WEAK FORM EFFICIENCY TESTS IN ISTANBUL STOCK EXCHANGE

A THESIS
SUBMITTED TO THE DEPARTMENT OF MANAGEMENT
AND THE GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
OF BILKENT UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION

BY
MUSTAFA ÜMAL

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I certify that I have read this thesis and in my opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Business Administration.

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ABSTRACT

WEAK FORM EFFICIENCY TESTS

IN ISTANBUL STOCK EXCHANGE

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M.B.A.

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Capital markets play an important role in allocating the nation's capital resources. One way of evaluating their efficiency in this process is to examine the behavior of share prices. Efficient Market Hypothesis suggests that if this markets are efficient in weak sense then the resulting prices should change over time in a way such that past changes in prices should provide no clues to future changes, otherwise there would be opportunities for making profit and the markets would not be efficient.

This study tests the weak form efficiency of the Istanbul Stock Exchange. The data is composed of daily adjusted closing prices of twenty major stocks and covers the period between January 1988 and December 1991. In the study, widely accepted statistical tests and trade rules test were applied. Independence, randomness and distribution of daily prices were tested statistically, while trade rules tests were used to find whether some mechanical trading rules (filtering) consistently and significantly profitable over a naive buy-and-hold policy.

All tests used were against the weak form efficiency of the Istanbul Stock Exchange. For all of the sample stocks, it was found that people can beat the market by using appropriate filter rules.

ÖZET

ISTANBUL MENKUL KIYMETLER BORSASININ ZAYIF ETKİNLİĞİNİN ÖLÇÜLMESİ

Mustafa Ünal

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Sermaye piyasaları, ülkelerin sermaye kaynaklarının tahsis edilmesinde önemli rol oynar. Piyasaların bu görevdeki etkinliklerinin ölçülmesinin bir yolu, hisse senedi fiyatlarının davranişlarının incelenmesidir. Etkin Pazar Hipotezine göre, eğer piyasa zayıf etkinse, fiyatlar, geçmişteki fiyatların gelecekteki fiyatların davranışı için bir ipucu oluşturmayacağı şekilde değişmelidir. Diğer durumda, kâr etmek için fırsatlar doğacak ve piyasa etkin olmayacaktır.

Bu çalışma, Istanbul Menkul Kıymetler Borsasının zayıf etkinliğini ölçmektedir. Yirmi büyük hisse senedinin Ocak 1988 - Aralık 1991 aralığındaki günlük ayarlanmış kapanış fiyatları kullanılmıştır. Çalışmada, genel kabul görmüş istatistiki testler ile alım-satım kurallarının testleri uygulanmıştır. Istatistiki testler günlük fiyat değişimlerinin bağımsızlığını, rasgeleliğini ve dağılımını ölçerken, alım-satım kuralları testi, bazı mekanik alım-satım kurallarının (filtre kuralları) basit al-ve-tut politikası üzerinde, belirgin ve tutarlı olarak, kârlı olup olmadığını ölçmektedir.

Kullanılan bütün testler, Istanbul Menkul Kıymetler Borsasının zayıf etkinliğinin karşısındadır. Örnek olarak alınan bütün hisse senetleri için, uygun filtre kuralı kullanılırsa, normalin üzerinde kazançlar elde edilebileceği bulunmuştur.

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1. INTRODUCTION

The primary function of a stock market is to allocate resources to the most profitable investment opportunities. If stock prices provide accurate signals for resource allocation, firms are able to make correct production-investment decisions, and investors are able to choose the most suitable stocks for investment. These choices are only possible if the market is efficient, that is, if stock prices "fully reflect" all available information. In the case of price efficiency doubts, investors seek for wasteful ways of exploiting perceived inefficiency and go away from positive interpretation of the messages in stock prices.

A vast amount of research has been conducted on efficiency tests in capital markets, because it has significant "real world" implications for investors and portfolio managers. The studies in this subject got more importance in 1950's and 1960's in developed countries. Kendall (1953) analyzed share prices in London Stock Exchange and concluded the efficiency of the market. Fama (1965) has found no dependence among price changes on share prices in New York Stock Exchange and other researchers have studied various developed markets. Since Istanbul Stock Exchange is a young and developing market, discussions on the efficient market hypothesis still continue. Therefore, an efficiency study in Istanbul Stock Exchange is very necessary for Turkey and domestic and international investors.

This is a comprehensive study of the weak form efficiency test of the Istanbul Stock Exchange. It is based upon well known

and widely accepted tests, namely autocorrelation analysis, runs tests and distribution tests as statistical tests and application of various filter rules as additional data to find out that whether some mechanical trade rules can beat the market. Data used covers the period from 1988 to 1991 and is composed of the adjusted daily closing prices of 20 major stocks. This study is concerned only with the weak form test of the efficient market model. This stems from the assertion that if the evidence fails to pass the weak form tests, there remains no reason to examine stronger forms before declaring the market inefficient on the evidence.

The remainder of the study is organized as follows: Section 2 briefly explains the meaning and levels of efficiency. In Section 3, recent relevant research is reviewed. A summary of background of the Istanbul Stock Exchange is given in Section 4. Section 5 discuss the methodology and data used. Section 6 summarizes and reports the results of tests employed. Some conclusions are noted in Section 7.

2. LEVELS OF EFFICIENCY

In the literature, a distinction is made among three potential levels of efficiency, each level relating to a specific set of information which is increasingly more comprehensive than the previous one:

a) Weak Form Efficiency

The market is efficient in the weak sense if share prices

fully reflect the information implied by all prior price movements. Price movements in effect are totally independent of previous movements, implying the absence of any significant price patterns. As a result, investors are unable to profit from studying charts of past prices. In addition, efficiency at the weak level rules out the validity of "trading" rules, (such as "sell a share if it falls by x% below a certain price") designed to produce above-average returns. Price would respond only to new information or to new economic events.

b) Semi-Strong Form Efficiency

The market is efficient in the semi-strong sense if share prices respond instantaneously and without bias to newly published information. Whether or not the users of information might differ amongst themselves about the significance of new data, the implication is that the prices that are actually arrived at in such a market would invariably represent the best interpretation of the information. It would be futile for investors to search for bargain opportunities from an analysis of published data.

c) Strong Form Efficiency

The market is efficient in the strong sense if share prices fully reflect not only published information but *all* relevant information including data not yet publicly available. If the market were strongly efficient, therefore, even an insider would not be able to profit from his privileged position.

These three levels are not independent of one another. For the market to be efficient in the semi-strong sense it must also

be efficient in the weak sense, because if price movements follow a predictable path which the perceptive observer can exploit profitably, the implication is that the price has reacted slowly or capriciously to published information. Likewise, for the market to be efficient in the strong sense, it must also be efficient at the two lower levels, otherwise the price would not capture *all* relevant information.

3. REVIEW OF RECENT RELEVANT RESEARCH

The first attempt to formulate the random walk hypothesis was made by Bachelier (1900). Using the assumption that stock prices should have independent increments, he derived a mathematical theory of speculative prices and tested it in the French bond market. Although some of his assumptions were unsatisfactory, Bachelier's work was very important and it prefigured much of the modern theory of stochastic processes.

Cowles (1933) investigated the forecasting ability and compared with the share market as a whole, of several groups of professional investors and forecasters who had no special forecasting skills as they were indistinguishable from results which could have arisen by chance. Thus Cowles' results implicitly supported the random walk hypothesis.

Working (1934) observed that share prices often behaved like a cumulative sum of random numbers, and that the differences between these prices were largely random.

Cowles and Jones (1937) found evidence of correlation in

differences of share prices by studying sequences and reversals in price changes. This evidence against the random walk hypothesis was revised by Cowles (1960) to support the hypothesis, when Working (1960) proved that the correlation was spurious as it was generated by an averaging procedure upon the data, and was not inherent in the data itself.

Kendall (1953) analyzed share price indices in London Stock Exchange by finding serial correlation coefficients for the first differences of weekly observations. In general, these coefficients were not significantly different from zero and so supported the random walk hypothesis. Kendall concluded that investors could not make money by watching price movements and investing in shares which were apparently rising. Kendall's paper is important because he commenced to analyze the indices by the conventional time series method of separating the series into trend, cyclical and residual components. This method, and a more flexible approach using autoregressions, both broke down as the random changes between terms were large enough to hide any systematic effects so that the data were similar to wandering series.

Osborne (1959, 1962) has applied the theory of Brownian motion from Statistical Mechanics to the movements of the share prices. This is just a special case of the random walk hypothesis with the independent increments being normally distributed. He studied changes of logarithms of share prices as arithmetic changes and ignored the level of share prices. His first paper (Osborne, 1959) asserts that the expectation of prices increase

with time, and that this increase is not connected with long-term inflation or growth of assets. His second paper (Osborne, 1962) is concerned with finding periodic behavior in the variance of price changes, and in the volume of shares traded.

Moore (1964) continued Kendall's work and found some positive dependence on New York indices at weekly intervals. However, he found some negative dependence for individual share price differences.

Alexander (1961, 1964) tested for independence via a financial rather than statistical test procedure. He devised a mechanical rule for determining when to buy and sell shares. This rule, or filter as it is called, filters away short-term price movements so as to profit from long-term movements. Using share price indices in New York Stock Exchange, Alexander's filter rules produced substantial profits, which led him to reject the random walk hypothesis. However, errors in his method, pointed out by Mandlebrot (1963) and Fama (1965), have reduced this profitability to zero.

Cootner (1962) has classified investors into two types: First, naive investors with little knowledge who would initiate a random walk, and secondly, sophisticated investors who act only when the price has moved away from the correct price and constitute a reflecting barrier. He found a small amount of negative correlation for individual share prices differences at weekly intervals. Cootner also investigated the price series using filter techniques and transition matrices.

The method of cross-spectral analysis has been used by Granger and Morgenstern (1963) and by Godfrey, Granger and Morgenstern (1964). The result of their analysis on American share prices support the random walk hypothesis very strongly for short-run movements, but the long-run movements were not adequately explained by the hypothesis.

The normality of the distribution of share price changes was taken up by Fama (1963, 1965) and Mandlebrot (1963), who were both able to reject it, and suggested its replacement by the family of stable distributions. Fama (1965), the most comprehensive paper to date, has found no dependence among price changes on American share prices.

Papers by Niederhoffer (1965, 1966) and Niederhoffer and Osborne (1966) have discussed the clustering of share prices near round numbers, and have found non-randomness in price reversals from individual transactions data.

Osborne (1965, 1967) has studied the dynamics of share price changes in terms of engineering systems and has tested his models, together with some of the myths which are prevalent around stock exchanges.

Information theory has been applied by Fama (1965a) and by Theil and Leenders (1965) to test the random walk hypothesis. Fama (1965a) found no significant dependence on New York share prices, but that found by Theil and Leenders (1965) was rather greater for Amsterdam share prices.

Fama and Blume (1966) have applied filter rules to New York

share prices in an attempt to find some degree of dependence in the prices. These filters proved, in general, to be worse than a buy-and-hold investment policy. A minute amount of negative dependence was discovered, which was consistent with the paper by Fama (1965) on the same data.

Brada (1966) challenged the evidence against the normality of price differences. He asserted that by differencing across transactions intervals, the distribution of price changes will approach normality, and that price changes will be independent only when a large interval is being considered.

Linklater (1968), in a study of shares on the Sydney Stock Exchange, concluded that the random walk hypothesis did not apply generally. This study used a random sample of ten shares with daily prices, and produced a substantial amount of dependence from run tests.

Dryden (1970) studied time series of daily prices for 15 shares in UK stock market. He asserted that standard statistical tests, such as autocorrelation analysis, might be inadequate to detect the presence of temporal dependence of non-linear form. Therefore, he applied various filtering rules for the study of the speculative prices.

Kemp and Raid (1971), in their studies of Britain equity prices, stressed on importance of using time series share prices rather than using index series which may give a completely false impression of the extent of price fluctuations in individual markets. They have used Wallis-Moore test for cycles in the

runs-tests and concluded the non-randomness of series.

Solnik (1973) tested whether European stock prices follow a random walk. A sample of 234 securities from 8 major European stock markets was used. Besides some of the standard serial correlation tests, he has tested the stability of the estimates. After splitting the total period into two subperiods, the coefficients were computed. He found out that there was some evidence of stability of serial correlation coefficients and a stock which tends to exhibit positive (or negative) serial correlation in one period keeps its characteristics in the following period.

Conrad and Juttner (1973) have studied the daily closing prices of 54 stocks over 3 years period in German Stock Exchange. In runs analysis, they have tested total number of runs, runs-up and down, Wallis-Moore tests and difference sign tests. They found out that the random walk hypothesis was inappropriate in describing the behavior of recent share prices in Germany. In the study of frequency distribution of log price changes, they concluded daily changes in log prices follow a stable Paretian distribution rather than a Gaussian distribution. Laurance (1986) has also found out the same distribution for daily changes of log prices in the Kuala Lumpur and Singapore stock markets.

Numerous investigators have examined the efficient capital market hypothesis in developed countries. There have been few studies on the efficient capital market hypothesis for developing countries. For example, Hong (1978) studied stock exchanges of

some Far East countries which are small in comparison to those of New York and London. He mentioned that it is traditionally theorized that market efficiency depends partly on the presence of a large number of trades and a wide choice of traded stocks. Thus, he tested the market efficiency of smaller and less developed markets of the Far East. He concluded that among the four Eastern countries, Japan clearly exhibits highest market efficiency, since Japanese stock market is larger than the other three and this suggests that the larger markets are more efficient.

Ang and Pohlman (1978) found that the Stock Exchange of Singapore is efficient in the weak sense.

Gandhi (1980), using a number of well known empirical tests, showed the inefficiency of the Kuwaiti stock market.

Wong and Kwong (1984) were against Hong in terms of lower efficiency of smaller markets. In their study of behavior of Hong Kong stock prices, they asserted that the Hong Kong market ranks higher than the London which means the Hong Kong stocks exhibit less deviation from randomness than the London stocks. This was obviously inconsistent with the size hypothesis since the size of the London market is clearly much larger than the size of the Hong Kong market. Thus the question of whether small markets are likely to deviate more from randomness than larger markets remained unsettled.

Alparslan (1989) has tested the weak form efficiency of the Istanbul Stock Exchange. He has used adjusted weekly closing prices between the period January 1986 and October 1988. He has

applied statistical tests of independence (autocorrelation and runs tests) and tests of trading rules. He concluded that the tests generated mixed results. The statistical tests could not refute the weak form efficiency fully, however, the results of filter tests showed that an individual could have beaten the market especially for some of the stocks. Therefore, these discrepancies between the buy-and-hold and filter returns were supporting the views which are against the efficiency of Istanbul Stock Exchange.

Panas (1990) studied the behavior of stock prices in Athens Stock Exchange. He used autocorrelation coefficients and Kolmogorov-Smirnov statistic to test the independence of successive stock price changes. He concluded that the overall evidence tended to support the weak form of the efficient market model.

These contradictive findings about the efficiency of thinly traded stock markets of developing countries and mixed findings of Alparslan (1989) make it more interesting to test the weak form efficiency of Istanbul Stock Exchange in a more comprehensive way by using daily prices and more sample stocks during a longer period.

4. BACKGROUND OF THE ISTANBUL STOCK EXCHANGE

Almost ten years ago, most people living in Türkiye were unaware of the concept of the stock markets and of the securities industry in general. During those years, literally no activity

took place at the Istanbul Stock Exchange which had been established before the foundation of the Republic. Although corporations began issuing bonds in the latter half of the 1970s, no orderly functioning secondary bond market existed. As for the intermediary activities, due to the lack of regulations, they were unorganized and had little importance in terms of their fund placements in the securities markets.

Since the early 1980s, the Turkish economy entered into a transformational stage, from a regulated framework to a deregulated economy, in line with the implementation of the liberalization policies. Parallel to these changes on the real side of the economy, the institutional structure of the economy was reorganized and financial innovations in addition to the deregulation of the tax system and the banking sector were introduced. On the securities market side, the liberalization process was initiated by the creation of a legal framework with the enactment of the Capital Market Law in mid-1981. This was immediately followed by the establishment of the Capital Market Board in 1982 as the governmental body responsible for the healthy development of the securities market by making regulations and by supervising the functioning of the markets.

During the period from 1982 until 1986, the structure of the market was almost completed; the main principles for the financial intermediaries and the scope of their operations were set, the instruments were defined, rules for issuing securities were specified and the Istanbul Stock Exchange was reorganized.

The common feature of the years 1986-1988 emerges from the fact that throughout those years significant changes rarely occurred in either the legal or the institutional environment of the securities markets in Türkiye.

Primary market trading in private sector securities amounted to 274.2 billion TL in 1986, 37% of it being in shares. During 1987, security issues continued to rise, reaching 1,137.6 billion TL in 1988 with an increase of 67% over 1987. Share of equity issues in total volume rose from 27% in 1987 to 32% in 1988.

These developments can also be observed from the sales figures. The total trading volume of both public and private sector securities in the secondary market increased from 2,397.0 billion TL in 1986 to 11,887.3 billion TL in 1988, indicating an increase of 393.9%.

The period beginning with the year 1989 is characterized by both a qualitative and quantitative jump in the Turkish securities markets, which could have taken place as a result of the changes in the economic and the regulatory environment.

Primary market trading rose sharply in 1989. The Board granted permission for security issues for 2,302.9 billion TL in 1989, (of which 42% was shares), which showed a 102% increase over the previous year. In 1990, the amount reached 5,800.4 billion TL (of which 63% was shares), with a 152% annual increase, and in the first three months of 1991, permission granted for security issues amounted to 1,179.0 billion TL (71% shares).

The ISE index reflected these developments on the demand

side. At the end of 1989, it reached 2,217.7 with a 483% increase and continued to rise in 1990 reaching 3,255.7 at the year end. ISE index was 4,519.9 at the end of the first quarter of 1991.

5. DATA AND METHODOLOGY

The data used in this study consist of the daily closing prices of twenty stocks quoted on the Istanbul Stock Exchange over the period January 1988 to December 1991. Daily closing prices adjusted for cash and stock dividends, splits or rights issues, over a long observation period is used. Because, as Fama (1965) pointed out, use of market index in market efficiency tests may lead to a false perception of price change dependence even when price changes of individual shares represented by the index are independent. This spurious dependence comes from the persistence of the effect of the market factor on stocks not trading coincidentally. On the other hand, weekly or monthly prices are more likely to reflect adjustment to new information than daily prices, therefore daily prices were preferred. The selection criterion was the level of transaction days and trading volume in the period of consideration for more effective representation of the whole market. The level of the transaction days is very important, because the results of autocorrelation and runs tests directly related with the continuity of the price series. Therefore all the stocks which were traded during at least 95 % of considered time period and with high trading volumes were chosen. The stock price for a non-traded day was accepted as having the

same price of the previous day. Appendix 1 lists the selected stocks together with the number of transaction days in the period studied.

The data were adjusted for stock splits , cash dividends and stock dividends by using following formula:

$$P_{adj} = \frac{P_{old} - 1000*t + 1000*b_1}{P_{old} * (1 + b_0 + b_1)} \qquad (1)$$

where,

P_{adj}: Adjusted stock price

P_{old}: Stock price before stock split or dividend

t : Percentage of cash dividend

b_0 : Percentage of stock dividend

b_1 : Percentage of right offerings

The model to be tested in this study can be formulated as follows (Fama 1965): Let $\log p_t$, $\log p_{t+1}, \ldots, \log p_{t+k}$ be successive log prices, I_t, $I_{t+1}, \ldots, I_{t+k}$ be successive information sets, and

$$\begin{aligned} x_t &= \log p_t - E(\log p_t \mid I_{t-1}) \\ &\vdots \\ x_{t+k} &= \log p_{t+k} - E(\log p_{t+k} \mid I_{t+k-1}) \end{aligned} \qquad (2)$$

be successive returns, and let $E(\,.\mid I_t)$ denote the objective expectation conditional on I_t. The information sets, I, considered here are the sets of present and past stock prices recorded daily. The sequence $x_t, \ldots, x_{t+k}$ is a fair game with respect to information I if

$$E(x_{t+k} \mid x_t) = E(x_{t+k}) = 0 \quad \forall\, t \qquad (3)$$

Equation 3 holds if the conditional expected rates of return $E(x_{t+k} \mid x_t)$ are unbiased in each time period and if individual returns are serially independent.

According to Fama (1970), the "weak" fair game includes in I the information from only the sequence of past values. One implication of this definition is that

$$E(\log p_{t+k} \mid I_t) = \log p_t \quad \forall\ t \tag{4}$$

Therefore the Equation 2 becomes

$$\begin{aligned} x_t &= \log p_t - \log p_{t-1} \\ &\vdots \quad\quad \vdots \quad\quad \vdots \\ x_{t+k} &= \log p_{t+k} - \log p_{t+k-1} \end{aligned} \tag{5}$$

This is a procedure widely used in most empirical studies for the following reasons:

a) difference of logarithms of prices represents the yield, with continuous compounding from holding the stock during that period;

b) it has been shown by Moore (1964) that the variability of simple price changes for a given stock is an increasing function of the price level of the stock, taking logs neutralizes this price effect;

c) it may be remarked that for the runs tests it does not matter whether $p_t - p_{t-1}$ or $\log p_t - \log p_{t-1}$ is used, since only signs, not magnitudes, are involved.

The efficiency criterion, Equation 3, requires that

$$E[(x_{t+k} - x_{t+k-1}) \mid (x_t - x_{t-1})] = E(x_{t+k} - x_{t+k-1}) = 0 \quad \forall\ t,k \tag{6}$$

This equation implies that successive rates of return follow a

martingale. In addition, it implies that x_t should be uncorrelated with any past information in I_{t-1}.

In this study, the weak efficiency hypothesis will be tested by using some commonly-accepted and widely-used statistical tests. In this section, independence, randomness and distribution of daily stock prices are tested. As additional data, we check whether some mechanical trading rules can make extra profits above a simple buy-and-hold strategy.

5.1. Tests for independence

a) Serial correlation analysis

The serial correlation coefficient of a time series x_t is given by the sample autocorrelation function, r_k, measures the amount of linear dependence between observations in a time series that are separated by lag k, and is defined as:

$$r_k = \frac{\sum_{t=1}^{n-k} (x_t - \bar{x})(x_{t+k} - \bar{x})}{\sum_{t=1}^{n} (x_t - \bar{x})^2} \qquad (7)$$

where variable $x_t = \log p_{t+1} - \log p_t$. Hence, if there is to be any correlation in the successive first differences of log prices, it is most likely to occur between adjacent terms x_t and x_{t+1}, that is, the first order serial correlation. If there is no relationship between successive terms, the serial correlation coefficient will not be significantly different from zero.

If the distribution of x_t has a finite variance, the standard error of r_k for a large sample according to Kendall

(1948) can be given as

$$\sigma(r_k) = \frac{1}{\sqrt{(n-k)}} \qquad (8)$$

b) Kolmogorov-Smirnov test

The Kolmogorov-Smirnov statistic provides an alternative test for white noise processes. The statistic is taken from the cumulated periodogram $\rho_1 \ldots . \rho_k$ defined by the time series $x_1 \ldots . x_n$, where k=n/2. The cumulated periodogram is given as

$$S_j = \frac{\sum_{h=1}^{j} p_h}{\sum_{h=1}^{k} p_h}, \qquad j=1, 2, \quad , k \qquad (9)$$

The test for autocorrelation suggested by Durbin (1967), which uses the cumulated periodogram (Equation 9), is

$$D_n = \max \left| S_j - \frac{j-1}{k-1} \right| \qquad (10)$$

This maximum value is compared with the critical value to determine whether the time series elements $x_1, \ldots . , x_n$ are uncorrelated.

5.2. Tests for randomness

Runs analysis

A run is defined as a price change sequence of the same sign, e.g., + + + - - - 0 0 + would constitute four runs where " + " represents a price increase, " - " a price decrease and "0" no change. Assuming price change independence, the total expected

number of runs of all three types, R_e, is calculated by

$$R_e = \frac{N(N+1) - \sum_{i=1}^{3} n_i^2}{N} \tag{11}$$

where N= total number of stock price changes and n_i = the number of price changes of each type, with i= 1, 2, 3 representing the total number of positive (+), negative (-) and zero (0) stock price changes. The variance of R_e is

$$\sigma^2(R_e) = \frac{\sum_{i=1}^{3} n_i^2 \left[\sum_{i=1}^{3} n_i^2 + N(N+1)\right] - 2N\sum_{i=1}^{3} n_i^3 - N^3}{N^2(N-1)} \tag{12}$$

For large N, the sampling distribution of R_e is approximately normal. The standardized variable may be determined as

$$Z = \frac{(R+0.5) - R_e}{\sigma(R_e)} \tag{13}$$

where R is the actual number of runs.

5.3. Tests for distribution

Test of normality

In this section it will be tested whether or not the empirical distributions of successive log stock price changes conform to the normal distribution.

Consider a sample $x_1, \ldots, x_n$. The coefficients of skewness, β_1, is defined as

$$(\beta_1)^{1/2} = \frac{\mu_3}{\mu_2^{3/2}} \tag{14}$$

where

$$\mu_3 = \frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^3 \qquad (15)$$

and

$$\mu_2 = \frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2 \qquad (16)$$

If $x_1,..,x_n$ constitute a random sample from a normal population then $(\beta_1)^{1/2}$ is approximately normally distributed, with zero mean and standard error $SE(\beta_1)^{1/2} = (6/n)^{1/2}$. Consequently, the ratio $(\beta_1)^{1/2} / SE(\beta_1)^{1/2}$ can be compared with the standard normal variance to test the hypothesis of normality. For a normal distribution N(0,1), $(\beta_1)^{1/2}=0$. Geometrically, negative skewness ($\mu_3<0$) is seen as an extended tail to the left (left skew (LS)), and positive skewness ($\mu_3>0$) implies an extended tail to the right (right skew (RS)).

The coefficient of kurtosis, β_2, is defined as

$$\beta_2 = \frac{\mu_4}{\mu_2^2} - 3 \qquad (17)$$

For large values of n, β_2 is normally distributed, with mean zero and standard error $SE(\beta_2)=(24/n)^{1/2}$ when $x_1,...,x_n$ are a random sample from a normal population (Kendall and Stuart (1969)). A normal distribution N(0,1) has $\beta_2=0$. A distribution with positive kurtosis has sharper peak than the normal distribution, whereas one with negative kurtosis is relatively flat.

As additional data, it was examined that if there exist any significant profitability of applying a mechanical trading rule to

a price series. If a series of price changes follows a random walk with zero mean, then it is impossible to formulate a trading rule which would, on average, do better than a simple buy-and-hold strategy.

This approach has been explored by Alexander (1961; 1964) and later refined by Fama and Blume (1966). The mechanical trading rule considered by these authors works as follows: For an (x,y) filter, buy decision is triggered off by at least x% increase of the share's price and sell decision is triggered off by at least y% decrease of the share's price. The percentage change, however, is not necessarily computed from the price at which the transaction was initiated. x% percent increase from a subsequent low and y% decrease from a subsequent high triggers off the transaction. Thus the trading rule attempts to guard against the erosion of the profit achieved by a series of favourable price changes.

In this study, 2400 different filter rules were applied to any of the twenty stocks. x ranges from 1% to 49% and for every x level, y changes from 1% to 49%. To represent the effect of the brokers' commission, 1% transaction cost was paid for every buy and sell decision. The results of filtering are summarized in Table 4. In this table, the percentage returns from buy-and-hold strategy and filter rule at the end of considered four-year period are compared. Also, the filter for that maximum return, the total number and the percentage of filters beating the market among the 2400 filter rules are given. The returns from the other filters

are summarized in Appendix 3.

6. FINDINGS

Using the data generated during the period 1988-1991, the autocorrelation coefficients for daily changes in log prices were computed for each stock for lag k of from 1 to 90 days (Appendix 2). Table 1 lists autocorrelation coefficients for various lags and results of Kolmogorov-Smirnov test. The mean of one day lag autocorrelation in Istanbul Stock Exchange is 0.1037. Sixteen of the 20 stocks (80 %) have statistically significant one day lag autocorrelation coefficients at the 5% confidence level. All of these 16 correlations are positive in sign. The proportion of Istanbul Stock Exchange stocks exhibiting statistically significant one day lag autocorrelation (80%) is much higher than of developed markets. For instance, Fama (1970) reports 37% (11 of 30) of large NYSE firms have significant one day lag autocorrelations. Solnik (1973) reports significant one day lag autocorrelations in 51% (113 of 224) of stocks across 8 Western European markets.

Statistically significant autocorrelations persist into higher lags (Table 1). At 5% confidence level, 4 stocks exhibited significant autocorrelations at lag of 2 days while 1 stock at 5 days lag. At 10 and 15 days lag, 3 stocks have significant autocorrelation coefficients. Only 2 stocks were significantly autocorrelated at 20 days lag. Detailed information about other lags are shown in Appendix 2.

Table 1

Autocorrelation coefficients and Kolmogorov-Smirnov Statistics

Stock no.	1 Day Lag	2 Days Lag	3 Days Lag	4 Days Lag	5 Days Lag	10 Days Lag	15 Days Lag	20 Days Lag	Dn
1	0.0813*	-0.041	-0.06	0.0226	0.0207	0.0296	0.0062	0.0183	0.276*
2	0.0344	-0.013	-0.063	-0.019	0.0365	0.0624	-0.033	0.0308	0.147
3	0.0474	-0.072*	-0.023	0.0169	0.0293	0.0651*	0.0131	0.0165	0.237*
4	0.1070*	-0.068*	-0.041	0.0094	-0.005	0.0035	0.0026	0.0123	0.248*
5	0.1489*	0.0756*	0.0619	0.0374	0.0313	0.0742*	0.0123	0.0183	0.311*
6	0.1707*	-0.016	-0.045	-0.005	0.0889*	0.0315	0.0114	0.0216	0.503*
7	0.1301*	0.0448	0.0078	0.0561	0.0466	-0.033	-0.015	0.0431	0.107
8	0.1045*	-0.012	-0.031	0.0221	-0.014	0.0343	0.0026	0.0699	0.148
9	-0.012	-0.061	-0.027	0.0239	0.0308	0.0413	0.1095*	-0.006	0.245*
10	0.1446*	0.0021	0.0297	0.0357	0.0162	0.0599	0.0276	0.0126	0.269*
11	0.1248*	-0.013	0.0401	0.0087	-0.013	0.0313	0.0398	0.0126	0.231*
12	0.0994*	-0.018	-0.039	-0.013	0.0195	0.0152	0.0712*	0.0481	0.189
13	0.1335*	-0.058	-0.058	0.027	0.0349	0.0461	0.0253	0.0983*	0.262*
14	0.0977*	0.0221	0.0559	0.0004	0.0141	0.0261	0.0284	0.0107	0.169
15	0.1158*	-0.003	-0.026	0.0025	-0.026	0.0361	0.0665*	0.0051	0.209*
16	0.0892*	0.0157	0.0266	0.0356	0.0146	0.0201	0.0485	-0.010	0.302*
17	0.1321*	-0.003	-0.099*	-0.003	0.0226	0.0509	0.0242	0.0223	0.312*
18	0.0964*	0.0143	0.0133	0.0193	-0.017	0.0769*	0.0464	0.0013	0.114
19	0.1739*	0.0005	-0.004	0.036	0.0227	0.0623	0.0072	0.0667*	0.332*
20	0.0538	-0.069*	-0.059	0.0467	0.0102	0.0321	0.0334	0.0343	0.325*

* statistically significant at p=5% level.

The last column (D_n) of Table 1 shows the Kolmogorov-Smirnov statistics (The critical value of D_n at the 5% level is approximately 0.191). Fourteen of 20 stocks (70%) exhibit statistically significant values at 5% level of confidence. The Kolmogorov-Smirnov statistics in Table 1 indicate that the successive changes in stock prices are dependent and this refutes the hypothesis of weak efficiency in the Istanbul Stock Exchange.

Table 2 shows the results of runs test. For all of the 20 stocks, total observed number of runs are less than the expected number of runs for the randomness of daily stock price changes. Using the conventional two standard errors as a bench-mark, Z is significantly different from zero in 15 of the 20 stocks. This means that the actual number of runs is more than two standard errors different from the expected number for fifteen stocks. Law (1982) found that of the 56 stocks, only 6 were significant, while Fama (1965) showed that Z was significant in 8 out of 30 cases. Dryden (1970), however, found that 12 of the 15 daily values for Z were significant and all Z were negative. Conrad and Juttner (1973) found that in 48 of 54 cases, the value of Z was significant at the 95% level. They concluded that most of the stocks exhibited tendencies that failed to support the random walk hypothesis. Therefore, for the Istanbul Stock Exchange, fifteen of 20 stocks (75%) reject the null hypothesis that daily stock price changes are random.

The skewness and kurtosis coefficients are shown in Table 3. Some of the observed distributions of successive log stock price

Table 2
Results of Runs Tests

Stock No.	Total no. of Runs(R)	Expected no. of Runs(Re)	Standard Error(SE)	Standard Variable(Z)
1	472	492.9	15.62	-1.31
2	434	477.1	15.07	-2.83*
3	435	481.7	15.32	-3.05*
4	445	489.2	15.45	-2.82*
5	393	478.4	21.35	-3.97*
6	392	490.4	24.6	-3.98*
7	418	486.2	17.05	-4.00*
8	409	467.5	17.99	-3.24*
9	460	465.1	14.53	-0.31
10	450	488.9	15.42	-2.48*
11	462	484.4	15.34	-1.42
12	464	489.2	15.45	-1.59
13	423	484.1	18.77	-3.22*
14	360	455.6	23.91	-3.97*
15	426	487.6	18.94	-3.22*
16	427	479.3	15.37	-3.36*
17	431	484.4	15.25	-3.46*
18	439	484.8	15.3	-2.98*
19	416	479.3	15.81	-3.96*
20	443	462.6	14.53	-1.31

(*): statistically significant at p=5% level

Table 3

Results of Distribution Tests

Stock No.	Coefficient of Skewness (1)	Standard Error of Skewness (2)	|(1)/(2)|	Coefficient of Kurtosis (3)	Standard Error of Kurtosis (4)	|(3)/(4)|
1	-0.003 (LS)	0.077	0.039	0.516	0.154	3.35*
2	0.247 (RS)	0.077	3.208*	21.652	0.154	140.6*
3	0.114 (RS)	0.077	1.481	0.418	0.154	2.714*
4	0.143 (RS)	0.077	1.857	3.527	0.154	22.90*
5	3.951 (RS)	0.077	51.31*	54.37	0.154	353.0*
6	0.332 (RS)	0.077	4.312*	2.038	0.154	13.23*
7	0.112 (RS)	0.077	1.455	0.059	0.154	0.383
8	-0.041 (LS)	0.077	0.532	-0.034	0.154	0.221
9	0.081 (RS)	0.077	1.052	1.709	0.154	11.10*
10	0.047 (RS)	0.077	0.610	0.170	0.154	1.104
11	0.107 (RS)	0.077	1.389	0.587	0.154	3.812*
12	0.126 (RS)	0.077	1.636	1.168	0.154	7.584*
13	0.119 (RS)	0.077	1.545	0.382	0.154	2.481*
14	0.061 (RS)	0.077	0.792	0.058	0.154	0.377
15	-0.013 (LS)	0.077	0.169	-0.040	0.154	0.259
16	-0396 (LS)	0.077	5.143*	4.216	0.154	27.38*
17	0.033 (RS)	0.077	0.429	0.481	0.154	3.123*
18	0.178 (RS)	0.077	2.312*	0.832	0.154	5.403*
19	0.051 (RS)	0.077	0.662	-0.040	0.154	0.259
20	0.264 (RS)	0.077	3.429*	0.357	0.154	2.318*

(RS): Right Skew
(LS): Left Skew

(*) : Statictically significant at p=5% level

changes have kurtosis coefficients considerably larger than 0, a condition known as leptokurtosis. Sixteen of 20 stocks were right skewed while the remaining four were left skewed. Using the criteria $|(\beta_1)^{1/2}/SE((\beta_1)^{1/2})|<2$ and $|\beta_2/SE(\beta_2)|<2$ to conclude in favor of normality, fourteen of 20 stocks display substantial peakedness and six of 20 stock have shown skewness. It is noteworthy that the empirical distributions of successive log stock price changes in the case of Istanbul Stock Exchange are not drawn from a normal process, indicating relatively "fat" tails combined with peakedness, or leptokurtosis and rejects the normality assumption of the daily log stock price changes. This may mean the log price differences in this market have infinite variance, and caution should be exercised in using standard statistical methodology to make inferences about weak form efficiency.

The results of application of various filtering techniques were summarized in Table 4. As it is seen from the table, for all of the 20 stocks, it is possible to profit more than the naive buy-and-hold strategy when the appropriate filter rule is applied. It should be considered that 2400 different filters were applied to every sample stock and the filter rule with the highest % return was given in Table 4. By using appropriate filter rule, it was possible to profit approximately two times of buy-and-hold strategy for the seven stocks and more than eight times for the three stocks. The % returns for all 2400 filter rules for the 20 sample stocks are given in Appendix 3. The profitability of the

Table 4
Results of Trade Rules Test

Stock No.	% Return by Buy-and-Hold	Maximum % Return by Filtering	Filter Rule (x%-y%)	Total # of Filters Beating Market (in 2400 filters)
1	3564.4%	5757.9%	34%-21%	358
2	251.9%	440.1%	8%-8%	63
3	373.8%	538.7%	34%-23%	124
4	641.3%	753.9%	37%-5%	7
5	64513.8%	64769.4%	44%-2%	1
6	3009.9%	3730.9%	38%-20%	52
7	217.4%	720.2%	6%-11%	518
8	27.1%	585.0%	9%-35%	779
9	441.9%	508.9%	37%-2%	2
10	2965.9%	5687.7%	28%-49%	485
11	3190.7%	4023.8%	38%-6%	111
12	511.8%	647.9%	45%-31%	150
13	281.1%	420.9%	43%-30%	88
14	98.1%	891.8%	8%-17%	1136
15	1115.9%	2191.5%	40%-24%	371
16	144.8%	1418.6%	5%-9%	806
17	2026.9%	2432.1%	37%-2%	13
18	1425.4%	1776.7%	7%-8%	34
19	717.7%	1848.8%	11%-33%	711
20	1311.5%	1458.0%	33%-25%	15

mechanical trade rules is a result of dependency of successive price changes and supports the findings of statistical tests which reject the weak form efficiency hypothesis for the Istanbul Stock Exchange.

7. CONCLUSIONS

The weak form of the efficient market model consists of two separate hypotheses: successive stock price changes are *independent* and *identically distributed* random variables. The first hypothesis of the model is tested by using serial correlation analysis and Kolmogorov-Smirnov statistics to test the independence and runs tests to test the randomness of daily adjusted log stock price changes. The results of daily serial correlation coefficients for lag k (k=1,2,..,90), Kolmogorov-Smirnov statistics and run analysis show that the magnitude of statistical dependence in successive stock price changes and large deviations from the random walk hypothesis are enough to reject the weak form efficiency hypothesis for the Istanbul Stock Exchange. There is a contradiction between Alparslan's conclusion (1989) and this conclusion. He has used weekly closing prices rather than daily prices. As weekly prices reflect adjustment to new information better than daily prices, this may explain the Alparslan's conclusion which could not refute the weak form efficiency after the autocorrelation and runs tests. The other statistical test to find out the distribution of the data shows that the daily log stock price changes have

distributions that are statistically significantly skewed and peaked; therefore, the normality assumption of daily stock price changes is also not valid for the Istanbul Stock Exchange case. This means that statistical tests of significance based on the normality assumption may be inappropriate.

In order to support the findings of statistical tests, whether some mechanical trading rules (filtering) have profitability over a simple buy-and-hold strategy is checked. Higher profitability of filtering for all of the 20 stocks also supports the statistical test results. Therefore, the overall evidence rejects the weak form efficiency hypothesis for the Istanbul Stock Exchange, and historical stock price changes could be useful for predicting future price movements. The investors who realize this inefficiency may beat the market and can earn extra profits over a naive buy-and-hold policy by using some mechanical trading rules (filtering techniques) or technical analysis.

While this comprehensive study has assessed the weak form of the efficiency test of the Istanbul Stock Exchange, it also raises further issues for investigation. For example, whether or not the stocks are correlated (co-integrated) to each other rather than the past price of own and the profitability of other mechanical trading rules are relevant questions for further study. It is hoped that this study will provide the impetus to further understanding of this subject by setting the foundations to research such questions further.

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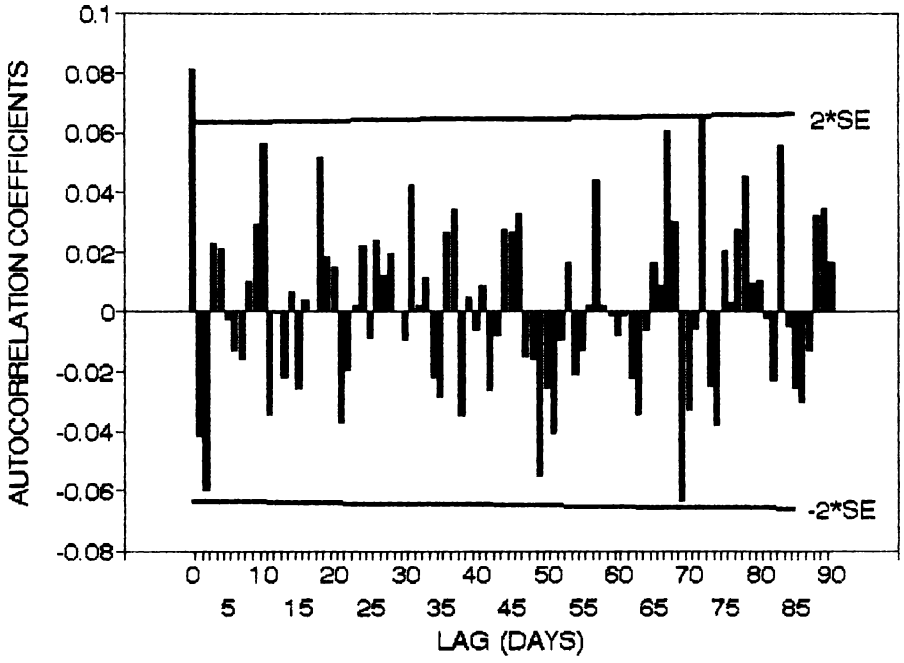
APPENDIX 1

Sample stocks and number of transaction days

(1002 trading days in January 1988-December 1991)

Stock no	Name of stock	No. of transaction days
1	Arçelik	988
2	Bagfaş	994
3	Çelik Halat	1000
4	Çukurova	1001
5	Eczacı Yatirim	954
6	Ereğli Demir Çelik	996
7	Good-Year	999
8	İzmir Demir Çelik	982
9	Kartonsan	1002
10	Koç Holding	987
11	Koç Yatirım	996
12	Kordsa	1002
13	Koruma Tarim	992
14	Metaş	992
15	Otosan	976
16	Rabak	1002
17	Sarkuysan	985
18	Türkiye Demir Döküm Fab.	1001
19	Türkiye Şişe Cam Fab.	981
20	Yasaş	978

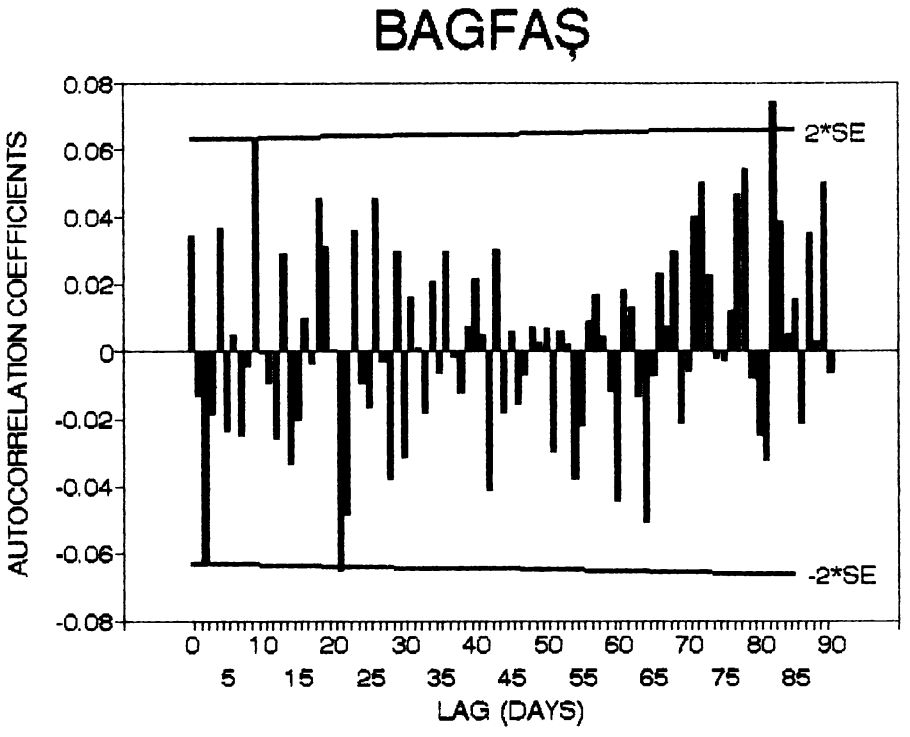
ARÇELİK



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.081331	19	0.051789	37	0.0265	55	-0.02051	73	0.065254
2	-0.04114	20	0.018368	38	0.034424	56	-0.01251	74	-0.02491
3	-0.0599	21	0.014835	39	-0.0345	57	0.002204	75	-0.03776
4	0.022646	22	-0.03712	40	0.004691	58	0.043978	76	0.020191
5	0.020777	23	-0.01967	41	-0.00624	59	0.001783	77	0.002648
6	-0.00255	24	0.001656	42	0.008931	60	-0.00154	78	0.027684
7	-0.01309	25	0.0222	43	-0.02621	61	-0.00783	79	0.045393
8	-0.01611	26	-0.00887	44	-0.00813	62	-0.001	80	0.009096
9	0.010158	27	0.023851	45	0.027407	63	-0.02237	81	0.010531
10	0.029561	28	0.011823	46	0.026663	64	-0.03435	82	-0.00208
11	0.055897	29	0.019431	47	0.033023	65	-0.00636	83	-0.02308
12	-0.03418	30	0.000158	48	-0.01495	66	0.016048	84	0.055574
13	-0.0003	31	-0.00958	49	-0.01566	67	0.008673	85	-0.00464
14	-0.0218	32	0.04188	50	-0.05484	68	0.060552	86	-0.0254
15	0.006152	33	0.001735	51	-0.02556	69	0.030188	87	-0.03023
16	-0.02575	34	0.011674	52	-0.04062	70	-0.06322	88	-0.01271
17	0.003769	35	-0.02154	53	-0.00911	71	-0.03307	89	0.032456
18	0.000186	36	-0.0288	54	0.016482	72	-0.00551	90	0.034856

Arçelik Autocorrelation Test Results

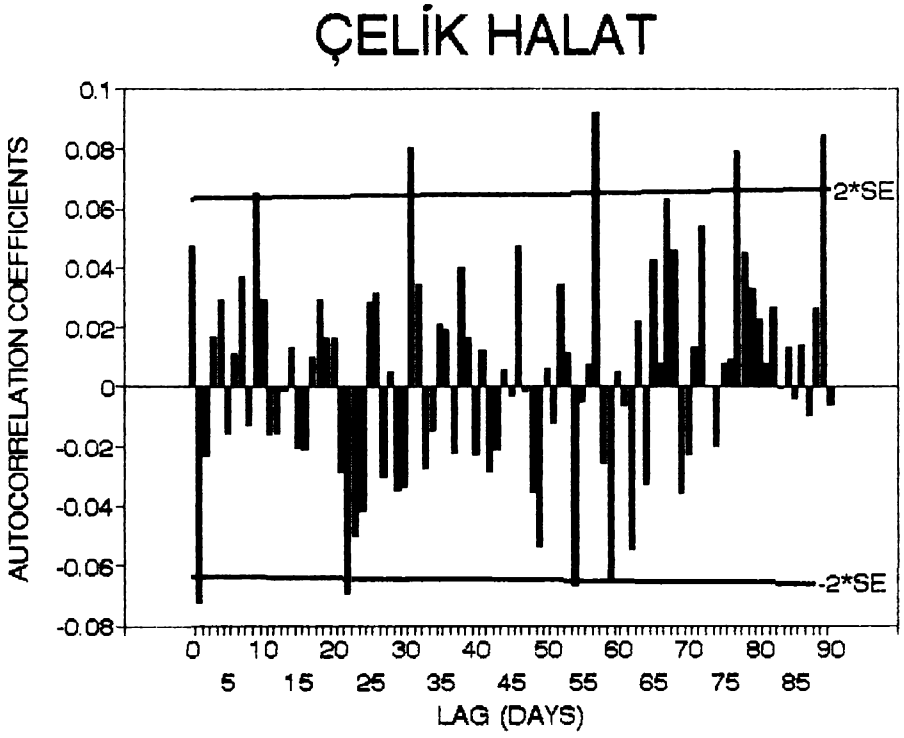
APPENDIX 2.1



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.034403	19	0.045346	37	0.030071	55	-0.03781	73	0.049822
2	-0.01279	20	0.030899	38	-0.0015	56	-0.02223	74	0.022504
3	-0.06325	21	0.000413	39	-0.0122	57	0.008735	75	-0.00189
4	-0.0187	22	-0.06534	40	0.007033	58	0.016808	76	-0.00281
5	0.036528	23	-0.04877	41	0.021194	59	0.004615	77	0.012017
6	-0.02393	24	0.035928	42	0.004726	60	-0.01187	78	0.046406
7	0.00483	25	-0.00947	43	-0.04135	61	-0.0444	79	0.054165
8	-0.02499	26	-0.01661	44	0.030376	62	0.018071	80	-0.00793
9	-0.00439	27	0.045345	45	-0.0182	63	0.013082	81	-0.02521
10	0.062433	28	-0.00274	46	0.006166	64	-0.01346	82	-0.0324
11	-0.00035	29	-0.03787	47	-0.01538	65	-0.05082	83	0.074253
12	-0.00951	30	0.029694	48	-0.00675	66	-0.00739	84	0.038652
13	-0.02613	31	-0.03166	49	0.007395	67	0.023181	85	0.005257
14	0.029019	32	0.016472	50	0.002388	68	0.007253	86	0.015745
15	-0.03343	33	0.000629	51	0.00668	69	0.030041	87	-0.02125
16	-0.02044	34	-0.01834	52	-0.02963	70	-0.02152	88	0.035128
17	0.010044	35	0.020798	53	0.006072	71	-0.00594	89	0.002686
18	-0.00365	36	-0.00643	54	0.001939	72	0.03969	90	0.049901

Bagfaş Autocorrelation Test Results

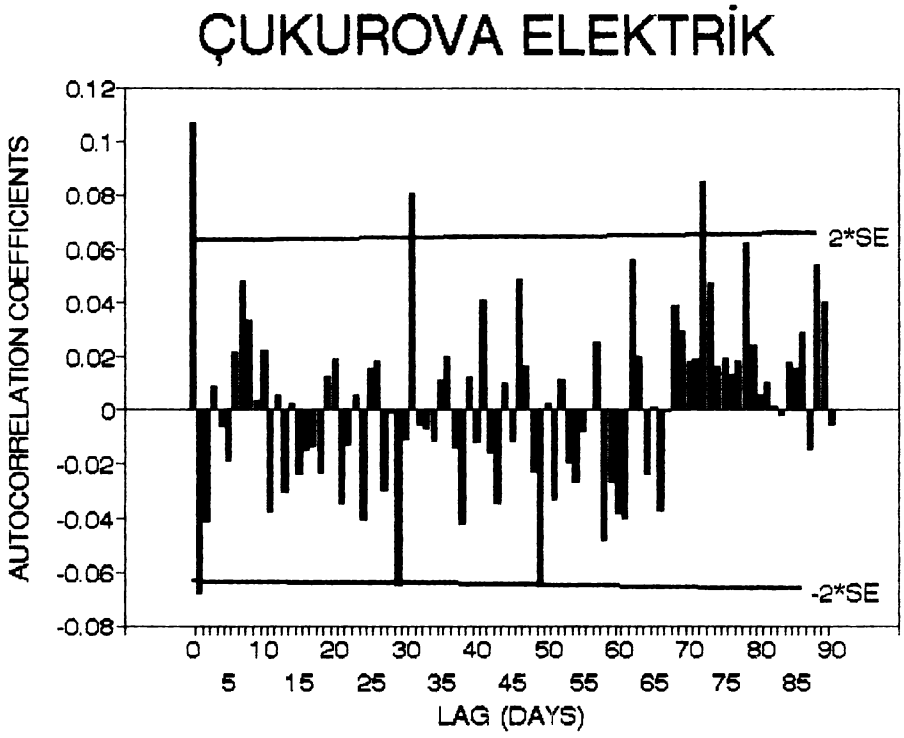
APPENDIX 2.2



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.047401	19	0.029059	37	0.018946	55	-0.06645	73	0.053904
2	-0.07225	20	0.016535	38	-0.0223	56	-0.00504	74	0.000106
3	-0.02315	21	0.016308	39	0.039828	57	0.007288	75	-0.02011
4	0.01696	22	-0.02857	40	0.016597	58	0.091597	76	0.007658
5	0.029336	23	-0.06927	41	-0.02261	59	-0.02504	77	0.00912
6	-0.01533	24	-0.0499	42	0.012111	60	-0.06482	78	0.07874
7	0.01074	25	-0.04152	43	-0.02825	61	0.005059	79	0.044694
8	0.036629	26	0.028514	44	-0.02087	62	-0.00632	80	0.032883
9	-0.01256	27	0.031611	45	0.005728	63	-0.05455	81	0.022553
10	0.065136	28	-0.03007	46	-0.00278	64	0.02216	82	0.007649
11	0.02961	29	0.004986	47	0.047413	65	-0.03238	83	0.026661
12	-0.01615	30	-0.0345	48	-0.00186	66	0.042093	84	-0.00027
13	-0.01532	31	-0.03372	49	-0.03508	67	0.007855	85	0.013162
14	-0.00104	32	0.0801	50	-0.05372	68	0.06266	86	-0.00389
15	0.013104	33	0.033885	51	0.005901	69	0.045973	87	0.014063
16	-0.02021	34	-0.02733	52	-0.01204	70	-0.03554	88	-0.00971
17	-0.02085	35	-0.01453	53	0.034111	71	-0.02283	89	0.025805
18	0.009892	36	0.020624	54	0.011388	72	0.013465	90	0.084325

