fair	0.75	0	Double	0.1	Double	0.00539	0.34554	0.07515	14.63067	3.0	3.0	3.0	3.0
153	Fair	0.75	0	Double	0.3	Equal	0.07135	0.72239	0.13323	12.18557	2.0	2.0	2.2	2.2
154	Fair	0.75	0	Double	0.3	Double	0.03239	0.59800	0.16594	13.01838	2.4	2.4	2.4	2.4
155	Fair	0.75	0	Double	0.7	Equal	0.28596	0.92036	0.14153	6.79225	1.4	1.4	1.4	1.4
156	Fair	0.75	0	Double	0.7	Double	0.15307	0.83981	0.20397	8.01985	1.6	1.8	1.8	1.8
157	Fair	0.75	0.1	Equal	0.1	Equal	0.01836	0.50335	0.06619	3.88086	2.6	2.6	2.6	2.6
158	Fair	0.75	0.1	Equal	0.1	Double	0.00537	0.34073	0.07559	3.92988	3.0	3.0	3.0	3.0
159	Fair	0.75	0.1	Equal	0.3	Equal	0.06997	0.71144	0.13555	3.53627	2.2	2.2	2.0	2.0
160	Fair	0.75	0.1	Equal	0.3	Double	0.03201	0.58841	0.16828	3.63003	2.4	2.4	2.4	2.4
161	Fair	0.75	0.1	Equal	0.7	Equal	0.27402	0.91185	0.14391	2.44299	1.4	1.4	1.4	1.4
162	Fair	0.75	0.1	Equal	0.7	Double	0.16423	0.84349	0.20809	2.73636	1.8	1.8	1.6	1.6
163	Fair	0.75	0.1	Double	0.1	Equal	0.01837	0.50334	0.06619	14.36403	2.6	2.6	2.6	2.6
164	Fair	0.75	0.1	Double	0.1	Double	0.00537	0.34073	0.07560	14.63330	3.0	3.0	3.0	3.0
165	Fair	0.75	0.1	Double	0.3	Equal	0.06997	0.71144	0.13555	12.21415	2.0	2.0	2.2	2.2
166	Fair	0.75	0.1	Double	0.3	Double	0.03200	0.58840	0.16828	13.03731	2.4	2.4	2.4	2.4
167	Fair	0.75	0.1	Double	0.7	Equal	0.27404	0.91185	0.14392	6.86970	1.4	1.4	1.4	1.4
168	Fair	0.75	0.1	Double	0.7	Double	0.16421	0.84348	0.20809	8.08739	1.6	1.8	1.8	1.6
169	Fair	0.75	0.3	Equal	0.1	Equal	0.01772	0.48722	0.06722	3.88267	2.6	2.6	2.6	2.6
170	Fair	0.75	0.3	Equal	0.1	Double	0.00527	0.33081	0.07640	3.93073	3.0	3.0	3.0	3.0
171	Fair	0.75	0.3	Equal	0.3	Equal	0.08014	0.72498	0.13860	3.46782	2.0	2.0	2.0	2.0
172	Fair	0.75	0.3	Equal	0.3	Double	0.03050	0.56951	0.17185	3.63602	2.4	2.4	2.4	2.4
173	Fair	0.75	0.3	Equal	0.7	Equal	0.29126	0.91403	0.14756	2.32874	1.2	1.2	1.4	1.4

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
174	Fair	0.75	0.3	Equal	0.7	Double	0.17724	0.84870	0.21226	2.62385	1.6	1.6	1.6	1.6
175	Fair	0.75	0.3	Double	0.1	Equal	0.01773	0.48723	0.06724	14.37650	2.6	2.6	2.6	2.6
176	Fair	0.75	0.3	Double	0.1	Double	0.00528	0.33081	0.07642	14.63928	3.0	3.0	3.0	3.0
177	Fair	0.75	0.3	Double	0.3	Equal	0.08008	0.72499	0.13856	12.17837	2.0	2.0	2.0	2.0
178	Fair	0.75	0.3	Double	0.3	Double	0.03053	0.56950	0.17189	13.07791	2.4	2.4	2.4	2.4
179	Fair	0.75	0.3	Double	0.7	Equal	0.29122	0.91404	0.14754	6.66448	1.2	1.4	1.4	1.2
180	Fair	0.75	0.3	Double	0.7	Double	0.17724	0.84870	0.21225	7.80937	1.6	1.6	1.6	1.6
181	Fair	0.75	0.5	Equal	0.1	Equal	0.01629	0.47115	0.06755	3.88505	2.6	2.6	2.6	2.6
182	Fair	0.75	0.5	Equal	0.1	Double	0.00494	0.32059	0.07683	3.93176	3.0	3.0	3.0	3.0
183	Fair	0.75	0.5	Equal	0.3	Equal	0.07154	0.70358	0.13901	3.47982	2.0	2.0	2.0	2.0
184	Fair	0.75	0.5	Equal	0.3	Double	0.02787	0.55085	0.17376	3.64281	2.4	2.4	2.4	2.4
185	Fair	0.75	0.5	Equal	0.7	Equal	0.28998	0.91491	0.14656	2.34110	1.2	1.2	1.2	1.2
186	Fair	0.75	0.5	Equal	0.7	Double	0.15600	0.82879	0.21344	2.64786	1.6	1.6	1.6	1.6
187	Fair	0.75	0.5	Double	0.1	Equal	0.01634	0.47119	0.06759	14.39342	2.6	2.6	2.6	2.6
188	Fair	0.75	0.5	Double	0.1	Double	0.00494	0.32057	0.07683	14.64647	3.0	3.0	3.0	3.0
189	Fair	0.75	0.5	Double	0.3	Equal	0.07151	0.70356	0.13899	12.25926	2.0	2.0	2.0	2.0
190	Fair	0.75	0.5	Double	0.3	Double	0.02788	0.55088	0.17377	13.12418	2.4	2.4	2.4	2.4
191	Fair	0.75	0.5	Double	0.7	Equal	0.28998	0.91492	0.14655	6.46156	1.2	1.2	1.2	1.2
192	Fair	0.75	0.5	Double	0.7	Double	0.15603	0.82879	0.21347	7.96798	1.6	1.6	1.6	1.6
193	Fair	1	0	Equal	0.1	Equal	0.01851	0.42272	0.07439	3.90428	2.6	2.6	2.6	2.6
194	Fair	1	0	Equal	0.1	Double	0.00899	0.29598	0.08658	3.93483	2.8	2.8	2.8	3.0
195	Fair	1	0	Equal	0.3	Equal	0.08794	0.75517	0.13501	3.46977	2.0	2.0	2.0	2.0
196	Fair	1	0	Equal	0.3	Double	0.05446	0.65101	0.18095	3.58617	2.2	2.2	2.2	2.2
197	Fair	1	0	Equal	0.7	Equal	0.26580	0.94114	0.12094	2.32555	1.4	1.4	1.4	1.6
198	Fair	1	0	Equal	0.7	Double	0.18589	0.89307	0.18639	2.52531	1.6	1.6	1.6	1.8
199	Fair	1	0	Double	0.1	Equal	0.01851	0.42272	0.07439	14.46598	2.6	2.6	2.6	2.6
200	Fair	1	0	Double	0.1	Double	0.00899	0.29598	0.08658	14.63499	2.8	2.8	2.8	3.0
201	Fair	1	0	Double	0.3	Equal	0.08794	0.75517	0.13501	12.11976	2.0	2.0	2.0	2.0
202	Fair	1	0	Double	0.3	Double	0.05446	0.65101	0.18095	12.73268	2.2	2.2	2.2	2.2

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
203	Fair	1	0	Double	0.7	Equal	0.26580	0.94114	0.12094	6.31725	1.4	1.4	1.4	1.6
204	Fair	1	0	Double	0.7	Double	0.18589	0.89307	0.18639	7.24725	1.6	1.6	1.6	1.8
205	Fair	1	0.1	Equal	0.1	Equal	0.01836	0.40243	0.07628	3.90603	2.6	2.6	2.6	2.6
206	Fair	1	0.1	Equal	0.1	Double	0.00775	0.26280	0.08768	3.94680	3.0	2.8	2.8	3.0
207	Fair	1	0.1	Equal	0.3	Equal	0.08597	0.72046	0.14404	3.48188	2.0	2.0	2.0	2.0
208	Fair	1	0.1	Equal	0.3	Double	0.04824	0.59447	0.18920	3.60920	2.2	2.2	2.4	2.2
209	Fair	1	0.1	Equal	0.7	Equal	0.27402	0.92734	0.13307	2.35526	1.4	1.4	1.4	1.4
210	Fair	1	0.1	Equal	0.7	Double	0.19466	0.87728	0.20270	2.55591	1.6	1.6	1.6	1.6
211	Fair	1	0.1	Double	0.1	Equal	0.01836	0.40246	0.07628	14.47801	2.6	2.6	2.6	2.6
212	Fair	1	0.1	Double	0.1	Double	0.00775	0.26282	0.08768	14.73353	3.0	3.0	2.8	2.8
213	Fair	1	0.1	Double	0.3	Equal	0.08597	0.72045	0.14405	12.20110	2.0	2.0	2.0	2.0
214	Fair	1	0.1	Double	0.3	Double	0.04824	0.59444	0.18920	12.90497	2.2	2.2	2.4	2.2
215	Fair	1	0.1	Double	0.7	Equal	0.27403	0.92734	0.13307	6.50765	1.4	1.4	1.4	1.4
216	Fair	1	0.1	Double	0.7	Double	0.19465	0.87728	0.20269	7.44661	1.6	1.6	1.6	1.6
217	Fair	1	0.3	Equal	0.1	Equal	0.01768	0.36065	0.07985	3.91019	2.6	2.6	2.6	2.6
218	Fair	1	0.3	Equal	0.1	Double	0.00527	0.19867	0.08962	3.95908	3.0	3.0	3.0	3.0
219	Fair	1	0.3	Equal	0.3	Equal	0.09097	0.67908	0.15996	3.46607	2.0	1.8	2.0	2.0
220	Fair	1	0.3	Equal	0.3	Double	0.04565	0.53436	0.20360	3.62883	2.2	2.2	2.4	2.2
221	Fair	1	0.3	Equal	0.7	Equal	0.33077	0.92277	0.15329	2.22390	1.2	1.2	1.2	1.2
222	Fair	1	0.3	Equal	0.7	Double	0.21379	0.85148	0.23224	2.55580	1.6	1.4	1.6	1.4
223	Fair	1	0.3	Double	0.1	Equal	0.01770	0.36066	0.07986	14.50629	2.6	2.6	2.6	2.6
224	Fair	1	0.3	Double	0.1	Double	0.00529	0.19867	0.08965	14.77317	3.0	3.0	3.0	3.0
225	Fair	1	0.3	Double	0.3	Equal	0.09097	0.67912	0.15995	12.13296	2.0	1.8	2.0	2.0
226	Fair	1	0.3	Double	0.3	Double	0.04565	0.53440	0.20359	12.93814	2.2	2.2	2.2	2.4
227	Fair	1	0.3	Double	0.7	Equal	0.33078	0.92278	0.15329	6.01685	1.2	1.2	1.2	1.2
228	Fair	1	0.3	Double	0.7	Double	0.21382	0.85147	0.23226	7.50196	1.6	1.4	1.6	1.4
229	Fair	1	0.5	Equal	0.1	Equal	0.01638	0.31637	0.08311	3.91544	2.6	2.6	2.6	2.6
230	Fair	1	0.5	Equal	0.1	Double	0.00494	0.17459	0.09144	3.96143	3.0	3.0	3.0	3.0
231	Fair	1	0.5	Equal	0.3	Equal	0.09050	0.63442	0.17302	3.49672	2.0	1.8	2.0	1.8

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
232	Fair	1	0.5	Equal	0.3	Double	0.04133	0.47382	0.21571	3.68649	2.4	2.2	2.2	2.2
233	Fair	1	0.5	Equal	0.7	Equal	0.37333	0.91782	0.16953	2.10399	1.0	1.0	1.0	1.0
234	Fair	1	0.5	Equal	0.7	Double	0.21690	0.82093	0.25549	2.48569	1.4	1.4	1.4	1.4
235	Fair	1	0.5	Double	0.1	Equal	0.01626	0.31636	0.08300	14.54150	2.6	2.6	2.6	2.6
236	Fair	1	0.5	Double	0.1	Double	0.00496	0.17465	0.09146	14.78914	3.0	3.0	3.0	3.0
237	Fair	1	0.5	Double	0.3	Equal	0.09050	0.63440	0.17303	12.20778	2.0	1.8	1.8	2.0
238	Fair	1	0.5	Double	0.3	Double	0.04555	0.49374	0.21564	13.09454	2.2	2.2	2.2	2.2
239	Fair	1	0.5	Double	0.7	Equal	0.37331	0.91785	0.16950	5.59244	1.0	1.0	1.0	1.0
240	Fair	1	0.5	Double	0.7	Double	0.21688	0.82095	0.25547	7.34491	1.4	1.4	1.4	1.4
241	Fair	1.25	0	Equal	0.1	Equal	0.03239	0.54165	0.07499	3.86703	2.4	2.4	2.4	2.4
242	Fair	1.25	0	Equal	0.1	Double	0.01018	0.27395	0.09093	3.94636	2.8	2.8	2.8	2.8
243	Fair	1.25	0	Equal	0.3	Equal	0.08794	0.80445	0.12022	3.43763	2.0	2.0	2.0	2.0
244	Fair	1.25	0	Equal	0.3	Double	0.05446	0.68272	0.17144	3.57825	2.2	2.2	2.2	2.2
245	Fair	1.25	0	Equal	0.7	Equal	0.22375	0.96114	0.09433	2.20345	1.4	1.6	1.6	1.6
246	Fair	1.25	0	Equal	0.7	Double	0.16964	0.92809	0.15213	2.37755	1.6	1.6	1.8	1.8
247	Fair	1.25	0	Double	0.1	Equal	0.03239	0.54165	0.07499	14.24259	2.4	2.4	2.4	2.4
248	Fair	1.25	0	Double	0.1	Double	0.01018	0.27395	0.09093	14.68458	2.8	2.8	2.8	2.8
249	Fair	1.25	0	Double	0.3	Equal	0.08794	0.80445	0.12022	11.92676	2.0	2.0	2.0	2.0
250	Fair	1.25	0	Double	0.3	Double	0.05446	0.68272	0.17144	12.64400	2.2	2.2	2.2	2.2
251	Fair	1.25	0	Double	0.7	Equal	0.22375	0.96114	0.09433	5.99910	1.4	1.6	1.6	1.6
252	Fair	1.25	0	Double	0.7	Double	0.16964	0.92809	0.15213	6.68146	1.6	1.6	1.8	1.8
253	Fair	1.25	0.1	Equal	0.1	Equal	0.02523	0.41914	0.08079	3.89405	2.4	2.6	2.6	2.4
254	Fair	1.25	0.1	Equal	0.1	Double	0.00776	0.20394	0.09357	3.95870	3.0	2.8	2.8	3.0
255	Fair	1.25	0.1	Equal	0.3	Equal	0.09786	0.75150	0.14305	3.41924	2.0	1.8	2.0	2.0
256	Fair	1.25	0.1	Equal	0.3	Double	0.05355	0.60301	0.19407	3.60308	2.2	2.2	2.2	2.2
257	Fair	1.25	0.1	Equal	0.7	Equal	0.27402	0.94365	0.12165	2.19361	1.4	1.4	1.4	1.4
258	Fair	1.25	0.1	Equal	0.7	Double	0.19466	0.89431	0.19078	2.42509	1.6	1.6	1.6	1.6
259	Fair	1.25	0.1	Double	0.1	Equal	0.02523	0.41914	0.08079	14.46987	2.6	2.6	2.4	2.4
260	Fair	1.25	0.1	Double	0.1	Double	0.00775	0.20393	0.09356	14.79092	3.0	3.0	2.8	2.8

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
261	Fair	1.25	0.1	Double	0.3	Equal	0.09784	0.75149	0.14304	11.75948	1.8	2.0	2.0	2.0
262	Fair	1.25	0.1	Double	0.3	Double	0.05355	0.60306	0.19405	12.81081	2.2	2.2	2.2	2.2
263	Fair	1.25	0.1	Double	0.7	Equal	0.27403	0.94365	0.12166	5.94760	1.4	1.4	1.4	1.4
264	Fair	1.25	0.1	Double	0.7	Double	0.19465	0.89430	0.19078	6.95085	1.6	1.6	1.6	1.6
265	Fair	1.25	0.3	Equal	0.1	Equal	0.02282	0.33502	0.08704	3.84179	2.0	4.0	4.0	4.0
266	Fair	1.25	0.3	Equal	0.1	Double	0.00475	0.12000	0.09654	3.99910	4.0	4.0	4.0	2.6
267	Fair	1.25	0.3	Equal	0.3	Equal	0.11511	0.71698	0.16549	3.99764	4.0	4.0	4.0	1.2
268	Fair	1.25	0.3	Equal	0.3	Double	0.05486	0.52945	0.21797	3.60551	4.0	1.6	4.0	4.0
269	Fair	1.25	0.3	Equal	0.7	Equal	0.34460	0.94224	0.14381	2.47401	4.0	0.4	4.0	4.0
270	Fair	1.25	0.3	Equal	0.7	Double	0.21188	0.85856	0.22614	3.33318	4.0	4.0	0.8	4.0
271	Fair	1.25	0.3	Double	0.1	Equal	0.02282	0.33502	0.08704	14.56629	4.0	4.0	2.0	4.0
272	Fair	1.25	0.3	Double	0.1	Double	0.00475	0.11999	0.09654	14.86854	4.0	4.0	2.6	4.0
273	Fair	1.25	0.3	Double	0.3	Equal	0.11511	0.71698	0.16549	12.63072	4.0	4.0	1.2	4.0
274	Fair	1.25	0.3	Double	0.3	Double	0.05486	0.52945	0.21797	14.98561	4.0	4.0	4.0	1.6
275	Fair	1.25	0.3	Double	0.7	Equal	0.34460	0.94224	0.14381	4.27230	0.4	4.0	4.0	4.0
276	Fair	1.25	0.3	Double	0.7	Double	0.21188	0.85856	0.22614	7.02515	4.0	0.8	4.0	4.0
277	Fair	1.25	0.5	Equal	0.1	Equal	0.02279	0.33501	0.08701	3.99817	4.0	4.0	4.0	2.0
278	Fair	1.25	0.5	Equal	0.1	Double	0.00265	0.08486	0.09629	3.98019	3.0	4.0	3.0	4.0
279	Fair	1.25	0.5	Equal	0.3	Equal	0.11508	0.71698	0.16547	3.99487	4.0	4.0	4.0	1.2
280	Fair	1.25	0.5	Equal	0.3	Double	0.05482	0.52945	0.21792	3.40620	1.6	4.0	4.0	4.0
281	Fair	1.25	0.5	Equal	0.7	Equal	0.34458	0.94224	0.14380	2.47401	4.0	0.4	4.0	4.0
282	Fair	1.25	0.5	Equal	0.7	Double	0.21186	0.85856	0.22612	1.97016	0.8	4.0	4.0	4.0
283	Fair	1.25	0.5	Double	0.1	Equal	0.02279	0.33501	0.08701	14.25166	2.0	4.0	4.0	4.0
284	Fair	1.25	0.5	Double	0.1	Double	0.00265	0.08486	0.09629	14.88934	4.0	3.0	3.0	4.0
285	Fair	1.25	0.5	Double	0.3	Equal	0.11508	0.71698	0.16547	14.96946	4.0	4.0	4.0	1.2
286	Fair	1.25	0.5	Double	0.3	Double	0.05482	0.52945	0.21792	12.63343	4.0	1.6	4.0	4.0
287	Fair	1.25	0.5	Double	0.7	Equal	0.34458	0.94224	0.14380	8.87304	4.0	4.0	0.4	4.0
288	Fair	1.25	0.5	Double	0.7	Double	0.21186	0.85856	0.22612	7.02519	4.0	0.8	4.0	4.0
289	Poor	0.75	0	Equal	0.1	Equal	0.01018	0.25547	0.08362	3.93911	2.8	2.8	2.8	2.8

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
290	Poor	0.75	0	Equal	0.1	Double	0.00539	0.19528	0.09017	3.95613	3.0	3.0	3.0	3.0
291	Poor	0.75	0	Equal	0.3	Equal	0.08794	0.57543	0.18893	3.58188	2.0	2.0	2.0	2.0
292	Poor	0.75	0	Equal	0.3	Double	0.03239	0.40430	0.22405	3.74355	2.4	2.4	2.4	2.4
293	Poor	0.75	0	Equal	0.7	Equal	0.41696	0.87859	0.21007	2.42017	1.0	1.2	1.2	1.2
294	Poor	0.75	0	Equal	0.7	Double	0.22375	0.75819	0.30352	2.78688	1.4	1.6	1.6	1.6
295	Poor	0.75	0	Double	0.1	Equal	0.01018	0.25547	0.08362	14.68123	2.8	2.8	2.8	2.8
296	Poor	0.75	0	Double	0.1	Double	0.00539	0.19528	0.09017	14.77477	3.0	3.0	3.0	3.0
297	Poor	0.75	0	Double	0.3	Equal	0.08794	0.57543	0.18893	12.75830	2.0	2.0	2.0	2.0
298	Poor	0.75	0	Double	0.3	Double	0.03239	0.40430	0.22405	13.64538	2.4	2.4	2.4	2.4
299	Poor	0.75	0	Double	0.7	Equal	0.41696	0.87859	0.21007	6.77867	1.0	1.2	1.2	1.2
300	Poor	0.75	0	Double	0.7	Double	0.22375	0.75819	0.30352	8.65647	1.4	1.6	1.6	1.6
301	Poor	0.75	0.1	Equal	0.1	Equal	0.01013	0.25239	0.08387	3.93937	2.8	2.8	2.8	2.8
302	Poor	0.75	0.1	Equal	0.1	Double	0.00537	0.19324	0.09034	3.95629	3.0	3.0	3.0	3.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.08597	0.56621	0.19032	3.58529	2.0	2.0	2.0	2.0
304	Poor	0.75	0.1	Equal	0.3	Double	0.03201	0.39829	0.22532	3.74516	2.4	2.4	2.4	2.4
305	Poor	0.75	0.1	Equal	0.7	Equal	0.42427	0.88075	0.21075	2.41151	1.0	1.2	1.0	1.2
306	Poor	0.75	0.1	Equal	0.7	Double	0.23566	0.76499	0.30590	2.74200	1.4	1.4	1.6	1.6
307	Poor	0.75	0.1	Double	0.1	Equal	0.01013	0.25239	0.08387	14.68305	2.8	2.8	2.8	2.8
308	Poor	0.75	0.1	Double	0.1	Double	0.00537	0.19325	0.09034	14.77586	3.0	3.0	3.0	3.0
309	Poor	0.75	0.1	Double	0.3	Equal	0.08597	0.56621	0.19031	12.78176	2.0	2.0	2.0	2.0
310	Poor	0.75	0.1	Double	0.3	Double	0.03200	0.39831	0.22530	13.65648	2.4	2.4	2.4	2.4
311	Poor	0.75	0.1	Double	0.7	Equal	0.42426	0.88075	0.21075	6.96191	1.2	1.0	1.2	1.0
312	Poor	0.75	0.1	Double	0.7	Double	0.23566	0.76500	0.30589	8.40930	1.4	1.4	1.6	1.6
313	Poor	0.75	0.3	Equal	0.1	Equal	0.00986	0.24588	0.08429	3.94004	2.8	2.8	2.8	2.8
314	Poor	0.75	0.3	Equal	0.1	Double	0.00526	0.18883	0.09058	3.95668	3.0	3.0	3.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.08010	0.54799	0.19168	3.59331	2.0	2.0	2.0	2.0
316	Poor	0.75	0.3	Equal	0.3	Double	0.03054	0.38614	0.22692	3.74885	2.4	2.4	2.4	2.4
317	Poor	0.75	0.3	Equal	0.7	Equal	0.42457	0.88361	0.20884	2.38950	1.0	1.0	1.0	1.0
318	Poor	0.75	0.3	Equal	0.7	Double	0.24730	0.77528	0.30568	2.74386	1.4	1.4	1.4	1.4

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
319	Poor	0.75	0.3	Double	0.1	Equal	0.00983	0.24588	0.08426	14.68760	2.8	2.8	2.8	2.8
320	Poor	0.75	0.3	Double	0.1	Double	0.00526	0.18882	0.09059	14.77856	3.0	3.0	3.0	3.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.08010	0.54799	0.19167	12.83668	2.0	2.0	2.0	2.0
322	Poor	0.75	0.3	Double	0.3	Double	0.03053	0.38614	0.22690	13.68202	2.4	2.4	2.4	2.4
323	Poor	0.75	0.3	Double	0.7	Equal	0.42454	0.88360	0.20884	6.60109	1.0	1.0	1.0	1.0
324	Poor	0.75	0.3	Double	0.7	Double	0.24729	0.77530	0.30567	8.39256	1.4	1.4	1.4	1.4
325	Poor	0.75	0.5	Equal	0.1	Equal	0.01279	0.27173	0.08434	3.92196	2.6	2.6	2.8	2.8
326	Poor	0.75	0.5	Equal	0.1	Double	0.00431	0.17291	0.09047	3.95899	3.0	3.0	3.2	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.07155	0.52996	0.19110	3.60333	2.0	2.0	2.0	2.0
328	Poor	0.75	0.5	Equal	0.3	Double	0.02780	0.37378	0.22679	3.75348	2.4	2.4	2.4	2.4
329	Poor	0.75	0.5	Equal	0.7	Equal	0.46339	0.90589	0.20490	2.24953	0.8	0.8	0.8	0.8
330	Poor	0.75	0.5	Equal	0.7	Double	0.21693	0.75392	0.30242	2.76980	1.4	1.4	1.4	1.4
331	Poor	0.75	0.5	Double	0.1	Equal	0.01278	0.27175	0.08433	14.64149	2.6	2.8	2.8	2.6
332	Poor	0.75	0.5	Double	0.1	Double	0.00431	0.17291	0.09046	14.80919	3.2	3.0	3.0	3.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.07155	0.52996	0.19110	12.90489	2.0	2.0	2.0	2.0
334	Poor	0.75	0.5	Double	0.3	Double	0.02786	0.37376	0.22688	13.71388	2.4	2.4	2.4	2.4
335	Poor	0.75	0.5	Double	0.7	Equal	0.46335	0.90588	0.20489	5.97802	0.8	0.8	0.8	0.8
336	Poor	0.75	0.5	Double	0.7	Double	0.21689	0.75391	0.30240	8.56548	1.4	1.4	1.4	1.4
337	Poor	1	0	Equal	0.1	Equal	0.01018	0.12357	0.09681	3.96718	2.8	2.8	2.8	2.8
338	Poor	1	0	Equal	0.1	Double	0.00064	0.01618	0.09953	3.99670	3.6	3.6	3.6	3.6
339	Poor	1	0	Equal	0.3	Equal	0.11238	0.53369	0.21856	3.55838	1.8	1.8	2.0	2.0
340	Poor	1	0	Equal	0.3	Double	0.03239	0.26496	0.26586	3.83889	2.4	2.4	2.4	2.4
341	Poor	1	0	Equal	0.7	Equal	0.47298	0.91680	0.20013	2.29194	1.0	1.0	1.0	1.2
342	Poor	1	0	Equal	0.7	Double	0.28596	0.79577	0.31454	2.76188	1.4	1.4	1.4	1.4
343	Poor	1	0	Double	0.1	Equal	0.01018	0.12357	0.09681	14.81461	2.8	2.8	2.8	2.8
344	Poor	1	0	Double	0.1	Double	0.00064	0.01618	0.09953	14.98134	3.6	3.6	3.6	3.6
345	Poor	1	0	Double	0.3	Equal	0.11238	0.53369	0.21856	12.60286	1.8	1.8	2.0	2.0
346	Poor	1	0	Double	0.3	Double	0.03239	0.26496	0.26586	14.09580	2.4	2.4	2.4	2.4
347	Poor	1	0	Double	0.7	Equal	0.47298	0.91680	0.20013	6.04192	1.0	1.0	1.0	1.2

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
348	Poor	1	0	Double	0.7	Double	0.28596	0.79577	0.31454	8.33759	1.4	1.4	1.4	1.4
349	Poor	1	0.1	Equal	0.1	Equal	0.00775	0.09914	0.09706	3.97414	3.0	2.8	2.8	3.0
350	Poor	1	0.1	Equal	0.1	Double	0.00064	0.01606	0.09954	3.99671	3.6	3.6	3.6	3.6
351	Poor	1	0.1	Equal	0.3	Equal	0.10953	0.50728	0.22449	3.60662	1.8	2.0	2.0	1.8
352	Poor	1	0.1	Equal	0.3	Double	0.03200	0.25426	0.26853	3.84150	2.4	2.4	2.4	2.4
353	Poor	1	0.1	Equal	0.7	Equal	0.50430	0.91466	0.21103	2.32670	1.0	1.0	1.0	0.8
354	Poor	1	0.1	Equal	0.7	Double	0.32340	0.80545	0.33022	2.68723	1.4	1.2	1.2	1.4
355	Poor	1	0.1	Double	0.1	Equal	0.00775	0.09915	0.09706	14.84732	3.0	2.8	2.8	3.0
356	Poor	1	0.1	Double	0.1	Double	0.00064	0.01606	0.09954	14.98140	3.6	3.6	3.6	3.6
357	Poor	1	0.1	Double	0.3	Equal	0.10952	0.50727	0.22448	12.66505	1.8	1.8	2.0	2.0
358	Poor	1	0.1	Double	0.3	Double	0.03200	0.25427	0.26852	14.11387	2.4	2.4	2.4	2.4
359	Poor	1	0.1	Double	0.7	Equal	0.50425	0.91464	0.21102	5.88603	1.0	0.8	1.0	1.0
360	Poor	1	0.1	Double	0.7	Double	0.32337	0.80545	0.33021	7.75081	1.2	1.4	1.2	1.4
361	Poor	1	0.3	Equal	0.1	Equal	0.00524	0.07230	0.09748	3.98122	3.0	3.0	3.0	3.0
362	Poor	1	0.3	Equal	0.1	Double	0.00063	0.01551	0.09959	3.99676	3.6	3.6	3.6	3.6
363	Poor	1	0.3	Equal	0.3	Equal	0.10153	0.45497	0.23458	3.63250	2.0	1.8	1.8	2.0
364	Poor	1	0.3	Equal	0.3	Double	0.03052	0.22985	0.27377	3.84824	2.4	2.4	2.4	2.4
365	Poor	1	0.3	Equal	0.7	Equal	0.55159	0.91140	0.22750	2.17579	0.8	0.8	0.8	0.6
366	Poor	1	0.3	Equal	0.7	Double	0.33074	0.77705	0.35451	2.62713	1.2	1.2	1.2	1.2
367	Poor	1	0.3	Double	0.1	Equal	0.00526	0.07227	0.09751	14.89470	3.0	3.0	3.0	3.0
368	Poor	1	0.3	Double	0.1	Double	0.00063	0.01550	0.09958	14.98166	3.6	3.6	3.6	3.6
369	Poor	1	0.3	Double	0.3	Equal	0.10153	0.45500	0.23457	13.06708	2.0	1.8	2.0	1.8
370	Poor	1	0.3	Double	0.3	Double	0.03055	0.22986	0.27381	14.16031	2.4	2.4	2.4	2.4
371	Poor	1	0.3	Double	0.7	Equal	0.55161	0.91139	0.22751	5.19772	0.6	0.8	0.8	0.8
372	Poor	1	0.3	Double	0.7	Double	0.33076	0.77699	0.35456	7.83182	1.2	1.2	1.2	1.2
373	Poor	1	0.5	Equal	0.1	Equal	0.00436	0.05907	0.09802	3.98200	3.0	3.0	3.0	3.2
374	Poor	1	0.5	Equal	0.1	Double	0.00072	0.01703	0.09960	3.99687	3.6	3.6	3.6	3.4
375	Poor	1	0.5	Equal	0.3	Equal	0.09936	0.42268	0.24275	3.63173	1.8	2.0	1.8	1.8
376	Poor	1	0.5	Equal	0.3	Double	0.02783	0.20170	0.27845	3.85740	2.4	2.4	2.4	2.4

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
377	Poor	1	0.5	Equal	0.7	Equal	0.58185	0.90734	0.23942	2.01844	0.6	0.6	0.4	0.6
378	Poor	1	0.5	Equal	0.7	Double	0.35475	0.76910	0.37448	2.47545	1.0	1.0	1.0	1.2
379	Poor	1	0.5	Double	0.1	Equal	0.00435	0.05907	0.09801	14.90936	3.0	3.0	3.2	3.0
380	Poor	1	0.5	Double	0.1	Double	0.00060	0.01438	0.09964	14.98242	3.6	3.6	3.6	3.6
381	Poor	1	0.5	Double	0.3	Equal	0.09936	0.42267	0.24275	12.85833	1.8	1.8	1.8	2.0
382	Poor	1	0.5	Double	0.3	Double	0.02784	0.20175	0.27846	14.22247	2.4	2.4	2.4	2.4
383	Poor	1	0.5	Double	0.7	Equal	0.58186	0.90734	0.23942	4.89350	0.6	0.4	0.6	0.6
384	Poor	1	0.5	Double	0.7	Double	0.35478	0.76909	0.37450	7.41698	1.0	1.0	1.2	1.0
385	Poor	1.25	0	Equal	0.1	Equal	0.00013	0.00052	0.10006	3.99976	4.0	4.0	4.0	4.0
386	Poor	1.25	0	Equal	0.1	Double	0.00013	0.00052	0.10018	3.99976	4.0	4.0	4.0	4.0
387	Poor	1.25	0	Equal	0.3	Equal	0.15307	0.59664	0.22815	3.48202	1.6	1.8	1.8	1.8
388	Poor	1.25	0	Equal	0.3	Double	0.04349	0.23638	0.28997	3.82855	2.2	2.2	2.4	2.4
389	Poor	1.25	0	Equal	0.7	Equal	0.47298	0.94540	0.18011	2.17534	1.0	1.0	1.0	1.2
390	Poor	1.25	0	Equal	0.7	Double	0.33827	0.86534	0.29722	2.48166	1.2	1.2	1.4	1.4
391	Poor	1.25	0	Double	0.1	Equal	0.00013	0.00052	0.10006	14.99861	4.0	4.0	4.0	4.0
392	Poor	1.25	0	Double	0.1	Double	0.00013	0.00052	0.10018	14.99861	4.0	4.0	4.0	4.0
393	Poor	1.25	0	Double	0.3	Equal	0.15307	0.59664	0.22815	12.18263	1.6	1.8	1.8	1.8
394	Poor	1.25	0	Double	0.3	Double	0.04349	0.23638	0.28997	14.02205	2.2	2.2	2.4	2.4
395	Poor	1.25	0	Double	0.7	Equal	0.47298	0.94540	0.18011	5.55369	1.0	1.0	1.0	1.2
396	Poor	1.25	0	Double	0.7	Double	0.33827	0.86534	0.29722	7.03031	1.2	1.2	1.4	1.4
397	Poor	1.25	0.1	Equal	0.1	Equal	0.00013	0.00052	0.10006	3.99976	4.0	4.0	4.0	4.0
398	Poor	1.25	0.1	Equal	0.1	Double	0.00013	0.00052	0.10018	3.99976	4.0	4.0	4.0	4.0
399	Poor	1.25	0.1	Equal	0.3	Equal	0.13554	0.49845	0.24534	3.68396	4.0	1.6	1.6	1.8
400	Poor	1.25	0.1	Equal	0.3	Double	0.02751	0.14818	0.29406	3.91023	2.2	4.0	4.0	2.2
401	Poor	1.25	0.1	Equal	0.7	Equal	0.51192	0.92164	0.20843	2.19600	0.6	4.0	4.0	0.4
402	Poor	1.25	0.1	Equal	0.7	Double	0.37018	0.83284	0.33913	2.08011	0.8	0.8	4.0	4.0
403	Poor	1.25	0.1	Double	0.1	Equal	0.00013	0.00052	0.10006	14.99861	4.0	4.0	4.0	4.0
404	Poor	1.25	0.1	Double	0.1	Double	0.00013	0.00052	0.10018	14.99861	4.0	4.0	4.0	4.0
405	Poor	1.25	0.1	Double	0.3	Equal	0.13553	0.49847	0.24533	12.04210	1.6	1.6	1.8	4.0

Table A-6. 4-Test Sequence under Believe the Positive

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	θ_1	θ_2	θ_3	θ_4
406	Poor	1.25	0.1	Double	0.3	Double	0.02751	0.14818	0.29406	14.19259	2.2	2.2	4.0	4.0
407	Poor	1.25	0.1	Double	0.7	Equal	0.51191	0.92164	0.20843	7.91720	4.0	0.6	4.0	0.4
408	Poor	1.25	0.1	Double	0.7	Double	0.37019	0.83286	0.33911	8.88877	4.0	0.8	4.0	0.8
409	Poor	1.25	0.3	Equal	0.1	Equal	0.00012	0.00035	0.10008	3.99978	4.0	4.0	4.0	4.0
410	Poor	1.25	0.3	Equal	0.1	Double	0.00012	0.00040	0.10018	3.99978	4.0	4.0	4.0	4.0
411	Poor	1.25	0.3	Equal	0.3	Equal	0.11511	0.44024	0.24851	3.78722	4.0	4.0	1.2	4.0
412	Poor	1.25	0.3	Equal	0.3	Double	0.02282	0.12500	0.29445	3.85461	2.0	4.0	4.0	4.0
413	Poor	1.25	0.3	Equal	0.7	Equal	0.50001	0.91143	0.21200	3.21179	4.0	4.0	0.0	4.0
414	Poor	1.25	0.3	Equal	0.7	Double	0.34460	0.80224	0.34519	3.33486	4.0	4.0	0.4	4.0
415	Poor	1.25	0.3	Double	0.1	Equal	0.00013	0.00039	0.10007	14.99870	4.0	4.0	4.0	4.0
416	Poor	1.25	0.3	Double	0.1	Double	0.00012	0.00039	0.10019	14.99871	4.0	4.0	4.0	4.0
417	Poor	1.25	0.3	Double	0.3	Equal	0.11511	0.44024	0.24851	14.99832	4.0	4.0	4.0	1.2
418	Poor	1.25	0.3	Double	0.3	Double	0.02282	0.12500	0.29445	14.28158	2.0	4.0	4.0	4.0
419	Poor	1.25	0.3	Double	0.7	Equal	0.50001	0.91143	0.21200	8.69517	4.0	4.0	0.0	4.0
420	Poor	1.25	0.3	Double	0.7	Double	0.34460	0.80224	0.34519	5.61570	0.4	4.0	4.0	4.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.00138	0.01496	0.09975	3.99556	3.2	4.0	3.2	4.0
422	Poor	1.25	0.5	Equal	0.1	Double	0.00019	0.00267	0.10007	3.99932	4.0	3.8	3.8	4.0
423	Poor	1.25	0.5	Equal	0.3	Equal	0.11508	0.44024	0.24849	3.78689	4.0	4.0	1.2	4.0
424	Poor	1.25	0.5	Equal	0.3	Double	0.02279	0.12500	0.29441	3.99903	4.0	4.0	4.0	2.0
425	Poor	1.25	0.5	Equal	0.7	Equal	0.50000	0.91143	0.21200	3.21099	4.0	4.0	0.0	4.0
426	Poor	1.25	0.5	Equal	0.7	Double	0.34458	0.80224	0.34518	3.33405	4.0	4.0	0.4	4.0
427	Poor	1.25	0.5	Double	0.1	Equal	0.00138	0.01496	0.09974	14.99055	4.0	4.0	3.2	3.2
428	Poor	1.25	0.5	Double	0.1	Double	0.00019	0.00267	0.10007	14.99559	3.8	4.0	3.8	4.0
429	Poor	1.25	0.5	Double	0.3	Equal	0.11508	0.44024	0.24849	14.99424	4.0	4.0	4.0	1.2
430	Poor	1.25	0.5	Double	0.3	Double	0.02279	0.12500	0.29441	14.57055	4.0	4.0	2.0	4.0
431	Poor	1.25	0.5	Double	0.7	Equal	0.50000	0.91143	0.21200	14.98799	4.0	4.0	4.0	0.0
432	Poor	1.25	0.5	Double	0.7	Double	0.34458	0.80224	0.34518	7.02070	4.0	0.4	4.0	4.0

2-Test Sequence Under Believe the Extreme

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
1	Good	0.75	0	Equal	0.1	Equal	0.01232	0.66860	0.04423	1.29011	2.8	0.6	1.8
2	Good	0.75	0	Equal	0.1	Double	0.00493	0.58006	0.05087	1.18418	3.0	1.0	2.0
3	Good	0.75	0	Equal	0.3	Equal	0.03826	0.77675	0.09376	1.43284	2.6	0.2	1.4
4	Good	0.75	0	Equal	0.3	Double	0.02130	0.72093	0.11354	1.38534	2.8	0.4	1.6
5	Good	0.75	0	Equal	0.7	Equal	0.24391	0.95738	0.10301	1.64474	3.4	-0.2	0.2
6	Good	0.75	0	Equal	0.7	Double	0.10699	0.87572	0.15119	1.55458	3.0	0.0	0.8
7	Good	0.75	0	Double	0.1	Equal	0.01232	0.66860	0.04423	1.58022	2.8	0.6	1.8
8	Good	0.75	0	Double	0.1	Double	0.00493	0.58006	0.05087	1.36836	3.0	1.0	2.0
9	Good	0.75	0	Double	0.3	Equal	0.03826	0.77675	0.09376	1.86568	2.6	0.2	1.4
10	Good	0.75	0	Double	0.3	Double	0.02130	0.72093	0.11354	1.77068	2.8	0.4	1.6
11	Good	0.75	0	Double	0.7	Equal	0.24391	0.95738	0.10301	2.28948	3.4	-0.2	0.2
12	Good	0.75	0	Double	0.7	Double	0.10699	0.87572	0.15119	2.10916	3.0	0.0	0.8
13	Good	0.75	0.1	Equal	0.1	Equal	0.01058	0.63298	0.04623	1.29011	2.8	0.6	2.0
14	Good	0.75	0.1	Equal	0.1	Double	0.00537	0.56549	0.05312	1.23569	3.0	0.8	2.2
15	Good	0.75	0.1	Equal	0.3	Equal	0.04395	0.77437	0.09845	1.43284	2.6	0.2	1.4
16	Good	0.75	0.1	Equal	0.3	Double	0.02261	0.70924	0.11888	1.43284	2.6	0.2	1.8
17	Good	0.75	0.1	Equal	0.7	Equal	0.25915	0.95673	0.10803	1.64474	3.4	-0.2	0.2
18	Good	0.75	0.1	Equal	0.7	Double	0.11841	0.87424	0.15908	1.55458	3.0	0.0	0.8
19	Good	0.75	0.1	Double	0.1	Equal	0.01058	0.63298	0.04623	1.58022	2.8	0.6	2.0
20	Good	0.75	0.1	Double	0.1	Double	0.00537	0.56549	0.05312	1.47138	3.0	0.8	2.2
21	Good	0.75	0.1	Double	0.3	Equal	0.04395	0.77437	0.09845	1.86568	2.6	0.2	1.4
22	Good	0.75	0.1	Double	0.3	Double	0.02261	0.70924	0.11888	1.86568	2.6	0.2	1.8
23	Good	0.75	0.1	Double	0.7	Equal	0.25915	0.95673	0.10803	2.28948	3.4	-0.2	0.2
24	Good	0.75	0.1	Double	0.7	Double	0.11841	0.87424	0.15908	2.10916	3.0	0.0	0.8
25	Good	0.75	0.3	Equal	0.1	Equal	0.01259	0.62812	0.04852	1.93622	2.6	-2.0	2.4
26	Good	0.75	0.3	Equal	0.1	Double	0.00504	0.53158	0.05592	1.94232	2.8	-2.0	2.8
27	Good	0.75	0.3	Equal	0.3	Equal	0.04277	0.75515	0.10340	1.84797	2.4	-2.0	1.8
28	Good	0.75	0.3	Equal	0.3	Double	0.02146	0.68336	0.12504	1.84797	2.4	-2.0	2.2

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
29	Good	0.75	0.3	Equal	0.7	Equal	0.26601	0.94602	0.11759	1.68065	3.4	-0.4	0.4
30	Good	0.75	0.3	Equal	0.7	Double	0.11750	0.85480	0.17214	1.71802	2.6	-2.0	1.2
31	Good	0.75	0.3	Double	0.1	Equal	0.01259	0.62812	0.04852	2.87244	2.6	-2.0	2.4
32	Good	0.75	0.3	Double	0.1	Double	0.00504	0.53158	0.05592	2.88464	2.8	-2.0	2.8
33	Good	0.75	0.3	Double	0.3	Equal	0.04277	0.75515	0.10340	2.69594	2.4	-2.0	1.8
34	Good	0.75	0.3	Double	0.3	Double	0.02146	0.68336	0.12504	2.69594	2.4	-2.0	2.2
35	Good	0.75	0.3	Double	0.7	Equal	0.26601	0.94602	0.11759	2.36130	3.4	-0.4	0.4
36	Good	0.75	0.3	Double	0.7	Double	0.11750	0.85480	0.17214	2.43605	2.6	-2.0	1.2
37	Good	0.75	0.5	Equal	0.1	Equal	0.01220	0.61906	0.04907	1.93622	2.6	-2.0	2.4
38	Good	0.75	0.5	Equal	0.1	Double	0.00692	0.56047	0.05641	1.94232	2.8	-2.0	2.6
39	Good	0.75	0.5	Equal	0.3	Equal	0.04158	0.74567	0.10540	1.84797	2.4	-2.0	1.8
40	Good	0.75	0.5	Equal	0.3	Double	0.02070	0.67365	0.12688	1.84797	2.4	-2.0	2.2
41	Good	0.75	0.5	Equal	0.7	Equal	0.27384	0.94423	0.12119	1.80311	3.2	-2.0	0.6
42	Good	0.75	0.5	Equal	0.7	Double	0.11679	0.84758	0.17677	1.71802	2.6	-2.0	1.2
43	Good	0.75	0.5	Double	0.1	Equal	0.01220	0.61906	0.04907	2.87244	2.6	-2.0	2.4
44	Good	0.75	0.5	Double	0.1	Double	0.00692	0.56047	0.05641	2.88464	2.8	-2.0	2.6
45	Good	0.75	0.5	Double	0.3	Equal	0.04158	0.74567	0.10540	2.69594	2.4	-2.0	1.8
46	Good	0.75	0.5	Double	0.3	Double	0.02070	0.67365	0.12688	2.69594	2.4	-2.0	2.2
47	Good	0.75	0.5	Double	0.7	Equal	0.27384	0.94423	0.12119	2.60623	3.2	-2.0	0.6
48	Good	0.75	0.5	Double	0.7	Double	0.11679	0.84758	0.17677	2.43605	2.6	-2.0	1.2
49	Good	1	0	Equal	0.1	Equal	0.01111	0.76968	0.03303	1.19947	2.8	1.0	1.6
50	Good	1	0	Equal	0.1	Double	0.00758	0.72502	0.04115	1.16432	3.0	1.2	1.6
51	Good	1	0	Equal	0.3	Equal	0.03493	0.88562	0.05876	1.30454	2.2	0.6	1.4
52	Good	1	0	Equal	0.3	Double	0.02139	0.84006	0.07793	1.30836	2.6	0.8	1.4
53	Good	1	0	Equal	0.7	Equal	0.10956	0.96326	0.05859	1.34179	1.8	0.0	1.0
54	Good	1	0	Equal	0.7	Double	0.06855	0.93704	0.08520	1.36818	2.0	0.2	1.2
55	Good	1	0	Double	0.1	Equal	0.01111	0.76968	0.03303	1.39894	2.8	1.0	1.6
56	Good	1	0	Double	0.1	Double	0.00758	0.72502	0.04115	1.32864	3.0	1.2	1.6
57	Good	1	0	Double	0.3	Equal	0.03493	0.88562	0.05876	1.60907	2.2	0.6	1.4
58	Good	1	0	Double	0.3	Double	0.02139	0.84006	0.07793	1.61672	2.6	0.8	1.4

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
59	Good	1	0	Double	0.7	Equal	0.10956	0.96326	0.05859	1.68357	1.8	0.0	1.0
60	Good	1	0	Double	0.7	Double	0.06855	0.93704	0.08520	1.73636	2.0	0.2	1.2
61	Good	1	0.1	Equal	0.1	Equal	0.01390	0.76425	0.03608	1.19947	2.8	1.0	1.6
62	Good	1	0.1	Equal	0.1	Double	0.00709	0.68113	0.04465	1.16432	3.0	1.2	1.8
63	Good	1	0.1	Equal	0.3	Equal	0.03951	0.87779	0.06432	1.30454	2.2	0.6	1.4
64	Good	1	0.1	Equal	0.3	Double	0.02247	0.81940	0.08564	1.28234	2.4	0.8	1.6
65	Good	1	0.1	Equal	0.7	Equal	0.13219	0.96451	0.06450	1.29026	1.6	0.0	1.0
66	Good	1	0.1	Equal	0.7	Double	0.08619	0.93992	0.09377	1.31329	1.8	0.2	1.2
67	Good	1	0.1	Double	0.1	Equal	0.01390	0.76425	0.03608	1.39894	2.8	1.0	1.6
68	Good	1	0.1	Double	0.1	Double	0.00709	0.68113	0.04465	1.32864	3.0	1.2	1.8
69	Good	1	0.1	Double	0.3	Equal	0.03951	0.87779	0.06432	1.60907	2.2	0.6	1.4
70	Good	1	0.1	Double	0.3	Double	0.02247	0.81940	0.08564	1.56469	2.4	0.8	1.6
71	Good	1	0.1	Double	0.7	Equal	0.13219	0.96451	0.06450	1.58053	1.6	0.0	1.0
72	Good	1	0.1	Double	0.7	Double	0.08619	0.93992	0.09377	1.62658	1.8	0.2	1.2
73	Good	1	0.3	Equal	0.1	Equal	0.01418	0.71137	0.04162	1.14715	2.6	1.2	1.8
74	Good	1	0.3	Equal	0.1	Double	0.00760	0.62592	0.05109	1.12088	2.8	1.4	2.0
75	Good	1	0.3	Equal	0.3	Equal	0.04265	0.84836	0.07535	1.25446	2.2	0.8	1.4
76	Good	1	0.3	Equal	0.3	Double	0.02519	0.78627	0.09939	1.23643	2.4	1.0	1.6
77	Good	1	0.3	Equal	0.7	Equal	0.13212	0.94882	0.07546	1.26177	1.6	0.2	1.0
78	Good	1	0.3	Equal	0.7	Double	0.08821	0.91882	0.10975	1.28323	1.8	0.4	1.2
79	Good	1	0.3	Double	0.1	Equal	0.01418	0.71137	0.04162	1.29430	2.6	1.2	1.8
80	Good	1	0.3	Double	0.1	Double	0.00760	0.62592	0.05109	1.24176	2.8	1.4	2.0
81	Good	1	0.3	Double	0.3	Equal	0.04265	0.84836	0.07535	1.50892	2.2	0.8	1.4
82	Good	1	0.3	Double	0.3	Double	0.02519	0.78627	0.09939	1.47286	2.4	1.0	1.6
83	Good	1	0.3	Double	0.7	Equal	0.13212	0.94882	0.07546	1.52353	1.6	0.2	1.0
84	Good	1	0.3	Double	0.7	Double	0.08821	0.91882	0.10975	1.56647	1.8	0.4	1.2
85	Good	1	0.5	Equal	0.1	Equal	0.01619	0.67956	0.04661	1.11156	2.6	1.4	1.8
86	Good	1	0.5	Equal	0.1	Double	0.00904	0.59592	0.05668	1.09185	2.8	1.6	2.0
87	Good	1	0.5	Equal	0.3	Equal	0.05263	0.83676	0.08581	1.25446	2.2	0.8	1.4
88	Good	1	0.5	Equal	0.3	Double	0.02771	0.75490	0.11233	1.19462	2.4	1.2	1.6

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
89	Good	1	0.5	Equal	0.7	Equal	0.15969	0.94614	0.08561	1.21430	1.4	0.2	1.0
90	Good	1	0.5	Equal	0.7	Double	0.11146	0.91686	0.12507	1.23171	1.6	0.4	1.2
91	Good	1	0.5	Double	0.1	Equal	0.01619	0.67956	0.04661	1.22311	2.6	1.4	1.8
92	Good	1	0.5	Double	0.1	Double	0.00904	0.59592	0.05668	1.18370	2.8	1.6	2.0
93	Good	1	0.5	Double	0.3	Equal	0.05263	0.83676	0.08581	1.50892	2.2	0.8	1.4
94	Good	1	0.5	Double	0.3	Double	0.02771	0.75490	0.11233	1.38925	2.4	1.2	1.6
95	Good	1	0.5	Double	0.7	Equal	0.15969	0.94614	0.08561	1.42860	1.4	0.2	1.0
96	Good	1	0.5	Double	0.7	Double	0.11146	0.91686	0.12507	1.46342	1.6	0.4	1.2
97	Good	1.25	0	Equal	0.1	Equal	0.01204	0.93899	0.01694	1.13072	2.4	1.2	1.8
98	Good	1.25	0	Equal	0.1	Double	0.00740	0.87969	0.02534	1.11373	2.6	1.4	1.8
99	Good	1.25	0	Equal	0.3	Equal	0.02475	1.00602	0.01552	1.21273	2.2	0.8	1.6
100	Good	1.25	0	Equal	0.3	Double	0.02184	0.99733	0.03137	1.17451	2.2	1.0	1.6
101	Good	1.25	0	Equal	0.7	Equal	0.05169	1.03991	-0.01243	1.18784	2.0	0.6	1.2
102	Good	1.25	0	Equal	0.7	Double	0.04306	1.03469	0.00155	1.18784	2.0	0.6	1.4
103	Good	1.25	0	Double	0.1	Equal	0.01204	0.93899	0.01694	1.26143	2.4	1.2	1.8
104	Good	1.25	0	Double	0.1	Double	0.00740	0.87969	0.02534	1.22745	2.6	1.4	1.8
105	Good	1.25	0	Double	0.3	Equal	0.02475	1.00602	0.01552	1.42547	2.2	0.8	1.6
106	Good	1.25	0	Double	0.3	Double	0.02184	0.99733	0.03137	1.34903	2.2	1.0	1.6
107	Good	1.25	0	Double	0.7	Equal	0.05169	1.03991	-0.01243	1.37567	2.0	0.6	1.2
108	Good	1.25	0	Double	0.7	Double	0.04306	1.03469	0.00155	1.37567	2.0	0.6	1.4
109	Good	1.25	0.1	Equal	0.1	Equal	0.01352	0.92211	0.01996	1.13072	2.4	1.2	1.8
110	Good	1.25	0.1	Equal	0.1	Double	0.00442	0.79592	0.02837	1.14233	4.0	1.6	1.6
111	Good	1.25	0.1	Equal	0.3	Equal	0.02885	0.99829	0.02071	1.17451	2.2	1.0	1.4
112	Good	1.25	0.1	Equal	0.3	Double	0.02134	0.97152	0.03843	1.14184	2.2	1.2	1.6
113	Good	1.25	0.1	Equal	0.7	Equal	0.06952	1.03942	-0.00674	1.18784	2.0	0.6	1.0
114	Good	1.25	0.1	Equal	0.7	Double	0.04923	1.02892	0.00930	1.16818	2.0	0.8	1.2
115	Good	1.25	0.1	Double	0.1	Equal	0.01352	0.92211	0.01996	1.26143	2.4	1.2	1.8
116	Good	1.25	0.1	Double	0.1	Double	0.00442	0.79592	0.02837	1.28466	4.0	1.6	1.6
117	Good	1.25	0.1	Double	0.3	Equal	0.02885	0.99829	0.02071	1.34903	2.2	1.0	1.4
118	Good	1.25	0.1	Double	0.3	Double	0.02134	0.97152	0.03843	1.28368	2.2	1.2	1.6