Çelik Halat Autocorrelation Test Results

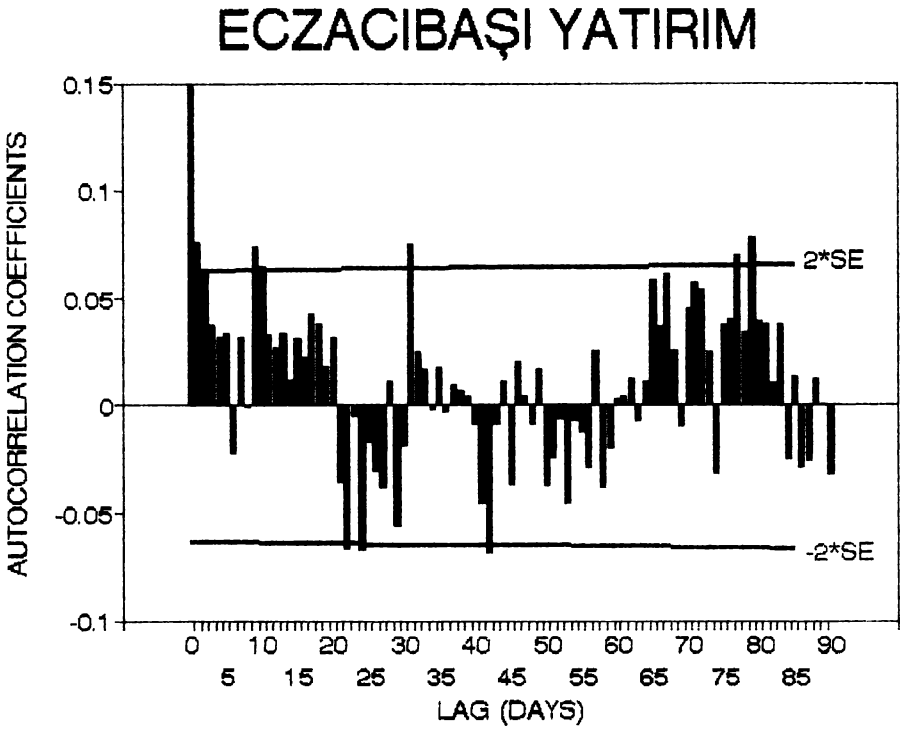
APPENDIX 2.3



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.107007	19	-0.02338	37	0.020132	55	-0.02638	73	0.085071
2	-0.06813	20	0.012319	38	-0.01351	56	-0.00786	74	0.04749
3	-0.04146	21	0.019152	39	-0.04208	57	0.000266	75	0.015787
4	0.009416	22	-0.03449	40	0.012879	58	0.025195	76	0.019316
5	-0.00588	23	-0.01272	41	-0.01188	59	-0.04803	77	0.013219
6	-0.01865	24	0.005423	42	0.041005	60	-0.02674	78	0.018706
7	0.021561	25	-0.04069	43	-0.01601	61	-0.03816	79	0.062085
8	0.047684	26	0.01569	44	-0.03472	62	-0.04007	80	0.024017
9	0.033589	27	0.018782	45	0.010061	63	0.055566	81	0.005783
10	0.003508	28	-0.02968	46	-0.01123	64	0.020278	82	0.010443
11	0.022137	29	-0.00091	47	0.04893	65	-0.02375	83	0.001387
12	-0.03773	30	-0.065	48	0.016151	66	0.001281	84	-0.00206
13	0.005795	31	-0.01083	49	-0.0226	67	-0.03751	85	0.017883
14	-0.03015	32	0.080798	50	-0.06528	68	-0.00025	86	0.015498
15	0.002591	33	-0.00564	51	0.002594	69	0.038864	87	0.028701
16	-0.02391	34	-0.00686	52	-0.03328	70	0.029654	88	-0.01398
17	-0.01478	35	-0.01139	53	0.011828	71	0.017979	89	0.054625
18	-0.01317	36	0.011114	54	-0.01968	72	0.019079	90	0.040377

Çukurova Elektrik Autocorrelation Test Results

APPENDIX 2.4

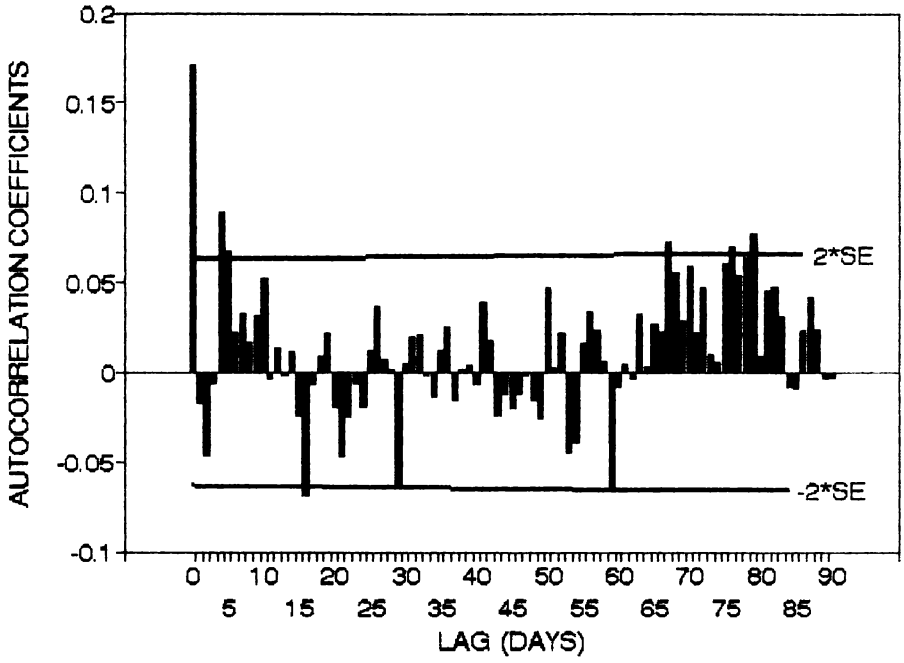


LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.148932	19	0.038376	37	-0.0031	55	-0.00698	73	0.053908
2	0.075665	20	0.018353	38	0.009739	56	-0.01243	74	0.024867
3	0.061964	21	0.032049	39	0.006553	57	-0.02838	75	-0.03178
4	0.037466	22	-0.03502	40	0.004459	58	0.025692	76	0.037487
5	0.031383	23	-0.06625	41	-0.0081	59	-0.03763	77	0.040886
6	0.033565	24	-0.00475	42	-0.04538	60	-0.01999	78	0.070289
7	-0.02194	25	-0.06714	43	-0.06819	61	0.003449	79	0.034349
8	0.031733	26	-0.0165	44	-0.00881	62	0.004388	80	0.078309
9	-0.00031	27	-0.03018	45	0.011379	63	0.0128	81	0.039273
10	0.074253	28	-0.03751	46	-0.03648	64	-0.00649	82	0.038227
11	0.06493	29	0.011522	47	0.020215	65	0.011418	83	0.010661
12	0.033255	30	-0.05547	48	0.004246	66	0.058524	84	0.037932
13	0.02675	31	-0.01829	49	-0.00902	67	0.036908	85	-0.02501
14	0.033631	32	0.075563	50	0.017147	68	0.061883	86	0.013671
15	0.012256	33	0.02543	51	-0.03682	69	0.025868	87	-0.0288
16	0.031095	34	0.016856	52	-0.02406	70	-0.00933	88	-0.02514
17	0.022206	35	-0.00175	53	-0.00607	71	0.045838	89	0.01281
18	0.043252	36	0.017375	54	-0.04532	72	0.057194	90	0.000813

Eczaci Yatirirn Autocorrelation Test Results

APPENDIX 2.5

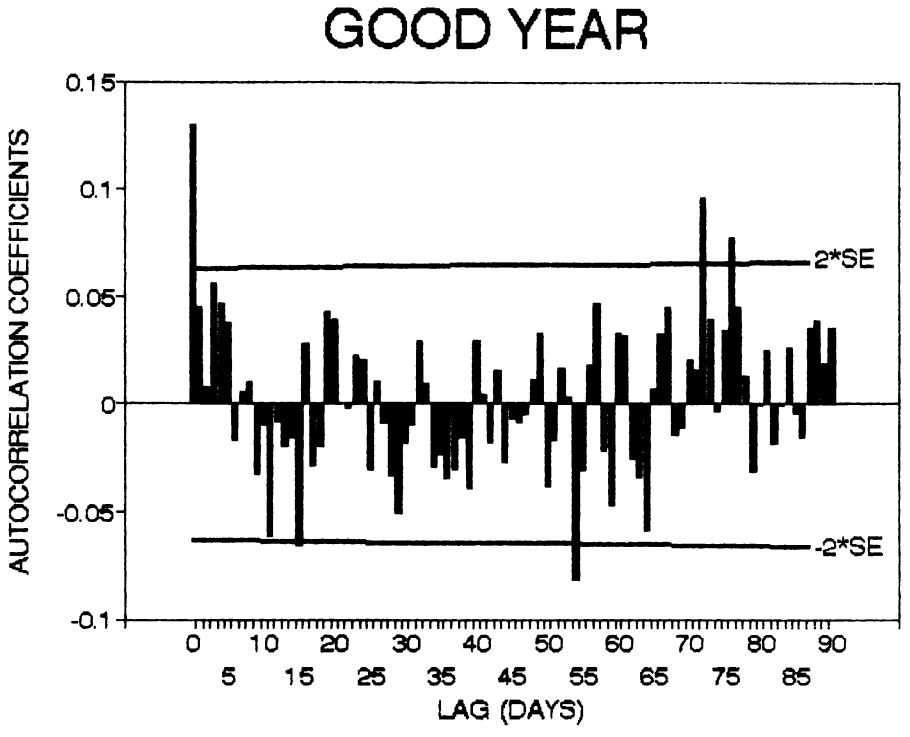
EREĞLİ DEMİR ÇELİK



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.170763	19	0.009039	37	0.025629	55	-0.03832	73	0.046613
2	-0.01669	20	0.021656	38	-0.01572	56	0.016026	74	0.009852
3	-0.04574	21	-0.01941	39	0.001423	57	0.03418	75	0.005496
4	-0.00554	22	-0.04644	40	0.003669	58	0.022679	76	0.060318
5	0.08899	23	-0.02453	41	-0.00668	59	0.006152	77	0.070144
6	0.067401	24	-0.00586	42	0.039182	60	-0.06485	78	0.053652
7	0.022383	25	-0.01941	43	0.016927	61	-0.00812	79	0.063409
8	0.032532	26	0.012129	44	-0.02357	62	0.005023	80	0.076407
9	0.016351	27	0.038447	45	-0.01197	63	-0.0036	81	0.008904
10	0.031585	28	0.006873	46	-0.02038	64	0.032156	82	0.045481
11	0.052773	29	0.002083	47	-0.01222	65	0.002903	83	0.047735
12	-0.00316	30	-0.06371	48	-0.00118	66	0.027097	84	0.03071
13	0.013701	31	0.004073	49	-0.01549	67	0.022446	85	-0.00791
14	-0.00191	32	0.019376	50	-0.02566	68	0.072628	86	-0.00912
15	0.011423	33	0.020798	51	0.046749	69	0.054814	87	0.022922
16	-0.02371	34	-0.00096	52	0.002621	70	0.028987	88	0.041785
17	-0.06851	35	-0.01355	53	0.021621	71	0.058923	89	0.024144
18	-0.00658	36	0.011756	54	-0.04488	72	0.0215	90	-0.00275

Eregli Demir Celik Autocorrelation Test Results

APPENDIX 2.6

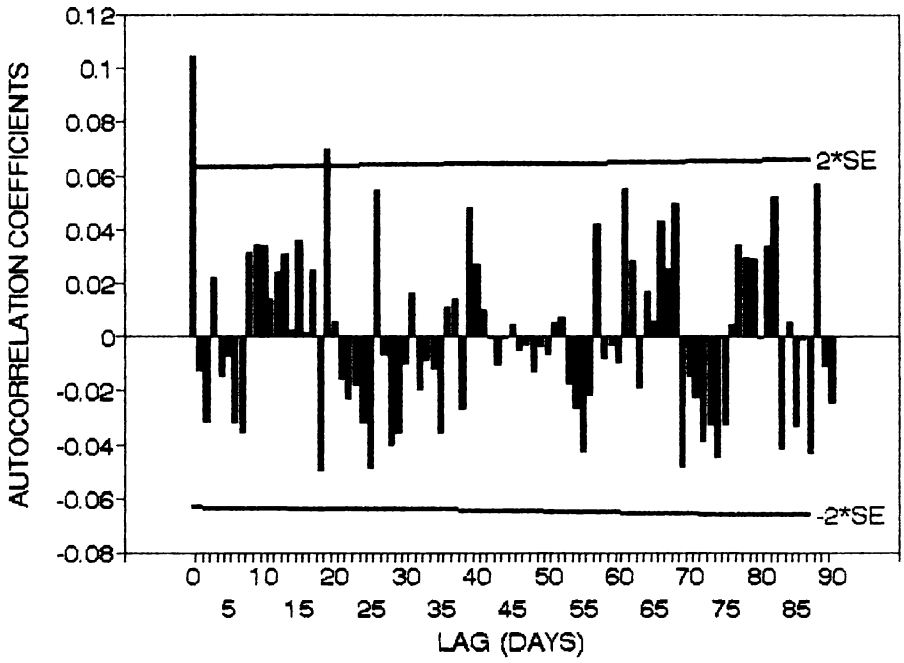


LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.130153	19	-0.01982	37	-0.03439	55	-0.08166	73	0.095552
2	0.044812	20	0.043061	38	-0.0302	56	-0.03059	74	0.039303
3	0.007814	21	0.039511	39	-0.01549	57	0.018583	75	-0.0034
4	0.056087	22	-0.00021	40	-0.03885	58	0.046753	76	0.034419
5	0.048598	23	-0.00197	41	0.029554	59	-0.0214	77	0.077287
6	0.037439	24	0.022084	42	0.004327	60	-0.04726	78	0.044947
7	-0.01642	25	0.020789	43	-0.01819	61	0.033123	79	0.012897
8	0.005722	26	-0.03016	44	0.015633	62	0.032289	80	-0.0315
9	0.010133	27	0.010711	45	-0.02707	63	-0.02537	81	-0.00056
10	-0.03258	28	-0.00826	46	-0.00642	64	-0.03412	82	0.024532
11	-0.00957	29	-0.03289	47	-0.00892	65	-0.05908	83	-0.01833
12	-0.06143	30	-0.05094	48	-0.00491	66	0.007128	84	-0.00043
13	-0.00777	31	-0.01735	49	0.011609	67	0.03268	85	0.026108
14	-0.01954	32	-0.00923	50	0.033006	68	0.04458	86	-0.00422
15	-0.01506	33	0.029842	51	-0.03844	69	-0.01404	87	-0.01515
16	-0.06581	34	0.009509	52	-0.01635	70	-0.01084	88	0.035631
17	0.028008	35	-0.02947	53	0.016536	71	0.020773	89	0.038823
18	-0.02804	36	-0.02354	54	0.003237	72	0.015354	90	0.019042

Goodyear Autocorrelation Test Results

APPENDIX 2.7

İZMİR DEMİR ÇELİK

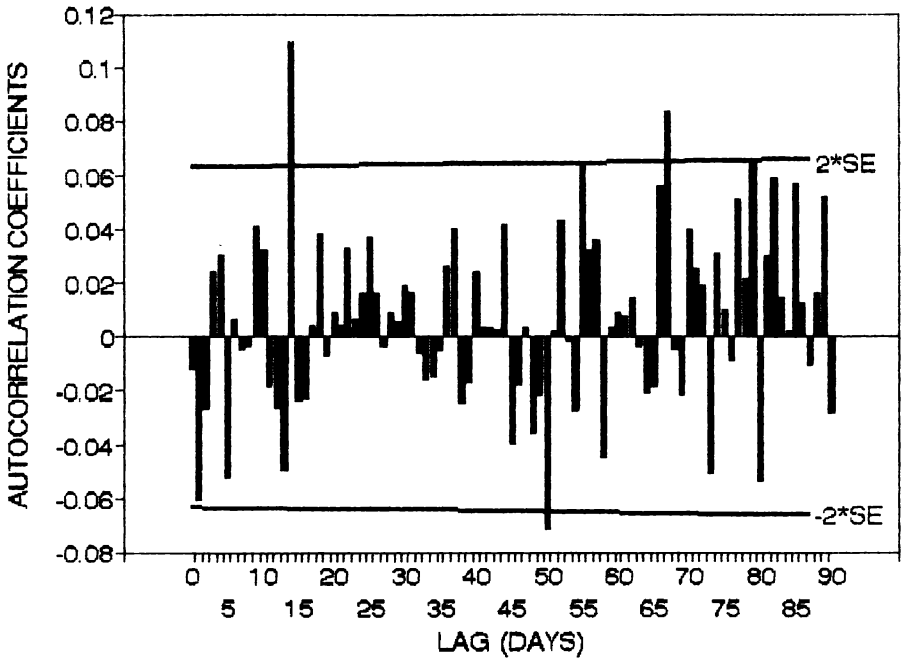


LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.104507	19	-0.04987	37	0.011117	55	-0.02624	73	-0.03849
2	-0.01215	20	0.069993	38	0.013905	56	-0.04271	74	-0.03272
3	-0.0311	21	0.005402	39	-0.02693	57	-0.02162	75	-0.04463
4	0.022127	22	-0.01513	40	0.048627	58	0.042185	76	-0.03283
5	-0.01453	23	-0.02292	41	0.027154	59	-0.00785	77	0.004694
6	-0.00696	24	-0.01796	42	0.010177	60	-0.0029	78	0.034735
7	-0.03168	25	-0.0319	43	-0.00043	61	-0.00936	79	0.029592
8	-0.03551	26	-0.04878	44	-0.01039	62	0.055117	80	0.028972
9	0.031629	27	0.054821	45	-0.00027	63	0.02841	81	-0.00058
10	0.034312	28	-0.00627	46	0.004605	64	-0.01885	82	0.033961
11	0.033859	29	-0.04015	47	-0.00488	65	0.016925	83	0.052412
12	0.014025	30	-0.03601	48	-0.00289	66	0.005836	84	-0.0416
13	0.024229	31	-0.0099	49	-0.01279	67	0.043624	85	0.005263
14	0.030981	32	0.016826	50	-0.0033	68	0.025059	86	-0.03307
15	0.002648	33	-0.01903	51	-0.00614	69	0.049836	87	-0.0008
16	0.036026	34	-0.00832	52	0.005149	70	-0.0478	88	-0.04317
17	0.001675	35	-0.01153	53	0.006815	71	-0.01456	89	0.057419
18	0.025001	36	-0.03583	54	-0.01735	72	-0.02241	90	-0.01092

Izmir Demir Celik Autocorrelation Test Results

APPENDIX 2.8

KARTONSAN

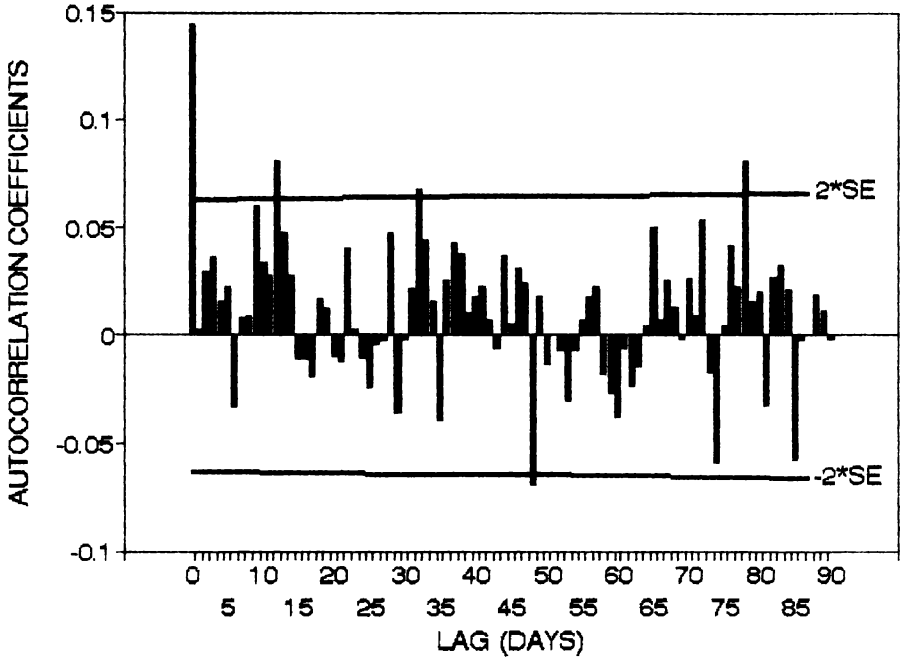


LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	-0.01186	19	0.038526	37	0.026374	55	-0.02715	73	0.018958
2	-0.06063	20	-0.0066	38	0.040237	56	0.064472	74	-0.05046
3	-0.02699	21	0.009429	39	-0.02503	57	0.03169	75	0.031103
4	0.023925	22	0.0044	40	-0.01667	58	0.035819	76	0.010183
5	0.030848	23	0.033028	41	0.024223	59	-0.04464	77	-0.00882
6	-0.05199	24	0.006456	42	0.00364	60	0.003747	78	0.051414
7	0.006401	25	0.016101	43	0.004024	61	0.008919	79	0.021798
8	-0.00421	26	0.037057	44	0.002601	62	0.007846	80	0.066164
9	-0.00351	27	0.015836	45	0.041893	63	0.014729	81	-0.0536
10	0.04134	28	-0.00336	46	-0.0396	64	-0.00321	82	0.030006
11	0.032808	29	0.009155	47	-0.01738	65	-0.02074	83	0.059622
12	-0.01836	30	0.005671	48	0.003505	66	-0.01838	84	0.014762
13	-0.02628	31	0.018842	49	-0.03588	67	0.05619	85	0.002339
14	-0.04965	32	0.016563	50	-0.02101	68	0.083522	86	0.057595
15	0.109494	33	-0.00572	51	-0.07174	69	-0.0044	87	0.012873
16	-0.02379	34	-0.01618	52	0.002321	70	-0.02111	88	-0.01028
17	-0.02242	35	-0.01442	53	0.043507	71	0.039872	89	0.016368
18	0.004282	36	-0.00469	54	-0.0013	72	0.025078	90	0.052664

Kartonsan Autocorrelation Test Results

APPENDIX 2.9

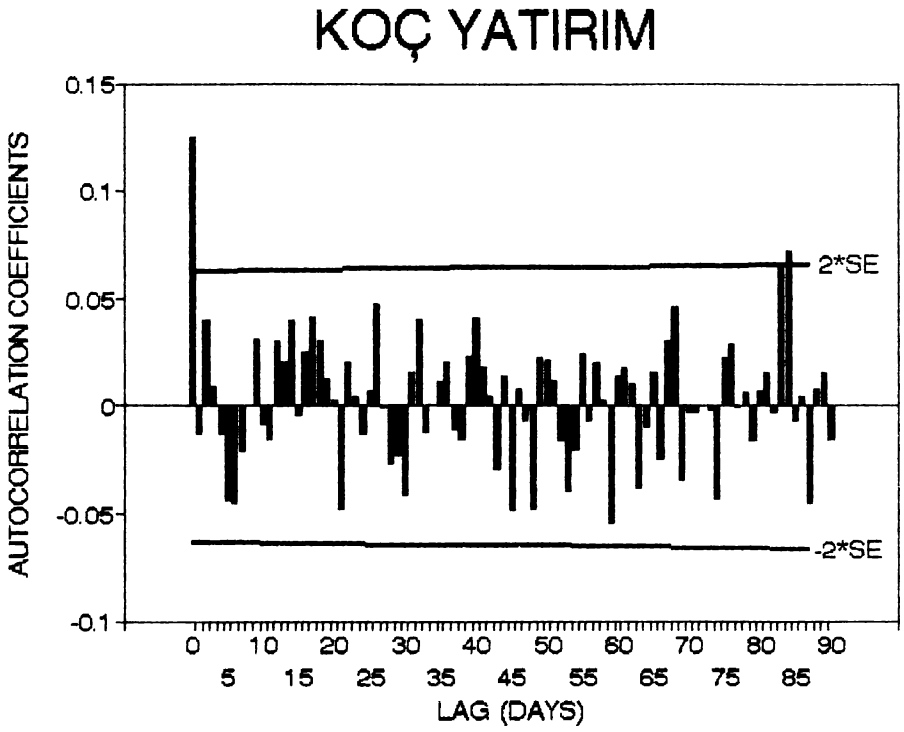
KOÇ HOLDİNG



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.144617	19	0.017029	37	0.025522	55	-0.00626	73	0.053689
2	0.002145	20	0.012582	38	0.04273	56	0.006531	74	-0.01698
3	0.029785	21	-0.00986	39	0.037407	57	0.017349	75	-0.05888
4	0.035726	22	-0.01238	40	0.010219	58	0.022426	76	0.005005
5	0.016195	23	0.040892	41	0.017638	59	-0.01811	77	0.041933
6	0.022213	24	0.003082	42	0.022624	60	-0.0262	78	0.022401
7	-0.03373	25	-0.01012	43	0.007457	61	-0.0377	79	0.080874
8	0.00837	26	-0.02451	44	-0.00591	62	-0.00576	80	0.016207
9	0.00888	27	-0.00393	45	0.03703	63	-0.02316	81	0.019987
10	0.059875	28	-0.00236	46	0.005496	64	-0.01405	82	-0.03288
11	0.033928	29	0.046925	47	0.031153	65	0.004801	83	0.027134
12	0.027612	30	-0.03585	48	0.024169	66	0.050094	84	0.032381
13	0.081327	31	-0.0017	49	-0.06959	67	0.007418	85	0.021255
14	0.047045	32	0.021795	50	0.017795	68	0.025596	86	-0.05758
15	0.027633	33	0.067962	51	-0.01348	69	0.013089	87	-0.00233
16	-0.01143	34	0.04443	52	-0.00015	70	-0.00149	88	0.000561
17	-0.01141	35	0.015756	53	-0.00675	71	0.026439	89	0.019009
18	-0.0192	36	-0.03984	54	-0.03037	72	0.008591	90	0.010974

Koc Holding Autocorrelation Test Results

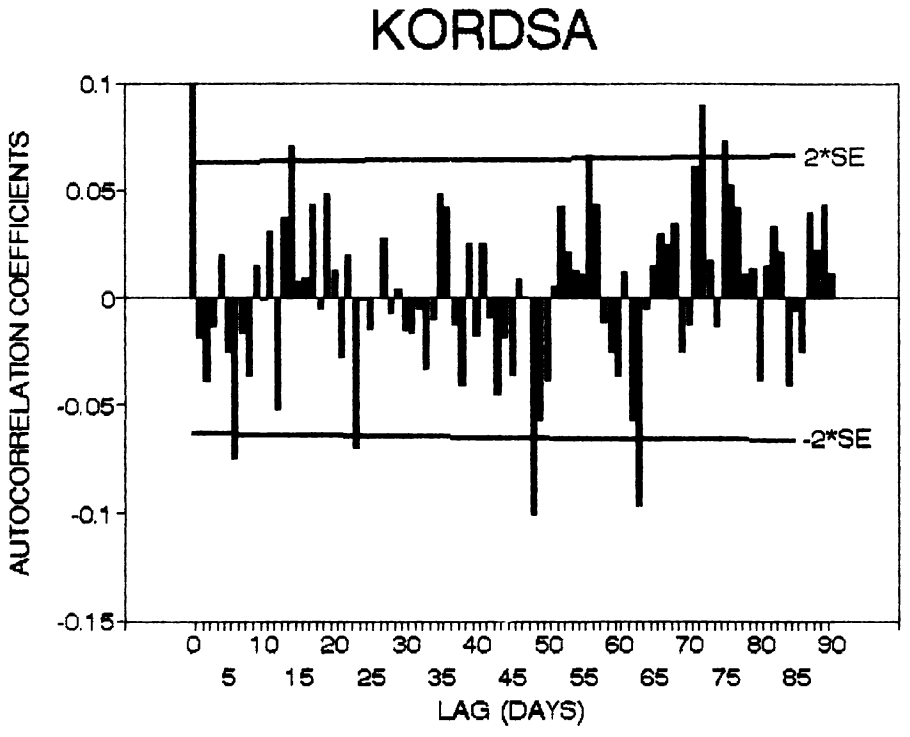
APPENDIX 2.10



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1		19	0.030392	37	0.020178	55	-0.02063	73	0.000426
2	-0.0134	20	0.012577	38	-0.01066	56	0.024406	74	-0.00213
3	0.04005	21	0.002798	39	-0.01535	57	-0.0062	75	-0.04336
4	0.008718	22	-0.04763	40	0.023433	58	0.019721	76	0.022653
5	-0.01334	23	0.020273	41	0.041138	59	0.00271	77	0.028718
6	-0.04362	24	0.004688	42	0.018433	60	-0.05451	78	-0.00076
7	-0.04518	25	-0.01298	43	0.004643	61	0.013605	79	0.006356
8	-0.02114	26	0.007344	44	-0.02902	62	0.017367	80	-0.01618
9	0.000471	27	0.047294	45	0.014068	63	0.01	81	0.006976
10	0.031315	28	-0.00074	46	-0.0484	64	-0.0377	82	0.016081
11	-0.00886	29	-0.0266	47	0.007747	65	-0.00957	83	-0.00285
12	-0.01583	30	-0.02278	48	-0.00697	66	0.015837	84	0.06441
13	0.030258	31	-0.0413	49	-0.04764	67	-0.0248	85	0.072562
14	0.020296	32	0.015913	50	0.022529	68	0.030667	86	-0.00703
15	0.039849	33	0.040644	51	0.021131	69	0.046311	87	0.004262
16	-0.00384	34	-0.01244	52	0.012189	70	-0.03459	88	-0.0452
17	0.024859	35	0.000561	53	-0.01634	71	-0.00315	89	0.007874
18	0.04155	36	0.011778	54	-0.03934	72	-0.00287	90	0.016198

Koc Yatirim Autocorrelation Test Results

Appendix 2.11

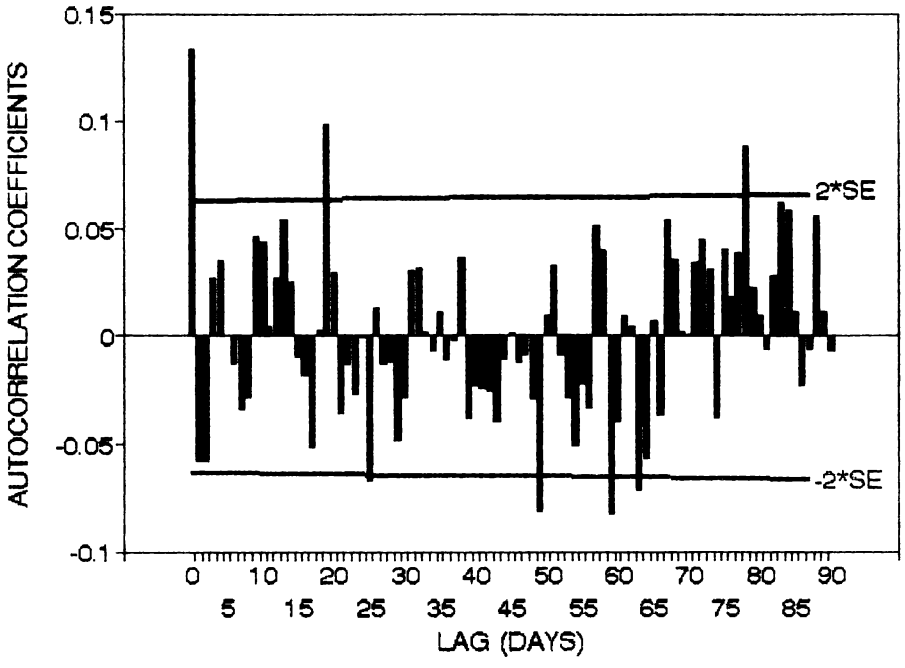


LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.099416	19	-0.00496	37	0.041832	55	0.0134	73	0.08986
2	-0.01813	20	0.048034	38	-0.01241	56	0.011013	74	0.017516
3	-0.03868	21	0.012865	39	-0.0408	57	0.066209	75	-0.01308
4	-0.01319	22	-0.02707	40	0.025379	58	0.043123	76	0.072991
5	0.019535	23	0.020003	41	-0.01756	59	-0.01111	77	0.052349
6	-0.02464	24	-0.06958	42	0.02537	60	-0.02475	78	0.04189
7	-0.07473	25	-0.00059	43	-0.00883	61	-0.03607	79	0.011129
8	-0.016	26	-0.01454	44	-0.04482	62	0.012203	80	0.013827
9	-0.03651	27	-8.2E-05	45	-0.01801	63	-0.05622	81	-0.03785
10	0.015211	28	0.027998	46	-0.03555	64	-0.09677	82	0.01528
11	-0.00062	29	-0.00742	47	0.008696	65	-0.0053	83	0.033845
12	0.030907	30	0.004097	48	0.000742	66	0.015034	84	0.021384
13	-0.05167	31	-0.0148	49	-0.10043	67	0.029643	85	-0.04078
14	0.037327	32	-0.01576	50	-0.05687	68	0.024994	86	-0.00563
15	0.071231	33	-0.00496	51	-0.03786	69	0.034486	87	-0.02528
16	0.007293	34	-0.03306	52	0.005639	70	-0.02516	88	0.039313
17	0.009471	35	-0.01031	53	0.042891	71	-0.01273	89	0.022566
18	0.043496	36	0.048076	54	0.021538	72	0.06115	90	0.043097

Kordsa Autocorrelation Test Results

APPENDIX 2.12

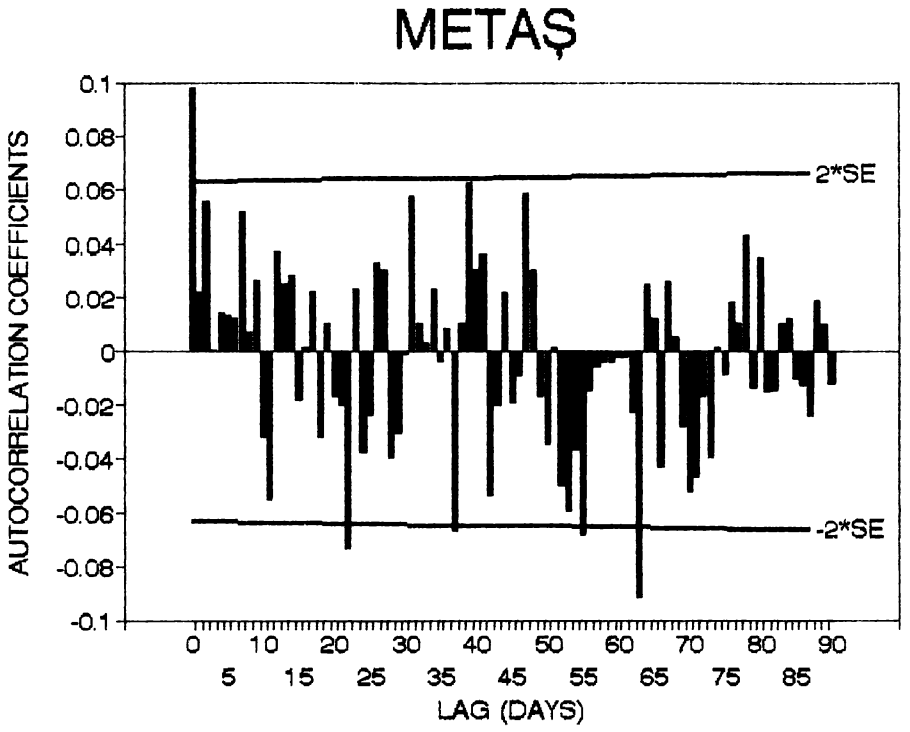
KORUMA TARIM



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.133508	19	0.002415	37	-0.011	55	-0.05047	73	0.045403
2	-0.05754	20	0.098363	38	-0.00166	56	-0.02262	74	0.031316
3	-0.05807	21	0.028973	39	0.036305	57	-0.03327	75	-0.03745
4	0.027026	22	-0.03592	40	-0.03791	58	0.051669	76	0.040449
5	0.034986	23	-0.01306	41	-0.02298	59	0.039702	77	0.017947
6	0.00037	24	-0.02669	42	-0.0242	60	-0.08294	78	0.038636
7	-0.01263	25	-0.00046	43	-0.02528	61	-0.03979	79	0.088611
8	-0.03393	26	-0.0667	44	-0.03948	62	0.009133	80	0.022439
9	-0.02838	27	0.012961	45	-0.01012	63	0.004525	81	0.009884
10	0.046073	28	-0.01342	46	0.001368	64	-0.07157	82	-0.00581
11	0.043806	29	-0.01189	47	-0.01228	65	-0.05645	83	0.028115
12	0.005006	30	-0.04815	48	-0.0086	66	0.007193	84	0.061967
13	0.027084	31	-0.02826	49	-0.02925	67	-0.03659	85	0.058786
14	0.054297	32	0.03063	50	-0.08139	68	0.054594	86	0.011679
15	0.025304	33	0.031476	51	0.009529	69	0.035319	87	-0.02315
16	-0.00952	34	0.002018	52	0.032839	70	0.00178	88	-0.00588
17	-0.0182	35	-0.00698	53	-0.00847	71	0.00116	89	0.05655
18	-0.05162	36	0.010908	54	-0.02867	72	0.034256	90	0.011582

Koruma Tarim Autocorrelation Test Results

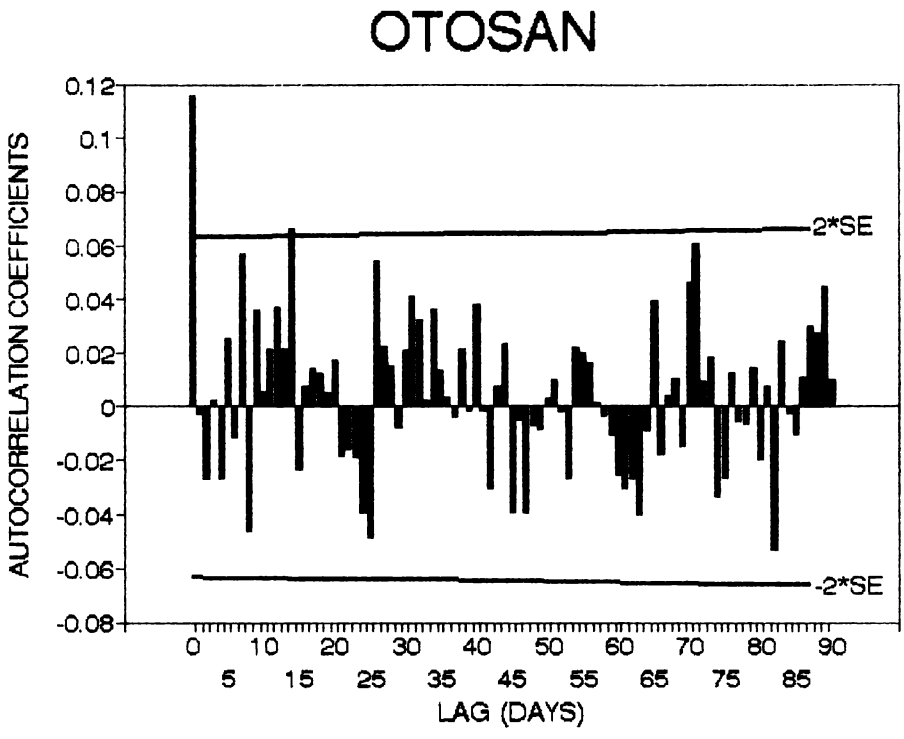
APPENDIX 2.13



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.097742	19	-0.03163	37	0.008282	55	-0.03649	73	-0.01653
2	0.022096	20	0.010741	38	-0.06656	56	-0.06779	74	-0.03968
3	0.05598	21	-0.01662	39	0.010807	57	-0.01465	75	0.001738
4	0.000459	22	-0.02018	40	0.062571	58	-0.00566	76	-0.00826
5	0.014189	23	-0.07279	41	0.030071	59	-0.00361	77	0.018295
6	0.013412	24	0.02317	42	0.036237	60	-0.00321	78	0.010697
7	0.01229	25	-0.03732	43	-0.05377	61	-0.00199	79	0.043535
8	0.052243	26	-0.02354	44	-0.01951	62	-0.00202	80	-0.01347
9	0.007266	27	0.032856	45	0.022149	63	-0.02251	81	0.034851
10	0.026072	28	0.030619	46	-0.01903	64	-0.09105	82	0.01504
11	-0.03153	29	-0.03914	47	-0.00911	65	0.024667	83	0.01441
12	-0.05525	30	-0.03053	48	0.058848	66	0.012162	84	0.010496
13	0.037235	31	-0.00106	49	0.030411	67	-0.04243	85	0.012414
14	0.024871	32	0.057655	50	-0.01619	68	0.025732	86	-0.00983
15	0.0284	33	0.010863	51	-0.03451	69	0.005369	87	-0.0128
16	-0.01826	34	0.002817	52	0.001191	70	-0.028	88	-0.02401
17	0.001213	35	0.023334	53	-0.0495	71	-0.05218	89	0.018959
18	0.022541	36	-0.00314	54	-0.05883	72	-0.04665	90	0.009861

Metas Autocorrelation Test Results

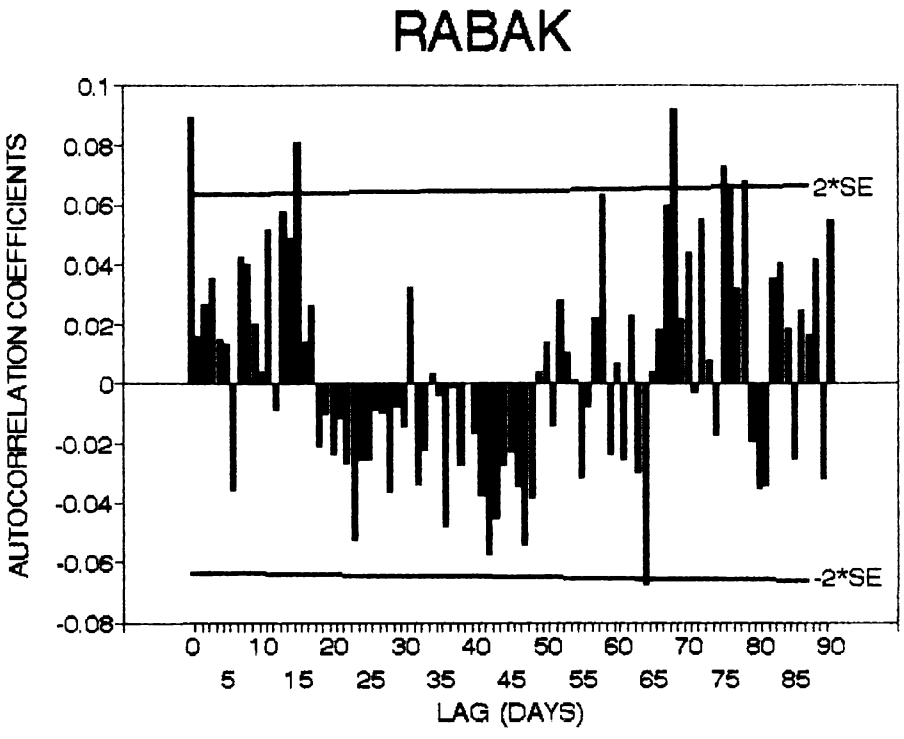
APPENDIX 2.14



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.115772	19	0.012251	37	0.003743	55	0.021948	73	0.009568
2	-0.0029	20	0.005128	38	-0.00406	56	0.020162	74	0.018519
3	-0.02635	21	0.017622	39	0.021208	57	0.016498	75	-0.03409
4	0.00251	22	-0.01817	40	-0.00179	58	0.001527	76	-0.02699
5	-0.02643	23	-0.0159	41	0.038071	59	-0.00349	77	0.012967
6	0.025808	24	-0.01871	42	-0.0012	60	-0.01044	78	-0.00564
7	-0.01142	25	-0.03912	43	-0.03027	61	-0.02543	79	-0.00642
8	0.056826	26	-0.04863	44	0.007251	62	-0.03056	80	0.014368
9	-0.0463	27	0.054537	45	0.023619	63	-0.02634	81	-0.02006
10	0.03609	28	0.022496	46	-0.03882	64	-0.04006	82	0.00722
11	0.005936	29	0.015323	47	-0.0047	65	-0.00894	83	-0.05283
12	0.021578	30	-0.00782	48	-0.03945	66	0.039759	84	0.024401
13	0.036798	31	0.021136	49	-0.00701	67	-0.01771	85	-0.00221
14	0.02151	32	0.041062	50	-0.00812	68	0.004177	86	-0.01071
15	0.066612	33	0.032217	51	0.003023	69	0.01034	87	0.011293
16	-0.02349	34	0.002687	52	0.009962	70	-0.01475	88	0.029862
17	0.007774	35	0.036351	53	-0.00216	71	0.046117	89	0.027469
18	0.01414	36	0.013729	54	-0.0268	72	0.061025	90	0.045208

Otosan Autocorrelation Test Results

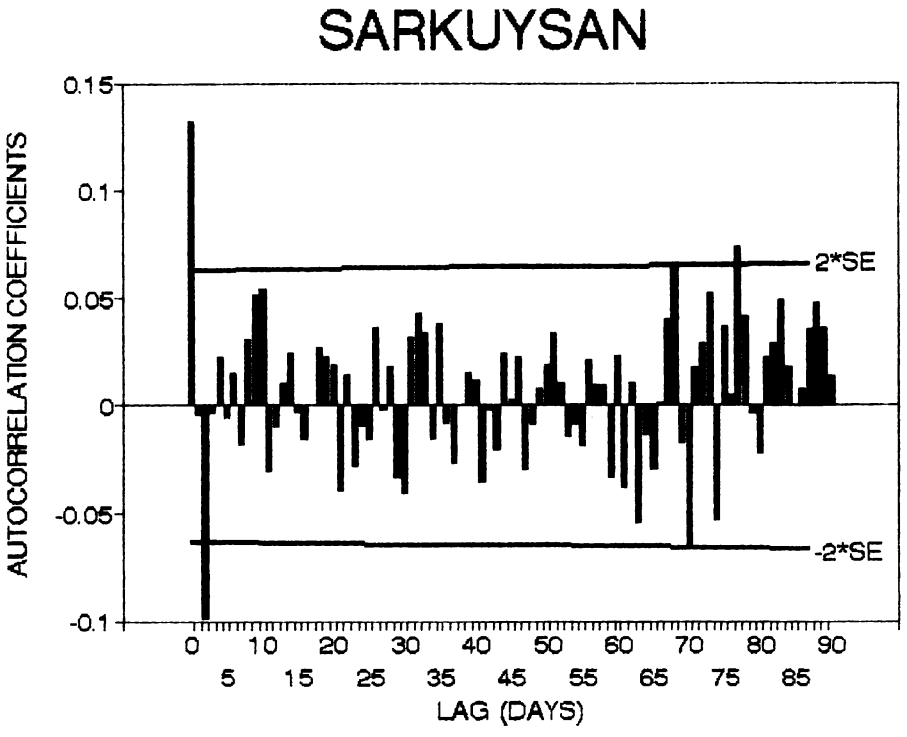
APPENDIX 2.15



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.089225	19	-0.02056	37	-0.04752	55	0.00121	73	0.055485
2	0.015744	20	-0.01001	38	-0.00112	56	-0.03153	74	0.007842
3	0.026635	21	-0.02331	39	-0.02735	57	-0.00732	75	-0.01736
4	0.035566	22	-0.01164	40	0.00031	58	0.022129	76	0.072394
5	0.014603	23	-0.02647	41	-0.01651	59	0.063249	77	0.066172
6	0.01333	24	-0.05216	42	-0.03753	60	-0.02353	78	0.031957
7	-0.03564	25	-0.02549	43	-0.05691	61	0.006853	79	0.067902
8	0.041893	26	-0.0252	44	-0.04504	62	-0.02568	80	-0.0195
9	0.039967	27	-0.00876	45	-0.02699	63	0.022685	81	-0.03493
10	0.020026	28	-0.00961	46	-0.02278	64	-0.02964	82	-0.03438
11	0.004021	29	-0.03606	47	-0.03444	65	-0.06718	83	0.03527
12	0.052022	30	-0.00745	48	-0.05401	66	0.003816	84	0.04077
13	-0.00882	31	-0.01434	49	-0.03849	67	0.018194	85	0.018643
14	0.057566	32	0.032569	50	0.003746	68	0.05939	86	-0.02504
15	0.04851	33	-0.03399	51	0.014078	69	0.092223	87	0.024805
16	0.080497	34	-0.02251	52	-0.01422	70	0.021585	88	0.016595
17	0.013883	35	0.00362	53	0.028071	71	0.044038	89	0.041863
18	0.026306	36	-0.004	54	0.010403	72	-0.00319	90	-0.03229

Rabak Autocorrelation Test Results

APPENDIX 2.16

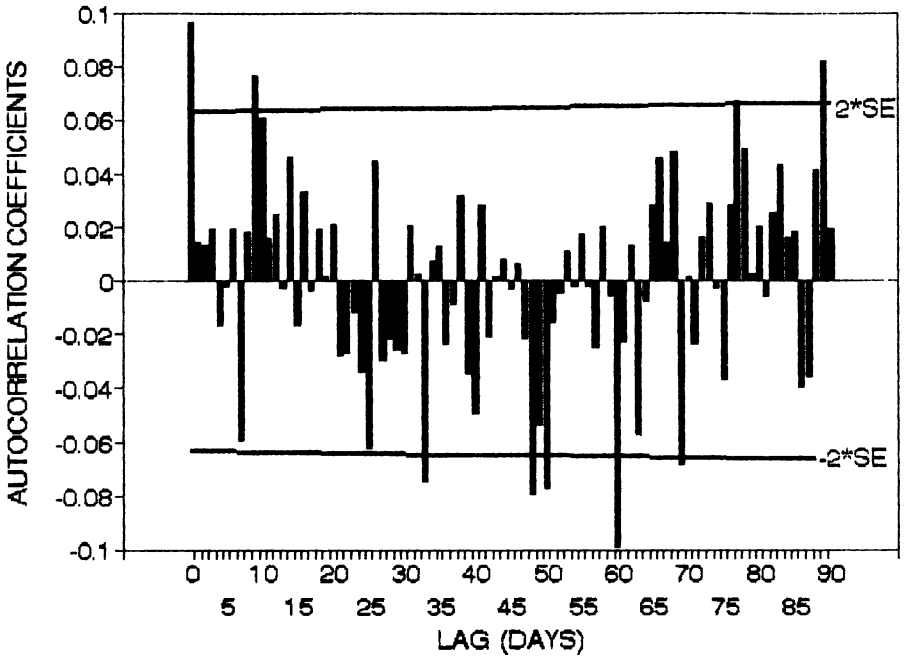


LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.132061	19	0.026643	37	-0.00803	55	-0.00859	73	0.028834
2	-0.00394	20	0.022327	38	-0.02626	56	-0.01872	74	0.052588
3	-0.09883	21	0.018815	39	-0.0001	57	0.021145	75	-0.05291
4	-0.00333	22	-0.03934	40	0.015237	58	0.009127	76	0.036717
5	0.022608	23	0.014498	41	0.011916	59	0.009523	77	0.005306
6	-0.0052	24	-0.02766	42	-0.03553	60	-0.03305	78	0.07368
7	0.014866	25	-0.00907	43	-0.00189	61	0.023226	79	0.041601
8	-0.0177	26	-0.01493	44	-0.02027	62	-0.03732	80	-0.0033
9	0.030813	27	0.03621	45	0.024457	63	0.010576	81	-0.02215
10	0.050977	28	-0.00173	46	0.003102	64	-0.05439	82	0.022646
11	0.05463	29	0.017852	47	0.022408	65	-0.01349	83	0.028436
12	-0.03044	30	-0.03383	48	-0.02967	66	-0.02936	84	0.049488
13	-0.00955	31	-0.04105	49	-0.00842	67	0.001493	85	0.018267
14	0.009995	32	0.03136	50	0.007803	68	0.040039	86	-0.00017
15	0.024255	33	0.043018	51	0.018912	69	0.065347	87	0.00774
16	-0.00301	34	0.033628	52	0.034105	70	-0.01732	88	0.035236
17	-0.01584	35	-0.01523	53	0.010009	71	-0.06469	89	0.048074
18	-0.00011	36	0.038603	54	-0.01419	72	0.017453	90	0.036628

Sarkuysan Autocorrelation Test Results

APPENDIX 2.17

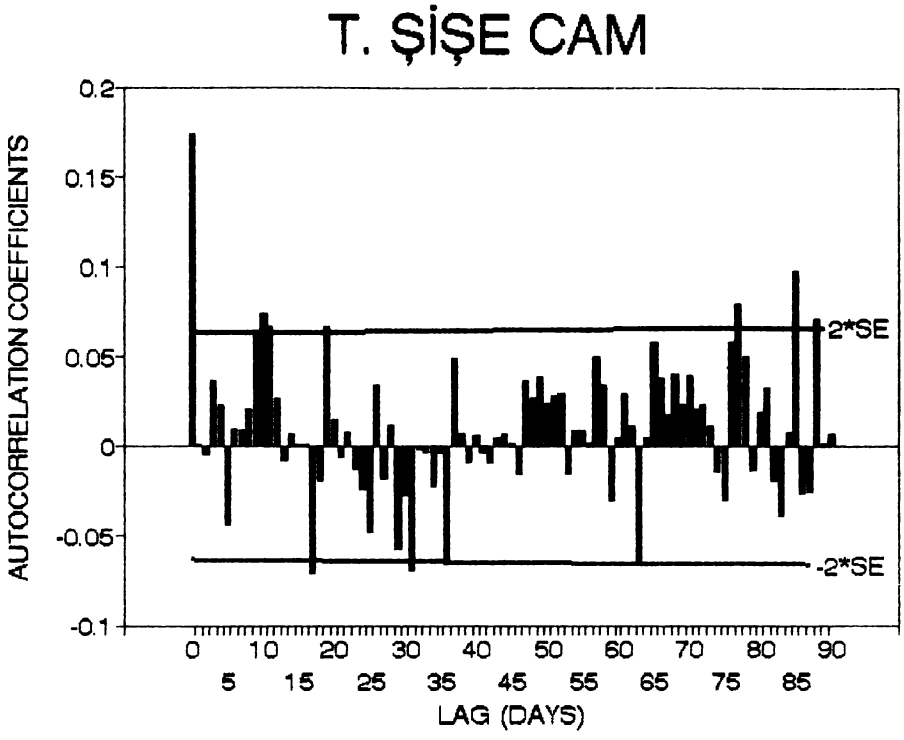
T. DEMİR DÖKÜM



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.096389	19	0.01924	37	-0.02368	55	-0.00231	73	0.016676
2	0.01429	20	0.001343	38	-0.00842	56	0.017149	74	0.028864
3	0.013282	21	0.021506	39	0.031986	57	-0.00182	75	-0.00259
4	0.019257	22	-0.02779	40	-0.03453	58	-0.02477	76	-0.03691
5	-0.01668	23	-0.02661	41	-0.04933	59	0.020465	77	0.028405
6	-0.00181	24	-0.01154	42	0.028776	60	-0.0055	78	0.067287
7	0.019232	25	-0.03378	43	-0.0207	61	-0.09894	79	0.049067
8	-0.05929	26	-0.06218	44	0.001658	62	-0.02282	80	0.002714
9	0.017939	27	0.044982	45	0.008001	63	0.013291	81	0.020554
10	0.076867	28	-0.02941	46	-0.00284	64	-0.05699	82	-0.00588
11	0.060584	29	-0.02179	47	0.00657	65	-0.00717	83	0.025593
12	0.01611	30	-0.0255	48	-0.02134	66	0.028302	84	0.043389
13	0.0248	31	-0.02666	49	-0.07961	67	0.045878	85	0.015941
14	-0.00266	32	0.020667	50	-0.05358	68	0.014717	86	0.018438
15	0.046381	33	0.002581	51	-0.07676	69	0.047983	87	-0.03988
16	-0.01641	34	-0.07435	52	-0.01531	70	-0.06858	88	-0.03557
17	0.033367	35	0.007434	53	-0.00448	71	0.001252	89	0.041409
18	-0.00364	36	0.012853	54	0.011105	72	-0.02349	90	0.082084