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
119	Good	1.25	0.1	Double	0.7	Equal	0.06952	1.03942	-0.00674	1.37567	2.0	0.6	1.0
120	Good	1.25	0.1	Double	0.7	Double	0.04923	1.02892	0.00930	1.33635	2.0	0.8	1.2
121	Good	1.25	0.3	Equal	0.1	Equal	0.01475	0.88806	0.02447	1.07240	2.4	1.6	1.6
122	Good	1.25	0.3	Equal	0.1	Double	0.00589	0.78710	0.03190	1.12102	4.0	1.8	1.6
123	Good	1.25	0.3	Equal	0.3	Equal	0.03647	0.98861	0.02895	1.14184	2.2	1.2	1.2
124	Good	1.25	0.3	Equal	0.3	Double	0.02131	0.93505	0.04932	1.15005	2.4	1.4	1.4
125	Good	1.25	0.3	Equal	0.7	Equal	0.08484	1.03508	0.00089	1.16818	2.0	0.8	0.8
126	Good	1.25	0.3	Equal	0.7	Double	0.05952	1.02084	0.02113	1.14993	2.0	1.0	1.0
127	Good	1.25	0.3	Double	0.1	Equal	0.01475	0.88806	0.02447	1.14481	2.4	1.6	1.6
128	Good	1.25	0.3	Double	0.1	Double	0.00589	0.78710	0.03190	1.24204	4.0	1.8	1.6
129	Good	1.25	0.3	Double	0.3	Equal	0.03647	0.98861	0.02895	1.28368	2.2	1.2	1.2
130	Good	1.25	0.3	Double	0.3	Double	0.02131	0.93505	0.04932	1.30010	2.4	1.4	1.4
131	Good	1.25	0.3	Double	0.7	Equal	0.08484	1.03508	0.00089	1.33635	2.0	0.8	0.8
132	Good	1.25	0.3	Double	0.7	Double	0.05952	1.02084	0.02113	1.29985	2.0	1.0	1.0
133	Good	1.25	0.5	Equal	0.1	Equal	0.01520	0.87866	0.02581	1.05110	2.4	1.8	1.6
134	Good	1.25	0.5	Equal	0.1	Double	0.00554	0.75821	0.03415	1.10268	4.0	2.0	1.8
135	Good	1.25	0.5	Equal	0.3	Equal	0.03704	0.97370	0.03382	1.11349	2.2	1.4	1.2
136	Good	1.25	0.5	Equal	0.3	Double	0.02583	0.94147	0.05371	1.08745	2.2	1.6	1.4
137	Good	1.25	0.5	Equal	0.7	Equal	0.09634	1.03247	0.00617	1.14993	2.0	1.0	0.6
138	Good	1.25	0.5	Equal	0.7	Double	0.06719	1.01646	0.02879	1.13180	2.0	1.2	0.8
139	Good	1.25	0.5	Double	0.1	Equal	0.01520	0.87866	0.02581	1.10219	2.4	1.8	1.6
140	Good	1.25	0.5	Double	0.1	Double	0.00554	0.75821	0.03415	1.20536	4.0	2.0	1.8
141	Good	1.25	0.5	Double	0.3	Equal	0.03704	0.97370	0.03382	1.22698	2.2	1.4	1.2
142	Good	1.25	0.5	Double	0.3	Double	0.02583	0.94147	0.05371	1.17490	2.2	1.6	1.4
143	Good	1.25	0.5	Double	0.7	Equal	0.09634	1.03247	0.00617	1.29985	2.0	1.0	0.6
144	Good	1.25	0.5	Double	0.7	Double	0.06719	1.01646	0.02879	1.26360	2.0	1.2	0.8
145	Fair	0.75	0	Equal	0.1	Equal	0.01239	0.40629	0.07053	1.35205	2.6	0.4	2.0
146	Fair	0.75	0	Equal	0.1	Double	0.00478	0.31472	0.07714	1.28988	2.8	0.6	2.4
147	Fair	0.75	0	Equal	0.3	Equal	0.06469	0.60953	0.16243	1.69621	2.0	-0.8	1.6
148	Fair	0.75	0	Equal	0.3	Double	0.02587	0.48957	0.18934	1.49417	2.4	0.0	1.8

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification		FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost								
149	Fair	0.75	0	Equal	0.7	Equal		0.41922	0.89686	0.19796	1.75286	2.2	-2.0	0.2
150	Fair	0.75	0	Equal	0.7	Double		0.18528	0.76484	0.27578	1.68827	1.8	-2.0	1.0
151	Fair	0.75	0	Double	0.1	Equal		0.01239	0.40629	0.07053	1.70410	2.6	0.4	2.0
152	Fair	0.75	0	Double	0.1	Double		0.00478	0.31472	0.07714	1.57975	2.8	0.6	2.4
153	Fair	0.75	0	Double	0.3	Equal		0.06469	0.60953	0.16243	2.39243	2.0	-0.8	1.6
154	Fair	0.75	0	Double	0.3	Double		0.02587	0.48957	0.18934	1.98835	2.4	0.0	1.8
155	Fair	0.75	0	Double	0.7	Equal		0.41922	0.89686	0.19796	2.50572	2.2	-2.0	0.2
156	Fair	0.75	0	Double	0.7	Double		0.18528	0.76484	0.27578	2.37653	1.8	-2.0	1.0
157	Fair	0.75	0.1	Equal	0.1	Equal		0.01269	0.39843	0.07158	1.94899	2.6	-2.0	2.4
158	Fair	0.75	0.1	Equal	0.1	Double		0.00507	0.30931	0.07819	1.95417	2.8	-2.0	2.8
159	Fair	0.75	0.1	Equal	0.3	Equal		0.05689	0.58701	0.16372	1.85480	2.0	-2.0	1.8
160	Fair	0.75	0.1	Equal	0.3	Double		0.02729	0.48766	0.19191	1.87314	2.2	-2.0	2.2
161	Fair	0.75	0.1	Equal	0.7	Equal		0.41987	0.89421	0.20002	1.75286	2.2	-2.0	0.2
162	Fair	0.75	0.1	Equal	0.7	Double		0.18437	0.76050	0.27827	1.68827	1.8	-2.0	1.0
163	Fair	0.75	0.1	Double	0.1	Equal		0.01269	0.39843	0.07158	2.89797	2.6	-2.0	2.4
164	Fair	0.75	0.1	Double	0.1	Double		0.00507	0.30931	0.07819	2.90833	2.8	-2.0	2.8
165	Fair	0.75	0.1	Double	0.3	Equal		0.05689	0.58701	0.16372	2.70959	2.0	-2.0	1.8
166	Fair	0.75	0.1	Double	0.3	Double		0.02729	0.48766	0.19191	2.74628	2.2	-2.0	2.2
167	Fair	0.75	0.1	Double	0.7	Equal		0.41987	0.89421	0.20002	2.50572	2.2	-2.0	0.2
168	Fair	0.75	0.1	Double	0.7	Double		0.18437	0.76050	0.27827	2.37653	1.8	-2.0	1.0
169	Fair	0.75	0.3	Equal	0.1	Equal		0.01259	0.39407	0.07192	1.94899	2.6	-2.0	2.4
170	Fair	0.75	0.3	Equal	0.1	Double		0.00504	0.30647	0.07843	1.95417	2.8	-2.0	2.8
171	Fair	0.75	0.3	Equal	0.3	Equal		0.05566	0.57915	0.16522	1.85480	2.0	-2.0	1.8
172	Fair	0.75	0.3	Equal	0.3	Double		0.02684	0.48144	0.19315	1.87314	2.2	-2.0	2.2
173	Fair	0.75	0.3	Equal	0.7	Equal		0.42071	0.88908	0.20386	1.75286	2.2	-2.0	0.2
174	Fair	0.75	0.3	Equal	0.7	Double		0.18076	0.75186	0.28216	1.68827	1.8	-2.0	1.0
175	Fair	0.75	0.3	Double	0.1	Equal		0.01259	0.39407	0.07192	2.89797	2.6	-2.0	2.4
176	Fair	0.75	0.3	Double	0.1	Double		0.00504	0.30647	0.07843	2.90833	2.8	-2.0	2.8
177	Fair	0.75	0.3	Double	0.3	Equal		0.05566	0.57915	0.16522	2.70959	2.0	-2.0	1.8
178	Fair	0.75	0.3	Double	0.3	Double		0.02684	0.48144	0.19315	2.74628	2.2	-2.0	2.2

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
179	Fair	0.75	0.3	Double	0.7	Equal	0.42071	0.88908	0.20386	2.50572	2.2	-2.0	0.2
180	Fair	0.75	0.3	Double	0.7	Double	0.18076	0.75186	0.28216	2.37653	1.8	-2.0	1.0
181	Fair	0.75	0.5	Equal	0.1	Equal	0.01220	0.38943	0.07204	1.94899	2.6	-2.0	2.4
182	Fair	0.75	0.5	Equal	0.1	Double	0.00491	0.30336	0.07851	1.95417	2.8	-2.0	2.8
183	Fair	0.75	0.5	Equal	0.3	Equal	0.05314	0.57112	0.16586	1.85480	2.0	-2.0	1.8
184	Fair	0.75	0.5	Equal	0.3	Double	0.02576	0.47499	0.19357	1.87314	2.2	-2.0	2.2
185	Fair	0.75	0.5	Equal	0.7	Equal	0.42097	0.88419	0.20736	1.75286	2.2	-2.0	0.2
186	Fair	0.75	0.5	Equal	0.7	Double	0.17490	0.74323	0.28469	1.68827	1.8	-2.0	1.0
187	Fair	0.75	0.5	Double	0.1	Equal	0.01220	0.38943	0.07204	2.89797	2.6	-2.0	2.4
188	Fair	0.75	0.5	Double	0.1	Double	0.00491	0.30336	0.07851	2.90833	2.8	-2.0	2.8
189	Fair	0.75	0.5	Double	0.3	Equal	0.05314	0.57112	0.16586	2.70959	2.0	-2.0	1.8
190	Fair	0.75	0.5	Double	0.3	Double	0.02576	0.47499	0.19357	2.74628	2.2	-2.0	2.2
191	Fair	0.75	0.5	Double	0.7	Equal	0.42097	0.88419	0.20736	2.50572	2.2	-2.0	0.2
192	Fair	0.75	0.5	Double	0.7	Double	0.17490	0.74323	0.28469	2.37653	1.8	-2.0	1.0
193	Fair	1	0	Equal	0.1	Equal	0.01710	0.41826	0.07356	1.19369	2.6	1.0	1.4
194	Fair	1	0	Equal	0.1	Double	0.00758	0.30467	0.08318	1.15658	3.0	1.2	1.6
195	Fair	1	0	Equal	0.3	Equal	0.07381	0.67709	0.14854	1.39332	2.0	0.4	1.0
196	Fair	1	0	Equal	0.3	Double	0.03881	0.55706	0.18722	1.37572	2.4	0.6	1.2
197	Fair	1	0	Equal	0.7	Equal	0.31418	0.92233	0.14862	1.38102	1.0	-0.6	0.6
198	Fair	1	0	Equal	0.7	Double	0.18637	0.84445	0.22070	1.44769	1.4	-0.2	0.8
199	Fair	1	0	Double	0.1	Equal	0.01710	0.41826	0.07356	1.38738	2.6	1.0	1.4
200	Fair	1	0	Double	0.1	Double	0.00758	0.30467	0.08318	1.31315	3.0	1.2	1.6
201	Fair	1	0	Double	0.3	Equal	0.07381	0.67709	0.14854	1.78665	2.0	0.4	1.0
202	Fair	1	0	Double	0.3	Double	0.03881	0.55706	0.18722	1.75144	2.4	0.6	1.2
203	Fair	1	0	Double	0.7	Equal	0.31418	0.92233	0.14862	1.76204	1.0	-0.6	0.6
204	Fair	1	0	Double	0.7	Double	0.18637	0.84445	0.22070	1.89538	1.4	-0.2	0.8
205	Fair	1	0.1	Equal	0.1	Equal	0.01465	0.37027	0.07616	1.15264	2.8	1.2	1.4
206	Fair	1	0.1	Equal	0.1	Double	0.00689	0.27016	0.08539	1.12054	3.2	1.4	1.6
207	Fair	1	0.1	Equal	0.3	Equal	0.08146	0.67314	0.15508	1.39332	2.0	0.4	1.0
208	Fair	1	0.1	Equal	0.3	Double	0.03703	0.52372	0.19472	1.31420	2.4	0.8	1.2

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
209	Fair	1	0.1	Equal	0.7	Equal	0.31679	0.91372	0.15543	1.38102	1.0	-0.6	0.6
210	Fair	1	0.1	Equal	0.7	Double	0.19303	0.83504	0.23129	1.44769	1.4	-0.2	0.8
211	Fair	1	0.1	Double	0.1	Equal	0.01465	0.37027	0.07616	1.30527	2.8	1.2	1.4
212	Fair	1	0.1	Double	0.1	Double	0.00689	0.27016	0.08539	1.24108	3.2	1.4	1.6
213	Fair	1	0.1	Double	0.3	Equal	0.08146	0.67314	0.15508	1.78665	2.0	0.4	1.0
214	Fair	1	0.1	Double	0.3	Double	0.03703	0.52372	0.19472	1.62840	2.4	0.8	1.2
215	Fair	1	0.1	Double	0.7	Equal	0.31679	0.91372	0.15543	1.76204	1.0	-0.6	0.6
216	Fair	1	0.1	Double	0.7	Double	0.19303	0.83504	0.23129	1.89538	1.4	-0.2	0.8
217	Fair	1	0.3	Equal	0.1	Equal	0.01665	0.34683	0.08030	1.15264	2.8	1.2	1.6
218	Fair	1	0.3	Equal	0.1	Double	0.00519	0.20419	0.08892	1.08652	3.0	1.6	2.0
219	Fair	1	0.3	Equal	0.3	Equal	0.08403	0.63851	0.16727	1.32908	2.0	0.6	1.0
220	Fair	1	0.3	Equal	0.3	Double	0.04265	0.50522	0.20815	1.29331	2.2	0.8	1.4
221	Fair	1	0.3	Equal	0.7	Equal	0.34152	0.90753	0.16718	1.35179	1.0	-0.4	0.4
222	Fair	1	0.3	Equal	0.7	Double	0.21926	0.83101	0.24985	1.40748	1.4	0.0	0.6
223	Fair	1	0.3	Double	0.1	Equal	0.01665	0.34683	0.08030	1.30527	2.8	1.2	1.6
224	Fair	1	0.3	Double	0.1	Double	0.00519	0.20419	0.08892	1.17303	3.0	1.6	2.0
225	Fair	1	0.3	Double	0.3	Equal	0.08403	0.63851	0.16727	1.65817	2.0	0.6	1.0
226	Fair	1	0.3	Double	0.3	Double	0.04265	0.50522	0.20815	1.58662	2.2	0.8	1.4
227	Fair	1	0.3	Double	0.7	Equal	0.34152	0.90753	0.16718	1.70359	1.0	-0.4	0.4
228	Fair	1	0.3	Double	0.7	Double	0.21926	0.83101	0.24985	1.81495	1.4	0.0	0.6
229	Fair	1	0.5	Equal	0.1	Equal	0.01619	0.30973	0.08360	1.10827	2.6	1.4	1.8
230	Fair	1	0.5	Equal	0.1	Double	0.00483	0.17236	0.09145	1.06178	3.0	1.8	2.2
231	Fair	1	0.5	Equal	0.3	Equal	0.08946	0.61706	0.17750	1.29810	1.8	0.6	1.2
232	Fair	1	0.5	Equal	0.3	Double	0.03660	0.44021	0.21918	1.23570	2.2	1.0	1.6
233	Fair	1	0.5	Equal	0.7	Equal	0.37245	0.90599	0.17754	1.28830	0.8	-0.4	0.4
234	Fair	1	0.5	Equal	0.7	Double	0.25071	0.83395	0.26666	1.34218	1.2	0.0	0.6
235	Fair	1	0.5	Double	0.1	Equal	0.01619	0.30973	0.08360	1.21654	2.6	1.4	1.8
236	Fair	1	0.5	Double	0.1	Double	0.00483	0.17236	0.09145	1.12357	3.0	1.8	2.2
237	Fair	1	0.5	Double	0.3	Equal	0.08946	0.61706	0.17750	1.59621	1.8	0.6	1.2
238	Fair	1	0.5	Double	0.3	Double	0.03660	0.44021	0.21918	1.47139	2.2	1.0	1.6

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
239	Fair	1	0.5	Double	0.7	Equal	0.37245	0.90599	0.17754	1.57659	0.8	-0.4	0.4
240	Fair	1	0.5	Double	0.7	Double	0.25071	0.83395	0.26666	1.68436	1.2	0.0	0.6
241	Fair	1.25	0	Equal	0.1	Equal	0.01828	0.56889	0.05957	1.22759	4.0	1.0	1.2
242	Fair	1.25	0	Equal	0.1	Double	0.00932	0.44858	0.07192	1.17986	4.0	1.2	1.4
243	Fair	1.25	0	Equal	0.3	Equal	0.07524	0.82163	0.10618	1.47722	4.0	0.6	0.6
244	Fair	1.25	0	Equal	0.3	Double	0.04491	0.73578	0.14214	1.42132	4.0	0.8	0.8
245	Fair	1.25	0	Equal	0.7	Equal	0.24776	1.01583	0.06325	1.23097	1.0	-0.2	0.8
246	Fair	1.25	0	Equal	0.7	Double	0.17983	0.97715	0.12389	1.24939	1.2	0.2	0.8
247	Fair	1.25	0	Double	0.1	Equal	0.01828	0.56889	0.05957	1.45519	4.0	1.0	1.2
248	Fair	1.25	0	Double	0.1	Double	0.00932	0.44858	0.07192	1.35973	4.0	1.2	1.4
249	Fair	1.25	0	Double	0.3	Equal	0.07524	0.82163	0.10618	1.95445	4.0	0.6	0.6
250	Fair	1.25	0	Double	0.3	Double	0.04491	0.73578	0.14214	1.84263	4.0	0.8	0.8
251	Fair	1.25	0	Double	0.7	Equal	0.24776	1.01583	0.06325	1.46195	1.0	-0.2	0.8
252	Fair	1.25	0	Double	0.7	Double	0.17983	0.97715	0.12389	1.49878	1.2	0.2	0.8
253	Fair	1.25	0.1	Equal	0.1	Equal	0.01731	0.54185	0.06139	1.17986	4.0	1.2	1.2
254	Fair	1.25	0.1	Equal	0.1	Double	0.00901	0.42748	0.07348	1.13836	4.0	1.4	1.4
255	Fair	1.25	0.1	Equal	0.3	Equal	0.06801	0.78807	0.11119	1.47722	4.0	0.6	0.8
256	Fair	1.25	0.1	Equal	0.3	Double	0.04093	0.69830	0.14781	1.42132	4.0	0.8	1.0
257	Fair	1.25	0.1	Equal	0.7	Equal	0.25727	1.00667	0.07251	1.20515	1.0	0.0	0.6
258	Fair	1.25	0.1	Equal	0.7	Double	0.18536	0.96237	0.13756	1.24939	1.2	0.2	0.8
259	Fair	1.25	0.1	Double	0.1	Equal	0.01731	0.54185	0.06139	1.35973	4.0	1.2	1.2
260	Fair	1.25	0.1	Double	0.1	Double	0.00901	0.42748	0.07348	1.27672	4.0	1.4	1.4
261	Fair	1.25	0.1	Double	0.3	Equal	0.06801	0.78807	0.11119	1.95445	4.0	0.6	0.8
262	Fair	1.25	0.1	Double	0.3	Double	0.04093	0.69830	0.14781	1.84263	4.0	0.8	1.0
263	Fair	1.25	0.1	Double	0.7	Equal	0.25727	1.00667	0.07251	1.41029	1.0	0.0	0.6
264	Fair	1.25	0.1	Double	0.7	Double	0.18536	0.96237	0.13756	1.49878	1.2	0.2	0.8
265	Fair	1.25	0.3	Equal	0.1	Equal	0.02032	0.55741	0.06255	1.13836	4.0	1.4	1.2
266	Fair	1.25	0.3	Equal	0.1	Double	0.00828	0.40900	0.07400	1.10296	4.0	1.6	1.6
267	Fair	1.25	0.3	Equal	0.3	Equal	0.07264	0.79187	0.11329	1.42132	4.0	0.8	0.8
268	Fair	1.25	0.3	Equal	0.3	Double	0.04547	0.70992	0.15068	1.36554	4.0	1.0	1.0

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
269	Fair	1.25	0.3	Equal	0.7	Equal	0.28649	1.00311	0.08377	1.17679	1.0	0.2	0.2
270	Fair	1.25	0.3	Equal	0.7	Double	0.21340	0.96254	0.15426	1.21726	1.2	0.4	0.4
271	Fair	1.25	0.3	Double	0.1	Equal	0.02032	0.55741	0.06255	1.27672	4.0	1.4	1.2
272	Fair	1.25	0.3	Double	0.1	Double	0.00828	0.40900	0.07400	1.20591	4.0	1.6	1.6
273	Fair	1.25	0.3	Double	0.3	Equal	0.07264	0.79187	0.11329	1.84263	4.0	0.8	0.8
274	Fair	1.25	0.3	Double	0.3	Double	0.04547	0.70992	0.15068	1.73107	4.0	1.0	1.0
275	Fair	1.25	0.3	Double	0.7	Equal	0.28649	1.00311	0.08377	1.35358	1.0	0.2	0.2
276	Fair	1.25	0.3	Double	0.7	Double	0.21340	0.96254	0.15426	1.43452	1.2	0.4	0.4
277	Fair	1.25	0.5	Equal	0.1	Equal	0.01387	0.52254	0.06023	1.10296	4.0	1.6	1.6
278	Fair	1.25	0.5	Equal	0.1	Double	0.00768	0.42851	0.07098	1.07358	4.0	1.8	1.8
279	Fair	1.25	0.5	Equal	0.3	Equal	0.07647	0.79341	0.11551	1.36554	4.0	1.0	0.8
280	Fair	1.25	0.5	Equal	0.3	Double	0.03955	0.67928	0.15159	1.30951	4.0	1.2	1.2
281	Fair	1.25	0.5	Equal	0.7	Equal	0.27985	0.99571	0.08696	1.14466	1.0	0.4	0.0
282	Fair	1.25	0.5	Equal	0.7	Double	0.19734	0.94780	0.15494	1.17908	1.2	0.6	0.4
283	Fair	1.25	0.5	Double	0.1	Equal	0.01387	0.52254	0.06023	1.20591	4.0	1.6	1.6
284	Fair	1.25	0.5	Double	0.1	Double	0.00768	0.42851	0.07098	1.14717	4.0	1.8	1.8
285	Fair	1.25	0.5	Double	0.3	Equal	0.07647	0.79341	0.11551	1.73107	4.0	1.0	0.8
286	Fair	1.25	0.5	Double	0.3	Double	0.03955	0.67928	0.15159	1.61903	4.0	1.2	1.2
287	Fair	1.25	0.5	Double	0.7	Equal	0.27985	0.99571	0.08696	1.28931	1.0	0.4	0.0
288	Fair	1.25	0.5	Double	0.7	Double	0.19734	0.94780	0.15494	1.35815	1.2	0.6	0.4
289	Poor	0.75	0	Equal	0.1	Equal	0.00919	0.24498	0.08378	1.95369	2.6	-2.0	2.6
290	Poor	0.75	0	Equal	0.1	Double	0.00387	0.18374	0.08859	1.95819	2.8	-2.0	3.0
291	Poor	0.75	0	Equal	0.3	Equal	0.05705	0.44460	0.20655	1.87440	2.0	-2.0	1.8
292	Poor	0.75	0	Equal	0.3	Double	0.02730	0.35068	0.23301	1.89108	2.2	-2.0	2.2
293	Poor	0.75	0	Equal	0.7	Equal	0.64835	0.90949	0.25786	1.76761	2.0	-2.0	-0.4
294	Poor	0.75	0	Equal	0.7	Double	0.20115	0.65163	0.36455	1.70372	1.6	-2.0	1.0
295	Poor	0.75	0	Double	0.1	Equal	0.00919	0.24498	0.08378	2.90738	2.6	-2.0	2.6
296	Poor	0.75	0	Double	0.1	Double	0.00387	0.18374	0.08859	2.91637	2.8	-2.0	3.0
297	Poor	0.75	0	Double	0.3	Equal	0.05705	0.44460	0.20655	2.74881	2.0	-2.0	1.8
298	Poor	0.75	0	Double	0.3	Double	0.02730	0.35068	0.23301	2.78216	2.2	-2.0	2.2

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
299	Poor	0.75	0	Double	0.7	Equal	0.64835	0.90949	0.25786	2.53522	2.0	-2.0	-0.4
300	Poor	0.75	0	Double	0.7	Double	0.20115	0.65163	0.36455	2.40743	1.6	-2.0	1.0
301	Poor	0.75	0.1	Equal	0.1	Equal	0.00923	0.24427	0.08388	1.95369	2.6	-2.0	2.6
302	Poor	0.75	0.1	Equal	0.1	Double	0.00388	0.18339	0.08865	1.95819	2.8	-2.0	3.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.05689	0.44229	0.20714	1.87440	2.0	-2.0	1.8
304	Poor	0.75	0.1	Equal	0.3	Double	0.02729	0.34917	0.23346	1.89108	2.2	-2.0	2.2
305	Poor	0.75	0.1	Equal	0.7	Equal	0.64851	0.90763	0.25921	1.76761	2.0	-2.0	-0.4
306	Poor	0.75	0.1	Equal	0.7	Double	0.19943	0.64788	0.36614	1.70372	1.6	-2.0	1.0
307	Poor	0.75	0.1	Double	0.1	Equal	0.00923	0.24427	0.08388	2.90738	2.6	-2.0	2.6
308	Poor	0.75	0.1	Double	0.1	Double	0.00388	0.18339	0.08865	2.91637	2.8	-2.0	3.0
309	Poor	0.75	0.1	Double	0.3	Equal	0.05689	0.44229	0.20714	2.74881	2.0	-2.0	1.8
310	Poor	0.75	0.1	Double	0.3	Double	0.02729	0.34917	0.23346	2.78216	2.2	-2.0	2.2
311	Poor	0.75	0.1	Double	0.7	Equal	0.64851	0.90763	0.25921	2.53522	2.0	-2.0	-0.4
312	Poor	0.75	0.1	Double	0.7	Double	0.19943	0.64788	0.36614	2.40743	1.6	-2.0	1.0
313	Poor	0.75	0.3	Equal	0.1	Equal	0.00915	0.24266	0.08397	1.95369	2.6	-2.0	2.6
314	Poor	0.75	0.3	Equal	0.1	Double	0.00386	0.18254	0.08870	1.95819	2.8	-2.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.05566	0.43745	0.20773	1.87440	2.0	-2.0	1.8
316	Poor	0.75	0.3	Equal	0.3	Double	0.02684	0.34589	0.23381	1.89108	2.2	-2.0	2.2
317	Poor	0.75	0.3	Equal	0.7	Equal	0.95655	1.03791	0.26043	1.81889	2.4	-2.0	-2.0
318	Poor	0.75	0.3	Equal	0.7	Double	0.21256	0.65724	0.36746	1.66660	1.4	-2.0	1.0
319	Poor	0.75	0.3	Double	0.1	Equal	0.00915	0.24266	0.08397	2.90738	2.6	-2.0	2.6
320	Poor	0.75	0.3	Double	0.1	Double	0.00386	0.18254	0.08870	2.91637	2.8	-2.0	3.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.05566	0.43745	0.20773	2.74881	2.0	-2.0	1.8
322	Poor	0.75	0.3	Double	0.3	Double	0.02684	0.34589	0.23381	2.78216	2.2	-2.0	2.2
323	Poor	0.75	0.3	Double	0.7	Equal	0.95655	1.03791	0.26043	2.63778	2.4	-2.0	-2.0
324	Poor	0.75	0.3	Double	0.7	Double	0.21256	0.65724	0.36746	2.33320	1.4	-2.0	1.0
325	Poor	0.75	0.5	Equal	0.1	Equal	0.00887	0.24078	0.08391	1.95369	2.6	-2.0	2.6
326	Poor	0.75	0.5	Equal	0.1	Double	0.00378	0.18149	0.08865	1.95819	2.8	-2.0	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.05314	0.43231	0.20751	1.87440	2.0	-2.0	1.8
328	Poor	0.75	0.5	Equal	0.3	Double	0.02576	0.34229	0.23338	1.89108	2.2	-2.0	2.2

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
329	Poor	0.75	0.5	Equal	0.7	Equal	0.95855	1.03772	0.26116	1.81889	2.4	-2.0	-2.0
330	Poor	0.75	0.5	Equal	0.7	Double	0.20161	0.64893	0.36672	1.66660	1.4	-2.0	1.0
331	Poor	0.75	0.5	Double	0.1	Equal	0.00887	0.24078	0.08391	2.90738	2.6	-2.0	2.6
332	Poor	0.75	0.5	Double	0.1	Double	0.00378	0.18149	0.08865	2.91637	2.8	-2.0	3.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.05314	0.43231	0.20751	2.74881	2.0	-2.0	1.8
334	Poor	0.75	0.5	Double	0.3	Double	0.02576	0.34229	0.23338	2.78216	2.2	-2.0	2.2
335	Poor	0.75	0.5	Double	0.7	Equal	0.95855	1.03772	0.26116	2.63778	2.4	-2.0	-2.0
336	Poor	0.75	0.5	Double	0.7	Double	0.20161	0.64893	0.36672	2.33320	1.4	-2.0	1.0
337	Poor	1	0	Equal	0.1	Equal	0.00715	0.11572	0.09487	1.10360	3.2	1.4	1.4
338	Poor	1	0	Equal	0.1	Double	0.00136	0.04127	0.09832	1.05192	3.8	1.8	1.8
339	Poor	1	0	Equal	0.3	Equal	0.09093	0.46335	0.22465	1.39400	2.0	0.4	0.8
340	Poor	1	0	Equal	0.3	Double	0.02850	0.25581	0.26316	1.29842	2.6	0.8	1.2
341	Poor	1	0	Equal	0.7	Equal	0.51285	0.89881	0.22469	1.40558	0.6	-1.0	0.2
342	Poor	1	0	Equal	0.7	Double	0.30126	0.76449	0.34561	1.51863	1.2	-0.4	0.4
343	Poor	1	0	Double	0.1	Equal	0.00715	0.11572	0.09487	1.20721	3.2	1.4	1.4
344	Poor	1	0	Double	0.1	Double	0.00136	0.04127	0.09832	1.10385	3.8	1.8	1.8
345	Poor	1	0	Double	0.3	Equal	0.09093	0.46335	0.22465	1.78801	2.0	0.4	0.8
346	Poor	1	0	Double	0.3	Double	0.02850	0.25581	0.26316	1.59684	2.6	0.8	1.2
347	Poor	1	0	Double	0.7	Equal	0.51285	0.89881	0.22469	1.81116	0.6	-1.0	0.2
348	Poor	1	0	Double	0.7	Double	0.30126	0.76449	0.34561	2.03726	1.2	-0.4	0.4
349	Poor	1	0.1	Equal	0.1	Equal	0.00689	0.10483	0.09572	1.10360	3.2	1.4	1.6
350	Poor	1	0.1	Equal	0.1	Double	0.00139	0.03779	0.09873	1.05192	3.8	1.8	2.0
351	Poor	1	0.1	Equal	0.3	Equal	0.10009	0.46789	0.22970	1.39400	2.0	0.4	0.8
352	Poor	1	0.1	Equal	0.3	Double	0.02706	0.23517	0.26733	1.23732	2.6	1.0	1.2
353	Poor	1	0.1	Equal	0.7	Equal	0.55414	0.90942	0.22965	1.40558	0.6	-1.0	0.0
354	Poor	1	0.1	Equal	0.7	Double	0.30741	0.75699	0.35456	1.51863	1.2	-0.4	0.4
355	Poor	1	0.1	Double	0.1	Equal	0.00689	0.10483	0.09572	1.20721	3.2	1.4	1.6
356	Poor	1	0.1	Double	0.1	Double	0.00139	0.03779	0.09873	1.10385	3.8	1.8	2.0
357	Poor	1	0.1	Double	0.3	Equal	0.10009	0.46789	0.22970	1.78801	2.0	0.4	0.8
358	Poor	1	0.1	Double	0.3	Double	0.02706	0.23517	0.26733	1.47463	2.6	1.0	1.2

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
359	Poor	1	0.1	Double	0.7	Equal	0.55414	0.90942	0.22965	1.81116	0.6	-1.0	0.0
360	Poor	1	0.1	Double	0.7	Double	0.30741	0.75699	0.35456	2.03726	1.2	-0.4	0.4
361	Poor	1	0.3	Equal	0.1	Equal	0.00642	0.08750	0.09702	1.07338	3.2	1.6	1.8
362	Poor	1	0.3	Equal	0.1	Double	0.00100	0.02525	0.09927	1.02286	3.8	2.2	2.2
363	Poor	1	0.3	Equal	0.3	Equal	0.08403	0.40153	0.23836	1.32321	2.0	0.6	1.0
364	Poor	1	0.3	Equal	0.3	Double	0.02361	0.19655	0.27409	1.18316	2.6	1.2	1.4
365	Poor	1	0.3	Equal	0.7	Equal	0.57726	0.90722	0.23812	1.33416	0.4	-1.0	0.0
366	Poor	1	0.3	Equal	0.7	Double	0.34152	0.76427	0.36992	1.45038	1.0	-0.4	0.4
367	Poor	1	0.3	Double	0.1	Equal	0.00642	0.08750	0.09702	1.14675	3.2	1.6	1.8
368	Poor	1	0.3	Double	0.1	Double	0.00100	0.02525	0.09927	1.04573	3.8	2.2	2.2
369	Poor	1	0.3	Double	0.3	Equal	0.08403	0.40153	0.23836	1.64642	2.0	0.6	1.0
370	Poor	1	0.3	Double	0.3	Double	0.02361	0.19655	0.27409	1.36633	2.6	1.2	1.4
371	Poor	1	0.3	Double	0.7	Equal	0.57726	0.90722	0.23812	1.66832	0.4	-1.0	0.0
372	Poor	1	0.3	Double	0.7	Double	0.34152	0.76427	0.36992	1.90077	1.0	-0.4	0.4
373	Poor	1	0.5	Equal	0.1	Equal	0.00483	0.06441	0.09790	1.04896	3.0	1.8	2.2
374	Poor	1	0.5	Equal	0.1	Double	0.00071	0.01711	0.09957	1.01450	3.8	2.4	2.6
375	Poor	1	0.5	Equal	0.3	Equal	0.08946	0.39136	0.24521	1.29869	1.8	0.6	1.2
376	Poor	1	0.5	Equal	0.3	Double	0.02538	0.18803	0.27913	1.18316	2.6	1.2	1.6
377	Poor	1	0.5	Equal	0.7	Equal	0.58866	0.90190	0.24527	1.30814	0.4	-0.8	-0.2
378	Poor	1	0.5	Equal	0.7	Double	0.32701	0.73256	0.38341	1.40206	1.0	-0.2	0.4
379	Poor	1	0.5	Double	0.1	Equal	0.00483	0.06441	0.09790	1.09792	3.0	1.8	2.2
380	Poor	1	0.5	Double	0.1	Double	0.00071	0.01711	0.09957	1.02900	3.8	2.4	2.6
381	Poor	1	0.5	Double	0.3	Equal	0.08946	0.39136	0.24521	1.59738	1.8	0.6	1.2
382	Poor	1	0.5	Double	0.3	Double	0.02538	0.18803	0.27913	1.36633	2.6	1.2	1.6
383	Poor	1	0.5	Double	0.7	Equal	0.58866	0.90190	0.24527	1.61629	0.4	-0.8	-0.2
384	Poor	1	0.5	Double	0.7	Double	0.32701	0.73256	0.38341	1.80413	1.0	-0.2	0.4
385	Poor	1.25	0	Equal	0.1	Equal	0.01327	0.19376	0.09257	1.14608	4.0	1.2	1.2
386	Poor	1.25	0	Equal	0.1	Double	0.00303	0.06639	0.09882	1.07010	4.0	1.6	1.6
387	Poor	1.25	0	Equal	0.3	Equal	0.11875	0.64348	0.19008	1.49795	4.0	0.4	0.4
388	Poor	1.25	0	Equal	0.3	Double	0.04491	0.40530	0.24128	1.34896	4.0	0.8	0.8

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification		FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost								
389	Poor	1.25	0	Equal	0.7	Equal		0.43463	0.98255	0.14260	1.26581	0.6	-0.4	0.2
390	Poor	1.25	0	Equal	0.7	Double		0.33845	0.91642	0.26158	1.32601	0.8	-0.2	0.4
391	Poor	1.25	0	Double	0.1	Equal		0.01327	0.19376	0.09257	1.29216	4.0	1.2	1.2
392	Poor	1.25	0	Double	0.1	Double		0.00303	0.06639	0.09882	1.14021	4.0	1.6	1.6
393	Poor	1.25	0	Double	0.3	Equal		0.11875	0.64348	0.19008	1.99590	4.0	0.4	0.4
394	Poor	1.25	0	Double	0.3	Double		0.04491	0.40530	0.24128	1.69793	4.0	0.8	0.8
395	Poor	1.25	0	Double	0.7	Equal		0.43463	0.98255	0.14260	1.53163	0.6	-0.4	0.2
396	Poor	1.25	0	Double	0.7	Double		0.33845	0.91642	0.26158	1.65201	0.8	-0.2	0.4
397	Poor	1.25	0.1	Equal	0.1	Equal		0.01731	0.23218	0.09236	1.14608	4.0	1.2	1.2
398	Poor	1.25	0.1	Equal	0.1	Double		0.00205	0.05281	0.09841	1.04533	4.0	1.8	1.8
399	Poor	1.25	0.1	Equal	0.3	Equal		0.10695	0.60612	0.19303	1.42393	4.0	0.6	0.4
400	Poor	1.25	0.1	Equal	0.3	Double		0.05357	0.44045	0.24286	1.34896	4.0	0.8	0.8
401	Poor	1.25	0.1	Equal	0.7	Equal		0.50000	0.99814	0.15131	1.18686	0.4	-0.4	0.0
402	Poor	1.25	0.1	Equal	0.7	Double		0.26595	0.83832	0.27274	1.81793	4.0	0.0	0.0
403	Poor	1.25	0.1	Double	0.1	Equal		0.01731	0.23218	0.09236	1.29216	4.0	1.2	1.2
404	Poor	1.25	0.1	Double	0.1	Double		0.00205	0.05281	0.09841	1.09066	4.0	1.8	1.8
405	Poor	1.25	0.1	Double	0.3	Equal		0.10695	0.60612	0.19303	1.84785	4.0	0.6	0.4
406	Poor	1.25	0.1	Double	0.3	Double		0.05357	0.44045	0.24286	1.69793	4.0	0.8	0.8
407	Poor	1.25	0.1	Double	0.7	Equal		0.50000	0.99814	0.15131	1.37371	0.4	-0.4	0.0
408	Poor	1.25	0.1	Double	0.7	Double		0.26595	0.83832	0.27274	2.63586	4.0	0.0	0.0
409	Poor	1.25	0.3	Equal	0.1	Equal		0.01536	0.23474	0.09035	1.10349	4.0	1.4	1.4
410	Poor	1.25	0.3	Equal	0.1	Double		0.00424	0.10593	0.09704	1.04533	4.0	1.8	1.8
411	Poor	1.25	0.3	Equal	0.3	Equal		0.11064	0.62680	0.18941	1.42393	4.0	0.6	0.6
412	Poor	1.25	0.3	Equal	0.3	Double		0.04547	0.42098	0.23736	1.27590	4.0	1.0	1.0
413	Poor	1.25	0.3	Equal	0.7	Equal		0.48275	0.97967	0.15905	1.23429	0.6	-0.2	-0.4
414	Poor	1.25	0.3	Equal	0.7	Double		0.29850	0.86544	0.27329	1.81793	4.0	0.0	0.0
415	Poor	1.25	0.3	Double	0.1	Equal		0.01536	0.23474	0.09035	1.20698	4.0	1.4	1.4
416	Poor	1.25	0.3	Double	0.1	Double		0.00424	0.10593	0.09704	1.09066	4.0	1.8	1.8
417	Poor	1.25	0.3	Double	0.3	Equal		0.11064	0.62680	0.18941	1.84785	4.0	0.6	0.6
418	Poor	1.25	0.3	Double	0.3	Double		0.04547	0.42098	0.23736	1.55181	4.0	1.0	1.0

Table A-7. 2-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2
						Cost							
419	Poor	1.25	0.3	Double	0.7	Equal	0.48275	0.97967	0.15905	1.46859	0.6	-0.2	-0.4
420	Poor	1.25	0.3	Double	0.7	Double	0.29850	0.86544	0.27329	2.63586	4.0	0.0	0.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.01387	0.25760	0.08673	1.07010	4.0	1.6	1.6
422	Poor	1.25	0.5	Equal	0.1	Double	0.00407	0.12487	0.09483	1.02797	4.0	2.0	2.0
423	Poor	1.25	0.5	Equal	0.3	Equal	0.09469	0.61259	0.18250	1.34896	4.0	0.8	0.8
424	Poor	1.25	0.5	Equal	0.3	Double	0.03955	0.44011	0.22334	1.20816	4.0	1.2	1.2
425	Poor	1.25	0.5	Equal	0.7	Equal	0.52573	0.99882	0.15855	1.15534	0.4	-0.2	-0.6
426	Poor	1.25	0.5	Equal	0.7	Double	0.29189	0.86413	0.27024	1.76697	4.0	0.2	0.0
427	Poor	1.25	0.5	Double	0.1	Equal	0.01387	0.25760	0.08673	1.14021	4.0	1.6	1.6
428	Poor	1.25	0.5	Double	0.1	Double	0.00407	0.12487	0.09483	1.05594	4.0	2.0	2.0
429	Poor	1.25	0.5	Double	0.3	Equal	0.09469	0.61259	0.18250	1.69793	4.0	0.8	0.8
430	Poor	1.25	0.5	Double	0.3	Double	0.03955	0.44011	0.22334	1.41633	4.0	1.2	1.2
431	Poor	1.25	0.5	Double	0.7	Equal	0.52573	0.99882	0.15855	1.31067	0.4	-0.2	-0.6
432	Poor	1.25	0.5	Double	0.7	Double	0.29189	0.86413	0.27024	2.53393	4.0	0.2	0.0

3-Test Sequence Under Believe the Extreme

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
1	Good	0.75	0	Equal	0.1	Equal	0.01012	0.76384	0.03272	1.72812	3.0	0.0	2.4	0.2	2.0
2	Good	0.75	0	Equal	0.1	Double	0.00495	0.69691	0.03922	1.50958	3.2	0.4	2.6	0.4	2.0
3	Good	0.75	0	Equal	0.3	Equal	0.03618	0.87582	0.06258	1.99388	3.0	-0.4	2.0	-0.2	1.6
4	Good	0.75	0	Equal	0.3	Double	0.01948	0.82296	0.08038	1.88450	3.0	-0.2	2.2	0.0	1.8
5	Good	0.75	0	Equal	0.7	Equal	0.17493	0.99776	0.05405	2.11680	3.4	-1.0	1.2	-1.4	1.2
6	Good	0.75	0	Equal	0.7	Double	0.09047	0.94979	0.08943	2.08286	3.2	-0.8	1.6	-0.8	1.4
7	Good	0.75	0	Double	0.1	Equal	0.01012	0.76384	0.03272	2.89919	3.0	0.0	2.4	0.2	2.0
8	Good	0.75	0	Double	0.1	Double	0.00495	0.69691	0.03922	2.30645	3.2	0.4	2.6	0.4	2.0
9	Good	0.75	0	Double	0.3	Equal	0.03618	0.87582	0.06258	3.68857	3.0	-0.4	2.0	-0.2	1.6
10	Good	0.75	0	Double	0.3	Double	0.01948	0.82296	0.08038	3.36889	3.0	-0.2	2.2	0.0	1.8
11	Good	0.75	0	Double	0.7	Equal	0.17493	0.99776	0.05405	3.93727	3.4	-1.0	1.2	-1.4	1.2
12	Good	0.75	0	Double	0.7	Double	0.09047	0.94979	0.08943	3.89861	3.2	-0.8	1.6	-0.8	1.4
13	Good	0.75	0.1	Equal	0.1	Equal	0.01135	0.74353	0.03586	1.77869	3.0	0.0	2.4	0.0	2.2
14	Good	0.75	0.1	Equal	0.1	Double	0.00619	0.68102	0.04303	1.64231	3.0	0.2	2.6	0.2	2.4
15	Good	0.75	0.1	Equal	0.3	Equal	0.03954	0.86409	0.06845	2.12618	3.0	-0.6	2.0	-0.4	1.8
16	Good	0.75	0.1	Equal	0.3	Double	0.02074	0.80288	0.08817	1.93037	3.0	-0.2	2.2	-0.2	2.0
17	Good	0.75	0.1	Equal	0.7	Equal	0.17504	0.99175	0.05829	2.25025	3.4	-1.6	1.4	-2.0	1.2
18	Good	0.75	0.1	Equal	0.7	Double	0.09305	0.94090	0.09720	2.17738	3.2	-1.0	1.6	-2.0	1.6
19	Good	0.75	0.1	Double	0.1	Equal	0.01135	0.74353	0.03586	3.10146	3.0	0.0	2.4	0.0	2.2
20	Good	0.75	0.1	Double	0.1	Double	0.00619	0.68102	0.04303	2.70352	3.0	0.2	2.6	0.2	2.4
21	Good	0.75	0.1	Double	0.3	Equal	0.03954	0.86409	0.06845	4.10976	3.0	-0.6	2.0	-0.4	1.8
22	Good	0.75	0.1	Double	0.3	Double	0.02074	0.80288	0.08817	3.55235	3.0	-0.2	2.2	-0.2	2.0
23	Good	0.75	0.1	Double	0.7	Equal	0.17504	0.99175	0.05829	4.37668	3.4	-1.6	1.4	-2.0	1.2
24	Good	0.75	0.1	Double	0.7	Double	0.09306	0.94090	0.09720	4.22899	3.2	-1.0	1.6	-2.0	1.6
25	Good	0.75	0.3	Equal	0.1	Equal	0.01150	0.71577	0.03877	2.84468	2.8	-2.0	2.6	-2.0	2.6
26	Good	0.75	0.3	Equal	0.1	Double	0.00631	0.65002	0.04636	2.85977	3.0	-2.0	2.8	-2.0	2.8
27	Good	0.75	0.3	Equal	0.3	Equal	0.04431	0.85696	0.07393	2.65658	3.0	-2.0	2.0	-2.0	2.0
28	Good	0.75	0.3	Equal	0.3	Double	0.02362	0.79144	0.09564	2.65507	2.8	-2.0	2.2	-2.0	2.4
29	Good	0.75	0.3	Equal	0.7	Equal	0.20165	0.99685	0.06270	2.23804	3.4	-2.0	1.2	-2.0	1.2

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
30	Good	0.75	0.3	Equal	0.7	Double	0.10119	0.93729	0.10461	2.28544	3.2	-2.0	1.6	-2.0	1.6
31	Good	0.75	0.3	Double	0.1	Equal	0.01150	0.71578	0.03877	6.49407	2.8	-2.0	2.6	-2.0	2.6
32	Good	0.75	0.3	Double	0.1	Double	0.00631	0.65001	0.04636	6.54425	3.0	-2.0	2.8	-2.0	2.8
33	Good	0.75	0.3	Double	0.3	Equal	0.04431	0.85696	0.07393	5.84545	3.0	-2.0	2.0	-2.0	2.0
34	Good	0.75	0.3	Double	0.3	Double	0.02361	0.79139	0.09564	5.93065	2.8	-2.0	2.4	-2.0	2.2
35	Good	0.75	0.3	Double	0.7	Equal	0.20164	0.99685	0.06270	4.29655	3.4	-2.0	1.2	-2.0	1.2
36	Good	0.75	0.3	Double	0.7	Double	0.10119	0.93728	0.10462	4.53553	3.2	-2.0	1.6	-2.0	1.6
37	Good	0.75	0.5	Equal	0.1	Equal	0.01091	0.69981	0.03984	2.84746	2.8	-2.0	2.6	-2.0	2.6
38	Good	0.75	0.5	Equal	0.1	Double	0.00604	0.63525	0.04735	2.86235	3.0	-2.0	2.8	-2.0	2.8
39	Good	0.75	0.5	Equal	0.3	Equal	0.04280	0.84408	0.07674	2.64046	2.8	-2.0	2.0	-2.0	2.0
40	Good	0.75	0.5	Equal	0.3	Double	0.02242	0.77542	0.09876	2.65927	2.8	-2.0	2.2	-2.0	2.4
41	Good	0.75	0.5	Equal	0.7	Equal	0.19040	0.98861	0.06509	2.24162	3.4	-2.0	1.2	-2.0	1.2
42	Good	0.75	0.5	Equal	0.7	Double	0.09585	0.92554	0.10963	2.29039	3.2	-2.0	1.6	-2.0	1.6
43	Good	0.75	0.5	Double	0.1	Equal	0.01092	0.69980	0.03984	6.50520	2.8	-2.0	2.6	-2.0	2.6
44	Good	0.75	0.5	Double	0.1	Double	0.00604	0.63522	0.04735	6.55458	3.0	-2.0	2.8	-2.0	2.8
45	Good	0.75	0.5	Double	0.3	Equal	0.04279	0.84408	0.07673	5.80671	2.8	-2.0	2.0	-2.0	2.0
46	Good	0.75	0.5	Double	0.3	Double	0.02241	0.77546	0.09874	5.88193	2.8	-2.0	2.2	-2.0	2.4
47	Good	0.75	0.5	Double	0.7	Equal	0.19042	0.98861	0.06510	4.31084	3.4	-2.0	1.2	-2.0	1.2
48	Good	0.75	0.5	Double	0.7	Double	0.09586	0.92554	0.10964	4.55533	3.2	-2.0	1.6	-2.0	1.6
49	Good	1	0	Equal	0.1	Equal	0.00945	0.86692	0.02181	1.41620	3.0	0.6	2.4	0.6	1.4
50	Good	1	0	Equal	0.1	Double	0.00520	0.81730	0.02764	1.34455	3.2	0.8	2.6	0.8	1.4
51	Good	1	0	Equal	0.3	Equal	0.02291	0.92700	0.03794	1.61672	2.6	0.2	2.2	0.6	1.2
52	Good	1	0	Equal	0.3	Double	0.01450	0.89802	0.05090	1.57841	2.8	0.4	2.2	0.6	1.4
53	Good	1	0	Equal	0.7	Equal	0.07055	0.97607	0.03792	1.58101	2.0	-0.2	2.0	0.2	1.0
54	Good	1	0	Equal	0.7	Double	0.04722	0.96230	0.05472	1.62113	2.2	0.0	2.0	0.2	1.2
55	Good	1	0	Double	0.1	Equal	0.00945	0.86692	0.02181	2.03206	3.0	0.6	2.4	0.6	1.4
56	Good	1	0	Double	0.1	Double	0.00520	0.81730	0.02764	1.84902	3.2	0.8	2.6	0.8	1.4
57	Good	1	0	Double	0.3	Equal	0.02291	0.92700	0.03794	2.52968	2.6	0.2	2.2	0.6	1.2
58	Good	1	0	Double	0.3	Double	0.01450	0.89802	0.05090	2.44172	2.8	0.4	2.2	0.6	1.4
59	Good	1	0	Double	0.7	Equal	0.07055	0.97607	0.03792	2.47722	2.0	-0.2	2.0	0.2	1.0
60	Good	1	0	Double	0.7	Double	0.04722	0.96230	0.05472	2.57717	2.2	0.0	2.0	0.2	1.2

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
61	Good	1	0.1	Equal	0.1	Equal	0.00998	0.82668	0.02632	1.33627	3.0	0.8	2.4	0.8	1.4
62	Good	1	0.1	Equal	0.1	Double	0.00559	0.76836	0.03323	1.33880	3.2	0.8	2.6	1.0	1.6
63	Good	1	0.1	Equal	0.3	Equal	0.02951	0.91486	0.04620	1.51931	2.4	0.4	2.2	0.6	1.2
64	Good	1	0.1	Equal	0.3	Double	0.01694	0.87347	0.06167	1.51936	2.8	0.6	2.2	0.6	1.4
65	Good	1	0.1	Equal	0.7	Equal	0.08818	0.97205	0.04602	1.57113	2.0	-0.2	1.8	0.2	1.0
66	Good	1	0.1	Equal	0.7	Double	0.06024	0.95610	0.06687	1.61848	2.2	0.0	2.0	0.4	1.0
67	Good	1	0.1	Double	0.1	Equal	0.00998	0.82668	0.02632	1.82890	3.0	0.8	2.4	0.8	1.4
68	Good	1	0.1	Double	0.1	Double	0.00560	0.76836	0.03324	1.82600	3.2	0.8	2.6	1.0	1.6
69	Good	1	0.1	Double	0.3	Equal	0.02951	0.91486	0.04620	2.30487	2.4	0.4	2.2	0.6	1.2
70	Good	1	0.1	Double	0.3	Double	0.01694	0.87347	0.06167	2.31305	2.8	0.6	2.2	0.6	1.4
71	Good	1	0.1	Double	0.7	Equal	0.08818	0.97205	0.04602	2.43769	2.0	-0.2	1.8	0.2	1.0
72	Good	1	0.1	Double	0.7	Double	0.06024	0.95610	0.06688	2.56657	2.2	0.0	2.0	0.4	1.0
73	Good	1	0.3	Equal	0.1	Equal	0.01285	0.76749	0.03481	1.26396	2.8	1.0	2.4	1.0	1.6
74	Good	1	0.3	Equal	0.1	Double	0.00648	0.68359	0.04330	1.21765	3.0	1.2	2.6	1.2	1.8
75	Good	1	0.3	Equal	0.3	Equal	0.03682	0.87886	0.06211	1.45512	2.4	0.6	2.0	0.6	1.4
76	Good	1	0.3	Equal	0.3	Double	0.02406	0.83712	0.08255	1.42342	2.6	0.8	2.2	0.8	1.4
77	Good	1	0.3	Equal	0.7	Equal	0.11903	0.96242	0.06201	1.46422	1.8	0.0	1.6	0.2	1.0
78	Good	1	0.3	Equal	0.7	Double	0.07595	0.93648	0.09003	1.50288	2.0	0.2	1.8	0.4	1.2
79	Good	1	0.3	Double	0.1	Equal	0.01284	0.76749	0.03481	1.65689	2.8	1.0	2.4	1.0	1.6
80	Good	1	0.3	Double	0.1	Double	0.00648	0.68359	0.04330	1.54196	3.0	1.2	2.6	1.2	1.8
81	Good	1	0.3	Double	0.3	Equal	0.03682	0.87887	0.06211	2.15564	2.4	0.6	2.0	0.6	1.4
82	Good	1	0.3	Double	0.3	Double	0.02407	0.83712	0.08256	2.07695	2.6	0.8	2.2	0.8	1.4
83	Good	1	0.3	Double	0.7	Equal	0.11903	0.96242	0.06202	2.17329	1.8	0.0	1.6	0.2	1.0
84	Good	1	0.3	Double	0.7	Double	0.07595	0.93648	0.09004	2.27517	2.0	0.2	1.8	0.4	1.2
85	Good	1	0.5	Equal	0.1	Equal	0.01394	0.70195	0.04235	1.21198	2.8	1.2	2.4	1.2	1.8
86	Good	1	0.5	Equal	0.1	Double	0.00747	0.61636	0.05181	1.17486	3.0	1.4	2.6	1.4	2.0
87	Good	1	0.5	Equal	0.3	Equal	0.05034	0.86138	0.07682	1.41895	2.2	0.6	2.0	0.8	1.4
88	Good	1	0.5	Equal	0.3	Double	0.02475	0.77753	0.10138	1.36530	2.6	1.0	2.2	1.0	1.6
89	Good	1	0.5	Equal	0.7	Equal	0.13926	0.94978	0.07693	1.40216	1.6	0.0	1.6	0.4	1.0
90	Good	1	0.5	Equal	0.7	Double	0.09244	0.91924	0.11200	1.45997	2.0	0.4	1.6	0.4	1.2
91	Good	1	0.5	Double	0.1	Equal	0.01394	0.70195	0.04235	1.53497	2.8	1.2	2.4	1.2	1.8

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
92	Good	1	0.5	Double	0.1	Double	0.00747	0.61637	0.05181	1.44200	3.0	1.4	2.6	1.4	2.0
93	Good	1	0.5	Double	0.3	Equal	0.05034	0.86138	0.07682	2.06673	2.2	0.6	2.0	0.8	1.4
94	Good	1	0.5	Double	0.3	Double	0.02475	0.77753	0.10139	1.93631	2.6	1.0	2.2	1.0	1.6
95	Good	1	0.5	Double	0.7	Equal	0.13927	0.94979	0.07693	2.02812	1.6	0.0	1.6	0.4	1.0
96	Good	1	0.5	Double	0.7	Double	0.09242	0.91924	0.11199	2.16366	2.0	0.4	1.6	0.4	1.2
97	Good	1.25	0	Equal	0.1	Equal	0.00780	0.96704	0.01032	1.28987	2.6	0.8	2.8	1.0	1.4
98	Good	1.25	0	Equal	0.1	Double	0.00274	0.90601	0.01434	1.30589	4.0	1.0	2.6	1.0	1.4
99	Good	1.25	0	Equal	0.3	Equal	0.01925	1.02742	0.00525	1.33393	2.2	0.6	2.8	1.0	1.2
100	Good	1.25	0	Equal	0.3	Double	0.01223	1.00102	0.01682	1.38650	2.4	0.6	2.8	1.0	1.4
101	Good	1.25	0	Equal	0.7	Equal	0.03534	1.04664	-0.02205	1.31245	2.0	0.2	2.4	0.8	1.2
102	Good	1.25	0	Equal	0.7	Double	0.03192	1.04447	-0.01198	1.29934	2.0	0.4	2.6	0.8	1.2
103	Good	1.25	0	Double	0.1	Equal	0.00780	0.96704	0.01032	1.69109	2.6	0.8	2.8	1.0	1.4
104	Good	1.25	0	Double	0.1	Double	0.00274	0.90601	0.01434	1.74237	4.0	1.0	2.6	1.0	1.4
105	Good	1.25	0	Double	0.3	Equal	0.01925	1.02742	0.00525	1.82209	2.2	0.6	2.8	1.0	1.2
106	Good	1.25	0	Double	0.3	Double	0.01223	1.00102	0.01682	1.95926	2.4	0.6	2.8	1.0	1.4
107	Good	1.25	0	Double	0.7	Equal	0.03534	1.04664	-0.02205	1.78530	2.0	0.2	2.4	0.8	1.2
108	Good	1.25	0	Double	0.7	Double	0.03192	1.04447	-0.01198	1.77877	2.0	0.4	2.6	0.8	1.2
109	Good	1.25	0.1	Equal	0.1	Equal	0.00895	0.94276	0.01378	1.23801	2.6	1.0	3.0	1.2	1.2
110	Good	1.25	0.1	Equal	0.1	Double	0.00343	0.87891	0.01829	1.27519	4.0	1.2	3.0	1.2	1.2
111	Good	1.25	0.1	Equal	0.3	Equal	0.02278	1.01602	0.01114	1.30160	2.2	0.8	3.0	1.0	1.0
112	Good	1.25	0.1	Equal	0.3	Double	0.01523	0.98807	0.02490	1.35807	2.4	0.8	3.0	1.0	1.2
113	Good	1.25	0.1	Equal	0.7	Equal	0.04558	1.04239	-0.01600	1.31982	2.0	0.4	2.6	0.8	0.8
114	Good	1.25	0.1	Equal	0.7	Double	0.03734	1.03718	-0.00362	1.29232	2.0	0.6	2.6	0.8	1.0
115	Good	1.25	0.1	Double	0.1	Equal	0.00895	0.94276	0.01378	1.58006	2.6	1.0	3.0	1.2	1.2
116	Good	1.25	0.1	Double	0.1	Double	0.00343	0.87891	0.01829	1.69949	4.0	1.2	3.0	1.2	1.2
117	Good	1.25	0.1	Double	0.3	Equal	0.02278	1.01602	0.01114	1.78094	2.2	0.8	3.0	1.0	1.0
118	Good	1.25	0.1	Double	0.3	Double	0.01523	0.98807	0.02490	1.93368	2.4	0.8	3.0	1.0	1.2
119	Good	1.25	0.1	Double	0.7	Equal	0.04558	1.04239	-0.01600	1.86069	2.0	0.4	2.6	0.8	0.8
120	Good	1.25	0.1	Double	0.7	Double	0.03734	1.03718	-0.00362	1.79361	2.0	0.6	2.6	0.8	1.0
121	Good	1.25	0.3	Equal	0.1	Equal	0.00726	0.88056	0.01847	1.31215	4.0	1.2	4.0	1.2	1.4
122	Good	1.25	0.3	Equal	0.1	Double	0.00455	0.85242	0.02294	1.26555	4.0	1.4	4.0	1.4	1.4

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
123	Good	1.25	0.3	Equal	0.3	Equal	0.02891	1.00226	0.01956	1.28067	2.2	1.0	4.0	1.0	1.0
124	Good	1.25	0.3	Equal	0.3	Double	0.01618	0.95482	0.03621	1.29366	2.4	1.2	4.0	1.2	1.2
125	Good	1.25	0.3	Equal	0.7	Equal	0.07019	1.04054	-0.00732	1.36076	2.0	0.6	4.0	0.6	0.6
126	Good	1.25	0.3	Equal	0.7	Double	0.04922	1.02962	0.00879	1.32425	2.0	0.8	4.0	0.8	0.8
127	Good	1.25	0.3	Double	0.1	Equal	0.00725	0.88069	0.01846	1.84732	4.0	1.2	4.0	1.2	1.4
128	Good	1.25	0.3	Double	0.1	Double	0.00454	0.85244	0.02293	1.72557	4.0	1.4	4.0	1.4	1.4
129	Good	1.25	0.3	Double	0.3	Equal	0.02891	1.00226	0.01956	1.77367	2.2	1.0	4.0	1.0	1.0
130	Good	1.25	0.3	Double	0.3	Double	0.01618	0.95482	0.03621	1.81782	2.4	1.2	4.0	1.2	1.2
131	Good	1.25	0.3	Double	0.7	Equal	0.07018	1.04055	-0.00733	2.06737	2.0	0.6	4.0	0.6	0.6
132	Good	1.25	0.3	Double	0.7	Double	0.04921	1.02962	0.00879	1.96064	2.0	0.8	4.0	0.8	0.8
133	Good	1.25	0.5	Equal	0.1	Equal	0.01185	0.90076	0.02059	1.13982	2.6	1.6	4.0	1.4	1.4
134	Good	1.25	0.5	Equal	0.1	Double	0.00457	0.80447	0.02777	1.20539	3.8	1.8	4.0	1.6	1.6
135	Good	1.25	0.5	Equal	0.3	Equal	0.02518	0.97370	0.02551	1.19657	2.2	1.4	3.8	1.2	1.2
136	Good	1.25	0.5	Equal	0.3	Double	0.02107	0.95640	0.04258	1.26242	2.4	1.4	4.0	1.2	1.2
137	Good	1.25	0.5	Equal	0.7	Equal	0.07024	1.03247	-0.00166	1.30764	2.0	1.0	4.0	0.6	0.6
138	Good	1.25	0.5	Equal	0.7	Double	0.04929	1.01646	0.01805	1.26956	2.0	1.2	4.0	0.8	0.8
139	Good	1.25	0.5	Double	0.1	Equal	0.01185	0.90076	0.02059	1.38379	2.6	1.6	4.0	1.4	1.4
140	Good	1.25	0.5	Double	0.1	Double	0.00457	0.80447	0.02778	1.58314	3.8	1.8	4.0	1.6	1.6
141	Good	1.25	0.5	Double	0.3	Equal	0.02518	0.97370	0.02551	1.55935	2.2	1.4	4.0	1.2	1.2
142	Good	1.25	0.5	Double	0.3	Double	0.02107	0.95640	0.04257	1.74957	2.4	1.4	4.0	1.2	1.2
143	Good	1.25	0.5	Double	0.7	Equal	0.07024	1.03247	-0.00166	1.93069	2.0	1.0	3.8	0.6	0.6
144	Good	1.25	0.5	Double	0.7	Double	0.04929	1.01646	0.01805	1.81463	2.0	1.2	3.8	0.8	0.8
145	Fair	0.75	0	Equal	0.1	Equal	0.01476	0.49955	0.06333	1.82896	2.6	-0.2	2.4	0.2	2.0
146	Fair	0.75	0	Equal	0.1	Double	0.00529	0.38359	0.07116	1.60258	3.0	0.2	2.6	0.4	2.2
147	Fair	0.75	0	Equal	0.3	Equal	0.06231	0.69667	0.13462	2.53297	2.2	-2.0	2.0	-0.8	1.8
148	Fair	0.75	0	Equal	0.3	Double	0.03042	0.59406	0.16438	2.22411	2.4	-0.8	2.2	-0.4	2.0
149	Fair	0.75	0	Equal	0.7	Equal	0.33000	0.93775	0.14258	2.24347	2.4	-2.0	1.0	-2.0	0.8
150	Fair	0.75	0	Equal	0.7	Double	0.16144	0.83752	0.21060	2.28529	2.2	-2.0	1.4	-2.0	1.4
151	Fair	0.75	0	Double	0.1	Equal	0.01476	0.49955	0.06333	3.16788	2.6	-0.2	2.4	0.2	2.0
152	Fair	0.75	0	Double	0.1	Double	0.00529	0.38359	0.07116	2.54296	3.0	0.2	2.6	0.4	2.2
153	Fair	0.75	0	Double	0.3	Equal	0.06231	0.69667	0.13462	5.38560	2.2	-2.0	2.0	-0.8	1.8

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
154	Fair	0.75	0	Double	0.3	Double	0.03042	0.59406	0.16438	4.43640	2.4	-0.8	2.2	-0.4	2.0
155	Fair	0.75	0	Double	0.7	Equal	0.33000	0.93775	0.14258	4.41119	2.4	-2.0	1.0	-2.0	0.8
156	Fair	0.75	0	Double	0.7	Double	0.16144	0.83752	0.21060	4.63545	2.2	-2.0	1.4	-2.0	1.4
157	Fair	0.75	0.1	Equal	0.1	Equal	0.01369	0.47576	0.06475	2.86951	2.6	-2.0	2.6	-2.0	2.6
158	Fair	0.75	0.1	Equal	0.1	Double	0.00596	0.37608	0.07313	2.31261	2.8	-2.0	3.0	0.4	2.6
159	Fair	0.75	0.1	Equal	0.3	Equal	0.05663	0.67495	0.13716	2.67302	2.2	-2.0	2.0	-2.0	2.0
160	Fair	0.75	0.1	Equal	0.3	Double	0.03474	0.60351	0.16759	2.71933	2.4	-2.0	2.2	-2.0	2.2
161	Fair	0.75	0.1	Equal	0.7	Equal	0.32547	0.93181	0.14537	2.24554	2.4	-2.0	1.0	-2.0	0.8
162	Fair	0.75	0.1	Equal	0.7	Double	0.15994	0.82997	0.21498	2.28784	2.2	-2.0	1.4	-2.0	1.4
163	Fair	0.75	0.1	Double	0.1	Equal	0.01369	0.47576	0.06475	6.58007	2.6	-2.0	2.6	-2.0	2.6
164	Fair	0.75	0.1	Double	0.1	Double	0.00596	0.37608	0.07313	4.34212	2.8	-2.0	3.0	0.4	2.6
165	Fair	0.75	0.1	Double	0.3	Equal	0.05663	0.67495	0.13716	5.94582	2.2	-2.0	2.0	-2.0	2.0
166	Fair	0.75	0.1	Double	0.3	Double	0.03474	0.60350	0.16759	6.10010	2.4	-2.0	2.2	-2.0	2.2
167	Fair	0.75	0.1	Double	0.7	Equal	0.32547	0.93182	0.14537	4.41948	2.4	-2.0	1.0	-2.0	0.8
168	Fair	0.75	0.1	Double	0.7	Double	0.15994	0.82997	0.21498	4.64563	2.2	-2.0	1.4	-2.0	1.4
169	Fair	0.75	0.3	Equal	0.1	Equal	0.01348	0.46648	0.06548	2.87096	2.6	-2.0	2.6	-2.0	2.6
170	Fair	0.75	0.3	Equal	0.1	Double	0.00631	0.37609	0.07376	2.88550	2.8	-2.0	2.8	-2.0	3.0
171	Fair	0.75	0.3	Equal	0.3	Equal	0.06648	0.68816	0.14009	2.65545	2.2	-2.0	1.8	-2.0	2.0
172	Fair	0.75	0.3	Equal	0.3	Double	0.03386	0.59074	0.17018	2.72186	2.4	-2.0	2.2	-2.0	2.2
173	Fair	0.75	0.3	Equal	0.7	Equal	0.34968	0.93726	0.14882	2.20259	2.4	-2.0	0.8	-2.0	0.8
174	Fair	0.75	0.3	Equal	0.7	Double	0.15335	0.81509	0.22145	2.29351	2.2	-2.0	1.4	-2.0	1.4
175	Fair	0.75	0.3	Double	0.1	Equal	0.01348	0.46648	0.06548	6.58585	2.6	-2.0	2.6	-2.0	2.6
176	Fair	0.75	0.3	Double	0.1	Double	0.00631	0.37609	0.07376	6.63367	2.8	-2.0	2.8	-2.0	3.0
177	Fair	0.75	0.3	Double	0.3	Equal	0.06648	0.68816	0.14009	5.87552	2.2	-2.0	1.8	-2.0	2.0
178	Fair	0.75	0.3	Double	0.3	Double	0.03385	0.59073	0.17018	6.11023	2.4	-2.0	2.2	-2.0	2.2
179	Fair	0.75	0.3	Double	0.7	Equal	0.34968	0.93727	0.14882	4.24769	2.4	-2.0	0.8	-2.0	0.8
180	Fair	0.75	0.3	Double	0.7	Double	0.15335	0.81510	0.22144	4.66832	2.2	-2.0	1.4	-2.0	1.4
181	Fair	0.75	0.5	Equal	0.1	Equal	0.01274	0.45687	0.06578	2.87341	2.6	-2.0	2.6	-2.0	2.6
182	Fair	0.75	0.5	Equal	0.1	Double	0.00712	0.38922	0.07389	2.88772	2.8	-2.0	2.8	-2.0	2.8
183	Fair	0.75	0.5	Equal	0.3	Equal	0.07206	0.69845	0.14091	2.66022	2.2	-2.0	1.8	-2.0	1.8
184	Fair	0.75	0.5	Equal	0.3	Double	0.03161	0.57787	0.17089	2.72548	2.4	-2.0	2.2	-2.0	2.2

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
185	Fair	0.75	0.5	Equal	0.7	Equal	0.32914	0.92644	0.15024	2.20747	2.4	-2.0	0.8	-2.0	0.8
186	Fair	0.75	0.5	Equal	0.7	Double	0.19420	0.84687	0.22371	2.25878	2.2	-2.0	1.2	-2.0	1.2
187	Fair	0.75	0.5	Double	0.1	Equal	0.01274	0.45687	0.06578	6.59566	2.6	-2.0	2.6	-2.0	2.6
188	Fair	0.75	0.5	Double	0.1	Double	0.00712	0.38922	0.07389	6.64256	2.8	-2.0	2.8	-2.0	2.8
189	Fair	0.75	0.5	Double	0.3	Equal	0.07206	0.69846	0.14090	5.89461	2.2	-2.0	1.8	-2.0	1.8
190	Fair	0.75	0.5	Double	0.3	Double	0.03161	0.57787	0.17090	6.12469	2.4	-2.0	2.2	-2.0	2.2
191	Fair	0.75	0.5	Double	0.7	Equal	0.32913	0.92643	0.15024	4.26720	2.4	-2.0	0.8	-2.0	0.8
192	Fair	0.75	0.5	Double	0.7	Double	0.19419	0.84686	0.22371	4.52942	2.2	-2.0	1.2	-2.0	1.2
193	Fair	1	0	Equal	0.1	Equal	0.01756	0.53631	0.06217	1.42092	2.8	0.6	2.2	0.6	1.0
194	Fair	1	0	Equal	0.1	Double	0.00737	0.40921	0.07234	1.33971	3.2	0.8	2.4	0.8	1.2
195	Fair	1	0	Equal	0.3	Equal	0.07100	0.76388	0.12053	1.79085	2.2	0.0	1.8	0.2	0.8
196	Fair	1	0	Equal	0.3	Double	0.03537	0.64892	0.15484	1.74485	2.6	0.2	2.0	0.4	1.0
197	Fair	1	0	Equal	0.7	Equal	0.23459	0.92810	0.12071	1.77921	1.4	-0.8	1.4	-0.2	0.6
198	Fair	1	0	Equal	0.7	Double	0.15138	0.87565	0.17787	1.87725	1.8	-0.4	1.4	-0.2	0.8
199	Fair	1	0	Double	0.1	Equal	0.01756	0.53631	0.06217	2.05151	2.8	0.6	2.2	0.6	1.0
200	Fair	1	0	Double	0.1	Double	0.00737	0.40921	0.07234	1.83760	3.2	0.8	2.4	0.8	1.2
201	Fair	1	0	Double	0.3	Equal	0.07100	0.76388	0.12053	3.06450	2.2	0.0	1.8	0.2	0.8
202	Fair	1	0	Double	0.3	Double	0.03537	0.64892	0.15484	2.93557	2.6	0.2	2.0	0.4	1.0
203	Fair	1	0	Double	0.7	Equal	0.23459	0.92810	0.12071	3.04551	1.4	-0.8	1.4	-0.2	0.6
204	Fair	1	0	Double	0.7	Double	0.15138	0.87565	0.17787	3.29747	1.8	-0.4	1.4	-0.2	0.8
205	Fair	1	0.1	Equal	0.1	Equal	0.01689	0.47853	0.06735	1.34850	2.8	0.8	2.2	0.6	1.2
206	Fair	1	0.1	Equal	0.1	Double	0.00745	0.36026	0.07738	1.27760	3.2	1.0	2.4	0.8	1.4
207	Fair	1	0.1	Equal	0.3	Equal	0.07277	0.72765	0.13264	1.80007	2.2	0.0	1.8	0.2	1.0
208	Fair	1	0.1	Equal	0.3	Double	0.03925	0.62002	0.16895	1.66352	2.6	0.4	2.0	0.4	1.0
209	Fair	1	0.1	Equal	0.7	Equal	0.27591	0.92880	0.13261	1.77725	1.4	-0.8	1.2	-0.4	0.6
210	Fair	1	0.1	Equal	0.7	Double	0.17480	0.86947	0.19625	1.81074	1.6	-0.4	1.6	0.0	0.6
211	Fair	1	0.1	Double	0.1	Equal	0.01689	0.47853	0.06735	1.88604	2.8	0.8	2.2	0.6	1.2
212	Fair	1	0.1	Double	0.1	Double	0.00745	0.36026	0.07738	1.69848	3.2	1.0	2.4	0.8	1.4
213	Fair	1	0.1	Double	0.3	Equal	0.07277	0.72765	0.13264	3.10140	2.2	0.0	1.8	0.2	1.0
214	Fair	1	0.1	Double	0.3	Double	0.03925	0.62002	0.16894	2.74118	2.6	0.4	2.0	0.4	1.0
215	Fair	1	0.1	Double	0.7	Equal	0.27591	0.92880	0.13261	3.03769	1.4	-0.8	1.2	-0.4	0.6

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
216	Fair	1	0.1	Double	0.7	Double	0.17480	0.86947	0.19625	3.15130	1.6	-0.4	1.6	0.0	0.6
217	Fair	1	0.3	Equal	0.1	Equal	0.01796	0.41006	0.07516	1.33524	2.8	0.8	2.4	1.0	1.4
218	Fair	1	0.3	Equal	0.1	Double	0.00723	0.28387	0.08462	1.21079	3.2	1.2	2.6	1.2	1.6
219	Fair	1	0.3	Equal	0.3	Equal	0.08603	0.69197	0.15263	1.65856	2.0	0.2	1.8	0.4	1.0
220	Fair	1	0.3	Equal	0.3	Double	0.03999	0.54669	0.19198	1.56552	2.6	0.6	2.0	0.6	1.2
221	Fair	1	0.3	Equal	0.7	Equal	0.30763	0.91372	0.15268	1.64837	1.2	-0.6	1.2	-0.2	0.4
222	Fair	1	0.3	Equal	0.7	Double	0.19586	0.84367	0.22694	1.74550	1.6	-0.2	1.4	0.0	0.6
223	Fair	1	0.3	Double	0.1	Equal	0.01796	0.41007	0.07515	1.83298	2.8	0.8	2.4	1.0	1.4
224	Fair	1	0.3	Double	0.1	Double	0.00723	0.28388	0.08462	1.52458	3.2	1.2	2.6	1.2	1.6
225	Fair	1	0.3	Double	0.3	Equal	0.08603	0.69197	0.15263	2.71667	2.0	0.2	1.8	0.4	1.0
226	Fair	1	0.3	Double	0.3	Double	0.04000	0.54670	0.19199	2.47765	2.6	0.6	2.0	0.6	1.2
227	Fair	1	0.3	Double	0.7	Equal	0.30760	0.91372	0.15267	2.70096	1.2	-0.6	1.2	-0.2	0.4
228	Fair	1	0.3	Double	0.7	Double	0.19585	0.84367	0.22694	2.95960	1.6	-0.2	1.4	0.0	0.6
229	Fair	1	0.5	Equal	0.1	Equal	0.01647	0.34033	0.08079	1.20826	2.8	1.2	2.4	1.2	1.6
230	Fair	1	0.5	Equal	0.1	Double	0.00558	0.20721	0.08933	1.11919	3.2	1.6	2.8	1.6	1.8
231	Fair	1	0.5	Equal	0.3	Equal	0.09006	0.64773	0.16873	1.56126	2.0	0.4	1.8	0.6	1.0
232	Fair	1	0.5	Equal	0.3	Double	0.04186	0.49634	0.20970	1.45172	2.4	0.8	2.0	0.8	1.4
233	Fair	1	0.5	Equal	0.7	Equal	0.35112	0.90938	0.16877	1.55052	1.0	-0.6	1.0	-0.2	0.4
234	Fair	1	0.5	Equal	0.7	Double	0.22049	0.82841	0.25241	1.64592	1.4	-0.2	1.2	0.0	0.8
235	Fair	1	0.5	Double	0.1	Equal	0.01647	0.34036	0.08079	1.52777	2.8	1.2	2.4	1.2	1.6
236	Fair	1	0.5	Double	0.1	Double	0.00547	0.20513	0.08933	1.38749	3.2	1.4	2.8	1.6	2.0
237	Fair	1	0.5	Double	0.3	Equal	0.09008	0.64773	0.16874	2.45838	2.0	0.4	1.8	0.6	1.0
238	Fair	1	0.5	Double	0.3	Double	0.04186	0.49635	0.20970	2.17848	2.4	0.8	2.0	0.8	1.4
239	Fair	1	0.5	Double	0.7	Equal	0.35111	0.90938	0.16877	2.44005	1.0	-0.6	1.0	-0.2	0.4
240	Fair	1	0.5	Double	0.7	Double	0.22049	0.82842	0.25240	2.68831	1.4	-0.2	1.2	0.0	0.8
241	Fair	1.25	0	Equal	0.1	Equal	0.01774	0.72813	0.04315	1.47366	4.0	0.6	2.4	0.6	0.8
242	Fair	1.25	0	Equal	0.1	Double	0.00798	0.60601	0.05377	1.38446	4.0	0.8	2.6	0.8	1.0
243	Fair	1.25	0	Equal	0.3	Equal	0.04877	0.86184	0.07559	1.77777	4.0	0.4	1.8	0.2	0.6
244	Fair	1.25	0	Equal	0.3	Double	0.02871	0.79514	0.10166	1.72889	4.0	0.6	2.2	0.4	0.6
245	Fair	1.25	0	Equal	0.7	Equal	0.18074	1.01351	0.04477	1.45954	1.2	-0.2	1.8	0.2	0.6
246	Fair	1.25	0	Equal	0.7	Double	0.16362	1.00307	0.09602	1.48199	1.2	-0.2	2.2	0.4	0.6

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
247	Fair	1.25	0	Double	0.1	Equal	0.01774	0.72813	0.04315	2.21085	4.0	0.6	2.4	0.6	0.8
248	Fair	1.25	0	Double	0.1	Double	0.00798	0.60601	0.05377	1.97452	4.0	0.8	2.6	0.8	1.0
249	Fair	1.25	0	Double	0.3	Equal	0.04877	0.86184	0.07559	3.04352	4.0	0.4	1.8	0.2	0.6
250	Fair	1.25	0	Double	0.3	Double	0.02871	0.79514	0.10166	2.96111	4.0	0.6	2.2	0.4	0.6
251	Fair	1.25	0	Double	0.7	Equal	0.18074	1.01351	0.04477	2.23102	1.2	-0.2	1.8	0.2	0.6
252	Fair	1.25	0	Double	0.7	Double	0.16362	1.00307	0.09602	2.32082	1.2	-0.2	2.2	0.4	0.6
253	Fair	1.25	0.1	Equal	0.1	Equal	0.01562	0.66516	0.04754	1.40461	4.0	0.8	4.0	0.8	0.8
254	Fair	1.25	0.1	Equal	0.1	Double	0.00740	0.54895	0.05842	1.32059	4.0	1.0	3.8	1.0	1.0
255	Fair	1.25	0.1	Equal	0.3	Equal	0.05567	0.84660	0.08499	1.89129	4.0	0.4	3.6	0.4	0.4
256	Fair	1.25	0.1	Equal	0.3	Double	0.03059	0.76618	0.11298	1.78615	4.0	0.6	4.0	0.6	0.6
257	Fair	1.25	0.1	Equal	0.7	Equal	0.21044	1.00730	0.05803	1.54461	1.2	-0.2	4.0	0.2	0.2
258	Fair	1.25	0.1	Equal	0.7	Double	0.17104	0.98353	0.11415	1.48774	1.2	0.0	4.0	0.4	0.4
259	Fair	1.25	0.1	Double	0.1	Equal	0.01563	0.66516	0.04755	2.05513	4.0	0.8	4.0	0.8	0.8
260	Fair	1.25	0.1	Double	0.1	Double	0.00739	0.54881	0.05843	1.82795	4.0	1.0	4.0	1.0	1.0
261	Fair	1.25	0.1	Double	0.3	Equal	0.05565	0.84655	0.08499	3.50475	4.0	0.4	4.0	0.4	0.4
262	Fair	1.25	0.1	Double	0.3	Double	0.03061	0.76623	0.11299	3.18778	4.0	0.6	3.8	0.6	0.6
263	Fair	1.25	0.1	Double	0.7	Equal	0.21044	1.00730	0.05802	2.57128	1.2	-0.2	4.0	0.2	0.2
264	Fair	1.25	0.1	Double	0.7	Double	0.17104	0.98353	0.11415	2.39546	1.2	0.0	4.0	0.4	0.4
265	Fair	1.25	0.3	Equal	0.1	Equal	0.01779	0.65875	0.05013	1.33911	4.0	1.0	3.8	1.0	1.0
266	Fair	1.25	0.3	Equal	0.1	Double	0.00925	0.55697	0.06096	1.26557	4.0	1.2	4.0	1.2	1.2
267	Fair	1.25	0.3	Equal	0.3	Equal	0.05511	0.82584	0.09082	1.80990	4.0	0.6	3.6	0.6	0.6
268	Fair	1.25	0.3	Equal	0.3	Double	0.03224	0.74981	0.12020	1.70868	4.0	0.8	3.8	0.8	0.8
269	Fair	1.25	0.3	Equal	0.7	Equal	0.25283	1.00692	0.07100	1.51972	1.2	0.0	3.8	0.0	0.0
270	Fair	1.25	0.3	Equal	0.7	Double	0.13616	0.92811	0.13202	2.54473	4.0	0.2	4.0	0.2	0.2
271	Fair	1.25	0.3	Double	0.1	Equal	0.01779	0.65880	0.05013	1.90207	4.0	1.0	4.0	1.0	1.0
272	Fair	1.25	0.3	Double	0.1	Double	0.00926	0.55697	0.06097	1.70177	4.0	1.2	3.8	1.2	1.2
273	Fair	1.25	0.3	Double	0.3	Equal	0.05510	0.82595	0.09079	3.29201	4.0	0.6	4.0	0.6	0.6
274	Fair	1.25	0.3	Double	0.3	Double	0.03224	0.74983	0.12019	2.99434	4.0	0.8	4.0	0.8	0.8
275	Fair	1.25	0.3	Double	0.7	Equal	0.25285	1.00692	0.07101	2.52323	1.2	0.0	3.4	0.0	0.0
276	Fair	1.25	0.3	Double	0.7	Double	0.13621	0.92804	0.13209	5.53740	4.0	0.2	3.8	0.2	0.2
277	Fair	1.25	0.5	Equal	0.1	Equal	0.01099	0.59757	0.05013	1.21920	3.6	1.4	4.0	1.4	1.4

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
278	Fair	1.25	0.5	Equal	0.1	Double	0.00580	0.51628	0.05881	1.16689	3.8	1.6	4.0	1.6	1.6
279	Fair	1.25	0.5	Equal	0.3	Equal	0.07375	0.85151	0.09617	1.75531	3.6	0.8	4.0	0.6	0.6
280	Fair	1.25	0.5	Equal	0.3	Double	0.03384	0.74309	0.12446	1.63133	3.6	1.0	4.0	1.0	1.0
281	Fair	1.25	0.5	Equal	0.7	Equal	0.25972	1.00555	0.07403	1.36525	1.0	-0.2	1.2	0.6	0.2
282	Fair	1.25	0.5	Equal	0.7	Double	0.14665	0.93158	0.13589	1.48676	1.4	0.6	3.8	0.4	0.4
283	Fair	1.25	0.5	Double	0.1	Equal	0.01100	0.59757	0.05014	1.60051	3.6	1.4	4.0	1.4	1.4
284	Fair	1.25	0.5	Double	0.1	Double	0.00578	0.51599	0.05880	1.46201	4.0	1.6	4.0	1.6	1.6
285	Fair	1.25	0.5	Double	0.3	Equal	0.04653	0.78794	0.09619	2.88795	3.6	1.0	4.0	0.8	0.8
286	Fair	1.25	0.5	Double	0.3	Double	0.03384	0.74309	0.12445	2.79507	3.6	1.0	4.0	1.0	1.0
287	Fair	1.25	0.5	Double	0.7	Equal	0.25972	1.00555	0.07403	1.99905	1.0	-0.2	1.2	0.6	0.2
288	Fair	1.25	0.5	Double	0.7	Double	0.14665	0.93158	0.13589	2.41962	1.4	0.6	4.0	0.4	0.4
289	Poor	0.75	0	Equal	0.1	Equal	0.01071	0.29321	0.08032	2.71429	2.6	-2.0	2.8	-0.8	2.6
290	Poor	0.75	0	Equal	0.1	Double	0.00371	0.20356	0.08633	2.38877	3.0	-2.0	3.0	0.2	2.8
291	Poor	0.75	0	Equal	0.3	Equal	0.06519	0.53059	0.18646	2.69972	2.0	-2.0	2.0	-2.0	2.0
292	Poor	0.75	0	Equal	0.3	Double	0.02384	0.38556	0.21771	2.78497	2.4	-2.0	2.4	-2.0	2.4
293	Poor	0.75	0	Equal	0.7	Equal	0.46855	0.89625	0.21319	2.19650	2.0	-2.0	0.6	-2.0	0.6
294	Poor	0.75	0	Equal	0.7	Double	0.23764	0.76347	0.30815	2.28883	1.8	-2.0	1.2	-2.0	1.2
295	Poor	0.75	0	Double	0.1	Equal	0.01071	0.29321	0.08032	5.94980	2.6	-2.0	2.8	-0.8	2.6
296	Poor	0.75	0	Double	0.1	Double	0.00371	0.20356	0.08633	4.63196	3.0	-2.0	3.0	0.2	2.8
297	Poor	0.75	0	Double	0.3	Equal	0.06519	0.53059	0.18646	6.05009	2.0	-2.0	2.0	-2.0	2.0
298	Poor	0.75	0	Double	0.3	Double	0.02384	0.38556	0.21771	6.33050	2.4	-2.0	2.4	-2.0	2.4
299	Poor	0.75	0	Double	0.7	Equal	0.46855	0.89625	0.21319	4.25077	2.0	-2.0	0.6	-2.0	0.6
300	Poor	0.75	0	Double	0.7	Double	0.23764	0.76347	0.30815	4.68064	1.8	-2.0	1.2	-2.0	1.2
301	Poor	0.75	0.1	Equal	0.1	Equal	0.01167	0.29958	0.08055	2.88448	2.6	-2.0	2.6	-2.0	2.8
302	Poor	0.75	0.1	Equal	0.1	Double	0.00400	0.20680	0.08651	2.90563	3.0	-2.0	3.0	-2.0	3.0
303	Poor	0.75	0.1	Equal	0.3	Equal	0.06486	0.52568	0.18770	2.70042	2.0	-2.0	2.0	-2.0	2.0
304	Poor	0.75	0.1	Equal	0.3	Double	0.02392	0.38280	0.21865	2.78540	2.4	-2.0	2.4	-2.0	2.4
305	Poor	0.75	0.1	Equal	0.7	Equal	0.45928	0.89026	0.21460	2.19841	2.0	-2.0	0.6	-2.0	0.6
306	Poor	0.75	0.1	Equal	0.7	Double	0.23346	0.75636	0.31062	2.29112	1.8	-2.0	1.2	-2.0	1.2
307	Poor	0.75	0.1	Double	0.1	Equal	0.01167	0.29958	0.08055	6.63054	2.6	-2.0	2.6	-2.0	2.8
308	Poor	0.75	0.1	Double	0.1	Double	0.00400	0.20680	0.08651	6.69938	3.0	-2.0	3.0	-2.0	3.0

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
309	Poor	0.75	0.1	Double	0.3	Equal	0.06486	0.52568	0.18770	6.05287	2.0	-2.0	2.0	-2.0	2.0
310	Poor	0.75	0.1	Double	0.3	Double	0.02392	0.38280	0.21865	6.33219	2.4	-2.0	2.4	-2.0	2.4
311	Poor	0.75	0.1	Double	0.7	Equal	0.45929	0.89026	0.21461	4.25842	2.0	-2.0	0.6	-2.0	0.6
312	Poor	0.75	0.1	Double	0.7	Double	0.23346	0.75637	0.31062	4.68980	1.8	-2.0	1.2	-2.0	1.2
313	Poor	0.75	0.3	Equal	0.1	Equal	0.01150	0.29583	0.08077	2.88570	2.6	-2.0	2.6	-2.0	2.8
314	Poor	0.75	0.3	Equal	0.1	Double	0.00398	0.20506	0.08665	2.90673	3.0	-2.0	3.0	-2.0	3.0
315	Poor	0.75	0.3	Equal	0.3	Equal	0.07383	0.54254	0.18892	2.68418	2.0	-2.0	1.8	-2.0	2.0
316	Poor	0.75	0.3	Equal	0.3	Double	0.02338	0.37686	0.21968	2.78691	2.4	-2.0	2.4	-2.0	2.4
317	Poor	0.75	0.3	Equal	0.7	Equal	0.48431	0.89918	0.21587	2.15025	2.0	-2.0	0.4	-2.0	0.6
318	Poor	0.75	0.3	Equal	0.7	Double	0.22088	0.74235	0.31288	2.29660	1.8	-2.0	1.2	-2.0	1.2
319	Poor	0.75	0.3	Double	0.1	Equal	0.01150	0.29583	0.08077	6.63542	2.6	-2.0	2.6	-2.0	2.8
320	Poor	0.75	0.3	Double	0.1	Double	0.00398	0.20505	0.08665	6.70379	3.0	-2.0	3.0	-2.0	3.0
321	Poor	0.75	0.3	Double	0.3	Equal	0.07383	0.54254	0.18892	5.98789	2.0	-2.0	1.8	-2.0	2.0
322	Poor	0.75	0.3	Double	0.3	Double	0.02338	0.37686	0.21968	6.33826	2.4	-2.0	2.4	-2.0	2.4
323	Poor	0.75	0.3	Double	0.7	Equal	0.48433	0.89918	0.21588	4.06580	2.0	-2.0	0.4	-2.0	0.6
324	Poor	0.75	0.3	Double	0.7	Double	0.22088	0.74235	0.31288	4.71172	1.8	-2.0	1.2	-2.0	1.2
325	Poor	0.75	0.5	Equal	0.1	Equal	0.01274	0.30841	0.08062	2.88793	2.6	-2.0	2.6	-2.0	2.6
326	Poor	0.75	0.5	Equal	0.1	Double	0.00382	0.20287	0.08659	2.90868	3.0	-2.0	3.0	-2.0	3.0
327	Poor	0.75	0.5	Equal	0.3	Equal	0.07809	0.55593	0.18788	2.68874	2.0	-2.0	1.8	-2.0	1.8
328	Poor	0.75	0.5	Equal	0.3	Double	0.02685	0.39381	0.21945	2.77751	2.4	-2.0	2.2	-2.0	2.4
329	Poor	0.75	0.5	Equal	0.7	Equal	0.49634	0.90610	0.21463	2.15495	2.0	-2.0	0.4	-2.0	0.4
330	Poor	0.75	0.5	Equal	0.7	Double	0.21226	0.73664	0.31170	2.24705	1.6	-2.0	1.2	-2.0	1.2
331	Poor	0.75	0.5	Double	0.1	Equal	0.01274	0.30840	0.08063	6.64435	2.6	-2.0	2.6	-2.0	2.6
332	Poor	0.75	0.5	Double	0.1	Double	0.00382	0.20286	0.08659	6.71157	3.0	-2.0	3.0	-2.0	3.0
333	Poor	0.75	0.5	Double	0.3	Equal	0.07809	0.55591	0.18789	6.00617	2.0	-2.0	1.8	-2.0	1.8
334	Poor	0.75	0.5	Double	0.3	Double	0.02685	0.39381	0.21945	6.30066	2.4	-2.0	2.2	-2.0	2.4
335	Poor	0.75	0.5	Double	0.7	Equal	0.49633	0.90610	0.21463	4.08458	2.0	-2.0	0.4	-2.0	0.4
336	Poor	0.75	0.5	Double	0.7	Double	0.21224	0.73664	0.31170	4.58078	1.6	-2.0	1.2	-2.0	1.2
337	Poor	1	0	Equal	0.1	Equal	0.01235	0.21131	0.08998	1.32360	3.2	0.8	2.2	0.6	1.0
338	Poor	1	0	Equal	0.1	Double	0.00333	0.10449	0.09554	1.23448	3.8	1.0	2.8	1.0	1.2
339	Poor	1	0	Equal	0.3	Equal	0.09989	0.55747	0.20269	1.83273	2.2	0.0	1.6	0.0	0.6

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
340	Poor	1	0	Equal	0.3	Double	0.03557	0.35582	0.24305	1.62402	2.6	0.4	2.0	0.4	0.8
341	Poor	1	0	Equal	0.7	Equal	0.44717	0.90220	0.20261	1.85467	1.0	-1.2	1.0	-0.6	0.2
342	Poor	1	0	Equal	0.7	Double	0.27507	0.79573	0.30803	1.94479	1.4	-0.6	1.2	-0.4	0.4
343	Poor	1	0	Double	0.1	Equal	0.01235	0.21131	0.08998	1.80455	3.2	0.8	2.2	0.6	1.0
344	Poor	1	0	Double	0.1	Double	0.00333	0.10449	0.09554	1.55658	3.8	1.0	2.8	1.0	1.2
345	Poor	1	0	Double	0.3	Equal	0.09989	0.55747	0.20269	3.21626	2.2	0.0	1.6	0.0	0.6
346	Poor	1	0	Double	0.3	Double	0.03557	0.35582	0.24305	2.62400	2.6	0.4	2.0	0.4	0.8
347	Poor	1	0	Double	0.7	Equal	0.44717	0.90220	0.20261	3.27904	1.0	-1.2	1.0	-0.6	0.2
348	Poor	1	0	Double	0.7	Double	0.27507	0.79573	0.30803	3.53519	1.4	-0.6	1.2	-0.4	0.4
349	Poor	1	0.1	Equal	0.1	Equal	0.01169	0.18118	0.09241	1.31841	3.2	0.8	2.4	0.8	1.2
350	Poor	1	0.1	Equal	0.1	Double	0.00264	0.07713	0.09704	1.17547	3.8	1.2	3.0	1.2	1.4
351	Poor	1	0.1	Equal	0.3	Equal	0.10118	0.52742	0.21260	1.84032	2.2	0.0	1.6	0.0	0.8
352	Poor	1	0.1	Equal	0.3	Double	0.03295	0.31205	0.25251	1.53343	2.6	0.6	2.0	0.4	1.0
353	Poor	1	0.1	Equal	0.7	Equal	0.48591	0.90473	0.21246	1.84401	1.0	-1.2	0.8	-0.8	0.2
354	Poor	1	0.1	Equal	0.7	Double	0.28660	0.78220	0.32442	1.95025	1.4	-0.6	1.2	-0.4	0.4
355	Poor	1	0.1	Double	0.1	Equal	0.01169	0.18119	0.09241	1.78376	3.2	0.8	2.4	0.8	1.2
356	Poor	1	0.1	Double	0.1	Double	0.00264	0.07714	0.09704	1.41478	3.8	1.2	3.0	1.2	1.4
357	Poor	1	0.1	Double	0.3	Equal	0.10117	0.52741	0.21259	3.24659	2.2	0.0	1.6	0.0	0.8
358	Poor	1	0.1	Double	0.3	Double	0.03295	0.31205	0.25252	2.40326	2.6	0.6	2.0	0.4	1.0
359	Poor	1	0.1	Double	0.7	Equal	0.48592	0.90473	0.21247	3.23641	1.0	-1.2	0.8	-0.8	0.2
360	Poor	1	0.1	Double	0.7	Double	0.28660	0.78220	0.32442	3.55701	1.4	-0.6	1.2	-0.4	0.4
361	Poor	1	0.3	Equal	0.1	Equal	0.00723	0.11056	0.09545	1.18152	3.2	1.2	2.6	1.2	1.6
362	Poor	1	0.3	Equal	0.1	Double	0.00146	0.04005	0.09863	1.09093	3.8	1.6	3.0	1.6	2.0
363	Poor	1	0.3	Equal	0.3	Equal	0.09750	0.46805	0.22783	1.67337	2.0	0.2	1.8	0.4	0.8
364	Poor	1	0.3	Equal	0.3	Double	0.02825	0.24547	0.26591	1.41966	2.6	0.8	2.2	0.8	1.2
365	Poor	1	0.3	Equal	0.7	Equal	0.53659	0.90439	0.22790	1.69293	0.8	-1.0	0.6	-0.8	0.0
366	Poor	1	0.3	Equal	0.7	Double	0.30763	0.76178	0.35134	1.84056	1.2	-0.6	1.2	-0.2	0.4
367	Poor	1	0.3	Double	0.1	Equal	0.00723	0.11055	0.09545	1.44208	3.2	1.2	2.6	1.2	1.6
368	Poor	1	0.3	Double	0.1	Double	0.00142	0.03931	0.09863	1.15225	3.8	1.8	3.0	1.6	1.8
369	Poor	1	0.3	Double	0.3	Equal	0.09750	0.46803	0.22784	2.76024	2.0	0.2	1.8	0.4	0.8
370	Poor	1	0.3	Double	0.3	Double	0.02825	0.24546	0.26592	2.08178	2.6	0.8	2.2	0.8	1.2

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
371	Poor	1	0.3	Double	0.7	Equal	0.53654	0.90439	0.22789	2.81513	0.8	-1.0	0.6	-0.8	0.0
372	Poor	1	0.3	Double	0.7	Double	0.30763	0.76178	0.35133	3.24387	1.2	-0.6	1.2	-0.2	0.4
373	Poor	1	0.5	Equal	0.1	Equal	0.00558	0.07839	0.09718	1.09424	3.2	1.6	2.8	1.6	1.8
374	Poor	1	0.5	Equal	0.1	Double	0.00077	0.02057	0.09934	1.02890	3.8	2.2	3.2	2.0	2.4
375	Poor	1	0.5	Equal	0.3	Equal	0.09006	0.41265	0.23925	1.56243	2.0	0.4	1.8	0.6	1.0
376	Poor	1	0.5	Equal	0.3	Double	0.02888	0.21858	0.27486	1.33481	2.6	1.0	2.2	1.0	1.4
377	Poor	1	0.5	Equal	0.7	Equal	0.56619	0.90080	0.23930	1.58072	0.6	-1.0	0.4	-0.8	0.0
378	Poor	1	0.5	Equal	0.7	Double	0.31940	0.74212	0.37215	1.76429	1.2	-0.4	1.0	-0.2	0.4
379	Poor	1	0.5	Double	0.1	Equal	0.00558	0.07837	0.09719	1.23023	3.2	1.6	2.8	1.6	1.8
380	Poor	1	0.5	Double	0.1	Double	0.00090	0.02289	0.09934	1.10410	3.8	2.0	3.4	2.0	2.4
381	Poor	1	0.5	Double	0.3	Equal	0.09008	0.41257	0.23929	2.46171	2.0	0.4	1.8	0.6	1.0
382	Poor	1	0.5	Double	0.3	Double	0.02888	0.21857	0.27485	1.86461	2.6	1.0	2.2	1.0	1.4
383	Poor	1	0.5	Double	0.7	Equal	0.56623	0.90081	0.23930	2.51171	0.6	-1.0	0.4	-0.8	0.0
384	Poor	1	0.5	Double	0.7	Double	0.31938	0.74212	0.37214	3.01992	1.2	-0.4	1.0	-0.2	0.4
385	Poor	1.25	0	Equal	0.1	Equal	0.02066	0.38203	0.08039	1.44443	4.0	0.6	4.0	0.6	0.6
386	Poor	1.25	0	Equal	0.1	Double	0.00716	0.21875	0.09100	1.26230	4.0	1.0	4.0	0.8	0.8
387	Poor	1.25	0	Equal	0.3	Equal	0.09408	0.69535	0.15725	1.91353	4.0	0.2	2.0	0.0	0.2
388	Poor	1.25	0	Equal	0.3	Double	0.04095	0.51625	0.20245	1.77406	4.0	0.4	4.0	0.4	0.4
389	Poor	1.25	0	Equal	0.7	Equal	0.41313	0.99837	0.12508	1.50141	0.6	-0.6	1.8	-0.2	0.0
390	Poor	1.25	0	Equal	0.7	Double	0.21324	0.86244	0.22423	2.37006	4.0	-0.2	1.4	-0.4	0.0
391	Poor	1.25	0	Double	0.1	Equal	0.02066	0.38203	0.08039	2.12949	4.0	0.6	4.0	0.6	0.6
392	Poor	1.25	0	Double	0.1	Double	0.00716	0.21875	0.09100	1.65378	4.0	1.0	4.0	0.8	0.8
393	Poor	1.25	0	Double	0.3	Equal	0.09408	0.69535	0.15725	3.51590	4.0	0.2	2.0	0.0	0.2
394	Poor	1.25	0	Double	0.3	Double	0.04095	0.51625	0.20245	3.10034	4.0	0.4	4.0	0.4	0.4
395	Poor	1.25	0	Double	0.7	Equal	0.41313	0.99837	0.12508	2.42334	0.6	-0.6	1.8	-0.2	0.0
396	Poor	1.25	0	Double	0.7	Double	0.21324	0.86244	0.22423	4.76458	4.0	-0.2	1.4	-0.4	0.0
397	Poor	1.25	0.1	Equal	0.1	Equal	0.01562	0.32244	0.08182	1.34974	4.0	0.8	4.0	0.8	0.8
398	Poor	1.25	0.1	Equal	0.1	Double	0.00739	0.21916	0.09139	1.25888	4.0	1.0	4.0	1.0	1.0
399	Poor	1.25	0.1	Equal	0.3	Equal	0.09420	0.67773	0.16262	1.93174	4.0	0.2	4.0	0.2	0.2
400	Poor	1.25	0.1	Equal	0.3	Double	0.04551	0.51716	0.20856	1.68055	4.0	0.6	4.0	0.4	0.4
401	Poor	1.25	0.1	Equal	0.7	Equal	0.43229	0.98859	0.13767	1.53355	0.6	-0.6	3.8	-0.2	-0.2

Table A-8. 3-Test Sequence under Believe the Extreme

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	FPR	TPR	BC	OC	ϕ_1	θ_1	ϕ_2	θ_2	ϕ_3
402	Poor	1.25	0.1	Equal	0.7	Double	0.22073	0.85499	0.23394	2.59089	4.0	-0.2	3.8	-0.2	-0.2
403	Poor	1.25	0.1	Double	0.1	Equal	0.01562	0.32244	0.08182	1.88389	4.0	0.8	4.0	0.8	0.8
404	Poor	1.25	0.1	Double	0.1	Double	0.00739	0.21917	0.09139	1.64010	4.0	1.0	4.0	1.0	1.0
405	Poor	1.25	0.1	Double	0.3	Equal	0.09420	0.67773	0.16262	3.58846	4.0	0.2	3.8	0.2	0.2
406	Poor	1.25	0.1	Double	0.3	Double	0.04550	0.51720	0.20855	2.87437	4.0	0.6	4.0	0.4	0.4
407	Poor	1.25	0.1	Double	0.7	Equal	0.43230	0.98860	0.13767	2.55190	0.6	-0.6	3.8	-0.2	-0.2
408	Poor	1.25	0.1	Double	0.7	Double	0.22069	0.85500	0.23391	5.64791	4.0	-0.2	3.8	-0.2	-0.2
409	Poor	1.25	0.3	Equal	0.1	Equal	0.01779	0.36007	0.08000	1.28068	4.0	1.0	4.0	1.0	1.0
410	Poor	1.25	0.3	Equal	0.1	Double	0.00454	0.18605	0.08956	1.14074	4.0	1.4	4.0	1.4	1.4
411	Poor	1.25	0.3	Equal	0.3	Equal	0.08903	0.67012	0.16129	1.82666	4.0	0.4	4.0	0.4	0.4
412	Poor	1.25	0.3	Equal	0.3	Double	0.03837	0.49234	0.20601	1.58164	4.0	0.8	3.4	0.6	0.8
413	Poor	1.25	0.3	Equal	0.7	Equal	0.45870	0.98541	0.14782	1.50000	0.6	-0.4	3.8	-0.4	-0.4
414	Poor	1.25	0.3	Equal	0.7	Double	0.19766	0.83416	0.23468	2.51304	4.0	0.0	3.8	0.0	0.0
415	Poor	1.25	0.3	Double	0.1	Equal	0.01780	0.36005	0.08001	1.72713	4.0	1.0	3.8	1.0	1.0
416	Poor	1.25	0.3	Double	0.1	Double	0.00454	0.18604	0.08956	1.35597	4.0	1.4	4.0	1.4	1.4
417	Poor	1.25	0.3	Double	0.3	Equal	0.08901	0.67015	0.16126	3.31041	4.0	0.4	3.8	0.4	0.4
418	Poor	1.25	0.3	Double	0.3	Double	0.03836	0.49222	0.20603	2.63086	4.0	0.8	3.8	0.6	0.8
419	Poor	1.25	0.3	Double	0.7	Equal	0.45869	0.98541	0.14782	2.46839	0.6	-0.4	3.8	-0.4	-0.4
420	Poor	1.25	0.3	Double	0.7	Double	0.19774	0.83416	0.23473	5.41491	4.0	0.0	3.6	0.0	0.0
421	Poor	1.25	0.5	Equal	0.1	Equal	0.01969	0.43885	0.07384	1.22548	4.0	1.2	3.8	1.2	1.2
422	Poor	1.25	0.5	Equal	0.1	Double	0.00578	0.25634	0.08477	1.10817	4.0	1.6	4.0	1.6	1.6
423	Poor	1.25	0.5	Equal	0.3	Equal	0.08616	0.68698	0.15422	1.72619	4.0	0.6	3.6	0.6	0.6
424	Poor	1.25	0.5	Equal	0.3	Double	0.03380	0.53114	0.18797	1.47896	4.0	1.0	4.0	1.0	1.0
425	Poor	1.25	0.5	Equal	0.7	Equal	0.44290	0.98275	0.14494	1.44633	0.6	-0.2	4.0	-0.4	-0.4
426	Poor	1.25	0.5	Equal	0.7	Double	0.22402	0.86290	0.23038	2.45841	3.6	0.2	4.0	0.0	0.0
427	Poor	1.25	0.5	Double	0.1	Equal	0.01970	0.43885	0.07385	1.60987	4.0	1.2	4.0	1.2	1.2
428	Poor	1.25	0.5	Double	0.1	Double	0.00578	0.25634	0.08476	1.29249	4.0	1.6	4.0	1.6	1.6
429	Poor	1.25	0.5	Double	0.3	Equal	0.08616	0.68698	0.15422	3.05691	4.0	0.6	3.6	0.6	0.6
430	Poor	1.25	0.5	Double	0.3	Double	0.03379	0.53114	0.18796	2.36375	4.0	1.0	3.6	1.0	1.0
431	Poor	1.25	0.5	Double	0.7	Equal	0.44290	0.98275	0.14494	2.31671	0.6	-0.2	3.6	-0.4	-0.4
432	Poor	1.25	0.5	Double	0.7	Double	0.22400	0.86290	0.23037	5.29985	3.6	0.2	4.0	0.0	0.0