T. Demir Dokum Fab. Autocorrelation Test Results

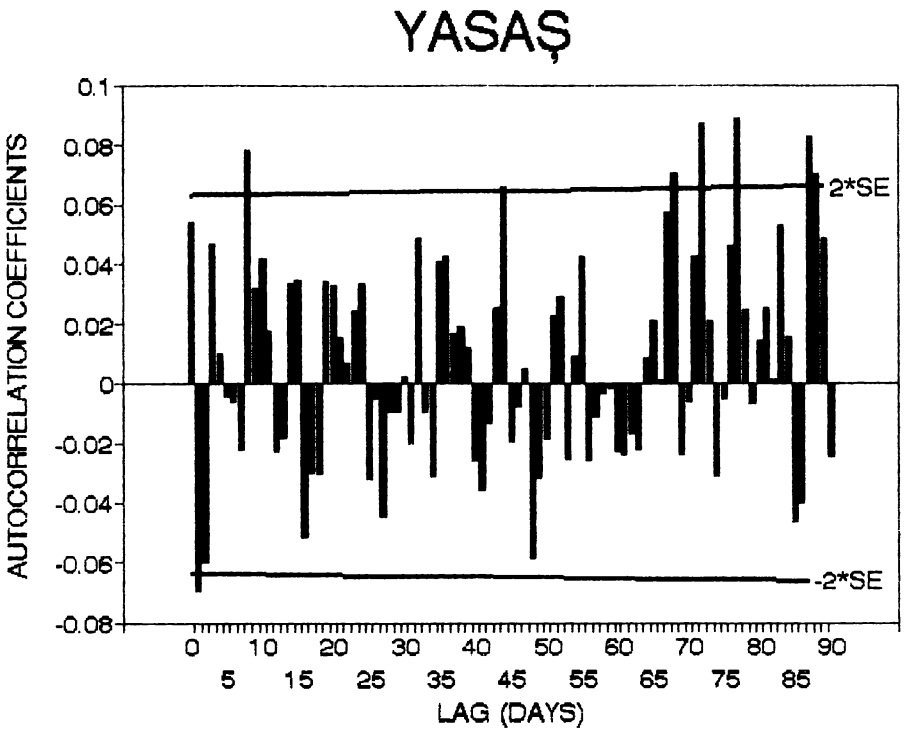
APPENDIX 2.18



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.173911	19	-0.0191	37	-0.06537	55	0.008387	73	0.022996
2	0.000543	20	0.066671	38	0.049217	56	0.008365	74	0.011381
3	-0.00442	21	0.015173	39	0.00687	57	0.001409	75	-0.0142
4	0.036003	22	-0.00574	40	-0.00886	58	0.049709	76	-0.03091
5	0.022767	23	0.007811	41	0.005806	59	0.034702	77	0.058479
6	-0.04377	24	-0.01272	42	-0.00409	60	-0.03077	78	0.078651
7	0.009829	25	-0.02382	43	-0.00949	61	0.004562	79	0.050114
8	0.008976	26	-0.04777	44	0.004185	62	0.029187	80	-0.01339
9	0.021122	27	0.034545	45	0.006609	63	0.010979	81	0.018735
10	0.062345	28	-0.01818	46	0.001663	64	-0.06448	82	0.033048
11	0.07398	29	0.012451	47	-0.01552	65	0.004211	83	-0.01906
12	0.066389	30	-0.05689	48	0.036942	66	0.058661	84	-0.03911
13	0.027015	31	-0.02698	49	0.026858	67	0.038235	85	0.007926
14	-0.00794	32	-0.0694	50	0.039342	68	0.017303	86	0.097503
15	0.007159	33	-0.00129	51	0.024137	69	0.040538	87	-0.02643
16	0.000735	34	-0.00303	52	0.027732	70	0.023108	88	-0.02576
17	0.000881	35	-0.02263	53	0.029476	71	0.039568	89	0.071002
18	-0.07055	36	-0.00406	54	-0.0154	72	0.02058	90	0.001466

T. Sise Cam Fab. Autocorrelation Test Results

APPENDIX 2.19



LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF	LAG	ACF
1	0.053846	19	-0.03031	37	0.042879	55	0.009218	73	0.087578
2	-0.06923	20	0.034342	38	0.0169	56	0.041932	74	0.020711
3	-0.05989	21	0.032885	39	0.018974	57	-0.02573	75	-0.03129
4	0.046673	22	0.015439	40	0.012026	58	-0.01114	76	-0.00528
5	0.010177	23	0.006657	41	-0.02588	59	-0.00364	77	0.046122
6	-0.00432	24	0.02414	42	-0.03574	60	-0.00171	78	0.088577
7	-0.00627	25	0.033305	43	-0.01346	61	-0.02287	79	0.02478
8	-0.02195	26	-0.03233	44	0.025205	62	-0.02387	80	-0.0066
9	0.078036	27	-0.00471	45	0.065854	63	-0.01671	81	0.014226
10	0.032059	28	-0.04457	46	-0.01965	64	-0.02239	82	0.02529
11	0.041557	29	-0.00939	47	-0.00726	65	0.00894	83	0.001464
12	0.017399	30	-0.00954	48	0.005391	66	0.020962	84	0.052743
13	-0.02291	31	0.002477	49	-0.0586	67	0.001032	85	0.015771
14	-0.01802	32	-0.01998	50	-0.03162	68	0.057507	86	-0.0463
15	0.0334	33	0.048775	51	-0.01843	69	0.070496	87	-0.03977
16	0.03475	34	-0.00899	52	0.022482	70	-0.02399	88	0.083014
17	-0.05124	35	-0.03103	53	0.029532	71	-0.00644	89	0.069924
18	-0.02963	36	0.041116	54	-0.02535	72	0.042864	90	0.048662

Yasas Autocorrelation Test Results

APPENDIX 2.20

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-43%	-24%	91%	256%	362%	563%	588%	489%	491%	591%	464%	702%	794%	992%	1386%	1486%	1510%	1513%	1441%	1469%	1675%	2430%	2630%	3487%	2585%
2%	-28%	13%	152%	528%	582%	890%	925%	941%	769%	852%	639%	951%	869%	1081%	1506%	1648%	1383%	1481%	1409%	1469%	1675%	2430%	2630%	3487%	2585%
3%	-3%	49%	87%	364%	447%	798%	693%	706%	588%	693%	450%	754%	725%	850%	902%	990%	1035%	1131%	1076%	1284%	1466%	2179%	2812%	3427%	2539%
4%	32%	71%	72%	269%	344%	717%	572%	667%	533%	537%	345%	582%	579%	682%	723%	803%	928%	1102%	1048%	1261%	1439%	2140%	2763%	3427%	2539%
5%	84%	99%	93%	314%	352%	912%	696%	719%	570%	642%	427%	775%	798%	790%	857%	995%	1111%	1305%	1286%	1530%	1632%	1992%	2575%	3299%	2442%
6%	123%	111%	100%	368%	412%	1189%	1015%	1154%	941%	1032%	704%	1235%	1182%	1170%	1126%	1446%	1539%	1693%	1669%	2009%	2167%	2638%	2994%	3299%	2442%
7%	158%	98%	109%	301%	313%	1035%	971%	1104%	1095%	1200%	864%	1500%	1364%	1289%	1348%	2052%	2326%	2231%	2201%	2184%	2468%	2988%	3269%	3733%	2769%
8%	13%	18%	31%	198%	167%	645%	630%	722%	910%	998%	714%	1221%	1203%	938%	1012%	1552%	1860%	1782%	1756%	1744%	1996%	2421%	2651%	3028%	2241%
9%	63%	43%	43%	215%	186%	627%	613%	641%	899%	987%	706%	1034%	1036%	805%	870%	1468%	1759%	1540%	1520%	1649%	1888%	2290%	2510%	2912%	2154%
10%	85%	45%	26%	158%	104%	445%	379%	398%	507%	561%	390%	605%	606%	467%	510%	959%	1183%	1046%	1031%	1123%	1329%	1618%	1776%	2350%	1733%
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12%	43%	20%	-11%	43%	13%	233%	194%	212%	296%	336%	260%	362%	426%	334%	377%	728%	957%	873%	860%	976%	1217%	1483%	1629%	2158%	1589%
13%	21%	6%	-19%	48%	4%	212%	154%	212%	296%	287%	220%	363%	427%	335%	380%	732%	815%	768%	755%	860%	1095%	1336%	1525%	2022%	1488%
14%	23%	8%	-12%	68%	25%	201%	180%	259%	390%	406%	370%	579%	705%	455%	504%	948%	1074%	1014%	999%	1133%	1484%	1802%	2051%	2873%	2124%
15%	35%	26%	-2%	80%	36%	240%	221%	318%	508%	536%	492%	868%	1096%	735%	711%	1065%	1296%	1233%	1215%	1347%	1898%	1644%	1872%	2625%	1938%
16%	42%	70%	33%	120%	35%	191%	194%	296%	477%	503%	461%	819%	862%	572%	552%	837%	1046%	1026%	1011%	1123%	1664%	1441%	1642%	2308%	1701%
17%	65%	98%	67%	123%	31%	184%	180%	277%	449%	473%	433%	773%	814%	538%	520%	791%	988%	971%	956%	1063%	1577%	1364%	1594%	2241%	1652%
18%	79%	118%	105%	200%	106%	390%	445%	551%	672%	706%	674%	984%	1044%	798%	807%	892%	871%	855%	843%	939%	1414%	1221%	1429%	2013%	1481%
19%	40%	50%	83%	147%	70%	256%	296%	373%	461%	486%	462%	686%	754%	570%	578%	651%	691%	679%	668%	819%	1336%	1153%	1383%	1949%	1432%
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21%	69%	84%	134%	206%	122%	282%	344%	451%	516%	592%	575%	980%	900%	712%	751%	910%	965%	1045%	1029%	1298%	2083%	1806%	2237%	3359%	2748%
22%	82%	102%	170%	214%	139%	312%	248%	332%	395%	456%	442%	802%	741%	584%	623%	758%	804%	873%	860%	1087%	1915%	1659%	2104%	3163%	2587%
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24%	52%	61%	145%	273%	183%	277%	219%	228%	275%	322%	342%	635%	595%	465%	549%	670%	761%	826%	815%	1031%	1821%	1577%	2000%	3114%	2546%
25%	18%	41%	115%	227%	143%	223%	174%	181%	222%	262%	279%	531%	508%	394%	468%	574%	653%	711%	700%	890%	1581%	1367%	1777%	2792%	2280%
26%	-13%	5%	60%	146%	82%	143%	105%	127%	160%	206%	221%	433%	414%	318%	380%	470%	537%	586%	576%	737%	1321%	1141%	1487%	2570%	2098%
27%	-5%	18%	80%	202%	125%	199%	159%	200%	176%	225%	241%	466%	481%	372%	442%	544%	658%	750%	738%	937%	1709%	1479%	1460%	2513%	2144%
28%	47%	34%	61%	191%	121%	194%	173%	217%	192%	244%	260%	499%	546%	425%	503%	616%	772%	931%	916%	1159%	2198%	1962%	1937%	3462%	2959%
29%	24%	5%	36%	128%	73%	130%	114%	148%	128%	169%	182%	416%	490%	379%	450%	553%	696%	841%	828%	1159%	2198%	1962%	1937%	3462%	2959%
30%	17%	-2%	28%	114%	68%	103%	88%	110%	94%	128%	139%	337%	399%	306%	366%	453%	601%	728%	717%	1008%	1923%	1715%	1693%	3034%	2592%
31%	-1%	-10%	17%	111%	65%	99%	85%	107%	90%	124%	135%	330%	391%	299%	359%	445%	589%	715%	704%	990%	1889%	1685%	1664%	2982%	2548%
32%	-25%	-31%	-11%	60%	26%	51%	41%	44%	33%	70%	78%	264%	315%	237%	288%	360%	512%	633%	623%	881%	1799%	1604%	1583%	2982%	2548%
33%	0%	-9%	18%	133%	83%	120%	104%	109%	93%	148%	160%	254%	305%	229%	281%	353%	503%	621%	612%	866%	1769%	1577%	1556%	2933%	2505%
34%	-14%	-22%	-7%	83%	36%	64%	52%	70%	57%	101%	115%	194%	236%	173%	216%	276%	399%	561%	552%	785%	1769%	1577%	1556%	2933%	2505%
35%	14%	4%	23%	63%	22%	47%	36%	52%	40%	80%	93%	164%	201%	144%	186%	239%	368%	519%	511%	728%	1650%	1470%	1451%	2741%	2339%
36%	2%	-7%	11%	41%	8%	30%	22%	37%	17%	51%	62%	121%	160%	111%	148%	195%	307%	439%	431%	621%	1423%	1267%	1250%	2372%	2023%
37%	-14%	-21%	-6%	19%	-9%	10%	3%	16%	0%	28%	37%	87%	120%	79%	131%	174%	278%	400%	393%	569%	1313%	1168%	1153%	2372%	2023%
38%	-18%	-25%	-11%	10%	-16%	1%	-5%	7%	-8%	17%	26%	72%	102%	64%	112%	152%	247%	360%	354%	515%	1199%	1065%	1051%	2328%	1985%
39%	-15%	-20%	-5%	18%	-7%	13%	5%	19%	4%	38%	48%	102%	137%	100%	159%	207%	247%	360%	354%	515%	1199%	1065%	1051%	2328%	1985%
40%	-20%	-26%	-11%	10%	-5%	9%	2%	25%	9%	45%	26%	72%	110%	77%	129%	172%	230%	336%	330%	483%	1154%	1025%	1012%	2245%	1914%
41%	-27%	-17%	-11%	10%	-5%	9%	2%	25%	9%	45%	26%	72%	110%	77%	129%	172%	230%	336%	330%	483%	1154%	1025%	1012%	2245%	1914%
42%	-6%	3%	10%	10%	-9%	5%	-2%	28%	10%	41%	22%	67%	104%	73%	124%	166%	178%	267%	263%	396%	969%	859%	847%	1897%	1616%
43%	17%	14%	38%	58%	27%	22%	14%	50%	41%	82%	58%	127%	177%	136%	204%	261%	278%	412%	405%	378%	969%	859%	847%	1897%	1616%
44%	30%	27%	36%	55%	25%	20%	12%	87%	77%	63%	41%	102%	148%	111%	172%	223%	238%	358%	351%	348%	901%	798%	787%	1770%	1507%
45%	23%	21%	29%	48%	19%	14%	7%	77%	68%	55%	34%	93%	136%	100%	159%	207%	221%	335%	329%	326%	851%	753%	743%	1678%	1428%
46%	20%	17%	25%	43%	15%	11%	3%	72%	63%	50%	30%	87%	136%	100%	159%	207%	221%	335%	329%	294%	851%	753%	743%	1678%	1428%
47%	12%	10%	17%	34%	8%	4%	-3%	52%	44%	40%	27%	83%	131%	96%	153%	201%	214%	326%	320%	285%	832%	736%	726%	1678%	1428%
48%	6%	4%	16%	33%	33%	27%	19%	40%	32%	29%	17%	69%	[illegible]	81%	134%	177%	190%	302%	296%	264%	826%	731%	721%	1678%	1428%
49%	33%	30%	43%	63%	63%	56%	46%	72%	63%	59%	50%	116%	173%	140%	211%	269%	320%	483%	475%	428%	1244%	1106%	1091%	1604%	1364%

Arcelik Filter Results

APPENDIX 3.1.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	2849%	2849%	2482%	2163%	2058%	2058%	1885%	1945%	2624%	3467%	3258%	3800%	3670%	3452%	3330%	3330%	3320%	3320%	2895%	2895%	2934%	2934%	2934%	3177%
2%	2849%	2849%	2482%	2163%	2058%	2058%	1885%	1945%	2624%	3467%	3258%	3800%	3670%	3452%	3330%	3330%	3320%	3320%	2895%	2895%	2934%	2934%	2934%	3929%
3%	2618%	2618%	2171%	1891%	1798%	1798%	1646%	1625%	2410%	3344%	3578%	4059%	3922%	3689%	3559%	3559%	3320%	3320%	2895%	2895%	2934%	2934%	2934%	3929%
4%	2618%	2618%	2171%	1891%	1798%	1798%	1646%	1625%	2410%	3344%	3578%	4059%	3922%	3689%	3559%	3559%	3320%	3320%	2895%	2895%	2883%	2883%	2883%	3862%
5%	2519%	2519%	2136%	1859%	1768%	1768%	1618%	1599%	2372%	3290%	3521%	3995%	3861%	3631%	3502%	3502%	3268%	3268%	2850%	2850%	2883%	2883%	2883%	3862%
6%	2519%	2519%	2136%	1859%	1768%	1768%	1618%	1599%	2372%	3290%	3521%	3995%	3861%	3631%	3502%	3502%	3268%	3268%	2850%	2850%	3352%	3352%	3352%	4482%
7%	2574%	2574%	2037%	1772%	1686%	1686%	1543%	1525%	2263%	3141%	3361%	3815%	3687%	3467%	3343%	3343%	3119%	3119%	2720%	2720%	3352%	3352%	3352%	4482%
8%	2083%	2083%	1644%	1429%	1358%	1358%	1242%	1452%	2263%	3141%	3361%	3815%	3687%	3467%	3343%	3343%	3119%	3119%	2720%	2720%	3352%	3352%	3352%	4482%
9%	2002%	2002%	1644%	1429%	1358%	1358%	1242%	1452%	2263%	3141%	3361%	3815%	3687%	3467%	3343%	3343%	3119%	3119%	2720%	2720%	3352%	3352%	3352%	4482%
10%	1609%	1609%	1319%	1144%	1086%	1086%	991%	1162%	1821%	2782%	3237%	3675%	3551%	3339%	3222%	3222%	3004%	3004%	2618%	2618%	3228%	3228%	3228%	4125%
11%	1545%	1545%	1266%	1097%	1042%	1042%	950%	1115%	1748%	2673%	3111%	3675%	3551%	3339%	3222%	3222%	3004%	3004%	2618%	2618%	3102%	3102%	3102%	3965%
12%	1475%	1475%	1208%	1046%	993%	993%	905%	1063%	1670%	2556%	2976%	3516%	3397%	3194%	3081%	3081%	2874%	2874%	2504%	2504%	3102%	3102%	3102%	3965%
13%	1381%	1381%	1152%	997%	946%	946%	862%	976%	1670%	2556%	2976%	3516%	3397%	3194%	3081%	3081%	2874%	2874%	2504%	2504%	3102%	3102%	3102%	3965%
14%	1975%	1975%	1834%	1595%	1516%	1516%	1387%	1561%	2684%	4076%	3903%	4605%	4449%	4185%	4038%	4038%	3769%	3769%	3288%	3288%	4067%	4067%	4067%	3965%
15%	1802%	1802%	1834%	1595%	1516%	1516%	1387%	1561%	2684%	4076%	3903%	4605%	4449%	4185%	4038%	4038%	3769%	3769%	3288%	3288%	4067%	4067%	4067%	3965%
16%	1580%	1580%	1608%	1396%	1327%	1327%	1212%	1499%	2584%	3925%	3758%	4605%	4449%	4185%	4038%	4038%	3769%	3769%	3288%	3288%	3914%	3914%	3914%	3817%
17%	1534%	1534%	1561%	1355%	1287%	1287%	1177%	1420%	2511%	3815%	3653%	4475%	4324%	4068%	3925%	3925%	3662%	3662%	3196%	3196%	3914%	3914%	3914%	3817%
18%	1375%	1375%	1399%	1213%	1152%	1152%	1052%	1330%	2511%	3815%	3653%	4475%	4324%	4068%	3925%	3925%	3662%	3662%	3196%	3196%	3914%	3914%	3914%	3817%
19%	1329%	1329%	1354%	1174%	1114%	1114%	1018%	1255%	2432%	3696%	3538%	4338%	4191%	3941%	3803%	3803%	3550%	3550%	3095%	3095%	3792%	3792%	3792%	3700%
20%	2652%	2652%	2995%	2613%	2487%	2487%	2487%	3036%	5758%	5534%	5300%	5300%	5120%	4817%	4650%	4650%	4341%	4341%	3787%	3787%	3469%	3469%	3469%	3382%
21%	2652%	2652%	2995%	2613%	2487%	2487%	2487%	3036%	5758%	5534%	5300%	5300%	5120%	4817%	4650%	4650%	4341%	4341%	3787%	3787%	3469%	3469%	3469%	3382%
22%	2496%	2496%	2820%	2459%	2340%	2340%	2340%	2968%	5758%	5534%	5300%	5300%	5120%	4817%	4650%	4650%	4341%	4341%	3787%	3787%	3469%	3469%	3469%	3382%
23%	2458%	2458%	2777%	2421%	2303%	2303%	2303%	2923%	5669%	5451%	5220%	5220%	5041%	4744%	4577%	4577%	4273%	4273%	3728%	3728%	3416%	3416%	3416%	3331%
24%	2458%	2458%	2777%	2421%	2303%	2303%	2303%	2923%	5669%	5451%	5220%	5220%	5041%	4744%	4577%	4577%	4273%	4273%	3728%	3728%	3416%	3416%	3416%	3331%
25%	2201%	2201%	2488%	2168%	2062%	2062%	2062%	2562%	5196%	4992%	4780%	4780%	4620%	4345%	4194%	4194%	3914%	3914%	3414%	3414%	3126%	3126%	3126%	3049%
26%	2024%	2024%	2488%	2168%	2062%	2062%	2062%	2562%	5196%	4992%	4780%	4780%	4620%	4345%	4194%	4194%	3914%	3914%	3414%	3414%	3126%	3126%	3126%	3049%
27%	2070%	1944%	2391%	2216%	2109%	2041%	2041%	2562%	5196%	4992%	4780%	4780%	4620%	4345%	4194%	4194%	3914%	3914%	3414%	3414%	3126%	3126%	3126%	3049%
28%	2858%	2858%	3503%	3252%	3096%	3096%	3096%	4004%	5196%	4992%	4780%	4780%	4620%	4345%	4194%	4194%	3914%	3914%	3414%	3414%	3126%	3126%	3126%	3049%
29%	2858%	2858%	3503%	3252%	3096%	3096%	3096%	4004%	5196%	4992%	4780%	4780%	4620%	4345%	4194%	4194%	3914%	3914%	3414%	3414%	3126%	3126%	3126%	3049%
30%	2502%	2502%	3070%	2850%	2713%	2713%	2713%	3852%	5196%	4992%	4780%	4780%	4620%	4345%	4194%	4194%	3914%	3914%	3414%	3414%	3126%	3126%	3126%	3049%
31%	2460%	2460%	3018%	2801%	2666%	2666%	2666%	3787%	5109%	4909%	4701%	4701%	4542%	4273%	4123%	4123%	3849%	3849%	3356%	3356%	3073%	3073%	3073%	2997%
32%	2460%	2460%	3018%	2801%	2666%	2666%	2666%	3787%	5109%	4909%	4701%	4701%	4542%	4273%	4123%	4123%	3849%	3849%	3356%	3356%	3073%	3073%	3073%	2997%
33%	2418%	2418%	2968%	2754%	2621%	2621%	2621%	3724%	5026%	4828%	4623%	4623%	4467%	4202%	4055%	4055%	3785%	3785%	3301%	3301%	3023%	3023%	3023%	2947%
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36%	1953%	1953%	2521%	2338%	2225%	2225%	2225%	3167%	4360%	4191%	4012%	4012%	3875%	3644%	3517%	3517%	3280%	3280%	2859%	2859%	2617%	2617%	2617%	2552%
37%	1953%	1953%	2521%	2338%	2225%	2225%	2225%	3167%	4360%	4191%	4012%	4012%	3875%	3644%	3517%	3517%	3280%	3280%	2859%	2859%	2617%	2617%	2617%	2552%
38%	1917%	1917%	2474%	2295%	2184%	2184%	2184%	3109%	4360%	4191%	4012%	4012%	3875%	3644%	3517%	3517%	3280%	3280%	2859%	2859%	2617%	2617%	2617%	2552%
39%	1917%	1917%	2474%	2295%	2184%	2184%	2184%	3109%	4360%	4191%	4012%	4012%	3875%	3644%	3517%	3517%	3280%	3280%	2859%	2859%	2617%	2617%	2617%	2552%
40%	1847%	1847%	2386%	2212%	2105%	2105%	2105%	2998%	4360%	4191%	4012%	4012%	3875%	3644%	3517%	3517%	3280%	3280%	2859%	2859%	2617%	2617%	2617%	2552%
41%	1847%	1847%	2386%	2212%	2105%	2105%	2105%	2998%	4360%	4191%	4012%	4012%	3875%	3644%	3517%	3517%	3280%	3280%	2859%	2859%	2617%	2617%	2617%	2552%
42%	1558%	1558%	2137%	1981%	1885%	1885%	1885%	2737%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
43%	1558%	1558%	2137%	1981%	1885%	1885%	1885%	2737%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
44%	1453%	1453%	1995%	1849%	1759%	1759%	1759%	2737%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
45%	1377%	1377%	1892%	1753%	1667%	1667%	1667%	2597%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
46%	1377%	1377%	1892%	1753%	1667%	1667%	1667%	2597%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
47%	1377%	1377%	1892%	1753%	1667%	1667%	1667%	2597%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
48%	1377%	1377%	1892%	1753%	1667%	1667%	1667%	2597%	3982%	3828%	3664%	3664%	3538%	3328%	3211%	3211%	2995%	2995%	2609%	2609%	2387%	2387%	2387%	2328%
49%	1315%	1315%	1809%	1676%	1593%	1593%	1593%	2485%	3813%	3663%	3506%	3506%	3386%	3184%	3072%	3072%	2865%	2865%	2498%	2498%	2284%	2284%	2284%	2226%

Arcelik Filter Results

APPENDIX 3.1.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-1%	38%	77%	97%	83%	97%	56%	99%	94%	75%	106%	125%	184%	125%	181%	198%	285%	252%	343%	174%	322%	295%	195%	145%	177%
2%	70%	61%	116%	178%	156%	125%	93%	132%	132%	110%	134%	140%	202%	140%	189%	184%	265%	213%	303%	149%	280%	255%	162%	119%	170%
3%	167%	135%	218%	345%	241%	196%	123%	159%	156%	149%	157%	121%	199%	137%	143%	128%	219%	174%	349%	198%	272%	246%	137%	181%	271%
4%	109%	94%	160%	302%	223%	238%	134%	141%	73%	103%	151%	87%	153%	123%	116%	108%	199%	124%	276%	149%	198%	183%	94%	135%	177%
5%	40%	33%	105%	205%	188%	207%	138%	159%	93%	127%	124%	77%	138%	124%	114%	94%	180%	132%	335%	188%	154%	142%	65%	101%	137%
6%	75%	86%	165%	252%	150%	151%	103%	133%	84%	73%	72%	36%	83%	72%	79%	61%	132%	92%	261%	139%	125%	111%	45%	76%	107%
7%	61%	90%	92%	183%	173%	186%	157%	234%	182%	192%	135%	92%	159%	143%	198%	167%	299%	231%	254%	134%	191%	174%	99%	72%	103%
8%	168%	192%	183%	297%	430%	384%	302%	440%	369%	283%	233%	237%	277%	266%	192%	162%	322%	249%	300%	171%	236%	234%	142%	115%	153%
9%	118%	116%	102%	205%	279%	216%	192%	320%	268%	212%	138%	141%	169%	161%	108%	95%	224%	168%	208%	108%	180%	178%	102%	79%	111%
10%	145%	209%	198%	315%	415%	262%	245%	323%	286%	250%	171%	175%	249%	238%	170%	162%	180%	132%	166%	88%	142%	140%	74%	55%	90%
11%	63%	111%	131%	229%	281%	167%	155%	216%	188%	161%	102%	105%	160%	152%	102%	96%	109%	73%	98%	40%	98%	102%	47%	30%	75%
12%	66%	119%	143%	224%	258%	160%	156%	206%	193%	166%	89%	67%	122%	115%	72%	67%	78%	48%	69%	20%	75%	78%	29%	15%	54%
13%	82%	190%	187%	309%	273%	187%	216%	294%	224%	162%	92%	73%	136%	128%	98%	94%	186%	137%	199%	111%	208%	214%	129%	103%	173%
14%	22%	111%	95%	201%	181%	137%	161%	225%	179%	125%	66%	49%	103%	109%	44%	43%	111%	75%	120%	56%	127%	134%	70%	51%	103%
15%	12%	93%	82%	194%	174%	142%	194%	265%	188%	138%	82%	64%	123%	130%	76%	76%	131%	91%	141%	78%	152%	98%	44%	28%	80%
16%	-2%	83%	73%	126%	126%	100%	142%	201%	138%	96%	56%	40%	91%	111%	61%	61%	111%	75%	131%	70%	143%	92%	39%	24%	74%
17%	-32%	42%	34%	90%	90%	82%	120%	185%	125%	85%	64%	47%	109%	130%	48%	54%	102%	67%	120%	63%	135%	85%	35%	19%	68%
18%	25%	61%	53%	117%	80%	72%	115%	185%	145%	118%	93%	73%	157%	183%	82%	91%	157%	121%	164%	61%	74%	38%	0%	-11%	24%
19%	12%	42%	45%	105%	76%	68%	111%	212%	179%	149%	137%	113%	215%	247%	123%	134%	113%	83%	119%	34%	44%	14%	-17%	-27%	3%
20%	24%	58%	57%	129%	87%	49%	98%	202%	170%	141%	145%	120%	269%	306%	161%	175%	105%	76%	110%	28%	39%	9%	-20%	-30%	0%
21%	-16%	4%	2%	20%	-2%	-20%	11%	23%	17%	4%	12%	1%	69%	47%	-6%	5%	-22%	-33%	-19%	-50%	-46%	-58%	-69%	-73%	-61%
22%	16%	43%	47%	87%	52%	25%	33%	48%	53%	37%	49%	38%	141%	109%	36%	55%	24%	10%	36%	-17%	-30%	-45%	-59%	-63%	-46%
23%	13%	40%	44%	82%	49%	22%	30%	50%	55%	38%	72%	59%	177%	141%	57%	78%	43%	27%	57%	-2%	-17%	-31%	-49%	-54%	-48%
24%	-1%	24%	27%	71%	39%	14%	22%	41%	45%	30%	61%	49%	160%	126%	47%	67%	34%	19%	47%	-8%	-22%	-35%	-52%	-57%	-51%
25%	-10%	-3%	13%	52%	16%	-5%	2%	27%	32%	18%	55%	43%	161%	135%	52%	73%	49%	32%	78%	12%	-6%	-22%	-39%	-46%	-36%
26%	-36%	-25%	-8%	24%	-1%	-27%	-22%	-3%	1%	-10%	28%	19%	116%	94%	26%	43%	23%	9%	47%	-8%	-22%	-35%	-50%	-55%	-47%
27%	-36%	-33%	-18%	11%	-11%	-35%	-28%	-10%	-7%	-17%	18%	9%	103%	83%	19%	35%	16%	3%	39%	-13%	-27%	-39%	-53%	-58%	-50%
28%	-33%	-30%	-14%	20%	1%	-26%	-17%	5%	18%	13%	20%	11%	106%	85%	20%	46%	26%	17%	58%	-1%	-17%	-29%	-45%	-50%	-40%
29%	-34%	-31%	-15%	18%	-1%	-19%	-9%	14%	29%	23%	30%	21%	145%	121%	54%	87%	61%	50%	102%	27%	8%	-7%	-27%	-32%	-38%
30%	-25%	-22%	-4%	-4%	-19%	-35%	-26%	-8%	4%	0%	6%	-2%	113%	92%	34%	63%	40%	31%	76%	11%	-6%	-19%	-36%	-41%	-46%
31%	-37%	-34%	-19%	-19%	-32%	-45%	-32%	-15%	-4%	-9%	-3%	-10%	104%	84%	29%	56%	34%	25%	69%	6%	-10%	-22%	-39%	-43%	-49%
32%	-44%	-42%	-29%	-29%	-40%	-51%	-40%	-25%	-15%	-19%	-14%	-21%	80%	62%	13%	38%	18%	11%	49%	-6%	-20%	-31%	-46%	-50%	-55%
33%	-39%	-37%	-33%	-7%	-21%	-35%	-20%	-28%	-18%	-22%	-17%	-23%	74%	57%	10%	33%	14%	7%	44%	-10%	-23%	-33%	-48%	-52%	-56%
34%	-35%	-33%	-32%	-5%	-19%	-33%	-15%	-23%	-12%	-16%	-8%	-15%	103%	83%	28%	63%	47%	38%	85%	16%	1%	-12%	-29%	-34%	-40%
35%	-48%	-50%	-47%	7%	-8%	-17%	5%	-3%	13%	7%	-16%	-22%	86%	67%	17%	49%	35%	26%	70%	7%	-7%	-20%	-35%	-39%	-45%
36%	-56%	-61%	-58%	-15%	-27%	-34%	-17%	-23%	-11%	-15%	-33%	-38%	48%	33%	-7%	19%	7%	0%	43%	-10%	-22%	-32%	-45%	-49%	-54%
37%	-44%	-53%	-51%	5%	13%	2%	28%	19%	38%	31%	8%	0%	45%	30%	-9%	16%	5%	-2%	40%	-12%	-23%	-34%	-46%	-50%	-55%
38%	-44%	-46%	-52%	2%	10%	-1%	25%	16%	41%	35%	11%	3%	51%	36%	2%	30%	17%	10%	57%	1%	-12%	-14%	-30%	-35%	-41%
39%	-44%	-46%	-52%	2%	10%	-1%	25%	16%	41%	35%	11%	3%	51%	36%	2%	30%	17%	10%	57%	1%	-12%	-14%	-30%	-35%	-41%
40%	-33%	-36%	-42%	23%	6%	-5%	20%	11%	36%	29%	6%	-2%	45%	31%	-2%	25%	13%	5%	51%	-3%	-16%	-18%	-33%	-38%	-44%
41%	-11%	-15%	-30%	1%	-13%	-22%	-2%	-9%	11%	6%	-13%	-19%	29%	16%	-13%	20%	9%	1%	45%	-7%	-19%	-21%	-36%	-40%	-46%
42%	-29%	-31%	-44%	-15%	-27%	-34%	-17%	-23%	-6%	-10%	-26%	-32%	9%	-1%	-26%	2%	-8%	-14%	23%	-21%	-31%	-33%	-46%	-49%	-54%
43%	0%	-5%	-15%	30%	12%	1%	-13%	-19%	1%	-3%	-10%	-17%	33%	20%	-10%	24%	12%	5%	49%	-4%	-12%	-14%	-30%	-35%	-41%
44%	0%	-5%	-15%	30%	12%	1%	-13%	-19%	1%	-3%	-10%	-17%	33%	20%	-10%	24%	12%	5%	49%	-4%	-12%	-14%	-30%	-35%	-41%
45%	6%	2%	-9%	39%	22%	10%	9%	2%	8%	4%	-4%	-6%	50%	35%	1%	46%	32%	23%	40%	-10%	-18%	-20%	-35%	-39%	-45%
46%	2%	-2%	-13%	33%	17%	6%	5%	-2%	4%	0%	-8%	-10%	45%	30%	-3%	40%	27%	18%	34%	-14%	-21%	-23%	-37%	-42%	-47%
47%	1%	-4%	-14%	31%	16%	4%	4%	-4%	2%	-1%	-9%	-11%	42%	28%	-4%	38%	25%	17%	32%	-15%	-22%	-24%	-38%	-42%	-48%
48%	-7%	-11%	-21%	21%	7%	-3%	4%	-4%	2%	-1%	-9%	-11%	42%	28%	-4%	38%	25%	17%	32%	-15%	-22%	-24%	-38%	-42%	-48%
49%	-10%	-14%	-23%	18%	4%	-6%	1%	-6%	-4%	-7%	-14%	-16%	34%	21%	-10%	30%	17%	10%	15%	-26%	-32%	-34%	-46%	-50%	-55%

Baglas Filter Results

APPENDIX 3.2.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	166%	199%	153%	242%	150%	141%	156%	105%	226%	226%	234%	191%	238%	226%	210%	201%	131%	141%	232%	221%	195%	170%	167%	157%
2%	160%	192%	147%	234%	141%	129%	144%	100%	218%	218%	226%	191%	210%	199%	210%	201%	131%	141%	232%	221%	195%	170%	167%	154%
3%	233%	255%	222%	206%	136%	122%	137%	214%	208%	208%	216%	182%	210%	199%	210%	201%	131%	120%	232%	221%	195%	170%	167%	157%
4%	174%	192%	165%	152%	90%	92%	105%	179%	173%	173%	160%	155%	181%	171%	181%	173%	109%	99%	241%	254%	226%	198%	164%	114%
5%	134%	149%	126%	115%	77%	79%	90%	159%	163%	163%	151%	155%	181%	171%	181%	173%	109%	99%	228%	240%	213%	187%	154%	106%
6%	104%	118%	98%	88%	54%	56%	75%	139%	143%	143%	131%	135%	181%	171%	167%	159%	98%	89%	211%	240%	213%	187%	154%	106%
7%	100%	113%	94%	84%	151%	158%	165%	136%	150%	150%	131%	130%	181%	171%	167%	159%	98%	89%	211%	236%	209%	183%	150%	328%
8%	150%	96%	78%	69%	128%	133%	140%	114%	126%	126%	112%	111%	169%	160%	155%	154%	94%	89%	198%	217%	192%	167%	136%	310%
9%	109%	63%	48%	41%	101%	106%	129%	103%	124%	124%	110%	111%	169%	160%	155%	154%	94%	89%	187%	206%	181%	157%	110%	295%
10%	80%	41%	34%	27%	166%	139%	165%	136%	159%	159%	89%	74%	146%	137%	133%	131%	77%	73%	187%	293%	261%	231%	169%	295%
11%	77%	38%	31%	25%	166%	139%	165%	136%	159%	159%	89%	74%	125%	117%	133%	131%	77%	73%	187%	293%	261%	231%	169%	295%
12%	56%	22%	15%	10%	134%	110%	145%	118%	140%	140%	75%	64%	112%	105%	110%	112%	63%	59%	164%	279%	249%	220%	160%	281%
13%	206%	139%	127%	115%	98%	77%	107%	84%	110%	110%	53%	48%	98%	91%	95%	93%	48%	44%	122%	220%	194%	170%	120%	222%
14%	134%	83%	74%	65%	58%	41%	65%	47%	67%	67%	22%	19%	70%	64%	67%	66%	27%	24%	96%	181%	159%	137%	106%	202%
15%	99%	55%	54%	46%	40%	25%	46%	30%	48%	48%	8%	4%	60%	54%	58%	50%	15%	12%	96%	181%	159%	137%	106%	202%
16%	92%	50%	49%	41%	35%	21%	41%	26%	43%	43%	5%	1%	54%	49%	52%	45%	11%	8%	89%	172%	150%	129%	99%	192%
17%	85%	45%	44%	36%	30%	17%	37%	21%	43%	43%	5%	1%	54%	49%	52%	45%	11%	8%	83%	163%	142%	121%	93%	182%
18%	52%	19%	18%	12%	7%	-4%	27%	13%	33%	33%	-3%	-6%	54%	49%	42%	35%	3%	1%	70%	163%	142%	121%	298%	182%
19%	32%	3%	2%	-3%	-2%	-12%	16%	3%	22%	22%	-11%	-15%	54%	49%	42%	35%	3%	1%	56%	140%	121%	102%	264%	158%
20%	26%	-1%	-1%	-6%	-5%	-15%	13%	0%	18%	18%	-14%	-18%	54%	49%	42%	35%	3%	1%	56%	140%	121%	102%	264%	158%
21%	-51%	-61%	-61%	-63%	-63%	-66%	-56%	-61%	-50%	-50%	-64%	-65%	-18%	-20%	-23%	-27%	-44%	-46%	-36%	-2%	-10%	-17%	49%	5%
22%	-32%	-45%	-45%	-45%	-45%	-50%	-28%	-35%	-19%	-19%	-41%	-43%	43%	38%	33%	26%	8%	5%	23%	90%	74%	60%	49%	5%
23%	-38%	-50%	-46%	-47%	-46%	-52%	-30%	-38%	-21%	-21%	-42%	-45%	48%	43%	29%	22%	4%	2%	19%	84%	69%	55%	44%	2%
24%	-41%	-53%	-50%	-50%	-50%	-55%	-32%	-39%	-24%	-24%	-44%	-47%	48%	43%	29%	22%	4%	2%	19%	84%	69%	55%	44%	2%
25%	-22%	-38%	-28%	-29%	-28%	-35%	-2%	-13%	-17%	-17%	-39%	-42%	61%	55%	40%	33%	13%	11%	19%	84%	69%	55%	44%	2%
26%	-35%	-48%	-39%	-40%	-36%	-43%	-7%	-17%	-21%	-21%	-42%	-45%	43%	38%	24%	18%	0%	-2%	5%	75%	61%	48%	37%	-3%
27%	-39%	-51%	-43%	-44%	-40%	-46%	-12%	-22%	-25%	-25%	-45%	-48%	43%	38%	24%	18%	0%	-2%	5%	75%	61%	48%	37%	-3%
28%	-23%	-38%	-24%	-25%	-19%	-28%	-11%	-21%	-39%	-39%	-44%	-47%	35%	30%	17%	11%	-5%	-7%	5%	75%	61%	48%	37%	-3%
29%	-23%	-38%	-24%	-25%	-19%	-28%	-11%	-21%	-39%	-39%	-44%	-47%	35%	30%	17%	11%	-5%	-7%	5%	75%	61%	48%	37%	-3%
30%	-33%	-46%	-31%	-31%	-27%	-34%	-19%	-28%	-44%	-44%	-49%	-52%	23%	18%	7%	1%	-13%	-16%	-4%	60%	47%	35%	25%	-11%
31%	-35%	-48%	-33%	-34%	-30%	-37%	-22%	-31%	-47%	-47%	-52%	-54%	23%	18%	7%	1%	-13%	-16%	-8%	53%	41%	29%	20%	-15%
32%	-40%	-52%	-38%	-39%	-35%	-41%	-28%	-36%	-51%	-51%	-55%	-57%	14%	10%	-1%	-6%	-20%	-22%	-15%	42%	31%	20%	11%	-21%
33%	-42%	-54%	-40%	-41%	-35%	-41%	-28%	-36%	-51%	-51%	-55%	-57%	14%	10%	-1%	-6%	-20%	-22%	-15%	42%	31%	20%	11%	-21%
34%	-18%	-34%	-11%	-12%	-3%	-13%	19%	6%	-19%	-19%	-26%	-30%	19%	14%	3%	-2%	-16%	-19%	-15%	42%	31%	20%	11%	-21%
35%	-25%	-40%	-19%	-20%	-11%	-20%	16%	3%	-21%	-21%	-28%	-31%	16%	12%	1%	-4%	-18%	-20%	-15%	42%	31%	20%	11%	-21%
36%	-37%	-49%	-25%	-26%	-18%	-27%	6%	-5%	-27%	-27%	-34%	-37%	11%	7%	-4%	-8%	-22%	-24%	-19%	42%	31%	20%	11%	-21%
37%	-38%	-50%	-27%	-28%	-20%	-28%	4%	-7%	-29%	-29%	-35%	-38%	11%	7%	-4%	-8%	-22%	-24%	-21%	39%	28%	17%	9%	-23%
38%	-16%	-32%	-1%	-2%	18%	15%	68%	49%	15%	15%	4%	1%	27%	22%	10%	5%	-11%	-13%	-21%	39%	28%	17%	9%	-23%
39%	-16%	-32%	-1%	-2%	18%	15%	68%	49%	15%	15%	4%	1%	27%	22%	10%	5%	-11%	-13%	-21%	39%	28%	17%	9%	-23%
40%	-19%	-35%	-5%	-6%	13%	11%	61%	43%	10%	10%	0%	-3%	22%	17%	6%	1%	-14%	-16%	-24%	34%	23%	13%	5%	-26%
41%	-22%	-37%	-8%	-9%	9%	7%	55%	38%	6%	6%	-4%	-7%	22%	17%	6%	1%	-14%	-16%	-24%	34%	23%	13%	5%	-26%
42%	-34%	-47%	-22%	-23%	-8%	-10%	31%	17%	-10%	-10%	-18%	-21%	3%	-1%	-10%	-15%	-27%	-29%	-35%	13%	4%	-5%	-11%	-37%
43%	-14%	-29%	7%	6%	34%	32%	103%	80%	73%	73%	57%	52%	98%	91%	73%	64%	40%	36%	24%	13%	4%	-5%	-11%	-37%
44%	-14%	-29%	7%	6%	34%	32%	103%	80%	73%	73%	57%	52%	98%	91%	73%	64%	40%	36%	24%	13%	4%	-5%	-11%	-37%
45%	-14%	-29%	7%	6%	34%	32%	103%	80%	73%	73%	57%	52%	98%	91%	73%	64%	40%	36%	24%	13%	4%	-5%	-11%	-37%
46%	-17%	-32%	3%	2%	29%	27%	95%	73%	66%	66%	51%	46%	91%	84%	66%	58%	34%	31%	20%	9%	0%	-8%	-15%	-39%
47%	-19%	-33%	1%	0%	27%	25%	92%	71%	63%	63%	49%	44%	91%	84%	66%	58%	34%	31%	20%	9%	0%	-8%	-15%	-39%
48%	-19%	-33%	1%	0%	27%	25%	92%	71%	63%	63%	49%	44%	91%	84%	66%	58%	34%	31%	20%	9%	0%	-8%	-15%	-39%
49%	-29%	-42%	-5%	-6%	24%	21%	86%	66%	59%	59%	44%	39%	91%	84%	66%	58%	34%	31%	20%	9%	0%	-8%	-15%	-39%

Baglas Filter Results

APPENDIX 3.2.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-65%	-60%	-53%	-61%	-65%	-47%	-56%	-56%	-37%	-50%	-28%	-27%	-15%	-2%	8%	30%	53%	167%	138%	111%	90%	103%	76%	32%	41%
2%	-43%	-42%	-34%	-41%	-53%	-38%	-52%	-53%	-45%	-54%	-33%	-31%	-3%	11%	23%	49%	74%	164%	127%	104%	78%	90%	65%	32%	39%
3%	-38%	-44%	-19%	-29%	-45%	-36%	-56%	-54%	-46%	-53%	-30%	-27%	4%	22%	43%	44%	108%	138%	105%	92%	68%	79%	56%	24%	31%
4%	-49%	-45%	-17%	-32%	-35%	-3%	-29%	-49%	-36%	-36%	-7%	26%	26%	48%	76%	79%	108%	151%	134%	131%	102%	128%	108%	127%	116%
5%	-54%	-57%	-39%	-53%	-62%	-44%	-57%	-66%	-56%	-52%	-27%	-4%	1%	29%	53%	58%	94%	134%	119%	116%	88%	117%	98%	117%	106%
6%	-47%	-45%	-40%	-51%	-63%	-48%	-67%	-71%	-60%	-54%	-42%	-32%	-25%	-4%	21%	26%	54%	76%	65%	63%	60%	71%	56%	71%	63%
7%	-47%	-46%	-49%	-58%	-64%	-45%	-63%	-64%	-44%	-38%	-15%	7%	13%	73%	79%	90%	100%	76%	65%	112%	108%	123%	99%	95%	59%
8%	-39%	-32%	-34%	-47%	-51%	-4%	-34%	-27%	-2%	15%	76%	127%	117%	216%	165%	134%	140%	111%	101%	158%	105%	105%	81%	76%	45%
9%	-48%	-46%	-45%	-57%	-63%	-21%	-33%	-25%	3%	12%	84%	155%	148%	203%	163%	146%	152%	136%	125%	188%	139%	[illegible]	199%	119%	96%
10%	-51%	-58%	-56%	-67%	-69%	-40%	-48%	-46%	-32%	-25%	7%	66%	74%	112%	84%	75%	83%	71%	63%	116%	79%	84%	132%	70%	52%
11%	-32%	-42%	-47%	-58%	-58%	-27%	-32%	-31%	-1%	5%	49%	107%	117%	184%	166%	152%	182%	164%	101%	177%	130%	146%	111%	55%	38%
12%	-19%	-30%	-28%	-42%	-41%	3%	2%	-7%	39%	67%	125%	156%	173%	196%	186%	176%	164%	147%	88%	160%	115%	130%	100%	47%	31%
13%	40%	19%	26%	11%	18%	49%	53%	48%	92%	116%	215%	260%	306%	341%	262%	250%	234%	226%	161%	236%	178%	198%	162%	92%	140%
14%	23%	9%	-1%	-13%	5%	35%	49%	74%	100%	127%	237%	284%	334%	415%	323%	406%	383%	372%	277%	329%	255%	301%	253%	158%	146%
15%	31%	16%	5%	-8%	24%	32%	45%	75%	101%	131%	242%	229%	272%	341%	263%	334%	314%	304%	223%	267%	204%	243%	202%	121%	111%
16%	52%	52%	43%	42%	49%	47%	63%	62%	54%	81%	193%	183%	220%	280%	213%	274%	268%	277%	201%	242%	183%	220%	182%	106%	97%
17%	56%	26%	19%	16%	22%	20%	33%	32%	27%	49%	156%	181%	218%	277%	210%	270%	265%	274%	199%	240%	181%	220%	182%	106%	97%
18%	56%	33%	25%	23%	1%	0%	10%	14%	-5%	22%	110%	131%	161%	210%	155%	205%	200%	207%	145%	179%	131%	183%	149%	82%	74%
19%	50%	23%	17%	15%	-3%	19%	3%	12%	-10%	36%	144%	168%	240%	235%	192%	249%	244%	252%	181%	235%	177%	239%	199%	126%	115%
20%	67%	41%	35%	25%	8%	32%	18%	19%	-4%	53%	175%	152%	220%	246%	207%	267%	198%	205%	143%	190%	140%	194%	159%	95%	86%
21%	64%	35%	28%	15%	-1%	22%	9%	9%	-12%	41%	153%	133%	195%	218%	183%	238%	174%	193%	134%	179%	131%	183%	149%	88%	80%
22%	59%	30%	34%	22%	15%	41%	29%	32%	7%	72%	208%	221%	307%	339%	309%	389%	296%	324%	250%	224%	173%	240%	199%	130%	127%
23%	51%	23%	27%	16%	9%	34%	22%	17%	-5%	63%	208%	221%	307%	339%	309%	389%	296%	324%	250%	224%	173%	240%	199%	130%	127%
24%	52%	24%	42%	36%	28%	31%	19%	17%	-5%	63%	172%	183%	259%	288%	261%	332%	250%	274%	209%	186%	141%	200%	164%	103%	100%
25%	48%	21%	38%	32%	25%	27%	16%	14%	-7%	59%	168%	180%	254%	283%	256%	326%	245%	269%	205%	183%	138%	196%	161%	100%	98%
26%	104%	67%	37%	31%	23%	26%	24%	21%	-1%	69%	212%	225%	311%	232%	209%	269%	199%	220%	164%	145%	106%	156%	126%	74%	71%
27%	151%	122%	81%	73%	63%	69%	67%	82%	48%	172%	390%	454%	432%	329%	315%	424%	324%	413%	323%	292%	264%	358%	303%	210%	206%
28%	83%	67%	36%	30%	30%	92%	88%	106%	67%	134%	331%	387%	368%	277%	265%	360%	273%	351%	272%	245%	220%	317%	267%	182%	179%
29%	52%	38%	13%	8%	8%	59%	56%	70%	39%	113%	288%	338%	321%	240%	228%	314%	236%	310%	239%	214%	191%	280%	234%	157%	154%
30%	33%	21%	-1%	-5%	-5%	39%	37%	50%	22%	87%	248%	293%	278%	204%	194%	277%	206%	273%	208%	186%	165%	246%	204%	134%	131%
31%	31%	19%	-5%	-8%	-8%	35%	33%	34%	9%	81%	238%	282%	267%	196%	186%	267%	197%	267%	203%	181%	161%	240%	199%	130%	127%
32%	30%	19%	-5%	-8%	-8%	35%	37%	38%	12%	100%	265%	313%	296%	220%	209%	229%	167%	236%	178%	157%	139%	212%	174%	111%	108%
33%	60%	46%	16%	13%	13%	17%	19%	19%	-3%	73%	234%	277%	262%	192%	182%	201%	144%	207%	154%	135%	118%	187%	152%	94%	92%
34%	33%	23%	0%	-4%	-5%	-2%	0%	-1%	17%	115%	322%	246%	233%	168%	159%	176%	124%	182%	133%	116%	100%	167%	135%	81%	79%
35%	33%	23%	0%	-4%	-5%	-2%	0%	-1%	17%	115%	287%	217%	204%	146%	137%	153%	105%	182%	133%	116%	100%	167%	135%	81%	79%
36%	62%	49%	23%	20%	20%	24%	27%	40%	16%	112%	282%	213%	201%	142%	134%	150%	102%	178%	130%	113%	98%	166%	134%	80%	78%
37%	32%	21%	0%	-3%	-3%	1%	3%	14%	-6%	73%	239%	178%	167%	115%	108%	121%	80%	147%	104%	89%	76%	144%	115%	65%	63%
38%	-2%	-10%	-25%	-28%	-28%	-25%	-23%	-15%	-30%	29%	197%	143%	134%	89%	82%	94%	57%	117%	79%	66%	54%	114%	88%	45%	43%
39%	-2%	-10%	-25%	-28%	-28%	-25%	-23%	-15%	-30%	29%	197%	143%	134%	89%	82%	94%	57%	117%	79%	66%	54%	114%	88%	45%	43%
40%	-3%	-10%	-26%	-28%	-28%	-25%	-24%	-16%	-30%	27%	194%	141%	132%	87%	81%	92%	56%	115%	77%	64%	53%	112%	87%	44%	42%
41%	-5%	-12%	-27%	-30%	-30%	-27%	-25%	-17%	-32%	25%	188%	136%	127%	83%	77%	89%	53%	110%	74%	61%	50%	108%	83%	41%	39%
42%	-7%	-14%	-29%	-31%	-31%	-28%	-27%	-19%	-33%	31%	203%	149%	139%	108%	101%	115%	74%	139%	98%	87%	74%	164%	142%	86%	84%
43%	-11%	-18%	-32%	-34%	-34%	-31%	-30%	-12%	-28%	26%	190%	138%	129%	99%	93%	105%	66%	129%	89%	79%	66%	153%	132%	78%	76%
44%	-13%	-20%	-27%	-29%	-29%	-27%	-25%	51%	24%	116%	228%	182%	170%	136%	128%	146%	115%	196%	145%	131%	115%	227%	202%	156%	153%
45%	5%	-10%	-18%	-20%	-20%	-17%	-14%	49%	23%	113%	224%	178%	167%	133%	125%	143%	113%	192%	141%	128%	112%	222%	198%	153%	150%
46%	5%	-10%	-18%	-20%	-20%	-17%	-14%	49%	23%	113%	224%	178%	167%	133%	125%	143%	113%	192%	141%	128%	112%	222%	198%	153%	150%
47%	6%	-9%	-10%	-13%	-13%	-10%	-6%	36%	12%	105%	190%	148%	138%	108%	101%	117%	90%	181%	132%	119%	104%	209%	186%	143%	140%
48%	-2%	-16%	-17%	-19%	-19%	-16%	-13%	26%	4%	90%	169%	131%	122%	93%	87%	102%	77%	161%	116%	104%	89%	188%	166%	126%	123%
49%	75%	50%	49%	44%	44%	50%	56%	53%	26%	47%	124%	92%	84%	61%	56%	68%	47%	117%	79%	70%	58%	139%	121%	88%	86%