Appendix B. K-Length Sequence Comparisons

Comparison of Different Sequence Lengths Under BN

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
1	Good	0.75	0	Equal	0.1	Equal	2-3	-0.00373	0.01846	-0.00521	0.20339	0.02559
							3-4	0.00171	0.04861	-0.00332	0.31169	0.01065
2	Good	0.75	0	Equal	0.1	Double	2-3	-0.00119	0.03640	-0.00578	0.22483	0.02571
							3-4	-0.00096	0.02009	-0.00374	0.18913	0.01978
3	Good	0.75	0	Equal	0.3	Equal	2-3	-0.00397	0.02807	-0.01120	0.43444	0.02578
							3-4	-0.00367	0.01427	-0.00685	0.50709	0.01351
4	Good	0.75	0	Equal	0.3	Double	2-3	-0.00454	0.02429	-0.01365	0.37775	0.03613
							3-4	0.00039	0.03010	-0.00848	0.48933	0.01734
5	Good	0.75	0	Equal	0.7	Equal	2-3	-0.03008	0.00086	-0.00962	0.83505	0.01153
							3-4	-0.01558	0.00241	-0.00637	0.80934	0.00787
6	Good	0.75	0	Equal	0.7	Double	2-3	0.00627	0.02928	-0.01674	0.77457	0.02161
							3-4	-0.01241	0.00415	-0.01035	0.75338	0.01374
7	Good	0.75	0	Double	0.1	Equal	2-3	-0.00373	0.01846	-0.00521	0.62434	0.00834
							3-4	0.00171	0.04861	-0.00332	1.42704	0.00233
8	Good	0.75	0	Double	0.1	Double	2-3	-0.00119	0.03640	-0.00578	0.64013	0.00903
							3-4	-0.00096	0.02009	-0.00374	0.96848	0.00386
9	Good	0.75	0	Double	0.3	Equal	2-3	-0.00397	0.02807	-0.01120	1.51346	0.00740
							3-4	-0.00367	0.01427	-0.00685	2.97651	0.00230
10	Good	0.75	0	Double	0.3	Double	2-3	-0.00454	0.02429	-0.01365	1.30724	0.01044
							3-4	0.00039	0.03010	-0.00848	2.79120	0.00304
11	Good	0.75	0	Double	0.7	Equal	2-3	-0.03008	0.00086	-0.00962	3.19070	0.00302
							3-4	-0.01558	0.00241	-0.00637	6.10587	0.00104

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
12	Good	0.75	0	Double	0.7	Double	2-3	0.00627	0.02928	-0.01674	2.93216	0.00571
							3-4	-0.01241	0.00415	-0.01035	5.60538	0.00185
13	Good	0.75	0.1	Equal	0.1	Equal	2-3	-0.00033	0.02993	-0.00329	0.14514	0.02269
							3-4	-0.00025	0.01758	-0.00199	0.25352	0.00784
14	Good	0.75	0.1	Equal	0.1	Double	2-3	-0.00071	0.02269	-0.00355	0.16830	0.02110
							3-4	-0.00047	0.01264	-0.00211	0.14917	0.01414
15	Good	0.75	0.1	Equal	0.3	Equal	2-3	0.00206	0.02891	-0.00723	0.44435	0.01627
							3-4	-0.00678	-0.00075	-0.00452	0.41575	0.01088
16	Good	0.75	0.1	Equal	0.3	Double	2-3	0.00114	0.03545	-0.00905	0.36400	0.02485
							3-4	0.00077	0.02115	-0.00526	0.38185	0.01378
17	Good	0.75	0.1	Equal	0.7	Equal	2-3	-0.01962	0.00110	-0.00666	0.78231	0.00851
							3-4	-0.00753	0.00256	-0.00405	0.87389	0.00464
18	Good	0.75	0.1	Equal	0.7	Double	2-3	-0.00480	0.01175	-0.01110	0.75438	0.01472
							3-4	-0.00130	0.00830	-0.00659	0.74397	0.00886
19	Good	0.75	0.1	Double	0.1	Equal	2-3	-0.00034	0.02994	-0.00330	0.65637	0.00502
							3-4	-0.00026	0.01757	-0.00199	0.99835	0.00199
20	Good	0.75	0.1	Double	0.1	Double	2-3	-0.00071	0.02269	-0.00355	0.51703	0.00687
							3-4	-0.00047	0.01265	-0.00211	0.77803	0.00271
21	Good	0.75	0.1	Double	0.3	Equal	2-3	0.00207	0.02890	-0.00722	1.55311	0.00465
							3-4	-0.00680	-0.00073	-0.00454	2.73455	0.00166
22	Good	0.75	0.1	Double	0.3	Double	2-3	0.00113	0.03545	-0.00905	1.25225	0.00723
							3-4	0.00078	0.02115	-0.00525	2.42415	0.00217
23	Good	0.75	0.1	Double	0.7	Equal	2-3	-0.01961	0.00110	-0.00666	3.20872	0.00207
							3-4	-0.02745	-0.00597	-0.00406	5.90255	0.00069
24	Good	0.75	0.1	Double	0.7	Double	2-3	-0.00480	0.01175	-0.01111	2.76952	0.00401
							3-4	-0.00129	0.00830	-0.00659	5.53207	0.00119
25	Good	0.75	0.3	Equal	0.1	Equal	2-3	0.00247	0.02296	-0.00007	0.23091	0.00031
							3-4	0.00050	0.00422	0.00003	0.15811	-0.00019

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
26	Good	0.75	0.3	Equal	0.1	Double	2-3	-0.00001	-0.00028	0.00002	0.95877	-0.00002
							3-4	0.00000	-0.00028	0.00002	-0.80067	0.00003
27	Good	0.75	0.3	Equal	0.3	Equal	2-3	-0.00219	-0.00311	-0.00060	0.35586	0.00169
							3-4	-0.00009	-0.00060	0.00011	0.99931	-0.00011
28	Good	0.75	0.3	Equal	0.3	Double	2-3	-0.00082	-0.00309	-0.00022	0.32752	0.00068
							3-4	-0.00004	-0.00045	0.00008	0.27830	-0.00030
29	Good	0.75	0.3	Equal	0.7	Equal	2-3	0.00012	0.00167	-0.00113	0.79223	0.00142
							3-4	-0.01274	-0.00536	-0.00007	0.82202	0.00009
30	Good	0.75	0.3	Equal	0.7	Double	2-3	-0.00727	-0.00412	-0.00148	0.76487	0.00193
							3-4	-0.00045	-0.00078	0.00028	0.53976	-0.00052
31	Good	0.75	0.3	Double	0.1	Equal	2-3	0.00247	0.02298	-0.00007	0.39034	0.00018
							3-4	0.00050	0.00419	0.00003	1.37110	-0.00002
32	Good	0.75	0.3	Double	0.1	Double	2-3	-0.00001	-0.00028	0.00002	0.44992	-0.00004
							3-4	0.00000	-0.00029	0.00002	0.02558	-0.00084
33	Good	0.75	0.3	Double	0.3	Equal	2-3	-0.00218	-0.00312	-0.00059	1.31595	0.00045
							3-4	-0.00010	-0.00056	0.00010	1.87822	-0.00005
34	Good	0.75	0.3	Double	0.3	Double	2-3	-0.00083	-0.00304	-0.00026	1.21228	0.00021
							3-4	-0.00003	-0.00049	0.00011	1.29809	-0.00008
35	Good	0.75	0.3	Double	0.7	Equal	2-3	0.00010	0.00166	-0.00113	3.17417	0.00036
							3-4	-0.01263	-0.00535	-0.00004	6.10406	0.00001
36	Good	0.75	0.3	Double	0.7	Double	2-3	-0.00732	-0.00413	-0.00150	2.81148	0.00053
							3-4	-0.00043	-0.00078	0.00028	4.82969	-0.00006
37	Good	0.75	0.5	Equal	0.1	Equal	2-3	0.00000	-0.00031	0.00003	0.05818	-0.00050
							3-4	0.00000	-0.00030	0.00003	1.85219	-0.00002
38	Good	0.75	0.5	Equal	0.1	Double	2-3	0.00000	-0.00020	0.00002	0.96246	-0.00002
							3-4	0.00000	-0.00020	0.00002	-1.82203	0.00001
39	Good	0.75	0.5	Equal	0.3	Equal	2-3	-0.00002	-0.00050	0.00014	0.22835	-0.00060
							3-4	-0.00002	-0.00050	0.00014	1.70068	-0.00008

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
40	Good	0.75	0.5	Equal	0.3	Double	2-3	0.00000	-0.00037	0.00010	0.17084	-0.00061
							3-4	0.00000	-0.00036	0.00010	0.17073	-0.00061
41	Good	0.75	0.5	Equal	0.7	Equal	2-3	-0.00078	-0.00089	0.00039	0.98593	-0.00040
							3-4	-0.00076	-0.00089	0.00040	0.98031	-0.00040
42	Good	0.75	0.5	Equal	0.7	Double	2-3	-0.00014	-0.00071	0.00041	0.98593	-0.00042
							3-4	-0.00014	-0.00071	0.00041	0.59660	-0.00069
43	Good	0.75	0.5	Double	0.1	Equal	2-3	0.00000	-0.00031	0.00003	0.23273	-0.00013
							3-4	0.00000	-0.00030	0.00003	-1.37301	0.00002
44	Good	0.75	0.5	Double	0.1	Double	2-3	0.00000	-0.00020	0.00002	-1.71908	0.00001
							3-4	0.00000	-0.00020	0.00002	5.87549	0.00000
45	Good	0.75	0.5	Double	0.3	Equal	2-3	-0.00002	-0.00050	0.00014	3.88114	-0.00004
							3-4	-0.00002	-0.00050	0.00014	-1.14223	0.00012
46	Good	0.75	0.5	Double	0.3	Double	2-3	0.00000	-0.00037	0.00011	0.68338	-0.00015
							3-4	0.00000	-0.00036	0.00010	4.56362	-0.00002
47	Good	0.75	0.5	Double	0.7	Equal	2-3	-0.00079	-0.00090	0.00039	3.94370	-0.00010
							3-4	-0.00076	-0.00089	0.00040	4.16974	-0.00010
48	Good	0.75	0.5	Double	0.7	Double	2-3	-0.00014	-0.00071	0.00041	3.94370	-0.00010
							3-4	-0.00014	-0.00071	0.00041	3.21764	-0.00013
49	Good	1	0	Equal	0.1	Equal	2-3	-0.00373	0.06456	-0.00982	0.22186	0.04424
							3-4	-0.00240	0.03363	-0.00552	0.28583	0.01933
50	Good	1	0	Equal	0.1	Double	2-3	-0.00253	0.07061	-0.01161	0.18362	0.06324
							3-4	0.00038	0.07535	-0.00686	0.26991	0.02540
51	Good	1	0	Equal	0.3	Equal	2-3	-0.01897	0.01559	-0.01795	0.44957	0.03993
							3-4	-0.00490	0.02256	-0.01020	0.44952	0.02268
52	Good	1	0	Equal	0.3	Double	2-3	-0.00924	0.03546	-0.02357	0.42388	0.05561
							3-4	-0.00184	0.03693	-0.01365	0.39794	0.03430
53	Good	1	0	Equal	0.7	Equal	2-3	-0.03022	0.01047	-0.01640	0.80306	0.02042
							3-4	-0.02601	0.00346	-0.01022	0.73326	0.01394

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
54	Good	1	0	Equal	0.7	Double	2-3	-0.01422	0.02319	-0.02476	0.79160	0.03128
							3-4	-0.01674	0.00690	-0.01487	0.76583	0.01942
55	Good	1	0	Double	0.1	Equal	2-3	-0.00373	0.06456	-0.00982	0.69993	0.01402
							3-4	-0.00240	0.03363	-0.00552	1.34750	0.00410
56	Good	1	0	Double	0.1	Double	2-3	-0.00253	0.07061	-0.01161	0.57729	0.02011
							3-4	0.00038	0.07535	-0.00686	1.28731	0.00533
57	Good	1	0	Double	0.3	Equal	2-3	-0.01897	0.01559	-0.01795	1.59061	0.01129
							3-4	-0.00490	0.02256	-0.01020	2.98483	0.00342
58	Good	1	0	Double	0.3	Double	2-3	-0.00924	0.03546	-0.02357	1.50353	0.01568
							3-4	-0.00184	0.03693	-0.01365	2.70404	0.00505
59	Good	1	0	Double	0.7	Equal	2-3	-0.03022	0.01047	-0.01640	3.09512	0.00530
							3-4	-0.02601	0.00346	-0.01022	5.79984	0.00176
60	Good	1	0	Double	0.7	Double	2-3	-0.01422	0.02319	-0.02476	3.04291	0.00814
							3-4	-0.01674	0.00690	-0.01487	5.83085	0.00255
61	Good	1	0.1	Equal	0.1	Equal	2-3	-0.00302	0.05663	-0.00838	0.16503	0.05078
							3-4	0.00014	0.05055	-0.00493	0.26492	0.01859
62	Good	1	0.1	Equal	0.1	Double	2-3	-0.00071	0.08722	-0.01000	0.18945	0.05281
							3-4	-0.00047	0.05212	-0.00606	0.17262	0.03508
63	Good	1	0.1	Equal	0.3	Equal	2-3	-0.01033	0.02915	-0.01597	0.38616	0.04136
							3-4	-0.00543	0.01730	-0.00899	0.41016	0.02191
64	Good	1	0.1	Equal	0.3	Double	2-3	-0.00765	0.03281	-0.02055	0.34703	0.05922
							3-4	-0.00132	0.03314	-0.01179	0.45186	0.02610
65	Good	1	0.1	Equal	0.7	Equal	2-3	-0.03823	0.00412	-0.01435	0.76467	0.01877
							3-4	-0.00710	0.00988	-0.00905	0.78386	0.01154
66	Good	1	0.1	Equal	0.7	Double	2-3	-0.02035	0.01346	-0.02163	0.77946	0.02775
							3-4	-0.01735	0.00406	-0.01325	0.71101	0.01863
67	Good	1	0.1	Double	0.1	Equal	2-3	-0.00302	0.05661	-0.00838	0.52943	0.01582
							3-4	0.00014	0.05057	-0.00493	1.31896	0.00374

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
68	Good	1	0.1	Double	0.1	Double	2-3	-0.00071	0.08720	-0.01000	0.47218	0.02118
							3-4	-0.00047	0.05216	-0.00606	1.10404	0.00549
69	Good	1	0.1	Double	0.3	Equal	2-3	-0.01034	0.02916	-0.01598	1.44450	0.01106
							3-4	-0.00541	0.01729	-0.00898	2.79574	0.00321
70	Good	1	0.1	Double	0.3	Double	2-3	-0.00765	0.03283	-0.02056	1.29631	0.01586
							3-4	-0.00132	0.03312	-0.01178	2.52660	0.00466
71	Good	1	0.1	Double	0.7	Equal	2-3	-0.03824	0.00412	-0.01435	2.99858	0.00479
							3-4	-0.00712	0.00988	-0.00905	5.97472	0.00152
72	Good	1	0.1	Double	0.7	Double	2-3	-0.02035	0.01346	-0.02163	2.93426	0.00737
							3-4	-0.01735	0.00406	-0.01326	5.68061	0.00233
73	Good	1	0.3	Equal	0.1	Equal	2-3	-0.00116	0.04675	-0.00572	0.19030	0.03003
							3-4	-0.00244	0.01241	-0.00344	0.11145	0.03086
74	Good	1	0.3	Equal	0.1	Double	2-3	-0.00104	0.04796	-0.00667	0.15640	0.04263
							3-4	-0.00033	0.03392	-0.00398	0.16301	0.02443
75	Good	1	0.3	Equal	0.3	Equal	2-3	-0.00714	0.01998	-0.01099	0.42909	0.02561
							3-4	-0.00250	0.01633	-0.00665	0.33593	0.01979
76	Good	1	0.3	Equal	0.3	Double	2-3	-0.00555	0.02140	-0.01419	0.38525	0.03684
							3-4	-0.00208	0.01861	-0.00849	0.36875	0.02302
77	Good	1	0.3	Equal	0.7	Equal	2-3	-0.02470	0.00474	-0.01073	0.77465	0.01385
							3-4	-0.01107	0.00372	-0.00593	0.77109	0.00769
78	Good	1	0.3	Equal	0.7	Double	2-3	-0.02160	0.00531	-0.01668	0.74397	0.02241
							3-4	-0.00967	0.00463	-0.00904	0.71129	0.01271
79	Good	1	0.3	Double	0.1	Equal	2-3	-0.00115	0.04673	-0.00571	0.60403	0.00945
							3-4	-0.00243	0.01246	-0.00344	0.89305	0.00385
80	Good	1	0.3	Double	0.1	Double	2-3	-0.00104	0.04795	-0.00666	0.53591	0.01243
							3-4	-0.00033	0.03398	-0.00399	0.92378	0.00432
81	Good	1	0.3	Double	0.3	Equal	2-3	-0.00714	0.01996	-0.01099	1.52439	0.00721
							3-4	-0.00250	0.01633	-0.00665	2.52367	0.00264

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
82	Good	1	0.3	Double	0.3	Double	2-3	-0.00555	0.02141	-0.01419	1.27374	0.01114
							3-4	-0.00207	0.01865	-0.00848	2.59902	0.00326
83	Good	1	0.3	Double	0.7	Equal	2-3	-0.02471	0.00474	-0.01073	3.03848	0.00353
							3-4	-0.01107	0.00372	-0.00593	6.09774	0.00097
84	Good	1	0.3	Double	0.7	Double	2-3	-0.02157	0.00534	-0.01668	2.91253	0.00573
							3-4	-0.00970	0.00459	-0.00903	5.85483	0.00154
85	Good	1	0.5	Equal	0.1	Equal	2-3	0.00215	0.05645	-0.00371	0.13164	0.02820
							3-4	-0.00247	-0.00030	-0.00219	0.19769	0.01109
86	Good	1	0.5	Equal	0.1	Double	2-3	-0.00061	0.02908	-0.00401	0.13663	0.02935
							3-4	0.00010	0.02652	-0.00246	0.08839	0.02787
87	Good	1	0.5	Equal	0.3	Equal	2-3	-0.00288	0.01865	-0.00761	0.35929	0.02119
							3-4	0.00025	0.01509	-0.00435	0.32472	0.01340
88	Good	1	0.5	Equal	0.3	Double	2-3	-0.00259	0.02000	-0.00962	0.33882	0.02839
							3-4	-0.00366	0.00123	-0.00550	0.33406	0.01646
89	Good	1	0.5	Equal	0.7	Equal	2-3	-0.03037	-0.00268	-0.00724	0.76839	0.00942
							3-4	-0.02090	-0.00248	-0.00454	0.74209	0.00611
90	Good	1	0.5	Equal	0.7	Double	2-3	-0.01577	0.00225	-0.01103	0.70495	0.01565
							3-4	-0.00313	0.00702	-0.00679	0.74139	0.00916
91	Good	1	0.5	Double	0.1	Equal	2-3	0.00217	0.05646	-0.00370	0.53969	0.00685
							3-4	-0.00248	-0.00035	-0.00220	0.81341	0.00270
92	Good	1	0.5	Double	0.1	Double	2-3	-0.00061	0.02912	-0.00402	0.44137	0.00910
							3-4	0.00011	0.02648	-0.00245	0.63399	0.00387
93	Good	1	0.5	Double	0.3	Equal	2-3	0.00584	0.03913	-0.00765	1.42505	0.00537
							3-4	-0.00847	-0.00544	-0.00429	2.79321	0.00154
94	Good	1	0.5	Double	0.3	Double	2-3	-0.00261	0.02000	-0.00965	1.27167	0.00759
							3-4	-0.00363	0.00125	-0.00546	2.09989	0.00260
95	Good	1	0.5	Double	0.7	Equal	2-3	-0.03038	-0.00273	-0.00721	3.08300	0.00234
							3-4	-0.02086	-0.00243	-0.00456	5.79784	0.00079

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
96	Good	1	0.5	Double	0.7	Double	2-3	-0.01576	0.00224	-0.01102	2.75587	0.00400
							3-4	-0.00315	0.00708	-0.00685	5.73117	0.00119
97	Good	1.25	0	Equal	0.1	Equal	2-3	-0.00253	0.05888	-0.00816	0.19085	0.04277
							3-4	-0.00198	0.01739	-0.00352	0.17315	0.02033
98	Good	1.25	0	Equal	0.1	Double	2-3	-0.00153	0.07794	-0.01055	0.19085	0.05526
							3-4	-0.00088	0.03275	-0.00486	0.17315	0.02808
99	Good	1.25	0	Equal	0.3	Equal	2-3	-0.00875	0.02392	-0.01330	0.36309	0.03663
							3-4	-0.00385	0.01065	-0.00589	0.37806	0.01558
100	Good	1.25	0	Equal	0.3	Double	2-3	-0.00612	0.02992	-0.01754	0.39577	0.04433
							3-4	-0.00275	0.01472	-0.00827	0.37806	0.02187
101	Good	1.25	0	Equal	0.7	Equal	2-3	-0.01232	0.01109	-0.01146	0.77306	0.01482
							3-4	-0.01535	0.00171	-0.00580	0.74235	0.00782
102	Good	1.25	0	Equal	0.7	Double	2-3	-0.01298	0.01488	-0.01821	0.73452	0.02479
							3-4	-0.00653	0.00602	-0.00813	0.74532	0.01091
103	Good	1.25	0	Double	0.1	Equal	2-3	-0.00253	0.05888	-0.00816	0.61885	0.01319
							3-4	-0.00198	0.01739	-0.00352	1.01738	0.00346
104	Good	1.25	0	Double	0.1	Double	2-3	-0.00153	0.07794	-0.01055	0.61885	0.01704
							3-4	-0.00088	0.03275	-0.00486	1.01738	0.00478
105	Good	1.25	0	Double	0.3	Equal	2-3	-0.00875	0.02392	-0.01330	1.37592	0.00967
							3-4	-0.00385	0.01065	-0.00589	2.66205	0.00221
106	Good	1.25	0	Double	0.3	Double	2-3	-0.00612	0.02992	-0.01754	1.44127	0.01217
							3-4	-0.00275	0.01472	-0.00827	2.66205	0.00311
107	Good	1.25	0	Double	0.7	Equal	2-3	-0.01232	0.01109	-0.01146	3.01002	0.00381
							3-4	-0.01535	0.00171	-0.00580	5.76545	0.00101
108	Good	1.25	0	Double	0.7	Double	2-3	-0.01298	0.01488	-0.01821	2.89874	0.00628
							3-4	-0.00653	0.00602	-0.00813	5.76549	0.00141
109	Good	1.25	0.1	Equal	0.1	Equal	2-3	-0.00342	0.04247	-0.00733	0.19648	0.03729
							3-4	-0.00155	0.02241	-0.00364	0.11638	0.03124

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
110	Good	1.25	0.1	Equal	0.1	Double	2-3	-0.00119	0.07840	-0.00998	0.16690	0.05981
							3-4	-0.00122	0.02489	-0.00468	0.15640	0.02990
111	Good	1.25	0.1	Equal	0.3	Equal	2-3	-0.00765	0.02350	-0.01241	0.36927	0.03360
							3-4	-0.00601	0.00522	-0.00578	0.32234	0.01792
112	Good	1.25	0.1	Equal	0.3	Double	2-3	-0.00993	0.01180	-0.01744	0.34265	0.05090
							3-4	-0.00226	0.01673	-0.00818	0.36076	0.02268
113	Good	1.25	0.1	Equal	0.7	Equal	2-3	-0.02298	0.00535	-0.01064	0.73800	0.01441
							3-4	-0.00541	0.00587	-0.00573	0.75046	0.00764
114	Good	1.25	0.1	Equal	0.7	Double	2-3	-0.01652	0.00943	-0.01652	0.72871	0.02267
							3-4	-0.00717	0.00557	-0.00821	0.72364	0.01134
115	Good	1.25	0.1	Double	0.1	Equal	2-3	-0.00342	0.04245	-0.00733	0.60620	0.01209
							3-4	-0.00155	0.02244	-0.00364	1.02451	0.00355
116	Good	1.25	0.1	Double	0.1	Double	2-3	-0.00119	0.07840	-0.00998	0.55099	0.01812
							3-4	-0.00122	0.02487	-0.00468	0.94906	0.00493
117	Good	1.25	0.1	Double	0.3	Equal	2-3	-0.00765	0.02352	-0.01241	1.40063	0.00886
							3-4	-0.00602	0.00522	-0.00578	2.53210	0.00228
118	Good	1.25	0.1	Double	0.3	Double	2-3	-0.00993	0.01181	-0.01744	1.30526	0.01337
							3-4	-0.00226	0.01674	-0.00818	2.57246	0.00318
119	Good	1.25	0.1	Double	0.7	Equal	2-3	-0.02297	0.00536	-0.01064	2.91268	0.00365
							3-4	-0.00542	0.00587	-0.00574	5.80412	0.00099
120	Good	1.25	0.1	Double	0.7	Double	2-3	-0.01653	0.00944	-0.01653	2.87551	0.00575
							3-4	-0.00716	0.00556	-0.00819	5.80104	0.00141
121	Good	1.25	0.3	Equal	0.1	Equal	2-3	-0.00104	0.05591	-0.00652	0.17681	0.03689
							3-4	-0.00250	0.01164	-0.00342	0.10367	0.03295
122	Good	1.25	0.3	Equal	0.1	Double	2-3	-0.00138	0.06534	-0.00901	0.13020	0.06920
							3-4	-0.00057	0.03203	-0.00422	0.14739	0.02864
123	Good	1.25	0.3	Equal	0.3	Equal	2-3	-0.00932	0.01457	-0.01089	0.35428	0.03074
							3-4	-0.00101	0.01456	-0.00507	0.37706	0.01346

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
124	Good	1.25	0.3	Equal	0.3	Double	2-3	-0.00612	0.02082	-0.01482	0.32967	0.04496
							3-4	-0.00083	0.02247	-0.00791	0.35212	0.02246
125	Good	1.25	0.3	Equal	0.7	Equal	2-3	-0.01757	0.00563	-0.00921	0.74614	0.01234
							3-4	-0.02376	-0.00282	-0.00516	0.70740	0.00729
126	Good	1.25	0.3	Equal	0.7	Double	2-3	-0.01322	0.00937	-0.01449	0.72701	0.01993
							3-4	-0.00563	0.00510	-0.00695	0.70969	0.00979
127	Good	1.25	0.3	Double	0.1	Equal	2-3	-0.00104	0.05586	-0.00652	0.59061	0.01105
							3-4	-0.00249	0.01165	-0.00341	0.80630	0.00423
128	Good	1.25	0.3	Double	0.1	Double	2-3	-0.00137	0.06532	-0.00900	0.46884	0.01919
							3-4	-0.00058	0.03200	-0.00424	0.92809	0.00457
129	Good	1.25	0.3	Double	0.3	Equal	2-3	-0.00933	0.01448	-0.01088	1.35177	0.00805
							3-4	-0.00100	0.01460	-0.00508	2.69251	0.00189
130	Good	1.25	0.3	Double	0.3	Double	2-3	-0.00612	0.02083	-0.01482	1.26197	0.01175
							3-4	-0.00083	0.02236	-0.00787	2.53972	0.00310
131	Good	1.25	0.3	Double	0.7	Equal	2-3	-0.01760	0.00577	-0.00932	2.94524	0.00317
							3-4	-0.01919	-0.00097	-0.00508	5.72708	0.00089
132	Good	1.25	0.3	Double	0.7	Double	2-3	-0.01328	0.00939	-0.01454	2.87156	0.00506
							3-4	-0.00555	0.00503	-0.00685	5.77051	0.00119
133	Good	1.25	0.5	Equal	0.1	Equal	2-3	-0.00150	0.04551	-0.00590	0.13720	0.04304
							3-4	-0.00362	0.00000	-0.00326	0.09754	0.03341
134	Good	1.25	0.5	Equal	0.1	Double	2-3	-0.00101	0.06552	-0.00836	0.11563	0.07231
							3-4	-0.00204	0.00000	-0.00367	0.09432	0.03887
135	Good	1.25	0.5	Equal	0.3	Equal	2-3	-0.01453	0.00000	-0.01017	0.27170	0.03744
							3-4	0.00223	0.02389	-0.00560	0.35411	0.01582
136	Good	1.25	0.5	Equal	0.3	Double	2-3	-0.00935	0.00000	-0.01309	0.28165	0.04648
							3-4	0.00118	0.03223	-0.00802	0.33663	0.02382
137	Good	1.25	0.5	Equal	0.7	Equal	2-3	-0.02952	0.00000	-0.00886	0.71275	0.01243
							3-4	-0.01599	0.00000	-0.00480	0.72823	0.00659

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
138	Good	1.25	0.5	Equal	0.7	Double	2-3	-0.02183	0.00000	-0.01310	0.70723	0.01852
							3-4	-0.00589	0.00637	-0.00799	0.68731	0.01162
139	Good	1.25	0.5	Double	0.1	Equal	2-3	-0.00150	0.04551	-0.00590	0.49683	0.01188
							3-4	-0.00363	0.00000	-0.00327	0.75919	0.00430
140	Good	1.25	0.5	Double	0.1	Double	2-3	-0.00100	0.06552	-0.00836	0.43450	0.01923
							3-4	-0.00204	0.00000	-0.00367	0.71349	0.00514
141	Good	1.25	0.5	Double	0.3	Equal	2-3	-0.01453	0.00000	-0.01017	1.20020	0.00848
							3-4	0.00224	0.02389	-0.00560	2.52484	0.00222
142	Good	1.25	0.5	Double	0.3	Double	2-3	-0.00936	0.00000	-0.01310	1.14301	0.01146
							3-4	0.00118	0.03223	-0.00802	2.45812	0.00326
143	Good	1.25	0.5	Double	0.7	Equal	2-3	-0.02952	0.00000	-0.00886	2.85099	0.00311
							3-4	-0.01601	0.00000	-0.00480	5.76407	0.00083
144	Good	1.25	0.5	Double	0.7	Double	2-3	-0.02183	0.00000	-0.01310	2.82891	0.00463
							3-4	-0.00590	0.00637	-0.00800	5.56319	0.00144
145	Fair	0.75	0	Equal	0.1	Equal	2-3	0.00022	0.02047	-0.00185	0.17793	0.01041
							3-4	-0.00058	0.00597	-0.00112	0.27727	0.00403
146	Fair	0.75	0	Equal	0.1	Double	2-3	0.00099	0.03515	-0.00173	0.16407	0.01056
							3-4	-0.00062	0.00025	-0.00114	0.21788	0.00522
147	Fair	0.75	0	Equal	0.3	Equal	2-3	0.00290	0.02186	-0.00453	0.43944	0.01031
							3-4	0.00150	0.01201	-0.00255	0.39863	0.00640
148	Fair	0.75	0	Equal	0.3	Double	2-3	-0.00454	-0.00380	-0.00522	0.30602	0.01706
							3-4	0.00039	0.01249	-0.00320	0.42470	0.00754
149	Fair	0.75	0	Equal	0.7	Equal	2-3	-0.03714	-0.01503	-0.00062	0.84294	0.00073
							3-4	-0.02019	-0.00911	0.00032	0.87020	-0.00037
150	Fair	0.75	0	Equal	0.7	Double	2-3	0.00955	0.01551	-0.00513	0.75101	0.00683
							3-4	-0.01558	-0.00977	-0.00251	0.71689	0.00350
151	Fair	0.75	0	Double	0.1	Equal	2-3	0.00022	0.02047	-0.00185	0.51983	0.00356
							3-4	-0.00058	0.00597	-0.00112	1.12772	0.00099

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
152	Fair	0.75	0	Double	0.1	Double	2-3	0.00099	0.03515	-0.00173	0.44252	0.00391
							3-4	-0.00062	0.00025	-0.00114	0.82962	0.00137
153	Fair	0.75	0	Double	0.3	Equal	2-3	0.00290	0.02186	-0.00453	1.50533	0.00301
							3-4	0.00150	0.01201	-0.00255	2.50918	0.00102
154	Fair	0.75	0	Double	0.3	Double	2-3	-0.00454	-0.00380	-0.00522	1.01054	0.00517
							3-4	0.00039	0.01249	-0.00320	2.18438	0.00147
155	Fair	0.75	0	Double	0.7	Equal	2-3	-0.03714	-0.01503	-0.00062	3.30085	0.00019
							3-4	-0.02019	-0.00911	0.00032	6.59166	-0.00005
156	Fair	0.75	0	Double	0.7	Double	2-3	0.00955	0.01551	-0.00513	2.82262	0.00182
							3-4	-0.01558	-0.00977	-0.00251	5.24572	0.00048
157	Fair	0.75	0.1	Equal	0.1	Equal	2-3	0.00044	0.00644	-0.00025	0.20648	0.00120
							3-4	-0.00008	-0.00131	0.00006	0.92305	-0.00007
158	Fair	0.75	0.1	Equal	0.1	Double	2-3	0.00023	0.00658	-0.00024	0.10718	0.00228
							3-4	-0.00002	-0.00087	0.00005	0.15424	-0.00030
159	Fair	0.75	0.1	Equal	0.3	Equal	2-3	-0.00182	-0.00235	-0.00057	0.41723	0.00136
							3-4	-0.00073	-0.00272	0.00031	0.36421	-0.00084
160	Fair	0.75	0.1	Equal	0.3	Double	2-3	0.00113	0.00779	-0.00076	0.29085	0.00260
							3-4	-0.00022	-0.00190	0.00026	0.12627	-0.00204
161	Fair	0.75	0.1	Equal	0.7	Equal	2-3	-0.00968	-0.00556	0.00099	0.85477	-0.00116
							3-4	-0.00939	-0.00551	0.00104	0.99963	-0.00104
162	Fair	0.75	0.1	Equal	0.7	Double	2-3	-0.00530	-0.00508	0.00038	0.68175	-0.00056
							3-4	-0.00308	-0.00415	0.00106	0.52821	-0.00200
163	Fair	0.75	0.1	Double	0.1	Equal	2-3	0.00044	0.00645	-0.00025	0.45881	0.00054
							3-4	-0.00007	-0.00132	0.00007	2.55083	-0.00003
164	Fair	0.75	0.1	Double	0.1	Double	2-3	0.00023	0.00658	-0.00024	0.30235	0.00080
							3-4	-0.00002	-0.00086	0.00004	0.34936	-0.00013
165	Fair	0.75	0.1	Double	0.3	Equal	2-3	-0.00181	-0.00236	-0.00056	1.41646	0.00040
							3-4	-0.00073	-0.00271	0.00030	2.62530	-0.00012

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
166	Fair	0.75	0.1	Double	0.3	Double	2-3	0.00113	0.00778	-0.00075	0.94985	0.00078
							3-4	-0.00023	-0.00188	0.00025	3.67929	-0.00007
167	Fair	0.75	0.1	Double	0.7	Equal	2-3	-0.00969	-0.00556	0.00099	3.72575	-0.00027
							3-4	-0.00938	-0.00551	0.00104	6.77034	-0.00015
168	Fair	0.75	0.1	Double	0.7	Double	2-3	-0.00532	-0.00508	0.00037	2.63330	-0.00014
							3-4	-0.00307	-0.00414	0.00106	5.03826	-0.00021
169	Fair	0.75	0.3	Equal	0.1	Equal	2-3	-0.00001	-0.00091	0.00008	-0.91459	0.00009
							3-4	-0.00001	-0.00090	0.00008	0.02755	-0.00284
170	Fair	0.75	0.3	Equal	0.1	Double	2-3	0.00000	-0.00054	0.00005	0.95955	-0.00005
							3-4	0.00000	-0.00053	0.00005	0.94177	-0.00005
171	Fair	0.75	0.3	Equal	0.3	Equal	2-3	-0.00018	-0.00206	0.00050	0.96557	-0.00051
							3-4	-0.00017	-0.00204	0.00049	0.95030	-0.00052
172	Fair	0.75	0.3	Equal	0.3	Double	2-3	-0.00005	-0.00142	0.00035	0.96557	-0.00036
							3-4	-0.00005	-0.00140	0.00035	0.95028	-0.00037
173	Fair	0.75	0.3	Equal	0.7	Equal	2-3	-0.00642	-0.00535	0.00182	0.97761	-0.00186
							3-4	-0.00613	-0.00528	0.00186	0.77059	-0.00241
174	Fair	0.75	0.3	Equal	0.7	Double	2-3	-0.00188	-0.00400	0.00167	0.97761	-0.00171
							3-4	-0.00183	-0.00396	0.00167	-0.27664	0.00605
175	Fair	0.75	0.3	Double	0.1	Equal	2-3	-0.00001	-0.00091	0.00008	3.83820	-0.00002
							3-4	-0.00001	-0.00090	0.00008	-5.39172	0.00001
176	Fair	0.75	0.3	Double	0.1	Double	2-3	0.00000	-0.00054	0.00005	3.83820	-0.00001
							3-4	0.00000	-0.00054	0.00005	7.53423	-0.00001
177	Fair	0.75	0.3	Double	0.3	Equal	2-3	-0.00018	-0.00206	0.00049	-0.97103	0.00051
							3-4	-0.00017	-0.00204	0.00049	2.89126	-0.00017
178	Fair	0.75	0.3	Double	0.3	Double	2-3	-0.00005	-0.00142	0.00035	3.86228	-0.00009
							3-4	-0.00005	-0.00140	0.00035	-2.60540	0.00013
179	Fair	0.75	0.3	Double	0.7	Equal	2-3	-0.00643	-0.00535	0.00181	3.10504	-0.00058
							3-4	-0.00613	-0.00528	0.00186	6.97011	-0.00027

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
180	Fair	0.75	0.3	Double	0.7	Double	2-3	-0.00188	-0.00400	0.00167	2.27277	-0.00073
							3-4	-0.00182	-0.00395	0.00167	3.65453	-0.00046
181	Fair	0.75	0.5	Equal	0.1	Equal	2-3	0.00000	-0.00066	0.00007	0.96137	-0.00007
							3-4	0.00000	-0.00065	0.00006	0.02762	-0.00235
182	Fair	0.75	0.5	Equal	0.1	Double	2-3	0.00000	-0.00037	0.00004	-0.93895	0.00004
							3-4	0.00000	-0.00037	0.00004	1.91549	-0.00002
183	Fair	0.75	0.5	Equal	0.3	Equal	2-3	-0.00002	-0.00165	0.00048	0.16075	-0.00301
							3-4	-0.00002	-0.00163	0.00048	0.16024	-0.00298
184	Fair	0.75	0.5	Equal	0.3	Double	2-3	0.00000	-0.00108	0.00032	0.96699	-0.00033
							3-4	0.00000	-0.00107	0.00032	-1.61175	0.00020
185	Fair	0.75	0.5	Equal	0.7	Equal	2-3	-0.00283	-0.00498	0.00264	0.77763	-0.00339
							3-4	-0.00269	-0.00490	0.00263	0.53614	-0.00490
186	Fair	0.75	0.5	Equal	0.7	Double	2-3	-0.00047	-0.00352	0.00218	0.97825	-0.00223
							3-4	-0.06225	-0.05639	0.00213	-0.43556	0.00489
187	Fair	0.75	0.5	Double	0.1	Equal	2-3	0.00000	-0.00066	0.00007	-1.77374	0.00004
							3-4	0.00000	-0.00065	0.00006	0.22094	-0.00029
188	Fair	0.75	0.5	Double	0.1	Double	2-3	0.00000	-0.00037	0.00004	-1.84745	0.00002
							3-4	0.00000	-0.00037	0.00004	13.26315	0.00000
189	Fair	0.75	0.5	Double	0.3	Equal	2-3	-0.00002	-0.00165	0.00048	0.64301	-0.00075
							3-4	-0.00002	-0.00163	0.00048	1.28197	-0.00037
190	Fair	0.75	0.5	Double	0.3	Double	2-3	0.00000	-0.00108	0.00032	3.86797	-0.00008
							3-4	0.00000	-0.00107	0.00032	0.83884	-0.00038
191	Fair	0.75	0.5	Double	0.7	Equal	2-3	-0.00282	-0.00498	0.00264	3.11051	-0.00085
							3-4	-0.00268	-0.00490	0.00262	5.71202	-0.00046
192	Fair	0.75	0.5	Double	0.7	Double	2-3	-0.00047	-0.00352	0.00218	2.27584	-0.00096
							3-4	-0.06225	-0.05639	0.00213	5.72065	-0.00037
193	Fair	1	0	Equal	0.1	Equal	2-3	0.00269	0.12048	-0.00962	0.29622	0.03249
							3-4	-0.00184	0.05250	-0.00690	0.21549	0.03203

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
194	Fair	1	0	Equal	0.1	Double	2-3	0.00060	0.10237	-0.00916	0.23632	0.03876
							3-4	-0.00001	0.07046	-0.00707	0.26741	0.02644
195	Fair	1	0	Equal	0.3	Equal	2-3	-0.00073	0.07147	-0.02196	0.49510	0.04435
							3-4	-0.01198	0.02148	-0.01483	0.46097	0.03217
196	Fair	1	0	Equal	0.3	Double	2-3	-0.00105	0.08451	-0.02682	0.42907	0.06251
							3-4	-0.00123	0.05587	-0.01848	0.39635	0.04662
197	Fair	1	0	Equal	0.7	Equal	2-3	-0.05399	0.00322	-0.01845	0.82073	0.02248
							3-4	-0.03101	0.00384	-0.01199	0.84888	0.01412
198	Fair	1	0	Equal	0.7	Double	2-3	-0.00925	0.03688	-0.03136	0.82123	0.03819
							3-4	-0.02363	0.00929	-0.02068	0.78590	0.02631
199	Fair	1	0	Double	0.1	Equal	2-3	0.00269	0.12048	-0.00962	0.85798	0.01122
							3-4	-0.00184	0.05250	-0.00690	1.12420	0.00614
200	Fair	1	0	Double	0.1	Double	2-3	0.00060	0.10237	-0.00916	0.66509	0.01377
							3-4	-0.00001	0.07046	-0.00707	1.12516	0.00628
201	Fair	1	0	Double	0.3	Equal	2-3	-0.00073	0.07147	-0.02196	1.72101	0.01276
							3-4	-0.01198	0.02148	-0.01483	3.02506	0.00490
202	Fair	1	0	Double	0.3	Double	2-3	-0.00105	0.08451	-0.02682	1.46476	0.01831
							3-4	-0.00123	0.05587	-0.01848	2.52968	0.00730
203	Fair	1	0	Double	0.7	Equal	2-3	-0.05399	0.00322	-0.01845	3.21365	0.00574
							3-4	-0.03101	0.00384	-0.01199	6.43575	0.00186
204	Fair	1	0	Double	0.7	Double	2-3	-0.00925	0.03688	-0.03136	3.11293	0.01008
							3-4	-0.02363	0.00929	-0.02068	5.87594	0.00352
205	Fair	1	0.1	Equal	0.1	Equal	2-3	-0.00169	0.05933	-0.00746	0.20642	0.03612
							3-4	-0.00132	0.03717	-0.00491	0.19171	0.02559
206	Fair	1	0.1	Equal	0.1	Double	2-3	0.00108	0.08853	-0.00691	0.16105	0.04288
							3-4	-0.00108	0.02970	-0.00492	0.22822	0.02157
207	Fair	1	0.1	Equal	0.3	Equal	2-3	-0.00765	0.04155	-0.01782	0.50688	0.03516
							3-4	-0.01386	0.00701	-0.01181	0.42012	0.02811

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
208	Fair	1	0.1	Equal	0.3	Double	2-3	-0.01033	0.02409	-0.02170	0.31965	0.06787
							3-4	0.00436	0.06672	-0.01392	0.48033	0.02897
209	Fair	1	0.1	Equal	0.7	Equal	2-3	-0.04299	0.00375	-0.01552	0.82524	0.01880
							3-4	-0.02292	0.00406	-0.00972	0.85571	0.01136
210	Fair	1	0.1	Equal	0.7	Double	2-3	-0.02281	0.01735	-0.02583	0.75736	0.03410
							3-4	-0.01047	0.01573	-0.01729	0.78384	0.02206
211	Fair	1	0.1	Double	0.1	Equal	2-3	-0.00170	0.05933	-0.00746	0.62298	0.01198
							3-4	-0.00132	0.03718	-0.00491	1.23207	0.00398
212	Fair	1	0.1	Double	0.1	Double	2-3	0.00108	0.08851	-0.00691	0.47335	0.01460
							3-4	-0.00108	0.02974	-0.00492	0.69136	0.00711
213	Fair	1	0.1	Double	0.3	Equal	2-3	-0.02035	0.01193	-0.01783	1.50253	0.01186
							3-4	-0.00115	0.03664	-0.01180	2.94867	0.00400
214	Fair	1	0.1	Double	0.3	Double	2-3	-0.01034	0.02406	-0.02169	1.15557	0.01877
							3-4	0.00436	0.06676	-0.01392	2.85751	0.00487
215	Fair	1	0.1	Double	0.7	Equal	2-3	-0.04298	0.00374	-0.01551	3.23170	0.00480
							3-4	-0.02294	0.00406	-0.00973	6.49407	0.00150
216	Fair	1	0.1	Double	0.7	Double	2-3	-0.02282	0.01735	-0.02584	2.93785	0.00879
							3-4	-0.01046	0.01570	-0.01727	5.57768	0.00310
217	Fair	1	0.3	Equal	0.1	Equal	2-3	0.00243	0.06513	-0.00433	0.17649	0.02451
							3-4	-0.00101	0.01934	-0.00284	0.16563	0.01715
218	Fair	1	0.3	Equal	0.1	Double	2-3	-0.00019	0.03365	-0.00371	0.08610	0.04307
							3-4	0.00121	0.04626	-0.00244	0.17018	0.01436
219	Fair	1	0.3	Equal	0.3	Equal	2-3	-0.00037	0.03992	-0.01223	0.40248	0.03039
							3-4	-0.00962	0.00182	-0.00728	0.39413	0.01848
220	Fair	1	0.3	Equal	0.3	Double	2-3	0.00337	0.06127	-0.01366	0.37113	0.03681
							3-4	-0.00252	0.01645	-0.00846	0.28258	0.02994
221	Fair	1	0.3	Equal	0.7	Equal	2-3	-0.02246	0.00535	-0.01048	0.83505	0.01255
							3-4	-0.05423	-0.01384	-0.00658	0.78472	0.00839

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
222	Fair	1	0.3	Equal	0.7	Double	2-3	-0.02615	0.00318	-0.01791	0.74425	0.02407
							3-4	0.00802	0.02243	-0.01089	0.78835	0.01381
223	Fair	1	0.3	Double	0.1	Equal	2-3	0.00243	0.06512	-0.00432	0.53511	0.00808
							3-4	-0.00102	0.01932	-0.00285	0.86334	0.00330
224	Fair	1	0.3	Double	0.1	Double	2-3	-0.00019	0.03366	-0.00371	0.24797	0.01496
							3-4	0.00120	0.04628	-0.00246	0.78999	0.00312
225	Fair	1	0.3	Double	0.3	Equal	2-3	-0.00037	0.03990	-0.01223	1.48143	0.00826
							3-4	-0.00961	0.00183	-0.00728	2.64318	0.00275
226	Fair	1	0.3	Double	0.3	Double	2-3	0.00336	0.06123	-0.01367	1.02811	0.01330
							3-4	-0.00251	0.01646	-0.00845	2.03444	0.00415
227	Fair	1	0.3	Double	0.7	Equal	2-3	-0.02238	0.00534	-0.01045	3.27091	0.00319
							3-4	-0.05437	-0.01385	-0.00661	6.11655	0.00108
228	Fair	1	0.3	Double	0.7	Double	2-3	-0.02615	0.00321	-0.01794	2.88540	0.00622
							3-4	0.00806	0.02238	-0.01083	5.85008	0.00185
229	Fair	1	0.5	Equal	0.1	Equal	2-3	0.00215	0.04295	-0.00236	0.13742	0.01717
							3-4	-0.00034	0.01149	-0.00145	0.13842	0.01050
230	Fair	1	0.5	Equal	0.1	Double	2-3	0.00171	0.04953	-0.00188	0.08448	0.02228
							3-4	0.00039	0.01855	-0.00115	0.08549	0.01349
231	Fair	1	0.5	Equal	0.3	Equal	2-3	-0.00850	0.00510	-0.00748	0.36673	0.02041
							3-4	-0.00225	0.00838	-0.00409	0.37151	0.01101
232	Fair	1	0.5	Equal	0.3	Double	2-3	-0.00007	0.02534	-0.00770	0.25605	0.03008
							3-4	-0.00252	0.00474	-0.00496	0.30438	0.01628
233	Fair	1	0.5	Equal	0.7	Equal	2-3	-0.03500	-0.00545	-0.00668	0.82210	0.00813
							3-4	-0.02674	-0.00491	-0.00459	0.79481	0.00577
234	Fair	1	0.5	Equal	0.7	Double	2-3	-0.03368	-0.01261	-0.01138	0.68374	0.01665
							3-4	-0.00922	0.00203	-0.00695	0.75471	0.00921
235	Fair	1	0.5	Double	0.1	Equal	2-3	0.00216	0.04298	-0.00236	0.46028	0.00512
							3-4	-0.00034	0.01150	-0.00145	0.61804	0.00235

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
236	Fair	1	0.5	Double	0.1	Double	2-3	0.00170	0.04958	-0.00190	0.25024	0.00757
							3-4	0.00041	0.01858	-0.00112	0.42856	0.00262
237	Fair	1	0.5	Double	0.3	Equal	2-3	-0.00849	0.00514	-0.00749	1.34387	0.00557
							3-4	0.00838	0.03327	-0.00411	2.77459	0.00148
238	Fair	1	0.5	Double	0.3	Double	2-3	-0.00007	0.02534	-0.00770	1.00512	0.00767
							3-4	-0.00254	0.00474	-0.00497	1.81043	0.00275
239	Fair	1	0.5	Double	0.7	Equal	2-3	-0.03497	-0.00544	-0.00669	3.31635	0.00202
							3-4	-0.02677	-0.00490	-0.00460	6.16395	0.00075
240	Fair	1	0.5	Double	0.7	Double	2-3	-0.03368	-0.01261	-0.01138	2.73497	0.00416
							3-4	-0.00924	0.00204	-0.00697	5.50239	0.00127
241	Fair	1.25	0	Equal	0.1	Equal	2-3	-0.00232	0.13666	-0.01576	0.26429	0.05961
							3-4	-0.00184	0.08157	-0.00981	0.23185	0.04231
242	Fair	1.25	0	Equal	0.1	Double	2-3	0.00022	0.18334	-0.01794	0.21590	0.08312
							3-4	-0.00240	0.07071	-0.01139	0.28327	0.04022
243	Fair	1.25	0	Equal	0.3	Equal	2-3	-0.03430	0.01348	-0.02805	0.40601	0.06910
							3-4	-0.00958	0.03393	-0.01688	0.43414	0.03889
244	Fair	1.25	0	Equal	0.3	Double	2-3	-0.01897	0.03840	-0.03807	0.43506	0.08751
							3-4	-0.00490	0.05280	-0.02270	0.44494	0.05102
245	Fair	1.25	0	Equal	0.7	Equal	2-3	-0.06556	0.00507	-0.02321	0.79247	0.02929
							3-4	-0.03223	0.00775	-0.01510	0.75738	0.01993
246	Fair	1.25	0	Equal	0.7	Double	2-3	-0.03022	0.02740	-0.03732	0.78686	0.04742
							3-4	-0.02601	0.01075	-0.02313	0.72048	0.03210
247	Fair	1.25	0	Double	0.1	Equal	2-3	-0.00232	0.13666	-0.01576	0.82859	0.01901
							3-4	-0.00184	0.08157	-0.00981	1.27785	0.00768
248	Fair	1.25	0	Double	0.1	Double	2-3	0.00022	0.18334	-0.01794	0.66001	0.02719
							3-4	-0.00240	0.07071	-0.01139	1.28467	0.00887
249	Fair	1.25	0	Double	0.3	Equal	2-3	-0.03430	0.01348	-0.02805	1.51094	0.01857
							3-4	-0.00958	0.03393	-0.01688	2.91194	0.00580

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
250	Fair	1.25	0	Double	0.3	Double	2-3	-0.01897	0.03840	-0.03807	1.51531	0.02512
							3-4	-0.00490	0.05280	-0.02270	2.89088	0.00785
251	Fair	1.25	0	Double	0.7	Equal	2-3	-0.06556	0.00507	-0.02321	3.11824	0.00744
							3-4	-0.03223	0.00775	-0.01510	5.97905	0.00252
252	Fair	1.25	0	Double	0.7	Double	2-3	-0.03022	0.02740	-0.03732	3.02648	0.01233
							3-4	-0.02601	0.01075	-0.02313	5.67496	0.00408
253	Fair	1.25	0.1	Equal	0.1	Equal	2-3	-0.00170	0.12330	-0.01386	0.22510	0.06156
							3-4	-0.00131	0.06886	-0.00807	0.29781	0.02709
254	Fair	1.25	0.1	Equal	0.1	Double	2-3	-0.00162	0.12135	-0.01506	0.18276	0.08240
							3-4	0.00038	0.10167	-0.00948	0.27685	0.03424
255	Fair	1.25	0.1	Equal	0.3	Equal	2-3	-0.01237	0.05847	-0.02620	0.41689	0.06285
							3-4	-0.00679	0.03281	-0.01460	0.45008	0.03243
256	Fair	1.25	0.1	Equal	0.3	Double	2-3	-0.01034	0.06790	-0.03485	0.36586	0.09524
							3-4	-0.00541	0.04120	-0.01994	0.40028	0.04982
257	Fair	1.25	0.1	Equal	0.7	Equal	2-3	-0.04344	0.01136	-0.02099	0.78233	0.02683
							3-4	-0.00558	0.01576	-0.01270	0.80927	0.01570
258	Fair	1.25	0.1	Equal	0.7	Double	2-3	-0.03824	0.01467	-0.03322	0.74436	0.04462
							3-4	-0.00709	0.02375	-0.02088	0.77727	0.02686
259	Fair	1.25	0.1	Double	0.1	Equal	2-3	-0.00170	0.12329	-0.01386	0.69681	0.01988
							3-4	-0.00132	0.06885	-0.00807	1.39053	0.00581
260	Fair	1.25	0.1	Double	0.1	Double	2-3	-0.00163	0.12135	-0.01507	0.55259	0.02727
							3-4	0.00039	0.10169	-0.00947	0.99308	0.00954
261	Fair	1.25	0.1	Double	0.3	Equal	2-3	-0.01237	0.05848	-0.02621	1.55445	0.01686
							3-4	-0.00680	0.03280	-0.01460	3.03762	0.00481
262	Fair	1.25	0.1	Double	0.3	Double	2-3	-0.01034	0.06789	-0.03484	1.35164	0.02578
							3-4	-0.00541	0.04118	-0.01993	2.66141	0.00749
263	Fair	1.25	0.1	Double	0.7	Equal	2-3	-0.04346	0.01135	-0.02098	3.07262	0.00683
							3-4	-0.00555	0.01576	-0.01269	6.16919	0.00206

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
264	Fair	1.25	0.1	Double	0.7	Double	2-3	-0.03824	0.01469	-0.03323	2.91319	0.01141
							3-4	-0.00709	0.02374	-0.02088	5.88086	0.00355
265	Fair	1.25	0.3	Equal	0.1	Equal	2-3	-0.00254	0.10129	-0.01242	0.15979	0.07772
							3-4	-0.00101	0.06028	-0.00694	0.19085	0.03637
266	Fair	1.25	0.3	Equal	0.1	Double	2-3	0.00097	0.14797	-0.01305	0.16295	0.08011
							3-4	-0.00082	0.06547	-0.00802	0.15576	0.05149
267	Fair	1.25	0.3	Equal	0.3	Equal	2-3	-0.01759	0.03395	-0.02250	0.39125	0.05750
							3-4	-0.00018	0.04119	-0.01248	0.43504	0.02868
268	Fair	1.25	0.3	Equal	0.3	Double	2-3	-0.01327	0.03990	-0.03055	0.34466	0.08865
							3-4	-0.00089	0.05160	-0.01673	0.38916	0.04299
269	Fair	1.25	0.3	Equal	0.7	Equal	2-3	-0.02615	0.01376	-0.01747	0.79580	0.02196
							3-4	-0.05740	-0.00799	-0.01163	0.73046	0.01592
270	Fair	1.25	0.3	Equal	0.7	Double	2-3	-0.02468	0.01992	-0.02875	0.76082	0.03779
							3-4	-0.04585	-0.01235	-0.01887	0.69159	0.02728
271	Fair	1.25	0.3	Double	0.1	Equal	2-3	-0.00255	0.10129	-0.01243	0.54371	0.02286
							3-4	-0.00101	0.06029	-0.00694	1.07164	0.00648
272	Fair	1.25	0.3	Double	0.1	Double	2-3	0.00097	0.14799	-0.01306	0.49800	0.02622
							3-4	-0.00082	0.06540	-0.00802	0.85562	0.00938
273	Fair	1.25	0.3	Double	0.3	Equal	2-3	-0.01756	0.03394	-0.02247	1.45320	0.01546
							3-4	-0.00018	0.04117	-0.01248	2.94021	0.00424
274	Fair	1.25	0.3	Double	0.3	Double	2-3	-0.01324	0.03987	-0.03050	1.26708	0.02407
							3-4	-0.00090	0.05160	-0.01674	2.59183	0.00646
275	Fair	1.25	0.3	Double	0.7	Equal	2-3	-0.02611	0.01372	-0.01744	3.12649	0.00558
							3-4	-0.05745	-0.00792	-0.01169	5.84369	0.00200
276	Fair	1.25	0.3	Double	0.7	Double	2-3	-0.02466	0.01995	-0.02876	2.97903	0.00966
							3-4	-0.04588	-0.01237	-0.01886	5.53275	0.00341
277	Fair	1.25	0.5	Equal	0.1	Equal	2-3	-0.00293	0.08049	-0.01069	0.11741	0.09105
							3-4	0.00086	0.07625	-0.00685	0.14898	0.04597

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
278	Fair	1.25	0.5	Equal	0.1	Double	2-3	-0.00190	0.09403	-0.01283	0.09426	0.13609
							3-4	0.00039	0.08049	-0.00735	0.12282	0.05987
279	Fair	1.25	0.5	Equal	0.3	Equal	2-3	-0.00273	0.06357	-0.02098	0.39292	0.05340
							3-4	-0.02066	0.00000	-0.01446	0.30919	0.04678
280	Fair	1.25	0.5	Equal	0.3	Double	2-3	-0.00578	0.06927	-0.02887	0.32482	0.08889
							3-4	-0.01234	0.00000	-0.01727	0.24868	0.06946
281	Fair	1.25	0.5	Equal	0.7	Equal	2-3	-0.05982	0.00000	-0.01795	0.68699	0.02612
							3-4	-0.03508	0.00000	-0.01053	0.70117	0.01501
282	Fair	1.25	0.5	Equal	0.7	Double	2-3	-0.05004	0.00000	-0.03003	0.64127	0.04682
							3-4	-0.02770	0.00000	-0.01662	0.66444	0.02501
283	Fair	1.25	0.5	Double	0.1	Equal	2-3	-0.00294	0.08049	-0.01070	0.39885	0.02682
							3-4	0.00088	0.07625	-0.00683	0.85594	0.00798
284	Fair	1.25	0.5	Double	0.1	Double	2-3	-0.00192	0.09403	-0.01286	0.31831	0.04039
							3-4	0.00040	0.08049	-0.00733	0.70170	0.01044
285	Fair	1.25	0.5	Double	0.3	Equal	2-3	-0.00275	0.06357	-0.02099	1.53013	0.01372
							3-4	-0.02064	0.00000	-0.01445	2.47341	0.00584
286	Fair	1.25	0.5	Double	0.3	Double	2-3	-0.00579	0.06927	-0.02888	1.18725	0.02433
							3-4	-0.01235	0.00000	-0.01729	1.98963	0.00869
287	Fair	1.25	0.5	Double	0.7	Equal	2-3	-0.05981	0.00000	-0.01794	2.81221	0.00638
							3-4	-0.03508	0.00000	-0.01052	5.67376	0.00185
288	Fair	1.25	0.5	Double	0.7	Double	2-3	-0.05004	0.00000	-0.03003	2.71781	0.01105
							3-4	-0.02770	0.00000	-0.01662	5.35190	0.00310
289	Poor	0.75	0	Equal	0.1	Equal	2-3	0.00091	0.00893	-0.00008	0.18475	0.00041
							3-4	-0.00096	-0.00917	0.00005	0.14490	-0.00035
290	Poor	0.75	0	Equal	0.1	Double	2-3	0.00023	0.00546	-0.00013	0.11123	0.00115
							3-4	-0.00002	-0.00024	0.00000	0.15730	0.00002
291	Poor	0.75	0	Equal	0.3	Equal	2-3	-0.00102	-0.00434	0.00059	0.96267	-0.00061
							3-4	0.01163	0.02522	0.00057	1.01187	-0.00056

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
292	Poor	0.75	0	Equal	0.3	Double	2-3	0.00269	0.01240	0.00005	0.30253	-0.00017
							3-4	-0.00036	-0.00277	0.00032	0.96298	-0.00034
293	Poor	0.75	0	Equal	0.7	Equal	2-3	-0.02173	-0.01595	0.00465	0.96361	-0.00482
							3-4	-0.02123	-0.01569	0.00461	0.94593	-0.00488
294	Poor	0.75	0	Equal	0.7	Double	2-3	-0.00610	-0.00928	0.00284	0.96361	-0.00295
							3-4	-0.00596	-0.00913	0.00282	0.94593	-0.00298
295	Poor	0.75	0	Double	0.1	Equal	2-3	0.00091	0.00893	-0.00008	0.47648	0.00016
							3-4	-0.00096	-0.00917	0.00005	0.60759	-0.00008
296	Poor	0.75	0	Double	0.1	Double	2-3	0.00023	0.00546	-0.00013	0.27741	0.00046
							3-4	-0.00002	-0.00024	0.00000	0.52535	0.00001
297	Poor	0.75	0	Double	0.3	Equal	2-3	-0.00102	-0.00434	0.00059	2.51785	-0.00023
							3-4	0.01163	0.02522	0.00057	5.44519	-0.00010
298	Poor	0.75	0	Double	0.3	Double	2-3	0.00269	0.01240	0.00005	0.90691	-0.00006
							3-4	-0.00036	-0.00277	0.00032	3.22570	-0.00010
299	Poor	0.75	0	Double	0.7	Equal	2-3	-0.02173	-0.01595	0.00465	3.85444	-0.00121
							3-4	-0.02123	-0.01569	0.00461	7.56741	-0.00061
300	Poor	0.75	0	Double	0.7	Double	2-3	-0.00610	-0.00928	0.00284	3.85444	-0.00074
							3-4	-0.00596	-0.00913	0.00282	7.56741	-0.00037
301	Poor	0.75	0.1	Equal	0.1	Equal	2-3	-0.00005	-0.00132	0.00009	0.01340	-0.00654
							3-4	-0.00005	-0.00129	0.00009	0.95639	-0.00009
302	Poor	0.75	0.1	Equal	0.1	Double	2-3	-0.00001	-0.00073	0.00005	-0.95515	0.00005
							3-4	-0.00001	-0.00071	0.00005	0.96790	-0.00005
303	Poor	0.75	0.1	Equal	0.3	Equal	2-3	-0.00072	-0.00419	0.00075	-0.70661	0.00106
							3-4	-0.00070	-0.00412	0.00074	1.78591	-0.00042
304	Poor	0.75	0.1	Equal	0.3	Double	2-3	-0.00016	-0.00221	0.00044	0.95897	-0.00046
							3-4	-0.00016	-0.00217	0.00043	-0.84920	0.00051
305	Poor	0.75	0.1	Equal	0.7	Equal	2-3	-0.02106	-0.01584	0.00477	0.96376	-0.00495
							3-4	-0.02028	-0.01552	0.00478	0.94635	-0.00505

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
306	Poor	0.75	0.1	Equal	0.7	Double	2-3	-0.00442	-0.00876	0.00347	-0.00911	0.38131
							3-4	-0.00430	-0.00859	0.00343	0.95225	-0.00361
307	Poor	0.75	0.1	Double	0.1	Equal	2-3	-0.00005	-0.00132	0.00009	-1.85379	0.00005
							3-4	-0.00005	-0.00129	0.00009	13.16829	-0.00001
308	Poor	0.75	0.1	Double	0.1	Double	2-3	-0.00001	-0.00073	0.00005	3.82628	-0.00001
							3-4	-0.00001	-0.00071	0.00005	-3.74996	0.00001
309	Poor	0.75	0.1	Double	0.3	Equal	2-3	-0.00072	-0.00419	0.00075	-1.16901	0.00064
							3-4	-0.00071	-0.00411	0.00074	0.96270	-0.00077
310	Poor	0.75	0.1	Double	0.3	Double	2-3	-0.00016	-0.00221	0.00044	0.22108	-0.00198
							3-4	-0.00016	-0.00217	0.00043	4.05074	-0.00011
311	Poor	0.75	0.1	Double	0.7	Equal	2-3	-0.02105	-0.01584	0.00477	3.85503	-0.00124
							3-4	-0.02029	-0.01553	0.00478	7.57082	-0.00063
312	Poor	0.75	0.1	Double	0.7	Double	2-3	-0.00443	-0.00876	0.00347	3.85503	-0.00090
							3-4	-0.00430	-0.00859	0.00343	0.82010	-0.00419
313	Poor	0.75	0.3	Equal	0.1	Equal	2-3	-0.00001	-0.00096	0.00009	0.01347	-0.00671
							3-4	-0.00001	-0.00094	0.00009	-0.94032	0.00009
314	Poor	0.75	0.3	Equal	0.1	Double	2-3	0.00000	-0.00051	0.00005	0.95764	-0.00005
							3-4	0.00000	-0.00050	0.00005	-0.94479	0.00005
315	Poor	0.75	0.3	Equal	0.3	Equal	2-3	-0.00018	-0.00338	0.00089	0.12273	-0.00726
							3-4	-0.00017	-0.00331	0.00087	0.12160	-0.00717
316	Poor	0.75	0.3	Equal	0.3	Double	2-3	-0.00003	-0.00168	0.00047	0.05552	-0.00841
							3-4	-0.00003	-0.00165	0.00046	0.95930	-0.00048
317	Poor	0.75	0.3	Equal	0.7	Equal	2-3	-0.01901	-0.01557	0.00519	0.96421	-0.00539
							3-4	-0.01760	-0.01515	0.00532	0.94759	-0.00562
318	Poor	0.75	0.3	Equal	0.7	Double	2-3	-0.00188	-0.00770	0.00426	-0.00760	0.56039
							3-4	-0.00182	-0.00752	0.00417	1.91940	-0.00217
319	Poor	0.75	0.3	Double	0.1	Equal	2-3	-0.00001	-0.00096	0.00009	-1.85349	0.00005
							3-4	-0.00001	-0.00094	0.00009	2.01435	-0.00004

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
320	Poor	0.75	0.3	Double	0.1	Double	2-3	0.00000	-0.00051	0.00005	0.02580	-0.00188
							3-4	0.00000	-0.00050	0.00005	0.05118	-0.00093
321	Poor	0.75	0.3	Double	0.3	Equal	2-3	-0.00018	-0.00338	0.00089	3.83930	-0.00023
							3-4	-0.00017	-0.00331	0.00087	-2.37560	0.00037
322	Poor	0.75	0.3	Double	0.3	Double	2-3	-0.00003	-0.00168	0.00047	0.22210	-0.00210
							3-4	-0.00003	-0.00165	0.00046	11.15194	-0.00004
323	Poor	0.75	0.3	Double	0.7	Equal	2-3	-0.01902	-0.01557	0.00519	3.85682	-0.00135
							3-4	-0.01763	-0.01514	0.00531	7.58079	-0.00070
324	Poor	0.75	0.3	Double	0.7	Double	2-3	-0.00188	-0.00770	0.00426	0.93841	-0.00454
							3-4	-0.00183	-0.00752	0.00417	6.68522	-0.00062
325	Poor	0.75	0.5	Equal	0.1	Equal	2-3	0.00000	-0.00067	0.00007	0.01351	-0.00498
							3-4	0.00000	-0.00066	0.00007	-0.94025	0.00007
326	Poor	0.75	0.5	Equal	0.1	Double	2-3	0.00000	-0.00034	0.00003	0.95946	-0.00004
							3-4	0.00000	-0.00033	0.00003	0.00643	-0.00518
327	Poor	0.75	0.5	Equal	0.3	Equal	2-3	-0.00002	-0.00266	0.00079	-0.70564	0.00111
							3-4	-0.00002	-0.00260	0.00077	2.61242	-0.00029
328	Poor	0.75	0.5	Equal	0.3	Double	2-3	0.00000	-0.00124	0.00037	-0.83540	0.00044
							3-4	0.00000	-0.00121	0.00036	2.74219	-0.00013
329	Poor	0.75	0.5	Equal	0.7	Equal	2-3	-0.01602	-0.01523	0.00586	0.96493	-0.00607
							3-4	-0.01410	-0.01468	0.00605	0.94946	-0.00637
330	Poor	0.75	0.5	Equal	0.7	Double	2-3	-0.00047	-0.00665	0.00437	0.47798	-0.00915
							3-4	-0.00045	-0.00646	0.00425	0.47318	-0.00899
331	Poor	0.75	0.5	Double	0.1	Equal	2-3	0.00000	-0.00067	0.00007	-1.85335	0.00004
							3-4	0.00000	-0.00066	0.00007	0.10751	-0.00061
332	Poor	0.75	0.5	Double	0.1	Double	2-3	0.00000	-0.00034	0.00003	0.02587	-0.00131
							3-4	0.00000	-0.00033	0.00003	3.86345	-0.00001
333	Poor	0.75	0.5	Double	0.3	Equal	2-3	-0.00002	-0.00266	0.00079	0.49227	-0.00160
							3-4	-0.00002	-0.00260	0.00077	4.33094	-0.00018

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
334	Poor	0.75	0.5	Double	0.3	Double	2-3	0.00000	-0.00124	0.00037	3.84515	-0.00010
							3-4	0.00000	-0.00121	0.00036	-4.96216	0.00007
335	Poor	0.75	0.5	Double	0.7	Equal	2-3	-0.01597	-0.01524	0.00587	3.85974	-0.00152
							3-4	-0.01416	-0.01467	0.00602	7.59570	-0.00079
336	Poor	0.75	0.5	Double	0.7	Double	2-3	-0.00047	-0.00665	0.00438	1.91191	-0.00229
							3-4	-0.00046	-0.00646	0.00425	3.78544	-0.00112
337	Poor	1	0	Equal	0.1	Equal	2-3	0.00299	0.06927	-0.00424	0.21321	0.01988
							3-4	0.00171	0.05191	-0.00365	0.29240	0.01249
338	Poor	1	0	Equal	0.1	Double	2-3	0.00161	0.05393	-0.00250	0.18459	0.01356
							3-4	0.00048	0.03486	-0.00262	0.21949	0.01195
339	Poor	1	0	Equal	0.3	Equal	2-3	-0.00599	0.04459	-0.01757	0.48482	0.03624
							3-4	-0.00463	0.03034	-0.01234	0.50245	0.02456
340	Poor	1	0	Equal	0.3	Double	2-3	0.00739	0.08997	-0.01664	0.43313	0.03842
							3-4	-0.00123	0.03798	-0.01311	0.33363	0.03930
341	Poor	1	0	Equal	0.7	Equal	2-3	-0.03714	0.00210	-0.01261	0.86483	0.01458
							3-4	-0.02019	0.00357	-0.00855	0.89824	0.00952
342	Poor	1	0	Equal	0.7	Double	2-3	-0.05399	-0.00806	-0.02675	0.75956	0.03522
							3-4	-0.00413	0.02156	-0.01757	0.80159	0.02192
343	Poor	1	0	Double	0.1	Equal	2-3	0.00299	0.06927	-0.00424	0.57019	0.00743
							3-4	0.00171	0.05191	-0.00365	1.19146	0.00306
344	Poor	1	0	Double	0.1	Double	2-3	0.00161	0.05393	-0.00250	0.46087	0.00543
							3-4	0.00048	0.03486	-0.00262	0.78737	0.00333
345	Poor	1	0	Double	0.3	Equal	2-3	-0.00599	0.04459	-0.01757	1.64985	0.01065
							3-4	-0.00463	0.03034	-0.01234	3.10485	0.00397
346	Poor	1	0	Double	0.3	Double	2-3	0.00739	0.08997	-0.01664	1.33509	0.01246
							3-4	-0.00123	0.03798	-0.01311	1.95539	0.00670
347	Poor	1	0	Double	0.7	Equal	2-3	-0.03714	0.00210	-0.01261	3.39333	0.00372
							3-4	-0.02019	0.00357	-0.00855	6.84793	0.00125

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
348	Poor	1	0	Double	0.7	Double	2-3	-0.05399	-0.00806	-0.02675	2.94159	0.00909
							3-4	-0.00413	0.02156	-0.01757	5.90880	0.00297
349	Poor	1	0.1	Equal	0.1	Equal	2-3	0.00315	0.05741	-0.00291	0.20674	0.01405
							3-4	0.00243	0.04562	-0.00238	0.17466	0.01362
350	Poor	1	0.1	Equal	0.1	Double	2-3	0.00103	0.03384	-0.00152	0.11744	0.01298
							3-4	0.00081	0.02922	-0.00146	0.17111	0.00851
351	Poor	1	0.1	Equal	0.3	Equal	2-3	0.00765	0.06404	-0.01386	0.46083	0.03007
							3-4	-0.00711	0.01512	-0.00951	0.43008	0.02212
352	Poor	1	0.1	Equal	0.3	Double	2-3	-0.00076	0.03874	-0.01268	0.31496	0.04027
							3-4	-0.00094	0.02491	-0.00879	0.30188	0.02911
353	Poor	1	0.1	Equal	0.7	Equal	2-3	-0.02855	0.00292	-0.01061	0.86802	0.01222
							3-4	-0.01378	0.00395	-0.00690	0.88241	0.00781
354	Poor	1	0.1	Equal	0.7	Double	2-3	-0.04298	-0.00514	-0.02219	0.76561	0.02898
							3-4	-0.02292	0.00039	-0.01402	0.78291	0.01791
355	Poor	1	0.1	Double	0.1	Equal	2-3	0.00315	0.05742	-0.00290	0.38288	0.00759
							3-4	0.00243	0.04560	-0.00238	0.95702	0.00248
356	Poor	1	0.1	Double	0.1	Double	2-3	0.00103	0.03382	-0.00152	0.31640	0.00481
							3-4	0.00081	0.02923	-0.00146	0.41396	0.00353
357	Poor	1	0.1	Double	0.3	Equal	2-3	0.00764	0.06406	-0.01387	1.55649	0.00891
							3-4	-0.00709	0.01512	-0.00950	2.69844	0.00352
358	Poor	1	0.1	Double	0.3	Double	2-3	-0.00075	0.03873	-0.01266	1.00398	0.01261
							3-4	-0.00096	0.02492	-0.00881	1.61406	0.00546
359	Poor	1	0.1	Double	0.7	Equal	2-3	-0.02854	0.00290	-0.01059	3.40611	0.00311
							3-4	-0.01379	0.00397	-0.00692	6.88673	0.00100
360	Poor	1	0.1	Double	0.7	Double	2-3	-0.04301	-0.00512	-0.02222	2.96580	0.00749
							3-4	-0.02290	0.00038	-0.01401	5.63399	0.00249
361	Poor	1	0.3	Equal	0.1	Equal	2-3	0.00135	0.02580	-0.00137	0.11381	0.01200
							3-4	0.00119	0.02063	-0.00099	0.10506	0.00944

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
362	Poor	1	0.3	Equal	0.1	Double	2-3	0.00061	0.01666	-0.00057	0.06547	0.00865
							3-4	0.00018	0.00792	-0.00048	0.05753	0.00829
363	Poor	1	0.3	Equal	0.3	Equal	2-3	-0.00040	0.02845	-0.00881	0.34586	0.02548
							3-4	0.00144	0.02132	-0.00539	0.39688	0.01358
364	Poor	1	0.3	Equal	0.3	Double	2-3	-0.00082	0.01878	-0.00679	0.25075	0.02706
							3-4	0.00503	0.03919	-0.00471	0.28432	0.01658
365	Poor	1	0.3	Equal	0.7	Equal	2-3	-0.05314	-0.01244	-0.00724	0.84252	0.00859
							3-4	-0.00231	0.00516	-0.00430	0.87195	0.00494
366	Poor	1	0.3	Equal	0.7	Double	2-3	-0.00977	0.01203	-0.01428	0.77910	0.01833
							3-4	-0.02170	-0.00535	-0.00928	0.70768	0.01311
367	Poor	1	0.3	Double	0.1	Equal	2-3	0.00135	0.02578	-0.00137	0.28040	0.00488
							3-4	0.00118	0.02063	-0.00100	0.50047	0.00200
368	Poor	1	0.3	Double	0.1	Double	2-3	0.00023	0.00988	-0.00057	0.15770	0.00358
							3-4	0.00054	0.01475	-0.00050	0.21795	0.00229
369	Poor	1	0.3	Double	0.3	Equal	2-3	-0.00036	0.02849	-0.00880	1.24184	0.00708
							3-4	0.00141	0.02126	-0.00539	2.45697	0.00219
370	Poor	1	0.3	Double	0.3	Double	2-3	-0.00085	0.01881	-0.00683	0.65029	0.01050
							3-4	0.00504	0.03919	-0.00470	1.68679	0.00279
371	Poor	1	0.3	Double	0.7	Equal	2-3	-0.05311	-0.01245	-0.00722	3.37009	0.00214
							3-4	-0.00232	0.00519	-0.00433	6.68602	0.00065
372	Poor	1	0.3	Double	0.7	Double	2-3	-0.00976	0.01205	-0.01429	2.87606	0.00497
							3-4	-0.02175	-0.00538	-0.00929	5.39618	0.00172
373	Poor	1	0.5	Equal	0.1	Equal	2-3	0.00171	0.02163	-0.00063	0.06512	0.00962
							3-4	0.00039	0.00764	-0.00041	0.06604	0.00623
374	Poor	1	0.5	Equal	0.1	Double	2-3	0.00014	0.00465	-0.00021	0.01537	0.01390
							3-4	0.00013	0.00390	-0.00015	0.01947	0.00765
375	Poor	1	0.5	Equal	0.3	Equal	2-3	-0.00847	-0.00321	-0.00497	0.30794	0.01612
							3-4	0.00835	0.02969	-0.00306	0.36963	0.00829

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
376	Poor	1	0.5	Equal	0.3	Double	2-3	-0.00060	0.00898	-0.00353	0.16353	0.02159
							3-4	0.00098	0.01198	-0.00222	0.16917	0.01315
377	Poor	1	0.5	Equal	0.7	Equal	2-3	0.00417	0.00832	-0.00457	0.88484	0.00517
							3-4	-0.01540	-0.00314	-0.00242	0.84442	0.00287
378	Poor	1	0.5	Equal	0.7	Double	2-3	-0.00544	0.00822	-0.00902	0.73760	0.01222
							3-4	0.02667	0.03012	-0.00508	0.80067	0.00635
379	Poor	1	0.5	Double	0.1	Equal	2-3	0.00172	0.02163	-0.00062	0.18054	0.00342
							3-4	0.00039	0.00762	-0.00041	0.29014	0.00141
380	Poor	1	0.5	Double	0.1	Double	2-3	0.00014	0.00467	-0.00021	0.06896	0.00310
							3-4	0.00013	0.00389	-0.00015	0.06894	0.00216
381	Poor	1	0.5	Double	0.3	Equal	2-3	-0.00852	-0.00318	-0.00501	1.09811	0.00456
							3-4	0.00836	0.02966	-0.00304	2.27604	0.00134
382	Poor	1	0.5	Double	0.3	Double	2-3	-0.00056	0.00899	-0.00348	0.49371	0.00706
							3-4	0.00092	0.01193	-0.00229	1.09436	0.00209
383	Poor	1	0.5	Double	0.7	Equal	2-3	0.00414	0.00834	-0.00460	3.47340	0.00132
							3-4	-0.01536	-0.00319	-0.00237	6.73188	0.00035
384	Poor	1	0.5	Double	0.7	Double	2-3	-0.00545	0.00823	-0.00903	2.83874	0.00318
							3-4	0.02662	0.03013	-0.00512	5.85582	0.00087
385	Poor	1.25	0	Equal	0.1	Equal	2-3	0.00739	0.18826	-0.01218	0.29839	0.04081
							3-4	0.00039	0.09865	-0.00951	0.37454	0.02540
386	Poor	1.25	0	Equal	0.1	Double	2-3	0.00412	0.15235	-0.00782	0.26837	0.02915
							3-4	-0.00001	0.08773	-0.00880	0.26604	0.03306
387	Poor	1.25	0	Equal	0.3	Equal	2-3	-0.03022	0.03720	-0.03232	0.52186	0.06192
							3-4	-0.01610	0.03483	-0.02172	0.47691	0.04555
388	Poor	1.25	0	Equal	0.3	Double	2-3	-0.00397	0.11093	-0.03884	0.42517	0.09134
							3-4	-0.00367	0.07206	-0.02676	0.51186	0.05228
389	Poor	1.25	0	Equal	0.7	Equal	2-3	-0.11781	-0.01675	-0.02362	0.83339	0.02834
							3-4	-0.03434	0.01045	-0.01762	0.80294	0.02194

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
390	Poor	1.25	0	Equal	0.7	Double	2-3	-0.05563	0.01363	-0.04292	0.76589	0.05604
							3-4	-0.00983	0.03301	-0.02901	0.80910	0.03585
391	Poor	1.25	0	Double	0.1	Equal	2-3	0.00739	0.18826	-0.01218	0.83747	0.01454
							3-4	0.00039	0.09865	-0.00951	1.66533	0.00571
392	Poor	1.25	0	Double	0.1	Double	2-3	0.00412	0.15235	-0.00782	0.69860	0.01120
							3-4	-0.00001	0.08773	-0.00880	1.05014	0.00838
393	Poor	1.25	0	Double	0.3	Equal	2-3	-0.03022	0.03720	-0.03232	1.81087	0.01785
							3-4	-0.01610	0.03483	-0.02172	3.13053	0.00694
394	Poor	1.25	0	Double	0.3	Double	2-3	-0.00397	0.11093	-0.03884	1.40273	0.02769
							3-4	-0.00367	0.07206	-0.02676	2.83565	0.00944
395	Poor	1.25	0	Double	0.7	Equal	2-3	-0.11781	-0.01675	-0.02362	3.28290	0.00719
							3-4	-0.03434	0.01045	-0.01762	6.32294	0.00279
396	Poor	1.25	0	Double	0.7	Double	2-3	-0.05563	0.01363	-0.04292	2.98376	0.01438
							3-4	-0.00983	0.03301	-0.02901	6.04951	0.00479
397	Poor	1.25	0.1	Equal	0.1	Equal	2-3	-0.00170	0.09023	-0.01055	0.20371	0.05180
							3-4	0.00520	0.12611	-0.00793	0.32415	0.02447
398	Poor	1.25	0.1	Equal	0.1	Double	2-3	0.00534	0.16639	-0.00703	0.21359	0.03293
							3-4	-0.00108	0.05003	-0.00695	0.14406	0.04824
399	Poor	1.25	0.1	Equal	0.3	Equal	2-3	-0.01279	0.07162	-0.03044	0.43390	0.07015
							3-4	-0.00707	0.04647	-0.01889	0.47942	0.03940
400	Poor	1.25	0.1	Equal	0.3	Double	2-3	-0.00807	0.07672	-0.03432	0.44094	0.07783
							3-4	0.00334	0.09351	-0.02337	0.41124	0.05683
401	Poor	1.25	0.1	Equal	0.7	Equal	2-3	-0.13535	-0.02684	-0.02182	0.78996	0.02762
							3-4	0.00380	0.02288	-0.01488	0.85907	0.01732
402	Poor	1.25	0.1	Equal	0.7	Double	2-3	-0.04526	0.01665	-0.03882	0.77331	0.05019
							3-4	-0.02408	0.01338	-0.02381	0.76557	0.03110
403	Poor	1.25	0.1	Double	0.1	Equal	2-3	-0.00169	0.09024	-0.01055	0.59191	0.01782
							3-4	0.00520	0.12609	-0.00793	1.27599	0.00622

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
404	Poor	1.25	0.1	Double	0.1	Double	2-3	0.00534	0.16636	-0.00703	0.54960	0.01279
							3-4	-0.00108	0.05008	-0.00695	0.74257	0.00936
405	Poor	1.25	0.1	Double	0.3	Equal	2-3	-0.01276	0.07162	-0.03042	1.59328	0.01909
							3-4	-0.00708	0.04645	-0.01889	3.13247	0.00603
406	Poor	1.25	0.1	Double	0.3	Double	2-3	-0.00808	0.07668	-0.03431	1.17682	0.02916
							3-4	0.00335	0.09357	-0.02338	2.86861	0.00815
407	Poor	1.25	0.1	Double	0.7	Equal	2-3	-0.13533	-0.02684	-0.02181	3.15985	0.00690
							3-4	0.00376	0.02288	-0.01489	6.53182	0.00228
408	Poor	1.25	0.1	Double	0.7	Double	2-3	-0.04525	0.01667	-0.03882	3.01344	0.01288
							3-4	-0.02409	0.01337	-0.02382	6.13388	0.00388
409	Poor	1.25	0.3	Equal	0.1	Equal	2-3	0.00241	0.12529	-0.01036	0.17725	0.05843
							3-4	-0.00101	0.06282	-0.00719	0.17000	0.04228
410	Poor	1.25	0.3	Equal	0.1	Double	2-3	0.00029	0.08011	-0.00749	0.09546	0.07846
							3-4	0.00389	0.13520	-0.00653	0.19198	0.03399
411	Poor	1.25	0.3	Equal	0.3	Equal	2-3	-0.02165	0.04331	-0.02815	0.40284	0.06987
							3-4	0.00139	0.05962	-0.01692	0.46267	0.03656
412	Poor	1.25	0.3	Equal	0.3	Double	2-3	-0.00713	0.07113	-0.03132	0.30648	0.10220
							3-4	-0.00703	0.03764	-0.02113	0.31646	0.06677
413	Poor	1.25	0.3	Equal	0.7	Equal	2-3	-0.02242	0.01924	-0.02019	0.83662	0.02414
							3-4	-0.07403	-0.01187	-0.01390	0.76123	0.01826
414	Poor	1.25	0.3	Equal	0.7	Double	2-3	-0.10076	-0.03130	-0.03854	0.69544	0.05542
							3-4	0.00802	0.04007	-0.02324	0.80512	0.02886
415	Poor	1.25	0.3	Double	0.1	Equal	2-3	0.00242	0.12531	-0.01035	0.52055	0.01989
							3-4	-0.00102	0.06279	-0.00720	0.86200	0.00835
416	Poor	1.25	0.3	Double	0.1	Double	2-3	0.00029	0.08012	-0.00749	0.26551	0.02822
							3-4	0.00390	0.13522	-0.00651	0.78744	0.00827
417	Poor	1.25	0.3	Double	0.3	Equal	2-3	-0.02162	0.04334	-0.02814	1.46332	0.01923
							3-4	0.00143	0.05954	-0.01686	3.00185	0.00562

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
418	Poor	1.25	0.3	Double	0.3	Double	2-3	-0.00712	0.07115	-0.03132	1.22970	0.02547
							3-4	-0.00699	0.03755	-0.02105	1.80344	0.01167
419	Poor	1.25	0.3	Double	0.7	Equal	2-3	-0.02244	0.01925	-0.02021	3.28343	0.00615
							3-4	-0.07403	-0.01193	-0.01386	6.08999	0.00228
420	Poor	1.25	0.3	Double	0.7	Double	2-3	-0.10077	-0.03126	-0.03858	2.78178	0.01387
							3-4	0.00796	0.04012	-0.02331	5.96515	0.00391
421	Poor	1.25	0.5	Equal	0.1	Equal	2-3	0.00584	0.18251	-0.01300	0.15559	0.08354
							3-4	0.00174	0.09229	-0.00766	0.16521	0.04639
422	Poor	1.25	0.5	Equal	0.1	Double	2-3	0.00171	0.13273	-0.01020	0.08039	0.12686
							3-4	0.00040	0.08672	-0.00794	0.09540	0.08328
423	Poor	1.25	0.5	Equal	0.3	Equal	2-3	-0.00851	0.07564	-0.02865	0.37777	0.07583
							3-4	-0.02557	0.00000	-0.01790	0.26685	0.06707
424	Poor	1.25	0.5	Equal	0.3	Double	2-3	-0.00577	0.09229	-0.03577	0.27126	0.13187
							3-4	0.00319	0.08020	-0.01960	0.34216	0.05728
425	Poor	1.25	0.5	Equal	0.7	Equal	2-3	-0.07314	0.00000	-0.02194	0.70493	0.03113
							3-4	-0.04764	0.00000	-0.01429	0.76278	0.01874
426	Poor	1.25	0.5	Equal	0.7	Double	2-3	-0.06787	0.00000	-0.04072	0.70589	0.05769
							3-4	-0.04201	0.00000	-0.02521	0.65884	0.03826
427	Poor	1.25	0.5	Double	0.1	Equal	2-3	0.00581	0.18251	-0.01302	0.47041	0.02769
							3-4	0.00175	0.09229	-0.00766	0.89222	0.00858
428	Poor	1.25	0.5	Double	0.1	Double	2-3	0.00170	0.13273	-0.01021	0.23727	0.04301
							3-4	0.00039	0.08672	-0.00796	0.49196	0.01619
429	Poor	1.25	0.5	Double	0.3	Equal	2-3	-0.00850	0.07564	-0.02865	1.36116	0.02105
							3-4	-0.02558	0.00000	-0.01790	2.13467	0.00839
430	Poor	1.25	0.5	Double	0.3	Double	2-3	-0.00577	0.09229	-0.03577	0.94955	0.03767
							3-4	0.00316	0.08020	-0.01963	2.11241	0.00929
431	Poor	1.25	0.5	Double	0.7	Equal	2-3	-0.07314	0.00000	-0.02194	3.03340	0.00723
							3-4	-0.04763	0.00000	-0.01429	5.64904	0.00253

Table B-1. Comparison of Different Sequence Lengths Under BN

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Lengths	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
432	Poor	1.25	0.5	Double	0.7	Double	2-3	-0.06787	0.00000	-0.04072	2.66825	0.01526
							3-4	-0.04206	0.00000	-0.02524	5.53288	0.00456

Comparison of Different Sequence Lengths Under BP**Table B-2. Comparison of Different Sequence Lengths Under BP**

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
1	Good	0.75	0	Equal	0.1	Equal	2-3	-0.00241	0.07680	-0.00985	0.94250	0.01045
							3-4	-0.00165	0.04815	-0.00630	0.92996	0.00677
2	Good	0.75	0	Equal	0.1	Double	2-3	0.00044	0.10818	-0.01002	0.95214	0.01053
							3-4	-0.00226	0.02576	-0.00664	0.95481	0.00695
3	Good	0.75	0	Equal	0.3	Equal	2-3	-0.00385	0.07342	-0.02472	0.78877	0.03134
							3-4	-0.00874	0.02894	-0.01480	0.79372	0.01865
4	Good	0.75	0	Equal	0.3	Double	2-3	-0.00322	0.07690	-0.02758	0.81454	0.03386
							3-4	-0.00588	0.03007	-0.01725	0.81768	0.02110
5	Good	0.75	0	Equal	0.7	Equal	2-3	-0.06134	0.01873	-0.03151	0.43854	0.07186
							3-4	-0.03120	0.01230	-0.01797	0.40126	0.04478
6	Good	0.75	0	Equal	0.7	Double	2-3	-0.00263	0.05793	-0.04213	0.44102	0.09552
							3-4	-0.02428	0.01488	-0.02498	0.43959	0.05683
7	Good	0.75	0	Double	0.1	Equal	2-3	-0.00241	0.07680	-0.00985	3.75495	0.00262
							3-4	-0.00165	0.04815	-0.00630	7.41809	0.00085
8	Good	0.75	0	Double	0.1	Double	2-3	0.00044	0.10818	-0.01002	3.79635	0.00264
							3-4	-0.00226	0.02576	-0.00664	7.57044	0.00088
9	Good	0.75	0	Double	0.3	Equal	2-3	-0.00385	0.07342	-0.02472	3.11577	0.00793
							3-4	-0.00874	0.02894	-0.01480	6.13345	0.00241
10	Good	0.75	0	Double	0.3	Double	2-3	-0.00322	0.07690	-0.02758	3.22350	0.00856
							3-4	-0.00588	0.03007	-0.01725	6.34312	0.00272
11	Good	0.75	0	Double	0.7	Equal	2-3	-0.06134	0.01873	-0.03151	1.60083	0.01969
							3-4	-0.03120	0.01230	-0.01797	2.82063	0.00637

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
12	Good	0.75	0	Double	0.7	Double	2-3	-0.00263	0.05793	-0.04213	1.69121	0.02491
							3-4	-0.02428	0.01488	-0.02498	3.12378	0.00800
13	Good	0.75	0.1	Equal	0.1	Equal	2-3	-0.00242	0.07312	-0.00949	0.94295	0.01006
							3-4	-0.00165	0.04542	-0.00603	0.93076	0.00647
14	Good	0.75	0.1	Equal	0.1	Double	2-3	0.00252	0.14190	-0.00965	0.94642	0.01019
							3-4	-0.00225	0.02309	-0.00636	0.95545	0.00665
15	Good	0.75	0.1	Equal	0.3	Equal	2-3	-0.00396	0.07035	-0.02388	0.79037	0.03021
							3-4	-0.00321	0.04000	-0.01424	0.77144	0.01846
16	Good	0.75	0.1	Equal	0.3	Double	2-3	-0.00326	0.07342	-0.02659	0.81600	0.03259
							3-4	-0.00239	0.04385	-0.01651	0.81032	0.02037
17	Good	0.75	0.1	Equal	0.7	Equal	2-3	-0.06118	0.01710	-0.03032	0.44210	0.06859
							3-4	-0.01946	0.01644	-0.01735	0.40629	0.04269
18	Good	0.75	0.1	Equal	0.7	Double	2-3	-0.00330	0.05620	-0.04132	0.44464	0.09294
							3-4	-0.01593	0.02070	-0.02405	0.44501	0.05403
19	Good	0.75	0.1	Double	0.1	Equal	2-3	-0.00242	0.07313	-0.00949	3.75675	0.00253
							3-4	-0.00165	0.04542	-0.00602	7.42465	0.00081
20	Good	0.75	0.1	Double	0.1	Double	2-3	0.00252	0.14190	-0.00965	3.78567	0.00255
							3-4	-0.00225	0.02309	-0.00636	7.57579	0.00084
21	Good	0.75	0.1	Double	0.3	Equal	2-3	-0.00396	0.07036	-0.02388	3.12219	0.00765
							3-4	-0.00320	0.03999	-0.01424	6.07194	0.00235
22	Good	0.75	0.1	Double	0.3	Double	2-3	-0.00326	0.07342	-0.02659	3.22934	0.00823
							3-4	-0.00239	0.04385	-0.01650	6.23059	0.00265
23	Good	0.75	0.1	Double	0.7	Equal	2-3	-0.06117	0.01710	-0.03032	1.61507	0.01877
							3-4	-0.01945	0.01644	-0.01734	2.86063	0.00606
24	Good	0.75	0.1	Double	0.7	Double	2-3	-0.00331	0.05621	-0.04133	1.70569	0.02423
							3-4	-0.01593	0.02069	-0.02404	3.16711	0.00759
25	Good	0.75	0.3	Equal	0.1	Equal	2-3	-0.00250	0.06603	-0.00885	0.94392	0.00938
							3-4	0.00032	0.05796	-0.00551	0.92293	0.00597

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
26	Good	0.75	0.3	Equal	0.1	Double	2-3	0.00243	0.13386	-0.00902	0.94721	0.00952
							3-4	-0.00106	0.03906	-0.00582	0.95674	0.00608
27	Good	0.75	0.3	Equal	0.3	Equal	2-3	-0.01672	0.03539	-0.02233	0.81641	0.02735
							3-4	0.00166	0.04892	-0.01351	0.75007	0.01802
28	Good	0.75	0.3	Equal	0.3	Double	2-3	-0.00346	0.06655	-0.02480	0.81903	0.03028
							3-4	0.00078	0.05464	-0.01530	0.80189	0.01908
29	Good	0.75	0.3	Equal	0.7	Equal	2-3	-0.06133	0.01362	-0.02793	0.44959	0.06213
							3-4	-0.02003	0.01532	-0.01674	0.41690	0.04015
30	Good	0.75	0.3	Equal	0.7	Double	2-3	-0.02832	0.03174	-0.03921	0.48981	0.08004
							3-4	-0.01592	0.01858	-0.02256	0.45615	0.04945
31	Good	0.75	0.3	Double	0.1	Equal	2-3	-0.00247	0.06603	-0.00883	3.76063	0.00235
							3-4	-0.00170	0.04020	-0.00555	7.45061	0.00074
32	Good	0.75	0.3	Double	0.1	Double	2-3	0.00241	0.13388	-0.00905	3.78886	0.00239
							3-4	-0.00104	0.03905	-0.00578	7.58673	0.00076
33	Good	0.75	0.3	Double	0.3	Equal	2-3	-0.01671	0.03539	-0.02231	3.18107	0.00701
							3-4	0.00165	0.04891	-0.01352	6.05840	0.00223
34	Good	0.75	0.3	Double	0.3	Double	2-3	-0.00346	0.06663	-0.02483	3.24148	0.00766
							3-4	0.00080	0.05456	-0.01525	6.24137	0.00244
35	Good	0.75	0.3	Double	0.7	Equal	2-3	-0.06136	0.01361	-0.02793	1.64502	0.01698
							3-4	-0.01994	0.01533	-0.01672	2.94547	0.00568
36	Good	0.75	0.3	Double	0.7	Double	2-3	-0.02830	0.03174	-0.03920	1.81100	0.02165
							3-4	-0.01594	0.01854	-0.02254	3.25664	0.00692
37	Good	0.75	0.5	Equal	0.1	Equal	2-3	-0.00269	0.05916	-0.00834	0.94505	0.00883
							3-4	0.00186	0.06950	-0.00528	0.93021	0.00567
38	Good	0.75	0.5	Equal	0.1	Double	2-3	0.00020	0.08951	-0.00858	0.95420	0.00899
							3-4	-0.00113	0.03402	-0.00543	0.95433	0.00569
39	Good	0.75	0.5	Equal	0.3	Equal	2-3	-0.00249	0.06493	-0.02122	0.78522	0.02703
							3-4	-0.00505	0.03293	-0.01341	0.76975	0.01742

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
40	Good	0.75	0.5	Equal	0.3	Double	2-3	-0.00385	0.06002	-0.02339	0.82231	0.02845
							3-4	0.00592	0.07796	-0.01510	0.76262	0.01980
41	Good	0.75	0.5	Equal	0.7	Equal	2-3	-0.00922	0.03454	-0.02695	0.37970	0.07097
							3-4	-0.03648	0.00660	-0.01556	0.45894	0.03391
42	Good	0.75	0.5	Equal	0.7	Double	2-3	-0.03542	0.02157	-0.03635	0.43864	0.08287
							3-4	-0.02094	0.01267	-0.02144	0.52686	0.04069
43	Good	0.75	0.5	Double	0.1	Equal	2-3	-0.00271	0.05914	-0.00835	3.76516	0.00222
							3-4	0.00191	0.06952	-0.00524	7.42131	0.00071
44	Good	0.75	0.5	Double	0.1	Double	2-3	0.00015	0.08952	-0.00868	3.80461	0.00228
							3-4	0.00001	0.05341	-0.00532	7.51201	0.00071
45	Good	0.75	0.5	Double	0.3	Equal	2-3	-0.00248	0.06494	-0.02122	3.09561	0.00685
							3-4	-0.00512	0.03292	-0.01346	5.97873	0.00225
46	Good	0.75	0.5	Double	0.3	Double	2-3	-0.00385	0.05999	-0.02338	3.25458	0.00719
							3-4	0.00591	0.07800	-0.01513	6.10103	0.00248
47	Good	0.75	0.5	Double	0.7	Equal	2-3	-0.00922	0.03453	-0.02694	1.44085	0.01870
							3-4	-0.03646	0.00660	-0.01556	2.83329	0.00549
48	Good	0.75	0.5	Double	0.7	Double	2-3	-0.03548	0.02155	-0.03637	1.67919	0.02166
							3-4	-0.01159	0.02066	-0.02141	3.30593	0.00648
49	Good	1	0	Equal	0.1	Equal	2-3	-0.00241	0.05566	-0.00773	0.93961	0.00823
							3-4	0.00044	0.05266	-0.00487	0.91456	0.00533
50	Good	1	0	Equal	0.1	Double	2-3	-0.00165	0.05205	-0.00818	0.95127	0.00860
							3-4	0.00134	0.07944	-0.00553	0.92487	0.00598
51	Good	1	0	Equal	0.3	Equal	2-3	-0.00385	0.04749	-0.01694	0.77085	0.02198
							3-4	-0.00874	0.01244	-0.00985	0.78662	0.01252
52	Good	1	0	Equal	0.3	Double	2-3	-0.00322	0.05392	-0.02069	0.80054	0.02584
							3-4	-0.00239	0.02947	-0.01219	0.76141	0.01600
53	Good	1	0	Equal	0.7	Equal	2-3	-0.02717	0.01460	-0.01837	0.44056	0.04170
							3-4	-0.01602	0.00765	-0.01016	0.41283	0.02462

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
54	Good	1	0	Equal	0.7	Double	2-3	-0.03989	0.00315	-0.02614	0.48986	0.05336
							3-4	-0.01224	0.01061	-0.01477	0.45826	0.03224
55	Good	1	0	Double	0.1	Equal	2-3	-0.00241	0.05566	-0.00773	3.73639	0.00207
							3-4	0.00044	0.05266	-0.00487	7.31648	0.00067
56	Good	1	0	Double	0.1	Double	2-3	-0.00165	0.05205	-0.00818	3.78643	0.00216
							3-4	0.00134	0.07944	-0.00553	7.39893	0.00075
57	Good	1	0	Double	0.3	Equal	2-3	-0.00385	0.04749	-0.01694	3.02444	0.00560
							3-4	-0.00874	0.01244	-0.00985	6.00049	0.00164
58	Good	1	0	Double	0.3	Double	2-3	-0.00322	0.05392	-0.02069	3.14640	0.00658
							3-4	-0.00239	0.02947	-0.01219	6.03164	0.00202
59	Good	1	0	Double	0.7	Equal	2-3	-0.02717	0.01460	-0.01837	1.56427	0.01174
							3-4	-0.01602	0.00765	-0.01016	2.80581	0.00362
60	Good	1	0	Double	0.7	Double	2-3	-0.03989	0.00315	-0.02614	1.74662	0.01497
							3-4	-0.01224	0.01061	-0.01477	3.12446	0.00473
61	Good	1	0.1	Equal	0.1	Equal	2-3	-0.00242	0.04488	-0.00667	0.94112	0.00708
							3-4	0.00247	0.06488	-0.00426	0.93287	0.00457
62	Good	1	0.1	Equal	0.1	Double	2-3	-0.00166	0.04118	-0.00710	0.95257	0.00745
							3-4	0.00132	0.07062	-0.00468	0.93159	0.00502
63	Good	1	0.1	Equal	0.3	Equal	2-3	-0.00397	0.04050	-0.01493	0.77568	0.01924
							3-4	-0.00320	0.02047	-0.00838	0.73882	0.01135
64	Good	1	0.1	Equal	0.3	Double	2-3	-0.00326	0.04457	-0.01793	0.80535	0.02227
							3-4	0.00103	0.04014	-0.01060	0.76916	0.01379
65	Good	1	0.1	Equal	0.7	Equal	2-3	-0.03361	0.00748	-0.01532	0.42928	0.03569
							3-4	-0.02106	0.00391	-0.00905	0.41062	0.02204
66	Good	1	0.1	Equal	0.7	Double	2-3	-0.02722	0.00815	-0.02204	0.47648	0.04625
							3-4	-0.00800	0.01181	-0.01307	0.38580	0.03388
67	Good	1	0.1	Double	0.1	Equal	2-3	-0.00242	0.04486	-0.00666	3.74242	0.00178
							3-4	0.00247	0.06493	-0.00427	7.33803	0.00058

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
68	Good	1	0.1	Double	0.1	Double	2-3	-0.00166	0.04115	-0.00710	3.79161	0.00187
							3-4	0.00132	0.07063	-0.00468	7.47488	0.00063
69	Good	1	0.1	Double	0.3	Equal	2-3	-0.00396	0.04050	-0.01492	3.04373	0.00490
							3-4	-0.00320	0.02049	-0.00839	5.97404	0.00140
70	Good	1	0.1	Double	0.3	Double	2-3	-0.00326	0.04459	-0.01794	3.16561	0.00567
							3-4	0.00102	0.04010	-0.01060	6.09429	0.00174
71	Good	1	0.1	Double	0.7	Equal	2-3	-0.03361	0.00748	-0.01532	1.59943	0.00958
							3-4	-0.02106	0.00390	-0.00905	2.81043	0.00322
72	Good	1	0.1	Double	0.7	Double	2-3	-0.02722	0.00815	-0.02204	1.69311	0.01302
							3-4	-0.00800	0.01182	-0.01307	2.89927	0.00451
73	Good	1	0.3	Equal	0.1	Equal	2-3	-0.00251	0.02455	-0.00471	0.94428	0.00499
							3-4	0.00424	0.07026	-0.00321	0.91825	0.00349
74	Good	1	0.3	Equal	0.1	Double	2-3	-0.00167	0.02087	-0.00510	0.95531	0.00533
							3-4	0.00235	0.07540	-0.00330	0.93267	0.00354
75	Good	1	0.3	Equal	0.3	Equal	2-3	-0.00871	0.01551	-0.01075	0.77033	0.01396
							3-4	-0.00140	0.01848	-0.00653	0.77559	0.00841
76	Good	1	0.3	Equal	0.3	Double	2-3	0.00184	0.05177	-0.01295	0.77077	0.01680
							3-4	0.00176	0.03573	-0.00825	0.79533	0.01038
77	Good	1	0.3	Equal	0.7	Equal	2-3	-0.00448	0.01484	-0.01173	0.37678	0.03113
							3-4	-0.01995	0.00074	-0.00651	0.40886	0.01592
78	Good	1	0.3	Equal	0.7	Double	2-3	-0.00530	0.01909	-0.01655	0.42063	0.03934
							3-4	-0.01595	-0.00020	-0.00943	0.45520	0.02072
79	Good	1	0.3	Double	0.1	Equal	2-3	0.00085	0.05480	-0.00472	3.72410	0.00127
							3-4	0.00086	0.04001	-0.00323	7.37687	0.00044
80	Good	1	0.3	Double	0.1	Double	2-3	-0.00167	0.02086	-0.00509	3.80258	0.00134
							3-4	0.00236	0.07538	-0.00330	7.46140	0.00044
81	Good	1	0.3	Double	0.3	Equal	2-3	-0.00872	0.01554	-0.01076	3.07817	0.00350
							3-4	-0.00140	0.01841	-0.00650	6.01477	0.00108

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
82	Good	1	0.3	Double	0.3	Double	2-3	0.00185	0.05172	-0.01293	3.20526	0.00403
							3-4	0.00180	0.03575	-0.00821	6.00661	0.00137
83	Good	1	0.3	Double	0.7	Equal	2-3	-0.00448	0.01484	-0.01173	1.41218	0.00831
							3-4	-0.01997	0.00071	-0.00648	2.80221	0.00231
84	Good	1	0.3	Double	0.7	Double	2-3	-0.00530	0.01914	-0.01658	1.57946	0.01049
							3-4	-0.01593	-0.00031	-0.00934	3.12960	0.00298
85	Good	1	0.5	Equal	0.1	Equal	2-3	0.00048	0.03541	-0.00311	0.94025	0.00331
							3-4	0.00044	0.02655	-0.00226	0.93203	0.00242
86	Good	1	0.5	Equal	0.1	Double	2-3	-0.00181	0.00123	-0.00337	0.95839	0.00352
							3-4	0.00106	0.04016	-0.00211	0.93827	0.00224
87	Good	1	0.5	Equal	0.3	Equal	2-3	-0.00668	0.00923	-0.00745	0.76653	0.00971
							3-4	-0.01193	-0.01399	-0.00416	0.79791	0.00521
88	Good	1	0.5	Equal	0.3	Double	2-3	-0.00219	0.01963	-0.00896	0.83896	0.01067
							3-4	-0.00376	0.00146	-0.00571	0.78452	0.00727
89	Good	1	0.5	Equal	0.7	Equal	2-3	-0.02565	-0.00027	-0.00750	0.41774	0.01796
							3-4	-0.00894	0.00270	-0.00457	0.32800	0.01393
90	Good	1	0.5	Equal	0.7	Double	2-3	-0.01533	0.00253	-0.01097	0.46580	0.02354
							3-4	0.00571	0.01457	-0.00677	0.36733	0.01843
91	Good	1	0.5	Double	0.1	Equal	2-3	0.00046	0.03541	-0.00313	3.76931	0.00083
							3-4	0.00037	0.02652	-0.00231	7.39510	0.00031
92	Good	1	0.5	Double	0.1	Double	2-3	-0.00171	0.00123	-0.00321	3.81493	0.00084
							3-4	0.00199	0.05975	-0.00240	7.50603	0.00032
93	Good	1	0.5	Double	0.3	Equal	2-3	-0.00669	0.00925	-0.00746	3.00402	0.00248
							3-4	-0.01187	-0.01406	-0.00409	6.07906	0.00067
94	Good	1	0.5	Double	0.3	Double	2-3	-0.00217	0.01964	-0.00892	3.24111	0.00275
							3-4	-0.00380	0.00147	-0.00577	6.20987	0.00093
95	Good	1	0.5	Double	0.7	Equal	2-3	-0.02565	-0.00029	-0.00749	1.39451	0.00537
							3-4	-0.00890	0.00278	-0.00462	2.63583	0.00175