Celik Halat Filter Results

APPENDIX 3.3.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	173%	208%	273%	238%	183%	230%	286%	312%	428%	424%	399%	386%	339%	326%	290%	290%	241%	268%	330%	327%	310%	354%	317%	315%
2%	173%	208%	273%	238%	174%	317%	302%	336%	469%	424%	391%	379%	332%	326%	290%	290%	241%	268%	330%	333%	316%	354%	317%	302%
3%	173%	208%	273%	238%	174%	317%	302%	336%	469%	424%	363%	379%	332%	326%	290%	290%	241%	268%	330%	333%	316%	354%	317%	302%
4%	308%	360%	351%	309%	412%	404%	386%	428%	439%	396%	325%	340%	297%	313%	278%	278%	230%	256%	307%	310%	294%	329%	294%	281%
5%	308%	349%	341%	299%	401%	392%	375%	428%	439%	396%	325%	340%	297%	313%	278%	278%	230%	256%	307%	278%	264%	305%	272%	281%
6%	221%	292%	285%	249%	356%	349%	333%	334%	343%	308%	249%	261%	226%	240%	210%	210%	171%	224%	270%	244%	231%	233%	206%	247%
7%	215%	292%	285%	249%	356%	349%	333%	334%	343%	308%	249%	261%	226%	294%	260%	260%	215%	276%	270%	244%	231%	233%	206%	247%
8%	190%	287%	280%	244%	350%	363%	346%	317%	326%	292%	236%	247%	214%	279%	246%	246%	203%	262%	256%	270%	256%	233%	206%	247%
9%	278%	254%	248%	215%	312%	323%	308%	281%	289%	259%	223%	247%	214%	279%	246%	246%	203%	262%	256%	270%	256%	233%	206%	372%
10%	201%	202%	196%	168%	251%	260%	247%	225%	241%	214%	198%	220%	189%	232%	203%	203%	165%	216%	211%	251%	237%	216%	190%	313%
11%	195%	196%	190%	163%	251%	260%	247%	225%	241%	214%	198%	220%	189%	232%	203%	203%	165%	216%	211%	228%	215%	196%	171%	313%
12%	199%	199%	194%	166%	255%	265%	252%	229%	245%	218%	202%	224%	193%	236%	207%	207%	168%	221%	215%	228%	215%	196%	171%	313%
13%	303%	327%	320%	280%	247%	261%	248%	225%	245%	218%	335%	307%	267%	236%	207%	207%	168%	221%	215%	228%	215%	196%	171%	313%
14%	303%	327%	320%	280%	247%	261%	248%	225%	245%	218%	335%	307%	267%	236%	207%	207%	168%	221%	215%	228%	215%	196%	171%	313%
15%	277%	300%	293%	256%	225%	250%	237%	215%	245%	218%	335%	307%	267%	236%	207%	207%	168%	221%	215%	228%	215%	196%	171%	313%
16%	252%	273%	267%	232%	203%	226%	214%	194%	222%	197%	306%	279%	243%	213%	186%	186%	150%	199%	194%	205%	194%	175%	153%	285%
17%	252%	273%	267%	232%	203%	226%	214%	194%	222%	197%	306%	279%	243%	213%	186%	186%	150%	199%	194%	205%	194%	175%	153%	285%
18%	211%	242%	236%	205%	178%	199%	188%	170%	200%	176%	278%	253%	219%	192%	167%	167%	133%	199%	194%	185%	174%	157%	136%	285%
19%	306%	371%	362%	318%	282%	337%	321%	294%	338%	327%	257%	233%	201%	175%	151%	151%	120%	182%	177%	174%	163%	147%	127%	273%
20%	263%	321%	313%	274%	241%	314%	299%	273%	321%	311%	243%	221%	190%	165%	142%	142%	112%	171%	167%	163%	153%	137%	118%	259%
21%	249%	305%	298%	260%	228%	298%	284%	259%	306%	296%	230%	209%	179%	155%	133%	133%	104%	161%	157%	163%	153%	137%	118%	245%
22%	342%	431%	431%	390%	373%	474%	454%	418%	539%	523%	420%	407%	358%	337%	299%	299%	266%	369%	361%	294%	288%	283%	252%	240%
23%	342%	431%	431%	390%	373%	474%	454%	418%	539%	523%	420%	407%	358%	337%	299%	299%	266%	369%	361%	294%	288%	283%	252%	240%
24%	342%	431%	431%	390%	373%	474%	454%	418%	539%	523%	420%	407%	358%	337%	299%	299%	266%	369%	361%	294%	288%	283%	252%	240%
25%	336%	425%	425%	384%	367%	467%	447%	411%	531%	515%	414%	401%	352%	332%	294%	294%	261%	363%	355%	289%	283%	278%	247%	235%
26%	290%	370%	370%	333%	318%	407%	389%	357%	464%	451%	360%	348%	305%	286%	253%	253%	223%	324%	317%	256%	251%	246%	218%	207%
27%	426%	347%	347%	313%	299%	402%	384%	352%	458%	445%	355%	343%	300%	282%	249%	249%	219%	319%	312%	252%	247%	242%	214%	204%
28%	380%	308%	308%	276%	264%	358%	342%	313%	458%	445%	355%	343%	300%	282%	249%	249%	219%	319%	312%	252%	247%	242%	214%	204%
29%	350%	283%	283%	253%	241%	329%	314%	287%	423%	411%	326%	315%	275%	258%	227%	227%	199%	319%	312%	252%	247%	242%	214%	204%
30%	310%	248%	248%	221%	210%	291%	277%	252%	376%	365%	288%	278%	242%	226%	198%	198%	173%	281%	275%	221%	216%	211%	186%	177%
31%	303%	242%	242%	215%	205%	291%	277%	252%	376%	365%	288%	278%	242%	226%	198%	198%	173%	281%	275%	221%	216%	211%	186%	177%
32%	269%	214%	214%	189%	180%	259%	246%	223%	337%	326%	256%	247%	213%	199%	173%	173%	150%	250%	244%	194%	190%	186%	162%	154%
33%	269%	214%	214%	189%	180%	259%	246%	223%	337%	326%	256%	247%	213%	199%	173%	173%	150%	250%	244%	194%	190%	186%	162%	154%
34%	263%	208%	208%	184%	174%	259%	246%	223%	337%	326%	256%	247%	213%	199%	173%	173%	150%	250%	244%	194%	190%	186%	162%	154%
35%	263%	208%	208%	184%	174%	259%	246%	223%	337%	326%	256%	247%	213%	199%	173%	173%	150%	250%	244%	194%	190%	186%	162%	154%
36%	261%	207%	207%	183%	173%	259%	246%	223%	337%	326%	256%	247%	213%	199%	173%	173%	150%	250%	244%	194%	190%	186%	162%	154%
37%	232%	182%	182%	160%	151%	259%	246%	223%	337%	326%	256%	247%	213%	199%	173%	173%	150%	250%	244%	194%	190%	186%	162%	154%
38%	191%	147%	147%	128%	120%	214%	203%	183%	283%	273%	212%	204%	174%	162%	139%	139%	119%	238%	233%	185%	180%	176%	154%	145%
39%	191%	147%	147%	128%	120%	214%	203%	183%	283%	273%	212%	204%	174%	162%	139%	139%	119%	238%	233%	185%	180%	176%	154%	145%
40%	188%	145%	145%	126%	118%	211%	200%	180%	283%	273%	212%	204%	174%	162%	139%	139%	119%	238%	233%	185%	180%	176%	154%	145%
41%	188%	145%	145%	126%	118%	211%	200%	180%	283%	273%	212%	204%	174%	162%	139%	139%	119%	238%	233%	185%	180%	176%	154%	145%
42%	282%	248%	248%	221%	210%	342%	337%	329%	511%	496%	398%	398%	388%	366%	326%	326%	290%	290%	283%	227%	223%	218%	192%	182%
43%	265%	233%	233%	207%	196%	323%	318%	310%	485%	470%	376%	376%	367%	346%	307%	307%	273%	273%	267%	213%	209%	204%	179%	170%
44%	435%	388%	388%	350%	335%	310%	304%	297%	466%	452%	361%	361%	352%	332%	294%	294%	261%	261%	255%	203%	199%	194%	171%	162%
45%	435%	388%	388%	350%	335%	310%	304%	297%	466%	452%	361%	361%	352%	332%	294%	294%	261%	261%	255%	203%	199%	194%	171%	162%
46%	435%	388%	388%	350%	335%	310%	304%	297%	466%	452%	361%	361%	352%	332%	294%	294%	261%	261%	255%	203%	199%	194%	171%	162%
47%	435%	388%	388%	350%	335%	310%	304%	297%	466%	452%	361%	361%	352%	332%	294%	294%	261%	261%	255%	203%	199%	194%	171%	162%
48%	398%	354%	354%	318%	304%	281%	276%	269%	466%	452%	361%	361%	352%	332%	294%	294%	261%	261%	255%	203%	199%	194%	171%	162%
49%	340%	301%	301%	270%	257%	237%	233%	227%	401%	388%	308%	308%	300%	282%	249%	249%	219%	219%	214%	168%	165%	161%	139%	131%

Celik Halot Filter Results

APPENDIX 3.3.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-58%	-32%	22%	2%	7%	0%	19%	6%	3%	26%	50%	34%	21%	4%	1%	54%	125%	195%	414%	484%	398%	280%	277%	304%	268%
2%	-15%	38%	158%	146%	122%	70%	57%	44%	42%	79%	125%	81%	52%	33%	29%	80%	114%	220%	457%	515%	415%	301%	298%	326%	315%
3%	-7%	57%	179%	166%	108%	79%	65%	44%	27%	42%	74%	52%	51%	11%	9%	53%	96%	193%	417%	471%	378%	272%	269%	308%	355%
4%	39%	157%	347%	387%	281%	188%	165%	163%	136%	101%	157%	115%	161%	107%	100%	107%	166%	301%	417%	474%	372%	265%	263%	308%	355%
5%	76%	224%	481%	541%	447%	368%	339%	365%	242%	256%	240%	185%	245%	180%	176%	212%	259%	317%	448%	517%	408%	320%	317%	369%	275%
6%	33%	153%	418%	438%	331%	251%	270%	318%	176%	187%	179%	134%	213%	178%	175%	165%	213%	268%	275%	309%	265%	178%	176%	264%	191%
7%	47%	151%	500%	467%	334%	253%	381%	480%	202%	236%	245%	197%	238%	156%	165%	165%	227%	279%	287%	273%	233%	154%	152%	232%	166%
8%	44%	115%	345%	293%	212%	162%	298%	375%	152%	216%	185%	155%	203%	130%	165%	165%	227%	279%	287%	273%	233%	154%	152%	232%	166%
9%	61%	182%	378%	305%	235%	182%	307%	399%	191%	336%	293%	260%	291%	247%	315%	324%	355%	448%	460%	427%	380%	266%	186%	276%	201%
10%	24%	130%	290%	231%	174%	142%	276%	313%	144%	265%	236%	184%	209%	174%	228%	253%	278%	356%	317%	412%	314%	215%	147%	224%	160%
11%	47%	111%	231%	254%	195%	109%	237%	270%	119%	186%	162%	122%	146%	118%	161%	186%	211%	274%	242%	321%	240%	159%	103%	167%	113%
12%	38%	97%	183%	210%	177%	104%	231%	297%	135%	172%	163%	122%	105%	82%	118%	139%	179%	236%	207%	277%	205%	133%	82%	146%	97%
13%	13%	110%	202%	261%	227%	136%	179%	202%	78%	111%	103%	76%	75%	66%	113%	151%	193%	270%	191%	257%	189%	120%	72%	133%	87%
14%	4%	101%	202%	243%	212%	124%	126%	161%	55%	82%	88%	63%	62%	54%	97%	132%	171%	242%	169%	230%	167%	104%	59%	116%	73%
15%	99%	299%	379%	360%	318%	228%	264%	329%	153%	153%	173%	137%	95%	85%	95%	138%	178%	270%	194%	266%	200%	134%	83%	159%	113%
16%	50%	196%	255%	253%	220%	133%	177%	226%	93%	93%	108%	85%	53%	46%	54%	89%	154%	237%	168%	234%	173%	114%	67%	136%	94%
17%	77%	192%	251%	260%	221%	118%	146%	196%	75%	75%	88%	68%	38%	44%	52%	95%	162%	248%	177%	245%	182%	121%	72%	117%	79%
18%	52%	158%	217%	238%	202%	88%	113%	155%	51%	60%	72%	53%	26%	32%	39%	78%	139%	226%	159%	222%	164%	106%	61%	109%	71%
19%	16%	114%	163%	194%	163%	64%	85%	122%	32%	39%	50%	38%	14%	19%	25%	61%	116%	194%	134%	191%	138%	86%	46%	89%	55%
20%	43%	115%	164%	229%	194%	96%	121%	165%	64%	74%	102%	93%	60%	66%	77%	130%	156%	248%	177%	252%	188%	148%	93%	151%	106%
21%	84%	156%	143%	254%	216%	108%	86%	151%	85%	88%	138%	128%	88%	96%	72%	136%	162%	200%	138%	203%	149%	114%	67%	127%	86%
22%	91%	185%	173%	258%	246%	128%	111%	184%	131%	139%	202%	189%	144%	158%	127%	170%	201%	244%	173%	248%	191%	155%	100%	174%	130%
23%	111%	151%	139%	206%	206%	93%	78%	142%	99%	104%	158%	164%	123%	135%	107%	147%	174%	213%	149%	217%	165%	133%	82%	150%	110%
24%	124%	148%	137%	236%	236%	126%	109%	215%	160%	171%	242%	287%	227%	245%	203%	261%	321%	382%	283%	397%	347%	305%	217%	203%	160%
25%	100%	129%	120%	211%	211%	113%	113%	227%	155%	124%	195%	233%	182%	197%	156%	205%	268%	342%	252%	356%	311%	272%	191%	178%	138%
26%	126%	146%	136%	240%	240%	133%	133%	259%	195%	172%	243%	287%	242%	261%	217%	278%	247%	317%	232%	330%	287%	251%	174%	162%	125%
27%	92%	110%	101%	190%	190%	99%	99%	206%	152%	131%	192%	230%	191%	231%	191%	247%	219%	283%	205%	295%	256%	222%	152%	141%	107%
28%	80%	160%	149%	195%	195%	102%	92%	196%	144%	124%	183%	220%	182%	221%	182%	247%	219%	283%	205%	295%	256%	222%	152%	141%	107%
29%	86%	169%	161%	244%	244%	145%	133%	292%	223%	203%	283%	348%	295%	223%	208%	280%	249%	318%	233%	331%	291%	259%	186%	198%	155%
30%	86%	169%	161%	244%	244%	145%	133%	292%	223%	203%	283%	348%	295%	223%	208%	280%	249%	318%	233%	331%	291%	259%	186%	198%	155%
31%	82%	176%	158%	131%	131%	67%	59%	193%	128%	114%	181%	254%	212%	155%	139%	194%	170%	224%	157%	234%	202%	178%	121%	131%	97%
32%	115%	226%	216%	182%	182%	105%	95%	274%	191%	173%	156%	222%	184%	132%	117%	171%	149%	213%	149%	223%	192%	168%	114%	123%	91%
33%	105%	199%	190%	163%	163%	90%	81%	248%	170%	154%	138%	199%	164%	116%	102%	152%	132%	191%	132%	200%	172%	150%	99%	107%	78%
34%	107%	207%	198%	179%	179%	102%	102%	288%	202%	184%	178%	249%	213%	156%	153%	152%	132%	191%	132%	200%	172%	150%	99%	107%	78%
35%	125%	261%	250%	227%	227%	137%	137%	356%	283%	260%	252%	343%	298%	226%	221%	227%	200%	169%	114%	178%	152%	131%	84%	92%	64%
36%	88%	261%	250%	227%	227%	137%	137%	356%	283%	260%	252%	343%	298%	226%	221%	227%	200%	169%	114%	178%	152%	131%	84%	92%	64%
37%	59%	205%	196%	177%	177%	101%	101%	286%	225%	205%	210%	290%	250%	186%	183%	187%	164%	137%	88%	144%	121%	103%	62%	68%	44%
38%	40%	169%	160%	144%	144%	77%	77%	240%	186%	168%	173%	243%	208%	152%	149%	153%	132%	108%	66%	115%	94%	79%	43%	48%	27%
39%	28%	169%	160%	144%	144%	77%	77%	240%	186%	168%	173%	243%	208%	152%	149%	153%	132%	108%	66%	115%	94%	79%	43%	48%	27%
40%	67%	137%	130%	115%	115%	56%	56%	224%	172%	156%	160%	226%	193%	140%	137%	141%	121%	98%	58%	105%	85%	70%	36%	41%	21%
41%	47%	90%	84%	72%	72%	25%	25%	184%	139%	124%	125%	187%	157%	110%	108%	111%	94%	74%	38%	80%	63%	49%	19%	24%	6%
42%	17%	51%	46%	37%	37%	-1%	-1%	126%	90%	78%	91%	143%	118%	78%	77%	79%	65%	48%	17%	52%	38%	27%	1%	5%	-10%
43%	-2%	32%	28%	15%	15%	-14%	31%	93%	62%	52%	87%	107%	86%	52%	51%	53%	41%	26%	0%	44%	30%	19%	-5%	-1%	-15%
44%	-2%	32%	28%	15%	15%	-14%	31%	93%	62%	52%	87%	107%	86%	52%	51%	53%	41%	26%	0%	44%	30%	19%	-5%	-1%	-15%
45%	-2%	32%	28%	15%	15%	-14%	31%	93%	62%	52%	87%	107%	86%	52%	51%	53%	41%	26%	0%	44%	30%	19%	-5%	-1%	-15%
46%	-2%	32%	28%	15%	15%	-14%	31%	93%	62%	52%	87%	107%	86%	52%	51%	53%	41%	26%	0%	44%	30%	19%	-5%	-1%	-15%
47%	-15%	27%	23%	12%	12%	-14%	31%	93%	62%	52%	85%	104%	88%	54%	44%	35%	23%	11%	-12%	26%	14%	5%	-16%	-13%	-25%
48%	-17%	25%	21%	10%	10%	-16%	29%	90%	59%	50%	82%	101%	85%	51%	41%	33%	22%	9%	-13%	24%	12%	3%	-18%	-14%	-26%
49%	-25%	12%	8%	-2%	-2%	-27%	11%	64%	38%	29%	57%	73%	59%	30%	22%	14%	5%	-6%	-25%	7%	-3%	-11%	-29%	-26%	-37%

Cukurova Elektrik Filter Results

APPENDIX 3.4.a

x%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
y%																								
1%	229%	218%	249%	265%	235%	235%	385%	512%	469%	604%	627%	617%	610%	499%	483%	515%	503%	577%	546%	575%	506%	570%	545%	545%
2%	243%	206%	245%	260%	231%	231%	385%	495%	454%	586%	608%	598%	591%	483%	467%	558%	545%	569%	539%	567%	499%	570%	545%	545%
3%	269%	243%	285%	313%	279%	279%	385%	495%	454%	555%	591%	581%	560%	458%	443%	622%	608%	633%	600%	634%	586%	570%	545%	545%
4%	269%	243%	285%	313%	279%	279%	376%	488%	447%	532%	566%	569%	560%	458%	443%	622%	608%	633%	600%	634%	586%	570%	545%	545%
5%	217%	206%	249%	287%	279%	279%	376%	480%	440%	505%	749%	754%	710%	584%	566%	594%	580%	605%	573%	634%	586%	570%	545%	545%
6%	145%	149%	188%	242%	235%	235%	361%	425%	389%	422%	653%	700%	591%	483%	468%	500%	488%	509%	481%	580%	535%	520%	498%	498%
7%	124%	127%	197%	253%	245%	245%	383%	387%	354%	384%	599%	642%	541%	441%	427%	500%	488%	509%	481%	580%	535%	520%	498%	498%
8%	124%	127%	197%	253%	245%	245%	383%	387%	354%	335%	599%	642%	541%	441%	427%	500%	488%	509%	481%	580%	535%	520%	498%	498%
9%	150%	171%	254%	360%	351%	351%	339%	343%	313%	310%	573%	614%	517%	421%	407%	477%	466%	486%	459%	580%	535%	520%	498%	498%
10%	115%	136%	208%	301%	292%	292%	301%	325%	295%	310%	573%	582%	489%	398%	384%	451%	440%	486%	459%	580%	535%	520%	498%	498%
11%	77%	117%	194%	283%	275%	275%	283%	306%	278%	305%	573%	582%	489%	398%	384%	451%	440%	486%	459%	580%	535%	520%	498%	498%
12%	63%	100%	172%	254%	275%	275%	283%	294%	267%	280%	553%	582%	489%	398%	384%	451%	440%	486%	459%	580%	535%	520%	498%	498%
13%	55%	99%	170%	283%	306%	306%	314%	326%	297%	278%	549%	577%	485%	395%	381%	448%	437%	482%	456%	580%	535%	520%	498%	498%
14%	43%	84%	150%	254%	275%	275%	283%	294%	267%	249%	500%	526%	441%	357%	345%	407%	396%	438%	414%	528%	487%	473%	452%	452%
15%	76%	129%	122%	214%	233%	233%	260%	260%	235%	232%	470%	478%	399%	322%	310%	367%	358%	425%	401%	513%	473%	460%	439%	439%
16%	60%	109%	102%	186%	203%	203%	227%	233%	210%	192%	437%	445%	371%	298%	287%	367%	358%	425%	401%	513%	473%	460%	439%	439%
17%	48%	93%	86%	164%	180%	180%	202%	207%	186%	169%	395%	403%	334%	267%	257%	331%	322%	384%	362%	466%	429%	416%	397%	397%
18%	42%	85%	79%	153%	169%	169%	190%	190%	170%	162%	382%	403%	334%	267%	257%	331%	322%	384%	362%	466%	429%	416%	397%	397%
19%	28%	69%	63%	145%	160%	160%	181%	190%	170%	162%	382%	403%	334%	267%	257%	331%	322%	384%	362%	466%	429%	416%	397%	397%
20%	71%	129%	121%	167%	183%	183%	205%	215%	193%	157%	382%	403%	334%	267%	257%	331%	322%	384%	362%	466%	429%	416%	397%	397%
21%	54%	125%	117%	162%	183%	183%	205%	200%	180%	145%	359%	403%	334%	267%	257%	331%	322%	384%	362%	466%	429%	416%	397%	397%
22%	93%	202%	191%	268%	297%	297%	366%	358%	343%	288%	359%	374%	310%	246%	237%	306%	298%	384%	362%	466%	429%	416%	397%	397%
23%	76%	175%	166%	235%	263%	263%	325%	322%	308%	257%	323%	337%	278%	219%	210%	283%	275%	356%	336%	466%	429%	416%	397%	397%
24%	137%	177%	168%	238%	273%	388%	337%	321%	307%	256%	340%	354%	292%	231%	222%	298%	290%	374%	353%	488%	449%	436%	417%	417%
25%	117%	155%	146%	211%	242%	349%	301%	287%	274%	227%	304%	317%	260%	204%	196%	298%	290%	374%	353%	488%	449%	436%	417%	417%
26%	105%	140%	132%	200%	242%	349%	301%	287%	274%	227%	304%	317%	260%	204%	196%	298%	290%	374%	353%	488%	449%	436%	417%	417%
27%	88%	120%	113%	175%	214%	312%	269%	255%	243%	201%	271%	287%	234%	182%	175%	269%	262%	340%	320%	445%	410%	398%	379%	379%
28%	88%	120%	113%	175%	214%	312%	269%	255%	243%	201%	271%	287%	234%	182%	175%	269%	262%	340%	320%	445%	410%	398%	379%	379%
29%	132%	186%	176%	260%	312%	312%	268%	255%	243%	201%	307%	281%	229%	178%	171%	264%	257%	340%	320%	445%	410%	398%	379%	379%
30%	132%	186%	176%	260%	312%	312%	268%	255%	243%	201%	307%	281%	229%	178%	171%	264%	257%	340%	320%	445%	410%	398%	379%	379%
31%	80%	121%	113%	182%	234%	234%	198%	188%	178%	143%	230%	209%	167%	125%	119%	195%	189%	286%	269%	388%	356%	345%	329%	329%
32%	74%	114%	107%	182%	234%	234%	198%	188%	178%	143%	230%	209%	167%	125%	119%	195%	189%	286%	269%	388%	356%	345%	329%	329%
33%	62%	99%	92%	162%	210%	210%	177%	167%	158%	126%	207%	187%	148%	110%	104%	174%	169%	259%	243%	388%	356%	345%	329%	329%
34%	62%	99%	92%	162%	210%	210%	177%	167%	158%	126%	207%	187%	148%	110%	104%	174%	169%	259%	243%	388%	356%	345%	329%	329%
35%	50%	92%	86%	153%	210%	210%	177%	167%	158%	126%	207%	187%	148%	110%	104%	174%	169%	259%	243%	388%	356%	345%	329%	329%
36%	50%	92%	86%	153%	210%	210%	177%	167%	158%	126%	207%	187%	148%	110%	104%	174%	169%	259%	243%	388%	356%	345%	329%	329%
37%	31%	69%	63%	125%	175%	175%	146%	138%	130%	101%	172%	155%	121%	86%	81%	166%	161%	249%	233%	373%	342%	332%	316%	316%
38%	16%	49%	44%	125%	175%	175%	146%	138%	130%	101%	172%	155%	121%	86%	81%	166%	161%	249%	233%	373%	342%	332%	316%	316%
39%	16%	49%	44%	125%	175%	175%	146%	138%	130%	101%	172%	155%	121%	86%	81%	166%	161%	249%	233%	373%	342%	332%	316%	316%
40%	10%	42%	37%	114%	175%	175%	146%	138%	130%	101%	172%	155%	121%	86%	81%	166%	161%	249%	233%	373%	342%	332%	316%	316%
41%	-3%	26%	22%	91%	146%	146%	120%	112%	105%	80%	143%	128%	97%	66%	62%	137%	133%	211%	197%	323%	295%	286%	272%	272%
42%	-18%	7%	4%	63%	109%	109%	87%	80%	74%	52%	126%	111%	83%	55%	50%	120%	116%	211%	197%	323%	295%	286%	272%	272%
43%	-23%	4%	0%	57%	102%	102%	80%	74%	68%	47%	118%	104%	76%	49%	45%	113%	109%	201%	187%	323%	295%	286%	272%	272%
44%	-23%	4%	0%	57%	102%	102%	80%	74%	68%	47%	118%	104%	76%	49%	45%	113%	109%	201%	187%	323%	295%	286%	272%	272%
45%	-23%	4%	0%	57%	102%	102%	80%	74%	68%	47%	118%	104%	76%	49%	45%	113%	109%	201%	187%	323%	295%	286%	272%	272%
46%	-23%	4%	0%	57%	102%	102%	80%	74%	68%	47%	118%	104%	76%	49%	45%	113%	109%	201%	187%	323%	295%	286%	272%	272%
47%	-32%	-3%	-6%	47%	98%	98%	77%	71%	65%	45%	114%	101%	74%	47%	43%	109%	105%	195%	182%	315%	288%	279%	265%	265%
48%	-33%	-4%	-8%	45%	95%	95%	74%	68%	62%	42%	111%	97%	71%	44%	40%	106%	102%	191%	177%	315%	288%	279%	265%	265%
49%	-42%	-17%	-20%	25%	68%	68%	50%	45%	40%	23%	82%	70%	47%	24%	21%	96%	92%	176%	164%	295%	269%	260%	247%	247%

Cukurova Elektrik Filter Results

APPENDIX 3.4.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	951%	3245%	4568%	7008%	7844%	5478%	7167%	12768%	12392%	12191%	11535%	8666%	9540%	9559%	9715%	10013%	15009%	19057%	14348%	15526%	20198%	28633%	27036%	25224%	24810%
2%	1502%	5738%	8219%	11289%	9450%	6387%	6580%	11455%	13914%	12159%	11553%	8681%	8675%	8920%	9421%	10100%	14873%	20015%	15337%	16747%	19684%	27906%	27036%	25224%	24810%
3%	4331%	15821%	17466%	25516%	21457%	15152%	11510%	12988%	13239%	11570%	12101%	9990%	9611%	9883%	14289%	12698%	18687%	17469%	13383%	14615%	18909%	26258%	26419%	24648%	28057%
4%	5892%	13154%	13733%	20317%	17651%	10695%	7546%	7799%	9022%	8021%	8699%	7178%	7226%	8081%	12532%	11139%	17235%	16110%	12341%	12373%	16013%	22242%	24369%	22738%	25883%
5%	6028%	12241%	16228%	21038%	18417%	11330%	7894%	8660%	7585%	6842%	6689%	5517%	5693%	6556%	11115%	9877%	16688%	15804%	12106%	12138%	15943%	22147%	24266%	22640%	26268%
6%	10513%	18050%	23915%	26742%	23674%	17624%	12294%	13484%	11142%	8689%	8809%	7267%	7502%	9637%	16302%	16085%	20291%	19546%	14977%	15548%	20413%	21431%	23480%	21906%	25416%
7%	7154%	14380%	20197%	22883%	20323%	15312%	11070%	14898%	11193%	8728%	8849%	7690%	6801%	9381%	13013%	12839%	17367%	16729%	12815%	13304%	18503%	19426%	21285%	19858%	23916%
8%	3701%	6538%	10369%	12570%	16242%	11275%	8144%	10932%	8208%	6615%	6826%	5930%	5440%	8273%	11478%	11325%	15321%	15434%	11823%	12274%	17073%	17925%	19641%	18324%	22069%
9%	2492%	4479%	7121%	8643%	12347%	9480%	6845%	9192%	7246%	6049%	7027%	6353%	6171%	9378%	13182%	14993%	23236%	18917%	14494%	15046%	21866%	22954%	25151%	24190%	29127%
10%	2321%	4617%	6407%	7011%	10383%	8739%	6429%	9883%	7112%	6315%	8033%	7263%	8150%	10413%	12442%	13950%	20602%	14865%	11222%	12515%	18612%	19538%	21908%	21073%	26969%
11%	1787%	3577%	4972%	5551%	9435%	9210%	6777%	9081%	5868%	5839%	7430%	6718%	7537%	9766%	11671%	13086%	19330%	13946%	10526%	11740%	17461%	18333%	20556%	19771%	26274%
12%	1920%	3616%	5026%	5783%	9222%	9372%	7458%	10448%	7195%	7159%	8096%	7493%	8528%	11312%	14196%	16307%	24073%	17811%	13450%	15794%	23474%	24643%	20556%	19771%	26274%
13%	1882%	3502%	4976%	6069%	8649%	8787%	7159%	10033%	5582%	5607%	6346%	5871%	6780%	9369%	11762%	13512%	20393%	15084%	11387%	13373%	20612%	21639%	18049%	17360%	23486%
14%	1769%	3578%	4790%	5840%	8325%	8458%	6993%	10241%	5837%	5997%	6007%	5558%	6508%	9118%	11449%	13525%	20414%	15317%	11731%	13980%	18638%	19567%	16318%	15695%	22881%
15%	2249%	4642%	5737%	5446%	7791%	8068%	5641%	9275%	6037%	6661%	6673%	6175%	9373%	14963%	19033%	22474%	31402%	25928%	19875%	23676%	24115%	27794%	23186%	22302%	22881%
16%	2048%	3422%	4236%	4020%	5760%	5479%	3822%	6552%	4255%	4699%	4866%	4502%	7150%	11425%	14940%	17645%	25133%	20748%	15898%	18942%	20136%	23213%	19364%	18625%	19482%
17%	1663%	2791%	3458%	3281%	4711%	4479%	3120%	5359%	3558%	3929%	4071%	3764%	5988%	9956%	13648%	16121%	22963%	18957%	14524%	17583%	18691%	21548%	17973%	17287%	18083%
18%	2420%	3252%	4026%	3821%	5845%	6047%	4378%	7493%	5648%	4995%	5173%	4786%	7598%	13071%	17907%	21144%	26018%	21480%	16461%	16461%	17499%	20175%	16827%	16185%	16931%
19%	1813%	2529%	3137%	2975%	4562%	4723%	3412%	5855%	4818%	4635%	3881%	3588%	5711%	9842%	13492%	16074%	19785%	16330%	12508%	12508%	13299%	15336%	12787%	12297%	14362%
20%	2421%	2663%	3254%	3153%	4831%	4991%	3557%	5957%	4902%	5208%	4434%	4100%	6874%	12052%	16735%	20104%	24740%	20424%	17245%	17245%	18331%	15336%	12787%	12297%	14362%
21%	2626%	2446%	3122%	3025%	4742%	5401%	3998%	6992%	6033%	6409%	5461%	5129%	7492%	10599%	14917%	19295%	23748%	19604%	16551%	16551%	18331%	15336%	12787%	12297%	14362%
22%	2698%	2471%	3154%	2739%	4806%	5473%	4051%	7083%	6396%	6794%	5882%	5526%	8457%	11958%	16823%	21761%	29128%	24050%	20308%	20308%	17613%	14735%	12286%	11815%	14047%
23%	2943%	2696%	3438%	3047%	5512%	6665%	4941%	9669%	8735%	10177%	9399%	8834%	13726%	16805%	18937%	24492%	25461%	21019%	17747%	17747%	15392%	12874%	10731%	10320%	12273%
24%	2481%	2272%	2902%	2593%	4823%	5834%	4320%	8468%	7648%	9133%	9236%	8680%	13487%	16514%	18609%	24068%	25020%	20655%	17439%	17439%	15125%	12651%	10544%	10141%	12273%
25%	2378%	2250%	3198%	2858%	4836%	5852%	4440%	8833%	8381%	10006%	10118%	9510%	14773%	14669%	16533%	21385%	22233%	18351%	15492%	15492%	13436%	11234%	9364%	9004%	10899%
26%	1903%	1800%	2566%	2291%	3891%	4712%	3570%	7121%	6757%	8070%	8161%	7670%	12686%	12597%	14199%	18371%	19099%	15762%	13306%	13306%	11536%	9645%	8035%	7727%	9355%
27%	1757%	1661%	2370%	2116%	3600%	4359%	3302%	7093%	6802%	7180%	7261%	6823%	11292%	10835%	12831%	16604%	17861%	14739%	12441%	12441%	10785%	9016%	7510%	7222%	9355%
28%	1704%	1610%	2300%	2054%	3494%	4232%	3203%	6887%	6606%	6972%	7051%	6626%	11292%	10835%	12831%	16604%	17861%	14739%	12441%	12441%	10785%	9016%	7510%	7222%	9355%
29%	2496%	2419%	3437%	3111%	3956%	4792%	3701%	7937%	7762%	8191%	6003%	5641%	9624%	9556%	11319%	14650%	15759%	13004%	10973%	10973%	9511%	7949%	6621%	6365%	8249%
30%	2168%	2100%	2988%	2704%	3444%	4171%	3218%	6918%	7051%	7441%	5452%	5122%	8745%	8683%	10287%	13845%	14894%	12290%	10369%	10369%	8986%	7510%	6253%	6012%	7795%
31%	2615%	2534%	3596%	3256%	4142%	5013%	3873%	6455%	6579%	6944%	5085%	4777%	8163%	7841%	9289%	12505%	13905%	11472%	9678%	9678%	8388%	7009%	5835%	5610%	7274%
32%	2587%	2507%	3559%	3222%	4098%	5153%	3981%	6632%	7636%	8059%	5906%	5549%	9562%	9184%	10878%	14640%	16277%	13431%	11843%	11843%	10267%	8582%	7313%	7031%	6749%
33%	3109%	3014%	2989%	2916%	3619%	4795%	3702%	6303%	7180%	6596%	4829%	4536%	7978%	7663%	9080%	12225%	13594%	11214%	9885%	9885%	8568%	7159%	6098%	5863%	5627%
34%	2732%	2648%	2626%	2563%	3185%	4221%	3257%	5554%	6327%	5811%	4252%	3993%	7626%	7570%	9080%	12225%	13594%	11214%	9885%	9885%	8568%	7159%	6098%	5863%	5627%
35%	3017%	2976%	2623%	2560%	3180%	4215%	3253%	5547%	6319%	5428%	4039%	3794%	7317%	7149%	8879%	12687%	14336%	11828%	10427%	10427%	9038%	7552%	6434%	6186%	5627%
36%	3385%	3909%	3505%	3420%	4807%	4807%	3711%	4439%	5368%	4609%	3426%	3217%	6218%	6076%	7549%	10793%	12197%	10061%	8867%	8867%	7684%	6419%	5466%	5255%	4779%
37%	3080%	3524%	3159%	3083%	4337%	4047%	3122%	4004%	4845%	4159%	3089%	2899%	5667%	5447%	6771%	9686%	11123%	9173%	8083%	8083%	7005%	5850%	4980%	4787%	4352%
38%	3074%	3668%	3288%	2949%	4767%	4450%	3434%	4403%	5326%	4571%	3398%	3189%	6686%	6534%	8118%	11602%	13769%	11359%	10545%	10545%	9142%	7639%	6625%	6371%	6502%
39%	2653%	3168%	2839%	2545%	4123%	3846%	2967%	3805%	4606%	3952%	2935%	2754%	5786%	5655%	7029%	10051%	11930%	9841%	9134%	9134%	7917%	6614%	5735%	5513%	5627%
40%	2420%	2891%	2590%	2321%	3764%	3511%	2705%	3473%	4206%	3608%	2676%	2512%	5287%	4791%	6302%	9018%	11720%	9666%	8972%	8972%	7775%	6497%	5632%	5414%	5526%
41%	2420%	2891%	2590%	2321%	3764%	3511%	2705%	3473%	4206%	3608%	2676%	2512%	5287%	4791%	6302%	9018%	11720%	9666%	8972%	8972%	7775%	6497%	5632%	5414%	5526%
42%	2819%	2778%	2489%	2229%	3618%	3375%	2599%	3386%	4100%	3518%	2609%	2448%	5154%	4670%	6145%	8793%	11427%	9424%	8750%	8750%	7581%	6332%	5491%	5278%	5388%
43%	3005%	2869%	2569%	2303%	3734%	3552%	2738%	3589%	4345%	4058%	3013%	2828%	5941%	5898%	7753%	7778%	10112%	8338%	7740%	7740%	6705%	5598%	4853%	4665%	4761%
44%	2992%	2854%	2517%	2255%	3545%	3419%	2635%	3455%	4345%	4058%	3013%	2828%	5941%	5898%	7753%	7778%	10112%	8338%	7740%	7740%	6705%	5598%	4853%	4665%	4761%
45%	3326%	3175%	3881%	3514%	6096%	6084%	4705%	6019%	5191%	5574%	4150%	3896%	5438%	5399%	7100%	7123%	9263%	7636%	7087%	7087%	6139%	5125%	4441%	4269%	4357%
46%	3250%	3103%	2890%	2615%	4412%	4168%	3217%	4182%	5592%	6006%	5045%	4738%	6604%	6557%	8614%	8643%	11233%	9264%	8600%	8600%	7955%	6646%	5763%	5541%	5656%
47%	2514%	2399%	2233%	2018%	3420%	3231%	2488%	3459%	4633%	4976%	4177%	3923%	5716%	5675%	7459%	8643%	11233%	9264%	8600%	8600%	7955%	6646%	5763%	5541%	5656%
48%	1972%	1880%	2873%	2599%	4527%	4237%	3269%	4533%	3961%	4257%	3569%	3352%	4891%	4855%	6528%	7564%	9835%	8109%	7527%	7527%	6962%	5814%	5040%	4845%	4944%
49%	1972%	1880%	2873%	2599%	4527%	4237%	3269%	4533%	3961%	4257%	3569%	3352%	4891%	4855%	6528%	7564%	9835%	8109%	7527%	7527%	6962%	5814%	5040%	4845%	4944%

Eczacibasi Yatirim Filter Results

APPENDIX 3.5.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	25750%	22317%	21286%	19361%	21579%	19630%	19417%	44700%	50242%	50025%	46099%	53375%	48796%	45455%	48630%	47923%	49568%	49568%	62930%	62891%	61116%	60230%	54429%	52689%
2%	25750%	22317%	21286%	19361%	21213%	19296%	18601%	42825%	48136%	49176%	46099%	50700%	45689%	42560%	45534%	44873%	51760%	51760%	64769%	61991%	60242%	59367%	54429%	52689%
3%	29119%	25239%	24635%	19361%	21213%	19296%	18601%	42825%	48136%	48528%	45491%	50031%	41526%	38683%	41385%	40784%	51760%	51760%	58873%	56346%	54756%	53961%	54429%	52689%
4%	26861%	23280%	22723%	17857%	19259%	17520%	15506%	35719%	40148%	44071%	43419%	50031%	41526%	38683%	41385%	40784%	51760%	51760%	58873%	56346%	54756%	53961%	54429%	52689%
5%	27263%	23280%	22723%	17857%	19259%	17520%	15506%	35719%	40148%	43498%	42854%	49380%	41526%	38683%	41385%	40784%	52533%	52533%	59753%	57187%	55573%	54766%	55243%	52689%
6%	26380%	22524%	21986%	17278%	18634%	16952%	15003%	34563%	38850%	42091%	40775%	47784%	40183%	37431%	39979%	39398%	50749%	50749%	59753%	57187%	55573%	54766%	55243%	52689%
7%	24822%	21195%	20688%	16254%	17532%	15948%	14113%	32524%	36560%	39609%	38370%	53712%	45171%	42077%	47754%	47061%	50749%	50749%	56232%	53818%	52298%	51540%	51988%	49583%
8%	22904%	19556%	19088%	14997%	17532%	15948%	14113%	32524%	36560%	39609%	36698%	53712%	45171%	42077%	47754%	47061%	50749%	50749%	56232%	53818%	52298%	51540%	51988%	49583%
9%	30230%	27068%	26421%	20766%	24008%	21841%	19333%	44502%	50021%	55143%	52618%	51265%	43112%	40158%	47051%	46367%	50002%	50002%	55404%	53026%	51529%	50781%	51222%	48852%
10%	28975%	25945%	25324%	19904%	23010%	20932%	18105%	45169%	50769%	55968%	53406%	52031%	43756%	40759%	44716%	44067%	47520%	47520%	56232%	53818%	52298%	51540%	51988%	49583%
11%	28228%	25276%	24672%	19390%	22417%	20394%	17639%	44008%	50769%	55968%	53406%	52031%	43756%	40759%	44716%	44067%	47520%	47520%	56232%	53818%	52298%	51540%	51988%	49583%
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14%	25001%	22387%	21851%	17171%	19851%	18059%	15617%	38981%	46129%	45521%	43437%	42318%	35586%	33146%	38243%	37688%	43816%	43816%	51155%	48959%	47576%	46886%	50985%	48627%
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40%	8402%	7516%	7334%	5750%	8113%	7376%	6370%	21903%	33408%	32967%	31456%	30645%	25765%	23998%	22404%	22078%	30954%	30954%	29695%	28417%	27614%	27213%	35680%	34028%
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Eczacibasi Yatirim Filter Results

APPENDIX 3.5.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	607%	624%	497%	593%	465%	709%	999%	927%	1106%	773%	545%	592%	825%	997%	854%	718%	885%	1192%	1158%	726%	1125%	1216%	2463%	2546%	2755%
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46%	396%	379%	346%	332%	548%	486%	736%	769%	607%	552%	474%	426%	366%	462%	410%	558%	558%	525%	435%	414%	1213%	1154%	1045%	852%	811%
47%	309%	307%	279%	267%	450%	397%	610%	638%	501%	454%	388%	347%	296%	377%	334%	459%	459%	431%	354%	337%	1015%	965%	873%	709%	674%
48%	309%	307%	279%	267%	450%	397%	610%	638%	501%	454%	388%	347%	296%	377%	334%	459%	459%	431%	354%	337%	1015%	965%	873%	709%	674%
49%	302%	300%	273%	261%	442%	390%	599%	626%	491%	445%	380%	340%	290%	370%	327%	450%	450%	422%	347%	330%	997%	948%	857%	696%	662%

Eregli Demir Celik Fab. Filter Results

APPENDIX 3.6.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	2152%	2355%	1957%	1903%	2394%	2570%	2481%	2660%	2292%	2241%	2136%	2508%	2662%	2950%	2656%	2914%	2810%	2679%	2630%	2948%	2948%	2687%	2808%	2808%
2%	2053%	2247%	1867%	1815%	2321%	2570%	2481%	2660%	2292%	2241%	2136%	2508%	2662%	2950%	2656%	2914%	2810%	2679%	2630%	2948%	2948%	2687%	2808%	2808%
3%	1971%	2158%	1792%	1742%	2229%	2570%	2481%	2660%	2292%	2241%	2136%	2508%	2662%	2950%	2656%	2914%	2810%	2679%	2630%	2793%	2793%	2546%	2661%	2661%
4%	1611%	1765%	1463%	1422%	1881%	2056%	1983%	2128%	1831%	1790%	1705%	2006%	2332%	2452%	2404%	2639%	2544%	2425%	2380%	2597%	2597%	2546%	2661%	2661%
5%	1608%	1762%	1460%	1419%	1878%	1987%	1760%	1920%	1650%	1733%	1650%	1942%	2259%	2452%	2404%	2639%	2544%	2425%	2380%	2597%	2597%	2546%	2661%	2661%
6%	1499%	1643%	1361%	1323%	1752%	1854%	1641%	1791%	1538%	1616%	1539%	1942%	2259%	2452%	2404%	2639%	2544%	2425%	2380%	2597%	2597%	2546%	2661%	2661%
7%	1131%	1242%	1025%	995%	1576%	1825%	1590%	1791%	1538%	1616%	1539%	1942%	2259%	2452%	2404%	2639%	2544%	2425%	2380%	2597%	2597%	2546%	2661%	2661%
8%	1131%	1242%	1025%	995%	1576%	1825%	1590%	1791%	1538%	1616%	1539%	1942%	2259%	2452%	2404%	2639%	2544%	2425%	2380%	2597%	2597%	2546%	2661%	2661%
9%	1334%	1463%	1210%	1175%	1692%	2164%	1888%	2124%	1999%	2094%	1995%	2902%	3367%	3310%	3254%	3089%	2979%	2841%	2788%	2597%	2597%	2546%	2661%	2661%
10%	1018%	1169%	964%	936%	1355%	1739%	1514%	1786%	1680%	1760%	1677%	2446%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2378%	2378%	2331%	2436%	2436%
11%	988%	1135%	935%	908%	1355%	1739%	1514%	1786%	1680%	1760%	1677%	2446%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2378%	2378%	2331%	2436%	2436%
12%	885%	1017%	837%	812%	1355%	1739%	1514%	1786%	1680%	1760%	1677%	2446%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2378%	2378%	2331%	2436%	2436%
13%	714%	823%	674%	654%	1103%	1419%	1234%	1458%	1371%	1614%	1537%	2446%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2378%	2378%	2331%	2436%	2436%
14%	645%	745%	608%	590%	1046%	1347%	1170%	1384%	1301%	1532%	1459%	2324%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2336%	2336%	2291%	2436%	2436%
15%	568%	680%	553%	536%	956%	1235%	1071%	1384%	1301%	1458%	1388%	2324%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2336%	2336%	2291%	2436%	2436%
16%	526%	631%	512%	496%	956%	1235%	1071%	1384%	1301%	1458%	1388%	2324%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2297%	2297%	2251%	2436%	2436%
17%	777%	923%	788%	765%	1460%	1235%	1071%	1384%	1301%	1458%	1388%	2324%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2297%	2297%	2251%	2436%	2436%
18%	699%	923%	788%	765%	1460%	1235%	1071%	1384%	1301%	1458%	1388%	2324%	2840%	2792%	2744%	2604%	2511%	2394%	2349%	2258%	2258%	2214%	2436%	2436%
19%	655%	867%	739%	717%	1412%	1194%	1036%	1339%	1258%	1411%	1343%	2250%	2795%	2748%	2700%	2563%	2472%	2356%	2312%	2258%	2258%	2214%	2436%	2436%
20%	975%	1277%	1096%	1064%	2246%	1907%	1662%	2133%	2007%	2347%	2237%	3010%	3731%	3668%	3605%	3424%	3302%	3149%	3091%	2831%	2831%	2775%	3204%	3204%
21%	835%	1098%	940%	912%	1940%	1645%	1432%	1841%	1732%	2027%	1932%	2661%	3461%	3403%	3344%	3175%	3063%	2920%	2866%	2624%	2624%	2573%	2972%	2972%
22%	779%	1026%	878%	852%	1940%	1645%	1432%	1841%	1732%	2027%	1932%	2661%	3461%	3403%	3344%	3175%	3063%	2920%	2866%	2624%	2624%	2573%	2972%	2972%
23%	717%	947%	809%	785%	1940%	1645%	1432%	1841%	1732%	2027%	1932%	2661%	3461%	3403%	3344%	3175%	3063%	2920%	2866%	2624%	2624%	2573%	2972%	2972%
24%	599%	795%	677%	657%	1681%	1423%	1237%	1594%	1499%	1757%	1673%	2661%	3461%	3403%	3344%	3175%	3063%	2920%	2866%	2624%	2624%	2573%	2972%	2972%
25%	522%	697%	592%	573%	1484%	1255%	1090%	1505%	1415%	1729%	1646%	2619%	3407%	3350%	3292%	3126%	3015%	2875%	2822%	2583%	2583%	2532%	2972%	2972%
26%	509%	681%	578%	560%	1484%	1255%	1090%	1505%	1415%	1729%	1646%	2619%	3407%	3350%	3292%	3126%	3015%	2875%	2822%	2583%	2583%	2532%	2972%	2972%
27%	458%	615%	520%	504%	1351%	1141%	989%	1370%	1287%	1574%	1499%	2390%	3207%	3152%	3098%	2941%	2837%	2705%	2655%	2430%	2430%	2382%	2972%	2972%
28%	458%	615%	520%	504%	1351%	1141%	989%	1370%	1287%	1574%	1499%	2390%	3207%	3152%	3098%	2941%	2837%	2705%	2655%	2430%	2430%	2382%	2972%	2972%
29%	434%	601%	508%	492%	1351%	1141%	989%	1370%	1287%	1574%	1499%	2390%	3207%	3152%	3098%	2941%	2837%	2705%	2655%	2430%	2430%	2382%	2972%	2972%
30%	360%	504%	424%	410%	1180%	995%	861%	1197%	1124%	1405%	1337%	2137%	2872%	2823%	2775%	2634%	2539%	2421%	2376%	2173%	2173%	2131%	2661%	2661%
31%	422%	585%	515%	498%	927%	778%	671%	940%	882%	1107%	1053%	1695%	2872%	2823%	2775%	2634%	2539%	2421%	2376%	2173%	2173%	2131%	2661%	2661%
32%	403%	560%	492%	477%	890%	747%	643%	903%	847%	1107%	1053%	1695%	2872%	2823%	2775%	2634%	2539%	2421%	2376%	2173%	2173%	2131%	2661%	2661%
33%	526%	485%	424%	411%	833%	698%	601%	903%	847%	1107%	1053%	1695%	2872%	2823%	2775%	2634%	2539%	2421%	2376%	2173%	2173%	2131%	2661%	2661%
34%	518%	478%	419%	405%	833%	698%	601%	903%	847%	1107%	1053%	1695%	2872%	2823%	2775%	2634%	2539%	2421%	2376%	2173%	2173%	2131%	2661%	2661%
35%	470%	432%	378%	365%	759%	635%	545%	824%	772%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
36%	463%	427%	372%	360%	759%	635%	545%	824%	772%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
37%	432%	397%	346%	334%	730%	610%	523%	792%	742%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
38%	432%	397%	346%	334%	730%	610%	523%	792%	742%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
39%	432%	397%	346%	334%	730%	610%	523%	792%	742%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
40%	654%	605%	533%	516%	730%	610%	523%	792%	742%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
41%	591%	546%	479%	464%	660%	550%	471%	792%	742%	1012%	962%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
42%	877%	813%	719%	698%	1039%	874%	755%	1237%	1204%	1652%	1652%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
43%	877%	813%	719%	698%	1039%	874%	755%	1237%	1204%	1652%	1652%	1553%	2637%	2592%	2548%	2418%	2331%	2222%	2180%	1994%	1994%	1954%	2661%	2661%
44%	800%	741%	654%	635%	966%	812%	700%	1151%	1121%	1568%	1568%	1474%	2505%	2463%	2420%	2296%	2214%	2110%	2070%	1893%	1893%	1856%	2528%	2528%
45%	800%	741%	654%	635%	966%	812%	700%	1151%	1121%	1568%	1568%	1474%	2505%	2463%	2420%	2296%	2214%	2110%	2070%	1893%	1893%	1856%	2528%	2528%
46%	800%	741%	654%	635%	966%	812%	700%	1151%	1121%	1568%	1568%	1474%	2505%	2463%	2420%	2296%	2214%	2110%	2070%	1893%	1893%	1856%	2528%	2528%
47%	664%	614%	541%	524%	896%	752%	648%	1069%	1041%	1484%	1484%	1395%	2375%	2334%	2294%	2177%	2098%	1999%	1962%	1793%	1793%	1758%	2528%	2528%
48%	664%	614%	541%	524%	896%	752%	648%	1069%	1041%	1484%	1484%	1395%	2375%	2334%	2294%	2177%	2098%	1999%	1962%	1793%	1793%	1758%	2528%	2528%
49%	652%	603%	531%	514%	880%	738%	636%	1050%	1022%	1484%	1484%	1395%	2375%	2334%	2294%	2177%	2098%	1999%	1962%	1793%	1793%	1758%	2528%	2528%

Eregli Demir Celik Filter Results

APPENDIX 3.6.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	22%	-23%	-43%	-34%	-15%	4%	-16%	41%	48%	28%	13%	6%	16%	-17%	6%	14%	116%	147%	59%	173%	153%	124%	199%	194%	193%
2%	127%	48%	13%	43%	55%	91%	46%	155%	91%	79%	33%	17%	41%	3%	33%	42%	111%	130%	61%	155%	136%	116%	201%	195%	197%
3%	99%	31%	4%	31%	62%	106%	46%	144%	101%	70%	38%	19%	25%	-3%	10%	25%	100%	148%	86%	141%	131%	86%	173%	168%	139%
4%	175%	157%	94%	179%	216%	295%	148%	277%	190%	155%	104%	34%	53%	26%	47%	86%	197%	190%	118%	123%	114%	72%	137%	133%	109%
5%	333%	303%	205%	314%	264%	311%	146%	279%	154%	109%	85%	22%	39%	16%	47%	84%	199%	199%	125%	127%	142%	95%	174%	169%	156%
6%	413%	418%	275%	428%	344%	351%	227%	247%	162%	115%	77%	25%	42%	25%	63%	100%	226%	227%	160%	163%	180%	126%	264%	258%	241%
7%	583%	664%	436%	568%	497%	576%	400%	456%	299%	234%	171%	67%	98%	87%	144%	200%	271%	348%	257%	261%	302%	224%	257%	251%	234%
8%	516%	576%	408%	456%	436%	491%	361%	404%	261%	215%	214%	98%	140%	129%	106%	158%	239%	322%	236%	220%	278%	205%	237%	231%	214%
9%	282%	287%	191%	238%	251%	245%	173%	226%	139%	135%	149%	57%	91%	91%	66%	127%	245%	288%	225%	228%	265%	195%	148%	144%	132%
10%	344%	341%	247%	350%	375%	392%	336%	367%	301%	269%	208%	95%	97%	109%	90%	107%	223%	265%	205%	208%	243%	177%	133%	129%	118%
11%	421%	470%	354%	491%	673%	720%	514%	571%	477%	591%	477%	312%	255%	226%	155%	179%	337%	337%	306%	258%	300%	222%	172%	192%	200%
12%	189%	216%	159%	282%	355%	418%	288%	323%	282%	358%	282%	173%	101%	85%	44%	58%	171%	170%	151%	147%	181%	126%	91%	105%	110%
13%	177%	203%	153%	198%	255%	303%	211%	240%	159%	225%	171%	94%	43%	31%	3%	22%	110%	109%	95%	100%	128%	84%	55%	67%	70%
14%	309%	352%	241%	310%	388%	405%	289%	273%	213%	293%	182%	101%	48%	42%	11%	33%	139%	99%	89%	95%	124%	81%	52%	64%	68%
15%	267%	331%	233%	197%	253%	268%	190%	178%	151%	225%	165%	90%	39%	10%	-12%	5%	101%	67%	59%	55%	110%	69%	42%	53%	57%
16%	272%	349%	247%	222%	286%	232%	162%	151%	127%	195%	140%	71%	26%	0%	-20%	-3%	85%	55%	47%	43%	94%	56%	32%	42%	45%
17%	486%	420%	305%	276%	305%	255%	182%	192%	163%	242%	197%	113%	61%	27%	7%	34%	156%	86%	85%	80%	144%	97%	66%	78%	86%
18%	386%	311%	236%	212%	259%	215%	177%	206%	157%	266%	243%	146%	86%	47%	31%	73%	168%	94%	93%	92%	111%	70%	44%	54%	61%
19%	354%	285%	214%	191%	245%	202%	171%	201%	152%	273%	250%	154%	100%	59%	42%	94%	144%	77%	77%	75%	93%	56%	32%	41%	48%
20%	203%	232%	115%	86%	124%	121%	83%	102%	83%	191%	173%	98%	56%	24%	21%	66%	131%	67%	67%	66%	89%	68%	41%	52%	11%
21%	220%	250%	127%	97%	136%	142%	100%	122%	108%	263%	277%	173%	124%	78%	73%	91%	166%	93%	92%	53%	74%	55%	31%	45%	6%
22%	190%	242%	122%	86%	124%	129%	89%	110%	108%	264%	277%	192%	140%	90%	85%	103%	114%	56%	68%	34%	54%	36%	15%	28%	-7%
23%	208%	248%	115%	76%	102%	107%	52%	71%	70%	202%	223%	150%	106%	66%	62%	81%	101%	46%	58%	25%	60%	42%	20%	33%	1%
24%	208%	248%	140%	111%	142%	95%	43%	61%	60%	184%	205%	136%	98%	60%	23%	46%	69%	23%	33%	6%	44%	28%	8%	20%	-9%
25%	184%	221%	122%	95%	124%	80%	32%	48%	47%	163%	181%	118%	83%	48%	14%	35%	56%	13%	23%	-2%	33%	18%	0%	17%	-12%
26%	147%	179%	96%	62%	91%	71%	26%	44%	52%	171%	191%	143%	104%	65%	27%	51%	74%	30%	41%	12%	57%	40%	21%	41%	17%
27%	147%	186%	101%	77%	110%	88%	55%	78%	71%	235%	259%	199%	152%	103%	56%	86%	114%	67%	81%	44%	111%	87%	62%	89%	62%
28%	118%	214%	124%	98%	107%	85%	53%	78%	71%	235%	215%	162%	120%	78%	37%	63%	88%	47%	59%	26%	85%	64%	42%	66%	42%
29%	94%	179%	94%	72%	80%	55%	28%	46%	41%	201%	182%	136%	98%	59%	23%	46%	68%	32%	42%	13%	66%	47%	27%	49%	27%
30%	60%	146%	72%	52%	49%	17%	-3%	-3%	3%	120%	107%	72%	45%	17%	-10%	7%	28%	0%	8%	-14%	35%	20%	3%	21%	3%
31%	60%	143%	69%	49%	46%	15%	-5%	-4%	1%	117%	103%	69%	43%	15%	-11%	5%	26%	-1%	7%	-15%	33%	18%	2%	19%	2%
32%	63%	132%	61%	43%	49%	26%	4%	-9%	-3%	131%	116%	83%	57%	27%	4%	33%	59%	24%	35%	9%	74%	54%	35%	19%	2%
33%	84%	139%	77%	57%	64%	39%	15%	0%	9%	161%	115%	88%	61%	36%	11%	42%	70%	37%	53%	26%	121%	96%	71%	54%	36%
34%	83%	116%	58%	40%	46%	23%	2%	-11%	6%	152%	119%	91%	59%	34%	50%	34%	60%	29%	45%	19%	108%	85%	62%	45%	28%
35%	65%	87%	36%	29%	34%	13%	-6%	-18%	4%	150%	117%	89%	58%	33%	67%	50%	80%	45%	62%	37%	140%	117%	100%	80%	59%
36%	104%	136%	72%	66%	72%	54%	27%	14%	51%	278%	282%	234%	197%	150%	246%	210%	209%	165%	112%	80%	215%	184%	169%	141%	124%
37%	95%	125%	64%	58%	64%	47%	21%	9%	44%	261%	264%	219%	183%	139%	230%	196%	194%	153%	103%	72%	201%	171%	157%	130%	114%
38%	131%	150%	82%	75%	97%	77%	51%	40%	85%	398%	401%	377%	323%	256%	393%	359%	356%	295%	278%	220%	308%	268%	248%	212%	192%
39%	131%	150%	82%	75%	97%	77%	51%	40%	85%	398%	401%	377%	323%	256%	393%	359%	356%	295%	278%	220%	308%	268%	248%	212%	192%
40%	297%	346%	263%	250%	315%	272%	217%	252%	255%	486%	490%	461%	410%	329%	304%	277%	274%	224%	210%	163%	235%	202%	186%	156%	139%
41%	229%	300%	226%	214%	249%	212%	167%	196%	199%	393%	397%	372%	329%	261%	240%	217%	215%	172%	161%	121%	182%	154%	141%	116%	102%
42%	199%	265%	197%	186%	218%	251%	199%	232%	199%	393%	480%	452%	430%	346%	321%	292%	289%	243%	229%	196%	182%	154%	141%	116%	102%
43%	238%	265%	197%	186%	218%	251%	199%	232%	199%	393%	480%	452%	430%	346%	321%	292%	289%	243%	229%	196%	182%	154%	141%	116%	102%
44%	234%	260%	194%	183%	225%	259%	206%	258%	223%	432%	436%	409%	389%	312%	288%	261%	259%	217%	204%	173%	160%	134%	122%	99%	86%
45%	194%	218%	159%	150%	187%	216%	170%	216%	185%	414%	418%	392%	373%	298%	275%	249%	247%	206%	194%	164%	151%	127%	115%	92%	80%
46%	194%	218%	159%	150%	187%	216%	170%	216%	185%	414%	418%	392%	373%	298%	275%	249%	247%	206%	194%	164%	151%	127%	115%	92%	80%
47%	272%	265%	219%	208%	254%	289%	233%	289%	264%	557%	482%	461%	439%	397%	368%	336%	333%	282%	266%	229%	222%	191%	179%	173%	156%
48%	250%	265%	219%	208%	254%	289%	233%	289%	264%	557%	482%	461%	439%	397%	368%	336%	333%	282%	266%	229%	222%	191%	179%	173%	156%
49%	279%	296%	246%	234%	284%	322%	261%	261%	237%	509%	440%	420%	399%	361%	334%	304%	301%	254%	239%	205%	199%	170%	159%	154%	137%

Goodyear Filter Results

APPENDIX 3.7.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	133%	154%	135%	112%	113%	109%	55%	103%	156%	106%	155%	196%	142%	217%	77%	77%	100%	97%	124%	129%	147%	190%	212%	239%
2%	135%	145%	127%	105%	106%	92%	43%	87%	136%	106%	155%	196%	142%	197%	77%	77%	100%	97%	124%	129%	147%	190%	212%	239%
3%	102%	111%	93%	77%	77%	60%	25%	63%	125%	96%	120%	196%	142%	197%	77%	77%	98%	95%	121%	116%	136%	223%	248%	277%
4%	76%	83%	77%	63%	64%	48%	41%	85%	106%	94%	117%	196%	142%	197%	114%	114%	151%	147%	121%	116%	136%	223%	291%	277%
5%	88%	66%	61%	51%	53%	38%	31%	72%	122%	109%	141%	230%	170%	231%	149%	149%	183%	179%	150%	155%	125%	223%	291%	277%
6%	150%	117%	110%	97%	99%	82%	79%	134%	202%	197%	246%	321%	245%	222%	249%	249%	292%	286%	246%	253%	212%	307%	393%	376%
7%	140%	108%	106%	97%	99%	82%	79%	134%	202%	197%	246%	321%	245%	222%	249%	249%	292%	286%	246%	253%	212%	307%	393%	376%
8%	126%	96%	94%	86%	88%	122%	69%	120%	184%	180%	246%	321%	245%	222%	249%	249%	270%	264%	226%	212%	175%	301%	385%	368%
9%	65%	54%	55%	54%	55%	84%	39%	82%	135%	131%	212%	266%	200%	180%	215%	215%	205%	200%	169%	157%	128%	231%	300%	286%
10%	53%	43%	45%	42%	43%	71%	29%	75%	125%	122%	199%	259%	193%	174%	208%	208%	199%	194%	164%	157%	128%	231%	300%	286%
11%	109%	109%	113%	110%	111%	181%	112%	188%	125%	122%	199%	259%	193%	174%	208%	208%	199%	194%	164%	157%	128%	231%	300%	286%
12%	47%	47%	58%	64%	66%	120%	66%	126%	77%	87%	152%	202%	147%	131%	159%	159%	152%	147%	122%	117%	92%	179%	269%	256%
13%	20%	19%	28%	33%	45%	96%	48%	100%	57%	66%	142%	184%	132%	101%	137%	137%	144%	140%	115%	110%	85%	179%	269%	256%
14%	17%	18%	26%	32%	43%	92%	46%	100%	57%	66%	142%	184%	132%	101%	137%	137%	144%	140%	115%	110%	85%	179%	269%	256%
15%	10%	10%	18%	23%	33%	83%	38%	90%	49%	58%	126%	174%	124%	94%	128%	128%	139%	135%	110%	106%	82%	179%	269%	256%
16%	1%	1%	9%	13%	23%	69%	28%	88%	47%	55%	123%	170%	120%	94%	128%	128%	139%	135%	110%	106%	82%	175%	264%	251%
17%	35%	35%	44%	62%	76%	58%	20%	76%	37%	45%	180%	238%	177%	143%	187%	187%	123%	120%	97%	92%	70%	175%	264%	251%
18%	16%	25%	37%	55%	67%	50%	14%	67%	30%	38%	167%	208%	152%	143%	187%	187%	123%	120%	97%	92%	70%	150%	232%	220%
19%	6%	14%	26%	43%	55%	39%	5%	54%	20%	28%	146%	205%	150%	141%	187%	187%	123%	120%	97%	92%	70%	150%	232%	220%
20%	-20%	-14%	-5%	9%	18%	6%	-20%	18%	-8%	6%	110%	160%	113%	106%	145%	145%	90%	87%	68%	64%	45%	131%	206%	195%
21%	-23%	-18%	-9%	5%	14%	2%	-22%	13%	-11%	2%	102%	150%	105%	98%	138%	138%	85%	82%	63%	60%	41%	125%	197%	187%
22%	-33%	-28%	-19%	-4%	14%	2%	-22%	13%	-11%	2%	102%	150%	105%	81%	119%	119%	85%	82%	63%	60%	41%	125%	197%	187%
23%	-27%	-22%	-4%	14%	35%	21%	-8%	-13%	-32%	-22%	60%	98%	62%	44%	80%	80%	49%	46%	31%	28%	14%	85%	168%	159%
24%	-34%	-29%	-13%	4%	23%	10%	-17%	-21%	-38%	-29%	60%	98%	62%	44%	80%	80%	49%	46%	31%	28%	14%	85%	168%	159%
25%	-36%	-32%	-13%	4%	23%	10%	-17%	-21%	-38%	-29%	60%	98%	62%	44%	80%	80%	49%	46%	31%	28%	14%	85%	168%	159%
26%	-16%	-10%	15%	41%	67%	51%	19%	13%	-4%	10%	48%	84%	51%	33%	68%	68%	160%	156%	130%	125%	102%	72%	149%	140%
27%	17%	-10%	15%	41%	67%	51%	19%	13%	-4%	10%	48%	84%	51%	33%	68%	68%	160%	156%	130%	125%	102%	72%	149%	140%
28%	3%	-21%	1%	24%	47%	33%	4%	-1%	-16%	-4%	30%	77%	45%	29%	68%	68%	160%	156%	130%	125%	102%	72%	149%	140%
29%	-8%	-29%	-8%	13%	33%	20%	-5%	-10%	-23%	-12%	18%	61%	32%	22%	59%	59%	147%	142%	118%	112%	91%	64%	138%	130%
30%	-26%	-43%	-19%	0%	18%	7%	-16%	-20%	-32%	-19%	9%	48%	21%	12%	46%	46%	127%	123%	100%	95%	76%	51%	119%	112%
31%	-26%	-43%	-21%	0%	18%	7%	-16%	-20%	-32%	-19%	9%	48%	21%	12%	46%	46%	127%	123%	100%	95%	76%	51%	119%	112%
32%	-26%	-43%	-21%	0%	18%	7%	-16%	-20%	-32%	-19%	9%	48%	21%	12%	46%	46%	127%	123%	100%	95%	76%	51%	119%	112%
33%	-2%	-24%	8%	39%	77%	60%	26%	22%	9%	30%	76%	140%	100%	86%	41%	41%	127%	123%	100%	95%	76%	51%	119%	112%
34%	-7%	-29%	2%	33%	70%	53%	21%	17%	5%	25%	69%	130%	92%	78%	35%	35%	118%	114%	92%	88%	68%	45%	119%	112%
35%	15%	-8%	31%	72%	56%	41%	11%	5%	-8%	16%	56%	96%	68%	64%	25%	25%	101%	98%	78%	73%	56%	38%	109%	98%
36%	62%	29%	84%	155%	131%	110%	81%	72%	51%	90%	139%	198%	158%	158%	103%	103%	99%	92%	68%	51%	39%	28%	94%	83%
37%	54%	23%	75%	155%	131%	110%	81%	72%	51%	90%	139%	198%	158%	158%	103%	103%	99%	92%	68%	51%	39%	28%	94%	83%
38%	132%	85%	164%	284%	248%	215%	173%	164%	137%	200%	285%	425%	355%	355%	256%	256%	250%	244%	209%	202%	178%	156%	287%	274%
39%	132%	85%	164%	284%	248%	215%	173%	164%	137%	200%	285%	425%	355%	355%	256%	256%	250%	244%	209%	202%	178%	156%	287%	274%
40%	90%	52%	117%	215%	186%	159%	124%	117%	95%	155%	228%	394%	328%	328%	235%	235%	229%	224%	190%	184%	162%	141%	287%	274%
41%	60%	28%	98%	188%	161%	137%	105%	99%	78%	133%	200%	352%	291%	291%	207%	207%	202%	197%	166%	160%	140%	120%	255%	242%
42%	60%	28%	98%	188%	161%	137%	105%	99%	78%	133%	200%	352%	291%	291%	207%	207%	202%	197%	166%	160%	140%	120%	255%	242%
43%	60%	28%	98%	188%	161%	137%	105%	99%	78%	133%	200%	352%	291%	291%	207%	207%	202%	197%	166%	160%	140%	120%	255%	242%
44%	48%	18%	83%	188%	161%	137%	105%	99%	78%	133%	200%	352%	291%	291%	207%	207%	202%	197%	166%	160%	140%	120%	255%	242%
45%	43%	14%	77%	178%	153%	129%	98%	92%	72%	133%	200%	352%	291%	291%	207%	207%	202%	197%	166%	160%	140%	120%	255%	242%
46%	43%	14%	77%	178%	153%	129%	98%	92%	72%	133%	200%	352%	291%	291%	207%	207%	202%	197%	166%	160%	140%	120%	255%	242%
47%	103%	62%	151%	296%	260%	247%	201%	191%	161%	131%	197%	349%	288%	288%	204%	204%	199%	194%	164%	158%	137%	119%	252%	239%
48%	103%	62%	151%	296%	260%	247%	201%	191%	161%	131%	197%	349%	288%	288%	204%	204%	199%	194%	164%	158%	137%	119%	252%	239%
49%	88%	50%	133%	267%	233%	222%	179%	170%	142%	115%	176%	316%	260%	260%	182%	182%	177%	173%	145%	139%	120%	103%	252%	239%

Goodyear Filter Results

APPENDIX 3.7.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-83%	-84%	-86%	-81%	-74%	-78%	-77%	-68%	-68%	-67%	-44%	-65%	-65%	-62%	-43%	-52%	-30%	36%	58%	26%	2%	-30%	-31%	-33%	-24%
2%	-66%	-66%	-67%	-63%	-54%	-63%	-65%	-56%	-53%	-53%	-27%	-56%	-56%	-56%	-29%	-41%	-31%	16%	34%	7%	-12%	-39%	-19%	-42%	-34%
3%	-57%	-59%	-61%	-55%	-52%	-57%	-59%	-53%	-54%	-43%	-24%	-53%	-65%	-56%	-28%	-40%	-46%	-16%	-5%	-17%	-29%	-51%	-33%	-57%	-46%
4%	-10%	-12%	-13%	-10%	10%	-13%	-36%	-31%	-39%	-39%	-34%	-57%	-66%	-49%	-26%	-51%	-52%	-23%	10%	-2%	-39%	-61%	-46%	-52%	-34%
5%	61%	67%	68%	81%	103%	60%	1%	26%	8%	-30%	-22%	-43%	-54%	-31%	-35%	-57%	-48%	-34%	-6%	-20%	-50%	-68%	-57%	-61%	-47%
6%	15%	24%	58%	43%	60%	37%	-13%	18%	24%	-29%	-21%	-20%	-33%	3%	-41%	-61%	-61%	-51%	-28%	-37%	-49%	-67%	-67%	-67%	-54%
7%	58%	72%	79%	35%	36%	22%	-20%	9%	23%	-36%	-29%	-34%	-37%	-11%	-49%	-66%	-66%	-50%	-34%	-37%	-47%	-65%	-69%	-66%	-53%
8%	261%	382%	416%	258%	202%	151%	65%	137%	185%	95%	125%	111%	108%	118%	41%	28%	13%	40%	47%	19%	42%	16%	7%	-7%	2%
9%	321%	415%	405%	258%	201%	150%	72%	147%	119%	50%	73%	63%	69%	77%	15%	4%	-9%	14%	19%	2%	21%	0%	-9%	-20%	-11%
10%	187%	237%	232%	155%	73%	45%	3%	47%	54%	12%	29%	7%	11%	17%	-24%	-31%	-34%	-7%	-3%	-17%	2%	-16%	-23%	-33%	-24%
11%	115%	153%	152%	157%	74%	53%	16%	51%	58%	23%	10%	-9%	-10%	-5%	-33%	-39%	-41%	-17%	-9%	-20%	-2%	-31%	-33%	-42%	-33%
12%	76%	107%	79%	72%	36%	20%	-10%	1%	6%	-14%	-23%	-35%	-29%	-22%	-44%	-54%	-55%	-53%	-49%	-55%	-41%	-59%	-60%	-65%	-57%
13%	88%	121%	114%	109%	66%	46%	23%	37%	55%	25%	-5%	-9%	-1%	-6%	-32%	-44%	-45%	-38%	-33%	-55%	-41%	-59%	-60%	-65%	-57%
14%	203%	238%	227%	166%	114%	74%	27%	50%	73%	21%	-9%	-12%	-4%	-9%	-29%	-42%	-42%	-36%	-30%	-53%	-52%	-67%	-68%	-72%	-66%
15%	226%	269%	297%	290%	234%	165%	93%	121%	154%	78%	39%	16%	8%	7%	-17%	-32%	-45%	-39%	-33%	-53%	-49%	-65%	-66%	-70%	-63%
16%	156%	190%	219%	213%	194%	104%	54%	85%	97%	17%	6%	-5%	-11%	-11%	-44%	-54%	-63%	-58%	-52%	-66%	-62%	-74%	-74%	-76%	-70%
17%	151%	184%	212%	207%	188%	99%	51%	81%	93%	15%	3%	-7%	-13%	-11%	-44%	-54%	-63%	-58%	-52%	-66%	-62%	-74%	-74%	-76%	-70%
18%	98%	140%	164%	168%	173%	83%	43%	72%	91%	14%	2%	-8%	-31%	-30%	-55%	-64%	-71%	-67%	-62%	-70%	-67%	-77%	-76%	-77%	-71%
19%	54%	84%	102%	75%	85%	24%	1%	22%	36%	-16%	-24%	-31%	-47%	-43%	-64%	-69%	-75%	-70%	-63%	-71%	-76%	-83%	-82%	-83%	-78%
20%	19%	42%	56%	35%	47%	-1%	-15%	11%	22%	-25%	-32%	-39%	-53%	-50%	-67%	-72%	-74%	-68%	-61%	-66%	-70%	-79%	-78%	-79%	-73%
21%	7%	27%	50%	35%	47%	-2%	-19%	15%	40%	-13%	-40%	-42%	-54%	-51%	-67%	-72%	-73%	-63%	-55%	-69%	-73%	-81%	-79%	-81%	-76%
22%	71%	118%	153%	141%	106%	42%	17%	93%	145%	56%	13%	13%	-8%	-23%	-42%	-50%	-54%	-30%	-15%	-27%	-34%	-54%	-49%	-51%	-49%
23%	67%	113%	169%	157%	119%	51%	25%	106%	161%	80%	30%	30%	6%	-11%	-33%	-43%	-45%	-16%	1%	-8%	-17%	-42%	-36%	-33%	-31%
24%	62%	107%	161%	156%	119%	51%	26%	117%	175%	100%	45%	47%	27%	7%	-17%	-29%	-30%	-20%	-1%	-30%	-37%	-56%	-51%	-49%	-48%
25%	58%	107%	162%	157%	119%	51%	26%	117%	153%	88%	36%	77%	58%	33%	3%	-12%	-13%	1%	26%	-6%	-15%	-41%	-35%	-26%	-24%
26%	76%	131%	192%	175%	134%	61%	35%	135%	205%	126%	68%	143%	139%	101%	71%	45%	44%	67%	109%	55%	49%	4%	30%	13%	17%
27%	54%	102%	148%	141%	105%	42%	32%	130%	199%	129%	70%	147%	86%	56%	33%	13%	12%	31%	73%	28%	23%	-14%	8%	-6%	-3%
28%	123%	192%	171%	134%	100%	37%	27%	134%	209%	142%	79%	155%	188%	142%	105%	82%	93%	123%	115%	60%	54%	13%	3%	-10%	-8%
29%	86%	171%	152%	117%	85%	28%	18%	117%	187%	124%	66%	136%	167%	124%	90%	68%	79%	107%	100%	48%	54%	13%	3%	-10%	-8%
30%	52%	122%	106%	94%	65%	14%	5%	93%	178%	118%	61%	138%	169%	126%	96%	73%	95%	126%	117%	62%	71%	26%	19%	4%	7%
31%	52%	122%	106%	94%	65%	14%	-2%	93%	178%	118%	61%	138%	169%	126%	96%	73%	95%	126%	117%	62%	71%	26%	19%	4%	7%
32%	28%	87%	155%	146%	122%	51%	36%	167%	284%	211%	133%	257%	194%	147%	114%	94%	118%	164%	161%	94%	108%	70%	60%	40%	44%
33%	53%	123%	206%	220%	190%	97%	77%	248%	401%	305%	204%	235%	176%	132%	101%	82%	105%	147%	145%	82%	95%	59%	51%	31%	35%
34%	69%	147%	237%	254%	220%	118%	95%	284%	453%	347%	236%	290%	220%	169%	133%	111%	142%	203%	200%	123%	158%	111%	99%	74%	79%
35%	101%	193%	301%	320%	280%	164%	137%	377%	585%	467%	373%	461%	361%	297%	243%	243%	308%	305%	300%	197%	245%	181%	166%	138%	145%
36%	86%	172%	272%	289%	252%	145%	120%	342%	535%	426%	339%	420%	328%	268%	219%	219%	278%	275%	271%	176%	219%	161%	147%	121%	127%
37%	64%	139%	226%	242%	210%	115%	93%	326%	512%	406%	323%	401%	312%	254%	207%	207%	264%	261%	257%	165%	208%	151%	137%	112%	118%
38%	31%	91%	162%	174%	148%	73%	55%	241%	390%	306%	239%	350%	270%	218%	176%	176%	228%	225%	221%	139%	176%	125%	113%	91%	96%
39%	56%	127%	211%	230%	202%	112%	93%	198%	329%	255%	196%	294%	224%	178%	141%	141%	186%	184%	181%	109%	162%	114%	103%	81%	86%
40%	35%	97%	176%	193%	168%	88%	71%	165%	281%	215%	163%	249%	187%	147%	114%	114%	172%	170%	167%	98%	149%	103%	93%	72%	77%
41%	2%	49%	109%	121%	102%	42%	29%	100%	215%	161%	118%	190%	138%	105%	77%	77%	126%	124%	121%	64%	107%	69%	60%	43%	47%
42%	24%	80%	152%	167%	144%	72%	56%	142%	281%	215%	163%	250%	202%	159%	125%	125%	87%	85%	83%	36%	71%	40%	32%	18%	22%
43%	29%	102%	183%	189%	165%	115%	88%	181%	343%	267%	265%	208%	166%	129%	98%	98%	65%	63%	62%	20%	51%	23%	17%	4%	7%
44%	26%	97%	175%	181%	157%	109%	83%	173%	331%	257%	255%	200%	159%	123%	93%	93%	60%	59%	57%	17%	47%	20%	13%	2%	4%
45%	15%	79%	175%	181%	157%	109%	83%	173%	331%	257%	255%	200%	159%	123%	93%	93%	60%	59%	57%	17%	47%	20%	13%	2%	4%
46%	5%	64%	152%	158%	136%	92%	68%	151%	295%	227%	225%	175%	137%	104%	77%	77%	47%	46%	44%	7%	35%	10%	4%	-7%	-4%
47%	-1%	55%	138%	143%	122%	81%	58%	136%	272%	208%	206%	159%	124%	92%	67%	67%	39%	37%	36%	1%	27%	4%	-2%	-12%	-10%
48%	52%	137%	126%	131%	111%	72%	50%	124%	253%	192%	191%	146%	112%	83%	58%	58%	31%	30%	29%	-4%	20%	-2%	-7%	-17%	-14%
49%	58%	147%	135%	126%	107%	68%	47%	120%	246%	187%	185%	141%	108%	79%	55%	55%	29%	28%	26%	-6%	18%	-4%	-9%	-18%	-16%

Izmir Demir Celik Fab. Filter Results

APPENDIX 3.8.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	-34%	-34%	-33%	-45%	-57%	-53%	-22%	-5%	8%	8%	-6%	-20%	-17%	-18%	-6%	3%	26%	2%	2%	-14%	-23%	-37%	-30%	-25%
2%	-43%	-43%	-42%	-52%	-63%	-59%	-26%	0%	8%	8%	-6%	-20%	2%	1%	-6%	3%	15%	-7%	-7%	-22%	-30%	-42%	-30%	-25%
3%	-51%	-51%	-36%	-39%	-62%	-59%	-26%	-9%	-2%	-2%	-15%	-27%	-7%	-7%	-13%	-5%	5%	-14%	-16%	-22%	-30%	-42%	-12%	-5%
4%	-39%	-57%	-45%	-48%	-65%	-62%	-34%	-20%	-14%	-14%	-24%	-35%	-15%	5%	-2%	-5%	-4%	-22%	-24%	-28%	-30%	-42%	-12%	-5%
5%	-48%	-45%	-55%	-55%	-70%	-48%	-41%	-25%	-19%	-14%	-27%	-38%	-22%	-4%	-2%	-5%	-4%	-22%	-24%	-28%	-30%	-23%	-12%	-5%
6%	-55%	-52%	-61%	-61%	-72%	-51%	-41%	-27%	-22%	-16%	-29%	-40%	-24%	-6%	-12%	-15%	-11%	-28%	-29%	-34%	-35%	-29%	-18%	-13%
7%	-55%	-53%	-62%	-62%	-72%	-52%	-44%	-39%	-34%	-27%	-38%	-47%	-32%	-9%	-15%	-15%	-11%	-28%	-29%	-34%	-35%	-29%	-18%	-13%
8%	-11%	-29%	-38%	-38%	-8%	-2%	15%	-14%	-4%	-4%	20%	3%	-9%	-9%	-15%	16%	-14%	-30%	-32%	-36%	-11%	-31%	5%	13%
9%	-24%	-39%	-47%	-47%	-21%	-17%	0%	-25%	-16%	-16%	5%	-10%	-21%	-21%	-25%	2%	-20%	-35%	-37%	-41%	-17%	-36%	-2%	5%
10%	-36%	-48%	-55%	-51%	-28%	-23%	-8%	-31%	-23%	-23%	-3%	-17%	-27%	-27%	-31%	-6%	-20%	-35%	-37%	-41%	-17%	-36%	-2%	5%
11%	-43%	-54%	-60%	-55%	-33%	-24%	-9%	-32%	-22%	-22%	-2%	-16%	-32%	-32%	-36%	-24%	-35%	-47%	-49%	-52%	-33%	-48%	-21%	-10%
12%	-66%	-72%	-76%	-73%	-60%	-51%	-26%	-41%	-32%	-32%	-15%	-27%	-37%	-41%	-44%	-33%	-48%	-58%	-58%	-61%	-46%	-58%	-26%	-10%
13%	-66%	-72%	-76%	-73%	-60%	-51%	-26%	-41%	-32%	-32%	-15%	-27%	-37%	-41%	-44%	-33%	-48%	-58%	-58%	-61%	-46%	-58%	-26%	-10%
14%	-71%	-77%	-80%	-77%	-63%	-55%	-38%	-51%	-43%	-43%	-29%	-39%	-47%	-50%	-53%	-39%	-56%	-65%	-65%	-64%	-46%	-58%	-26%	-10%
15%	-69%	-75%	-78%	-73%	-63%	-56%	-40%	-52%	-43%	-43%	-26%	-37%	-45%	-48%	-61%	-49%	-63%	-70%	-71%	-70%	-54%	-65%	-37%	-26%
16%	-75%	-80%	-82%	-78%	-68%	-62%	-48%	-58%	-51%	-51%	-36%	-45%	-52%	-53%	-64%	-53%	-65%	-71%	-72%	-73%	-59%	-68%	-44%	-34%
17%	-75%	-80%	-82%	-78%	-68%	-62%	-48%	-58%	-51%	-51%	-36%	-45%	-52%	-53%	-64%	-53%	-65%	-71%	-72%	-73%	-59%	-68%	-44%	-34%
18%	-75%	-80%	-82%	-78%	-68%	-64%	-49%	-59%	-51%	-51%	-36%	-45%	-52%	-53%	-64%	-53%	-65%	-71%	-72%	-73%	-59%	-68%	-44%	-36%
19%	-82%	-85%	-87%	-84%	-77%	-73%	-62%	-67%	-60%	-60%	-45%	-53%	-59%	-62%	-71%	-63%	-69%	-75%	-75%	-76%	-64%	-72%	-48%	-40%
20%	-77%	-80%	-82%	-78%	-68%	-63%	-47%	-50%	-62%	-65%	-50%	-57%	-62%	-64%	-73%	-65%	-71%	-76%	-77%	-78%	-66%	-74%	-51%	-40%
21%	-79%	-83%	-85%	-80%	-70%	-63%	-45%	-53%	-64%	-64%	-49%	-56%	-61%	-67%	-72%	-64%	-71%	-76%	-77%	-79%	-66%	-74%	-51%	-40%
22%	-60%	-65%	-69%	-58%	-38%	-22%	16%	-16%	-36%	-36%	-8%	-21%	-29%	-44%	-53%	-39%	-49%	-59%	-59%	-61%	-38%	-52%	-7%	18%
23%	-45%	-53%	-58%	-39%	-33%	-24%	16%	-16%	-36%	-36%	-8%	-21%	-29%	-44%	-53%	-39%	-49%	-59%	-59%	-61%	-38%	-52%	-7%	18%
24%	-58%	-64%	-68%	-54%	-45%	-37%	5%	-24%	-42%	-42%	-17%	-29%	-36%	-49%	-57%	-40%	-57%	-65%	-66%	-70%	-48%	-59%	-16%	6%
25%	-39%	-48%	-54%	-54%	-45%	-37%	5%	-24%	-42%	-42%	-17%	-29%	-36%	-49%	-57%	-40%	-57%	-65%	-66%	-70%	-48%	-59%	-16%	6%
26%	-7%	-17%	-26%	-26%	-38%	-30%	27%	1%	-20%	-20%	-33%	-43%	-55%	-64%	-69%	-49%	-62%	-69%	-70%	-74%	-56%	-66%	-23%	-3%
27%	-23%	-31%	-38%	-39%	-49%	-42%	5%	-16%	-34%	-34%	-45%	-53%	-63%	-70%	-75%	-58%	-68%	-74%	-75%	-79%	-64%	-72%	-36%	-20%
28%	-26%	-34%	-41%	-42%	-51%	-44%	0%	-20%	-37%	-37%	-47%	-55%	-65%	-71%	-76%	-60%	-70%	-75%	-76%	-80%	-65%	-73%	-39%	-21%
29%	-26%	-34%	-41%	-42%	-51%	-44%	0%	-20%	-37%	-37%	-47%	-55%	-65%	-71%	-76%	-60%	-70%	-75%	-76%	-80%	-65%	-73%	-39%	-21%
30%	-13%	-22%	-27%	-21%	-34%	-23%	3%	-19%	-36%	-36%	-46%	-54%	-64%	-71%	-75%	-59%	-67%	-73%	-73%	-78%	-62%	-70%	-33%	-13%
31%	-13%	-22%	-27%	-21%	-34%	-23%	3%	-19%	-36%	-36%	-46%	-54%	-64%	-71%	-75%	-59%	-67%	-73%	-73%	-78%	-62%	-70%	-33%	-13%
32%	18%	5%	-2%	7%	-8%	8%	6%	-16%	-34%	-34%	-44%	-52%	-63%	-70%	-74%	-58%	-68%	-74%	-75%	-79%	-64%	-72%	-37%	-13%
33%	10%	-1%	-8%	0%	-14%	6%	4%	-17%	-35%	-35%	-45%	-53%	-64%	-70%	-75%	-59%	-69%	-75%	-75%	-79%	-64%	-72%	-38%	-14%
34%	46%	33%	30%	41%	21%	66%	63%	30%	2%	2%	-14%	-26%	-43%	-48%	-56%	-60%	-46%	-56%	-57%	-61%	-66%	-74%	-38%	-14%
35%	105%	88%	88%	104%	85%	154%	150%	99%	61%	61%	40%	20%	10%	-1%	-16%	-24%	4%	-16%	-18%	-25%	-35%	-49%	-31%	-5%
36%	90%	74%	74%	89%	72%	136%	132%	85%	50%	50%	30%	11%	2%	-8%	-22%	-29%	-4%	-22%	-24%	-30%	-40%	-53%	-36%	-11%
37%	83%	67%	67%	82%	65%	127%	123%	78%	44%	44%	25%	7%	-2%	-11%	-25%	-32%	-7%	-25%	-26%	-33%	-42%	-55%	-38%	-15%
38%	65%	50%	50%	64%	49%	104%	101%	60%	30%	30%	12%	-4%	-12%	-20%	-33%	-39%	-17%	-32%	-34%	-40%	-48%	-59%	-44%	-23%
39%	56%	43%	43%	55%	41%	104%	101%	60%	30%	30%	12%	-4%	-12%	-20%	-33%	-39%	-17%	-32%	-34%	-40%	-48%	-59%	-44%	-23%
40%	49%	36%	36%	48%	34%	94%	91%	52%	23%	23%	7%	-9%	-16%	-24%	-36%	-42%	-21%	-36%	-37%	-43%	-50%	-61%	-46%	-23%
41%	23%	13%	13%	22%	11%	61%	58%	26%	2%	2%	-11%	-24%	-30%	-37%	-47%	-52%	-28%	-42%	-43%	-48%	-55%	-65%	-51%	-31%
42%	2%	-7%	-7%	9%	-1%	43%	41%	12%	-9%	-9%	-21%	-33%	-38%	-44%	-53%	-57%	-36%	-48%	-49%	-54%	-60%	-69%	-57%	-38%
43%	-10%	-18%	-18%	-4%	-13%	26%	24%	-1%	-20%	-20%	-31%	-41%	-45%	-51%	-58%	-62%	-44%	-54%	-55%	-59%	-65%	-73%	-60%	-43%
44%	-12%	-20%	-20%	-7%	-15%	23%	21%	-4%	-22%	-22%	-33%	-42%	-47%	-52%	-60%	-63%	-45%	-56%	-57%	-60%	-66%	-73%	-61%	-43%
45%	-12%	-20%	-20%	-7%	-15%	23%	21%	-4%	-22%	-22%	-33%	-42%	-47%	-52%	-60%	-63%	-45%	-56%	-57%	-60%	-66%	-73%	-61%	-43%
46%	-20%	-27%	-27%	-14%	-22%	12%	11%	-12%	-29%	-29%	-38%	-47%	-51%	-56%	-63%	-66%	-50%	-59%	-60%	-64%	-69%	-76%	-64%	-47%
47%	-24%	-31%	-31%	-19%	-27%	12%	11%	-12%	-29%	-29%	-38%	-47%	-51%	-56%	-63%	-66%	-50%	-59%	-60%	-64%	-69%	-76%	-64%	-47%
48%	-28%	-34%	-34%	-24%	-31%	7%	5%	-17%	-32%	-32%	-41%	-50%	-54%	-58%	-65%	-68%	-52%	-61%	-62%	-66%	-70%	-77%	-66%	-47%
49%	-30%	-36%	-36%	-25%	-32%	5%	3%	-18%	-34%	-34%	-42%	-51%	-55%	-59%	-65%	-69%	-53%	-62%	-63%	-66%	-71%	-77%	-66%	-48%

Izmir Demir Celik Fab. Filter Results

APPENDIX 3.8.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-90%	-64%	-70%	-74%	-64%	-65%	-51%	-42%	-42%	-53%	-48%	-28%	-25%	-31%	-13%	4%	49%	22%	63%	107%	184%	193%	214%	242%	216%
2%	-69%	-44%	-51%	-65%	-45%	-53%	-45%	-33%	-24%	-42%	-38%	-27%	-31%	-36%	-19%	4%	53%	16%	53%	109%	205%	214%	238%	272%	219%
3%	-78%	-55%	-50%	-62%	-50%	-57%	-50%	-39%	-30%	-51%	-47%	-38%	-44%	-48%	-34%	-14%	26%	3%	35%	85%	170%	161%	199%	229%	183%
4%	-64%	-39%	-30%	-46%	-48%	-63%	-59%	-52%	-59%	-71%	-70%	-62%	-66%	-65%	-56%	-46%	-5%	-23%	0%	42%	118%	119%	151%	176%	137%
5%	-40%	-7%	-8%	-17%	-42%	-55%	-28%	-10%	-7%	-44%	-57%	-51%	-45%	-42%	-40%	-35%	20%	-8%	9%	55%	138%	143%	162%	198%	156%
6%	-62%	-43%	-38%	-46%	-59%	-64%	-42%	-33%	-26%	-53%	-69%	-62%	-57%	-51%	-37%	-31%	28%	2%	7%	49%	129%	170%	160%	156%	120%
7%	-48%	-26%	-17%	-26%	-34%	-41%	-11%	-13%	-1%	-33%	-55%	-57%	-51%	-43%	-33%	-29%	33%	6%	16%	62%	148%	170%	160%	156%	120%
8%	-43%	-17%	-6%	-15%	-35%	-21%	24%	6%	7%	-28%	-47%	-49%	-43%	-25%	-12%	-19%	59%	26%	40%	98%	137%	157%	152%	137%	103%
9%	-23%	19%	35%	25%	-9%	0%	24%	16%	8%	-34%	-51%	-48%	-49%	-31%	-20%	-24%	48%	16%	31%	86%	126%	145%	141%	126%	94%
10%	-29%	-5%	-9%	6%	-23%	-6%	18%	0%	-6%	-42%	-56%	-53%	-55%	-31%	-20%	-24%	52%	20%	35%	59%	93%	109%	105%	93%	65%
11%	-36%	-14%	-30%	-7%	-31%	-15%	7%	-8%	-13%	-41%	-50%	-54%	-55%	-30%	-18%	-23%	28%	1%	20%	43%	84%	99%	95%	84%	58%
12%	-25%	2%	-17%	18%	-28%	-9%	0%	-13%	-25%	-49%	-57%	-57%	-59%	-35%	-24%	-24%	9%	-14%	7%	30%	66%	80%	77%	55%	33%
13%	-13%	-1%	-17%	31%	-24%	-4%	-1%	-28%	-37%	-58%	-61%	-62%	-63%	-41%	-32%	-32%	-4%	-25%	-6%	14%	58%	71%	68%	47%	26%
14%	-8%	6%	-7%	37%	-12%	16%	23%	-9%	-15%	-40%	-55%	-53%	-55%	-35%	-38%	-38%	-13%	-25%	-8%	-10%	25%	36%	33%	17%	0%
15%	-32%	-16%	-26%	9%	-26%	3%	1%	-25%	-30%	-50%	-63%	-66%	-67%	-52%	-50%	-50%	-23%	-34%	-18%	-20%	15%	25%	23%	7%	-8%
16%	-36%	-21%	-31%	5%	-29%	0%	-3%	-28%	-30%	-50%	-61%	-65%	-64%	-44%	-42%	-42%	-8%	-21%	4%	2%	16%	26%	24%	13%	-7%
17%	-27%	-9%	-21%	28%	-14%	21%	12%	-12%	-14%	-33%	-48%	-53%	-50%	-23%	-19%	-33%	6%	-7%	23%	22%	47%	59%	56%	43%	28%
18%	-17%	-1%	-14%	34%	-3%	31%	19%	-6%	-5%	-25%	-37%	-51%	-48%	-18%	-14%	-29%	13%	-1%	34%	9%	31%	42%	40%	28%	14%
19%	-19%	-6%	-18%	40%	2%	46%	39%	10%	9%	-5%	-19%	-36%	-32%	-12%	-7%	-21%	26%	11%	53%	27%	20%	30%	28%	15%	3%
20%	10%	4%	-9%	41%	9%	56%	77%	40%	50%	31%	19%	-2%	4%	39%	57%	35%	56%	37%	95%	62%	42%	58%	55%	42%	27%
21%	-1%	-7%	-18%	32%	2%	46%	68%	34%	45%	28%	28%	4%	19%	71%	93%	67%	92%	76%	151%	108%	91%	112%	108%	91%	79%
22%	-3%	-8%	-20%	29%	0%	43%	65%	31%	42%	25%	25%	2%	17%	69%	90%	64%	89%	73%	147%	105%	88%	109%	105%	88%	76%
23%	4%	-2%	-14%	38%	7%	23%	42%	12%	22%	7%	7%	-12%	8%	56%	76%	52%	75%	60%	142%	100%	84%	109%	105%	88%	76%
24%	-16%	-21%	-30%	20%	-7%	7%	37%	12%	22%	11%	11%	-9%	14%	66%	91%	67%	57%	43%	124%	86%	71%	93%	90%	74%	63%
25%	61%	51%	35%	147%	105%	90%	73%	45%	81%	68%	68%	65%	107%	204%	248%	213%	193%	182%	340%	284%	253%	222%	216%	204%	191%
26%	46%	38%	34%	150%	107%	101%	83%	54%	92%	77%	77%	75%	124%	233%	290%	251%	250%	237%	427%	360%	323%	314%	306%	290%	274%
27%	43%	37%	33%	153%	110%	103%	85%	55%	97%	83%	102%	91%	145%	264%	373%	325%	325%	309%	390%	328%	293%	285%	278%	263%	248%
28%	41%	35%	31%	150%	107%	100%	82%	53%	94%	80%	99%	89%	141%	264%	373%	325%	325%	309%	390%	328%	293%	285%	278%	263%	248%
29%	41%	35%	31%	150%	107%	100%	82%	53%	94%	80%	99%	89%	141%	264%	373%	325%	325%	309%	390%	328%	293%	285%	278%	263%	248%
30%	35%	38%	24%	146%	104%	59%	45%	21%	68%	55%	72%	63%	108%	250%	354%	308%	308%	293%	379%	318%	284%	276%	269%	255%	240%
31%	71%	75%	57%	131%	91%	38%	25%	5%	45%	34%	61%	53%	95%	228%	326%	283%	282%	268%	349%	292%	260%	253%	246%	233%	219%
32%	54%	48%	43%	118%	81%	53%	39%	17%	61%	52%	83%	77%	136%	309%	430%	377%	387%	369%	325%	271%	241%	234%	228%	215%	202%
33%	43%	38%	33%	103%	68%	42%	29%	8%	50%	42%	70%	64%	134%	305%	426%	373%	383%	366%	322%	268%	239%	232%	226%	213%	200%
34%	94%	76%	135%	152%	109%	89%	72%	44%	99%	88%	126%	122%	216%	297%	415%	363%	373%	356%	313%	261%	231%	225%	219%	206%	193%
35%	74%	60%	114%	130%	90%	86%	69%	42%	96%	85%	122%	118%	211%	290%	407%	355%	365%	348%	306%	255%	226%	219%	214%	201%	188%
36%	100%	84%	146%	164%	119%	133%	112%	78%	145%	132%	179%	174%	290%	395%	350%	304%	313%	298%	261%	215%	189%	183%	178%	167%	156%
37%	86%	77%	137%	155%	111%	125%	105%	71%	137%	124%	169%	164%	276%	378%	333%	290%	298%	283%	248%	203%	179%	173%	168%	158%	147%
38%	86%	77%	137%	155%	111%	125%	105%	71%	137%	124%	169%	164%	276%	378%	333%	290%	298%	283%	248%	203%	179%	173%	168%	158%	147%
39%	75%	65%	121%	137%	97%	109%	91%	60%	120%	109%	150%	146%	251%	345%	304%	263%	271%	257%	224%	183%	160%	155%	150%	140%	130%
40%	71%	72%	123%	144%	102%	91%	74%	45%	101%	90%	128%	124%	220%	306%	268%	231%	238%	226%	195%	158%	137%	132%	128%	119%	110%
41%	60%	62%	111%	131%	91%	80%	64%	37%	101%	90%	128%	124%	220%	306%	268%	231%	238%	226%	195%	158%	137%	132%	128%	119%	110%
42%	106%	111%	92%	110%	74%	128%	108%	74%	155%	141%	108%	104%	212%	296%	259%	223%	230%	218%	188%	152%	131%	127%	122%	114%	104%
43%	90%	94%	77%	93%	60%	125%	105%	72%	151%	138%	91%	88%	187%	290%	254%	218%	225%	213%	184%	148%	128%	123%	119%	110%	102%
44%	72%	76%	60%	75%	45%	104%	86%	56%	128%	116%	74%	71%	161%	254%	222%	189%	195%	184%	158%	125%	107%	103%	99%	91%	83%
45%	41%	45%	32%	44%	19%	68%	53%	28%	87%	77%	43%	40%	114%	191%	164%	137%	142%	134%	112%	85%	70%	66%	64%	57%	50%
46%	28%	31%	20%	31%	8%	65%	50%	26%	84%	75%	41%	38%	111%	187%	160%	134%	139%	130%	109%	82%	67%	64%	61%	55%	48%
47%	16%	19%	8%	18%	-2%	49%	36%	14%	66%	57%	27%	24%	90%	158%	134%	111%	115%	107%	88%	64%	51%	48%	45%	39%	34%
48%	14%	17%	6%	16%	-4%	47%	34%	12%	64%	55%	25%	23%	87%	154%	131%	108%	112%	104%	85%	62%	49%	46%	43%	37%	31%
49%	5%	8%	-2%	7%	-11%	25%	14%	-5%	51%	43%	25%	23%	87%	154%	131%	108%	112%	104%	85%	62%	49%	46%	43%	37%	31%

Kortonson Filter Results

APPENDIX 3.9.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	190%	170%	158%	191%	238%	211%	220%	334%	300%	305%	354%	460%	427%	427%	397%	386%	364%	367%	381%	362%	378%	425%	401%	391%
2%	193%	173%	153%	172%	244%	217%	225%	366%	330%	340%	393%	509%	433%	433%	397%	386%	364%	337%	350%	332%	387%	435%	410%	391%
3%	160%	142%	124%	154%	221%	196%	225%	342%	308%	318%	368%	439%	372%	372%	340%	330%	310%	308%	320%	303%	358%	399%	376%	359%
4%	122%	107%	102%	133%	174%	153%	203%	342%	308%	318%	368%	439%	372%	372%	340%	330%	310%	308%	305%	288%	326%	365%	343%	327%
5%	115%	100%	96%	119%	165%	145%	203%	342%	308%	318%	368%	439%	372%	372%	340%	330%	310%	308%	305%	288%	326%	365%	343%	327%
6%	90%	77%	50%	85%	134%	116%	201%	339%	305%	259%	302%	415%	351%	351%	320%	310%	292%	308%	305%	288%	316%	365%	343%	327%
7%	90%	77%	50%	85%	134%	116%	201%	339%	305%	259%	302%	415%	351%	351%	320%	310%	292%	308%	305%	288%	316%	365%	343%	327%
8%	76%	64%	36%	76%	134%	116%	201%	339%	305%	259%	302%	415%	351%	351%	320%	310%	292%	308%	305%	288%	316%	365%	343%	327%
9%	68%	56%	30%	68%	136%	118%	201%	336%	302%	257%	300%	411%	348%	348%	317%	308%	289%	293%	298%	282%	316%	365%	343%	327%
10%	43%	33%	7%	43%	101%	85%	167%	288%	258%	217%	279%	365%	307%	307%	279%	271%	254%	276%	268%	253%	301%	345%	325%	309%
11%	36%	27%	7%	32%	101%	85%	155%	270%	241%	203%	261%	365%	307%	307%	279%	271%	254%	248%	241%	227%	282%	345%	325%	309%
12%	15%	7%	-8%	24%	85%	71%	135%	250%	223%	186%	242%	340%	285%	285%	259%	251%	235%	229%	241%	227%	276%	337%	317%	302%
13%	7%	0%	-14%	16%	82%	68%	135%	250%	223%	186%	242%	340%	285%	285%	259%	251%	235%	229%	241%	227%	276%	337%	317%	302%
14%	-15%	-21%	-33%	17%	105%	89%	164%	213%	188%	156%	206%	330%	277%	277%	251%	243%	228%	229%	222%	209%	249%	330%	311%	295%
15%	-25%	-30%	-41%	4%	82%	68%	164%	213%	188%	156%	206%	297%	247%	247%	224%	216%	202%	204%	197%	185%	249%	296%	278%	264%
16%	-25%	-30%	-41%	4%	82%	68%	164%	213%	188%	156%	206%	297%	247%	247%	224%	216%	202%	204%	197%	185%	249%	296%	278%	264%
17%	4%	-3%	-13%	4%	82%	68%	147%	192%	170%	139%	186%	297%	247%	247%	224%	216%	202%	204%	197%	185%	226%	296%	278%	264%
18%	-7%	-13%	-22%	-7%	68%	55%	129%	176%	154%	126%	192%	305%	255%	255%	230%	223%	208%	214%	197%	185%	216%	284%	266%	252%
19%	8%	0%	-8%	10%	75%	62%	142%	192%	169%	139%	209%	329%	276%	276%	250%	242%	227%	214%	197%	185%	216%	284%	266%	252%
20%	7%	0%	-10%	7%	75%	61%	141%	206%	183%	151%	224%	350%	294%	294%	267%	259%	243%	229%	212%	199%	202%	284%	266%	252%
21%	51%	41%	33%	58%	158%	138%	141%	206%	183%	151%	224%	350%	294%	294%	267%	259%	243%	229%	212%	199%	202%	284%	266%	252%
22%	49%	38%	31%	56%	154%	134%	137%	202%	178%	147%	219%	343%	288%	288%	262%	253%	237%	224%	207%	194%	198%	277%	260%	247%
23%	49%	38%	28%	52%	154%	134%	137%	202%	178%	147%	219%	343%	288%	288%	262%	253%	237%	224%	207%	194%	198%	277%	260%	247%
24%	38%	28%	18%	41%	135%	117%	120%	179%	158%	129%	196%	311%	259%	259%	235%	228%	213%	200%	184%	172%	176%	250%	234%	221%
25%	153%	147%	129%	87%	266%	237%	216%	301%	279%	246%	347%	327%	274%	274%	249%	241%	225%	213%	196%	184%	159%	264%	247%	235%
26%	224%	224%	201%	158%	237%	211%	191%	270%	250%	219%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
27%	202%	202%	180%	140%	214%	189%	171%	256%	237%	207%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
28%	202%	202%	180%	140%	214%	189%	171%	256%	237%	207%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
29%	202%	202%	180%	140%	214%	189%	171%	256%	237%	207%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
30%	195%	195%	174%	134%	214%	189%	171%	256%	237%	207%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
31%	177%	177%	157%	120%	194%	171%	154%	256%	237%	207%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
32%	162%	162%	143%	108%	179%	157%	140%	237%	219%	191%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
33%	160%	160%	141%	107%	179%	157%	140%	237%	219%	191%	312%	294%	245%	245%	221%	214%	200%	188%	173%	161%	138%	264%	247%	235%
34%	155%	155%	136%	102%	177%	155%	139%	235%	217%	189%	310%	292%	243%	243%	219%	212%	198%	187%	171%	160%	137%	262%	245%	232%
35%	150%	150%	132%	99%	172%	151%	135%	230%	212%	184%	303%	285%	237%	237%	214%	207%	193%	182%	167%	156%	133%	256%	240%	227%
36%	122%	122%	106%	77%	153%	133%	118%	206%	189%	164%	274%	257%	213%	213%	191%	185%	172%	161%	147%	137%	116%	256%	240%	227%
37%	114%	114%	99%	70%	143%	125%	110%	195%	179%	154%	260%	244%	201%	201%	181%	175%	162%	152%	138%	128%	109%	243%	227%	215%
38%	114%	114%	99%	70%	143%	125%	110%	195%	179%	154%	260%	244%	201%	201%	181%	175%	162%	152%	138%	128%	109%	243%	227%	215%
39%	100%	100%	85%	59%	127%	109%	96%	175%	160%	137%	236%	221%	181%	181%	161%	156%	144%	135%	122%	113%	94%	219%	205%	194%
40%	82%	82%	69%	45%	107%	91%	78%	170%	155%	133%	236%	221%	181%	181%	161%	156%	144%	135%	122%	113%	94%	219%	205%	194%
41%	82%	82%	69%	45%	107%	91%	78%	170%	155%	133%	236%	221%	181%	181%	161%	156%	144%	135%	122%	113%	94%	219%	205%	194%
42%	78%	78%	65%	41%	103%	88%	76%	165%	151%	129%	236%	221%	181%	181%	161%	156%	144%	135%	122%	113%	94%	219%	205%	194%
43%	75%	75%	63%	39%	103%	88%	76%	165%	151%	129%	236%	221%	181%	181%	161%	156%	144%	135%	122%	113%	94%	219%	205%	194%
44%	59%	59%	48%	26%	85%	70%	59%	141%	128%	108%	230%	216%	176%	176%	158%	152%	140%	131%	118%	110%	91%	215%	200%	189%
45%	31%	31%	21%	4%	66%	53%	43%	116%	104%	86%	196%	183%	148%	148%	131%	126%	116%	107%	96%	88%	71%	182%	169%	159%
46%	29%	29%	19%	2%	63%	50%	41%	113%	101%	83%	192%	179%	144%	144%	127%	122%	112%	104%	93%	85%	69%	178%	165%	155%
47%	16%	16%	8%	-8%	47%	36%	27%	92%	81%	65%	163%	152%	120%	120%	105%	101%	91%	84%	74%	67%	52%	178%	165%	155%
48%	14%	14%	6%	-9%	45%	33%	25%	89%	79%	63%	159%	148%	117%	117%	102%	97%	89%	81%	71%	64%	50%	174%	161%	152%
49%	14%	14%	6%	-9%	45%	33%	25%	89%	79%	63%	159%	148%	117%	117%	102%	97%	89%	81%	71%	64%	50%	174%	161%	152%