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
96	Good	1	0.5	Double	0.7	Double	2-3	-0.01533	0.00251	-0.01096	1.66520	0.00658
							3-4	0.00570	0.01457	-0.00678	2.84497	0.00238
97	Good	1.25	0	Equal	0.1	Equal	2-3	-0.00241	0.03549	-0.00572	0.93034	0.00615
							3-4	-0.00165	0.01740	-0.00322	0.91433	0.00352
98	Good	1.25	0	Equal	0.1	Double	2-3	-0.00165	0.03599	-0.00658	0.94360	0.00697
							3-4	0.00134	0.06394	-0.00398	0.91290	0.00436
99	Good	1.25	0	Equal	0.3	Equal	2-3	-0.00633	0.01937	-0.01024	0.75122	0.01364
							3-4	-0.00453	0.00896	-0.00586	0.75798	0.00773
100	Good	1.25	0	Equal	0.3	Double	2-3	-0.00670	0.01470	-0.01379	0.76969	0.01792
							3-4	-0.00240	0.01716	-0.00851	0.79360	0.01072
101	Good	1.25	0	Equal	0.7	Equal	2-3	-0.00386	0.01231	-0.00977	0.36797	0.02656
							3-4	-0.01772	0.00004	-0.00535	0.40335	0.01325
102	Good	1.25	0	Equal	0.7	Double	2-3	-0.01673	0.00646	-0.01456	0.46585	0.03126
							3-4	-0.00318	0.00861	-0.00793	0.34206	0.02319
103	Good	1.25	0	Double	0.1	Equal	2-3	-0.00241	0.03549	-0.00572	3.69071	0.00155
							3-4	-0.00165	0.01740	-0.00322	7.28790	0.00044
104	Good	1.25	0	Double	0.1	Double	2-3	-0.00165	0.03599	-0.00658	3.74591	0.00176
							3-4	0.00134	0.06394	-0.00398	7.30319	0.00055
105	Good	1.25	0	Double	0.3	Equal	2-3	-0.00633	0.01937	-0.01024	2.93967	0.00348
							3-4	-0.00453	0.00896	-0.00586	5.78643	0.00101
106	Good	1.25	0	Double	0.3	Double	2-3	-0.00670	0.01470	-0.01379	3.00565	0.00459
							3-4	-0.00240	0.01716	-0.00851	5.99322	0.00142
107	Good	1.25	0	Double	0.7	Equal	2-3	-0.00386	0.01231	-0.00977	1.37330	0.00712
							3-4	-0.01772	0.00004	-0.00535	2.70675	0.00197
108	Good	1.25	0	Double	0.7	Double	2-3	-0.01673	0.00646	-0.01456	1.63626	0.00890
							3-4	-0.00318	0.00861	-0.00793	2.65458	0.00299
109	Good	1.25	0.1	Equal	0.1	Equal	2-3	-0.00242	0.01468	-0.00365	0.93429	0.00390
							3-4	0.00042	0.02377	-0.00200	0.92044	0.00217

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
110	Good	1.25	0.1	Equal	0.1	Double	2-3	-0.00166	0.01108	-0.00409	0.94738	0.00432
							3-4	0.00133	0.05010	-0.00262	0.92985	0.00282
111	Good	1.25	0.1	Equal	0.3	Equal	2-3	-0.00940	0.00080	-0.00682	0.79776	0.00855
							3-4	-0.00322	0.00607	-0.00408	0.72909	0.00559
112	Good	1.25	0.1	Equal	0.3	Double	2-3	-0.00326	0.01497	-0.00906	0.78066	0.01160
							3-4	-0.00239	0.00477	-0.00477	0.80093	0.00596
113	Good	1.25	0.1	Equal	0.7	Equal	2-3	-0.02722	-0.00253	-0.00639	0.35383	0.01807
							3-4	0.00004	0.00509	-0.00355	0.37295	0.00952
114	Good	1.25	0.1	Equal	0.7	Double	2-3	-0.01239	0.00238	-0.00910	0.38379	0.02371
							3-4	-0.00390	0.00472	-0.00564	0.42999	0.01313
115	Good	1.25	0.1	Double	0.1	Equal	2-3	-0.00242	0.01461	-0.00364	3.70648	0.00098
							3-4	0.00042	0.02381	-0.00200	7.32659	0.00027
116	Good	1.25	0.1	Double	0.1	Double	2-3	-0.00166	0.01108	-0.00409	3.76104	0.00109
							3-4	0.00133	0.05012	-0.00263	7.38858	0.00036
117	Good	1.25	0.1	Double	0.3	Equal	2-3	-0.00940	0.00080	-0.00682	2.97959	0.00229
							3-4	-0.00323	0.00607	-0.00408	5.84390	0.00070
118	Good	1.25	0.1	Double	0.3	Double	2-3	-0.00325	0.01497	-0.00905	3.04950	0.00297
							3-4	-0.00239	0.00478	-0.00479	6.13422	0.00078
119	Good	1.25	0.1	Double	0.7	Equal	2-3	-0.02722	-0.00252	-0.00640	1.44203	0.00444
							3-4	0.00004	0.00507	-0.00354	2.59063	0.00137
120	Good	1.25	0.1	Double	0.7	Double	2-3	-0.01238	0.00240	-0.00911	1.43655	0.00634
							3-4	-0.00391	0.00471	-0.00564	2.89870	0.00195
121	Good	1.25	0.3	Equal	0.1	Equal	2-3	0.00002	0.00002	0.00002	0.97540	-0.00002
							3-4	0.00003	0.00002	0.00002	1.04750	-0.00002
122	Good	1.25	0.3	Equal	0.1	Double	2-3	0.00002	0.00007	0.00003	0.99866	-0.00003
							3-4	0.00003	0.00007	0.00005	0.87358	-0.00005
123	Good	1.25	0.3	Equal	0.3	Equal	2-3	0.00002	0.00000	0.00001	1.29655	-0.00001
							3-4	0.00002	0.00000	0.00001	0.69110	-0.00002

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
124	Good	1.25	0.3	Equal	0.3	Double	2-3	0.00002	0.00000	0.00003	0.73186	-0.00004
							3-4	0.00002	0.00000	0.00003	0.76485	-0.00004
125	Good	1.25	0.3	Equal	0.7	Equal	2-3	0.00001	0.00000	0.00000	1.66555	0.00000
							3-4	0.00001	0.00000	0.00000	0.29111	-0.00001
126	Good	1.25	0.3	Equal	0.7	Double	2-3	0.00002	0.00000	0.00001	1.01277	-0.00001
							3-4	0.00002	0.00000	0.00001	-0.37497	0.00003
127	Good	1.25	0.3	Double	0.1	Equal	2-3	0.00002	0.00002	0.00002	3.83895	-0.00001
							3-4	0.00002	0.00001	0.00002	7.66111	0.00000
128	Good	1.25	0.3	Double	0.1	Double	2-3	0.00002	0.00007	0.00003	3.71281	-0.00001
							3-4	0.00003	0.00007	0.00005	7.72459	-0.00001
129	Good	1.25	0.3	Double	0.3	Equal	2-3	0.00002	0.00000	0.00001	4.55126	0.00000
							3-4	0.00002	0.00000	0.00001	3.74201	0.00000
130	Good	1.25	0.3	Double	0.3	Double	2-3	0.00002	0.00000	0.00003	3.37751	-0.00001
							3-4	0.00002	0.00000	0.00003	6.12790	-0.00001
131	Good	1.25	0.3	Double	0.7	Equal	2-3	0.00001	0.00000	0.00000	2.59298	0.00000
							3-4	0.00001	0.00000	0.00000	0.90030	0.00000
132	Good	1.25	0.3	Double	0.7	Double	2-3	0.00002	0.00000	0.00001	1.27561	-0.00001
							3-4	0.00002	0.00000	0.00001	11.42259	0.00000
133	Good	1.25	0.5	Equal	0.1	Equal	2-3	0.00001	0.00000	0.00001	1.09455	-0.00001
							3-4	0.00001	0.00000	0.00001	0.81002	-0.00001
134	Good	1.25	0.5	Equal	0.1	Double	2-3	0.00002	0.00000	0.00003	0.93114	-0.00004
							3-4	0.00002	0.00000	0.00003	1.12249	-0.00003
135	Good	1.25	0.5	Equal	0.3	Equal	2-3	0.00001	0.00000	0.00001	1.00858	-0.00001
							3-4	0.00001	0.00000	0.00001	0.37366	-0.00002
136	Good	1.25	0.5	Equal	0.3	Double	2-3	0.00001	0.00000	0.00001	0.71950	-0.00002
							3-4	0.00001	0.00000	0.00001	1.52318	-0.00001
137	Good	1.25	0.5	Equal	0.7	Equal	2-3	0.00000	0.00000	0.00000	1.00538	0.00000
							3-4	0.00000	0.00000	0.00000	-0.42316	0.00000

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
138	Good	1.25	0.5	Equal	0.7	Double	2-3	0.00001	0.00000	0.00000	1.63729	0.00000
							3-4	0.00001	0.00000	0.00000	-0.99948	0.00000
139	Good	1.25	0.5	Double	0.1	Equal	2-3	0.00001	0.00000	0.00001	3.80917	0.00000
							3-4	0.00001	0.00000	0.00001	7.57116	0.00000
140	Good	1.25	0.5	Double	0.1	Double	2-3	0.00002	0.00000	0.00003	4.10731	-0.00001
							3-4	0.00001	0.00000	0.00003	7.06630	0.00000
141	Good	1.25	0.5	Double	0.3	Equal	2-3	0.00001	0.00000	0.00001	3.39941	0.00000
							3-4	0.00001	0.00000	0.00001	4.89402	0.00000
142	Good	1.25	0.5	Double	0.3	Double	2-3	0.00001	0.00000	0.00002	3.46054	0.00000
							3-4	0.00001	0.00000	0.00001	6.78081	0.00000
143	Good	1.25	0.5	Double	0.7	Equal	2-3	0.00000	0.00000	0.00000	5.20224	0.00000
							3-4	0.00000	0.00000	0.00000	2.32889	0.00000
144	Good	1.25	0.5	Double	0.7	Double	2-3	0.00001	0.00000	0.00000	5.16144	0.00000
							3-4	0.00001	0.00000	0.00000	2.55123	0.00000
145	Fair	0.75	0	Equal	0.1	Equal	2-3	-0.00241	0.04966	-0.00713	0.96828	0.00737
							3-4	0.00460	0.09581	-0.00544	0.94591	0.00576
146	Fair	0.75	0	Equal	0.1	Double	2-3	0.00254	0.09818	-0.00524	0.97117	0.00540
							3-4	-0.00226	0.00498	-0.00456	0.98050	0.00465
147	Fair	0.75	0	Equal	0.3	Equal	2-3	-0.00386	0.07413	-0.02494	0.83802	0.02976
							3-4	0.00464	0.06741	-0.01697	0.77008	0.02204
148	Fair	0.75	0	Equal	0.3	Double	2-3	0.00797	0.11498	-0.02333	0.84997	0.02745
							3-4	-0.00320	0.04736	-0.01868	0.87866	0.02126
149	Fair	0.75	0	Equal	0.7	Equal	2-3	-0.07182	0.02130	-0.03645	0.48139	0.07573
							3-4	-0.02105	0.02514	-0.02391	0.44019	0.05433
150	Fair	0.75	0	Equal	0.7	Double	2-3	-0.03815	0.03714	-0.04889	0.52187	0.09368
							3-4	-0.02568	0.02493	-0.03286	0.53645	0.06125
151	Fair	0.75	0	Double	0.1	Equal	2-3	-0.00241	0.04966	-0.00713	3.85961	0.00185
							3-4	0.00460	0.09581	-0.00544	7.56729	0.00072

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
152	Fair	0.75	0	Double	0.1	Double	2-3	0.00254	0.09818	-0.00524	3.88467	0.00135
							3-4	-0.00226	0.00498	-0.00456	7.79034	0.00059
153	Fair	0.75	0	Double	0.3	Equal	2-3	-0.00386	0.07413	-0.02494	3.30821	0.00754
							3-4	0.00464	0.06741	-0.01697	6.16064	0.00275
154	Fair	0.75	0	Double	0.3	Double	2-3	0.00797	0.11498	-0.02333	3.39989	0.00686
							3-4	-0.00320	0.04736	-0.01868	6.82124	0.00274
155	Fair	0.75	0	Double	0.7	Equal	2-3	-0.07182	0.02130	-0.03645	1.74379	0.02091
							3-4	-0.02105	0.02514	-0.02391	3.02926	0.00789
156	Fair	0.75	0	Double	0.7	Double	2-3	-0.03815	0.03714	-0.04889	2.00407	0.02440
							3-4	-0.02568	0.02493	-0.03286	3.81482	0.00861
157	Fair	0.75	0.1	Equal	0.1	Equal	2-3	-0.00242	0.04735	-0.00691	0.96850	0.00714
							3-4	0.00452	0.09259	-0.00519	0.94647	0.00548
158	Fair	0.75	0.1	Equal	0.1	Double	2-3	0.00252	0.09590	-0.00505	0.97132	0.00520
							3-4	-0.00225	0.00388	-0.00443	0.98073	0.00452
159	Fair	0.75	0.1	Equal	0.3	Equal	2-3	-0.00415	0.07052	-0.02406	0.83941	0.02866
							3-4	0.00428	0.06444	-0.01634	0.83850	0.01948
160	Fair	0.75	0.1	Equal	0.3	Double	2-3	0.00777	0.11140	-0.02254	0.85104	0.02649
							3-4	-0.00322	0.04455	-0.01787	0.88036	0.02030
161	Fair	0.75	0.1	Equal	0.7	Equal	2-3	-0.07361	0.01860	-0.03510	0.48611	0.07221
							3-4	-0.02254	0.02372	-0.02337	0.44728	0.05224
162	Fair	0.75	0.1	Equal	0.7	Double	2-3	-0.01717	0.05255	-0.04709	0.49698	0.09475
							3-4	-0.03146	0.01820	-0.03162	0.63890	0.04949
163	Fair	0.75	0.1	Double	0.1	Equal	2-3	-0.00242	0.04734	-0.00691	3.86048	0.00179
							3-4	0.00452	0.09260	-0.00519	7.57174	0.00069
164	Fair	0.75	0.1	Double	0.1	Double	2-3	0.00252	0.09590	-0.00505	3.88528	0.00130
							3-4	-0.00225	0.00389	-0.00443	7.79236	0.00057
165	Fair	0.75	0.1	Double	0.3	Equal	2-3	-0.00415	0.07052	-0.02406	3.31379	0.00726
							3-4	0.00428	0.06444	-0.01633	6.18364	0.00264

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
166	Fair	0.75	0.1	Double	0.3	Double	2-3	0.00777	0.11139	-0.02254	3.45997	0.00651
							3-4	-0.00323	0.04456	-0.01788	6.78009	0.00264
167	Fair	0.75	0.1	Double	0.7	Equal	2-3	-0.07359	0.01860	-0.03509	1.76268	0.01991
							3-4	-0.02253	0.02373	-0.02337	3.08783	0.00757
168	Fair	0.75	0.1	Double	0.7	Double	2-3	-0.01716	0.05256	-0.04708	2.02000	0.02331
							3-4	-0.03148	0.01819	-0.03162	3.86644	0.00818
169	Fair	0.75	0.3	Equal	0.1	Equal	2-3	-0.00248	0.04269	-0.00650	0.96901	0.00671
							3-4	0.00421	0.08642	-0.00485	0.94776	0.00512
170	Fair	0.75	0.3	Equal	0.1	Double	2-3	0.00127	0.07034	-0.00475	0.97519	0.00487
							3-4	-0.00105	0.02257	-0.00414	0.97771	0.00424
171	Fair	0.75	0.3	Equal	0.3	Equal	2-3	-0.00515	0.06350	-0.02266	0.84256	0.02689
							3-4	0.01765	0.09382	-0.01579	0.76690	0.02060
172	Fair	0.75	0.3	Equal	0.3	Double	2-3	0.01217	0.12873	-0.02158	0.85342	0.02528
							3-4	-0.00854	0.01486	-0.01642	0.88397	0.01857
173	Fair	0.75	0.3	Equal	0.7	Equal	2-3	-0.06558	0.01994	-0.03364	0.46974	0.07161
							3-4	-0.03992	0.01338	-0.02134	0.39781	0.05364
174	Fair	0.75	0.3	Equal	0.7	Double	2-3	-0.00231	0.06356	-0.04588	0.50591	0.09068
							3-4	-0.02350	0.02245	-0.02981	0.51746	0.05761
175	Fair	0.75	0.3	Double	0.1	Equal	2-3	-0.00248	0.04272	-0.00650	3.86256	0.00168
							3-4	0.00422	0.08640	-0.00484	7.58214	0.00064
176	Fair	0.75	0.3	Double	0.1	Double	2-3	0.00127	0.07035	-0.00475	3.90889	0.00121
							3-4	-0.00104	0.02256	-0.00413	7.77473	0.00053
177	Fair	0.75	0.3	Double	0.3	Equal	2-3	-0.00515	0.06353	-0.02266	3.32638	0.00681
							3-4	0.01759	0.09380	-0.01583	6.13527	0.00258
178	Fair	0.75	0.3	Double	0.3	Double	2-3	0.01217	0.12874	-0.02158	3.41366	0.00632
							3-4	-0.00851	0.01485	-0.01637	6.86699	0.00238
179	Fair	0.75	0.3	Double	0.7	Equal	2-3	-0.06561	0.01995	-0.03365	1.58016	0.02129
							3-4	-0.03993	0.01338	-0.02134	3.16194	0.00675

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
180	Fair	0.75	0.3	Double	0.7	Double	2-3	-0.00232	0.06356	-0.04588	1.94026	0.02365
							3-4	-0.02349	0.02245	-0.02981	3.66816	0.00813
181	Fair	0.75	0.5	Equal	0.1	Equal	2-3	-0.00269	0.03808	-0.00623	0.96970	0.00643
							3-4	0.00357	0.08048	-0.00484	0.94945	0.00509
182	Fair	0.75	0.5	Equal	0.1	Double	2-3	0.00221	0.08658	-0.00468	0.97212	0.00482
							3-4	-0.00218	-0.00061	-0.00387	0.98181	0.00394
183	Fair	0.75	0.5	Equal	0.3	Equal	2-3	0.01393	0.10630	-0.02214	0.82718	0.02677
							3-4	-0.00657	0.03855	-0.01617	0.79428	0.02035
184	Fair	0.75	0.5	Equal	0.3	Double	2-3	0.01044	0.12128	-0.02177	0.85622	0.02542
							3-4	-0.00834	0.01041	-0.01479	0.88797	0.01666
185	Fair	0.75	0.5	Equal	0.7	Equal	2-3	-0.08873	0.00940	-0.03320	0.45446	0.07306
							3-4	-0.03222	0.01572	-0.02067	0.42545	0.04859
186	Fair	0.75	0.5	Equal	0.7	Double	2-3	-0.00922	0.05781	-0.04600	0.51556	0.08922
							3-4	-0.02538	0.01840	-0.02811	0.53182	0.05285
187	Fair	0.75	0.5	Double	0.1	Equal	2-3	-0.00270	0.03809	-0.00624	3.86531	0.00161
							3-4	0.00363	0.08051	-0.00478	7.59631	0.00063
188	Fair	0.75	0.5	Double	0.1	Double	2-3	0.00218	0.08657	-0.00473	3.88846	0.00122
							3-4	-0.00216	-0.00062	-0.00383	7.80235	0.00049
189	Fair	0.75	0.5	Double	0.3	Equal	2-3	0.01393	0.10631	-0.02214	3.22099	0.00687
							3-4	-0.00661	0.03853	-0.01619	6.32155	0.00256
190	Fair	0.75	0.5	Double	0.3	Double	2-3	0.01043	0.12123	-0.02177	3.42486	0.00636
							3-4	-0.00831	0.01048	-0.01478	6.90206	0.00214
191	Fair	0.75	0.5	Double	0.7	Equal	2-3	-0.08870	0.00940	-0.03319	1.62784	0.02039
							3-4	-0.03226	0.01573	-0.02069	2.91133	0.00711
192	Fair	0.75	0.5	Double	0.7	Double	2-3	-0.00923	0.05777	-0.04598	1.97885	0.02324
							3-4	-0.02533	0.01844	-0.02810	3.78817	0.00742
193	Fair	1	0	Equal	0.1	Equal	2-3	0.00806	0.11914	-0.00466	0.95335	0.00488
							3-4	-0.00588	-0.01593	-0.00370	0.97581	0.00379

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
194	Fair	1	0	Equal	0.1	Double	2-3	0.00254	0.07523	-0.00295	0.97802	0.00301
							3-4	0.00134	0.04692	-0.00228	0.96821	0.00236
195	Fair	1	0	Equal	0.3	Equal	2-3	-0.00263	0.05512	-0.01838	0.80648	0.02279
							3-4	-0.01602	0.00630	-0.01311	0.83564	0.01569
196	Fair	1	0	Equal	0.3	Double	2-3	-0.00385	0.04074	-0.01761	0.88365	0.01993
							3-4	0.01333	0.10507	-0.01286	0.80742	0.01592
197	Fair	1	0	Equal	0.7	Equal	2-3	-0.02989	0.01934	-0.02250	0.47301	0.04757
							3-4	-0.04121	0.00287	-0.01438	0.43914	0.03274
198	Fair	1	0	Equal	0.7	Double	2-3	-0.01560	0.03197	-0.03174	0.47593	0.06669
							3-4	-0.01540	0.01730	-0.02135	0.50725	0.04209
199	Fair	1	0	Double	0.1	Equal	2-3	0.00806	0.11914	-0.00466	3.81341	0.00122
							3-4	-0.00588	-0.01593	-0.00370	7.70234	0.00048
200	Fair	1	0	Double	0.1	Double	2-3	0.00254	0.07523	-0.00295	3.91210	0.00075
							3-4	0.00134	0.04692	-0.00228	7.74570	0.00029
201	Fair	1	0	Double	0.3	Equal	2-3	-0.00263	0.05512	-0.01838	3.15298	0.00583
							3-4	-0.01602	0.00630	-0.01311	6.31146	0.00208
202	Fair	1	0	Double	0.3	Double	2-3	-0.00385	0.04074	-0.01761	3.48308	0.00506
							3-4	0.01333	0.10507	-0.01286	6.45939	0.00199
203	Fair	1	0	Double	0.7	Equal	2-3	-0.02989	0.01934	-0.02250	1.63455	0.01377
							3-4	-0.04121	0.00287	-0.01438	2.85591	0.00503
204	Fair	1	0	Double	0.7	Double	2-3	-0.01560	0.03197	-0.03174	1.77314	0.01790
							3-4	-0.01540	0.01730	-0.02135	3.38984	0.00630
205	Fair	1	0.1	Equal	0.1	Equal	2-3	0.00451	0.07929	-0.00387	0.96097	0.00403
							3-4	-0.00240	0.01057	-0.00322	0.96994	0.00332
206	Fair	1	0.1	Equal	0.1	Double	2-3	0.00252	0.07039	-0.00250	0.97832	0.00255
							3-4	0.00014	0.02151	-0.00191	0.97988	0.00195
207	Fair	1	0.1	Equal	0.3	Equal	2-3	-0.00331	0.04419	-0.01557	0.81129	0.01919
							3-4	-0.01592	-0.00180	-0.01060	0.84293	0.01258

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
208	Fair	1	0.1	Equal	0.3	Double	2-3	-0.00396	0.03149	-0.01499	0.88662	0.01691
							3-4	0.00757	0.06992	-0.01038	0.82748	0.01254
209	Fair	1	0.1	Equal	0.7	Equal	2-3	-0.07359	-0.00546	-0.01825	0.48465	0.03767
							3-4	-0.02255	0.00715	-0.01177	0.45721	0.02575
210	Fair	1	0.1	Equal	0.7	Double	2-3	0.00374	0.04208	-0.02721	0.48779	0.05578
							3-4	-0.02193	0.00631	-0.01757	0.52599	0.03341
211	Fair	1	0.1	Double	0.1	Equal	2-3	0.00450	0.07928	-0.00387	3.81643	0.00102
							3-4	-0.00240	0.01061	-0.00322	7.71136	0.00042
212	Fair	1	0.1	Double	0.1	Double	2-3	0.00252	0.07039	-0.00250	3.91330	0.00064
							3-4	0.00014	0.02153	-0.00191	7.84304	0.00024
213	Fair	1	0.1	Double	0.3	Equal	2-3	-0.00331	0.04415	-0.01556	3.17222	0.00491
							3-4	-0.01592	-0.00178	-0.01061	6.37356	0.00166
214	Fair	1	0.1	Double	0.3	Double	2-3	-0.00396	0.03153	-0.01501	3.49498	0.00429
							3-4	0.00757	0.06985	-0.01036	6.61980	0.00156
215	Fair	1	0.1	Double	0.7	Equal	2-3	-0.07361	-0.00547	-0.01826	1.68114	0.01086
							3-4	-0.02253	0.00716	-0.01177	2.99972	0.00392
216	Fair	1	0.1	Double	0.7	Double	2-3	0.00375	0.04208	-0.02720	1.82056	0.01494
							3-4	-0.02195	0.00631	-0.01759	3.54179	0.00497
217	Fair	1	0.3	Equal	0.1	Equal	2-3	0.00086	0.03412	-0.00263	0.96245	0.00274
							3-4	0.00083	0.02968	-0.00222	0.97262	0.00228
218	Fair	1	0.3	Equal	0.1	Double	2-3	0.00126	0.03952	-0.00169	0.98648	0.00171
							3-4	-0.00104	-0.00437	-0.00143	0.98401	0.00145
219	Fair	1	0.3	Equal	0.3	Equal	2-3	-0.00531	0.02355	-0.01078	0.82172	0.01312
							3-4	-0.00505	0.00951	-0.00639	0.81669	0.00783
220	Fair	1	0.3	Equal	0.3	Double	2-3	-0.00442	0.01391	-0.01036	0.89325	0.01160
							3-4	0.00661	0.05305	-0.00666	0.84048	0.00792
221	Fair	1	0.3	Equal	0.7	Equal	2-3	0.00629	0.02035	-0.01236	0.38203	0.03235
							3-4	-0.02660	-0.00074	-0.00746	0.42848	0.01741

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
222	Fair	1	0.3	Equal	0.7	Double	2-3	-0.01247	0.01552	-0.01835	0.57764	0.03176
							3-4	-0.01250	0.00534	-0.01124	0.50127	0.02242
223	Fair	1	0.3	Double	0.1	Equal	2-3	0.00086	0.03411	-0.00264	3.86552	0.00068
							3-4	0.00085	0.02970	-0.00220	7.69054	0.00029
224	Fair	1	0.3	Double	0.1	Double	2-3	0.00126	0.03951	-0.00168	3.93015	0.00043
							3-4	-0.00102	-0.00436	-0.00140	7.86583	0.00018
225	Fair	1	0.3	Double	0.3	Equal	2-3	-0.00530	0.02358	-0.01079	3.21395	0.00336
							3-4	-0.00506	0.00953	-0.00640	6.26368	0.00102
226	Fair	1	0.3	Double	0.3	Double	2-3	-0.00439	0.01397	-0.01034	3.52152	0.00294
							3-4	0.00658	0.05304	-0.00670	6.62641	0.00101
227	Fair	1	0.3	Double	0.7	Equal	2-3	0.00632	0.02034	-0.01235	1.40110	0.00881
							3-4	-0.02661	-0.00073	-0.00748	2.78896	0.00268
228	Fair	1	0.3	Double	0.7	Double	2-3	-0.01246	0.01552	-0.01834	2.04948	0.00895
							3-4	-0.01249	0.00534	-0.01123	3.49870	0.00321
229	Fair	1	0.5	Equal	0.1	Equal	2-3	0.00045	0.02074	-0.00167	0.96441	0.00173
							3-4	0.00052	0.01745	-0.00128	0.97592	0.00131
230	Fair	1	0.5	Equal	0.1	Double	2-3	-0.00003	0.01113	-0.00117	0.98340	0.00119
							3-4	0.00006	0.00971	-0.00086	0.98943	0.00087
231	Fair	1	0.5	Equal	0.3	Equal	2-3	-0.00805	0.00351	-0.00669	0.83379	0.00803
							3-4	0.00282	0.01929	-0.00382	0.83527	0.00457
232	Fair	1	0.5	Equal	0.3	Double	2-3	-0.00528	-0.00313	-0.00645	0.90114	0.00716
							3-4	0.00516	0.03796	-0.00416	0.89025	0.00467
233	Fair	1	0.5	Equal	0.7	Equal	2-3	-0.02967	-0.00228	-0.00730	0.43683	0.01671
							3-4	-0.00794	0.00309	-0.00455	0.31411	0.01448
234	Fair	1	0.5	Equal	0.7	Double	2-3	-0.00851	0.00914	-0.01150	0.47250	0.02435
							3-4	-0.02939	-0.01540	-0.00686	0.53630	0.01278
235	Fair	1	0.5	Double	0.1	Equal	2-3	0.00045	0.02076	-0.00167	3.87334	0.00043
							3-4	0.00039	0.01743	-0.00139	7.71793	0.00018

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
236	Fair	1	0.5	Double	0.1	Double	2-3	-0.00003	0.01115	-0.00117	3.95514	0.00030
							3-4	0.00008	0.00975	-0.00084	7.85680	0.00011
237	Fair	1	0.5	Double	0.3	Equal	2-3	-0.00808	0.00348	-0.00670	3.26223	0.00205
							3-4	0.00285	0.01931	-0.00380	6.29023	0.00060
238	Fair	1	0.5	Double	0.3	Double	2-3	-0.00528	-0.00315	-0.00645	3.55306	0.00181
							3-4	0.00938	0.05789	-0.00424	6.75128	0.00063
239	Fair	1	0.5	Double	0.7	Equal	2-3	-0.02967	-0.00230	-0.00729	1.49961	0.00486
							3-4	-0.00796	0.00314	-0.00459	2.38673	0.00192
240	Fair	1	0.5	Double	0.7	Double	2-3	-0.00853	0.00913	-0.01151	1.75953	0.00654
							3-4	-0.02938	-0.01537	-0.00687	3.63159	0.00189
241	Fair	1.25	0	Equal	0.1	Equal	2-3	-0.00322	0.00622	-0.00352	0.96569	0.00365
							3-4	0.00800	0.09871	-0.00267	0.93375	0.00286
242	Fair	1.25	0	Equal	0.1	Double	2-3	0.00044	0.02598	-0.00180	0.98585	0.00183
							3-4	0.00254	0.06050	-0.00149	0.97177	0.00153
243	Fair	1.25	0	Equal	0.3	Equal	2-3	-0.00263	0.03632	-0.01274	0.79842	0.01596
							3-4	-0.01602	-0.01046	-0.00808	0.83861	0.00963
244	Fair	1.25	0	Equal	0.3	Double	2-3	0.00040	0.04709	-0.01357	0.84512	0.01606
							3-4	-0.00380	0.01461	-0.00970	0.88214	0.01099
245	Fair	1.25	0	Equal	0.7	Equal	2-3	-0.03991	0.00265	-0.01383	0.39054	0.03540
							3-4	-0.02848	0.00052	-0.00890	0.45442	0.01960
246	Fair	1.25	0	Equal	0.7	Double	2-3	-0.00779	0.02298	-0.02076	0.46817	0.04434
							3-4	-0.00910	0.01068	-0.01294	0.47829	0.02705
247	Fair	1.25	0	Double	0.1	Equal	2-3	-0.00322	0.00622	-0.00352	3.83740	0.00092
							3-4	0.00800	0.09871	-0.00267	7.47002	0.00036
248	Fair	1.25	0	Double	0.1	Double	2-3	0.00044	0.02598	-0.00180	3.93294	0.00046
							3-4	0.00254	0.06050	-0.00149	7.77418	0.00019
249	Fair	1.25	0	Double	0.3	Equal	2-3	-0.00263	0.03632	-0.01274	3.09291	0.00412
							3-4	-0.01602	-0.01046	-0.00808	6.23264	0.00130

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
250	Fair	1.25	0	Double	0.3	Double	2-3	0.00040	0.04709	-0.01357	3.29260	0.00412
							3-4	-0.00380	0.01461	-0.00970	6.64943	0.00146
251	Fair	1.25	0	Double	0.7	Equal	2-3	-0.03991	0.00265	-0.01383	1.41697	0.00976
							3-4	-0.02848	0.00052	-0.00890	2.86517	0.00311
252	Fair	1.25	0	Double	0.7	Double	2-3	-0.00779	0.02298	-0.02076	1.70340	0.01219
							3-4	-0.00910	0.01068	-0.01294	3.11589	0.00415
253	Fair	1.25	0.1	Equal	0.1	Equal	2-3	0.00231	0.04020	-0.00194	0.96758	0.00201
							3-4	0.00103	0.01820	-0.00089	0.95889	0.00093
254	Fair	1.25	0.1	Equal	0.1	Double	2-3	0.00252	0.05527	-0.00098	0.98126	0.00100
							3-4	0.00014	0.00716	-0.00047	0.98347	0.00048
255	Fair	1.25	0.1	Equal	0.3	Equal	2-3	-0.00330	0.01167	-0.00581	0.81038	0.00717
							3-4	-0.00405	0.00031	-0.00292	0.80826	0.00362
256	Fair	1.25	0.1	Equal	0.3	Double	2-3	0.00010	0.02187	-0.00643	0.85538	0.00751
							3-4	-0.00390	-0.00433	-0.00416	0.89671	0.00464
257	Fair	1.25	0.1	Equal	0.7	Equal	2-3	0.01058	0.01236	-0.00548	0.38529	0.01422
							3-4	-0.02255	-0.00527	-0.00307	0.44984	0.00683
258	Fair	1.25	0.1	Equal	0.7	Double	2-3	-0.01716	-0.00272	-0.00840	0.58686	0.01431
							3-4	-0.00103	0.00637	-0.00508	0.40715	0.01247
259	Fair	1.25	0.1	Double	0.1	Equal	2-3	0.00231	0.04017	-0.00194	3.84494	0.00050
							3-4	0.00103	0.01823	-0.00090	7.68977	0.00012
260	Fair	1.25	0.1	Double	0.1	Double	2-3	0.00252	0.05528	-0.00099	3.92506	0.00025
							3-4	0.00014	0.00715	-0.00047	7.87792	0.00006
261	Fair	1.25	0.1	Double	0.3	Equal	2-3	-0.00331	0.01156	-0.00578	3.14077	0.00184
							3-4	-0.00405	0.00041	-0.00296	6.01751	0.00049
262	Fair	1.25	0.1	Double	0.3	Double	2-3	0.00010	0.02194	-0.00644	3.42099	0.00188
							3-4	-0.00391	-0.00435	-0.00416	6.68785	0.00062
263	Fair	1.25	0.1	Double	0.7	Equal	2-3	0.01057	0.01235	-0.00547	1.39595	0.00392
							3-4	-0.02253	-0.00527	-0.00307	2.83468	0.00108

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
264	Fair	1.25	0.1	Double	0.7	Double	2-3	-0.01716	-0.00270	-0.00840	1.99398	0.00421
							3-4	-0.00105	0.00635	-0.00507	3.09470	0.00164
265	Fair	1.25	0.3	Equal	0.1	Equal	2-3	0.00002	0.00000	0.00002	1.04978	-0.00002
							3-4	0.00002	0.00001	0.00002	0.84220	-0.00003
266	Fair	1.25	0.3	Equal	0.1	Double	2-3	0.00003	0.00008	0.00004	0.98379	-0.00005
							3-4	0.00003	0.00006	0.00004	1.02658	-0.00004
267	Fair	1.25	0.3	Equal	0.3	Equal	2-3	0.00001	0.00000	0.00001	1.30855	-0.00001
							3-4	0.00002	0.00000	0.00001	0.99867	-0.00001
268	Fair	1.25	0.3	Equal	0.3	Double	2-3	0.00002	0.00000	0.00003	0.80279	-0.00003
							3-4	0.00002	0.00000	0.00003	1.00211	-0.00003
269	Fair	1.25	0.3	Equal	0.7	Equal	2-3	0.00001	0.00000	0.00000	1.78390	0.00000
							3-4	0.00001	0.00000	0.00000	-0.52372	0.00000
270	Fair	1.25	0.3	Equal	0.7	Double	2-3	0.00001	0.00000	0.00001	0.33545	-0.00002
							3-4	0.00001	0.00000	0.00001	1.69847	0.00000
271	Fair	1.25	0.3	Double	0.1	Equal	2-3	0.00002	0.00001	0.00002	3.88430	-0.00001
							3-4	0.00002	0.00000	0.00002	7.78237	0.00000
272	Fair	1.25	0.3	Double	0.1	Double	2-3	0.00003	0.00008	0.00004	3.95763	-0.00001
							3-4	0.00003	0.00006	0.00004	7.93344	-0.00001
273	Fair	1.25	0.3	Double	0.3	Equal	2-3	0.00001	0.00000	0.00001	3.43642	0.00000
							3-4	0.00001	0.00000	0.00001	6.81344	0.00000
274	Fair	1.25	0.3	Double	0.3	Double	2-3	0.00002	0.00000	0.00003	3.60984	-0.00001
							3-4	0.00002	0.00000	0.00003	8.77456	0.00000
275	Fair	1.25	0.3	Double	0.7	Equal	2-3	0.00001	0.00000	0.00000	0.94822	0.00000
							3-4	0.00001	0.00000	0.00000	1.89643	0.00000
276	Fair	1.25	0.3	Double	0.7	Double	2-3	0.00001	0.00000	0.00001	2.74307	0.00000
							3-4	0.00001	0.00000	0.00001	2.68355	0.00000
277	Fair	1.25	0.5	Equal	0.1	Equal	2-3	0.00001	0.00000	0.00001	0.99616	-0.00001
							3-4	0.00001	0.00000	0.00001	1.05221	-0.00001

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
278	Fair	1.25	0.5	Equal	0.1	Double	2-3	0.00002	0.00000	0.00003	0.99408	-0.00003
							3-4	0.00002	0.00000	0.00004	0.98914	-0.00004
279	Fair	1.25	0.5	Equal	0.3	Equal	2-3	0.00000	0.00000	0.00000	0.70436	0.00000
							3-4	0.00000	0.00000	0.00000	1.60009	0.00000
280	Fair	1.25	0.5	Equal	0.3	Double	2-3	0.00001	0.00000	0.00001	0.80280	-0.00001
							3-4	0.00001	0.00000	0.00001	0.80279	-0.00001
281	Fair	1.25	0.5	Equal	0.7	Equal	2-3	0.00000	0.00000	0.00000	0.23706	0.00000
							3-4	0.00000	0.00000	0.00000	1.02313	0.00000
282	Fair	1.25	0.5	Equal	0.7	Double	2-3	0.00000	0.00000	0.00000	1.03609	0.00000
							3-4	0.00000	0.00000	0.00000	-0.36519	0.00000
283	Fair	1.25	0.5	Double	0.1	Equal	2-3	0.00001	0.00000	0.00001	3.78404	0.00000
							3-4	0.00001	0.00000	0.00001	7.56799	0.00000
284	Fair	1.25	0.5	Double	0.1	Double	2-3	0.00000	0.00000	0.00000	3.97630	0.00000
							3-4	0.00004	0.00000	0.00007	7.91908	-0.00001
285	Fair	1.25	0.5	Double	0.3	Equal	2-3	0.00000	0.00000	0.00000	3.43645	0.00000
							3-4	0.00000	0.00000	0.00000	9.15216	0.00000
286	Fair	1.25	0.5	Double	0.3	Double	2-3	0.00001	0.00000	0.00001	3.60987	0.00000
							3-4	0.00001	0.00000	0.00001	6.42235	0.00000
287	Fair	1.25	0.5	Double	0.7	Equal	2-3	0.00000	0.00000	0.00000	2.52038	0.00000
							3-4	0.00000	0.00000	0.00000	4.92501	0.00000
288	Fair	1.25	0.5	Double	0.7	Double	2-3	0.00000	0.00000	0.00000	2.74308	0.00000
							3-4	0.00000	0.00000	0.00000	2.68359	0.00000
289	Poor	0.75	0	Equal	0.1	Equal	2-3	0.00253	0.05838	-0.00356	0.97375	0.00366
							3-4	-0.00165	0.01827	-0.00331	0.98571	0.00336
290	Poor	0.75	0	Equal	0.1	Double	2-3	0.00135	0.04743	-0.00232	0.98728	0.00235
							3-4	0.00134	0.04492	-0.00207	0.98132	0.00211
291	Poor	0.75	0	Equal	0.3	Equal	2-3	-0.00386	0.05699	-0.01980	0.88449	0.02238
							3-4	0.02123	0.10140	-0.01556	0.81109	0.01918

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
292	Poor	0.75	0	Equal	0.3	Double	2-3	-0.00322	0.03695	-0.01560	0.93373	0.01670
							3-4	0.00800	0.08236	-0.01351	0.88634	0.01525
293	Poor	0.75	0	Equal	0.7	Equal	2-3	-0.06000	0.02119	-0.03283	0.45438	0.07226
							3-4	-0.09347	-0.00583	-0.02396	0.48806	0.04909
294	Poor	0.75	0	Equal	0.7	Double	2-3	-0.06891	0.00904	-0.04767	0.64501	0.07390
							3-4	0.00052	0.04818	-0.03342	0.51486	0.06491
295	Poor	0.75	0	Double	0.1	Equal	2-3	0.00253	0.05838	-0.00356	3.89499	0.00091
							3-4	-0.00165	0.01827	-0.00331	7.82693	0.00042
296	Poor	0.75	0	Double	0.1	Double	2-3	0.00135	0.04743	-0.00232	3.94911	0.00059
							3-4	0.00134	0.04492	-0.00207	7.85059	0.00026
297	Poor	0.75	0	Double	0.3	Equal	2-3	-0.00386	0.05699	-0.01980	3.49697	0.00566
							3-4	0.02123	0.10140	-0.01556	6.48876	0.00240
298	Poor	0.75	0	Double	0.3	Double	2-3	-0.00322	0.03695	-0.01560	3.70769	0.00421
							3-4	0.00800	0.08236	-0.01351	7.09075	0.00191
299	Poor	0.75	0	Double	0.7	Equal	2-3	-0.06000	0.02119	-0.03283	1.61363	0.02035
							3-4	-0.09347	-0.00583	-0.02396	3.20956	0.00746
300	Poor	0.75	0	Double	0.7	Double	2-3	-0.06891	0.00904	-0.04767	2.41039	0.01978
							3-4	0.00052	0.04818	-0.03342	3.99205	0.00837
301	Poor	0.75	0.1	Equal	0.1	Equal	2-3	0.00250	0.05713	-0.00346	0.97778	0.00354
							3-4	-0.00165	0.01736	-0.00322	0.98194	0.00328
302	Poor	0.75	0.1	Equal	0.1	Double	2-3	0.00134	0.04673	-0.00226	0.98732	0.00229
							3-4	0.00134	0.04395	-0.00199	0.98144	0.00203
303	Poor	0.75	0.1	Equal	0.3	Equal	2-3	-0.00415	0.05427	-0.01919	0.88546	0.02167
							3-4	0.02028	0.09794	-0.01518	0.81354	0.01866
304	Poor	0.75	0.1	Equal	0.3	Double	2-3	-0.00326	0.03532	-0.01516	0.93417	0.01623
							3-4	0.00781	0.07980	-0.01300	0.88751	0.01465
305	Poor	0.75	0.1	Equal	0.7	Equal	2-3	-0.06620	0.01836	-0.03271	0.46050	0.07104
							3-4	-0.06626	0.00368	-0.02245	0.47328	0.04744

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
306	Poor	0.75	0.1	Equal	0.7	Double	2-3	-0.04155	0.03030	-0.04614	0.57282	0.08055
							3-4	-0.00879	0.03869	-0.03235	0.54216	0.05968
307	Poor	0.75	0.1	Double	0.1	Equal	2-3	0.00250	0.05712	-0.00346	3.92012	0.00088
							3-4	-0.00165	0.01736	-0.00322	7.80363	0.00041
308	Poor	0.75	0.1	Double	0.1	Double	2-3	0.00134	0.04673	-0.00226	3.94928	0.00057
							3-4	0.00134	0.04396	-0.00199	7.85152	0.00025
309	Poor	0.75	0.1	Double	0.3	Equal	2-3	-0.00415	0.05428	-0.01919	3.50084	0.00548
							3-4	0.02027	0.09792	-0.01519	6.50834	0.00233
310	Poor	0.75	0.1	Double	0.3	Double	2-3	-0.00326	0.03533	-0.01516	3.70946	0.00409
							3-4	0.00780	0.07981	-0.01302	7.10008	0.00183
311	Poor	0.75	0.1	Double	0.7	Equal	2-3	-0.06622	0.01835	-0.03271	1.63812	0.01997
							3-4	-0.06625	0.00369	-0.02246	3.36833	0.00667
312	Poor	0.75	0.1	Double	0.7	Double	2-3	-0.04156	0.03029	-0.04614	2.28432	0.02020
							3-4	-0.00877	0.03871	-0.03236	3.87095	0.00836
313	Poor	0.75	0.3	Equal	0.1	Equal	2-3	0.00235	0.05447	-0.00333	0.98251	0.00339
							3-4	-0.00164	0.01548	-0.00302	0.97788	0.00309
314	Poor	0.75	0.3	Equal	0.1	Double	2-3	0.00132	0.04519	-0.00215	0.98742	0.00218
							3-4	0.00127	0.04195	-0.00192	0.98172	0.00195
315	Poor	0.75	0.3	Equal	0.3	Equal	2-3	0.00639	0.07627	-0.01841	0.88777	0.02074
							3-4	0.00607	0.06393	-0.01493	0.81925	0.01822
316	Poor	0.75	0.3	Equal	0.3	Double	2-3	-0.00346	0.03200	-0.01445	0.93520	0.01545
							3-4	0.00713	0.07477	-0.01244	0.89017	0.01398
317	Poor	0.75	0.3	Equal	0.7	Equal	2-3	-0.13263	-0.01134	-0.03185	0.49196	0.06475
							3-4	-0.06043	0.00615	-0.02244	0.47263	0.04748
318	Poor	0.75	0.3	Equal	0.7	Double	2-3	0.00130	0.06668	-0.04590	0.54978	0.08348
							3-4	-0.02586	0.02256	-0.03131	0.56706	0.05521
319	Poor	0.75	0.3	Double	0.1	Equal	2-3	0.00236	0.05448	-0.00333	3.92104	0.00085
							3-4	-0.00169	0.01547	-0.00306	7.80725	0.00039

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
320	Poor	0.75	0.3	Double	0.1	Double	2-3	0.00130	0.04519	-0.00217	3.94969	0.00055
							3-4	0.00128	0.04194	-0.00189	7.85381	0.00024
321	Poor	0.75	0.3	Double	0.3	Equal	2-3	0.00638	0.07625	-0.01841	3.51008	0.00524
							3-4	0.00607	0.06395	-0.01493	6.55402	0.00228
322	Poor	0.75	0.3	Double	0.3	Double	2-3	-0.00346	0.03201	-0.01444	3.71358	0.00389
							3-4	0.00711	0.07476	-0.01247	7.12150	0.00175
323	Poor	0.75	0.3	Double	0.7	Equal	2-3	-0.13267	-0.01132	-0.03188	1.79489	0.01776
							3-4	-0.06042	0.00612	-0.02241	2.95636	0.00758
324	Poor	0.75	0.3	Double	0.7	Double	2-3	0.00130	0.06663	-0.04586	2.11084	0.02173
							3-4	-0.02587	0.02262	-0.03136	4.02769	0.00779
325	Poor	0.75	0.5	Equal	0.1	Equal	2-3	0.00391	0.06891	-0.00337	0.97464	0.00346
							3-4	0.00001	0.02907	-0.00289	0.96767	0.00299
326	Poor	0.75	0.5	Equal	0.1	Double	2-3	0.00123	0.04350	-0.00214	0.98757	0.00216
							3-4	0.00046	0.02871	-0.00204	0.98388	0.00207
327	Poor	0.75	0.5	Equal	0.3	Equal	2-3	0.02348	0.11915	-0.01931	0.83466	0.02313
							3-4	-0.01612	0.00945	-0.01412	0.88238	0.01600
328	Poor	0.75	0.5	Equal	0.3	Double	2-3	0.01041	0.09662	-0.01441	0.89937	0.01602
							3-4	-0.00837	0.00185	-0.01228	0.93064	0.01319
329	Poor	0.75	0.5	Equal	0.7	Equal	2-3	-0.08757	0.00908	-0.03263	0.42664	0.07648
							3-4	-0.03281	0.01627	-0.02123	0.39797	0.05335
330	Poor	0.75	0.5	Equal	0.7	Double	2-3	-0.00852	0.05998	-0.04710	0.56019	0.08408
							3-4	-0.02935	0.01792	-0.03015	0.58259	0.05176
331	Poor	0.75	0.5	Double	0.1	Equal	2-3	0.00378	0.06888	-0.00348	3.89856	0.00089
							3-4	0.00012	0.02911	-0.00280	7.78362	0.00036
332	Poor	0.75	0.5	Double	0.1	Double	2-3	0.00118	0.04351	-0.00223	3.95030	0.00057
							3-4	0.00051	0.02870	-0.00195	7.88383	0.00025
333	Poor	0.75	0.5	Double	0.3	Equal	2-3	0.02348	0.11916	-0.01931	3.33864	0.00578
							3-4	-0.01612	0.00943	-0.01411	6.79368	0.00208

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
334	Poor	0.75	0.5	Double	0.3	Double	2-3	0.00583	0.07499	-0.01433	3.64346	0.00393
							3-4	-0.00373	0.02346	-0.01226	7.22348	0.00170
335	Poor	0.75	0.5	Double	0.7	Equal	2-3	-0.08752	0.00907	-0.03260	1.49710	0.02178
							3-4	-0.03290	0.01628	-0.02126	2.63109	0.00808
336	Poor	0.75	0.5	Double	0.7	Double	2-3	-0.00854	0.06002	-0.04714	2.15247	0.02190
							3-4	-0.02937	0.01787	-0.03014	4.15898	0.00725
337	Poor	1	0	Equal	0.1	Equal	2-3	0.00254	0.03037	-0.00075	0.98902	0.00076
							3-4	0.00254	0.02938	-0.00066	0.98370	0.00067
338	Poor	1	0	Equal	0.1	Double	2-3	0.00016	0.00404	-0.00012	0.99890	0.00012
							3-4	0.00016	0.00402	-0.00012	0.99835	0.00012
339	Poor	1	0	Equal	0.3	Equal	2-3	-0.00263	0.03451	-0.01220	0.87452	0.01395
							3-4	0.00841	0.04811	-0.00854	0.79995	0.01068
340	Poor	1	0	Equal	0.3	Double	2-3	0.00797	0.05915	-0.00659	0.92025	0.00716
							3-4	-0.00320	0.00440	-0.00579	0.96028	0.00603
341	Poor	1	0	Equal	0.7	Equal	2-3	-0.06000	-0.00052	-0.01764	0.46530	0.03790
							3-4	-0.03745	0.00132	-0.01216	0.42713	0.02847
342	Poor	1	0	Equal	0.7	Double	2-3	-0.02989	0.01450	-0.02808	0.62447	0.04497
							3-4	-0.02105	0.00877	-0.01877	0.59376	0.03161
343	Poor	1	0	Double	0.1	Equal	2-3	0.00254	0.03037	-0.00075	3.95610	0.00019
							3-4	0.00254	0.02938	-0.00066	7.86960	0.00008
344	Poor	1	0	Double	0.1	Double	2-3	0.00016	0.00404	-0.00012	3.99560	0.00003
							3-4	0.00016	0.00402	-0.00012	7.98683	0.00001
345	Poor	1	0	Double	0.3	Equal	2-3	-0.00263	0.03451	-0.01220	3.43546	0.00355
							3-4	0.00841	0.04811	-0.00854	6.39958	0.00133
346	Poor	1	0	Double	0.3	Double	2-3	0.00797	0.05915	-0.00659	3.68100	0.00179
							3-4	-0.00320	0.00440	-0.00579	7.49809	0.00077
347	Poor	1	0	Double	0.7	Equal	2-3	-0.06000	-0.00052	-0.01764	1.57293	0.01121
							3-4	-0.03745	0.00132	-0.01216	2.66997	0.00456

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
348	Poor	1	0	Double	0.7	Double	2-3	-0.02989	0.01450	-0.02808	2.21813	0.01266
							3-4	-0.02105	0.00877	-0.01877	4.03218	0.00465
349	Poor	1	0.1	Equal	0.1	Equal	2-3	0.00252	0.02922	-0.00065	0.98909	0.00066
							3-4	0.00014	0.00673	-0.00055	0.99058	0.00056
350	Poor	1	0.1	Equal	0.1	Double	2-3	0.00016	0.00400	-0.00011	0.99890	0.00011
							3-4	0.00016	0.00396	-0.00011	0.99836	0.00011
351	Poor	1	0.1	Equal	0.3	Equal	2-3	-0.00330	0.02638	-0.01023	0.87745	0.01165
							3-4	0.00763	0.04054	-0.00682	0.84526	0.00807
352	Poor	1	0.1	Equal	0.3	Double	2-3	0.00228	0.02910	-0.00554	0.96015	0.00577
							3-4	0.00227	0.02738	-0.00504	0.92299	0.00546
353	Poor	1	0.1	Equal	0.7	Equal	2-3	-0.02883	0.00723	-0.01371	0.44020	0.03114
							3-4	-0.02360	0.00333	-0.00941	0.48699	0.01933
354	Poor	1	0.1	Equal	0.7	Double	2-3	-0.04091	-0.00267	-0.02268	0.63622	0.03565
							3-4	-0.00585	0.01630	-0.01492	0.50737	0.02940
355	Poor	1	0.1	Double	0.1	Equal	2-3	0.00252	0.02921	-0.00065	3.95638	0.00016
							3-4	0.00013	0.00674	-0.00055	7.90203	0.00007
356	Poor	1	0.1	Double	0.1	Double	2-3	0.00016	0.00400	-0.00011	3.99561	0.00003
							3-4	0.00016	0.00396	-0.00011	7.98689	0.00001
357	Poor	1	0.1	Double	0.3	Equal	2-3	-0.00330	0.02642	-0.01024	3.44717	0.00297
							3-4	0.00762	0.04050	-0.00682	6.45006	0.00106
358	Poor	1	0.1	Double	0.3	Double	2-3	0.00228	0.02909	-0.00553	3.73503	0.00148
							3-4	0.00227	0.02740	-0.00505	7.46211	0.00068
359	Poor	1	0.1	Double	0.7	Equal	2-3	-0.02883	0.00724	-0.01372	1.62697	0.00843
							3-4	-0.02365	0.00330	-0.00941	2.46004	0.00382
360	Poor	1	0.1	Double	0.7	Double	2-3	-0.04093	-0.00266	-0.02270	2.26512	0.01002
							3-4	-0.00586	0.01629	-0.01492	3.39841	0.00439
361	Poor	1	0.3	Equal	0.1	Equal	2-3	0.00010	0.00564	-0.00047	0.99598	0.00048
							3-4	0.00009	0.00536	-0.00046	0.99078	0.00046