Kartonsan Filter Results

APPENDIX 3.9.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	210%	320%	346%	459%	759%	788%	788%	792%	580%	547%	1136%	1001%	1250%	1991%	1683%	2136%	2606%	2685%	2612%	2812%	2391%	2039%	1796%	2004%	1784%
2%	505%	712%	697%	1323%	1264%	892%	692%	865%	719%	574%	884%	800%	1501%	1697%	1444%	1914%	2338%	2484%	2320%	2404%	2878%	2735%	2606%	2681%	2592%
3%	550%	820%	919%	1692%	1493%	1064%	744%	814%	815%	609%	1021%	926%	1575%	1876%	1755%	2232%	2609%	2426%	2588%	2747%	3072%	2920%	2901%	2983%	2688%
4%	257%	543%	692%	1571%	1509%	1009%	747%	908%	962%	568%	1220%	1107%	1677%	2115%	1981%	2515%	3041%	2832%	3151%	3677%	3032%	2882%	2901%	2983%	2688%
5%	263%	515%	827%	1883%	1744%	1345%	1090%	1166%	1096%	714%	1439%	1367%	1847%	2379%	2228%	2212%	2475%	2405%	2678%	3191%	2630%	2498%	2843%	2927%	2637%
6%	300%	606%	872%	2067%	1990%	1536%	1441%	1566%	1335%	920%	1645%	1588%	2142%	2708%	2583%	2889%	3317%	3329%	3703%	4288%	3663%	3481%	3608%	3771%	3420%
7%	311%	534%	828%	2224%	2656%	1905%	1758%	2139%	1606%	1111%	1830%	1767%	2380%	3072%	2931%	2901%	3009%	3019%	3359%	4108%	3581%	3217%	3792%	4285%	3888%
8%	331%	590%	993%	2134%	2604%	1564%	1166%	1426%	1063%	760%	1444%	1462%	1973%	2598%	2704%	2675%	2891%	2902%	3229%	3950%	3503%	3147%	3624%	4285%	3888%
9%	360%	606%	1054%	2021%	2687%	1753%	1218%	1408%	1015%	796%	1712%	1779%	1670%	1834%	1909%	1890%	2045%	2114%	2355%	2887%	2557%	2293%	2645%	3134%	2840%
10%	250%	557%	877%	1472%	1678%	1081%	838%	1046%	881%	689%	1877%	1950%	1956%	2498%	2646%	2369%	2372%	2506%	2195%	2693%	2425%	2175%	2510%	2975%	2696%
11%	119%	377%	648%	1039%	1188%	777%	594%	750%	627%	484%	1365%	1419%	1518%	1945%	2097%	1875%	1878%	2104%	1841%	2260%	2036%	1824%	2171%	2740%	2482%
12%	51%	199%	389%	624%	720%	457%	349%	490%	405%	317%	1017%	1160%	1242%	1670%	1860%	1663%	1799%	2132%	1866%	2292%	2321%	2078%	2552%	2680%	2428%
13%	153%	402%	420%	620%	820%	550%	400%	558%	464%	373%	1009%	994%	1065%	1438%	1748%	1563%	1691%	2005%	1754%	2232%	2260%	2025%	2515%	2680%	2428%
14%	144%	398%	380%	659%	670%	495%	356%	520%	441%	355%	966%	950%	836%	1133%	1406%	1255%	1360%	1616%	1412%	1800%	1823%	1631%	2147%	2426%	2197%
15%	140%	387%	346%	605%	633%	465%	349%	540%	460%	393%	893%	880%	772%	1074%	1334%	1188%	1306%	1553%	1356%	1767%	1789%	1601%	2147%	2426%	2197%
16%	132%	370%	348%	609%	698%	420%	313%	517%	439%	374%	857%	949%	876%	1213%	1552%	1384%	1520%	1805%	1578%	2052%	1645%	1471%	1976%	2269%	2054%
17%	138%	398%	365%	624%	606%	410%	324%	578%	529%	496%	1164%	1284%	1188%	1408%	2026%	1812%	1527%	1814%	1586%	2107%	1691%	1513%	2050%	2235%	2023%
18%	303%	530%	482%	635%	617%	414%	326%	494%	488%	456%	1082%	1194%	1105%	1309%	1537%	1373%	1153%	1590%	1388%	2004%	1607%	1438%	1967%	2144%	1940%
19%	312%	581%	528%	760%	765%	551%	432%	505%	559%	524%	1373%	1541%	1566%	2217%	2098%	1878%	1600%	2351%	2059%	3145%	2532%	2406%	2449%	2691%	2453%
20%	279%	525%	490%	719%	739%	559%	492%	575%	633%	631%	1529%	1798%	1828%	2580%	2443%	2223%	1913%	2873%	2519%	3900%	3313%	3150%	3205%	3518%	3270%
21%	222%	503%	469%	739%	758%	589%	570%	695%	765%	761%	1519%	1829%	1901%	2257%	2138%	1944%	1672%	2516%	2204%	3419%	2902%	2760%	2907%	3368%	3130%
22%	133%	362%	417%	663%	905%	706%	661%	803%	682%	654%	1307%	1711%	1778%	2113%	2001%	1819%	1563%	2355%	2063%	3205%	2719%	2584%	2724%	3157%	2933%
23%	115%	368%	424%	761%	1036%	811%	760%	918%	781%	751%	1414%	1851%	2106%	2500%	1909%	1736%	1491%	2249%	1969%	3061%	2597%	2468%	2601%	3016%	2801%
24%	166%	306%	353%	646%	922%	720%	698%	847%	720%	716%	1353%	1771%	2143%	2543%	1943%	1766%	1517%	2605%	2283%	3604%	3371%	3205%	3375%	3909%	3632%
25%	184%	316%	365%	675%	1001%	802%	779%	1010%	860%	902%	1353%	1730%	2093%	2392%	1826%	1659%	1424%	2450%	2146%	3427%	3205%	3047%	3345%	3874%	3600%
26%	158%	271%	314%	591%	733%	574%	557%	772%	655%	696%	1166%	1494%	1811%	2071%	1577%	1433%	1227%	2120%	1856%	3066%	2866%	2725%	2991%	3468%	3222%
27%	149%	401%	462%	851%	741%	582%	410%	578%	487%	570%	1056%	1357%	1647%	1884%	1433%	1301%	1114%	1929%	1687%	2925%	2734%	2598%	2855%	3396%	3155%
28%	104%	321%	389%	865%	1055%	877%	631%	1010%	875%	696%	1272%	1628%	1973%	2255%	1720%	1562%	1340%	2309%	2101%	3624%	3388%	3284%	3604%	4843%	4502%
29%	54%	240%	300%	659%	808%	669%	475%	889%	768%	608%	1122%	1438%	1745%	1996%	1520%	1380%	1182%	2173%	1976%	3413%	3191%	3093%	3395%	4563%	4242%
30%	164%	516%	541%	1162%	1411%	1205%	876%	1214%	1095%	875%	1619%	1551%	1881%	2202%	1678%	1563%	1341%	2513%	2287%	3096%	2892%	2803%	3304%	4443%	4130%
31%	136%	450%	471%	1026%	1248%	1064%	772%	1072%	966%	769%	1350%	1294%	1571%	1952%	1487%	1383%	1185%	2232%	2031%	2751%	2571%	2491%	2939%	4333%	4028%
32%	123%	450%	471%	1026%	1248%	1064%	772%	1072%	966%	769%	1350%	1294%	1571%	1952%	1487%	1383%	1185%	2232%	2031%	2751%	2571%	2491%	2939%	4333%	4028%
33%	98%	388%	392%	853%	1064%	924%	669%	933%	840%	640%	1169%	1121%	1363%	1697%	1290%	1198%	1026%	1943%	1766%	2451%	2290%	2219%	2618%	3867%	3594%
34%	90%	367%	371%	813%	1016%	881%	636%	890%	801%	608%	1116%	1069%	1363%	1697%	1290%	1198%	1026%	1943%	1766%	2451%	2290%	2219%	2618%	3867%	3594%
35%	41%	257%	260%	599%	768%	663%	477%	684%	588%	488%	909%	1322%	1682%	2089%	1592%	1482%	1283%	2566%	2335%	3228%	3018%	2924%	2404%	3554%	3303%
36%	166%	522%	542%	1143%	1553%	1354%	1001%	1480%	1337%	1126%	2358%	2264%	2859%	3537%	2710%	2527%	2199%	2199%	2000%	2955%	2761%	2675%	2199%	3254%	3024%
37%	123%	420%	436%	1036%	1410%	1229%	906%	1344%	1213%	1021%	2146%	2060%	2604%	3224%	2468%	2301%	2001%	2001%	1819%	2691%	2514%	2436%	2001%	2965%	2755%
38%	158%	502%	520%	1213%	1238%	1077%	791%	1179%	1062%	893%	1909%	1831%	2317%	3156%	2416%	2252%	1957%	1957%	1779%	2634%	2461%	2384%	1958%	2902%	2696%
39%	227%	434%	451%	1090%	1113%	967%	708%	1059%	953%	800%	1720%	1650%	2091%	2851%	2180%	2032%	1765%	1765%	1603%	2378%	2221%	2151%	1765%	2621%	2434%
40%	221%	403%	419%	1023%	1042%	929%	679%	971%	874%	772%	1662%	1557%	2149%	2971%	2273%	2068%	1869%	1823%	1657%	2353%	2198%	2128%	1746%	2593%	2409%
41%	151%	364%	379%	936%	953%	849%	618%	971%	874%	772%	1662%	1557%	2149%	2971%	2273%	2068%	1869%	1823%	1657%	2353%	2198%	2128%	1746%	2593%	2409%
42%	129%	316%	329%	845%	848%	754%	569%	798%	717%	657%	1531%	1435%	2022%	2797%	2097%	1907%	1723%	1680%	1526%	2171%	2027%	1963%	1609%	2394%	2222%
43%	116%	291%	303%	790%	792%	704%	529%	745%	668%	613%	1436%	1344%	1896%	2625%	1967%	1787%	1615%	1575%	1430%	2036%	1902%	1841%	1508%	2394%	2222%
44%	103%	269%	281%	738%	740%	658%	494%	697%	625%	572%	1348%	1262%	1783%	2470%	1850%	1680%	1517%	1480%	1343%	2036%	1902%	1841%	1508%	2394%	2222%
45%	76%	196%	213%	643%	594%	525%	389%	556%	498%	454%	1224%	1143%	1621%	2251%	1683%	1528%	1379%	1344%	1219%	1854%	1729%	1675%	1370%	2180%	2023%
46%	67%	193%	210%	635%	586%	530%	394%	592%	529%	483%	1429%	1370%	1932%	2737%	2053%	1911%	1727%	1727%	1569%	2494%	2329%	2256%	1851%	3172%	2947%
47%	54%	170%	186%	578%	533%	482%	356%	539%	481%	439%	1313%	1257%	1777%	2521%	1889%	1757%	1588%	1588%	1442%	2296%	2144%	2077%	1703%	2923%	2714%
48%	54%	170%	186%	578%	533%	482%	356%	539%	481%	439%	1313%	1257%	1777%	2521%	1889%	1757%	1588%	1588%	1442%	2296%	2144%	2077%	1703%	2923%	2714%
49%	62%	185%	201%	626%	600%	544%	404%	684%	613%	562%	1635%	1567%	2205%	3119%	2342%	2181%	2012%	2012%	1945%	3078%	2876%	2787%	2290%	3990%	3788%

Koc Holding Filter Results

APPENDIX 3.10.a

y% \ x%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	1817%	2504%	2203%	3012%	3181%	2557%	3039%	2628%	2532%	2610%	2610%	2084%	1610%	1797%	2161%	2353%	2181%	3458%	2806%	3495%	3495%	3624%	3398%	3398%
2%	2638%	2403%	2114%	2864%	3025%	2431%	2890%	2499%	2333%	2290%	2290%	1826%	1481%	1653%	2053%	2748%	2595%	3488%	3532%	3223%	3223%	3447%	3232%	3232%
3%	2737%	2335%	2054%	2783%	3025%	2431%	2890%	2385%	2333%	2290%	2290%	1826%	1481%	1653%	1960%	2748%	2595%	3488%	3532%	3223%	3223%	3447%	3232%	3232%
4%	2737%	2335%	2054%	2783%	3025%	2431%	2890%	2385%	2333%	2290%	2290%	1826%	2569%	2524%	2741%	2748%	2595%	3488%	3532%	3223%	3223%	3447%	3232%	3232%
5%	2555%	2179%	1917%	2598%	2700%	2168%	2579%	2127%	2080%	2138%	2138%	1703%	2398%	2357%	2741%	2748%	2595%	3488%	3532%	3223%	3223%	3447%	3232%	3232%
6%	3315%	2832%	2493%	2458%	2700%	2168%	2579%	2127%	1968%	2023%	2023%	1611%	2271%	2232%	2741%	2602%	2457%	3305%	3347%	3053%	3053%	3447%	3232%	3232%
7%	3440%	3222%	2839%	2800%	2759%	2215%	2635%	2174%	1875%	1927%	1927%	1533%	2163%	2125%	2801%	2479%	2341%	3150%	3190%	2910%	2910%	3285%	3081%	3081%
8%	3440%	3222%	2839%	2800%	2759%	2215%	2635%	2174%	1875%	1927%	1927%	1533%	2163%	2125%	2801%	2479%	2341%	3150%	3190%	2910%	2910%	3285%	3081%	3081%
9%	2511%	2350%	2170%	2140%	2109%	1688%	2184%	1798%	1549%	1592%	1592%	1263%	1974%	1940%	2558%	2265%	2138%	2879%	2916%	2658%	2658%	3003%	2815%	2815%
10%	2383%	2230%	2058%	2029%	2161%	1731%	2237%	1844%	1587%	1509%	1509%	1196%	1871%	1839%	2427%	2148%	2027%	2879%	2916%	2658%	2658%	3003%	2815%	2815%
11%	2192%	2051%	1895%	1868%	1868%	1494%	1936%	1592%	1368%	1300%	1300%	1028%	1616%	1587%	2235%	1978%	1866%	2652%	2847%	2596%	2596%	3003%	2815%	2815%
12%	2144%	2006%	1854%	1827%	1627%	1298%	1685%	1384%	1189%	1128%	1128%	889%	1405%	1380%	2166%	1917%	1808%	2572%	2761%	2516%	2516%	2912%	2729%	2729%
13%	2144%	2006%	1854%	1827%	1627%	1298%	1685%	1384%	1189%	1128%	1128%	889%	1405%	1380%	2166%	1917%	1808%	2572%	2761%	2516%	2516%	2912%	2729%	2729%
14%	1938%	1813%	1728%	1704%	1517%	1209%	1572%	1290%	1106%	1050%	1050%	826%	1310%	1286%	2021%	1788%	1686%	2401%	2578%	2350%	2350%	2912%	2729%	2729%
15%	1938%	1813%	1728%	1704%	1517%	1209%	1572%	1290%	1106%	1050%	1050%	826%	1310%	1286%	2021%	1788%	1686%	2401%	2578%	2350%	2350%	2912%	2729%	2729%
16%	1812%	1694%	1615%	1592%	1415%	1128%	1468%	1202%	1031%	978%	978%	768%	1222%	1200%	1889%	1670%	1574%	2476%	2659%	2424%	2424%	3003%	2815%	2815%
17%	1785%	1668%	1590%	1568%	1394%	1110%	1446%	1184%	1015%	962%	962%	756%	1203%	1181%	1889%	1670%	1574%	2476%	2659%	2424%	2424%	3003%	2815%	2815%
18%	1711%	1599%	1547%	1525%	1357%	1080%	1416%	1161%	995%	944%	944%	741%	1179%	1158%	1854%	1638%	1545%	2431%	2659%	2424%	2424%	3003%	2815%	2815%
19%	3315%	3105%	3174%	3130%	2796%	2286%	2032%	1805%	1574%	1496%	1496%	1196%	1111%	1347%	2480%	2195%	2072%	3242%	2897%	2642%	2642%	3271%	3067%	3067%
20%	3223%	3018%	3124%	3080%	2751%	2248%	1998%	1775%	2171%	2064%	2064%	1657%	1543%	1516%	2780%	2461%	2323%	3629%	3245%	2960%	2960%	3663%	3435%	3435%
21%	3086%	2890%	3124%	3080%	2751%	2248%	1998%	1775%	2171%	2064%	2064%	1657%	1543%	1516%	2780%	2461%	2323%	3629%	3245%	2960%	2960%	3663%	3435%	3435%
22%	2892%	2707%	2926%	2885%	2577%	2104%	1870%	1660%	2031%	1932%	1932%	1551%	1442%	1416%	2603%	2305%	2175%	3401%	3040%	2773%	2773%	3583%	3360%	3360%
23%	2761%	2585%	2794%	2755%	2460%	2009%	1784%	1584%	1939%	1844%	1844%	1479%	1375%	1350%	2486%	2200%	2076%	3249%	2903%	2649%	2649%	3423%	3209%	3209%
24%	3581%	3355%	3940%	3886%	3474%	2844%	2530%	2250%	2141%	2036%	2036%	1635%	1521%	1494%	3016%	2672%	2523%	3935%	3519%	3212%	3212%	4144%	3887%	3887%
25%	3549%	3324%	3905%	3852%	3445%	2819%	2508%	2231%	2122%	2018%	2018%	1621%	1508%	1481%	2990%	2649%	2500%	3902%	3489%	3183%	3183%	4109%	3854%	3854%
26%	3176%	2974%	3544%	3495%	3124%	2555%	2273%	2020%	1922%	1827%	1827%	1466%	1363%	1339%	2864%	2537%	2396%	3739%	3344%	3050%	3050%	3937%	3693%	3693%
27%	3110%	2912%	3471%	3423%	3060%	2502%	2226%	1977%	1881%	1788%	1788%	1434%	1334%	1310%	2804%	2484%	2345%	3663%	3275%	2987%	2987%	3937%	3693%	3693%
28%	4439%	4160%	5019%	4950%	4428%	3629%	3629%	3232%	3077%	2929%	2929%	2360%	2199%	2161%	3265%	2893%	2733%	4455%	3985%	3637%	3637%	4787%	4491%	4491%
29%	4182%	3919%	4730%	4664%	4172%	3418%	3418%	3043%	2897%	2757%	2757%	2221%	2069%	2033%	3075%	2724%	2572%	4197%	3754%	3425%	3425%	4787%	4491%	4491%
30%	4072%	3815%	4730%	4664%	4172%	3418%	3418%	3043%	2897%	2757%	2757%	2221%	2069%	2033%	3075%	2724%	2572%	4197%	3754%	3425%	3425%	4787%	4491%	4491%
31%	3972%	3721%	4615%	4551%	4071%	3335%	3335%	2970%	2827%	2690%	2690%	2166%	2017%	1982%	2999%	2656%	2508%	4094%	3661%	3341%	3341%	4671%	4381%	4381%
32%	3972%	3721%	4615%	4551%	4071%	3335%	3335%	2970%	2827%	2690%	2690%	2166%	2017%	1982%	2999%	2656%	2508%	4094%	3661%	3341%	3341%	4671%	4381%	4381%
33%	3543%	3319%	4173%	4115%	3680%	3013%	3013%	2682%	2553%	2428%	2428%	1954%	1819%	1787%	2902%	2570%	2427%	4094%	3661%	3341%	3341%	4671%	4381%	4381%
34%	3543%	3319%	4173%	4115%	3680%	3013%	3013%	2682%	2553%	2428%	2428%	1954%	1819%	1787%	2902%	2570%	2427%	4094%	3661%	3341%	3341%	4671%	4381%	4381%
35%	3256%	3049%	4139%	4082%	3650%	2989%	2989%	2660%	2532%	2408%	2408%	1938%	1804%	1772%	2879%	2549%	2407%	4061%	3632%	3314%	3314%	4633%	4346%	4346%
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37%	2715%	2542%	3454%	3406%	3045%	2489%	2489%	2214%	2106%	2003%	2003%	1609%	1497%	1470%	2398%	2121%	2002%	3389%	3029%	2763%	2763%	4245%	3981%	3981%
38%	2658%	2488%	3381%	3334%	2981%	2437%	2437%	2167%	2062%	1960%	1960%	1574%	1464%	1438%	2348%	2077%	1959%	3389%	3029%	2763%	2763%	4245%	3981%	3981%
39%	2399%	2245%	3055%	3012%	2693%	2199%	2199%	1955%	1859%	1767%	1767%	1417%	1318%	1294%	2118%	1873%	1766%	3062%	2736%	2495%	2495%	3837%	3599%	3599%
40%	2374%	2222%	3023%	2982%	2664%	2176%	2176%	1934%	1839%	1748%	1748%	1402%	1304%	1280%	2096%	1852%	1747%	3062%	2736%	2495%	2495%	3837%	3599%	3599%
41%	2374%	2222%	3023%	2982%	2664%	2176%	2176%	1934%	1839%	1748%	1748%	1402%	1304%	1280%	2096%	1852%	1747%	3062%	2736%	2495%	2495%	3837%	3599%	3599%
42%	2190%	2049%	2792%	2753%	2459%	2007%	2007%	1783%	1695%	1611%	1611%	1290%	1200%	1178%	2031%	1795%	1694%	3062%	2736%	2495%	2495%	3837%	3599%	3599%
43%	2190%	2049%	2792%	2753%	2459%	2007%	2007%	1783%	1695%	1611%	1611%	1290%	1200%	1178%	2031%	1795%	1694%	3062%	2736%	2495%	2495%	3837%	3599%	3599%
44%	2190%	2049%	2792%	2753%	2459%	2007%	2007%	1783%	1695%	1611%	1611%	1290%	1200%	1178%	2031%	1795%	1694%	3062%	2736%	2495%	2495%	3837%	3599%	3599%
45%	1993%	1864%	2576%	2539%	2267%	1849%	1849%	1642%	1561%	1483%	1483%	1186%	1101%	1082%	1871%	1653%	1559%	2826%	2524%	2301%	2301%	3542%	3321%	3321%
46%	2905%	2720%	3741%	3741%	3492%	2858%	2858%	2703%	2572%	2448%	2448%	2103%	1958%	1924%	3276%	3056%	2887%	2826%	2524%	2301%	2301%	3542%	3321%	3321%
47%	2676%	2505%	3741%	3741%	3492%	2858%	2858%	2703%	2572%	2448%	2448%	2103%	1958%	1924%	3276%	3056%	2887%	2826%	2524%	2301%	2301%	3542%	3321%	3321%
48%	2676%	2505%	3741%	3741%	3492%	2858%	2858%	2703%	2572%	2448%	2448%	2103%	1958%	1924%	3276%	3056%	2887%	2826%	2524%	2301%	2301%	3542%	3321%	3321%
49%	3735%	3575%	5688%	5688%	5314%	4358%	4358%	4222%	4222%	4020%	4020%	3645%	3400%	3341%	3276%	3056%	2887%	2826%	2524%	2301%	2301%	3542%	3321%	3321%

Koc Holding Filter Results

APPENDIX 3.10.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-52%	28%	255%	287%	328%	287%	480%	386%	529%	385%	776%	788%	686%	878%	858%	1249%	1234%	1946%	2115%	1834%	1591%	1463%	1303%	1462%	1266%
2%	-47%	56%	417%	523%	551%	445%	727%	538%	763%	786%	889%	883%	784%	1111%	1045%	1178%	1156%	2029%	2319%	1809%	1570%	1404%	1250%	1462%	1266%
3%	13%	218%	719%	1002%	914%	595%	845%	580%	772%	780%	840%	882%	784%	1094%	1029%	1108%	1139%	2182%	2432%	1772%	1537%	1404%	1250%	1387%	1247%
4%	110%	607%	1461%	1398%	1404%	940%	1140%	1048%	1193%	1097%	1437%	1534%	1368%	1485%	1344%	1251%	1397%	1796%	2188%	1593%	1300%	1188%	1140%	1264%	1136%
5%	178%	1014%	1581%	1596%	2075%	1563%	1676%	1545%	1727%	1555%	2025%	2015%	1802%	2133%	1935%	1737%	2008%	2250%	2737%	2074%	1829%	1637%	1640%	2079%	1911%
6%	202%	1017%	1814%	2103%	2484%	1697%	1770%	1512%	1782%	1604%	2087%	2202%	1969%	1951%	1770%	1551%	1795%	2060%	2737%	2681%	2142%	1917%	1922%	2079%	1911%
7%	323%	1247%	2280%	2731%	3706%	2548%	2216%	1921%	2144%	1470%	1745%	1812%	1619%	1713%	1552%	1345%	1628%	1869%	2486%	2439%	1860%	1664%	1668%	1738%	1659%
8%	251%	718%	1331%	1409%	1960%	1335%	1172%	1010%	1083%	747%	969%	1008%	897%	1025%	925%	794%	1129%	1300%	1740%	1704%	1315%	1267%	1178%	1269%	1271%
9%	111%	449%	1005%	933%	1427%	963%	879%	858%	1046%	721%	1031%	1119%	996%	1137%	1028%	945%	1333%	1210%	1622%	1587%	1250%	1204%	1119%	1205%	1207%
10%	183%	588%	1116%	1172%	1577%	982%	897%	748%	915%	627%	902%	979%	869%	996%	944%	866%	1224%	1140%	1531%	1499%	1179%	1136%	1054%	1136%	1139%
11%	214%	801%	1584%	1497%	2057%	1327%	1338%	1149%	1454%	852%	1261%	1347%	1219%	1453%	1378%	1268%	1551%	1489%	1989%	1518%	1097%	1055%	979%	1048%	1139%
12%	168%	413%	913%	995%	1168%	764%	770%	656%	887%	507%	830%	889%	802%	961%	910%	835%	1027%	999%	1483%	1125%	807%	774%	731%	786%	855%
13%	198%	405%	888%	817%	961%	623%	731%	635%	734%	426%	777%	850%	767%	961%	910%	835%	1040%	1047%	1551%	1225%	881%	848%	816%	918%	1200%
14%	202%	522%	947%	871%	1022%	665%	799%	695%	529%	296%	596%	665%	597%	819%	775%	711%	889%	894%	1401%	1106%	793%	761%	745%	841%	1102%
15%	503%	833%	796%	676%	797%	556%	669%	581%	438%	271%	551%	633%	568%	781%	824%	767%	803%	819%	1319%	1041%	744%	714%	699%	790%	1035%
16%	593%	766%	730%	696%	754%	536%	647%	575%	443%	290%	616%	839%	756%	1106%	1273%	1188%	930%	959%	1535%	1214%	874%	927%	861%	995%	1055%
17%	445%	622%	595%	469%	510%	354%	434%	416%	350%	222%	492%	677%	608%	898%	1035%	995%	776%	820%	1323%	1041%	747%	793%	774%	914%	969%
18%	411%	487%	477%	381%	465%	345%	422%	404%	339%	216%	501%	699%	629%	742%	858%	824%	638%	676%	1237%	972%	695%	738%	721%	852%	905%
19%	252%	330%	323%	253%	313%	226%	315%	300%	249%	151%	387%	555%	497%	589%	685%	650%	504%	537%	992%	777%	551%	587%	573%	704%	747%
20%	147%	211%	305%	248%	307%	220%	234%	223%	181%	105%	303%	449%	406%	530%	617%	630%	507%	569%	877%	684%	480%	512%	500%	619%	728%
21%	130%	272%	337%	306%	381%	288%	304%	295%	294%	187%	299%	456%	414%	585%	678%	692%	560%	470%	733%	568%	394%	421%	412%	513%	606%
22%	147%	216%	272%	245%	309%	236%	250%	256%	242%	149%	255%	438%	397%	563%	653%	666%	538%	451%	705%	547%	378%	407%	395%	502%	594%
23%	215%	346%	318%	277%	370%	296%	313%	320%	304%	215%	387%	640%	608%	882%	1016%	1124%	920%	793%	1263%	993%	710%	610%	574%	717%	844%
24%	195%	321%	295%	256%	344%	275%	290%	318%	302%	214%	385%	645%	645%	934%	1075%	1188%	1012%	873%	1401%	1181%	849%	731%	689%	872%	738%
25%	162%	281%	299%	245%	330%	263%	246%	278%	263%	184%	338%	581%	581%	845%	974%	1079%	917%	790%	1274%	1071%	767%	660%	622%	789%	666%
26%	195%	247%	244%	198%	315%	251%	234%	265%	251%	174%	324%	559%	559%	856%	1067%	1197%	1018%	879%	1411%	1189%	872%	751%	741%	950%	806%
27%	155%	192%	190%	151%	250%	200%	187%	220%	215%	145%	280%	497%	497%	767%	1067%	1197%	1018%	879%	1411%	1189%	872%	751%	741%	950%	806%
28%	149%	168%	166%	130%	220%	180%	130%	156%	153%	97%	204%	395%	395%	618%	867%	1029%	874%	752%	1215%	1021%	745%	640%	630%	881%	745%
29%	139%	169%	167%	131%	245%	210%	154%	116%	128%	78%	175%	346%	346%	607%	853%	1012%	859%	739%	1215%	1021%	745%	640%	630%	881%	745%
30%	109%	135%	133%	102%	201%	185%	134%	98%	109%	63%	175%	346%	346%	607%	853%	1012%	859%	739%	1215%	1021%	745%	640%	630%	881%	745%
31%	68%	158%	156%	122%	230%	213%	169%	127%	149%	94%	293%	552%	552%	674%	944%	1117%	951%	819%	1070%	897%	652%	560%	551%	771%	652%
32%	108%	227%	220%	177%	314%	310%	252%	198%	252%	188%	432%	878%	878%	1062%	1001%	1215%	1034%	929%	1208%	1117%	818%	705%	694%	964%	816%
33%	89%	242%	236%	191%	333%	330%	269%	212%	269%	202%	459%	926%	926%	1119%	1056%	1279%	1090%	979%	1186%	1097%	803%	692%	682%	947%	803%
34%	91%	166%	158%	126%	404%	258%	208%	160%	208%	152%	365%	802%	802%	971%	915%	1185%	1008%	905%	1099%	1015%	741%	639%	629%	875%	741%
35%	63%	127%	120%	93%	331%	206%	163%	122%	163%	115%	344%	759%	759%	921%	869%	1125%	957%	858%	1044%	963%	702%	604%	594%	830%	702%
36%	63%	127%	120%	93%	331%	206%	163%	122%	163%	115%	344%	759%	759%	921%	869%	1125%	957%	858%	1044%	963%	702%	604%	594%	830%	702%
37%	29%	80%	75%	53%	241%	142%	108%	76%	108%	70%	251%	580%	580%	708%	666%	870%	736%	658%	804%	741%	535%	457%	450%	676%	569%
38%	24%	72%	67%	46%	227%	132%	100%	68%	100%	63%	236%	552%	552%	674%	634%	829%	701%	627%	767%	707%	509%	434%	427%	643%	541%
39%	24%	61%	56%	37%	205%	117%	86%	58%	100%	63%	236%	552%	552%	674%	634%	829%	701%	627%	767%	707%	509%	434%	427%	643%	541%
40%	24%	61%	56%	37%	205%	117%	86%	58%	100%	63%	236%	552%	552%	674%	634%	829%	701%	627%	767%	707%	509%	434%	427%	643%	541%
41%	24%	58%	56%	37%	106%	47%	26%	7%	34%	10%	149%	397%	397%	597%	561%	737%	621%	554%	679%	626%	447%	379%	374%	568%	476%
42%	52%	44%	43%	25%	88%	34%	15%	-2%	24%	1%	128%	355%	355%	537%	504%	700%	590%	526%	646%	595%	424%	359%	352%	539%	451%
43%	25%	18%	17%	8%	57%	12%	-5%	-19%	2%	-16%	106%	312%	312%	477%	447%	624%	525%	467%	575%	529%	374%	316%	310%	479%	399%
44%	41%	33%	32%	22%	77%	42%	23%	4%	31%	7%	164%	427%	427%	640%	602%	828%	714%	638%	862%	796%	575%	492%	483%	724%	610%
45%	43%	39%	40%	25%	80%	140%	162%	122%	181%	130%	429%	677%	677%	990%	933%	803%	692%	619%	836%	771%	558%	476%	469%	714%	601%
46%	40%	27%	29%	15%	65%	120%	141%	104%	158%	111%	386%	613%	613%	900%	848%	729%	627%	560%	759%	699%	503%	428%	422%	666%	560%
47%	33%	21%	22%	9%	57%	109%	129%	93%	145%	100%	361%	577%	577%	849%	799%	687%	590%	526%	715%	659%	472%	402%	395%	626%	526%
48%	18%	8%	9%	-3%	40%	86%	103%	72%	122%	81%	318%	514%	514%	760%	716%	613%	526%	468%	639%	588%	418%	355%	349%	558%	467%
49%	15%	9%	10%	-1%	40%	86%	103%	72%	122%	81%	318%	514%	514%	760%	716%	613%	526%	468%	639%	588%	418%	355%	349%	558%	467%

Koc Yatirim Filter Results

APPENDIX 3.11.a

y% \ x%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	1463%	2070%	2123%	2061%	2129%	2122%	1884%	1966%	2832%	2705%	3057%	2939%	2981%	3680%	3406%	3406%	3406%	3406%	3233%	3233%	3040%	2929%	2929%	2939%
2%	1463%	2270%	2329%	2061%	2129%	2755%	2612%	2721%	2832%	2705%	3057%	2939%	2981%	3680%	3406%	3406%	3406%	3406%	3233%	3233%	3040%	2929%	2929%	2939%
3%	1443%	2270%	2329%	2040%	2129%	2755%	2612%	2721%	2832%	2705%	2943%	2828%	2981%	3680%	3406%	3406%	3406%	3406%	3233%	3233%	3040%	2929%	2929%	2939%
4%	1443%	2234%	2292%	2975%	2916%	2711%	2570%	2678%	2789%	2662%	2737%	2828%	2981%	3680%	3406%	3406%	3406%	3406%	3233%	3233%	3040%	2929%	2929%	2939%
5%	2413%	2309%	2370%	3073%	3014%	2804%	2658%	3514%	3654%	3491%	3700%	3824%	4024%	3919%	3631%	3631%	3631%	3631%	3445%	3445%	3239%	3122%	3122%	2939%
6%	2413%	2309%	2370%	3073%	3014%	2804%	2658%	3514%	3654%	3491%	3700%	3824%	4024%	3919%	3631%	3631%	3631%	3631%	3445%	3445%	3239%	3122%	3122%	2939%
7%	2097%	2096%	2243%	3073%	3014%	2804%	2658%	3514%	3654%	3491%	3569%	3687%	4024%	3919%	3631%	3631%	3631%	3631%	3445%	3445%	3239%	3122%	3122%	2939%
8%	1737%	1737%	1930%	2651%	2600%	2417%	2292%	2831%	3190%	3047%	3436%	3305%	3609%	3514%	3498%	3498%	3498%	3498%	3318%	3318%	3119%	3007%	3007%	2831%
9%	1652%	1652%	1838%	2525%	2475%	2302%	2181%	2831%	3190%	3047%	3436%	3305%	3609%	3514%	3498%	3498%	3498%	3498%	3318%	3318%	3119%	3007%	3007%	2831%
10%	1560%	1558%	1734%	2385%	2338%	2175%	2060%	2711%	3054%	2917%	3292%	3165%	3458%	3366%	3350%	3350%	3350%	3350%	3177%	3177%	2988%	2880%	2880%	2710%
11%	1560%	1558%	1643%	2263%	2217%	2061%	1953%	2572%	2898%	2769%	3051%	2932%	3458%	3366%	3350%	3350%	3350%	3350%	3177%	3177%	2988%	2880%	2880%	2710%
12%	1178%	1257%	1400%	1931%	1893%	1759%	1665%	2427%	2736%	2613%	2998%	2932%	3458%	3366%	3350%	3350%	3350%	3350%	3177%	3177%	2988%	2880%	2880%	2710%
13%	1698%	1806%	2035%	1828%	1792%	1664%	1576%	2299%	2593%	2475%	2841%	2779%	3276%	3190%	3174%	3174%	3174%	3174%	3011%	3011%	2831%	2729%	2729%	2569%
14%	1563%	1665%	1873%	1682%	1649%	1531%	1450%	2117%	2389%	2280%	2574%	2560%	3023%	2942%	2929%	2929%	2929%	2929%	2776%	2776%	2609%	2514%	2514%	2367%
15%	1470%	1567%	1786%	1604%	1573%	1459%	1381%	1922%	2169%	2070%	2574%	2560%	3023%	2942%	2929%	2929%	2929%	2929%	2776%	2776%	2609%	2514%	2514%	2367%
16%	1607%	1711%	1786%	1604%	1573%	1459%	1381%	1922%	2169%	2070%	2531%	2391%	2824%	2749%	2929%	2929%	2929%	2929%	2776%	2776%	2609%	2514%	2514%	2367%
17%	1531%	1630%	1702%	1528%	1496%	1390%	1315%	1832%	2169%	2070%	2409%	2391%	2824%	2749%	2929%	2929%	2929%	2929%	2776%	2776%	2609%	2514%	2514%	2367%
18%	1432%	1524%	1593%	1429%	1400%	1299%	1228%	1714%	2031%	1937%	2288%	2270%	2684%	2612%	2782%	2782%	2782%	2782%	2638%	2638%	2478%	2387%	2387%	2247%
19%	1192%	1377%	1439%	1290%	1263%	1172%	1107%	1548%	1837%	1753%	2070%	2055%	2684%	2612%	2782%	2782%	2782%	2782%	2638%	2638%	2478%	2387%	2387%	2247%
20%	1162%	1342%	1418%	1272%	1245%	1155%	1093%	1528%	1812%	1728%	2070%	2055%	2684%	2612%	2782%	2782%	2782%	2782%	2638%	2638%	2478%	2387%	2387%	2247%
21%	1076%	1244%	1361%	1220%	1194%	1107%	1047%	1466%	1739%	1659%	2070%	2055%	2684%	2612%	2782%	2782%	2782%	2782%	2638%	2638%	2478%	2387%	2387%	2247%
22%	1055%	1220%	1335%	1196%	1171%	1086%	1026%	1437%	1739%	1659%	2070%	2055%	2684%	2612%	2782%	2782%	2782%	2782%	2638%	2638%	2478%	2387%	2387%	2247%
23%	1495%	1751%	2047%	1839%	1802%	1674%	1674%	1437%	1739%	1659%	2139%	2055%	2684%	2612%	2782%	2782%	2782%	2782%	2638%	2638%	2478%	2387%	2387%	2247%
24%	1407%	2123%	1926%	1730%	1695%	1574%	1574%	1351%	1728%	1649%	1992%	1913%	2501%	2430%	2763%	2763%	2763%	2763%	2619%	2619%	2461%	2370%	2370%	2233%
25%	1277%	2123%	1926%	1730%	1695%	1574%	1574%	1351%	1728%	1649%	1992%	1913%	2501%	2430%	2763%	2763%	2763%	2763%	2619%	2619%	2461%	2370%	2370%	2233%
26%	1114%	1861%	1687%	1514%	1483%	1377%	1377%	1181%	1512%	1443%	1811%	1737%	2273%	2210%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
27%	1114%	1861%	1687%	1514%	1483%	1377%	1377%	1181%	1512%	1443%	1811%	1737%	2273%	2210%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
28%	1034%	1861%	1687%	1514%	1483%	1377%	1377%	1181%	1512%	1443%	1811%	1737%	2273%	2210%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
29%	1034%	1861%	1687%	1514%	1483%	1377%	1377%	1181%	1512%	1443%	1811%	1737%	2273%	2210%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
30%	1034%	1861%	1687%	1514%	1483%	1377%	1377%	1181%	1512%	1443%	1811%	1737%	2273%	2210%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
31%	908%	1643%	1489%	1335%	1308%	1214%	1214%	1038%	1358%	1295%	1627%	1561%	2273%	2210%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
32%	1234%	1558%	1411%	1264%	1238%	1149%	1149%	983%	1286%	1226%	1602%	1538%	2239%	2175%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
33%	1212%	1532%	1388%	1243%	1218%	1129%	1129%	965%	1286%	1226%	1602%	1538%	2239%	2175%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
34%	1123%	1420%	1286%	1151%	1127%	1045%	1045%	892%	1192%	1136%	1485%	1426%	2079%	2021%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
35%	1067%	1351%	1221%	1093%	1070%	992%	992%	846%	1192%	1136%	1485%	1426%	2079%	2021%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
36%	1067%	1351%	1221%	1093%	1070%	992%	992%	846%	1192%	1136%	1485%	1426%	2079%	2021%	2514%	2514%	2514%	2514%	2383%	2383%	2237%	2155%	2155%	2030%
37%	872%	1189%	1075%	960%	941%	871%	871%	742%	1048%	999%	1442%	1384%	2018%	1962%	2442%	2442%	2442%	2442%	2315%	2315%	2174%	2093%	2093%	1969%
38%	832%	1136%	1026%	917%	898%	831%	831%	707%	1001%	953%	1378%	1322%	1930%	1874%	2335%	2335%	2335%	2335%	2214%	2214%	2080%	2002%	2002%	1884%
39%	832%	1136%	1026%	917%	898%	831%	831%	707%	1001%	953%	1378%	1322%	1930%	1874%	2335%	2335%	2335%	2335%	2214%	2214%	2080%	2002%	2002%	1884%
40%	832%	1136%	1026%	917%	898%	831%	831%	707%	1001%	953%	1378%	1322%	1930%	1874%	2335%	2335%	2335%	2335%	2214%	2214%	2080%	2002%	2002%	1884%
41%	738%	1012%	913%	815%	797%	737%	737%	626%	891%	848%	1230%	1179%	1727%	1678%	2093%	2093%	2093%	2093%	1982%	1982%	1861%	1792%	1792%	1685%
42%	701%	963%	869%	775%	758%	701%	701%	594%	891%	848%	1230%	1179%	1727%	1678%	2093%	2093%	2093%	2093%	1982%	1982%	1861%	1792%	1792%	1685%
43%	701%	963%	869%	775%	758%	701%	701%	594%	891%	848%	1230%	1179%	1727%	1678%	2093%	2093%	2093%	2093%	1982%	1982%	1861%	1792%	1792%	1685%
44%	610%	842%	758%	676%	660%	610%	610%	515%	778%	740%	1078%	1034%	1518%	1476%	1949%	1949%	1949%	1949%	1848%	1848%	1734%	1669%	1669%	1570%
45%	601%	829%	747%	665%	650%	600%	600%	506%	767%	728%	1062%	1018%	1518%	1476%	1949%	1949%	1949%	1949%	1848%	1848%	1734%	1669%	1669%	1570%
46%	560%	829%	747%	665%	650%	600%	600%	506%	767%	728%	1062%	1018%	1518%	1476%	1949%	1949%	1949%	1949%	1848%	1848%	1734%	1669%	1669%	1570%
47%	526%	782%	704%	626%	612%	564%	564%	476%	722%	686%	1002%	962%	1518%	1476%	1949%	1949%	1949%	1949%	1848%	1848%	1734%	1669%	1669%	1570%
48%	467%	699%	629%	558%	546%	502%	502%	421%	722%	686%	1002%	962%	1518%	1476%	1949%	1949%	1949%	1949%	1848%	1848%	1734%	1669%	1669%	1570%
49%	467%	699%	629%	558%	546%	502%	502%	421%	722%	686%	1002%	962%	1518%	1476%	1949%	1949%	1949%	1949%	1848%	1848%	1734%	1669%	1669%	1570%

Koc Yatirim Filter Results

APPENDIX 3.11.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-78%	-17%	-42%	-45%	-29%	-20%	-31%	-51%	-51%	-17%	2%	3%	18%	-6%	34%	9%	32%	134%	157%	150%	163%	247%	212%	197%	200%
2%	-36%	104%	63%	34%	68%	46%	7%	-19%	-18%	3%	22%	28%	46%	18%	42%	21%	48%	139%	178%	257%	269%	395%	352%	305%	263%
3%	-47%	64%	16%	5%	23%	13%	-3%	-47%	-42%	-24%	-7%	-4%	26%	0%	16%	2%	27%	102%	224%	212%	228%	341%	304%	261%	224%
4%	-53%	26%	-10%	-20%	-6%	0%	-16%	-55%	-50%	-34%	-31%	-27%	-7%	-23%	-7%	-15%	30%	172%	166%	169%	271%	263%	231%	231%	197%
5%	-34%	83%	43%	18%	18%	28%	4%	-36%	-30%	-4%	11%	13%	47%	21%	58%	48%	85%	276%	208%	239%	282%	255%	213%	212%	180%
6%	-18%	103%	77%	65%	67%	71%	48%	-20%	-18%	-16%	-1%	14%	54%	27%	75%	64%	66%	242%	177%	204%	246%	221%	192%	191%	162%
7%	40%	153%	140%	124%	147%	81%	61%	-13%	-33%	-29%	-12%	-9%	14%	-6%	29%	17%	23%	192%	147%	171%	249%	224%	195%	174%	146%
8%	43%	167%	151%	138%	173%	110%	76%	0%	-22%	-12%	18%	11%	24%	7%	37%	24%	21%	188%	134%	158%	232%	208%	180%	174%	146%
9%	57%	162%	174%	133%	175%	112%	99%	30%	2%	21%	37%	20%	7%	-8%	0%	-10%	3%	167%	117%	139%	197%	176%	144%	139%	115%
10%	73%	135%	125%	66%	95%	73%	69%	10%	-6%	13%	40%	27%	-3%	-16%	8%	4%	30%	172%	122%	88%	151%	134%	111%	115%	93%
11%	21%	64%	59%	46%	31%	16%	20%	-22%	-32%	-15%	7%	6%	-14%	-25%	-21%	-24%	-5%	100%	74%	47%	97%	83%	68%	72%	55%
12%	35%	93%	93%	49%	17%	5%	24%	-15%	-25%	-17%	-3%	-1%	-20%	-28%	-16%	-22%	-3%	121%	95%	66%	126%	114%	102%	127%	104%
13%	23%	77%	50%	16%	-4%	-10%	9%	-13%	-15%	-4%	13%	-2%	-16%	-25%	-12%	-17%	6%	141%	116%	89%	157%	147%	150%	194%	164%
14%	57%	124%	91%	54%	35%	30%	36%	6%	3%	0%	11%	-1%	-16%	-22%	-8%	-14%	10%	109%	87%	63%	124%	115%	116%	176%	148%
15%	52%	119%	91%	60%	44%	43%	66%	45%	46%	43%	60%	86%	59%	52%	47%	40%	83%	122%	99%	74%	115%	106%	88%	140%	115%
16%	102%	180%	116%	99%	79%	80%	92%	73%	74%	71%	135%	173%	133%	82%	89%	80%	134%	186%	155%	123%	186%	175%	151%	155%	129%
17%	55%	148%	82%	71%	66%	67%	87%	73%	74%	71%	104%	136%	102%	57%	76%	67%	118%	166%	138%	107%	166%	155%	133%	144%	119%
18%	50%	87%	37%	40%	37%	44%	62%	56%	57%	54%	86%	121%	110%	69%	89%	81%	159%	218%	195%	157%	174%	163%	140%	150%	125%
19%	93%	109%	54%	63%	60%	68%	90%	103%	76%	73%	109%	148%	79%	44%	60%	54%	120%	186%	173%	138%	153%	143%	122%	132%	108%
20%	133%	152%	95%	102%	59%	67%	106%	81%	57%	54%	89%	125%	62%	31%	45%	39%	107%	176%	162%	129%	143%	133%	113%	123%	100%
21%	123%	142%	87%	59%	25%	2%	26%	11%	-4%	-6%	26%	68%	21%	-2%	9%	4%	55%	106%	96%	71%	95%	87%	86%	100%	80%
22%	156%	177%	114%	82%	43%	17%	45%	27%	13%	11%	53%	110%	59%	28%	49%	46%	117%	131%	149%	117%	150%	143%	80%	93%	74%
23%	123%	169%	108%	92%	61%	32%	63%	43%	27%	25%	88%	165%	109%	71%	108%	104%	140%	155%	103%	77%	104%	98%	46%	57%	41%
24%	98%	147%	91%	76%	53%	25%	55%	55%	37%	35%	111%	197%	135%	92%	138%	138%	179%	133%	86%	62%	87%	81%	34%	48%	33%
25%	74%	116%	67%	84%	59%	40%	73%	74%	54%	51%	137%	267%	189%	137%	130%	130%	171%	126%	80%	57%	81%	75%	30%	43%	29%
26%	68%	109%	62%	77%	54%	36%	68%	68%	49%	46%	129%	255%	180%	129%	123%	123%	162%	119%	74%	52%	75%	70%	25%	38%	24%
27%	72%	235%	160%	106%	79%	57%	94%	101%	79%	76%	106%	229%	159%	112%	106%	106%	143%	103%	61%	41%	62%	57%	16%	30%	17%
28%	50%	193%	126%	80%	56%	37%	70%	76%	56%	53%	80%	187%	126%	85%	80%	80%	113%	78%	42%	23%	42%	38%	2%	14%	3%
29%	53%	199%	120%	84%	60%	41%	88%	94%	73%	70%	121%	252%	183%	141%	135%	135%	125%	92%	56%	36%	62%	57%	16%	36%	28%
30%	65%	148%	82%	53%	33%	17%	56%	61%	43%	40%	83%	218%	156%	118%	112%	112%	103%	73%	41%	23%	56%	51%	12%	31%	23%
31%	44%	107%	52%	28%	11%	-10%	30%	34%	20%	17%	60%	204%	145%	109%	103%	103%	94%	66%	35%	18%	49%	45%	7%	25%	18%
32%	35%	94%	43%	20%	4%	-16%	22%	26%	12%	10%	50%	185%	130%	95%	90%	90%	82%	55%	26%	10%	40%	36%	0%	17%	10%
33%	21%	57%	22%	2%	-11%	-28%	0%	9%	-3%	-5%	19%	127%	88%	60%	60%	60%	44%	23%	0%	-13%	11%	7%	-20%	-5%	-11%
34%	62%	112%	91%	60%	39%	13%	57%	71%	69%	66%	111%	179%	131%	96%	96%	96%	77%	55%	26%	10%	44%	40%	7%	28%	20%
35%	27%	71%	54%	29%	12%	0%	39%	51%	49%	46%	86%	146%	103%	73%	73%	73%	56%	37%	11%	-3%	27%	23%	-5%	13%	6%
36%	23%	64%	49%	25%	8%	-4%	34%	46%	44%	41%	79%	137%	96%	67%	67%	67%	51%	32%	7%	-6%	22%	19%	-9%	13%	6%
37%	2%	44%	30%	9%	-7%	-18%	12%	23%	21%	19%	66%	119%	81%	54%	54%	54%	39%	22%	-1%	-14%	13%	10%	-16%	4%	-2%
38%	-10%	27%	14%	-4%	-18%	-28%	-2%	8%	7%	5%	46%	93%	59%	36%	36%	36%	22%	7%	-13%	-24%	8%	4%	-20%	-1%	-7%
39%	-10%	27%	15%	-5%	-18%	-29%	-1%	8%	7%	5%	46%	93%	59%	36%	36%	36%	22%	7%	-13%	-24%	8%	4%	-20%	-1%	-7%
40%	-6%	23%	11%	-8%	-21%	-31%	-4%	5%	4%	2%	42%	87%	55%	32%	32%	32%	19%	4%	-15%	-26%	5%	2%	-22%	-4%	-9%
41%	12%	46%	32%	21%	5%	-7%	30%	29%	27%	25%	73%	129%	118%	85%	85%	85%	67%	47%	19%	4%	47%	43%	10%	-5%	-11%
42%	13%	49%	37%	26%	14%	-3%	41%	39%	37%	35%	104%	170%	156%	118%	118%	118%	97%	75%	56%	36%	92%	86%	43%	24%	16%
43%	-9%	22%	12%	3%	-6%	-20%	16%	15%	13%	11%	67%	140%	128%	94%	94%	94%	75%	56%	39%	21%	71%	66%	28%	10%	4%
44%	-17%	12%	3%	-5%	-14%	-27%	6%	5%	3%	2%	54%	120%	109%	78%	78%	78%	61%	43%	27%	11%	57%	52%	17%	1%	-5%
45%	-22%	4%	-4%	-12%	-20%	-32%	-1%	-2%	-4%	-5%	43%	105%	95%	66%	66%	66%	50%	33%	19%	3%	46%	42%	9%	-6%	-11%
46%	-28%	2%	-7%	-14%	-22%	-34%	-4%	-5%	-6%	-8%	39%	100%	90%	61%	61%	61%	46%	29%	15%	1%	42%	38%	6%	-8%	-14%
47%	-25%	6%	3%	-5%	-14%	-26%	6%	17%	15%	13%	71%	146%	133%	99%	99%	99%	79%	62%	49%	30%	84%	81%	42%	27%	19%
48%	-22%	12%	3%	-5%	-14%	-26%	6%	17%	15%	13%	71%	146%	133%	99%	99%	99%	79%	62%	49%	30%	84%	81%	42%	27%	19%
49%	12%	50%	39%	28%	16%	-1%	43%	29%	27%	24%	102%	191%	176%	135%	135%	135%	112%	94%	81%	62%	129%	129%	82%	65%	62%

Kordsa Filter Results

APPENDIX 3.12.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	255%	298%	350%	291%	278%	363%	333%	305%	296%	368%	456%	406%	366%	400%	379%	416%	401%	384%	464%	477%	553%	541%	529%	482%
2%	236%	291%	342%	284%	271%	354%	333%	305%	296%	368%	446%	398%	358%	400%	379%	407%	392%	375%	454%	467%	553%	541%	529%	482%
3%	236%	291%	333%	276%	264%	354%	333%	305%	296%	368%	446%	398%	358%	400%	379%	407%	392%	375%	443%	467%	553%	541%	529%	482%
4%	215%	224%	207%	166%	157%	221%	218%	266%	258%	343%	540%	483%	436%	378%	379%	494%	476%	457%	536%	565%	553%	541%	529%	482%
5%	198%	206%	186%	148%	149%	221%	218%	266%	258%	336%	540%	483%	436%	378%	371%	494%	476%	457%	528%	565%	553%	541%	529%	482%
6%	188%	216%	184%	146%	147%	218%	214%	262%	254%	328%	521%	465%	420%	378%	366%	494%	476%	457%	524%	565%	553%	541%	529%	482%
7%	171%	188%	177%	141%	141%	214%	210%	257%	250%	468%	521%	465%	420%	362%	473%	454%	438%	420%	504%	565%	553%	541%	529%	482%
8%	181%	188%	172%	137%	137%	220%	222%	271%	263%	461%	489%	437%	394%	362%	473%	454%	438%	420%	504%	565%	553%	541%	529%	482%
9%	145%	167%	152%	119%	131%	211%	212%	260%	252%	450%	478%	426%	384%	348%	473%	454%	438%	420%	504%	565%	553%	541%	529%	482%
10%	108%	122%	94%	69%	77%	163%	188%	232%	225%	440%	478%	426%	384%	339%	473%	454%	438%	420%	462%	565%	553%	541%	529%	482%
11%	68%	80%	64%	43%	50%	122%	143%	180%	174%	348%	379%	337%	302%	304%	385%	369%	355%	339%	415%	509%	499%	488%	477%	433%
12%	122%	133%	113%	97%	107%	234%	266%	322%	322%	340%	379%	337%	302%	396%	385%	369%	355%	339%	415%	509%	499%	488%	477%	433%
13%	192%	207%	142%	124%	135%	230%	261%	316%	316%	306%	342%	302%	270%	390%	385%	369%	355%	339%	415%	509%	499%	488%	477%	433%
14%	174%	166%	122%	105%	117%	204%	233%	284%	284%	274%	342%	302%	270%	390%	349%	334%	321%	307%	415%	509%	499%	488%	477%	433%
15%	166%	158%	115%	99%	114%	201%	229%	279%	279%	269%	336%	297%	266%	384%	349%	334%	321%	307%	415%	509%	499%	488%	477%	433%
16%	183%	158%	115%	99%	114%	201%	229%	279%	279%	269%	336%	297%	266%	384%	349%	334%	321%	307%	415%	509%	499%	488%	477%	433%
17%	174%	150%	108%	93%	114%	201%	229%	279%	279%	269%	336%	297%	266%	384%	349%	334%	321%	307%	415%	509%	499%	488%	477%	433%
18%	163%	140%	100%	85%	106%	189%	216%	264%	264%	269%	336%	297%	266%	384%	349%	334%	321%	307%	415%	509%	499%	488%	477%	433%
19%	143%	122%	85%	71%	90%	189%	216%	264%	264%	269%	336%	297%	266%	384%	349%	334%	321%	307%	415%	509%	499%	488%	477%	433%
20%	134%	114%	78%	65%	83%	178%	214%	262%	262%	267%	333%	295%	263%	381%	346%	331%	319%	304%	376%	509%	499%	488%	477%	433%
21%	110%	92%	60%	48%	68%	155%	188%	232%	232%	209%	265%	233%	206%	341%	309%	296%	283%	271%	367%	498%	488%	477%	466%	424%
22%	103%	85%	54%	43%	62%	149%	181%	224%	224%	209%	265%	233%	206%	341%	309%	296%	283%	271%	367%	498%	488%	477%	466%	424%
23%	65%	51%	25%	16%	33%	121%	150%	188%	188%	175%	224%	195%	172%	291%	263%	251%	241%	229%	351%	477%	467%	457%	446%	405%
24%	55%	42%	18%	9%	25%	108%	142%	179%	179%	166%	224%	195%	172%	291%	263%	251%	241%	229%	351%	477%	467%	457%	446%	405%
25%	50%	37%	14%	6%	25%	108%	142%	179%	179%	166%	224%	195%	172%	291%	263%	251%	241%	229%	351%	477%	467%	457%	446%	405%
26%	50%	37%	14%	6%	25%	108%	142%	179%	179%	166%	224%	195%	172%	291%	263%	251%	241%	229%	351%	477%	467%	457%	446%	405%
27%	41%	29%	7%	-1%	18%	95%	135%	171%	171%	158%	219%	190%	167%	285%	257%	245%	235%	223%	343%	467%	457%	447%	437%	396%
28%	24%	13%	-6%	-13%	3%	88%	126%	171%	171%	158%	219%	190%	167%	285%	257%	245%	235%	223%	304%	467%	457%	447%	437%	396%
29%	54%	41%	22%	13%	43%	164%	233%	299%	299%	291%	397%	359%	334%	535%	524%	504%	486%	466%	432%	648%	635%	621%	608%	554%
30%	54%	41%	22%	13%	43%	164%	233%	299%	299%	291%	397%	359%	334%	535%	524%	504%	486%	466%	432%	648%	635%	621%	608%	554%
31%	48%	35%	16%	8%	37%	153%	233%	299%	299%	291%	397%	359%	334%	535%	524%	504%	486%	466%	432%	648%	635%	621%	608%	554%
32%	39%	26%	9%	1%	28%	137%	212%	274%	274%	266%	366%	330%	307%	531%	521%	501%	482%	463%	432%	648%	635%	621%	608%	554%
33%	12%	2%	-12%	-19%	3%	101%	165%	220%	220%	213%	339%	306%	284%	495%	485%	466%	449%	430%	432%	648%	635%	621%	608%	554%
34%	9%	0%	-14%	-20%	1%	97%	160%	216%	216%	210%	334%	301%	279%	488%	479%	460%	443%	424%	426%	639%	626%	613%	600%	547%
35%	-3%	-12%	-24%	-29%	-11%	74%	130%	199%	199%	193%	311%	280%	259%	457%	448%	430%	414%	396%	398%	600%	588%	575%	563%	513%
36%	-3%	-12%	-24%	-29%	-11%	74%	130%	199%	199%	193%	311%	280%	259%	457%	448%	430%	414%	396%	398%	600%	588%	575%	563%	513%
37%	-11%	-19%	-30%	-35%	-18%	60%	130%	199%	199%	193%	311%	280%	259%	457%	448%	430%	414%	396%	398%	600%	588%	575%	563%	513%
38%	-15%	-22%	-33%	-38%	-18%	60%	130%	199%	199%	193%	311%	280%	259%	457%	448%	430%	414%	396%	398%	600%	588%	575%	563%	513%
39%	-15%	-22%	-33%	-38%	-18%	60%	130%	199%	199%	193%	311%	280%	259%	457%	448%	430%	414%	396%	398%	600%	588%	575%	563%	513%
40%	-17%	-25%	-35%	-40%	-20%	58%	125%	194%	194%	188%	303%	273%	252%	457%	448%	430%	414%	396%	398%	600%	588%	575%	563%	513%
41%	-19%	-26%	-36%	-41%	-21%	57%	124%	192%	192%	186%	302%	271%	251%	454%	445%	427%	411%	394%	392%	600%	588%	575%	563%	513%
42%	7%	0%	-13%	-17%	11%	56%	124%	192%	192%	186%	301%	270%	250%	453%	444%	427%	411%	394%	383%	600%	588%	575%	563%	513%
43%	-4%	-11%	-22%	-26%	-1%	40%	100%	161%	161%	155%	258%	230%	212%	415%	407%	390%	376%	359%	350%	552%	540%	528%	517%	470%
44%	-12%	-18%	-29%	-32%	-1%	40%	100%	161%	161%	155%	258%	230%	212%	415%	407%	390%	376%	359%	350%	552%	540%	528%	517%	470%
45%	-18%	-24%	-34%	-37%	-8%	30%	86%	151%	151%	146%	245%	218%	201%	397%	389%	373%	358%	343%	333%	552%	540%	528%	517%	470%
46%	-20%	-26%	-36%	-38%	-10%	30%	86%	151%	151%	146%	245%	218%	201%	397%	389%	373%	358%	343%	333%	552%	540%	528%	517%	470%
47%	10%	4%	-8%	-8%	33%	94%	84%	148%	148%	143%	245%	218%	201%	397%	389%	373%	358%	343%	333%	552%	540%	528%	517%	470%
48%	10%	4%	-8%	-8%	33%	94%	84%	148%	148%	143%	245%	218%	201%	397%	389%	373%	358%	343%	333%	552%	540%	528%	517%	470%
49%	49%	41%	29%	29%	95%	184%	169%	269%	269%	267%	460%	417%	406%	397%	389%	373%	358%	343%	333%	552%	540%	528%	517%	470%

Kordsa Filter Results

APPENDIX 3.12.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-34%	-32%	-30%	-35%	-34%	-16%	-13%	76%	42%	44%	20%	24%	3%	12%	-11%	20%	59%	108%	111%	132%	116%	143%	122%	56%	54%
2%	-34%	-25%	-32%	-39%	-38%	-30%	-22%	42%	-1%	1%	-11%	-8%	-17%	0%	-25%	7%	42%	73%	78%	102%	144%	105%	94%	50%	48%
3%	-31%	-25%	-32%	-37%	-35%	-38%	-19%	49%	5%	20%	-1%	-18%	-11%	-15%	-31%	0%	19%	53%	56%	78%	102%	74%	65%	24%	28%
4%	-25%	-13%	-10%	-6%	-9%	-8%	14%	104%	47%	35%	7%	-12%	-4%	-8%	-25%	18%	44%	95%	97%	115%	83%	58%	46%	39%	42%
5%	30%	58%	72%	85%	84%	72%	84%	157%	72%	41%	14%	-7%	12%	-8%	-24%	25%	56%	121%	121%	163%	62%	39%	88%	79%	83%
6%	-5%	16%	6%	31%	33%	42%	42%	109%	40%	37%	24%	-12%	8%	-5%	-21%	29%	63%	99%	110%	80%	11%	47%	41%	42%	26%
7%	10%	39%	29%	64%	65%	64%	76%	154%	56%	29%	17%	-13%	16%	2%	-15%	39%	78%	123%	131%	101%	53%	68%	76%	55%	49%
8%	10%	57%	60%	101%	82%	94%	82%	169%	88%	69%	58%	17%	25%	18%	-2%	40%	93%	143%	151%	131%	42%	58%	65%	42%	28%
9%	12%	62%	85%	126%	71%	37%	68%	205%	96%	91%	98%	52%	88%	64%	42%	75%	111%	126%	142%	134%	73%	112%	131%	126%	108%
10%	67%	138%	101%	139%	110%	68%	121%	321%	184%	148%	158%	101%	122%	97%	86%	129%	196%	143%	167%	158%	55%	89%	114%	118%	100%
11%	38%	86%	66%	113%	87%	49%	97%	289%	168%	134%	151%	96%	133%	66%	56%	93%	158%	111%	133%	125%	35%	65%	90%	93%	78%
12%	14%	78%	40%	86%	63%	45%	99%	342%	204%	166%	185%	124%	138%	69%	78%	48%	115%	77%	94%	88%	13%	38%	59%	77%	62%
13%	-18%	37%	22%	90%	42%	26%	73%	292%	169%	147%	181%	127%	141%	45%	53%	27%	85%	52%	70%	65%	-1%	22%	40%	56%	44%
14%	-30%	11%	-4%	30%	4%	16%	62%	221%	121%	103%	144%	97%	109%	26%	60%	33%	106%	69%	89%	83%	10%	1%	20%	58%	46%
15%	-21%	-4%	-15%	18%	-7%	3%	28%	159%	78%	66%	112%	75%	89%	14%	21%	1%	67%	37%	67%	62%	-3%	-6%	14%	50%	38%
16%	-35%	-22%	-32%	-1%	-21%	-37%	-16%	80%	24%	19%	59%	32%	43%	-14%	-8%	-24%	26%	3%	26%	22%	-27%	-29%	-11%	18%	8%
17%	-46%	-36%	-44%	-14%	-29%	-43%	-24%	63%	12%	-12%	18%	1%	23%	-26%	-21%	-35%	12%	-8%	13%	9%	-35%	-36%	-13%	14%	5%
18%	-31%	-17%	-27%	-8%	-24%	-39%	-13%	87%	36%	8%	44%	23%	49%	-2%	5%	-13%	57%	30%	67%	61%	-1%	-2%	36%	54%	41%
19%	7%	33%	17%	37%	12%	-10%	29%	93%	41%	12%	59%	36%	65%	11%	21%	1%	83%	56%	100%	96%	21%	22%	83%	108%	91%
20%	22%	57%	38%	24%	1%	-19%	17%	86%	36%	9%	60%	37%	67%	11%	25%	4%	95%	67%	126%	122%	51%	52%	63%	84%	70%
21%	87%	102%	67%	106%	78%	48%	120%	180%	119%	75%	125%	117%	168%	100%	124%	88%	137%	103%	175%	170%	83%	96%	110%	148%	129%
22%	46%	41%	26%	73%	49%	24%	84%	135%	84%	64%	123%	115%	165%	97%	121%	86%	152%	116%	193%	193%	125%	141%	159%	208%	183%
23%	69%	63%	53%	69%	53%	29%	54%	95%	53%	40%	90%	108%	175%	105%	130%	98%	171%	140%	225%	225%	156%	181%	201%	168%	147%
24%	96%	74%	64%	65%	55%	30%	55%	97%	54%	42%	113%	132%	207%	129%	157%	121%	203%	168%	198%	198%	135%	157%	176%	146%	127%
25%	19%	6%	0%	9%	3%	-14%	9%	38%	8%	-1%	49%	62%	129%	71%	92%	65%	138%	111%	135%	135%	85%	102%	118%	94%	78%
26%	8%	-4%	-9%	-1%	-6%	-22%	-2%	25%	-2%	-10%	35%	47%	108%	55%	74%	50%	116%	92%	113%	113%	68%	84%	97%	76%	62%
27%	50%	33%	12%	10%	-27%	-35%	-19%	8%	-16%	-23%	16%	27%	79%	34%	60%	38%	99%	76%	96%	96%	54%	69%	97%	75%	61%
28%	44%	28%	7%	5%	-31%	-38%	-22%	3%	-19%	-26%	11%	22%	72%	28%	54%	32%	91%	69%	88%	88%	48%	69%	97%	75%	61%
29%	32%	17%	-2%	-3%	-36%	-43%	-29%	-5%	-26%	-32%	11%	22%	72%	28%	54%	32%	91%	69%	88%	88%	48%	69%	97%	75%	61%
30%	43%	27%	20%	18%	-17%	-26%	-7%	24%	-3%	-11%	49%	63%	130%	113%	155%	119%	140%	113%	144%	144%	93%	128%	166%	136%	126%
31%	9%	-3%	-8%	-6%	-34%	-41%	-26%	-2%	-23%	-29%	18%	29%	98%	83%	119%	88%	107%	83%	110%	110%	65%	96%	128%	103%	94%
32%	-6%	-14%	-19%	-17%	-41%	-46%	-39%	-19%	-37%	-42%	6%	16%	78%	65%	97%	70%	99%	76%	103%	103%	60%	89%	121%	96%	87%
33%	-12%	-13%	-18%	-20%	-43%	-48%	-41%	-18%	-33%	-38%	13%	30%	114%	98%	137%	104%	140%	112%	147%	147%	110%	149%	191%	158%	147%
34%	-23%	-23%	-28%	-29%	-50%	-54%	-48%	-28%	-41%	-45%	0%	15%	108%	93%	131%	98%	133%	107%	141%	141%	105%	149%	191%	158%	147%
35%	-30%	-31%	-35%	-46%	-62%	-64%	-60%	-45%	-54%	-58%	-23%	-12%	60%	48%	94%	67%	97%	74%	119%	119%	86%	126%	164%	135%	124%
36%	-29%	-31%	-35%	-46%	-62%	-64%	-60%	-45%	-54%	-58%	-23%	-12%	60%	48%	94%	67%	97%	74%	119%	119%	86%	126%	164%	135%	124%
37%	-30%	-32%	-39%	-51%	-65%	-68%	-64%	-50%	-58%	-62%	-30%	-20%	46%	35%	77%	52%	79%	58%	99%	99%	69%	106%	140%	114%	104%
38%	-38%	-39%	-46%	-56%	-69%	-71%	-68%	-52%	-60%	-63%	-33%	-23%	39%	29%	69%	46%	71%	51%	90%	90%	62%	102%	140%	114%	104%
39%	-12%	-15%	-24%	-38%	-50%	-54%	-48%	-22%	-36%	-41%	-24%	-13%	66%	54%	102%	73%	104%	89%	138%	138%	112%	164%	214%	179%	179%
40%	16%	17%	4%	-16%	-28%	-34%	-25%	19%	-2%	-9%	22%	0%	90%	81%	138%	105%	146%	137%	199%	199%	192%	264%	205%	172%	172%
41%	4%	4%	-7%	-25%	-36%	-41%	-33%	6%	-12%	-19%	9%	-11%	70%	63%	114%	84%	140%	131%	191%	191%	184%	264%	205%	172%	172%
42%	-14%	-6%	-16%	-32%	-42%	-46%	-39%	-4%	-21%	-27%	-2%	-20%	66%	59%	109%	80%	135%	126%	185%	185%	178%	257%	199%	166%	166%
43%	-32%	-25%	-33%	-9%	-22%	-28%	-19%	29%	6%	-2%	32%	8%	124%	114%	87%	61%	109%	102%	154%	154%	148%	218%	166%	137%	137%
44%	-32%	-26%	-34%	-10%	-23%	-29%	-19%	27%	5%	-3%	31%	7%	122%	112%	85%	59%	108%	100%	152%	152%	146%	215%	164%	135%	135%
45%	12%	31%	17%	72%	57%	40%	32%	109%	73%	60%	84%	51%	98%	90%	66%	42%	86%	79%	129%	129%	123%	190%	143%	116%	116%
46%	9%	28%	14%	67%	53%	37%	29%	104%	68%	56%	79%	47%	93%	85%	61%	39%	81%	74%	123%	123%	117%	182%	136%	110%	110%
47%	69%	100%	78%	78%	63%	45%	37%	117%	82%	68%	97%	67%	119%	110%	100%	72%	124%	116%	112%	112%	107%	182%	136%	110%	110%
48%	71%	93%	72%	98%	81%	63%	62%	143%	103%	88%	130%	110%	130%	113%	102%	80%	129%	113%	119%	119%	95%	165%	121%	96%	96%
49%	41%	59%	50%	54%	41%	28%	106%	213%	165%	151%	206%	183%	214%	200%	185%	153%	108%	93%	98%	98%	76%	140%	100%	78%	78%

Koruma Tarim Filter Results

APPENDIX 3.13.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	156%	198%	157%	180%	214%	271%	323%	260%	260%	214%	216%	200%	182%	218%	187%	182%	186%	174%	179%	209%	290%	284%	259%	215%
2%	143%	160%	124%	145%	174%	213%	269%	215%	215%	174%	176%	162%	146%	178%	150%	171%	175%	163%	183%	209%	290%	284%	259%	215%
3%	114%	135%	84%	134%	162%	192%	273%	218%	218%	178%	163%	150%	145%	162%	136%	156%	175%	163%	183%	202%	302%	296%	271%	233%
4%	108%	128%	79%	136%	173%	192%	288%	231%	231%	189%	173%	160%	155%	162%	136%	152%	171%	159%	183%	202%	275%	269%	246%	211%
5%	95%	115%	69%	124%	162%	192%	253%	201%	201%	163%	149%	136%	132%	138%	115%	126%	142%	145%	169%	185%	251%	245%	223%	191%
6%	34%	73%	35%	80%	121%	165%	197%	153%	153%	121%	109%	99%	95%	100%	81%	90%	104%	124%	165%	145%	202%	197%	178%	188%
7%	61%	108%	63%	112%	165%	149%	177%	137%	137%	106%	95%	86%	82%	100%	81%	90%	104%	183%	235%	209%	202%	197%	178%	188%
8%	40%	89%	48%	91%	141%	207%	153%	116%	116%	88%	78%	69%	82%	100%	81%	75%	87%	160%	195%	196%	189%	184%	166%	175%
9%	107%	126%	77%	107%	161%	232%	174%	134%	134%	104%	93%	83%	97%	117%	96%	89%	87%	160%	195%	196%	189%	184%	166%	175%
10%	102%	120%	76%	102%	160%	230%	172%	132%	132%	102%	95%	86%	100%	120%	98%	92%	96%	171%	208%	240%	189%	184%	166%	175%
11%	79%	96%	56%	88%	153%	222%	165%	126%	126%	97%	90%	81%	95%	114%	93%	87%	91%	164%	200%	232%	181%	177%	159%	168%
12%	68%	95%	53%	77%	144%	226%	168%	129%	129%	100%	93%	83%	97%	117%	95%	87%	91%	164%	181%	201%	156%	151%	136%	144%
13%	49%	72%	35%	77%	144%	226%	168%	129%	129%	100%	93%	83%	97%	117%	95%	87%	91%	164%	181%	201%	156%	151%	136%	144%
14%	51%	75%	37%	80%	148%	205%	151%	133%	133%	103%	137%	125%	142%	129%	107%	97%	110%	191%	210%	232%	181%	177%	159%	168%
15%	51%	75%	37%	70%	148%	205%	151%	133%	133%	103%	137%	125%	142%	129%	107%	97%	110%	191%	210%	232%	181%	177%	159%	168%
16%	18%	37%	8%	46%	115%	165%	118%	102%	102%	76%	110%	100%	115%	104%	84%	75%	87%	169%	193%	214%	166%	162%	145%	154%
17%	15%	33%	4%	41%	108%	165%	118%	102%	102%	76%	110%	100%	115%	104%	84%	75%	87%	169%	193%	204%	158%	154%	138%	146%
18%	55%	47%	16%	56%	141%	206%	152%	133%	133%	104%	119%	109%	141%	128%	105%	97%	109%	201%	189%	204%	158%	154%	138%	146%
19%	109%	99%	57%	127%	249%	222%	175%	144%	144%	130%	127%	116%	150%	146%	122%	103%	137%	242%	212%	204%	158%	154%	138%	146%
20%	86%	77%	39%	101%	210%	186%	144%	117%	117%	104%	102%	92%	122%	119%	97%	80%	117%	213%	186%	179%	136%	132%	118%	125%
21%	153%	142%	94%	94%	202%	179%	138%	112%	112%	99%	97%	87%	116%	113%	92%	76%	112%	208%	182%	175%	133%	129%	115%	122%
22%	214%	199%	140%	140%	274%	274%	220%	184%	184%	168%	110%	100%	131%	128%	105%	87%	126%	243%	214%	206%	159%	155%	139%	179%
23%	177%	164%	112%	109%	233%	233%	184%	152%	152%	138%	87%	78%	105%	102%	82%	66%	120%	234%	205%	197%	152%	148%	132%	172%
24%	170%	158%	107%	92%	227%	227%	180%	148%	148%	134%	84%	75%	102%	99%	79%	64%	116%	228%	200%	192%	148%	144%	128%	167%
25%	113%	103%	63%	60%	227%	227%	180%	148%	148%	134%	84%	75%	102%	99%	79%	64%	116%	228%	200%	192%	148%	144%	128%	167%
26%	93%	84%	48%	46%	197%	197%	154%	125%	125%	112%	67%	59%	83%	81%	63%	49%	96%	198%	172%	165%	125%	121%	107%	142%
27%	93%	84%	48%	31%	166%	166%	128%	102%	102%	91%	50%	42%	70%	68%	51%	38%	82%	190%	165%	158%	119%	115%	102%	136%
28%	93%	84%	48%	31%	166%	166%	128%	102%	102%	91%	50%	42%	70%	68%	51%	38%	82%	190%	165%	158%	119%	115%	102%	136%
29%	93%	84%	48%	31%	166%	166%	128%	102%	102%	91%	50%	42%	70%	68%	51%	38%	82%	190%	165%	158%	119%	115%	102%	136%
30%	169%	157%	123%	97%	302%	302%	244%	218%	218%	200%	157%	144%	192%	188%	159%	148%	227%	421%	400%	387%	323%	316%	301%	235%
31%	131%	121%	92%	69%	245%	245%	195%	173%	173%	157%	121%	110%	169%	165%	139%	128%	201%	379%	359%	347%	289%	283%	268%	208%
32%	131%	121%	92%	63%	245%	245%	195%	173%	173%	157%	121%	110%	169%	165%	139%	128%	201%	379%	359%	347%	289%	283%	268%	208%
33%	119%	109%	81%	56%	231%	231%	183%	162%	162%	147%	111%	101%	157%	154%	129%	119%	188%	379%	359%	347%	289%	283%	268%	208%
34%	119%	109%	81%	56%	231%	231%	183%	162%	162%	147%	111%	101%	157%	154%	129%	119%	188%	379%	359%	347%	289%	283%	268%	208%
35%	99%	90%	65%	42%	201%	201%	157%	138%	138%	124%	92%	82%	134%	130%	108%	98%	188%	379%	359%	347%	289%	283%	268%	208%
36%	99%	90%	65%	42%	201%	201%	157%	138%	138%	124%	92%	82%	134%	130%	108%	98%	188%	379%	359%	347%	289%	283%	268%	208%
37%	81%	73%	50%	29%	190%	190%	148%	129%	129%	116%	85%	76%	125%	122%	100%	91%	177%	361%	342%	331%	275%	269%	254%	197%
38%	81%	73%	50%	29%	190%	190%	148%	129%	129%	116%	85%	76%	125%	122%	100%	91%	177%	361%	342%	331%	275%	269%	254%	197%
39%	148%	137%	115%	86%	315%	315%	279%	250%	250%	230%	199%	184%	263%	263%	237%	222%	381%	347%	329%	318%	264%	258%	244%	188%
40%	141%	130%	109%	81%	304%	304%	268%	241%	241%	221%	190%	176%	263%	263%	237%	222%	381%	347%	329%	318%	264%	258%	244%	188%
41%	141%	130%	109%	81%	304%	304%	268%	241%	241%	221%	190%	176%	263%	263%	237%	222%	381%	347%	329%	318%	264%	258%	244%	188%
42%	136%	126%	105%	77%	296%	296%	261%	233%	233%	214%	184%	170%	256%	256%	230%	215%	371%	338%	320%	309%	256%	250%	237%	182%
43%	110%	101%	83%	58%	253%	253%	221%	197%	197%	180%	153%	141%	217%	217%	194%	181%	320%	290%	275%	265%	217%	212%	200%	151%
44%	109%	99%	81%	56%	250%	250%	218%	194%	194%	178%	151%	139%	217%	217%	194%	181%	320%	290%	275%	265%	217%	212%	200%	151%
45%	92%	83%	67%	44%	236%	236%	206%	183%	183%	167%	141%	129%	204%	204%	182%	170%	303%	275%	260%	250%	205%	200%	188%	141%
46%	87%	78%	62%	40%	227%	227%	198%	175%	175%	159%	135%	123%	204%	204%	182%	170%	303%	275%	260%	250%	205%	200%	188%	141%
47%	87%	78%	62%	40%	227%	227%	198%	175%	175%	159%	135%	123%	204%	204%	182%	170%	303%	275%	260%	250%	205%	200%	188%	141%
48%	74%	66%	51%	31%	205%	205%	178%	157%	157%	142%	119%	108%	184%	184%	163%	152%	303%	275%	260%	250%	205%	200%	188%	141%
49%	58%	51%	37%	18%	181%	181%	156%	137%	137%	123%	102%	92%	162%	162%	142%	132%	271%	245%	231%	223%	181%	176%	165%	122%

Koruma Tarim Filter Results

APPENDIX 3.13.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-57%	-66%	-75%	-85%	-79%	-74%	-74%	-74%	-85%	-67%	-50%	-12%	2%	32%	31%	-18%	-12%	-41%	-31%	-43%	-42%	-27%	-5%	2%	-30%
2%	-61%	-73%	-80%	-88%	-83%	-80%	-81%	-76%	-86%	-70%	-46%	-23%	-10%	14%	21%	-24%	-19%	-31%	-17%	-43%	-43%	-32%	-12%	-5%	-35%
3%	-58%	-71%	-80%	-88%	-87%	-85%	-87%	-80%	-88%	-77%	-58%	-39%	-30%	-12%	2%	-36%	-33%	-43%	-28%	-51%	-51%	-42%	-24%	-18%	-40%
4%	-37%	-57%	-69%	-78%	-77%	-77%	-82%	-77%	-86%	-74%	-56%	-41%	-30%	-11%	5%	-35%	-41%	-53%	-40%	-59%	-59%	-49%	-34%	-29%	-20%
5%	21%	-17%	-42%	-56%	-61%	-68%	-76%	-66%	-78%	-64%	-44%	-25%	-17%	-15%	0%	-35%	-39%	-52%	-33%	-53%	-51%	-38%	-19%	-11%	-26%
6%	23%	-11%	-38%	-58%	-62%	-60%	-70%	-56%	-68%	-44%	-35%	-4%	-7%	5%	-13%	-39%	-53%	-62%	-46%	-64%	-62%	-52%	-37%	-33%	-44%
7%	59%	19%	-17%	-35%	-47%	-46%	-56%	-42%	-55%	-21%	-7%	12%	12%	27%	-15%	-28%	-44%	-54%	-48%	-61%	-59%	-44%	-47%	-48%	-56%
8%	58%	18%	-12%	-19%	-34%	-34%	-45%	-35%	-47%	-12%	-3%	1%	8%	39%	-2%	-18%	-36%	-45%	-38%	-53%	-50%	-48%	-51%	-54%	-50%
9%	113%	85%	41%	39%	18%	29%	7%	38%	14%	40%	71%	68%	62%	64%	5%	-7%	-27%	-53%	-47%	-60%	-58%	-59%	-57%	-57%	-54%
10%	217%	175%	114%	111%	92%	121%	88%	169%	107%	185%	249%	267%	291%	250%	124%	110%	71%	14%	35%	6%	25%	23%	32%	53%	67%
11%	341%	359%	258%	261%	254%	382%	264%	421%	243%	223%	295%	269%	305%	298%	146%	144%	98%	32%	57%	16%	6%	4%	11%	29%	55%
12%	394%	414%	302%	305%	318%	403%	325%	621%	325%	211%	327%	298%	285%	278%	134%	132%	91%	27%	59%	23%	12%	10%	18%	43%	71%
13%	363%	382%	276%	279%	306%	377%	303%	583%	310%	237%	362%	331%	317%	309%	153%	151%	107%	38%	72%	42%	29%	27%	36%	65%	59%
14%	466%	500%	369%	382%	443%	406%	328%	642%	345%	217%	334%	315%	301%	303%	149%	164%	119%	49%	86%	57%	43%	8%	16%	40%	43%
15%	575%	487%	359%	404%	468%	430%	334%	763%	418%	295%	442%	417%	268%	270%	128%	143%	101%	37%	78%	51%	37%	3%	11%	34%	37%
16%	381%	319%	227%	259%	305%	277%	230%	602%	321%	222%	341%	321%	199%	201%	86%	97%	71%	16%	52%	28%	16%	-12%	-6%	14%	17%
17%	642%	547%	420%	514%	607%	580%	494%	892%	570%	411%	601%	462%	323%	325%	178%	201%	160%	88%	145%	121%	100%	51%	69%	119%	124%
18%	738%	630%	488%	595%	699%	746%	658%	882%	585%	423%	653%	504%	355%	357%	209%	234%	223%	133%	212%	180%	154%	92%	115%	178%	184%
19%	525%	444%	338%	418%	496%	530%	465%	632%	411%	290%	461%	350%	239%	240%	130%	177%	167%	93%	158%	144%	121%	67%	87%	142%	147%
20%	413%	346%	259%	325%	428%	323%	279%	426%	285%	194%	323%	239%	168%	206%	107%	149%	180%	103%	109%	98%	90%	43%	68%	60%	72%
21%	392%	329%	256%	283%	377%	329%	285%	434%	316%	218%	358%	267%	190%	264%	155%	243%	199%	124%	131%	127%	117%	64%	100%	90%	105%
22%	258%	224%	169%	190%	260%	231%	196%	319%	221%	145%	253%	183%	124%	217%	122%	199%	160%	95%	101%	98%	89%	43%	74%	65%	78%
23%	357%	313%	243%	270%	360%	322%	262%	460%	328%	227%	371%	277%	198%	203%	113%	186%	149%	86%	92%	89%	81%	37%	67%	58%	71%
24%	512%	454%	359%	395%	369%	331%	286%	498%	366%	256%	447%	339%	254%	260%	163%	254%	208%	136%	143%	144%	134%	81%	125%	114%	136%
25%	567%	503%	400%	440%	411%	369%	320%	551%	408%	334%	630%	485%	372%	380%	296%	433%	364%	255%	266%	208%	194%	127%	184%	170%	130%
26%	462%	408%	322%	355%	331%	296%	273%	477%	350%	285%	547%	447%	341%	349%	270%	276%	227%	150%	182%	137%	127%	75%	138%	126%	93%
27%	840%	749%	604%	660%	620%	561%	534%	882%	738%	617%	555%	454%	347%	354%	284%	290%	258%	174%	208%	159%	148%	112%	189%	175%	135%
28%	731%	651%	523%	572%	537%	485%	427%	769%	641%	534%	480%	390%	295%	302%	239%	245%	217%	142%	173%	129%	119%	88%	156%	143%	108%
29%	664%	590%	472%	517%	485%	437%	384%	769%	641%	534%	480%	390%	295%	302%	239%	245%	217%	142%	173%	129%	119%	88%	156%	143%	108%
30%	561%	498%	396%	435%	407%	365%	347%	702%	584%	485%	435%	352%	265%	271%	213%	219%	192%	124%	152%	111%	102%	73%	136%	124%	92%
31%	443%	390%	307%	339%	316%	282%	266%	558%	461%	380%	339%	271%	199%	231%	180%	184%	161%	100%	125%	89%	81%	55%	111%	100%	71%
32%	443%	390%	307%	339%	316%	282%	266%	558%	461%	380%	339%	271%	199%	231%	180%	184%	161%	100%	125%	89%	81%	55%	111%	100%	71%
33%	417%	367%	288%	318%	296%	264%	249%	527%	435%	358%	318%	254%	185%	216%	167%	171%	149%	90%	114%	80%	72%	48%	101%	91%	63%
34%	348%	305%	236%	262%	243%	215%	202%	443%	363%	296%	262%	206%	147%	173%	131%	135%	115%	65%	85%	56%	49%	28%	74%	65%	41%
35%	326%	285%	220%	245%	227%	200%	188%	346%	280%	225%	197%	151%	103%	124%	90%	93%	77%	35%	52%	28%	22%	5%	43%	36%	16%
36%	293%	255%	195%	218%	201%	177%	165%	311%	251%	200%	174%	132%	87%	107%	75%	89%	73%	32%	49%	25%	20%	3%	40%	33%	13%
37%	293%	255%	195%	218%	201%	177%	160%	311%	251%	200%	174%	132%	87%	107%	75%	89%	73%	32%	49%	25%	20%	3%	40%	33%	13%
38%	277%	241%	183%	205%	189%	165%	155%	302%	260%	208%	181%	138%	101%	123%	88%	103%	91%	46%	31%	10%	5%	-10%	28%	22%	4%
39%	292%	254%	212%	236%	218%	192%	160%	343%	322%	261%	230%	179%	136%	179%	136%	155%	139%	83%	64%	48%	42%	22%	72%	64%	45%
40%	218%	188%	153%	173%	159%	135%	123%	288%	269%	216%	189%	144%	107%	145%	107%	123%	110%	61%	44%	30%	24%	7%	51%	43%	27%
41%	207%	177%	144%	163%	149%	126%	115%	274%	256%	204%	178%	135%	99%	136%	99%	115%	102%	55%	39%	25%	20%	3%	45%	38%	23%
42%	178%	151%	121%	138%	126%	105%	95%	239%	222%	176%	152%	113%	80%	113%	80%	95%	83%	40%	26%	13%	8%	-7%	32%	25%	11%
43%	198%	184%	156%	171%	216%	169%	155%	168%	155%	118%	99%	68%	43%	82%	54%	66%	56%	20%	7%	-3%	-7%	-21%	15%	9%	-3%
44%	198%	184%	156%	171%	191%	147%	135%	146%	134%	100%	83%	55%	31%	68%	42%	66%	56%	20%	7%	-3%	-7%	-21%	15%	9%	-3%
45%	236%	220%	189%	205%	228%	179%	165%	203%	188%	147%	125%	90%	61%	106%	74%	125%	112%	62%	45%	31%	25%	7%	55%	55%	38%
46%	263%	253%	219%	244%	269%	242%	225%	272%	254%	203%	177%	134%	98%	165%	124%	189%	172%	119%	96%	77%	69%	53%	50%	50%	33%
47%	192%	185%	157%	177%	197%	176%	162%	200%	186%	144%	123%	89%	60%	114%	81%	133%	120%	76%	58%	43%	37%	23%	21%	21%	7%
48%	192%	185%	157%	177%	197%	176%	162%	200%	186%	144%	123%	89%	60%	114%	81%	133%	120%	76%	58%	43%	37%	23%	21%	21%	7%
49%	219%	210%	180%	202%	224%	201%	186%	227%	197%	154%	132%	107%	67%	124%	89%	144%	130%	85%	49%	34%	28%	16%	18%	18%	5%

Metas Filter Results

APPENDIX 3.14.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	38%	39%	30%	76%	63%	60%	18%	84%	71%	68%	57%	57%	131%	90%	143%	137%	97%	84%	108%	84%	122%	178%	172%	124%
2%	29%	30%	30%	76%	61%	60%	18%	84%	71%	68%	57%	57%	131%	90%	143%	137%	97%	84%	108%	84%	122%	178%	172%	124%
3%	29%	30%	20%	63%	47%	44%	9%	71%	58%	55%	45%	44%	131%	90%	143%	137%	97%	84%	108%	84%	122%	173%	172%	124%
4%	33%	21%	12%	57%	42%	39%	6%	65%	53%	50%	50%	50%	140%	98%	143%	138%	97%	85%	108%	84%	122%	173%	173%	125%
5%	20%	9%	-4%	30%	17%	17%	1%	58%	43%	121%	122%	121%	220%	164%	223%	216%	162%	145%	108%	88%	126%	173%	167%	125%
6%	-2%	-11%	-20%	13%	-1%	9%	3%	61%	52%	121%	122%	121%	199%	146%	223%	216%	162%	145%	108%	88%	121%	166%	161%	125%
7%	23%	11%	1%	51%	32%	46%	50%	44%	28%	102%	102%	102%	153%	108%	199%	192%	142%	127%	92%	74%	104%	146%	141%	125%
8%	48%	34%	22%	51%	29%	43%	47%	41%	28%	102%	102%	102%	153%	108%	227%	219%	165%	206%	159%	134%	124%	181%	175%	162%
9%	26%	14%	8%	59%	37%	57%	62%	55%	18%	87%	87%	83%	189%	138%	215%	208%	155%	195%	149%	125%	116%	170%	164%	152%
10%	114%	94%	103%	100%	64%	88%	94%	86%	121%	196%	197%	191%	189%	138%	296%	287%	220%	270%	213%	183%	159%	224%	217%	300%
11%	98%	85%	87%	84%	51%	73%	79%	71%	101%	170%	170%	165%	189%	138%	278%	269%	206%	254%	199%	170%	147%	209%	203%	300%
12%	134%	115%	132%	129%	107%	138%	145%	134%	175%	129%	146%	141%	163%	117%	243%	236%	178%	221%	172%	146%	125%	181%	175%	264%
13%	117%	99%	97%	95%	76%	103%	109%	100%	135%	96%	110%	105%	124%	85%	193%	186%	137%	174%	132%	110%	92%	140%	135%	210%
14%	96%	80%	86%	95%	76%	91%	97%	89%	122%	85%	98%	94%	128%	88%	177%	170%	124%	174%	132%	110%	92%	140%	135%	210%
15%	88%	77%	84%	92%	74%	89%	97%	89%	122%	85%	98%	94%	128%	88%	177%	170%	124%	174%	132%	110%	92%	140%	135%	210%
16%	60%	51%	57%	64%	48%	61%	68%	61%	106%	72%	84%	80%	106%	69%	149%	143%	101%	147%	109%	89%	72%	116%	111%	204%
17%	123%	110%	118%	86%	69%	57%	68%	61%	106%	72%	84%	80%	106%	69%	149%	143%	101%	147%	109%	89%	72%	116%	111%	204%
18%	132%	95%	102%	73%	56%	45%	55%	49%	91%	59%	70%	67%	90%	57%	137%	132%	92%	135%	99%	80%	64%	112%	107%	199%
19%	102%	70%	92%	64%	48%	38%	48%	42%	81%	51%	62%	59%	81%	49%	125%	120%	83%	123%	89%	71%	56%	101%	97%	184%
20%	41%	18%	47%	25%	13%	6%	19%	14%	46%	22%	43%	40%	60%	32%	99%	95%	61%	119%	86%	68%	53%	98%	94%	179%
21%	74%	46%	82%	62%	46%	36%	66%	59%	103%	77%	108%	104%	144%	101%	79%	75%	45%	97%	67%	51%	38%	98%	94%	179%
22%	52%	27%	58%	41%	27%	18%	44%	38%	77%	54%	82%	78%	124%	85%	64%	60%	33%	81%	53%	38%	26%	81%	78%	156%
23%	45%	22%	51%	35%	22%	13%	38%	32%	69%	48%	74%	70%	114%	77%	57%	53%	27%	73%	46%	32%	21%	74%	70%	145%
24%	101%	73%	115%	96%	86%	73%	111%	103%	82%	59%	84%	77%	114%	77%	57%	53%	27%	73%	46%	32%	21%	74%	70%	145%
25%	96%	68%	109%	91%	81%	69%	122%	113%	92%	67%	93%	86%	126%	86%	65%	62%	34%	82%	54%	39%	27%	83%	79%	158%
26%	65%	41%	76%	60%	52%	42%	102%	94%	75%	52%	76%	69%	105%	69%	50%	47%	22%	65%	40%	27%	16%	66%	63%	134%
27%	100%	72%	113%	100%	91%	78%	171%	159%	134%	104%	139%	134%	230%	172%	147%	141%	107%	182%	154%	129%	110%	207%	207%	123%
28%	77%	52%	88%	77%	69%	57%	139%	129%	107%	80%	112%	107%	192%	141%	118%	113%	83%	150%	124%	103%	85%	172%	172%	97%
29%	77%	52%	88%	77%	69%	57%	139%	129%	107%	80%	112%	107%	192%	141%	118%	113%	83%	150%	124%	103%	85%	172%	172%	97%
30%	63%	40%	88%	77%	69%	57%	139%	129%	107%	80%	112%	107%	192%	141%	118%	113%	83%	150%	124%	103%	85%	172%	172%	97%
31%	45%	25%	83%	72%	64%	53%	133%	123%	101%	75%	112%	107%	192%	141%	118%	113%	83%	150%	124%	103%	85%	172%	172%	97%
32%	45%	25%	83%	72%	64%	53%	133%	123%	101%	75%	112%	107%	192%	141%	118%	113%	83%	150%	124%	103%	85%	172%	172%	97%
33%	39%	19%	74%	64%	56%	45%	122%	112%	91%	67%	102%	97%	178%	129%	108%	103%	75%	138%	114%	93%	77%	159%	159%	88%
34%	20%	3%	51%	42%	35%	26%	92%	84%	66%	44%	75%	71%	141%	99%	80%	76%	51%	127%	104%	84%	68%	147%	147%	79%
35%	-1%	-15%	24%	17%	11%	3%	69%	62%	46%	27%	58%	55%	119%	80%	63%	60%	37%	106%	85%	67%	53%	147%	147%	79%
36%	-4%	-17%	21%	14%	9%	1%	69%	62%	46%	27%	58%	55%	119%	80%	63%	60%	37%	106%	85%	67%	53%	147%	147%	79%
37%	-4%	-17%	21%	14%	9%	1%	69%	62%	46%	27%	58%	55%	119%	80%	63%	60%	37%	106%	85%	67%	53%	147%	147%	79%
38%	-12%	-24%	11%	5%	0%	-7%	55%	49%	34%	17%	45%	42%	100%	65%	50%	46%	26%	88%	69%	53%	40%	126%	126%	64%
39%	24%	6%	7%	1%	-4%	-11%	51%	45%	30%	14%	45%	42%	100%	65%	50%	46%	26%	88%	69%	53%	40%	126%	126%	64%
40%	8%	-7%	-6%	-12%	-16%	-22%	34%	28%	15%	0%	29%	26%	77%	46%	33%	30%	11%	67%	50%	36%	24%	100%	100%	45%
41%	4%	-10%	-6%	-12%	-16%	-22%	34%	28%	15%	0%	29%	26%	77%	46%	33%	30%	11%	67%	50%	36%	24%	100%	100%	45%
42%	-5%	-19%	-15%	-20%	-24%	-29%	22%	17%	6%	-8%	18%	15%	77%	46%	33%	30%	11%	67%	50%	36%	24%	100%	100%	45%
43%	-18%	-29%	-26%	-30%	-34%	-38%	13%	9%	-2%	-15%	18%	15%	77%	46%	33%	30%	11%	67%	50%	36%	24%	100%	100%	45%
44%	-18%	-29%	-26%	-30%	-34%	-38%	13%	9%	-2%	-15%	18%	15%	77%	46%	33%	30%	11%	67%	50%	36%	24%	100%	100%	45%
45%	17%	6%	11%	5%	0%	-2%	77%	69%	52%	41%	95%	91%	194%	158%	134%	129%	97%	97%	77%	60%	46%	137%	137%	71%
46%	13%	3%	11%	5%	0%	-2%	77%	69%	52%	41%	95%	91%	194%	158%	134%	129%	97%	97%	77%	60%	46%	137%	137%	71%
47%	-9%	-17%	-10%	-15%	-20%	-21%	43%	37%	23%	14%	57%	54%	137%	109%	89%	85%	59%	59%	43%	29%	18%	91%	91%	38%
48%	-9%	-17%	-10%	-15%	-20%	-21%	43%	37%	23%	14%	57%	54%	137%	109%	89%	85%	59%	59%	43%	29%	18%	91%	91%	38%
49%	-11%	-19%	-12%	-17%	-21%	-23%	39%	33%	20%	11%	54%	51%	132%	104%	85%	81%	55%	55%	40%	26%	15%	91%	91%	38%

Metas Filter Results

APPENDIX 3.14.b

x%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
y%																									
1%	85%	114%	190%	118%	88%	81%	148%	119%	255%	301%	670%	499%	328%	354%	437%	624%	513%	622%	619%	776%	760%	538%	490%	716%	1080%
2%	90%	107%	236%	140%	91%	113%	268%	185%	484%	473%	506%	482%	349%	410%	487%	850%	702%	873%	731%	701%	802%	565%	532%	721%	1066%
3%	61%	63%	197%	106%	93%	70%	138%	68%	322%	374%	464%	407%	333%	402%	481%	671%	553%	692%	603%	577%	661%	461%	434%	650%	965%
4%	91%	97%	326%	202%	160%	113%	145%	107%	361%	443%	557%	434%	355%	432%	518%	634%	521%	653%	620%	596%	682%	478%	578%	782%	913%
5%	33%	84%	292%	192%	133%	98%	99%	92%	274%	344%	385%	261%	221%	312%	444%	592%	505%	685%	590%	565%	619%	432%	524%	711%	913%
6%	101%	232%	586%	436%	543%	433%	255%	225%	516%	573%	576%	419%	294%	463%	625%	822%	713%	789%	695%	680%	535%	370%	461%	629%	817%
7%	84%	209%	396%	295%	427%	290%	172%	138%	391%	489%	525%	379%	263%	378%	522%	690%	627%	695%	583%	570%	446%	304%	381%	538%	737%
8%	28%	123%	247%	211%	300%	241%	140%	147%	523%	690%	738%	542%	388%	574%	697%	992%	896%	987%	835%	849%	674%	511%	629%	904%	1220%
9%	82%	159%	254%	214%	239%	192%	118%	100%	310%	417%	450%	358%	254%	389%	479%	765%	698%	772%	689%	702%	554%	416%	515%	765%	1038%
10%	139%	167%	174%	143%	166%	129%	88%	98%	306%	414%	476%	390%	337%	550%	733%	945%	940%	887%	803%	811%	676%	513%	632%	670%	970%
11%	9%	27%	47%	33%	67%	46%	45%	61%	230%	348%	369%	309%	266%	449%	638%	861%	863%	816%	738%	791%	662%	504%	437%	537%	798%
12%	18%	47%	44%	17%	50%	35%	67%	106%	346%	439%	505%	487%	466%	610%	878%	1218%	1144%	1080%	916%	998%	874%	671%	585%	713%	1046%
13%	52%	111%	113%	51%	111%	91%	128%	136%	321%	408%	369%	386%	370%	508%	774%	897%	820%	772%	651%	711%	620%	471%	407%	502%	774%
14%	88%	120%	87%	31%	94%	75%	112%	92%	273%	354%	337%	354%	363%	515%	645%	750%	725%	683%	574%	640%	557%	420%	361%	448%	730%
15%	31%	52%	30%	-9%	35%	26%	66%	50%	191%	255%	270%	285%	292%	421%	531%	622%	599%	564%	522%	584%	507%	379%	327%	407%	666%
16%	0%	17%	-8%	-35%	-4%	-10%	18%	6%	107%	151%	163%	177%	182%	289%	369%	436%	470%	442%	407%	476%	453%	339%	290%	363%	666%
17%	15%	37%	8%	-23%	14%	-12%	20%	-9%	89%	137%	148%	164%	124%	226%	334%	406%	437%	410%	379%	444%	422%	313%	268%	336%	633%
18%	1%	22%	-4%	-25%	22%	-5%	2%	-20%	84%	158%	171%	229%	179%	310%	461%	616%	668%	643%	615%	733%	744%	582%	507%	455%	921%
19%	-11%	10%	37%	11%	47%	24%	-6%	-26%	70%	158%	172%	171%	129%	237%	362%	500%	544%	522%	498%	597%	606%	471%	408%	365%	771%
20%	-30%	-13%	9%	-12%	25%	5%	-18%	-35%	44%	118%	129%	131%	118%	230%	281%	392%	436%	419%	398%	509%	517%	400%	343%	318%	684%
21%	51%	54%	52%	23%	37%	15%	-8%	-25%	73%	163%	144%	199%	194%	346%	414%	622%	714%	688%	658%	852%	909%	807%	705%	660%	1059%
22%	51%	54%	52%	27%	41%	18%	0%	-18%	89%	187%	166%	231%	224%	398%	339%	518%	595%	575%	548%	714%	763%	676%	588%	549%	891%
23%	68%	58%	56%	30%	60%	34%	31%	7%	158%	292%	265%	355%	234%	454%	389%	618%	710%	683%	655%	861%	946%	841%	760%	727%	1183%
24%	28%	20%	29%	8%	33%	11%	9%	-11%	114%	226%	231%	312%	205%	403%	345%	618%	710%	683%	655%	861%	946%	841%	760%	727%	1183%
25%	8%	1%	9%	-10%	11%	-6%	-9%	-25%	80%	173%	177%	246%	156%	370%	316%	571%	656%	630%	605%	797%	878%	779%	705%	672%	1097%
26%	-4%	0%	7%	-11%	9%	-8%	-3%	-21%	66%	173%	178%	246%	156%	371%	316%	571%	790%	760%	511%	703%	802%	712%	644%	621%	1054%
27%	34%	41%	11%	-8%	-13%	-27%	-23%	-37%	24%	103%	107%	177%	105%	278%	234%	486%	728%	703%	469%	649%	741%	657%	592%	583%	1037%
28%	61%	70%	33%	11%	5%	-12%	0%	-18%	37%	124%	129%	225%	141%	214%	178%	387%	588%	567%	373%	522%	599%	528%	475%	467%	845%
29%	31%	38%	17%	-3%	-8%	-18%	-6%	-24%	17%	107%	111%	218%	134%	205%	169%	371%	603%	582%	384%	394%	456%	401%	357%	368%	680%
30%	17%	23%	4%	-13%	-18%	-27%	-16%	-32%	4%	85%	88%	182%	109%	172%	141%	321%	528%	508%	331%	304%	396%	346%	307%	318%	595%
31%	12%	17%	-1%	-17%	-22%	-30%	-20%	-35%	0%	76%	79%	170%	99%	160%	129%	301%	500%	479%	311%	285%	373%	325%	290%	299%	595%
32%	-1%	5%	-11%	-26%	-30%	-37%	-29%	-42%	-11%	70%	73%	160%	93%	151%	121%	286%	478%	461%	298%	272%	356%	310%	276%	285%	595%
33%	-18%	-14%	-23%	-36%	-39%	-46%	-42%	-50%	-18%	56%	59%	139%	85%	158%	129%	300%	557%	544%	369%	380%	506%	445%	399%	418%	892%
34%	-28%	-25%	-32%	-44%	-47%	-52%	-46%	-54%	-25%	44%	47%	121%	71%	140%	111%	271%	506%	495%	335%	344%	460%	404%	361%	418%	892%
35%	-16%	-11%	-21%	-34%	-37%	-44%	-32%	-42%	-5%	83%	86%	180%	119%	213%	176%	399%	718%	702%	528%	542%	708%	627%	567%	409%	875%
36%	-30%	-34%	-41%	-49%	-52%	-57%	-48%	-55%	-31%	32%	46%	119%	72%	145%	116%	324%	639%	625%	467%	479%	630%	556%	503%	360%	812%
37%	-12%	-24%	-32%	-42%	-42%	-46%	-31%	-38%	-16%	65%	83%	230%	158%	274%	230%	389%	754%	738%	565%	580%	799%	709%	641%	484%	1068%
38%	-34%	-43%	-39%	-48%	-48%	-53%	-44%	-49%	-26%	45%	61%	190%	128%	230%	191%	331%	653%	639%	487%	500%	694%	614%	554%	417%	951%
39%	-23%	-35%	-30%	-41%	-41%	-46%	-35%	-42%	-15%	45%	69%	190%	127%	229%	190%	337%	655%	640%	488%	488%	677%	599%	540%	406%	928%
40%	-29%	-40%	-30%	-40%	-40%	-46%	-39%	-45%	-20%	36%	67%	198%	128%	230%	184%	328%	639%	625%	476%	476%	661%	585%	526%	396%	908%
41%	-26%	-34%	-35%	-45%	-45%	-50%	-44%	-50%	-26%	25%	54%	174%	110%	203%	161%	294%	580%	567%	430%	430%	601%	531%	477%	355%	908%
42%	-4%	-19%	-13%	-26%	-26%	-33%	-19%	-27%	7%	82%	48%	165%	103%	199%	158%	289%	570%	558%	423%	423%	601%	531%	477%	355%	908%
43%	21%	3%	10%	-6%	-6%	-10%	33%	14%	68%	131%	88%	243%	192%	324%	274%	742%	1468%	1438%	1207%	1207%	1131%	1007%	987%	759%	1203%
44%	11%	-6%	1%	-14%	-14%	-17%	22%	5%	68%	131%	88%	243%	192%	324%	274%	742%	1468%	1438%	1207%	1207%	1131%	1007%	987%	759%	1203%
45%	-13%	-26%	-21%	-33%	-33%	-35%	-5%	-18%	31%	80%	46%	168%	128%	259%	216%	613%	1468%	1438%	1207%	1207%	1131%	1007%	987%	759%	1203%
46%	-22%	-34%	-30%	-40%	-40%	-42%	-15%	-27%	17%	61%	30%	158%	119%	245%	205%	585%	1409%	1380%	1158%	1158%	1085%	965%	947%	727%	1154%
47%	-39%	-17%	-11%	-24%	-23%	-25%	11%	1%	62%	123%	81%	257%	209%	386%	341%	528%	1283%	1257%	1054%	1054%	986%	878%	860%	658%	1049%
48%	-22%	-34%	-30%	-40%	-39%	-41%	-1%	-11%	62%	83%	48%	202%	157%	310%	261%	485%	1189%	1164%	974%	974%	913%	811%	794%	606%	971%
49%	-19%	-31%	-19%	-31%	-31%	-34%	-3%	-13%	59%	79%	46%	196%	152%	302%	255%	475%	1165%	1141%	954%	954%	893%	794%	776%	593%	951%