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
362	Poor	1	0.3	Equal	0.1	Double	2-3	0.00016	0.00384	-0.00010	0.99891	0.00010
							3-4	0.00015	0.00366	-0.00009	0.99840	0.00009
363	Poor	1	0.3	Equal	0.3	Equal	2-3	-0.00530	0.01066	-0.00691	0.88436	0.00781
							3-4	0.00549	0.02693	-0.00424	0.86423	0.00490
364	Poor	1	0.3	Equal	0.3	Double	2-3	-0.00344	-0.00294	-0.00394	0.96206	0.00410
							3-4	0.00709	0.04393	-0.00325	0.92782	0.00351
365	Poor	1	0.3	Equal	0.7	Equal	2-3	-0.07170	-0.01831	-0.00869	0.42998	0.02022
							3-4	0.00566	0.01008	-0.00536	0.41421	0.01294
366	Poor	1	0.3	Equal	0.7	Double	2-3	0.00629	0.02614	-0.01453	0.51208	0.02837
							3-4	-0.02663	-0.00900	-0.00968	0.57141	0.01694
367	Poor	1	0.3	Double	0.1	Equal	2-3	0.00011	0.00564	-0.00047	3.96595	0.00012
							3-4	0.00011	0.00534	-0.00044	7.93984	0.00006
368	Poor	1	0.3	Double	0.1	Double	2-3	0.00016	0.00378	-0.00010	3.99565	0.00002
							3-4	0.00015	0.00371	-0.00009	7.98710	0.00001
369	Poor	1	0.3	Double	0.3	Equal	2-3	-0.00530	0.01070	-0.00692	3.47481	0.00199
							3-4	0.00549	0.02692	-0.00423	6.82444	0.00062
370	Poor	1	0.3	Double	0.3	Double	2-3	-0.00343	-0.00293	-0.00392	3.82086	0.00102
							3-4	0.00710	0.04395	-0.00324	7.42273	0.00044
371	Poor	1	0.3	Double	0.7	Equal	2-3	-0.07165	-0.01833	-0.00867	1.44126	0.00601
							3-4	0.00563	0.01009	-0.00537	2.09325	0.00257
372	Poor	1	0.3	Double	0.7	Double	2-3	0.00629	0.02616	-0.01453	1.90504	0.00763
							3-4	-0.02661	-0.00907	-0.00962	3.83950	0.00251
373	Poor	1	0.5	Equal	0.1	Equal	2-3	0.00001	0.00378	-0.00037	0.99621	0.00037
							3-4	0.00057	0.00725	-0.00021	0.99134	0.00021
374	Poor	1	0.5	Equal	0.1	Double	2-3	0.00005	0.00181	-0.00008	0.99919	0.00008
							3-4	0.00035	0.00745	-0.00011	0.99823	0.00011
375	Poor	1	0.5	Equal	0.3	Equal	2-3	-0.00806	-0.00484	-0.00419	0.89305	0.00469
							3-4	0.01169	0.03599	-0.00261	0.85477	0.00306

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
376	Poor	1	0.5	Equal	0.3	Double	2-3	-0.00388	-0.00925	-0.00266	0.96481	0.00275
							3-4	0.00595	0.03360	-0.00175	0.93423	0.00187
377	Poor	1	0.5	Equal	0.7	Equal	2-3	-0.04267	-0.01082	-0.00523	0.38566	0.01356
							3-4	-0.00434	0.00222	-0.00286	0.36373	0.00786
378	Poor	1	0.5	Equal	0.7	Double	2-3	-0.01940	-0.00338	-0.00927	0.61426	0.01510
							3-4	0.00153	0.00923	-0.00555	0.39027	0.01421
379	Poor	1	0.5	Double	0.1	Equal	2-3	0.00006	0.00382	-0.00032	3.98025	0.00008
							3-4	0.00051	0.00720	-0.00026	7.94020	0.00003
380	Poor	1	0.5	Double	0.1	Double	2-3	0.00013	0.00341	-0.00011	3.99576	0.00003
							3-4	0.00016	0.00320	-0.00004	7.98776	0.00000
381	Poor	1	0.5	Double	0.3	Equal	2-3	-0.00806	-0.00486	-0.00418	3.50956	0.00119
							3-4	0.01168	0.03600	-0.00262	6.58095	0.00040
382	Poor	1	0.5	Double	0.3	Double	2-3	-0.00379	-0.00926	-0.00252	3.83187	0.00066
							3-4	0.00587	0.03366	-0.00189	7.47388	0.00025
383	Poor	1	0.5	Double	0.7	Equal	2-3	-0.04263	-0.01077	-0.00525	1.28174	0.00409
							3-4	-0.00436	0.00218	-0.00283	2.07366	0.00137
384	Poor	1	0.5	Double	0.7	Double	2-3	-0.01943	-0.00340	-0.00927	2.00241	0.00463
							3-4	0.00158	0.00924	-0.00552	3.47272	0.00159
385	Poor	1.25	0	Equal	0.1	Equal	2-3	0.00003	0.00013	0.00002	0.99992	-0.00002
							3-4	0.00003	0.00013	0.00002	0.99988	-0.00002
386	Poor	1.25	0	Equal	0.1	Double	2-3	0.00003	0.00013	0.00004	0.99992	-0.00004
							3-4	0.00003	0.00013	0.00004	0.99988	-0.00004
387	Poor	1.25	0	Equal	0.3	Equal	2-3	0.00056	0.02079	-0.00584	0.83892	0.00696
							3-4	-0.00249	0.00561	-0.00342	0.79215	0.00432
388	Poor	1.25	0	Equal	0.3	Double	2-3	0.00480	0.02748	-0.00153	0.95096	0.00161
							3-4	0.00236	0.01329	-0.00069	0.91609	0.00075
389	Poor	1.25	0	Equal	0.7	Equal	2-3	0.00409	0.01452	-0.00894	0.37046	0.02413
							3-4	-0.00441	0.00616	-0.00563	0.42842	0.01315

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
390	Poor	1.25	0	Equal	0.7	Double	2-3	0.00424	0.02300	-0.01356	0.50327	0.02694
							3-4	-0.00287	0.00958	-0.00842	0.51023	0.01651
391	Poor	1.25	0	Double	0.1	Equal	2-3	0.00003	0.00013	0.00002	3.99967	0.00000
							3-4	0.00003	0.00013	0.00002	7.99900	0.00000
392	Poor	1.25	0	Double	0.1	Double	2-3	0.00003	0.00013	0.00004	3.99967	-0.00001
							3-4	0.00003	0.00013	0.00004	7.99900	-0.00001
393	Poor	1.25	0	Double	0.3	Equal	2-3	0.00056	0.02079	-0.00584	3.25919	0.00179
							3-4	-0.00249	0.00561	-0.00342	6.22153	0.00055
394	Poor	1.25	0	Double	0.3	Double	2-3	0.00480	0.02748	-0.00153	3.77032	0.00041
							3-4	0.00236	0.01329	-0.00069	7.32872	0.00009
395	Poor	1.25	0	Double	0.7	Equal	2-3	0.00409	0.01452	-0.00894	1.29840	0.00689
							3-4	-0.00441	0.00616	-0.00563	2.50237	0.00225
396	Poor	1.25	0	Double	0.7	Double	2-3	0.00424	0.02300	-0.01356	1.81399	0.00747
							3-4	-0.00287	0.00958	-0.00842	3.27998	0.00257
397	Poor	1.25	0.1	Equal	0.1	Equal	2-3	0.00003	0.00013	0.00002	0.99992	-0.00002
							3-4	0.00003	0.00013	0.00002	0.99988	-0.00002
398	Poor	1.25	0.1	Equal	0.1	Double	2-3	0.00003	0.00013	0.00004	0.99992	-0.00004
							3-4	0.00003	0.00013	0.00004	0.99988	-0.00004
399	Poor	1.25	0.1	Equal	0.3	Equal	2-3	0.00623	0.01514	-0.00018	0.84796	0.00021
							3-4	0.00002	0.00004	0.00000	0.98504	0.00000
400	Poor	1.25	0.1	Equal	0.3	Double	2-3	0.00003	0.00007	0.00002	0.96601	-0.00002
							3-4	0.00003	0.00006	0.00002	0.96596	-0.00002
401	Poor	1.25	0.1	Equal	0.7	Equal	2-3	0.00001	0.00001	0.00000	0.28025	0.00001
							3-4	0.00001	0.00000	0.00000	0.61824	0.00000
402	Poor	1.25	0.1	Equal	0.7	Double	2-3	0.00001	0.00004	-0.00002	0.49072	0.00005
							3-4	0.00001	-0.00003	0.00002	0.12122	-0.00020
403	Poor	1.25	0.1	Double	0.1	Equal	2-3	0.00003	0.00013	0.00002	3.99967	0.00000
							3-4	0.00003	0.00013	0.00002	7.99900	0.00000

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
404	Poor	1.25	0.1	Double	0.1	Double	2-3	0.00003	0.00013	0.00004	3.99967	-0.00001
							3-4	0.00003	0.00013	0.00004	7.99900	-0.00001
405	Poor	1.25	0.1	Double	0.3	Equal	2-3	0.00623	0.01517	-0.00019	3.29536	0.00006
							3-4	0.00003	0.00002	0.00001	6.04482	0.00000
406	Poor	1.25	0.1	Double	0.3	Double	2-3	0.00003	0.00007	0.00002	3.90747	0.00000
							3-4	0.00003	0.00006	0.00002	7.32860	0.00000
407	Poor	1.25	0.1	Double	0.7	Equal	2-3	0.00000	0.00002	-0.00002	1.79702	0.00001
							3-4	0.00002	-0.00001	0.00001	4.52518	0.00000
408	Poor	1.25	0.1	Double	0.7	Double	2-3	0.00002	0.00003	-0.00001	1.22391	0.00001
							3-4	0.00000	0.00001	-0.00001	5.72853	0.00000
409	Poor	1.25	0.3	Equal	0.1	Equal	2-3	0.00003	0.00004	0.00002	0.99992	-0.00002
							3-4	0.00003	0.00006	0.00002	0.99989	-0.00002
410	Poor	1.25	0.3	Equal	0.1	Double	2-3	0.00003	0.00004	0.00005	0.99992	-0.00005
							3-4	0.00003	0.00011	0.00004	0.99989	-0.00004
411	Poor	1.25	0.3	Equal	0.3	Equal	2-3	0.00001	0.00000	0.00001	0.99553	-0.00001
							3-4	0.00002	0.00000	0.00001	0.99987	-0.00001
412	Poor	1.25	0.3	Equal	0.3	Double	2-3	0.00002	0.00000	0.00003	0.94656	-0.00004
							3-4	0.00002	0.00000	0.00003	0.94654	-0.00003
413	Poor	1.25	0.3	Equal	0.7	Equal	2-3	0.00000	0.00000	0.00000	1.02993	0.00000
							3-4	0.00000	0.00000	0.00000	0.99981	0.00000
414	Poor	1.25	0.3	Equal	0.7	Double	2-3	0.00001	0.00000	0.00000	0.33506	-0.00001
							3-4	0.00001	0.00000	0.00000	1.70229	0.00000
415	Poor	1.25	0.3	Double	0.1	Equal	2-3	0.00003	0.00008	0.00002	3.99967	0.00000
							3-4	0.00003	0.00006	0.00002	7.99908	0.00000
416	Poor	1.25	0.3	Double	0.1	Double	2-3	0.00003	0.00007	0.00005	3.99967	-0.00001
							3-4	0.00003	0.00007	0.00005	7.99909	-0.00001
417	Poor	1.25	0.3	Double	0.3	Equal	2-3	0.00001	0.00000	0.00001	3.14948	0.00000
							3-4	0.00002	0.00000	0.00001	9.26521	0.00000

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
418	Poor	1.25	0.3	Double	0.3	Double	2-3	0.00002	0.00000	0.00003	3.86317	-0.00001
							3-4	0.00002	0.00000	0.00003	7.49539	0.00000
419	Poor	1.25	0.3	Double	0.7	Equal	2-3	0.00000	0.00000	0.00000	0.84798	0.00000
							3-4	0.00000	0.00000	0.00000	6.48307	0.00000
420	Poor	1.25	0.3	Double	0.7	Double	2-3	0.00001	0.00000	0.00000	2.74521	0.00000
							3-4	0.00001	0.00000	0.00000	1.27548	0.00000
421	Poor	1.25	0.5	Equal	0.1	Equal	2-3	0.00001	0.00000	0.00001	0.99895	-0.00001
							3-4	0.00003	0.00000	0.00002	0.99727	-0.00002
422	Poor	1.25	0.5	Equal	0.1	Double	2-3	0.00002	0.00000	0.00004	0.99980	-0.00004
							3-4	0.00010	0.00128	0.00005	0.99954	-0.00005
423	Poor	1.25	0.5	Equal	0.3	Equal	2-3	0.00000	0.00000	0.00000	0.78738	0.00000
							3-4	0.00000	0.00000	0.00000	1.20770	0.00000
424	Poor	1.25	0.5	Equal	0.3	Double	2-3	0.00001	0.00000	0.00002	0.98504	-0.00002
							3-4	0.00001	0.00000	0.00002	1.05249	-0.00002
425	Poor	1.25	0.5	Equal	0.7	Equal	2-3	0.00000	0.00000	0.00000	1.81694	0.00000
							3-4	0.00000	0.00000	0.00000	0.21200	0.00000
426	Poor	1.25	0.5	Equal	0.7	Double	2-3	0.00000	0.00000	0.00000	1.03755	0.00000
							3-4	0.00000	0.00000	0.00000	0.99901	0.00000
427	Poor	1.25	0.5	Double	0.1	Equal	2-3	-0.00001	0.00000	0.00000	3.98919	0.00000
							3-4	0.00004	0.00000	0.00004	8.00270	0.00000
428	Poor	1.25	0.5	Double	0.1	Double	2-3	0.00003	0.00000	0.00005	3.99922	-0.00001
							3-4	0.00010	0.00128	0.00005	7.99643	-0.00001
429	Poor	1.25	0.5	Double	0.3	Equal	2-3	0.00000	0.00000	0.00000	3.56583	0.00000
							3-4	0.00000	0.00000	0.00000	8.84478	0.00000
430	Poor	1.25	0.5	Double	0.3	Double	2-3	0.00001	0.00000	0.00002	4.07509	0.00000
							3-4	0.00001	0.00000	0.00002	7.57244	0.00000
431	Poor	1.25	0.5	Double	0.7	Equal	2-3	0.00000	0.00000	0.00000	0.84798	0.00000
							3-4	0.00000	0.00000	0.00000	12.77589	0.00000

Table B-2. Comparison of Different Sequence Lengths Under BP

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
432	Poor	1.25	0.5	Double	0.7	Double	2-3	0.00000	0.00000	0.00000	2.74522	0.00000
							3-4	0.00000	0.00000	0.00000	2.68048	0.00000

Comparison of Different Sequence Lengths Under BE

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
1	Good	0.75	0	Equal	0.1	Equal	2-3	-0.00220	0.09524	-0.01150	0.43801	0.02626
2	Good	0.75	0	Equal	0.1	Double	2-3	0.00002	0.11686	-0.01165	0.32540	0.03580
3	Good	0.75	0	Equal	0.3	Equal	2-3	-0.00209	0.09907	-0.03118	0.56104	0.05558
4	Good	0.75	0	Equal	0.3	Double	2-3	-0.00182	0.10203	-0.03316	0.49916	0.06643
5	Good	0.75	0	Equal	0.7	Equal	2-3	-0.06898	0.04038	-0.04896	0.47205	0.10371
6	Good	0.75	0	Equal	0.7	Double	2-3	-0.01652	0.07406	-0.06176	0.52828	0.11690
7	Good	0.75	0	Double	0.1	Equal	2-3	-0.00220	0.09524	-0.01150	1.31897	0.00872
8	Good	0.75	0	Double	0.1	Double	2-3	0.00002	0.11686	-0.01165	0.93810	0.01242
9	Good	0.75	0	Double	0.3	Equal	2-3	-0.00209	0.09907	-0.03118	1.82289	0.01711
10	Good	0.75	0	Double	0.3	Double	2-3	-0.00182	0.10203	-0.03316	1.59821	0.02075
11	Good	0.75	0	Double	0.7	Equal	2-3	-0.06898	0.04038	-0.04896	1.64779	0.02971
12	Good	0.75	0	Double	0.7	Double	2-3	-0.01652	0.07406	-0.06176	1.78945	0.03451
13	Good	0.75	0.1	Equal	0.1	Equal	2-3	0.00077	0.11055	-0.01036	0.48858	0.02121
14	Good	0.75	0.1	Equal	0.1	Double	2-3	0.00082	0.11552	-0.01008	0.40662	0.02480
15	Good	0.75	0.1	Equal	0.3	Equal	2-3	-0.00440	0.08972	-0.03000	0.69334	0.04327
16	Good	0.75	0.1	Equal	0.3	Double	2-3	-0.00187	0.09363	-0.03071	0.49753	0.06172
17	Good	0.75	0.1	Equal	0.7	Equal	2-3	-0.08410	0.03501	-0.04974	0.60551	0.08215
18	Good	0.75	0.1	Equal	0.7	Double	2-3	-0.02536	0.06666	-0.06188	0.62280	0.09935
19	Good	0.75	0.1	Double	0.1	Equal	2-3	0.00077	0.11055	-0.01036	1.52124	0.00681
20	Good	0.75	0.1	Double	0.1	Double	2-3	0.00082	0.11552	-0.01008	1.23214	0.00818
21	Good	0.75	0.1	Double	0.3	Equal	2-3	-0.00440	0.08972	-0.03000	2.24408	0.01337
22	Good	0.75	0.1	Double	0.3	Double	2-3	-0.00187	0.09363	-0.03071	1.68667	0.01821
23	Good	0.75	0.1	Double	0.7	Equal	2-3	-0.08410	0.03502	-0.04974	2.08719	0.02383
24	Good	0.75	0.1	Double	0.7	Double	2-3	-0.02536	0.06666	-0.06188	2.11983	0.02919
25	Good	0.75	0.3	Equal	0.1	Equal	2-3	-0.00109	0.08765	-0.00975	0.90845	0.01073
26	Good	0.75	0.3	Equal	0.1	Double	2-3	0.00127	0.11843	-0.00956	0.91745	0.01042
27	Good	0.75	0.3	Equal	0.3	Equal	2-3	0.00154	0.10181	-0.02947	0.80861	0.03644

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
28	Good	0.75	0.3	Equal	0.3	Double	2-3	0.00216	0.10808	-0.02939	0.80710	0.03642
29	Good	0.75	0.3	Equal	0.7	Equal	2-3	-0.06436	0.05083	-0.05489	0.55739	0.09848
30	Good	0.75	0.3	Equal	0.7	Double	2-3	-0.01631	0.08249	-0.06753	0.56741	0.11901
31	Good	0.75	0.3	Double	0.1	Equal	2-3	-0.00109	0.08765	-0.00975	3.62162	0.00269
32	Good	0.75	0.3	Double	0.1	Double	2-3	0.00127	0.11843	-0.00956	3.65962	0.00261
33	Good	0.75	0.3	Double	0.3	Equal	2-3	0.00153	0.10181	-0.02947	3.14951	0.00936
34	Good	0.75	0.3	Double	0.3	Double	2-3	0.00215	0.10803	-0.02940	3.23471	0.00909
35	Good	0.75	0.3	Double	0.7	Equal	2-3	-0.06437	0.05083	-0.05489	1.93525	0.02836
36	Good	0.75	0.3	Double	0.7	Double	2-3	-0.01630	0.08249	-0.06752	2.09948	0.03216
37	Good	0.75	0.5	Equal	0.1	Equal	2-3	-0.00128	0.08075	-0.00923	0.91124	0.01013
38	Good	0.75	0.5	Equal	0.1	Double	2-3	-0.00088	0.07477	-0.00906	0.92003	0.00985
39	Good	0.75	0.5	Equal	0.3	Equal	2-3	0.00122	0.09840	-0.02866	0.79249	0.03617
40	Good	0.75	0.5	Equal	0.3	Double	2-3	0.00172	0.10176	-0.02812	0.81130	0.03466
41	Good	0.75	0.5	Equal	0.7	Equal	2-3	-0.08344	0.04438	-0.05610	0.43850	0.12793
42	Good	0.75	0.5	Equal	0.7	Double	2-3	-0.02094	0.07796	-0.06714	0.57236	0.11731
43	Good	0.75	0.5	Double	0.1	Equal	2-3	-0.00128	0.08074	-0.00923	3.63275	0.00254
44	Good	0.75	0.5	Double	0.1	Double	2-3	-0.00088	0.07475	-0.00906	3.66994	0.00247
45	Good	0.75	0.5	Double	0.3	Equal	2-3	0.00122	0.09840	-0.02867	3.11077	0.00922
46	Good	0.75	0.5	Double	0.3	Double	2-3	0.00172	0.10181	-0.02814	3.18599	0.00883
47	Good	0.75	0.5	Double	0.7	Equal	2-3	-0.08342	0.04438	-0.05609	1.70462	0.03291
48	Good	0.75	0.5	Double	0.7	Double	2-3	-0.02093	0.07796	-0.06713	2.11928	0.03168
49	Good	1	0	Equal	0.1	Equal	2-3	-0.00166	0.09724	-0.01122	0.21673	0.05176
50	Good	1	0	Equal	0.1	Double	2-3	-0.00238	0.09228	-0.01351	0.18023	0.07494
51	Good	1	0	Equal	0.3	Equal	2-3	-0.01202	0.04138	-0.02083	0.31218	0.06671
52	Good	1	0	Equal	0.3	Double	2-3	-0.00689	0.05796	-0.02704	0.27005	0.10012
53	Good	1	0	Equal	0.7	Equal	2-3	-0.03901	0.01281	-0.02067	0.23923	0.08640
54	Good	1	0	Equal	0.7	Double	2-3	-0.02132	0.02527	-0.03048	0.25296	0.12050
55	Good	1	0	Double	0.1	Equal	2-3	-0.00166	0.09724	-0.01122	0.63312	0.01772

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
56	Good	1	0	Double	0.1	Double	2-3	-0.00238	0.09228	-0.01351	0.52037	0.02595
57	Good	1	0	Double	0.3	Equal	2-3	-0.01202	0.04138	-0.02083	0.92061	0.02262
58	Good	1	0	Double	0.3	Double	2-3	-0.00689	0.05796	-0.02704	0.82501	0.03277
59	Good	1	0	Double	0.7	Equal	2-3	-0.03901	0.01281	-0.02067	0.79364	0.02604
60	Good	1	0	Double	0.7	Double	2-3	-0.02132	0.02527	-0.03048	0.84081	0.03625
61	Good	1	0.1	Equal	0.1	Equal	2-3	-0.00392	0.06243	-0.00977	0.13680	0.07140
62	Good	1	0.1	Equal	0.1	Double	2-3	-0.00150	0.08723	-0.01142	0.17447	0.06544
63	Good	1	0.1	Equal	0.3	Equal	2-3	-0.00999	0.03706	-0.01811	0.21477	0.08434
64	Good	1	0.1	Equal	0.3	Double	2-3	-0.00554	0.05407	-0.02397	0.23702	0.10113
65	Good	1	0.1	Equal	0.7	Equal	2-3	-0.04401	0.00755	-0.01848	0.28087	0.06581
66	Good	1	0.1	Equal	0.7	Double	2-3	-0.02595	0.01618	-0.02690	0.30519	0.08813
67	Good	1	0.1	Double	0.1	Equal	2-3	-0.00392	0.06243	-0.00977	0.42996	0.02272
68	Good	1	0.1	Double	0.1	Double	2-3	-0.00150	0.08723	-0.01142	0.49736	0.02295
69	Good	1	0.1	Double	0.3	Equal	2-3	-0.00999	0.03706	-0.01811	0.69579	0.02603
70	Good	1	0.1	Double	0.3	Double	2-3	-0.00554	0.05407	-0.02397	0.74837	0.03203
71	Good	1	0.1	Double	0.7	Equal	2-3	-0.04401	0.00754	-0.01848	0.85717	0.02156
72	Good	1	0.1	Double	0.7	Double	2-3	-0.02594	0.01618	-0.02689	0.93999	0.02861
73	Good	1	0.3	Equal	0.1	Equal	2-3	-0.00133	0.05612	-0.00681	0.11681	0.05830
74	Good	1	0.3	Equal	0.1	Double	2-3	-0.00112	0.05767	-0.00779	0.09677	0.08050
75	Good	1	0.3	Equal	0.3	Equal	2-3	-0.00584	0.03051	-0.01324	0.20066	0.06597
76	Good	1	0.3	Equal	0.3	Double	2-3	-0.00113	0.05086	-0.01684	0.18699	0.09007
77	Good	1	0.3	Equal	0.7	Equal	2-3	-0.01310	0.01360	-0.01345	0.20245	0.06643
78	Good	1	0.3	Equal	0.7	Double	2-3	-0.01226	0.01766	-0.01972	0.21965	0.08979
79	Good	1	0.3	Double	0.1	Equal	2-3	-0.00134	0.05612	-0.00681	0.36259	0.01879
80	Good	1	0.3	Double	0.1	Double	2-3	-0.00112	0.05767	-0.00779	0.30019	0.02594
81	Good	1	0.3	Double	0.3	Equal	2-3	-0.00584	0.03051	-0.01324	0.64672	0.02047
82	Good	1	0.3	Double	0.3	Double	2-3	-0.00113	0.05086	-0.01683	0.60409	0.02787
83	Good	1	0.3	Double	0.7	Equal	2-3	-0.01309	0.01360	-0.01345	0.64976	0.02070

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
84	Good	1	0.3	Double	0.7	Double	2-3	-0.01226	0.01766	-0.01972	0.70870	0.02782
85	Good	1	0.5	Equal	0.1	Equal	2-3	-0.00225	0.02239	-0.00427	0.10042	0.04248
86	Good	1	0.5	Equal	0.1	Double	2-3	-0.00157	0.02044	-0.00487	0.08301	0.05868
87	Good	1	0.5	Equal	0.3	Equal	2-3	-0.00229	0.02462	-0.00899	0.16449	0.05466
88	Good	1	0.5	Equal	0.3	Double	2-3	-0.00297	0.02264	-0.01094	0.17068	0.06412
89	Good	1	0.5	Equal	0.7	Equal	2-3	-0.02043	0.00365	-0.00868	0.18786	0.04622
90	Good	1	0.5	Equal	0.7	Double	2-3	-0.01902	0.00238	-0.01308	0.22826	0.05728
91	Good	1	0.5	Double	0.1	Equal	2-3	-0.00225	0.02239	-0.00427	0.31185	0.01368
92	Good	1	0.5	Double	0.1	Double	2-3	-0.00157	0.02046	-0.00487	0.25830	0.01885
93	Good	1	0.5	Double	0.3	Equal	2-3	-0.00229	0.02462	-0.00899	0.55781	0.01612
94	Good	1	0.5	Double	0.3	Double	2-3	-0.00296	0.02264	-0.01094	0.54706	0.02000
95	Good	1	0.5	Double	0.7	Equal	2-3	-0.02042	0.00365	-0.00868	0.59952	0.01448
96	Good	1	0.5	Double	0.7	Double	2-3	-0.01903	0.00238	-0.01308	0.70023	0.01868
97	Good	1.25	0	Equal	0.1	Equal	2-3	-0.00423	0.02805	-0.00662	0.15916	0.04157
98	Good	1.25	0	Equal	0.1	Double	2-3	-0.00465	0.02632	-0.01100	0.19216	0.05727
99	Good	1.25	0	Equal	0.3	Equal	2-3	-0.00551	0.02140	-0.01027	0.12120	0.08476
100	Good	1.25	0	Equal	0.3	Double	2-3	-0.00960	0.00369	-0.01455	0.21199	0.06865
101	Good	1.25	0	Equal	0.7	Equal	2-3	-0.01635	0.00673	-0.00962	0.12461	0.07717
102	Good	1.25	0	Equal	0.7	Double	2-3	-0.01114	0.00978	-0.01353	0.11150	0.12133
103	Good	1.25	0	Double	0.1	Equal	2-3	-0.00423	0.02805	-0.00662	0.42966	0.01540
104	Good	1.25	0	Double	0.1	Double	2-3	-0.00465	0.02632	-0.01100	0.51492	0.02137
105	Good	1.25	0	Double	0.3	Equal	2-3	-0.00551	0.02140	-0.01027	0.39662	0.02590
106	Good	1.25	0	Double	0.3	Double	2-3	-0.00960	0.00369	-0.01455	0.61023	0.02385
107	Good	1.25	0	Double	0.7	Equal	2-3	-0.01635	0.00673	-0.00962	0.40962	0.02348
108	Good	1.25	0	Double	0.7	Double	2-3	-0.01114	0.00978	-0.01353	0.40310	0.03356
109	Good	1.25	0.1	Equal	0.1	Equal	2-3	-0.00457	0.02065	-0.00618	0.10730	0.05760
110	Good	1.25	0.1	Equal	0.1	Double	2-3	-0.00099	0.08299	-0.01008	0.13286	0.07587
111	Good	1.25	0.1	Equal	0.3	Equal	2-3	-0.00608	0.01773	-0.00957	0.12709	0.07532

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
112	Good	1.25	0.1	Equal	0.3	Double	2-3	-0.00611	0.01655	-0.01352	0.21623	0.06253
113	Good	1.25	0.1	Equal	0.7	Equal	2-3	-0.02394	0.00297	-0.00926	0.13198	0.07017
114	Good	1.25	0.1	Equal	0.7	Double	2-3	-0.01189	0.00826	-0.01292	0.12415	0.10405
115	Good	1.25	0.1	Double	0.1	Equal	2-3	-0.00457	0.02065	-0.00618	0.31863	0.01940
116	Good	1.25	0.1	Double	0.1	Double	2-3	-0.00099	0.08299	-0.01008	0.41483	0.02430
117	Good	1.25	0.1	Double	0.3	Equal	2-3	-0.00608	0.01773	-0.00957	0.43191	0.02216
118	Good	1.25	0.1	Double	0.3	Double	2-3	-0.00611	0.01655	-0.01352	0.65000	0.02080
119	Good	1.25	0.1	Double	0.7	Equal	2-3	-0.02394	0.00297	-0.00926	0.48501	0.01909
120	Good	1.25	0.1	Double	0.7	Double	2-3	-0.01189	0.00826	-0.01292	0.45726	0.02825
121	Good	1.25	0.3	Equal	0.1	Equal	2-3	-0.00750	-0.00750	-0.00600	0.23975	0.02501
122	Good	1.25	0.3	Equal	0.1	Double	2-3	-0.00135	0.06531	-0.00896	0.14453	0.06200
123	Good	1.25	0.3	Equal	0.3	Equal	2-3	-0.00756	0.01365	-0.00939	0.13883	0.06761
124	Good	1.25	0.3	Equal	0.3	Double	2-3	-0.00513	0.01977	-0.01311	0.14360	0.09131
125	Good	1.25	0.3	Equal	0.7	Equal	2-3	-0.01465	0.00546	-0.00822	0.19258	0.04268
126	Good	1.25	0.3	Equal	0.7	Double	2-3	-0.01030	0.00879	-0.01233	0.17432	0.07075
127	Good	1.25	0.3	Double	0.1	Equal	2-3	-0.00750	-0.00738	-0.00601	0.70251	0.00856
128	Good	1.25	0.3	Double	0.1	Double	2-3	-0.00136	0.06534	-0.00898	0.48353	0.01856
129	Good	1.25	0.3	Double	0.3	Equal	2-3	-0.00756	0.01365	-0.00939	0.48999	0.01916
130	Good	1.25	0.3	Double	0.3	Double	2-3	-0.00513	0.01977	-0.01311	0.51772	0.02533
131	Good	1.25	0.3	Double	0.7	Equal	2-3	-0.01466	0.00547	-0.00822	0.73102	0.01125
132	Good	1.25	0.3	Double	0.7	Double	2-3	-0.01031	0.00879	-0.01234	0.66079	0.01867
133	Good	1.25	0.5	Equal	0.1	Equal	2-3	-0.00334	0.02209	-0.00522	0.08872	0.05883
134	Good	1.25	0.5	Equal	0.1	Double	2-3	-0.00097	0.04626	-0.00638	0.10271	0.06212
135	Good	1.25	0.5	Equal	0.3	Equal	2-3	-0.01186	0.00000	-0.00830	0.08308	0.09993
136	Good	1.25	0.5	Equal	0.3	Double	2-3	-0.00476	0.01493	-0.01114	0.17497	0.06366
137	Good	1.25	0.5	Equal	0.7	Equal	2-3	-0.02610	0.00000	-0.00783	0.15771	0.04965
138	Good	1.25	0.5	Equal	0.7	Double	2-3	-0.01790	0.00000	-0.01074	0.13776	0.07795
139	Good	1.25	0.5	Double	0.1	Equal	2-3	-0.00334	0.02209	-0.00522	0.28160	0.01853

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
140	Good	1.25	0.5	Double	0.1	Double	2-3	-0.00097	0.04626	-0.00637	0.37778	0.01687
141	Good	1.25	0.5	Double	0.3	Equal	2-3	-0.01186	0.00000	-0.00830	0.33237	0.02498
142	Good	1.25	0.5	Double	0.3	Double	2-3	-0.00476	0.01493	-0.01114	0.57468	0.01939
143	Good	1.25	0.5	Double	0.7	Equal	2-3	-0.02610	0.00000	-0.00783	0.63084	0.01241
144	Good	1.25	0.5	Double	0.7	Double	2-3	-0.01790	0.00000	-0.01074	0.55102	0.01949
145	Fair	0.75	0	Equal	0.1	Equal	2-3	0.00237	0.09326	-0.00719	0.47691	0.01508
146	Fair	0.75	0	Equal	0.1	Double	2-3	0.00050	0.06886	-0.00598	0.31270	0.01912
147	Fair	0.75	0	Equal	0.3	Equal	2-3	-0.00238	0.08714	-0.02781	0.83675	0.03323
148	Fair	0.75	0	Equal	0.3	Double	2-3	0.00456	0.10448	-0.02497	0.72994	0.03420
149	Fair	0.75	0	Equal	0.7	Equal	2-3	-0.08922	0.04088	-0.05538	0.49061	0.11289
150	Fair	0.75	0	Equal	0.7	Double	2-3	-0.02383	0.07268	-0.06518	0.59703	0.10917
151	Fair	0.75	0	Double	0.1	Equal	2-3	0.00237	0.09326	-0.00719	1.46378	0.00491
152	Fair	0.75	0	Double	0.1	Double	2-3	0.00050	0.06886	-0.00598	0.96321	0.00621
153	Fair	0.75	0	Double	0.3	Equal	2-3	-0.00238	0.08714	-0.02781	2.99317	0.00929
154	Fair	0.75	0	Double	0.3	Double	2-3	0.00456	0.10448	-0.02497	2.44805	0.01020
155	Fair	0.75	0	Double	0.7	Equal	2-3	-0.08922	0.04088	-0.05538	1.90547	0.02907
156	Fair	0.75	0	Double	0.7	Double	2-3	-0.02383	0.07268	-0.06518	2.25892	0.02885
157	Fair	0.75	0.1	Equal	0.1	Equal	2-3	0.00101	0.07733	-0.00683	0.92052	0.00742
158	Fair	0.75	0.1	Equal	0.1	Double	2-3	0.00089	0.06677	-0.00507	0.35845	0.01414
159	Fair	0.75	0.1	Equal	0.3	Equal	2-3	-0.00026	0.08794	-0.02656	0.81823	0.03247
160	Fair	0.75	0.1	Equal	0.3	Double	2-3	0.00745	0.11585	-0.02432	0.84619	0.02874
161	Fair	0.75	0.1	Equal	0.7	Equal	2-3	-0.09440	0.03761	-0.05464	0.49268	0.11091
162	Fair	0.75	0.1	Equal	0.7	Double	2-3	-0.02443	0.06947	-0.06329	0.59957	0.10556
163	Fair	0.75	0.1	Double	0.1	Equal	2-3	0.00101	0.07733	-0.00683	3.68209	0.00185
164	Fair	0.75	0.1	Double	0.1	Double	2-3	0.00089	0.06677	-0.00507	1.43379	0.00353
165	Fair	0.75	0.1	Double	0.3	Equal	2-3	-0.00026	0.08794	-0.02656	3.23623	0.00821
166	Fair	0.75	0.1	Double	0.3	Double	2-3	0.00745	0.11584	-0.02432	3.35382	0.00725
167	Fair	0.75	0.1	Double	0.7	Equal	2-3	-0.09440	0.03761	-0.05465	1.91376	0.02855

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
168	Fair	0.75	0.1	Double	0.7	Double	2-3	-0.02443	0.06947	-0.06329	2.26910	0.02789
169	Fair	0.75	0.3	Equal	0.1	Equal	2-3	0.00089	0.07241	-0.00644	0.92197	0.00698
170	Fair	0.75	0.3	Equal	0.1	Double	2-3	0.00127	0.06962	-0.00467	0.93133	0.00502
171	Fair	0.75	0.3	Equal	0.3	Equal	2-3	0.01082	0.10901	-0.02513	0.80065	0.03139
172	Fair	0.75	0.3	Equal	0.3	Double	2-3	0.00701	0.10929	-0.02297	0.84872	0.02706
173	Fair	0.75	0.3	Equal	0.7	Equal	2-3	-0.07103	0.04818	-0.05504	0.44973	0.12237
174	Fair	0.75	0.3	Equal	0.7	Double	2-3	-0.02741	0.06323	-0.06071	0.60525	0.10030
175	Fair	0.75	0.3	Double	0.1	Equal	2-3	0.00089	0.07241	-0.00644	3.68788	0.00175
176	Fair	0.75	0.3	Double	0.1	Double	2-3	0.00127	0.06962	-0.00467	3.72534	0.00125
177	Fair	0.75	0.3	Double	0.3	Equal	2-3	0.01082	0.10901	-0.02513	3.16593	0.00794
178	Fair	0.75	0.3	Double	0.3	Double	2-3	0.00701	0.10929	-0.02297	3.36395	0.00683
179	Fair	0.75	0.3	Double	0.7	Equal	2-3	-0.07103	0.04819	-0.05504	1.74197	0.03160
180	Fair	0.75	0.3	Double	0.7	Double	2-3	-0.02741	0.06324	-0.06071	2.29179	0.02649
181	Fair	0.75	0.5	Equal	0.1	Equal	2-3	0.00054	0.06745	-0.00626	0.92442	0.00677
182	Fair	0.75	0.5	Equal	0.1	Double	2-3	0.00220	0.08586	-0.00462	0.93356	0.00495
183	Fair	0.75	0.5	Equal	0.3	Equal	2-3	0.01892	0.12733	-0.02495	0.80542	0.03098
184	Fair	0.75	0.5	Equal	0.3	Double	2-3	0.00585	0.10288	-0.02268	0.85234	0.02661
185	Fair	0.75	0.5	Equal	0.7	Equal	2-3	-0.09183	0.04224	-0.05712	0.45461	0.12564
186	Fair	0.75	0.5	Equal	0.7	Double	2-3	0.01929	0.10364	-0.06097	0.57052	0.10687
187	Fair	0.75	0.5	Double	0.1	Equal	2-3	0.00054	0.06745	-0.00626	3.69768	0.00169
188	Fair	0.75	0.5	Double	0.1	Double	2-3	0.00220	0.08586	-0.00462	3.73423	0.00124
189	Fair	0.75	0.5	Double	0.3	Equal	2-3	0.01892	0.12734	-0.02496	3.18502	0.00784
190	Fair	0.75	0.5	Double	0.3	Double	2-3	0.00585	0.10289	-0.02268	3.37842	0.00671
191	Fair	0.75	0.5	Double	0.7	Equal	2-3	-0.09183	0.04224	-0.05712	1.76148	0.03242
192	Fair	0.75	0.5	Double	0.7	Double	2-3	0.01929	0.10364	-0.06098	2.15289	0.02832
193	Fair	1	0	Equal	0.1	Equal	2-3	0.00046	0.11805	-0.01139	0.22723	0.05014
194	Fair	1	0	Equal	0.1	Double	2-3	-0.00021	0.10454	-0.01084	0.18314	0.05919
195	Fair	1	0	Equal	0.3	Equal	2-3	-0.00281	0.08679	-0.02801	0.39752	0.07045

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
196	Fair	1	0	Equal	0.3	Double	2-3	-0.00344	0.09186	-0.03238	0.36913	0.08771
197	Fair	1	0	Equal	0.7	Equal	2-3	-0.07959	0.00577	-0.02791	0.39819	0.07010
198	Fair	1	0	Equal	0.7	Double	2-3	-0.03498	0.03120	-0.04283	0.42956	0.09971
199	Fair	1	0	Double	0.1	Equal	2-3	0.00046	0.11805	-0.01139	0.66413	0.01715
200	Fair	1	0	Double	0.1	Double	2-3	-0.00021	0.10454	-0.01084	0.52444	0.02067
201	Fair	1	0	Double	0.3	Equal	2-3	-0.00281	0.08679	-0.02801	1.27785	0.02192
202	Fair	1	0	Double	0.3	Double	2-3	-0.00344	0.09186	-0.03238	1.18413	0.02734
203	Fair	1	0	Double	0.7	Equal	2-3	-0.07959	0.00577	-0.02791	1.28347	0.02175
204	Fair	1	0	Double	0.7	Double	2-3	-0.03498	0.03120	-0.04283	1.40209	0.03055
205	Fair	1	0.1	Equal	0.1	Equal	2-3	0.00223	0.10826	-0.00882	0.19587	0.04501
206	Fair	1	0.1	Equal	0.1	Double	2-3	0.00056	0.09010	-0.00801	0.15706	0.05097
207	Fair	1	0.1	Equal	0.3	Equal	2-3	-0.00869	0.05451	-0.02244	0.40675	0.05516
208	Fair	1	0.1	Equal	0.3	Double	2-3	0.00222	0.09630	-0.02578	0.34933	0.07379
209	Fair	1	0.1	Equal	0.7	Equal	2-3	-0.04088	0.01508	-0.02282	0.39623	0.05759
210	Fair	1	0.1	Equal	0.7	Double	2-3	-0.01823	0.03443	-0.03504	0.36306	0.09652
211	Fair	1	0.1	Double	0.1	Equal	2-3	0.00223	0.10826	-0.00882	0.58077	0.01518
212	Fair	1	0.1	Double	0.1	Double	2-3	0.00056	0.09010	-0.00801	0.45740	0.01751
213	Fair	1	0.1	Double	0.3	Equal	2-3	-0.00869	0.05451	-0.02244	1.31475	0.01707
214	Fair	1	0.1	Double	0.3	Double	2-3	0.00222	0.09630	-0.02578	1.11278	0.02317
215	Fair	1	0.1	Double	0.7	Equal	2-3	-0.04088	0.01508	-0.02282	1.27565	0.01789
216	Fair	1	0.1	Double	0.7	Double	2-3	-0.01823	0.03443	-0.03504	1.25592	0.02790
217	Fair	1	0.3	Equal	0.1	Equal	2-3	0.00131	0.06323	-0.00515	0.18260	0.02818
218	Fair	1	0.3	Equal	0.1	Double	2-3	0.00204	0.07968	-0.00430	0.12427	0.03458
219	Fair	1	0.3	Equal	0.3	Equal	2-3	0.00201	0.05346	-0.01463	0.32947	0.04441
220	Fair	1	0.3	Equal	0.3	Double	2-3	-0.00266	0.04147	-0.01616	0.27221	0.05938
221	Fair	1	0.3	Equal	0.7	Equal	2-3	-0.03389	0.00619	-0.01450	0.29658	0.04890
222	Fair	1	0.3	Equal	0.7	Double	2-3	-0.02340	0.01266	-0.02291	0.33803	0.06776
223	Fair	1	0.3	Double	0.1	Equal	2-3	0.00130	0.06325	-0.00515	0.52771	0.00976

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
224	Fair	1	0.3	Double	0.1	Double	2-3	0.00204	0.07969	-0.00430	0.35155	0.01223
225	Fair	1	0.3	Double	0.3	Equal	2-3	0.00200	0.05346	-0.01464	1.05850	0.01383
226	Fair	1	0.3	Double	0.3	Double	2-3	-0.00266	0.04147	-0.01616	0.89103	0.01814
227	Fair	1	0.3	Double	0.7	Equal	2-3	-0.03392	0.00619	-0.01451	0.99738	0.01455
228	Fair	1	0.3	Double	0.7	Double	2-3	-0.02341	0.01266	-0.02291	1.14465	0.02001
229	Fair	1	0.5	Equal	0.1	Equal	2-3	0.00029	0.03060	-0.00280	0.09999	0.02802
230	Fair	1	0.5	Equal	0.1	Double	2-3	0.00076	0.03485	-0.00213	0.05740	0.03702
231	Fair	1	0.5	Equal	0.3	Equal	2-3	0.00060	0.03067	-0.00878	0.26315	0.03336
232	Fair	1	0.5	Equal	0.3	Double	2-3	0.00525	0.05613	-0.00948	0.21602	0.04390
233	Fair	1	0.5	Equal	0.7	Equal	2-3	-0.02133	0.00338	-0.00877	0.26223	0.03343
234	Fair	1	0.5	Equal	0.7	Double	2-3	-0.03022	-0.00553	-0.01426	0.30374	0.04694
235	Fair	1	0.5	Double	0.1	Equal	2-3	0.00029	0.03063	-0.00281	0.31122	0.00901
236	Fair	1	0.5	Double	0.1	Double	2-3	0.00064	0.03277	-0.00212	0.26392	0.00804
237	Fair	1	0.5	Double	0.3	Equal	2-3	0.00062	0.03067	-0.00877	0.86217	0.01017
238	Fair	1	0.5	Double	0.3	Double	2-3	0.00526	0.05614	-0.00948	0.70708	0.01341
239	Fair	1	0.5	Double	0.7	Equal	2-3	-0.02135	0.00338	-0.00877	0.86346	0.01016
240	Fair	1	0.5	Double	0.7	Double	2-3	-0.03022	-0.00553	-0.01426	1.00394	0.01421
241	Fair	1.25	0	Equal	0.1	Equal	2-3	-0.00055	0.15925	-0.01642	0.24606	0.06672
242	Fair	1.25	0	Equal	0.1	Double	2-3	-0.00134	0.15742	-0.01815	0.20459	0.08873
243	Fair	1.25	0	Equal	0.3	Equal	2-3	-0.02646	0.04021	-0.03059	0.30054	0.10178
244	Fair	1.25	0	Equal	0.3	Double	2-3	-0.01619	0.05936	-0.04048	0.30757	0.13161
245	Fair	1.25	0	Equal	0.7	Equal	2-3	-0.06703	-0.00232	-0.01848	0.22857	0.08087
246	Fair	1.25	0	Equal	0.7	Double	2-3	-0.01621	0.02592	-0.02787	0.23260	0.11981
247	Fair	1.25	0	Double	0.1	Equal	2-3	-0.00055	0.15925	-0.01642	0.75566	0.02173
248	Fair	1.25	0	Double	0.1	Double	2-3	-0.00134	0.15742	-0.01815	0.61479	0.02953
249	Fair	1.25	0	Double	0.3	Equal	2-3	-0.02646	0.04021	-0.03059	1.08907	0.02809
250	Fair	1.25	0	Double	0.3	Double	2-3	-0.01619	0.05936	-0.04048	1.11848	0.03619
251	Fair	1.25	0	Double	0.7	Equal	2-3	-0.06703	-0.00232	-0.01848	0.76907	0.02404

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
252	Fair	1.25	0	Double	0.7	Double	2-3	-0.01621	0.02592	-0.02787	0.82203	0.03390
253	Fair	1.25	0.1	Equal	0.1	Equal	2-3	-0.00169	0.12331	-0.01385	0.22475	0.06162
254	Fair	1.25	0.1	Equal	0.1	Double	2-3	-0.00162	0.12147	-0.01506	0.18223	0.08262
255	Fair	1.25	0.1	Equal	0.3	Equal	2-3	-0.01234	0.05853	-0.02620	0.41407	0.06327
256	Fair	1.25	0.1	Equal	0.3	Double	2-3	-0.01033	0.06787	-0.03483	0.36484	0.09546
257	Fair	1.25	0.1	Equal	0.7	Equal	2-3	-0.04683	0.00062	-0.01448	0.33946	0.04267
258	Fair	1.25	0.1	Equal	0.7	Double	2-3	-0.01432	0.02116	-0.02341	0.23835	0.09820
259	Fair	1.25	0.1	Double	0.1	Equal	2-3	-0.00168	0.12332	-0.01385	0.69540	0.01991
260	Fair	1.25	0.1	Double	0.1	Double	2-3	-0.00162	0.12134	-0.01505	0.55123	0.02730
261	Fair	1.25	0.1	Double	0.3	Equal	2-3	-0.01237	0.05848	-0.02620	1.55031	0.01690
262	Fair	1.25	0.1	Double	0.3	Double	2-3	-0.01031	0.06792	-0.03482	1.34515	0.02588
263	Fair	1.25	0.1	Double	0.7	Equal	2-3	-0.04683	0.00063	-0.01449	1.16099	0.01248
264	Fair	1.25	0.1	Double	0.7	Double	2-3	-0.01432	0.02116	-0.02341	0.89667	0.02610
265	Fair	1.25	0.3	Equal	0.1	Equal	2-3	-0.00254	0.10134	-0.01242	0.20075	0.06185
266	Fair	1.25	0.3	Equal	0.1	Double	2-3	0.00097	0.14797	-0.01304	0.16262	0.08020
267	Fair	1.25	0.3	Equal	0.3	Equal	2-3	-0.01754	0.03397	-0.02247	0.38859	0.05781
268	Fair	1.25	0.3	Equal	0.3	Double	2-3	-0.01323	0.03989	-0.03048	0.34315	0.08884
269	Fair	1.25	0.3	Equal	0.7	Equal	2-3	-0.03366	0.00381	-0.01277	0.34293	0.03723
270	Fair	1.25	0.3	Equal	0.7	Double	2-3	-0.07724	-0.03443	-0.02224	1.32747	0.01676
271	Fair	1.25	0.3	Double	0.1	Equal	2-3	-0.00253	0.10139	-0.01241	0.62535	0.01985
272	Fair	1.25	0.3	Double	0.1	Double	2-3	0.00098	0.14797	-0.01303	0.49585	0.02627
273	Fair	1.25	0.3	Double	0.3	Equal	2-3	-0.01754	0.03408	-0.02250	1.44937	0.01552
274	Fair	1.25	0.3	Double	0.3	Double	2-3	-0.01323	0.03991	-0.03050	1.26327	0.02414
275	Fair	1.25	0.3	Double	0.7	Equal	2-3	-0.03363	0.00381	-0.01276	1.16966	0.01091
276	Fair	1.25	0.3	Double	0.7	Double	2-3	-0.07720	-0.03450	-0.02217	4.10288	0.00540
277	Fair	1.25	0.5	Equal	0.1	Equal	2-3	-0.00288	0.07503	-0.01010	0.11624	0.08687
278	Fair	1.25	0.5	Equal	0.1	Double	2-3	-0.00188	0.08777	-0.01217	0.09331	0.13042
279	Fair	1.25	0.5	Equal	0.3	Equal	2-3	-0.00272	0.05810	-0.01933	0.38977	0.04960

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
280	Fair	1.25	0.5	Equal	0.3	Double	2-3	-0.00571	0.06381	-0.02713	0.32181	0.08431
281	Fair	1.25	0.5	Equal	0.7	Equal	2-3	-0.02012	0.00984	-0.01293	0.22059	0.05860
282	Fair	1.25	0.5	Equal	0.7	Double	2-3	-0.05069	-0.01622	-0.01905	0.30769	0.06193
283	Fair	1.25	0.5	Double	0.1	Equal	2-3	-0.00287	0.07503	-0.01009	0.39460	0.02556
284	Fair	1.25	0.5	Double	0.1	Double	2-3	-0.00191	0.08748	-0.01218	0.31484	0.03868
285	Fair	1.25	0.5	Double	0.3	Equal	2-3	-0.02994	-0.00546	-0.01932	1.15688	0.01670
286	Fair	1.25	0.5	Double	0.3	Double	2-3	-0.00571	0.06381	-0.02714	1.17605	0.02308
287	Fair	1.25	0.5	Double	0.7	Equal	2-3	-0.02012	0.00984	-0.01293	0.70974	0.01821
288	Fair	1.25	0.5	Double	0.7	Double	2-3	-0.05069	-0.01622	-0.01905	1.06147	0.01795
289	Poor	0.75	0	Equal	0.1	Equal	2-3	0.00151	0.04823	-0.00346	0.76060	0.00455
290	Poor	0.75	0	Equal	0.1	Double	2-3	-0.00016	0.01982	-0.00227	0.43059	0.00526
291	Poor	0.75	0	Equal	0.3	Equal	2-3	0.00815	0.08599	-0.02009	0.82532	0.02435
292	Poor	0.75	0	Equal	0.3	Double	2-3	-0.00346	0.03488	-0.01530	0.89389	0.01712
293	Poor	0.75	0	Equal	0.7	Equal	2-3	-0.17980	-0.01324	-0.04467	0.42889	0.10415
294	Poor	0.75	0	Equal	0.7	Double	2-3	0.03649	0.11184	-0.05640	0.58511	0.09639
295	Poor	0.75	0	Double	0.1	Equal	2-3	0.00151	0.04823	-0.00346	3.04242	0.00114
296	Poor	0.75	0	Double	0.1	Double	2-3	-0.00016	0.01982	-0.00227	1.71558	0.00132
297	Poor	0.75	0	Double	0.3	Equal	2-3	0.00815	0.08599	-0.02009	3.30128	0.00609
298	Poor	0.75	0	Double	0.3	Double	2-3	-0.00346	0.03488	-0.01530	3.54834	0.00431
299	Poor	0.75	0	Double	0.7	Equal	2-3	-0.17980	-0.01324	-0.04467	1.71555	0.02604
300	Poor	0.75	0	Double	0.7	Double	2-3	0.03649	0.11184	-0.05640	2.27321	0.02481
301	Poor	0.75	0.1	Equal	0.1	Equal	2-3	0.00245	0.05531	-0.00333	0.93079	0.00357
302	Poor	0.75	0.1	Equal	0.1	Double	2-3	0.00011	0.02341	-0.00214	0.94744	0.00226
303	Poor	0.75	0.1	Equal	0.3	Equal	2-3	0.00797	0.08339	-0.01944	0.82601	0.02353
304	Poor	0.75	0.1	Equal	0.3	Double	2-3	-0.00337	0.03363	-0.01480	0.89432	0.01655
305	Poor	0.75	0.1	Equal	0.7	Equal	2-3	-0.18923	-0.01737	-0.04461	0.43080	0.10355
306	Poor	0.75	0.1	Equal	0.7	Double	2-3	0.03403	0.10849	-0.05552	0.58740	0.09452
307	Poor	0.75	0.1	Double	0.1	Equal	2-3	0.00245	0.05531	-0.00333	3.72316	0.00089

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
308	Poor	0.75	0.1	Double	0.1	Double	2-3	0.00011	0.02341	-0.00214	3.78301	0.00057
309	Poor	0.75	0.1	Double	0.3	Equal	2-3	0.00797	0.08339	-0.01944	3.30406	0.00588
310	Poor	0.75	0.1	Double	0.3	Double	2-3	-0.00337	0.03363	-0.01480	3.55003	0.00417
311	Poor	0.75	0.1	Double	0.7	Equal	2-3	-0.18922	-0.01737	-0.04461	1.72320	0.02589
312	Poor	0.75	0.1	Double	0.7	Double	2-3	0.03403	0.10849	-0.05552	2.28237	0.02433
313	Poor	0.75	0.3	Equal	0.1	Equal	2-3	0.00235	0.05317	-0.00320	0.93201	0.00343
314	Poor	0.75	0.3	Equal	0.1	Double	2-3	0.00011	0.02251	-0.00205	0.94855	0.00216
315	Poor	0.75	0.3	Equal	0.3	Equal	2-3	0.01817	0.10509	-0.01881	0.80977	0.02323
316	Poor	0.75	0.3	Equal	0.3	Double	2-3	-0.00346	0.03097	-0.01414	0.89583	0.01578
317	Poor	0.75	0.3	Equal	0.7	Equal	2-3	-0.47224	-0.13873	-0.04456	0.33136	0.13447
318	Poor	0.75	0.3	Equal	0.7	Double	2-3	0.00832	0.08511	-0.05458	0.63000	0.08664
319	Poor	0.75	0.3	Double	0.1	Equal	2-3	0.00235	0.05317	-0.00320	3.72804	0.00086
320	Poor	0.75	0.3	Double	0.1	Double	2-3	0.00011	0.02251	-0.00205	3.78742	0.00054
321	Poor	0.75	0.3	Double	0.3	Equal	2-3	0.01817	0.10508	-0.01881	3.23909	0.00581
322	Poor	0.75	0.3	Double	0.3	Double	2-3	-0.00346	0.03098	-0.01414	3.55610	0.00398
323	Poor	0.75	0.3	Double	0.7	Equal	2-3	-0.47223	-0.13873	-0.04455	1.42802	0.03120
324	Poor	0.75	0.3	Double	0.7	Double	2-3	0.00832	0.08511	-0.05459	2.37852	0.02295
325	Poor	0.75	0.5	Equal	0.1	Equal	2-3	0.00387	0.06763	-0.00328	0.93424	0.00351
326	Poor	0.75	0.5	Equal	0.1	Double	2-3	0.00004	0.02137	-0.00207	0.95049	0.00217
327	Poor	0.75	0.5	Equal	0.3	Equal	2-3	0.02494	0.12361	-0.01962	0.81434	0.02410
328	Poor	0.75	0.5	Equal	0.3	Double	2-3	0.00109	0.05152	-0.01393	0.88643	0.01571
329	Poor	0.75	0.5	Equal	0.7	Equal	2-3	-0.46221	-0.13163	-0.04653	0.33606	0.13844
330	Poor	0.75	0.5	Equal	0.7	Double	2-3	0.01064	0.08772	-0.05502	0.58046	0.09478
331	Poor	0.75	0.5	Double	0.1	Equal	2-3	0.00387	0.06763	-0.00328	3.73697	0.00088
332	Poor	0.75	0.5	Double	0.1	Double	2-3	0.00004	0.02137	-0.00206	3.79520	0.00054
333	Poor	0.75	0.5	Double	0.3	Equal	2-3	0.02495	0.12359	-0.01962	3.25736	0.00602
334	Poor	0.75	0.5	Double	0.3	Double	2-3	0.00109	0.05152	-0.01393	3.51850	0.00396
335	Poor	0.75	0.5	Double	0.7	Equal	2-3	-0.46222	-0.13163	-0.04653	1.44680	0.03216

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
336	Poor	0.75	0.5	Double	0.7	Double	2-3	0.01063	0.08771	-0.05502	2.24759	0.02448
337	Poor	1	0	Equal	0.1	Equal	2-3	0.00519	0.09558	-0.00489	0.22000	0.02221
338	Poor	1	0	Equal	0.1	Double	2-3	0.00197	0.06322	-0.00278	0.18255	0.01525
339	Poor	1	0	Equal	0.3	Equal	2-3	0.00896	0.09412	-0.02196	0.43873	0.05006
340	Poor	1	0	Equal	0.3	Double	2-3	0.00707	0.10001	-0.02011	0.32560	0.06176
341	Poor	1	0	Equal	0.7	Equal	2-3	-0.06568	0.00340	-0.02208	0.44909	0.04917
342	Poor	1	0	Equal	0.7	Double	2-3	-0.02619	0.03124	-0.03758	0.42616	0.08819
343	Poor	1	0	Double	0.1	Equal	2-3	0.00519	0.09558	-0.00489	0.59734	0.00818
344	Poor	1	0	Double	0.1	Double	2-3	0.00197	0.06322	-0.00278	0.45273	0.00615
345	Poor	1	0	Double	0.3	Equal	2-3	0.00896	0.09412	-0.02196	1.42825	0.01538
346	Poor	1	0	Double	0.3	Double	2-3	0.00707	0.10001	-0.02011	1.02717	0.01958
347	Poor	1	0	Double	0.7	Equal	2-3	-0.06568	0.00340	-0.02208	1.46788	0.01504
348	Poor	1	0	Double	0.7	Double	2-3	-0.02619	0.03124	-0.03758	1.49793	0.02509
349	Poor	1	0.1	Equal	0.1	Equal	2-3	0.00480	0.07635	-0.00331	0.21480	0.01543
350	Poor	1	0.1	Equal	0.1	Double	2-3	0.00125	0.03935	-0.00169	0.12355	0.01368
351	Poor	1	0.1	Equal	0.3	Equal	2-3	0.00109	0.05953	-0.01710	0.44631	0.03831
352	Poor	1	0.1	Equal	0.3	Double	2-3	0.00589	0.07688	-0.01482	0.29612	0.05004
353	Poor	1	0.1	Equal	0.7	Equal	2-3	-0.06824	-0.00470	-0.01718	0.43844	0.03919
354	Poor	1	0.1	Equal	0.7	Double	2-3	-0.02082	0.02521	-0.03014	0.43162	0.06983
355	Poor	1	0.1	Double	0.1	Equal	2-3	0.00480	0.07636	-0.00331	0.57656	0.00575
356	Poor	1	0.1	Double	0.1	Double	2-3	0.00125	0.03935	-0.00169	0.31093	0.00543
357	Poor	1	0.1	Double	0.3	Equal	2-3	0.00108	0.05953	-0.01710	1.45859	0.01173
358	Poor	1	0.1	Double	0.3	Double	2-3	0.00590	0.07688	-0.01481	0.92863	0.01595
359	Poor	1	0.1	Double	0.7	Equal	2-3	-0.06823	-0.00470	-0.01718	1.42526	0.01205
360	Poor	1	0.1	Double	0.7	Double	2-3	-0.02082	0.02521	-0.03014	1.51975	0.01983
361	Poor	1	0.3	Equal	0.1	Equal	2-3	0.00081	0.02305	-0.00158	0.10814	0.01458
362	Poor	1	0.3	Equal	0.1	Double	2-3	0.00046	0.01481	-0.00064	0.06806	0.00947
363	Poor	1	0.3	Equal	0.3	Equal	2-3	0.01347	0.06652	-0.01052	0.35016	0.03006

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
364	Poor	1	0.3	Equal	0.3	Double	2-3	0.00464	0.04892	-0.00817	0.23649	0.03456
365	Poor	1	0.3	Equal	0.7	Equal	2-3	-0.04067	-0.00283	-0.01022	0.35877	0.02848
366	Poor	1	0.3	Equal	0.7	Double	2-3	-0.03389	-0.00249	-0.01859	0.39017	0.04764
367	Poor	1	0.3	Double	0.1	Equal	2-3	0.00081	0.02305	-0.00157	0.29533	0.00533
368	Poor	1	0.3	Double	0.1	Double	2-3	0.00042	0.01407	-0.00065	0.10652	0.00606
369	Poor	1	0.3	Double	0.3	Equal	2-3	0.01347	0.06649	-0.01052	1.11381	0.00944
370	Poor	1	0.3	Double	0.3	Double	2-3	0.00464	0.04891	-0.00817	0.71546	0.01142
371	Poor	1	0.3	Double	0.7	Equal	2-3	-0.04072	-0.00283	-0.01024	1.14680	0.00892
372	Poor	1	0.3	Double	0.7	Double	2-3	-0.03389	-0.00249	-0.01859	1.34310	0.01384
373	Poor	1	0.5	Equal	0.1	Equal	2-3	0.00076	0.01398	-0.00072	0.04529	0.01585
374	Poor	1	0.5	Equal	0.1	Double	2-3	0.00006	0.00346	-0.00024	0.01440	0.01647
375	Poor	1	0.5	Equal	0.3	Equal	2-3	0.00061	0.02130	-0.00597	0.26374	0.02262
376	Poor	1	0.5	Equal	0.3	Double	2-3	0.00350	0.03055	-0.00427	0.15165	0.02813
377	Poor	1	0.5	Equal	0.7	Equal	2-3	-0.02247	-0.00110	-0.00597	0.27257	0.02191
378	Poor	1	0.5	Equal	0.7	Double	2-3	-0.00761	0.00956	-0.01126	0.36223	0.03109
379	Poor	1	0.5	Double	0.1	Equal	2-3	0.00075	0.01395	-0.00072	0.13231	0.00541
380	Poor	1	0.5	Double	0.1	Double	2-3	0.00019	0.00578	-0.00024	0.07510	0.00315
381	Poor	1	0.5	Double	0.3	Equal	2-3	0.00063	0.02121	-0.00593	0.86433	0.00686
382	Poor	1	0.5	Double	0.3	Double	2-3	0.00349	0.03054	-0.00427	0.49829	0.00857
383	Poor	1	0.5	Double	0.7	Equal	2-3	-0.02243	-0.00110	-0.00596	0.89542	0.00666
384	Poor	1	0.5	Double	0.7	Double	2-3	-0.00763	0.00956	-0.01127	1.21579	0.00927
385	Poor	1.25	0	Equal	0.1	Equal	2-3	0.00739	0.18827	-0.01217	0.29836	0.04080
386	Poor	1.25	0	Equal	0.1	Double	2-3	0.00412	0.15236	-0.00782	0.19220	0.04067
387	Poor	1.25	0	Equal	0.3	Equal	2-3	-0.02467	0.05186	-0.03283	0.41558	0.07900
388	Poor	1.25	0	Equal	0.3	Double	2-3	-0.00396	0.11095	-0.03883	0.42510	0.09134
389	Poor	1.25	0	Equal	0.7	Equal	2-3	-0.02150	0.01582	-0.01752	0.23559	0.07438
390	Poor	1.25	0	Equal	0.7	Double	2-3	-0.12522	-0.05398	-0.03734	1.04405	0.03577
391	Poor	1.25	0	Double	0.1	Equal	2-3	0.00739	0.18827	-0.01217	0.83733	0.01454

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
392	Poor	1.25	0	Double	0.1	Double	2-3	0.00412	0.15236	-0.00782	0.51357	0.01522
393	Poor	1.25	0	Double	0.3	Equal	2-3	-0.02467	0.05186	-0.03283	1.52000	0.02160
394	Poor	1.25	0	Double	0.3	Double	2-3	-0.00396	0.11095	-0.03883	1.40241	0.02769
395	Poor	1.25	0	Double	0.7	Equal	2-3	-0.02150	0.01582	-0.01752	0.89171	0.01965
396	Poor	1.25	0	Double	0.7	Double	2-3	-0.12522	-0.05398	-0.03734	3.11257	0.01200
397	Poor	1.25	0.1	Equal	0.1	Equal	2-3	-0.00169	0.09026	-0.01054	0.20366	0.05178
398	Poor	1.25	0.1	Equal	0.1	Double	2-3	0.00534	0.16635	-0.00702	0.21355	0.03286
399	Poor	1.25	0.1	Equal	0.3	Equal	2-3	-0.01275	0.07161	-0.03041	0.50782	0.05988
400	Poor	1.25	0.1	Equal	0.3	Double	2-3	-0.00806	0.07671	-0.03430	0.33159	0.10343
401	Poor	1.25	0.1	Equal	0.7	Equal	2-3	-0.06771	-0.00954	-0.01363	0.34669	0.03932
402	Poor	1.25	0.1	Equal	0.7	Double	2-3	-0.04523	0.01666	-0.03880	0.77296	0.05020
403	Poor	1.25	0.1	Double	0.1	Equal	2-3	-0.00169	0.09026	-0.01055	0.59173	0.01782
404	Poor	1.25	0.1	Double	0.1	Double	2-3	0.00534	0.16636	-0.00702	0.54944	0.01277
405	Poor	1.25	0.1	Double	0.3	Equal	2-3	-0.01275	0.07161	-0.03041	1.74061	0.01747
406	Poor	1.25	0.1	Double	0.3	Double	2-3	-0.00806	0.07674	-0.03431	1.17644	0.02916
407	Poor	1.25	0.1	Double	0.7	Equal	2-3	-0.06770	-0.00954	-0.01363	1.17818	0.01157
408	Poor	1.25	0.1	Double	0.7	Double	2-3	-0.04527	0.01667	-0.03883	3.01205	0.01289
409	Poor	1.25	0.3	Equal	0.1	Equal	2-3	0.00243	0.12533	-0.01035	0.17719	0.05840
410	Poor	1.25	0.3	Equal	0.1	Double	2-3	0.00030	0.08012	-0.00747	0.09541	0.07833
411	Poor	1.25	0.3	Equal	0.3	Equal	2-3	-0.02160	0.04333	-0.02812	0.40273	0.06983
412	Poor	1.25	0.3	Equal	0.3	Double	2-3	-0.00710	0.07136	-0.03135	0.30573	0.10254
413	Poor	1.25	0.3	Equal	0.7	Equal	2-3	-0.02405	0.00574	-0.01123	0.26571	0.04228
414	Poor	1.25	0.3	Equal	0.7	Double	2-3	-0.10084	-0.03128	-0.03861	0.69511	0.05554
415	Poor	1.25	0.3	Double	0.1	Equal	2-3	0.00244	0.12531	-0.01034	0.52015	0.01988
416	Poor	1.25	0.3	Double	0.1	Double	2-3	0.00030	0.08011	-0.00747	0.26531	0.02817
417	Poor	1.25	0.3	Double	0.3	Equal	2-3	-0.02163	0.04336	-0.02814	1.46256	0.01924
418	Poor	1.25	0.3	Double	0.3	Double	2-3	-0.00711	0.07124	-0.03133	1.07905	0.02904
419	Poor	1.25	0.3	Double	0.7	Equal	2-3	-0.02405	0.00574	-0.01123	0.99980	0.01124

Table B-3. Comparison of Different Sequence Lengths Under BE

Run #	Accuracy	b	ρ	Test Costs	Prevalence	Misclassification Cost	Length	Δ_{FPR}	Δ_{TPR}	Δ_{BC}	Δ_{OC}	UM
420	Poor	1.25	0.3	Double	0.7	Double	2-3	-0.10076	-0.03128	-0.03856	2.77905	0.01387
421	Poor	1.25	0.5	Equal	0.1	Equal	2-3	0.00582	0.18125	-0.01289	0.15537	0.08294
422	Poor	1.25	0.5	Equal	0.1	Double	2-3	0.00171	0.13147	-0.01006	0.08021	0.12544
423	Poor	1.25	0.5	Equal	0.3	Equal	2-3	-0.00853	0.07438	-0.02828	0.37723	0.07498
424	Poor	1.25	0.5	Equal	0.3	Double	2-3	-0.00575	0.09103	-0.03536	0.27080	0.13058
425	Poor	1.25	0.5	Equal	0.7	Equal	2-3	-0.08283	-0.01606	-0.01360	0.29099	0.04675
426	Poor	1.25	0.5	Equal	0.7	Double	2-3	-0.06787	-0.00122	-0.03986	0.69145	0.05765
427	Poor	1.25	0.5	Double	0.1	Equal	2-3	0.00583	0.18125	-0.01288	0.46966	0.02742
428	Poor	1.25	0.5	Double	0.1	Double	2-3	0.00171	0.13147	-0.01007	0.23655	0.04257
429	Poor	1.25	0.5	Double	0.3	Equal	2-3	-0.00853	0.07438	-0.02829	1.35899	0.02081
430	Poor	1.25	0.5	Double	0.3	Double	2-3	-0.00576	0.09103	-0.03538	0.94742	0.03734
431	Poor	1.25	0.5	Double	0.7	Equal	2-3	-0.08283	-0.01606	-0.01360	1.00604	0.01352
432	Poor	1.25	0.5	Double	0.7	Double	2-3	-0.06788	-0.00122	-0.03987	2.76592	0.01442

Appendix C. Python Code

2-Test Sequence Code

```
import numpy as np
import matplotlib.pyplot as plt
from scipy.stats import norm, mvn

#make plots inline using jupyter magic
%matplotlib inline

import pandas as pd
from pandas.plotting import scatter_matrix
from sklearn import datasets, linear_model
regr = linear_model.LinearRegression()
from sklearn.metrics import mean_squared_error, r2_score #load metric functions
from itertools import combinations

from IPython.display import Markdown as md #enable markdown within code cell
from IPython.display import display, Math, Latex

#*****Various Values to Cover for test*****
#Test Length
Length = 2
low12 = -99*np.ones(Length) #establish lower threshold and mean of negative population
mu_neg = np.zeros(Length) #these are for Multivariate normal cdf functionality

#Set of possible theta values
spacing = 91
thetas = np.linspace(-3,6,spacing)
```

```

#quality of test by Area Under Curve (good, fair, poor)
quality = [.95, .85, .75]

#various b values (ratio of sigmas)
b = [.75, 1, 1.25]

#various covariance values
rho = [0, .1, .3, .5]

#Test Costs. Add additional entry for more tests. i.e. for length 3, np.array([[1,1,1],[1,2,4]])
TCost = np.array([[1,1],[1,2]])

#Prevalence
Prevalence = [.1, .3, .7]

#Miscclassification Cost (False Negative, False Positive)
MCost = np.array([[1,1],[1,2]])

#Change 4 to specific number if looking to report more information. Info currently reported (FPR, TPR, BC, OC)
Empty_Shell = np.zeros((len(quality), len(b), len(rho), len(TCost), len(Prevalence), len(MCost), 6))
Report_BN = Empty_Shell
Report_BP = Empty_Shell
Report_BE = Empty_Shell

#*****Add Additional loops for additional tests*****

for i in range(0,len(quality)): #iterating through different quality values
    for j in range(0,len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

        for k in range(0,len(rho)): #iterating through different rho values

```

```

pos_sig = 1/b[j] #determine positive group standard deviation
cov12 = rho[k]*b[j]**2 #determine covariance of positive group
rho_pos12 = np.array([[pos_sig,cov12],[cov12,pos_sig]])#Build covariance matrix.
rho_neg12 = np.array([[1,rho[k]],[rho[k],1]]) #Add additional entries for more tests

for l in range(0,len(TCost)): #iterating through different Test Cost Values
    for m in range(0,len(Prevalence)): #iterating through different prevalence values
        for n in range(0,len(MCost)): #iterating through different Misclassification Cost Values
            FPR = np.zeros((spacing,spacing)) #Add additional "spacing" for additional tests
            TPR = np.zeros((spacing,spacing)) #i.e. for 3-tests np.zeros((spacing,spacing,spacing))
            BC = np.zeros((spacing,spacing))
            OC = np.zeros((spacing,spacing))

            for o in range(0,spacing): #iterating through different thetas for Test 1
                for p in range(0,spacing): #iterating through different thetas for Test 2
                    upp12 = np.array([thetas[o],thetas[p]]) #establish upper threshold for multivariate normal

                    #calculate FPR, TPR, BC, and OC for sequence of Test
                    FPR[o,p] = 1 - norm.cdf(thetas[o],0,1) - norm.cdf(thetas[p],0,1) + mvn.mvnun(low12, upp12, mu_neg, rho
_neg12)[0]

                    TPR[o,p] = 1 - norm.cdf(thetas[o],mu_p,pos_sig) - norm.cdf(thetas[p],mu_p,pos_sig) + mvn.mvnun(low12,
upp12, mu_pos, rho_pos12)[0]

                    BC[o,p] = MCost[n,1]*(1-Prevalence[m])*FPR[o,p] + MCost[n,0]*Prevalence[m]*(1-TPR[o,p])
                    OC[o,p] = TCost[l,0] + TCost[l,1]*((1-norm.cdf(thetas[o],0,1))*(1-Prevalence[m])+(1-norm.cdf(thetas[o]
,mu_p,pos_sig))*Prevalence[m])

            #find location of minimum Bayes Cost
            ind = np.unravel_index(np.argmin(BC, axis=None), BC.shape)

            Report_BN[i, j, k, l, m, n] = [FPR[ind], TPR[ind], BC[ind], OC[ind]]

```

In []:

Report_BN

```

*****Add Additional loops for additional tests*****

for i in range(0, len(quality)): #iterating through different quality values
    for j in range(0, len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

    for k in range(0, len(rho)): #iterating through different rho values
        pos_sig = 1/b[j] #determine positive group standard deviation
        cov12 = rho[k]*b[j]**2 #determine covariance of positive group
        rho_pos12 = np.array([[pos_sig, cov12], [cov12, pos_sig]]) #Build covariance matrix.
        rho_neg12 = np.array([[1, rho[k]], [rho[k], 1]]) #Add additional entries for more tests

    for l in range(0, len(TCost)): #iterating through different Test Cost Values
        for m in range(0, len(Prevalence)): #iterating through different prevalence values
            for n in range(0, len(MCost)): #iterating through different Misclassification Cost Values
                FPR = np.zeros((spacing, spacing)) #Add additional "spacing" for additional tests
                TPR = np.zeros((spacing, spacing)) #i.e. for 3-tests np.zeros((spacing, spacing, spacing))
                BC = np.zeros((spacing, spacing))
                OC = np.zeros((spacing, spacing))

            for o in range(0, spacing): #iterating through different thetas for Test 1
                for p in range(0, spacing): #iterating through different thetas for Test 2
                    upp12 = np.array([thetas[o], thetas[p]]) #establish upper threshold for multivariate normal

                    #calculate FPR, TPR, BC, and OC for sequence of Test
                    FPR[o, p] = 1 - mvn.mvnun(low12, upp12, mu_neg, rho_neg12)[0]
                    TPR[o, p] = 1 - mvn.mvnun(low12, upp12, mu_pos, rho_pos12)[0]
                    BC[o, p] = MCost[n, 1]*(1-Prevalence[m])*FPR[o, p] + MCost[n, 0]*Prevalence[m]*(1-TPR[o, p])
                    OC[o, p] = TCost[l, 0] + TCost[l, 1]*(norm.cdf(thetas[o], 0, 1)*(1-Prevalence[m])+norm.cdf(thetas[o], mu_p, p
os_sig)*Prevalence[m])

```

```

        #find location of minimum Bayes Cost
        ind = np.unravel_index(np.argmin(BC, axis=None), BC.shape)

        Report_BP[i, j, k, l, m, n] = [FPR[ind], TPR[ind], BC[ind], OC[ind], thetas[ind[0]], thetas[ind[1]]]

Report_BP

In [ ]:

#*****Add Additional loops for additional tests*****
for i in range(0, spacing):
    for j in range(0, spacing):
        FPR[i, j] = 1 - norm.cdf(thetas[i], 0, sigma) * norm.cdf(thetas[j], 0, sigma)
        TPR[i, j] = 1 - norm.cdf(thetas[i], test, sigma) * norm.cdf(thetas[j], test, sigma)
        BC[i, j] = FPR[i, j] - TPR[i, j] + 1
        #OC[i, j]

#find location of minimum value
ind = np.unravel_index(np.argmin(BC, axis=None), BC.shape)

#report minimum Baye's Cost and additional information
Report_BP = [FPR[ind], TPR[ind], BC[ind]]
Report_BP

mu_p = norm.ppf(quality[0]) * np.sqrt(1 + b[1]**2)
mu_pos = mu_p * np.ones(Length)
mu_pos

In [ ]:

low = np.array([-99, -99, -99])
upp = np.array([-0.7, -1.3, -0.7])
mu = np.array([0, 0, 0])
S = np.array([[1, 0, 0], [0, 1, 0], [0, 0, 1]])
#p, i = mvn.mvnun(low, upp, mu, S)

```

mu

In []:

```
#####Add Additional loops for additional tests#####

for i in range(0,spacing):
    for j in range(0,spacing):
        FPR[i,j] = (1-norm.cdf(thetas[i],0,sigma))*(1-norm.cdf(thetas[j],0,sigma))
        TPR[i,j] = (1-norm.cdf(thetas[i],test,sigma))*(1-norm.cdf(thetas[j],test,sigma))
        BC[i,j] = FPR[i,j] - TPR[i,j] + 1
        #OC[i,j]

#find location of minimum value
ind = np.unravel_index(np.argmin(BC, axis=None), BC.shape)

#report minimum Baye's Cost and additional information
Report_BN = [FPR[ind], TPR[ind], BC[ind]]
Report_BN
```

In []:

3-Test Sequence Code

```
import numpy as np
import matplotlib.pyplot as plt
from scipy.stats import norm, mvn, multivariate_normal

#make plots inline using jupyter magic
%matplotlib inline

import pandas as pd
from pandas.plotting import scatter_matrix
```

```

from sklearn import datasets, linear_model
regr = linear_model.LinearRegression()
from sklearn.metrics import mean_squared_error, r2_score #load metric functions
from itertools import combinations

from IPython.display import Markdown as md #enable markdown within code cell
from IPython.display import display, Math, Latex
import math, datetime

#*****Various Values to Cover for test*****
#Test Length
Length = 3
mu_neg = np.zeros(Length) #these are for Multivariate normal cdf functionality

#Set of possible theta values
spacing = 31
thetas = np.linspace(-2,4,spacing)

#quality of test by Area Under Curve (good, fair, poor)
quality = [.95,.85,.75]

#various b values (ratio of sigmas)
b = [.75, 1, 1.25]

#various covariance values
rho = [0, .1, .3, .5]

#Test Costs. Add additional entry for more tests. i.e. for length 3, np.array([[1,1,1],[1,2,4]])
TCost = np.array([[1,1,1],[1,2,4]])

#Prevalence
Prevalence = [.1, .3, .7]

```

```

#Misclassification Cost (False Negative, False Positive)
MCost = np.array([[1,1],[1,2]])

#Change 4 to specific number if looking to report more information. Info currently reported (FPR, TPR, BC, OC)
#add additional spacing for additional tests, i.e. 2 spacings for a 2-test sequence
Empty_Shell = 999*np.ones((len(quality), len(b), len(rho), len(TCost), len(Prevalence), len(MCost), 7))
Report_BN = Empty_Shell
Report_BP = Empty_Shell
Report_BE = 999*np.ones((len(quality), len(b), len(rho), len(TCost), len(Prevalence), len(MCost), 9))

#*****Add Additional loops for additional tests*****

for i in range(0,len(quality)): #iterating through different quality values
    for j in range(0,len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

    for k in range(0,len(rho)): #iterating through different rho values
        pos_sig = (1/b[j])**2 #determine positive group standard deviation
        cov12 = rho[k]*b[j]**2 #determine covariance of positive group
        rho_pos123 = np.array([[pos_sig,cov12, cov12],[cov12,pos_sig, cov12], [cov12, cov12, pos_sig]])#Build covariance matrix.
        rho_neg123 = np.array([[1,rho[k], rho[k]], [rho[k],1, rho[k]], [rho[k],rho[k],1]]) #Add additional entries for more tests
        rho_pos12 = np.array([[pos_sig,cov12], [cov12, pos_sig]])
        rho_neg12 = np.array([[1,rho[k]], [rho[k],1]])

    for l in range(0,len(TCost)): #iterating through different Test Cost Values
        for m in range(0,len(Prevalence)): #iterating through different prevalence values
            for n in range(0,len(MCost)): #iterating through different Misclassification Cost Values

                #Generate all possible combinations of thetas
                #Theta1 = v, Theta2 = w, Theta3 = x

```

```

SSSpace = np.array([v,w,x] for v in thetas for w in thetas for x in thetas])
Rates = np.ones((len(SSSpace),2))

for r in range(0, len(SSSpace)):
    #calculate FPR, TPR
    Rates[r] = [mvn.mvnun(SSSpace[r], [math.inf,math.inf,math.inf], mu_neg, rho_neg123)[0],\
                mvn.mvnun(SSSpace[r], [math.inf,math.inf,math.inf], mu_pos, rho_pos123)[0]]

    #Calculate all BCs
    BC = MCost[n,1]*(1-Prevalence[m])*Rates[:,0] + MCost[n,0]*Prevalence[m]*(1-Rates[:,1])

    #Find minimum BC
    ind = BC.argmin()

    #Record best components for best BC
    Best = np.array([Rates[ind,0], Rates[ind,1], BC[ind], SSSpace[ind,0], SSSpace[ind,1], SSSpace[ind,2]])

    #Calculate OC for best BC
    OC = TCost[l,0] + TCost[l,1]*((1-norm.cdf(Best[3],0,1))*(1-Prevalence[m])+(1-norm.cdf(Best[3],mu_p,pos_sig))*P
revalence[m])\
        +TCost[l,2]*((1-Prevalence[m])*mvn.mvnun(Best[[3,4]], [math.inf,math.inf], np.zeros(2), rho_neg12)[0] + Pr
evalence[m]*mvn.mvnun(Best[[3,4]], [math.inf,math.inf], mu_p*np.ones(2), rho_pos12)[0])

    Report_BN[i, j, k, l, m, n] = np.insert(Best,3,OC)
    print(Report_BN[i, j, k, l, m, n])

#*****Add Additional loops for additional tests*****

for i in range(0,len(quality)): #iterating through different quality values
    for j in range(0,len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

```

```

for k in range(0, len(rho)): #iterating through different rho values
    pos_sig = (1/b[j])**2 #determine positive group standard deviation
    cov12 = rho[k]*b[j]**2 #determine covariance of positive group
    rho_pos12 = np.array([[pos_sig, cov12], [cov12, pos_sig]]) #Build covariance matrix.
    rho_neg12 = np.array([[1, rho[k]], [rho[k], 1]]) #Add additional entries for more tests
    rho_pos123 = np.array([[pos_sig, cov12, cov12], [cov12, pos_sig, cov12], [cov12, cov12, pos_sig]]) #Build covariance matrix.
    rho_neg123 = np.array([[1, rho[k], rho[k]], [rho[k], 1, rho[k]], [rho[k], rho[k], 1]]) #Add additional entries for more tests

for l in range(0, len(TCost)): #iterating through different Test Cost Values
    for m in range(0, len(Prevalence)): #iterating through different prevalence values
        for n in range(0, len(MCost)): #iterating through different Misclassification Cost Values
            #Generate all possible combinations of thetas
            #Theta1 = v, Theta2 = w, Theta3 = x
            SSSpace = np.array([v, w, x] for v in thetas for w in thetas for x in thetas)
            Rates = np.ones((len(SSSpace), 2))

            for r in range(0, len(SSSpace)):
                #calculate FPR and TPR for sequence of Test
                Rates[r] = [1 - mvn.mvnun([-math.inf, -math.inf, -math.inf], SSSpace[r], mu_neg, rho_neg123)[0], \
                    1 - mvn.mvnun([-math.inf, -math.inf, -math.inf], SSSpace[r], mu_pos, rho_pos123)[0]]

            #Calculate all BCs
            BC = MCost[n, 1]*(1-Prevalence[m])*Rates[:, 0] + MCost[n, 0]*Prevalence[m]*(1-Rates[:, 1])

            #Find minimum BC
            ind = BC.argmin()

            #Record best components for best BC
            Best = np.array([Rates[ind, 0], Rates[ind, 1], BC[ind], SSSpace[ind, 0], SSSpace[ind, 1], SSSpace[ind, 2]])

```

```

OC = TCost[l,0] + TCost[l,1]*(norm.cdf(Best[3],0,1)*(1-Prevalence[m])+norm.cdf(Best[3],mu_p,pos_sig)*Prevalence[m])\
+TCost[l,2]*((1-Prevalence[m])*mvn.mvnun([-math.inf,-math.inf],Best[[3,4]], np.zeros(2), rho_neg12)[0] + Prevalence[m]*mvn.mvnun([-math.inf,-math.inf],Best[[3,4]], mu_p*np.ones(2), rho_pos12)[0])

Report_BN[i, j, k, l, m, n] = np.insert(Best,3,OC)
print(Report_BP[i,j,k,l,m,n])

```

In [8]:

```

*****Add Additional loops for additional tests*****
for i in range(0,len(quality)): #iterating through different quality values
    for j in range(0,len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

    for k in range(0,len(rho)): #iterating through different rho values
        pos_sig = (1/b[j])**2 #determine positive group variance
        cov12 = rho[k]*b[j]**2 #determine covariance of positive group
        rho_pos12 = np.array([[pos_sig,cov12],[cov12,pos_sig]])#Build covariance matrix.
        rho_neg12 = np.array([[1,rho[k]],[rho[k],1]]) #Add additional entries for more tests
        rho_pos123 = np.array([[pos_sig,cov12, cov12],[cov12,pos_sig, cov12], [cov12, cov12, pos_sig]])#Build covariance matrix.
        rho_neg123 = np.array([[1,rho[k], rho[k]],[rho[k],1, rho[k]],[rho[k],rho[k],1]]) #Add additional entries for more tests

    for l in range(0,len(TCost)): #iterating through different Test Cost Values
        for m in range(0,len(Prevalence)): #iterating through different prevalence values
            for n in range(0,len(MCost)): #iterating through different Misclassification Cost Values

                #Generate all possible combinations of thetas
                #Theta1 = v, Theta2 = w, Theta3 = x
                SSSpace = np.array([[v,w,x,y,z] for v in thetas for w in thetas for x in thetas for y in thetas if y < v for z
in thetas if z < w])

                Rates = np.ones((len(SSSpace),2))

```

```

for r in range(0, len(SSSpace)):
    #Calculate FPR and TPR
    Rates[r] = [(1-norm.cdf(SSSpace[r,0],0,1)) + mvn.mvnun(SSSpace[r,[3,1]], [SSSpace[r,0],math.inf], np.zeros
(2), rho_neg12)[0]+mvn.mvnun(SSSpace[r,[3,4,2]], [SSSpace[r,0],SSSpace[r,1],math.inf], mu_neg, rho_neg123)[0],\
    (1-norm.cdf(SSSpace[r,0],mu_p,pos_sig)) + mvn.mvnun(SSSpace[r,[3,1]], [SSSpace[r,0],math.inf], mu_p*np
.ones(2), rho_pos12)[0]+mvn.mvnun(SSSpace[r,[3,4,2]], [SSSpace[r,0],SSSpace[r,1],math.inf], mu_pos, rho_pos123)[0]]

    BC = MCost[n,1]*(1-Prevalence[m])*Rates[:,0] + MCost[n,0]*Prevalence[m]*(1-Rates[:,1])
    ind = BC.argmin()

    Best = np.array([Rates[ind,0], Rates[ind,0], BC[ind], SSSpace[ind,0], SSSpace[ind,1], SSSpace[ind,2], SSSpace[
ind,3], SSSpace[ind,4]])

    OC = TCost[l,0] + TCost[l,1]*((norm.cdf(Best[3],0,1)-norm.cdf(Best[6],0,1))*(1-Prevalence[m])+(norm.cdf(Best[3
],mu_p,pos_sig)-norm.cdf(Best[6],mu_p,pos_sig))*Prevalence[m])\
    +TCost[l,2]*((1-Prevalence[m])*mvn.mvnun(Best[[6,7]],Best[[3,4]], np.zeros(2), rho_neg12)[0] + Prevalence[
m]*mvn.mvnun(Best[[6,7]],Best[[3,4]], mu_p*np.ones(2), rho_pos12)[0])

    Report_BE[i, j, k, l, m, n] = np.insert(Best,3,OC)
    print(Report_BE[i, j, k, l, m, n])

```

13:54:09.375311

```

[ 0.00969103  0.00969103  0.03856575  1.40382415  3.8          2.
  1.8          0.8          -0.4          ]

```

14:55:24.326160

```

-----
NameError                                Traceback (most recent call last)
<ipython-input-8-e74f451df645> in <module>()
    35         print(Report_BE[i, j, k, l, m, n])
    36         print(datetime.datetime.now().time())
----> 37         a

```

NameError: name 'a' is not defined

In []:

```
FPR = 1-norm.cdf(SSSpace[:,3],0,1) - multivariate_normal.cdf(SSSpace[:,[0,4]],np.zeros(2),rho_neg12)\
+ multivariate_normal.cdf(SSSpace[:,[3,4]],np.zeros(2),rho_neg12)\
- multivariate_normal.cdf(SSSpace[:,[0,1,2]],np.zeros(3),rho_neg123)\
+ multivariate_normal.cdf(SSSpace[:,[0,4,2]],np.zeros(3),rho_neg123)\
+ multivariate_normal.cdf(SSSpace[:,[3,1,2]],np.zeros(3),rho_neg123)\
- multivariate_normal.cdf(SSSpace[:,[3,4,2]],np.zeros(3),rho_neg123)

TPR = 1-norm.cdf(SSSpace[:,3],mu_p,pos_sig) - multivariate_normal.cdf(SSSpace[:,[0,4]],mu_p*np.ones(2),rho_pos12)\
+ multivariate_normal.cdf(SSSpace[:,[3,4]],mu_p*np.ones(2),rho_pos12)\
- multivariate_normal.cdf(SSSpace[:,[0,1,2]],mu_pos,rho_pos123)\
+ multivariate_normal.cdf(SSSpace[:,[0,4,2]],mu_pos,rho_pos123)\
+ multivariate_normal.cdf(SSSpace[:,[3,1,2]],mu_pos,rho_pos123)\
- multivariate_normal.cdf(SSSpace[:,[3,4,2]],mu_pos,rho_pos123)

BC = MCost[n,1]*(1-Prevalence[m])*FPR + MCost[n,0]*Prevalence[m]*(1-TPR)

OC = TCost[l,0] + TCost[l,1]*((norm.cdf(Best[3],0,1)-norm.cdf(Best[6],0,1))*(1-Prevalence[m])+(norm.cdf(Best[3],mu_p,pos_sig)-norm.cdf
(Best[6],mu_p,pos_sig))*Prevalence[m]))\
+ TCost[l,2]*((1-Prevalence[m])*(multivariate_normal.cdf([Best[3],Best[4]],np.zeros(2),rho_neg12)-multivar
iate_normal.cdf([Best[3],Best[7]],np.zeros(2),rho_neg12)-multivariate_normal.cdf([Best[6],Best[4]],np.zeros(2),rho_neg12)+multivariate
_normal.cdf([Best[6],Best[7]],np.zeros(2),rho_neg12))\
+ Prevalence[m]*(multivariate_normal.cdf([Best[3],Best[4]],mu_p*np.ones(2),rho_pos12)-multivariate_normal.
cdf([Best[3],Best[7]],mu_p*np.ones(2),rho_pos12)-multivariate_normal.cdf([Best[6],Best[4]],mu_p*np.ones(2),rho_pos12)+multivariate_nor
mal.cdf([Best[6],Best[7]],mu_p*np.ones(2),rho_pos12)))

import datetime
datetime.datetime.now()
print(datetime.datetime.now().time())
```

In [2]:

13:52:11.677150

In [7]:

13:53:30.701774

In []:

4-Test Sequence Code

In [1]:

```
import numpy as np
import matplotlib.pyplot as plt
from scipy.stats import norm, mvn

#make plots inline using jupyter magic
%matplotlib inline

import pandas as pd
from pandas.plotting import scatter_matrix
from sklearn import datasets, linear_model
regr = linear_model.LinearRegression()
from sklearn.metrics import mean_squared_error, r2_score #load metric functions
from itertools import combinations

from IPython.display import Markdown as md #enable markdown within code cell
from IPython.display import display, Math, Latex
import math

#*****Various Values to Cover for test*****
#Test Length
Length = 4
```

In [2]:

```

mu_neg = np.zeros(Length) #these are for Multivariate normal cdf functionality

#Set of possible theta values
spacing = 31
thetas = np.linspace(-2,4,spacing)

#quality of test by Area Under Curve (good, fair, poor)
quality = [.95, .85, .75]

#various b values (ratio of sigmas)
b = [.75, 1, 1.25]

#various covariance values
rho = [0]

#Test Costs. Add additional entry for more tests. i.e. for length 3, np.array([[1,1,1],[1,2,4]])
TCost = np.array([[1,1,1,1],[1,2,4,8]])

#Prevalence
Prevalence = [.1, .3, .7]

#Miscclassification Cost (False Negative, False Positive)
MCost = np.array([[1,1],[1,2]])

#Change 4 to specific number if looking to report more information. Info currently reported (FPR, TPR, BC, OC)
#add additional spacing for additional tests, i.e. 2 spacings for a 2-test sequence
Empty_Shell = 999*np.ones((len(quality), len(b), len(rho), len(TCost), len(Prevalence), len(MCost), 8))
Report_BN = Empty_Shell
Report_BP = Empty_Shell
Report_BE = 999*np.ones((len(quality), len(b), len(rho), len(TCost), len(Prevalence), len(MCost), 11))

#*****Add Additional loops for additional tests*****

```

In [3]:

In []:

```

for i in range(0, len(quality)): #iterating through different quality values
    for j in range(0, len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

    for k in range(0, len(rho)): #iterating through different rho values
        pos_sig = (1/b[j])**2 #determine positive group standard deviation
        cov12 = rho[k]*b[j]**2 #determine covariance of positive group
        rho_pos1234 = np.array([[pos_sig, cov12, cov12, cov12], [cov12, pos_sig, cov12, cov12], [cov12, cov12, pos_sig, cov12], [cov1
2, cov12, cov12, pos_sig]]) #Build covariance matrix.
        rho_neg1234 = np.array([[1, rho[k], rho[k], rho[k]], [rho[k], 1, rho[k], rho[k]], [rho[k], rho[k], 1, rho[k]], [rho[k], rho[k], rho[k]
, 1]]) #Add additional entries for more tests
        rho_pos123 = np.array([[pos_sig, cov12, cov12], [cov12, pos_sig, cov12], [cov12, cov12, pos_sig]])
        rho_neg123 = np.array([[1, rho[k], rho[k]], [rho[k], 1, rho[k]], [rho[k], rho[k], 1]])
        rho_pos12 = np.array([[pos_sig, cov12], [cov12, pos_sig]])
        rho_neg12 = np.array([[1, rho[k]], [rho[k], 1]])

    for l in range(0, len(TCost)): #iterating through different Test Cost Values
        for m in range(0, len(Prevalence)): #iterating through different prevalence values
            for n in range(0, len(MCost)): #iterating through different Misclassification Cost Values

                #Generate all possible combinations of thetas
                #Theta1 = v, Theta2 = w, Theta3 = x
                SSSpace = np.array([[v, w, x, y] for v in thetas for w in thetas for x in thetas for y in thetas])
                Rates = np.ones((len(SSSpace), 2))

            for r in range(0, len(SSSpace)):
                #calculate FPR, TPR
                Rates[r] = [mvn.mvnun(SSSpace[r], [math.inf, math.inf, math.inf, math.inf], mu_neg, rho_neg1234)[0], \
                    mvn.mvnun(SSSpace[r], [math.inf, math.inf, math.inf, math.inf], mu_pos, rho_pos1234)[0]]

```

```

#Calculate all BCs
BC = MCost[n,1]*(1-Prevalence[m])*Rates[:,0] + MCost[n,0]*Prevalence[m]*(1-Rates[:,1])

#Find minimum BC
ind = BC.argmin()

#Record best components for best BC
Best = np.array([Rates[ind,0], Rates[ind,1], BC[ind], SSSpace[ind,0], SSSpace[ind,1], SSSpace[ind,2], SSSpace[
ind,3]])

#Calculate OC for best BC
OC = TCost[l,0] + TCost[l,1]*((1-norm.cdf(Best[3],0,1))*(1-Prevalence[m])+(1-norm.cdf(Best[3],mu_p,pos_sig))*P
revalence[m])\
    +TCost[l,2]*((1-Prevalence[m])*mvn.mvnun(Best[[3,4]], [math.inf,math.inf], np.zeros(2), rho_neg12)[0] + Pr
evalence[m]*mvn.mvnun(Best[[3,4]], [math.inf,math.inf], mu_p*np.ones(2), rho_pos12)[0])\
    +TCost[l,3]*((1-Prevalence[m])*mvn.mvnun(Best[[3,4,5]], [math.inf,math.inf,math.inf], np.zeros(3), rho_neg
123)[0] + Prevalence[m]*mvn.mvnun(Best[[3,4,5]], [math.inf,math.inf,math.inf], mu_p*np.ones(3), rho_pos123)[0])

Report_BN[i, j, k, l, m, n] = np.insert(Best,3,OC)
print(Report_BN[i, j, k, l, m, n])
[0.01122058 0.61404756 0.04869376 1.68713586 0.4          0.4
 0.4          0.6          ]
[0.00437013 0.5307399  0.05479224 1.55103789 0.6          0.6
 0.6          0.8          ]
[0.03724023 0.72612935 0.10822935 2.31785044 0.          0.2
 0.2          0.2          ]
[0.02101861 0.67193329 0.12784606 2.19526613 0.2          0.2
 0.4          0.4          ]
[ 0.20433733 0.88399786 0.14250269 3.40777574 -0.6         -0.4
 -0.4         -0.4         ]

#*****Add Additional loops for additional tests*****

```

In []:

```

for i in range(0, len(quality)): #iterating through different quality values
    for j in range(0, len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

    for k in range(0, len(rho)): #iterating through different rho values
        pos_sig = (1/b[j])**2 #determine positive group standard deviation
        cov12 = rho[k]*b[j]**2 #determine covariance of positive group
        rho_pos12 = np.array([[pos_sig, cov12], [cov12, pos_sig]])#Build covariance matrix.
        rho_neg12 = np.array([[1, rho[k]], [rho[k], 1]]) #Add additional entries for more tests
        rho_pos123 = np.array([[pos_sig, cov12, cov12], [cov12, pos_sig, cov12], [cov12, cov12, pos_sig]])#Build covariance matrix.
        rho_neg123 = np.array([[1, rho[k], rho[k]], [rho[k], 1, rho[k]], [rho[k], rho[k], 1]]) #Add additional entries for more tests
        rho_pos1234 = np.array([[pos_sig, cov12, cov12, cov12], [cov12, pos_sig, cov12, cov12], [cov12, cov12, pos_sig, cov12], [cov12, cov12, cov12, pos_sig]])#Build covariance matrix.
        rho_neg1234 = np.array([[1, rho[k], rho[k], rho[k]], [rho[k], 1, rho[k], rho[k]], [rho[k], rho[k], 1, rho[k]], [rho[k], rho[k], rho[k], 1]]) #Add additional entries for more tests

    for l in range(0, len(TCost)): #iterating through different Test Cost Values
        for m in range(0, len(Prevalence)): #iterating through different prevalence values
            for n in range(0, len(MCost)): #iterating through different Misclassification Cost Values
                #Generate all possible combinations of thetas
                #Theta1 = v, Theta2 = w, Theta3 = x
                SSSpace = np.array([[v, w, x, y] for v in thetas for w in thetas for x in thetas for y in thetas])
                Rates = np.ones((len(SSSpace), 2))

            for r in range(0, len(SSSpace)):
                #calculate FPR and TPR for sequence of Test
                Rates[r] = [1 - mvn.mvnun([-math.inf, -math.inf, -math.inf, -math.inf], SSSpace[r], mu_neg, rho_neg1234)[0], \
                            1 - mvn.mvnun([-math.inf, -math.inf, -math.inf, -math.inf], SSSpace[r], mu_pos, rho_pos1234)[0]]

#Calculate all BCs

```

```

BC = MCost[n,1]*(1-Prevalence[m])*Rates[:,0] + MCost[n,0]*Prevalence[m]*(1-Rates[:,1])

#Find minimum BC
ind = BC.argmin()

#Record best components for best BC
Best = np.array([Rates[ind,0], Rates[ind,1], BC[ind], SSSpace[ind,0], SSSpace[ind,1], SSSpace[ind,2],SSSpace[i
nd,3]])

OC = TCost[l,0] + TCost[l,1]*(norm.cdf(Best[3],0,1)*(1-Prevalence[m])+norm.cdf(Best[3],mu_p,pos_sig)*Prevalenc
e[m])\
    +TCost[l,2]*((1-Prevalence[m])*mvn.mvnun([-math.inf,-math.inf],Best[[3,4]], np.zeros(2), rho_neg12)[0] + P
revalence[m]*mvn.mvnun([-math.inf,-math.inf],Best[[3,4]], mu_p*np.ones(2), rho_pos12)[0])\
    +TCost[l,3]*((1-Prevalence[m])*mvn.mvnun([-math.inf,-math.inf,-math.inf],Best[[3,4,5]], np.zeros(3), rho_n
eg123)[0] + Prevalence[m]*mvn.mvnun([-math.inf,-math.inf,-math.inf],Best[[3,4,5]], mu_p*np.ones(3), rho_pos123)[0])

Report_BN[i, j, k, l, m, n] = np.insert(Best,3,OC)
print(Report_BP[i,j,k,l,m,n])

In [4]:

#Generate all possible combinations of thetas
#Theta1 = v, Theta2 = w, Theta3 = x, theta4 = u, Phi1 = y, Phi2 = z, Phi3 = t
SSSpace = np.array([[v,w,x,u,y,z,t] for v in thetas for w in thetas for x in thetas for u in thetas for y in thetas if y < v for z in
thetas if z < w for t in thetas if t < x])
Rates = np.ones((len(SSSpace),2))

*****Add Additional loops for additional tests*****
for i in range(0,len(quality)): #iterating through different quality values
    for j in range(0,len(b)): #iterating through different b values
        mu_p = norm.ppf(quality[i])*np.sqrt(1+b[j]**2) #determine mean of positive group
        mu_pos = mu_p*np.ones(Length) #create mu matrix

```

```

for k in range(0, len(rho)): #iterating through different rho values
    pos_sig = (1/b[j])**2 #determine positive group standard deviation
    cov12 = rho[k]*b[j]**2 #determine covariance of positive group
    rho_pos12 = np.array([[pos_sig, cov12], [cov12, pos_sig]])#Build covariance matrix.
    rho_neg12 = np.array([[1, rho[k]], [rho[k], 1]]) #Add additional entries for more tests
    rho_pos123 = np.array([[pos_sig, cov12, cov12], [cov12, pos_sig, cov12], [cov12, cov12, pos_sig]])#Build covariance matrix.
    rho_neg123 = np.array([[1, rho[k], rho[k]], [rho[k], 1, rho[k]], [rho[k], rho[k], 1]]) #Add additional entries for more tests
    rho_pos1234 = np.array([[pos_sig, cov12, cov12, cov12], [cov12, pos_sig, cov12, cov12], [cov12, cov12, pos_sig, cov12], [cov12, cov12, cov12, pos_sig]])#Build covariance matrix.
    rho_neg1234 = np.array([[1, rho[k], rho[k], rho[k]], [rho[k], 1, rho[k], rho[k]], [rho[k], rho[k], 1, rho[k]], [rho[k], rho[k], rho[k], 1]]) #Add additional entries for more tests

for l in range(0, len(TCost)): #iterating through different Test Cost Values
    for m in range(0, len(Prevalence)): #iterating through different prevalence values
        for n in range(0, len(MCost)): #iterating through different Misclassification Cost Values

            for r in range(0, len(SSSpace)):
                #Calculate FPR and TPR
                Rates[r] = [(1-norm.cdf(SSSpace[r,0],0,1)) + mvn.mvnun(SSSpace[r,[4,1]], [SSSpace[r,0],math.inf], np.zeros(2), rho_neg12)[0]+mvn.mvnun(SSSpace[r,[4,5,2]], [SSSpace[r,0],SSSpace[r,1],math.inf], np.zeros(3), rho_neg123)[0] + mvn.mvnun(SSSpace[r,[4,5,6,3]], [SSSpace[r,0],SSSpace[r,1],SSSpace[r,2],math.inf], mu_neg, rho_neg1234)[0],\
                    (1-norm.cdf(SSSpace[r,0],mu_p,pos_sig)) + mvn.mvnun(SSSpace[r,[3,1]], [SSSpace[r,0],math.inf], mu_p*np.ones(2), rho_pos12)[0]+mvn.mvnun(SSSpace[r,[3,4,2]], [SSSpace[r,0],SSSpace[r,1],math.inf], mu_p*np.ones(3), rho_pos123)[0] + mvn.mvnun(SSSpace[r,[4,5,6,3]], [SSSpace[r,0],SSSpace[r,1],SSSpace[r,2],math.inf], mu_pos, rho_pos1234)[0]]

            BC = MCost[n,1]*(1-Prevalence[m])*Rates[:,0] + MCost[n,0]*Prevalence[m]*(1-Rates[:,1])
            ind = BC.argmin()

```

```

Best = np.array([Rates[ind,0], Rates[ind,1], BC[ind], SSSpace[ind,0], SSSpace[ind,1], SSSpace[ind,2], SSSpace[
ind,3], SSSpace[ind,4], SSSpace[ind,5], SSSpace[ind,6]])

OC = TCost[l,0] + TCost[l,1]*((norm.cdf(Best[3],0,1)-norm.cdf(Best[7],0,1))*(1-Prevalence[m])+(norm.cdf(Best[3
],mu_p,pos_sig)-norm.cdf(Best[7],mu_p,pos_sig))*Prevalence[m])\
+TCost[l,2]*((1-Prevalence[m])*mvn.mvnun(Best[[7,8]],Best[[3,4]], np.zeros(2), rho_neg12)[0] + Prevalence[
m]*mvn.mvnun(Best[[7,8]],Best[[3,4]], mu_p*np.ones(2), rho_pos12)[0])\
+TCost[l,3]*((1-Prevalence[m])*mvn.mvnun(Best[[7,8,9]],Best[[3,4,5]], np.zeros(3), rho_neg123)[0] + Preval
ence[m]*mvn.mvnun(Best[[7,8,9]],Best[[3,4,5]], mu_p*np.ones(3), rho_pos123)[0])
Report_BE[i, j, k, l, m, n] = np.insert(Best,3,OC)
print(Report_BE[i, j, k, l, m, n])

```

```

-----
MemoryError                                Traceback (most recent call last)
MemoryError:

```

During handling of the above exception, another exception occurred:

```

MemoryError                                Traceback (most recent call last)
<ipython-input-4-0643acca9d21> in <module>
      1 #Generate all possible combinations of thetas
      2 #Theta1 = v, Theta2 = w, Theta3 = x, theta4 = u, Phi1 = y, Phi2 = z, Phi3 = t
----> 3 SSSpace = np.array([[v,w,x,u,y,z,t] for v in thetas for w in thetas for x in thetas for u in thetas for y in thetas if y < v f
or z in thetas if z < w for t in thetas if t < x])
      4 Rates = np.ones((len(SSSpace),2))
      5

MemoryError:

```

In []:

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14. ABSTRACT Frequently, ensembles of classification systems are combined into a sequence in order to better enhance the accuracy in classifying objects of interest. However, there is a point in which adding an additional system to a sequence no longer enhances the sequence. Either the increase in operational costs exceeds the improvement in accuracy or the addition of the system does not increase accuracy at all. This research will examine a utility measure that determines the valid or invalid nature of adding a classification system to a sequence based on the ratio of the change in accuracy to the change in operational costs. Three sequential strategies defined on a two-class population outcome will be examined: Believe the Positive, Believe the Negative, and Believe the Extreme. This work expands upon known accuracy and cost equations for each strategy in order to generalize them for any fixed sequence length. Through simulation, this research identified which characteristics have the greatest impact on the utility measure and provides guidance on the threshold value of the utility measure that differentiates between when the addition of a system to the sequence may be useful (valid) and when it is not (invalid).					
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