Otosan Filter Results

APPENDIX 3.15.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	972%	832%	739%	668%	702%	789%	778%	772%	892%	779%	707%	579%	536%	882%	1265%	1167%	1040%	996%	1100%	955%	955%	955%	870%	870%
2%	959%	821%	728%	810%	693%	680%	671%	665%	892%	779%	707%	579%	536%	1075%	1265%	1167%	1040%	996%	1066%	925%	925%	925%	843%	870%
3%	911%	721%	639%	711%	656%	643%	634%	656%	880%	768%	707%	579%	536%	1075%	1265%	1167%	1040%	996%	1066%	925%	925%	925%	843%	870%
4%	861%	680%	603%	671%	619%	607%	598%	619%	863%	753%	668%	546%	504%	1018%	1222%	1127%	1004%	961%	1029%	892%	892%	892%	813%	839%
5%	861%	680%	603%	671%	561%	551%	542%	561%	786%	684%	668%	546%	504%	1018%	1222%	1127%	1004%	961%	981%	850%	850%	850%	773%	839%
6%	770%	607%	537%	598%	499%	489%	481%	499%	702%	610%	595%	485%	447%	913%	1140%	1051%	936%	895%	914%	791%	791%	791%	719%	801%
7%	688%	541%	477%	532%	441%	432%	426%	447%	702%	610%	534%	435%	399%	824%	1032%	951%	846%	809%	826%	714%	714%	714%	648%	723%
8%	1039%	831%	736%	551%	463%	454%	447%	488%	702%	610%	754%	643%	594%	824%	1032%	951%	846%	809%	826%	714%	714%	714%	648%	723%
9%	882%	702%	621%	462%	386%	378%	372%	408%	592%	512%	637%	539%	499%	824%	1032%	951%	846%	809%	826%	714%	714%	714%	648%	723%
10%	829%	779%	691%	752%	685%	651%	643%	619%	748%	652%	840%	717%	664%	782%	1106%	1019%	1019%	1184%	1085%	941%	941%	941%	922%	1044%
11%	680%	647%	571%	622%	629%	598%	589%	567%	688%	598%	773%	659%	610%	718%	1106%	1019%	1019%	1184%	1085%	941%	941%	941%	922%	1247%
12%	936%	892%	791%	585%	547%	537%	530%	582%	863%	752%	965%	826%	766%	966%	1472%	1358%	1358%	1302%	1195%	1038%	1038%	1038%	1017%	1459%
13%	690%	722%	639%	469%	437%	429%	421%	510%	759%	661%	851%	726%	673%	881%	1347%	1242%	1242%	1191%	1092%	948%	948%	948%	928%	1335%
14%	650%	680%	601%	439%	389%	382%	395%	479%	726%	632%	851%	726%	673%	881%	1347%	1242%	1242%	1191%	1092%	948%	948%	948%	928%	1335%
15%	593%	620%	548%	398%	353%	345%	358%	434%	726%	632%	851%	726%	673%	881%	1347%	1242%	1242%	1191%	1092%	948%	948%	948%	928%	1335%
16%	593%	620%	548%	398%	353%	345%	358%	434%	726%	632%	851%	726%	673%	881%	1347%	1242%	1242%	1191%	1092%	948%	948%	948%	928%	1335%
17%	563%	589%	521%	377%	334%	327%	337%	411%	702%	611%	823%	702%	651%	881%	1347%	1242%	1242%	1191%	1092%	948%	948%	948%	928%	1335%
18%	824%	671%	593%	433%	385%	377%	390%	471%	797%	695%	934%	798%	739%	998%	1518%	1400%	1400%	1343%	1232%	1071%	1071%	1071%	1050%	1335%
19%	688%	558%	491%	355%	306%	299%	341%	415%	766%	668%	917%	784%	726%	980%	1518%	1400%	1400%	1343%	1232%	1071%	1071%	1071%	1050%	1311%
20%	609%	492%	433%	310%	265%	259%	298%	364%	680%	591%	816%	696%	643%	892%	1518%	1400%	1400%	1343%	1232%	1071%	1071%	1071%	1050%	1311%
21%	948%	776%	687%	505%	427%	418%	473%	570%	768%	670%	938%	802%	744%	1023%	1819%	1681%	1681%	1612%	1481%	1290%	1290%	1290%	1264%	1500%
22%	795%	648%	573%	418%	351%	343%	392%	508%	689%	600%	845%	720%	667%	922%	1644%	1519%	1519%	1456%	1338%	1164%	1164%	1164%	1140%	1354%
23%	1059%	884%	799%	614%	521%	521%	624%	798%	1064%	932%	1426%	1225%	1139%	1630%	2191%	2025%	2025%	1944%	1788%	1559%	1559%	1559%	1528%	1354%
24%	1059%	884%	799%	614%	521%	521%	624%	798%	1064%	932%	1426%	1225%	1139%	1630%	2191%	2025%	2025%	1944%	1788%	1559%	1559%	1559%	1528%	1354%
25%	981%	819%	739%	566%	480%	480%	576%	739%	1064%	932%	1426%	1225%	1139%	1630%	2191%	2025%	2025%	1944%	1788%	1559%	1559%	1559%	1528%	1354%
26%	944%	788%	710%	543%	460%	460%	552%	711%	1024%	895%	1426%	1225%	1139%	1630%	2191%	2025%	2025%	1944%	1788%	1559%	1559%	1559%	1528%	1354%
27%	928%	775%	698%	534%	451%	451%	543%	699%	1008%	881%	1403%	1205%	1121%	1605%	2158%	1994%	1994%	1914%	1760%	1535%	1535%	1535%	1504%	1332%
28%	754%	626%	563%	427%	358%	358%	481%	622%	902%	788%	1260%	1081%	1005%	1583%	2128%	1967%	1967%	1887%	1736%	1513%	1513%	1513%	1483%	1314%
29%	604%	498%	447%	334%	278%	278%	379%	540%	787%	686%	1105%	947%	879%	1391%	1874%	1731%	1731%	1661%	1527%	1330%	1330%	1330%	1303%	1152%
30%	528%	434%	388%	288%	237%	237%	328%	470%	692%	602%	1032%	883%	819%	1299%	1874%	1731%	1731%	1661%	1527%	1330%	1330%	1330%	1303%	1152%
31%	528%	434%	388%	288%	237%	237%	328%	470%	692%	602%	1032%	883%	819%	1299%	1874%	1731%	1731%	1661%	1527%	1330%	1330%	1330%	1303%	1152%
32%	528%	434%	388%	288%	237%	237%	328%	470%	692%	602%	1032%	883%	819%	1299%	1874%	1731%	1731%	1661%	1527%	1330%	1330%	1330%	1303%	1152%
33%	798%	663%	596%	514%	435%	435%	579%	805%	692%	602%	1032%	883%	819%	1299%	1874%	1731%	1731%	1661%	1527%	1330%	1330%	1330%	1303%	1152%
34%	798%	663%	596%	514%	435%	435%	579%	805%	692%	602%	1032%	883%	819%	1299%	1874%	1731%	1731%	1661%	1527%	1330%	1330%	1330%	1303%	1152%
35%	782%	649%	584%	503%	425%	425%	567%	790%	677%	588%	1011%	865%	802%	1274%	1840%	1700%	1700%	1630%	1498%	1305%	1305%	1305%	1278%	1130%
36%	724%	600%	540%	464%	391%	391%	523%	732%	627%	544%	940%	802%	744%	1185%	1714%	1583%	1583%	1518%	1394%	1213%	1213%	1213%	1189%	1050%
37%	956%	812%	762%	660%	613%	613%	804%	1108%	955%	872%	861%	735%	681%	1090%	1578%	1457%	1457%	1397%	1283%	1115%	1115%	1115%	1092%	965%
38%	851%	721%	676%	584%	542%	542%	714%	987%	849%	775%	765%	652%	603%	971%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
39%	830%	704%	660%	571%	529%	529%	668%	955%	821%	748%	739%	629%	582%	938%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
40%	811%	688%	644%	557%	516%	516%	653%	933%	802%	732%	722%	614%	567%	938%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
41%	811%	688%	644%	557%	516%	516%	653%	933%	802%	732%	722%	614%	567%	938%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
42%	811%	688%	644%	557%	516%	516%	653%	933%	802%	732%	722%	614%	567%	938%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
43%	1192%	1015%	956%	832%	773%	773%	968%	1433%	1326%	1214%	1200%	1029%	1029%	911%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
44%	1192%	1015%	956%	832%	773%	773%	968%	1433%	1326%	1214%	1200%	1029%	1029%	911%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
45%	1192%	1015%	956%	832%	773%	773%	968%	1433%	1326%	1214%	1200%	1029%	1029%	911%	1411%	1301%	1301%	1247%	1144%	994%	994%	994%	973%	859%
46%	1144%	973%	916%	797%	740%	740%	928%	1375%	1273%	1165%	1151%	986%	986%	873%	1354%	1249%	1249%	1197%	1097%	953%	953%	953%	933%	823%
47%	1041%	884%	832%	722%	670%	670%	842%	1252%	1158%	1060%	1047%	895%	895%	793%	1354%	1249%	1249%	1197%	1097%	953%	953%	953%	933%	823%
48%	962%	818%	768%	665%	617%	617%	778%	1167%	1080%	987%	975%	834%	834%	737%	1264%	1165%	1165%	1117%	1023%	888%	888%	888%	869%	765%
49%	942%	800%	752%	651%	604%	604%	760%	1167%	1080%	987%	975%	834%	834%	737%	1264%	1165%	1165%	1117%	1023%	888%	888%	888%	869%	765%

Otosan Filter Results

APPENDIX 3.15.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-71%	-62%	-69%	-58%	-15%	-25%	-37%	-53%	-49%	-46%	-52%	-29%	0%	-37%	-30%	-9%	5%	9%	23%	33%	62%	59%	69%	62%	60%
2%	-34%	3%	6%	-11%	56%	17%	-5%	-6%	-27%	-38%	-46%	-34%	-5%	-34%	-43%	16%	20%	31%	47%	59%	75%	135%	146%	94%	112%
3%	43%	132%	86%	52%	144%	79%	38%	49%	5%	4%	-21%	-19%	7%	-27%	-36%	62%	69%	84%	107%	123%	146%	156%	141%	90%	108%
4%	100%	124%	82%	104%	266%	199%	113%	96%	24%	24%	-18%	0%	55%	6%	-6%	93%	104%	122%	136%	171%	240%	248%	228%	158%	154%
5%	228%	190%	175%	192%	363%	254%	132%	97%	30%	30%	-8%	11%	90%	33%	18%	116%	129%	163%	193%	238%	241%	250%	277%	197%	161%
6%	335%	354%	300%	305%	640%	566%	374%	173%	81%	80%	35%	67%	175%	91%	84%	123%	137%	176%	208%	263%	267%	276%	296%	212%	173%
7%	511%	498%	459%	593%	934%	784%	497%	277%	149%	155%	107%	168%	215%	118%	106%	164%	191%	239%	274%	301%	305%	313%	303%	218%	179%
8%	442%	426%	423%	588%	989%	876%	578%	325%	190%	198%	149%	257%	246%	181%	140%	180%	227%	296%	337%	369%	373%	383%	421%	310%	260%
9%	584%	576%	590%	757%	1419%	1299%	897%	465%	162%	139%	101%	196%	187%	93%	65%	112%	147%	199%	257%	283%	286%	294%	325%	235%	193%
10%	608%	597%	552%	786%	1156%	888%	604%	299%	85%	74%	46%	118%	124%	51%	29%	68%	96%	162%	229%	253%	256%	263%	292%	228%	188%
11%	503%	463%	427%	640%	948%	725%	531%	258%	66%	70%	43%	127%	144%	64%	40%	54%	90%	153%	230%	236%	240%	247%	273%	213%	174%
12%	614%	462%	402%	497%	810%	613%	446%	167%	24%	27%	6%	105%	128%	53%	31%	58%	95%	116%	182%	187%	199%	205%	229%	176%	142%
13%	479%	507%	405%	422%	696%	557%	403%	158%	20%	24%	4%	73%	91%	29%	10%	36%	68%	87%	144%	148%	159%	164%	185%	139%	109%
14%	570%	564%	440%	454%	600%	478%	343%	133%	8%	31%	10%	52%	68%	13%	-3%	20%	48%	64%	114%	118%	127%	132%	157%	116%	89%
15%	231%	214%	155%	187%	299%	230%	153%	35%	-37%	-21%	-33%	5%	31%	-12%	-25%	3%	7%	18%	75%	78%	104%	123%	148%	108%	82%
16%	248%	235%	172%	156%	256%	194%	125%	31%	-39%	-23%	-35%	2%	27%	-14%	-27%	8%	20%	38%	103%	107%	137%	99%	121%	85%	53%
17%	240%	223%	163%	93%	179%	130%	80%	11%	-49%	-35%	-44%	-28%	-3%	-30%	-40%	-23%	-15%	-3%	44%	47%	68%	41%	63%	50%	25%
18%	204%	261%	198%	126%	244%	131%	81%	11%	-48%	-31%	-41%	-23%	3%	-26%	-35%	-13%	-4%	14%	75%	81%	110%	80%	108%	108%	72%
19%	176%	229%	170%	110%	219%	139%	87%	15%	-47%	-29%	-39%	-21%	6%	-23%	-33%	-2%	9%	41%	64%	69%	96%	68%	94%	94%	61%
20%	222%	277%	211%	141%	275%	181%	119%	35%	-27%	2%	-12%	-6%	26%	-9%	-20%	-12%	-2%	29%	49%	55%	80%	53%	78%	78%	47%
21%	197%	258%	195%	129%	255%	166%	108%	28%	-30%	-3%	-17%	-11%	19%	-14%	-24%	-16%	-7%	22%	42%	47%	70%	46%	68%	69%	40%
22%	176%	194%	143%	88%	192%	119%	78%	11%	-39%	-10%	-23%	-5%	32%	4%	-8%	-17%	-8%	25%	45%	50%	82%	56%	34%	34%	11%
23%	290%	324%	249%	152%	182%	118%	77%	25%	-29%	4%	-11%	11%	57%	27%	11%	8%	20%	62%	114%	122%	170%	140%	113%	113%	104%
24%	268%	300%	229%	154%	184%	120%	79%	26%	-29%	7%	-8%	21%	87%	51%	33%	42%	20%	62%	114%	122%	170%	140%	113%	113%	104%
25%	233%	207%	152%	95%	118%	68%	37%	-4%	-45%	-10%	-23%	1%	57%	27%	12%	19%	1%	36%	80%	86%	127%	101%	79%	79%	71%
26%	213%	187%	136%	88%	110%	62%	38%	1%	-43%	-7%	-18%	26%	95%	58%	43%	55%	33%	91%	106%	120%	183%	151%	128%	132%	125%
27%	190%	167%	120%	74%	95%	51%	28%	-7%	-47%	-13%	-24%	17%	83%	48%	34%	55%	33%	91%	106%	120%	183%	151%	128%	132%	125%
28%	212%	186%	136%	88%	110%	62%	38%	0%	-43%	-28%	-37%	-5%	49%	21%	11%	19%	6%	53%	64%	76%	126%	101%	82%	102%	96%
29%	185%	162%	116%	72%	92%	48%	26%	-8%	-48%	-34%	-43%	-13%	49%	21%	11%	19%	6%	53%	64%	76%	126%	101%	82%	102%	96%
30%	162%	141%	98%	58%	76%	36%	16%	-16%	-52%	-40%	-47%	-20%	37%	11%	2%	9%	-2%	50%	62%	73%	123%	98%	79%	99%	93%
31%	247%	218%	162%	109%	130%	76%	49%	28%	-27%	-8%	-20%	22%	50%	21%	12%	20%	14%	81%	95%	108%	168%	138%	118%	151%	144%
32%	362%	325%	250%	198%	229%	179%	145%	110%	19%	59%	38%	122%	180%	126%	126%	161%	149%	187%	241%	264%	369%	317%	290%	389%	375%
33%	343%	298%	227%	320%	369%	329%	277%	223%	83%	144%	113%	262%	239%	174%	174%	217%	202%	261%	334%	363%	512%	443%	427%	561%	542%
34%	469%	424%	331%	307%	354%	315%	265%	213%	83%	161%	128%	299%	274%	223%	223%	273%	256%	325%	411%	411%	469%	406%	390%	515%	498%
35%	487%	440%	344%	327%	377%	344%	305%	247%	103%	189%	157%	215%	195%	155%	155%	217%	203%	261%	378%	378%	433%	373%	359%	476%	459%
36%	439%	396%	334%	317%	366%	334%	296%	239%	101%	190%	161%	262%	240%	193%	193%	270%	258%	340%	483%	483%	569%	494%	494%	646%	636%
37%	439%	396%	334%	317%	366%	334%	296%	239%	101%	190%	161%	262%	240%	193%	193%	270%	258%	340%	483%	483%	569%	494%	494%	646%	636%
38%	405%	365%	307%	291%	337%	306%	271%	218%	88%	172%	145%	239%	218%	175%	175%	247%	236%	312%	446%	446%	527%	457%	457%	599%	590%
39%	346%	310%	259%	245%	286%	259%	228%	181%	66%	140%	116%	200%	181%	142%	142%	206%	196%	296%	425%	425%	503%	435%	435%	572%	563%
40%	310%	277%	231%	218%	255%	230%	201%	158%	53%	121%	99%	175%	158%	123%	123%	181%	173%	265%	383%	383%	454%	392%	392%	544%	535%
41%	273%	243%	201%	189%	222%	200%	174%	135%	39%	101%	81%	150%	135%	103%	103%	156%	148%	232%	339%	339%	404%	348%	348%	485%	477%
42%	262%	233%	192%	180%	213%	192%	166%	128%	35%	95%	76%	143%	128%	97%	97%	149%	141%	222%	326%	326%	390%	335%	335%	469%	461%
43%	262%	233%	192%	180%	213%	192%	166%	128%	35%	95%	76%	143%	128%	97%	97%	149%	141%	222%	326%	326%	390%	335%	335%	469%	461%
44%	214%	189%	153%	143%	171%	153%	131%	97%	17%	78%	60%	122%	108%	80%	80%	127%	120%	194%	289%	289%	347%	297%	297%	419%	412%
45%	174%	152%	120%	112%	137%	120%	101%	72%	2%	55%	40%	94%	82%	57%	57%	103%	97%	164%	249%	249%	301%	256%	256%	365%	359%
46%	154%	133%	104%	96%	119%	104%	87%	60%	-5%	44%	30%	80%	68%	45%	45%	89%	83%	145%	224%	224%	272%	230%	230%	340%	334%
47%	178%	162%	130%	130%	156%	139%	118%	109%	24%	89%	70%	157%	141%	108%	108%	170%	162%	128%	201%	201%	246%	207%	207%	310%	304%
48%	154%	140%	110%	110%	134%	118%	99%	92%	13%	73%	56%	135%	120%	90%	90%	147%	139%	108%	176%	176%	216%	181%	181%	275%	270%
49%	208%	208%	202%	202%	238%	214%	196%	174%	62%	60%	45%	110%	100%	82%	77%	133%	126%	94%	156%	156%	193%	160%	160%	275%	270%

Rabak Filter Results

APPENDIX 3.16.a

x%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
y%																								
1%	54%	52%	116%	118%	100%	75%	84%	84%	62%	79%	74%	55%	44%	54%	91%	61%	91%	99%	70%	58%	109%	83%	94%	73%
2%	134%	131%	124%	101%	85%	61%	69%	69%	50%	65%	60%	43%	30%	39%	141%	121%	129%	99%	70%	58%	109%	83%	94%	73%
3%	129%	126%	119%	96%	81%	61%	69%	69%	50%	65%	60%	43%	27%	36%	141%	121%	129%	99%	70%	58%	109%	83%	89%	73%
4%	177%	172%	110%	88%	73%	54%	62%	62%	43%	58%	54%	37%	33%	42%	152%	132%	140%	109%	70%	58%	112%	83%	89%	73%
5%	160%	156%	98%	77%	63%	48%	56%	56%	38%	52%	48%	32%	30%	39%	143%	123%	130%	101%	84%	70%	103%	76%	80%	67%
6%	173%	169%	110%	88%	73%	58%	66%	66%	50%	65%	61%	43%	41%	51%	170%	149%	130%	101%	79%	66%	96%	69%	90%	63%
7%	178%	174%	88%	68%	55%	44%	51%	51%	37%	51%	47%	26%	22%	31%	147%	114%	98%	73%	64%	52%	104%	76%	74%	49%
8%	148%	144%	68%	50%	27%	18%	24%	24%	9%	31%	27%	15%	11%	19%	136%	105%	90%	65%	69%	57%	99%	72%	70%	34%
9%	103%	100%	37%	23%	6%	-2%	3%	3%	-10%	13%	9%	-1%	2%	17%	116%	87%	73%	51%	43%	33%	69%	46%	44%	15%
10%	99%	96%	34%	20%	3%	-2%	3%	3%	-10%	13%	9%	-1%	0%	15%	116%	87%	73%	51%	43%	33%	69%	46%	44%	15%
11%	90%	87%	28%	15%	-3%	-8%	-3%	-3%	-15%	6%	3%	-12%	-4%	10%	120%	90%	76%	53%	46%	35%	72%	48%	46%	15%
12%	67%	65%	13%	1%	-14%	-15%	-11%	-11%	-22%	-3%	-6%	-19%	-16%	-3%	101%	74%	62%	41%	34%	24%	72%	48%	46%	15%
13%	45%	42%	-2%	-13%	-26%	-27%	-23%	-23%	-32%	-10%	-12%	-25%	-21%	-9%	88%	67%	55%	35%	28%	19%	65%	42%	40%	11%
14%	31%	29%	-12%	-21%	-33%	-34%	-30%	-30%	-34%	-13%	-15%	-26%	-23%	-11%	88%	62%	50%	31%	28%	19%	63%	40%	38%	9%
15%	26%	24%	-15%	-24%	-36%	-36%	-33%	-33%	-37%	-16%	-18%	-31%	-28%	-17%	75%	51%	40%	22%	19%	11%	68%	45%	33%	5%
16%	6%	4%	-21%	-29%	-40%	-39%	-37%	-37%	-41%	-21%	-23%	-37%	-36%	-20%	81%	57%	78%	55%	18%	10%	66%	43%	33%	5%
17%	-14%	-15%	-36%	-43%	-51%	-50%	-49%	-49%	-52%	-35%	-36%	-48%	-46%	-29%	65%	43%	55%	35%	3%	-5%	35%	17%	8%	-15%
18%	19%	17%	-12%	-21%	-28%	-26%	-24%	-24%	-28%	-20%	-22%	-36%	-48%	-32%	58%	38%	48%	29%	-1%	-9%	29%	12%	4%	-18%
19%	11%	10%	-17%	-26%	-33%	-31%	-29%	-29%	-33%	-26%	-27%	-40%	-51%	-36%	51%	31%	42%	23%	-6%	-13%	24%	7%	-1%	-22%
20%	2%	0%	-25%	-32%	-38%	-37%	-35%	-35%	-39%	-26%	-27%	-40%	-51%	-36%	51%	31%	42%	23%	-6%	-13%	24%	7%	-1%	-22%
21%	-4%	-5%	-28%	-36%	-42%	-39%	-38%	-38%	-41%	-28%	-29%	-42%	-52%	-38%	46%	27%	37%	19%	-9%	-16%	19%	3%	-4%	-24%
22%	-23%	-24%	-43%	-49%	-53%	-51%	-50%	-50%	-49%	-38%	-39%	-50%	-59%	-36%	56%	36%	22%	6%	-19%	-25%	16%	0%	-7%	-27%
23%	41%	39%	10%	-2%	-11%	2%	10%	10%	19%	53%	53%	29%	-3%	-3%	157%	124%	107%	81%	45%	34%	128%	97%	83%	48%
24%	41%	39%	10%	-2%	-11%	2%	10%	10%	19%	53%	53%	29%	-3%	-3%	157%	124%	107%	81%	45%	34%	128%	97%	83%	48%
25%	18%	16%	-8%	-17%	-25%	-14%	-7%	-7%	0%	28%	28%	8%	-17%	-17%	135%	105%	90%	65%	32%	23%	92%	66%	54%	25%
26%	58%	56%	26%	21%	11%	26%	36%	36%	56%	100%	100%	69%	36%	36%	125%	95%	81%	58%	26%	17%	83%	58%	47%	19%
27%	58%	56%	26%	21%	11%	26%	36%	36%	56%	100%	100%	69%	36%	36%	125%	95%	81%	58%	26%	17%	83%	58%	47%	19%
28%	38%	36%	9%	6%	-4%	10%	21%	21%	39%	78%	78%	50%	22%	22%	100%	74%	61%	40%	12%	4%	63%	41%	31%	6%
29%	38%	36%	9%	6%	-4%	10%	21%	21%	39%	78%	78%	50%	22%	22%	100%	74%	61%	40%	12%	4%	63%	41%	31%	6%
30%	36%	34%	8%	4%	-5%	8%	19%	19%	37%	76%	76%	48%	20%	20%	97%	71%	59%	38%	11%	2%	63%	41%	31%	6%
31%	89%	86%	50%	45%	32%	51%	10%	10%	27%	76%	76%	48%	20%	20%	97%	71%	59%	38%	11%	2%	63%	41%	31%	6%
32%	293%	287%	212%	202%	174%	142%	76%	76%	104%	96%	96%	65%	34%	34%	120%	91%	77%	54%	24%	15%	88%	62%	51%	22%
33%	446%	438%	357%	342%	302%	255%	181%	181%	229%	217%	217%	179%	126%	126%	108%	84%	76%	53%	106%	96%	88%	62%	51%	22%
34%	408%	400%	325%	311%	274%	230%	161%	161%	220%	208%	208%	172%	120%	120%	102%	79%	71%	49%	100%	91%	83%	58%	46%	19%
35%	376%	368%	298%	285%	250%	209%	145%	145%	200%	188%	188%	154%	106%	106%	89%	67%	60%	40%	88%	78%	71%	48%	37%	11%
36%	536%	526%	441%	441%	391%	383%	283%	283%	369%	351%	351%	298%	255%	255%	227%	189%	177%	141%	115%	99%	93%	74%	62%	35%
37%	536%	526%	441%	441%	391%	383%	283%	283%	369%	351%	351%	298%	255%	255%	227%	189%	177%	141%	115%	99%	93%	74%	62%	35%
38%	496%	486%	407%	407%	360%	353%	258%	258%	340%	323%	323%	273%	233%	233%	206%	171%	159%	126%	101%	86%	81%	63%	51%	27%
39%	473%	464%	387%	387%	343%	335%	245%	245%	323%	306%	306%	259%	220%	220%	194%	160%	149%	117%	93%	79%	74%	57%	46%	22%
40%	448%	440%	367%	367%	324%	317%	230%	230%	323%	306%	306%	259%	220%	220%	194%	160%	149%	117%	93%	79%	74%	57%	46%	22%
41%	398%	391%	324%	324%	286%	279%	200%	200%	284%	269%	269%	226%	191%	191%	167%	137%	127%	97%	76%	63%	58%	43%	32%	11%
42%	384%	377%	312%	312%	275%	268%	191%	191%	273%	259%	259%	217%	183%	183%	160%	130%	120%	92%	71%	58%	53%	39%	29%	8%
43%	384%	377%	312%	312%	275%	268%	191%	191%	273%	259%	259%	217%	183%	183%	160%	130%	120%	92%	71%	58%	53%	39%	29%	8%
44%	342%	335%	276%	276%	242%	236%	166%	166%	241%	228%	228%	189%	158%	158%	137%	110%	101%	75%	56%	44%	40%	27%	17%	-2%
45%	296%	290%	237%	237%	207%	202%	139%	139%	205%	194%	194%	159%	131%	131%	113%	88%	80%	57%	40%	29%	26%	14%	5%	-12%
46%	275%	269%	219%	219%	190%	185%	126%	126%	189%	178%	178%	145%	119%	119%	101%	78%	70%	48%	32%	23%	19%	7%	0%	-17%
47%	249%	244%	197%	197%	170%	165%	110%	110%	172%	161%	161%	131%	106%	106%	89%	67%	60%	40%	24%	15%	12%	1%	-6%	-22%
48%	219%	214%	172%	172%	147%	143%	92%	92%	172%	161%	161%	131%	106%	106%	89%	67%	60%	40%	24%	15%	12%	1%	-6%	-22%
49%	219%	214%	172%	172%	147%	143%	92%	92%	172%	161%	161%	131%	106%	106%	89%	67%	60%	40%	24%	15%	12%	1%	-6%	-22%

Rabak Filter Results

APPENDIX 3.16.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	207%	581%	526%	934%	1132%	960%	667%	638%	752%	1076%	1038%	688%	914%	802%	851%	885%	662%	739%	827%	1467%	1420%	1458%	1420%	1336%	1718%
2%	295%	849%	836%	1191%	1218%	667%	718%	731%	656%	1049%	896%	609%	1120%	1082%	921%	990%	777%	833%	1207%	1887%	1809%	1577%	1535%	1974%	1607%
3%	238%	711%	776%	898%	1153%	689%	544%	553%	464%	748%	523%	386%	736%	719%	650%	702%	573%	643%	963%	1457%	1411%	1214%	1234%	1592%	1481%
4%	201%	699%	666%	642%	1052%	690%	504%	541%	452%	738%	625%	546%	674%	717%	738%	867%	712%	758%	845%	1313%	1141%	979%	996%	1318%	1286%
5%	141%	421%	520%	466%	580%	375%	270%	308%	274%	467%	391%	348%	451%	523%	505%	628%	511%	545%	633%	1062%	959%	821%	836%	1058%	1048%
6%	61%	234%	367%	331%	391%	280%	228%	308%	231%	518%	331%	325%	403%	477%	455%	568%	468%	589%	610%	1033%	891%	887%	902%	1015%	1163%
7%	58%	236%	377%	293%	420%	286%	221%	321%	241%	489%	337%	330%	477%	466%	446%	608%	552%	678%	702%	1010%	877%	873%	803%	905%	1039%
8%	44%	283%	426%	340%	462%	320%	258%	392%	370%	768%	591%	558%	782%	641%	482%	561%	509%	626%	650%	935%	1069%	1064%	1052%	1203%	1119%
9%	20%	281%	375%	363%	413%	266%	246%	382%	360%	736%	566%	548%	769%	638%	527%	612%	586%	718%	744%	1082%	911%	906%	896%	1046%	972%
10%	15%	226%	208%	226%	255%	149%	136%	255%	238%	524%	397%	384%	591%	487%	399%	467%	445%	562%	636%	950%	798%	794%	824%	963%	878%
11%	19%	209%	192%	161%	201%	139%	101%	202%	201%	393%	292%	282%	445%	363%	294%	353%	337%	438%	533%	837%	702%	698%	725%	880%	803%
12%	44%	272%	268%	264%	323%	235%	189%	284%	231%	497%	396%	383%	503%	419%	353%	326%	309%	404%	493%	809%	679%	674%	701%	851%	775%
13%	99%	398%	323%	252%	202%	148%	95%	222%	189%	422%	353%	378%	566%	473%	400%	383%	364%	369%	452%	763%	638%	634%	660%	802%	820%
14%	64%	294%	260%	192%	166%	112%	74%	187%	162%	381%	340%	364%	546%	485%	326%	311%	295%	300%	370%	634%	528%	525%	547%	667%	682%
15%	10%	132%	112%	75%	65%	36%	20%	126%	113%	292%	257%	330%	512%	454%	326%	310%	325%	343%	430%	745%	655%	688%	788%	626%	664%
16%	-10%	94%	78%	46%	41%	9%	-5%	82%	90%	281%	248%	319%	550%	385%	274%	289%	302%	319%	402%	701%	617%	647%	741%	588%	624%
17%	27%	45%	29%	15%	14%	-22%	-31%	31%	37%	181%	156%	207%	416%	285%	197%	210%	220%	233%	320%	571%	500%	545%	627%	495%	525%
18%	6%	66%	46%	41%	14%	-13%	-23%	47%	62%	226%	147%	197%	399%	293%	203%	215%	226%	256%	377%	705%	620%	674%	773%	628%	460%
19%	12%	81%	59%	26%	5%	-13%	-16%	42%	61%	226%	150%	240%	342%	248%	168%	180%	189%	216%	322%	613%	538%	586%	673%	544%	396%
20%	-10%	41%	25%	-2%	-18%	-36%	-39%	3%	22%	158%	95%	166%	269%	190%	124%	134%	141%	164%	253%	495%	432%	498%	574%	462%	332%
21%	-16%	31%	16%	-11%	-25%	-41%	-44%	-4%	16%	143%	84%	151%	248%	174%	111%	120%	128%	149%	233%	472%	411%	474%	547%	441%	316%
22%	-19%	25%	55%	19%	1%	-23%	-27%	1%	26%	166%	101%	186%	298%	213%	146%	156%	175%	204%	307%	457%	399%	460%	531%	427%	305%
23%	14%	141%	94%	51%	45%	1%	-1%	36%	37%	141%	83%	160%	261%	184%	124%	133%	149%	184%	293%	448%	389%	450%	519%	417%	298%
24%	22%	163%	112%	74%	70%	14%	14%	57%	44%	155%	93%	175%	287%	218%	151%	161%	184%	234%	362%	559%	489%	614%	704%	571%	416%
25%	3%	142%	100%	64%	60%	13%	13%	72%	58%	199%	132%	276%	310%	237%	165%	194%	220%	276%	424%	709%	623%	806%	900%	750%	630%
26%	-3%	127%	88%	56%	54%	22%	22%	110%	93%	266%	184%	360%	403%	339%	246%	283%	232%	291%	484%	837%	738%	996%	1109%	936%	807%
27%	23%	105%	70%	93%	90%	51%	59%	109%	93%	264%	183%	254%	301%	251%	177%	206%	166%	238%	409%	717%	630%	855%	954%	803%	690%
28%	20%	100%	66%	89%	86%	47%	56%	105%	88%	256%	177%	253%	300%	249%	175%	205%	141%	207%	409%	717%	630%	855%	954%	803%	690%
29%	73%	113%	87%	113%	109%	90%	70%	124%	106%	290%	203%	286%	338%	283%	205%	247%	174%	258%	504%	896%	790%	1064%	1202%	1080%	933%
30%	54%	90%	67%	91%	87%	69%	52%	100%	84%	249%	171%	252%	299%	248%	178%	216%	174%	258%	504%	896%	790%	1064%	1202%	1080%	933%
31%	42%	49%	31%	49%	47%	33%	19%	57%	44%	186%	122%	189%	245%	202%	141%	173%	137%	209%	434%	856%	755%	1064%	1202%	1080%	933%
32%	28%	31%	15%	31%	55%	38%	14%	49%	43%	183%	120%	201%	274%	227%	160%	207%	167%	248%	510%	1038%	917%	1285%	1449%	1390%	1203%
33%	26%	29%	14%	29%	68%	45%	19%	57%	35%	169%	109%	186%	255%	210%	147%	202%	163%	243%	500%	1020%	901%	1264%	1426%	1366%	1183%
34%	21%	106%	81%	57%	103%	75%	45%	35%	17%	142%	87%	157%	218%	179%	122%	172%	136%	208%	474%	969%	856%	1202%	1357%	1301%	1127%
35%	38%	140%	105%	80%	80%	56%	29%	20%	4%	115%	67%	128%	183%	148%	97%	142%	110%	174%	410%	851%	750%	1057%	1195%	1145%	990%
36%	29%	122%	90%	68%	68%	44%	19%	12%	-3%	99%	55%	112%	163%	130%	83%	124%	95%	154%	373%	851%	750%	1057%	1195%	1145%	990%
37%	56%	113%	82%	54%	54%	33%	12%	46%	41%	115%	68%	129%	184%	148%	98%	142%	110%	216%	489%	1082%	957%	991%	1121%	1073%	927%
38%	40%	74%	49%	26%	26%	9%	-9%	32%	27%	94%	51%	107%	157%	124%	79%	124%	94%	192%	443%	991%	875%	907%	1027%	984%	848%
39%	54%	75%	50%	27%	27%	10%	-8%	33%	28%	95%	55%	121%	209%	169%	115%	184%	147%	271%	590%	1384%	1227%	1270%	1434%	1374%	1230%
40%	54%	75%	50%	27%	27%	10%	-8%	33%	28%	95%	55%	121%	209%	169%	115%	184%	140%	260%	590%	1384%	1227%	1270%	1434%	1374%	1230%
41%	41%	61%	38%	17%	17%	0%	-16%	22%	18%	80%	42%	103%	183%	147%	97%	172%	129%	245%	561%	1321%	1170%	1212%	1368%	1311%	1173%
42%	30%	57%	35%	8%	8%	-12%	-27%	6%	3%	56%	24%	76%	146%	115%	72%	137%	100%	200%	524%	1321%	1170%	1212%	1368%	1311%	1173%
43%	54%	86%	58%	32%	32%	7%	-10%	-16%	-19%	33%	5%	51%	109%	83%	46%	102%	75%	163%	447%	1147%	1015%	1051%	1188%	1138%	1018%
44%	54%	86%	58%	32%	32%	7%	-10%	-16%	-19%	33%	5%	51%	109%	83%	46%	102%	159%	159%	447%	1147%	1015%	1051%	1188%	1138%	1018%
45%	54%	72%	47%	22%	22%	-1%	-17%	-22%	-25%	23%	-3%	51%	109%	83%	46%	102%	159%	159%	447%	1147%	1015%	1051%	1188%	1138%	1018%
46%	48%	64%	41%	17%	17%	-5%	-20%	-25%	-28%	18%	-6%	44%	101%	76%	40%	94%	142%	142%	425%	1147%	1015%	1051%	1188%	1138%	1018%
47%	23%	35%	75%	46%	46%	31%	9%	2%	-1%	62%	28%	98%	176%	141%	99%	181%	137%	137%	414%	1122%	992%	1028%	1162%	1113%	995%
48%	13%	24%	62%	34%	34%	20%	1%	-5%	-9%	50%	18%	82%	155%	122%	83%	159%	118%	118%	374%	1025%	906%	939%	1062%	1017%	908%
49%	60%	78%	57%	31%	31%	17%	-2%	-8%	-12%	45%	15%	77%	147%	116%	78%	151%	118%	118%	374%	1025%	906%	939%	1062%	1017%	908%

Sarkuysan Filter Results

APPENDIX 3.17.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	2223%	2262%	1902%	1902%	1872%	2037%	1571%	1496%	1563%	1558%	1598%	1711%	2036%	1846%	1978%	1867%	1867%	1670%	1875%	1875%	1875%	1700%	1700%	1698%
2%	2019%	1979%	1919%	1726%	1698%	1908%	1470%	1400%	1462%	1458%	1495%	2432%	2347%	2130%	1978%	1810%	1810%	1618%	1875%	1875%	1875%	1700%	1700%	1698%
3%	1696%	1664%	1612%	1390%	1367%	1538%	1180%	1124%	1225%	1221%	1361%	2047%	1975%	1791%	1825%	1668%	1668%	1491%	1574%	1574%	1574%	1426%	1426%	1547%
4%	1476%	1529%	1612%	1390%	1367%	1390%	1064%	989%	1097%	1119%	1248%	2047%	1975%	1791%	1825%	1668%	1668%	1491%	1574%	1574%	1574%	1426%	1426%	1547%
5%	1227%	1270%	1341%	1293%	1272%	1271%	972%	957%	1097%	1119%	1248%	2047%	1975%	1791%	1825%	1643%	1643%	1468%	1574%	1574%	1574%	1426%	1426%	1547%
6%	1227%	1320%	1393%	1242%	1223%	1222%	934%	865%	1034%	1119%	1248%	2047%	1975%	1791%	2017%	1643%	1643%	1468%	1574%	1574%	1574%	1426%	1426%	1547%
7%	1095%	1180%	1247%	1213%	1194%	1222%	934%	865%	1034%	1119%	1248%	2047%	1975%	1791%	1987%	1618%	1618%	1447%	1574%	1574%	1574%	1426%	1426%	1547%
8%	1046%	1128%	1192%	1228%	1209%	1115%	850%	786%	1034%	1119%	1248%	2047%	1975%	1791%	1903%	1549%	1549%	1384%	1574%	1574%	1574%	1426%	1426%	1547%
9%	909%	981%	1036%	1068%	1051%	969%	735%	680%	898%	972%	1086%	1873%	1808%	1638%	1742%	1416%	1416%	1265%	1440%	1440%	1440%	1304%	1304%	1414%
10%	821%	903%	954%	984%	968%	892%	675%	624%	826%	895%	1000%	1731%	1670%	1512%	1609%	1307%	1307%	1166%	1440%	1440%	1440%	1304%	1304%	1414%
11%	750%	823%	871%	899%	884%	813%	614%	573%	777%	842%	1000%	1635%	1577%	1428%	1519%	1233%	1233%	1100%	1359%	1359%	1359%	1230%	1230%	1414%
12%	725%	796%	842%	870%	855%	786%	592%	567%	769%	842%	1000%	1635%	1577%	1428%	1519%	1233%	1233%	1100%	1359%	1359%	1359%	1230%	1230%	1414%
13%	766%	751%	814%	819%	806%	741%	558%	520%	722%	810%	963%	1614%	1557%	1410%	1519%	1233%	1233%	1100%	1342%	1342%	1342%	1214%	1214%	1396%
14%	637%	623%	678%	682%	670%	616%	459%	427%	661%	743%	883%	1555%	1500%	1357%	1519%	1233%	1233%	1100%	1292%	1292%	1292%	1169%	1169%	1345%
15%	619%	606%	671%	663%	652%	598%	446%	385%	600%	730%	868%	1555%	1500%	1357%	1519%	1233%	1233%	1100%	1292%	1292%	1292%	1169%	1169%	1345%
16%	582%	569%	630%	641%	630%	578%	431%	385%	600%	730%	868%	1555%	1500%	1357%	1519%	1233%	1233%	1100%	1292%	1292%	1292%	1169%	1169%	1345%
17%	488%	477%	554%	558%	548%	502%	370%	331%	521%	635%	834%	1421%	1371%	1240%	1388%	1126%	1126%	1003%	1179%	1179%	1179%	1066%	1066%	1345%
18%	427%	418%	486%	489%	480%	439%	322%	285%	464%	567%	748%	1282%	1236%	1117%	1356%	1098%	1098%	978%	1061%	1061%	1061%	958%	958%	1212%
19%	367%	359%	419%	435%	427%	389%	282%	250%	411%	505%	669%	1170%	1128%	1019%	1238%	1002%	1002%	891%	1012%	1012%	1012%	914%	914%	1156%
20%	308%	300%	353%	373%	365%	332%	238%	215%	391%	481%	639%	1170%	1128%	1019%	1155%	933%	933%	830%	1012%	1012%	1012%	914%	914%	1156%
21%	292%	284%	345%	363%	356%	323%	230%	209%	381%	469%	623%	1170%	1128%	1019%	1155%	933%	933%	830%	1012%	1012%	1012%	914%	914%	1156%
22%	282%	274%	333%	366%	360%	327%	234%	209%	381%	469%	623%	1170%	1128%	1019%	1155%	933%	933%	830%	1012%	1012%	1012%	914%	914%	1156%
23%	275%	268%	325%	359%	352%	319%	227%	203%	372%	469%	623%	1170%	1128%	1019%	1155%	933%	933%	830%	1012%	1012%	1012%	914%	914%	1156%
24%	386%	377%	274%	322%	316%	286%	202%	179%	335%	425%	567%	1088%	1048%	947%	1073%	866%	866%	770%	1012%	1012%	1012%	914%	914%	1156%
25%	588%	575%	430%	499%	490%	447%	327%	312%	583%	724%	711%	1078%	1039%	938%	1064%	858%	858%	763%	1003%	1003%	1003%	905%	905%	1145%
26%	777%	761%	651%	748%	735%	675%	506%	483%	867%	1128%	1108%	978%	943%	850%	965%	778%	778%	690%	910%	910%	910%	820%	820%	1040%
27%	664%	650%	554%	672%	660%	606%	452%	431%	792%	1054%	1035%	913%	879%	792%	889%	714%	714%	633%	848%	848%	848%	765%	765%	1040%
28%	664%	650%	554%	672%	660%	606%	452%	431%	792%	1054%	1035%	913%	879%	792%	889%	714%	714%	633%	848%	848%	848%	765%	765%	1040%
29%	899%	881%	768%	940%	940%	895%	678%	661%	875%	1205%	1183%	1046%	1007%	909%	853%	685%	685%	606%	972%	972%	972%	878%	878%	1189%
30%	899%	881%	768%	940%	940%	895%	678%	661%	875%	1205%	1183%	1046%	1007%	909%	853%	685%	685%	606%	972%	972%	972%	878%	878%	1189%
31%	899%	881%	768%	940%	940%	895%	678%	661%	875%	1205%	1183%	1046%	1007%	909%	853%	685%	685%	606%	972%	972%	972%	878%	878%	1189%
32%	1160%	1138%	1048%	833%	833%	793%	598%	582%	777%	1074%	1055%	931%	896%	808%	758%	607%	607%	536%	972%	972%	972%	878%	878%	1189%
33%	1141%	1118%	1029%	818%	818%	779%	587%	572%	777%	1074%	1055%	931%	896%	808%	758%	607%	607%	536%	972%	972%	972%	878%	878%	1189%
34%	1087%	1064%	980%	777%	777%	740%	557%	542%	738%	1060%	1042%	919%	885%	797%	748%	599%	599%	528%	960%	960%	960%	866%	866%	1174%
35%	954%	935%	859%	680%	680%	646%	483%	470%	680%	980%	962%	848%	817%	735%	689%	550%	550%	484%	886%	886%	886%	799%	799%	1103%
36%	954%	935%	859%	680%	680%	646%	483%	470%	680%	980%	962%	848%	817%	735%	689%	550%	550%	484%	886%	886%	886%	799%	799%	1103%
37%	893%	876%	804%	635%	635%	604%	450%	438%	635%	918%	901%	793%	764%	687%	644%	512%	512%	451%	829%	829%	829%	747%	747%	1085%
38%	817%	800%	735%	579%	579%	549%	408%	396%	578%	918%	901%	793%	764%	687%	644%	512%	512%	451%	829%	829%	829%	747%	747%	1085%
39%	1186%	1163%	1163%	927%	927%	883%	669%	669%	950%	933%	917%	808%	777%	699%	655%	522%	522%	460%	844%	844%	844%	760%	760%	1103%
40%	1186%	1163%	1163%	927%	927%	883%	669%	669%	950%	933%	917%	808%	777%	699%	655%	522%	522%	460%	844%	844%	844%	760%	760%	1103%
41%	1131%	1109%	1109%	883%	883%	841%	635%	635%	950%	933%	917%	808%	777%	699%	655%	522%	522%	460%	844%	844%	844%	760%	760%	1103%
42%	1131%	1109%	1109%	883%	883%	841%	635%	635%	950%	933%	917%	808%	777%	699%	655%	522%	522%	460%	844%	844%	844%	760%	760%	1103%
43%	981%	961%	961%	763%	763%	726%	545%	545%	822%	807%	793%	697%	670%	601%	563%	446%	446%	391%	729%	729%	729%	655%	655%	1016%
44%	981%	961%	961%	763%	763%	726%	545%	545%	822%	807%	793%	697%	670%	601%	563%	446%	446%	391%	729%	729%	729%	655%	655%	1016%
45%	981%	961%	961%	763%	763%	726%	545%	545%	822%	807%	793%	697%	670%	601%	563%	446%	446%	391%	729%	729%	729%	655%	655%	1016%
46%	981%	961%	961%	763%	763%	726%	545%	545%	822%	807%	793%	697%	670%	601%	563%	446%	446%	391%	729%	729%	729%	655%	655%	1016%
47%	958%	939%	939%	745%	745%	709%	533%	533%	803%	788%	774%	680%	654%	587%	549%	434%	434%	381%	729%	729%	729%	655%	655%	1016%
48%	875%	857%	857%	678%	678%	645%	483%	483%	803%	788%	774%	680%	654%	587%	549%	434%	434%	381%	729%	729%	729%	655%	655%	1016%
49%	875%	857%	857%	678%	678%	645%	483%	483%	803%	788%	774%	680%	654%	587%	549%	434%	434%	381%	729%	729%	729%	655%	655%	1016%

Sarkuyson Filter Results

APPENDIX 3.17.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	27%	160%	390%	660%	477%	489%	724%	562%	405%	704%	579%	642%	753%	670%	949%	1044%	1326%	891%	1346%	1226%	805%	725%	733%	558%	640%
2%	85%	197%	490%	728%	483%	369%	472%	410%	248%	378%	315%	359%	428%	522%	875%	794%	1015%	818%	1300%	982%	711%	640%	631%	478%	543%
3%	88%	206%	554%	784%	581%	456%	592%	517%	266%	430%	420%	422%	569%	759%	1284%	1230%	1576%	1124%	1229%	1604%	1159%	1049%	1084%	836%	908%
4%	140%	323%	655%	998%	605%	602%	704%	708%	363%	536%	533%	536%	629%	617%	1057%	989%	1348%	992%	1110%	1541%	1114%	1049%	1061%	816%	876%
5%	100%	305%	774%	1057%	666%	713%	660%	647%	450%	547%	572%	567%	543%	565%	1012%	924%	1263%	860%	964%	1294%	929%	911%	914%	701%	729%
6%	62%	398%	1175%	1566%	1122%	1230%	1338%	1009%	746%	589%	630%	700%	696%	720%	1362%	980%	1352%	924%	1015%	1360%	980%	959%	1080%	832%	801%
7%	110%	510%	1205%	1605%	933%	1132%	1059%	794%	582%	455%	488%	549%	547%	576%	1107%	792%	1098%	745%	830%	1118%	800%	784%	968%	743%	766%
8%	126%	511%	1333%	1776%	1103%	1407%	1777%	1418%	939%	679%	804%	761%	757%	601%	1180%	846%	1130%	768%	968%	1298%	982%	972%	1056%	813%	867%
9%	117%	359%	956%	1294%	809%	1120%	1418%	1137%	773%	605%	763%	794%	632%	555%	1163%	833%	901%	606%	867%	1167%	879%	879%	956%	734%	784%
10%	122%	334%	906%	1432%	822%	1193%	1591%	1458%	863%	694%	934%	830%	694%	609%	1329%	976%	835%	559%	823%	849%	633%	633%	690%	525%	561%
11%	112%	384%	849%	1741%	1015%	1300%	1595%	1274%	750%	600%	862%	766%	639%	561%	1270%	934%	796%	533%	787%	810%	604%	623%	680%	515%	552%
12%	177%	465%	724%	1499%	944%	1249%	1534%	1340%	1020%	714%	1026%	963%	806%	710%	1239%	910%	858%	582%	981%	753%	559%	576%	629%	476%	509%
13%	192%	445%	714%	1505%	1139%	1292%	1460%	1274%	969%	715%	1128%	1128%	970%	857%	1308%	974%	942%	641%	1088%	858%	667%	688%	536%	402%	452%
14%	90%	181%	323%	802%	610%	953%	1080%	940%	708%	517%	828%	878%	752%	725%	1206%	895%	865%	587%	1001%	788%	611%	649%	505%	378%	425%
15%	68%	147%	305%	581%	436%	695%	819%	710%	530%	381%	651%	763%	652%	627%	1052%	778%	752%	506%	871%	683%	527%	562%	434%	322%	363%
16%	24%	147%	279%	529%	364%	588%	695%	601%	445%	316%	550%	647%	551%	530%	897%	661%	637%	424%	789%	617%	474%	516%	397%	292%	331%
17%	25%	143%	229%	481%	328%	535%	677%	612%	453%	322%	479%	565%	479%	460%	787%	576%	556%	367%	692%	538%	411%	448%	373%	273%	311%
18%	29%	96%	132%	348%	245%	411%	525%	473%	396%	279%	420%	497%	419%	403%	696%	507%	489%	326%	503%	386%	289%	335%	276%	196%	232%
19%	85%	182%	239%	398%	284%	360%	489%	439%	379%	266%	402%	494%	418%	447%	766%	592%	571%	386%	588%	475%	360%	415%	386%	284%	329%
20%	85%	193%	253%	327%	229%	294%	404%	362%	310%	213%	356%	445%	375%	402%	694%	535%	543%	366%	559%	451%	341%	393%	365%	268%	311%
21%	87%	138%	186%	246%	166%	220%	309%	275%	233%	154%	270%	357%	299%	322%	613%	469%	478%	318%	492%	395%	296%	343%	319%	230%	269%
22%	66%	112%	127%	174%	111%	173%	249%	220%	184%	117%	230%	308%	261%	294%	591%	452%	520%	349%	543%	437%	330%	381%	354%	258%	323%
23%	92%	143%	145%	197%	129%	196%	278%	246%	208%	145%	273%	361%	315%	284%	644%	495%	425%	280%	469%	375%	280%	325%	302%	217%	275%
24%	44%	64%	66%	101%	56%	125%	237%	209%	178%	124%	250%	333%	295%	266%	650%	499%	429%	282%	355%	280%	205%	257%	237%	166%	214%
25%	9%	31%	32%	46%	13%	77%	164%	142%	118%	76%	175%	212%	185%	163%	440%	331%	280%	175%	228%	174%	119%	157%	153%	100%	136%
26%	-8%	11%	12%	20%	-6%	52%	128%	101%	83%	48%	131%	162%	140%	121%	362%	270%	226%	136%	181%	135%	88%	120%	117%	71%	116%
27%	-6%	18%	19%	28%	0%	25%	87%	64%	50%	21%	109%	138%	117%	100%	319%	234%	195%	113%	154%	113%	70%	99%	96%	55%	95%
28%	-38%	-23%	-22%	-16%	-35%	-18%	22%	8%	-2%	-20%	44%	63%	49%	47%	237%	170%	138%	72%	123%	86%	49%	75%	72%	36%	71%
29%	-25%	2%	3%	11%	-13%	8%	62%	42%	30%	5%	90%	115%	97%	94%	211%	149%	119%	59%	105%	72%	37%	66%	64%	30%	64%
30%	1%	38%	39%	56%	21%	52%	139%	119%	76%	42%	156%	226%	198%	194%	287%	209%	178%	102%	85%	54%	24%	49%	57%	24%	56%
31%	20%	64%	69%	90%	53%	90%	200%	180%	125%	92%	250%	357%	318%	348%	490%	371%	331%	221%	209%	158%	114%	160%	177%	137%	201%
32%	20%	64%	69%	90%	53%	90%	200%	180%	125%	92%	250%	357%	318%	348%	490%	371%	331%	221%	209%	158%	114%	160%	177%	137%	201%
33%	11%	46%	51%	152%	106%	157%	239%	217%	154%	117%	296%	417%	372%	447%	649%	498%	448%	308%	292%	231%	181%	241%	271%	220%	312%
34%	34%	76%	86%	150%	117%	151%	230%	209%	148%	112%	263%	395%	352%	424%	617%	473%	424%	291%	276%	217%	169%	238%	268%	217%	308%
35%	8%	42%	50%	102%	76%	66%	119%	104%	64%	40%	162%	257%	226%	278%	417%	313%	278%	182%	171%	129%	94%	144%	166%	129%	218%
36%	-8%	21%	29%	73%	50%	42%	87%	75%	40%	20%	124%	206%	179%	248%	376%	280%	248%	159%	149%	110%	79%	124%	144%	111%	192%
37%	-8%	21%	29%	72%	50%	59%	110%	96%	74%	49%	178%	280%	247%	332%	491%	372%	332%	229%	216%	173%	132%	205%	232%	187%	297%
38%	-7%	24%	31%	18%	2%	10%	50%	41%	25%	7%	99%	172%	149%	210%	349%	259%	229%	150%	141%	108%	77%	132%	174%	136%	228%
39%	-8%	21%	29%	16%	1%	8%	48%	38%	23%	5%	96%	168%	145%	205%	342%	253%	223%	146%	137%	104%	74%	132%	174%	136%	228%
40%	-12%	7%	14%	2%	-9%	-4%	28%	20%	6%	-9%	70%	133%	113%	165%	285%	208%	181%	115%	106%	78%	51%	102%	139%	106%	185%
41%	-23%	-6%	-7%	-11%	-21%	-16%	12%	4%	-7%	-23%	48%	113%	92%	128%	231%	164%	142%	84%	77%	53%	30%	92%	126%	95%	170%
42%	-23%	-6%	-7%	-11%	-21%	-16%	12%	4%	-7%	-23%	48%	113%	92%	128%	231%	164%	142%	84%	77%	53%	30%	92%	126%	95%	170%
43%	-18%	0%	-2%	-7%	-18%	-13%	16%	9%	-4%	-19%	54%	122%	100%	137%	244%	175%	152%	92%	84%	59%	35%	100%	135%	103%	182%
44%	-17%	2%	0%	-5%	-16%	-10%	20%	14%	5%	-12%	78%	122%	100%	137%	244%	175%	152%	92%	84%	59%	35%	100%	135%	103%	182%
45%	-22%	2%	0%	-5%	-16%	26%	68%	59%	47%	23%	157%	221%	188%	131%	235%	168%	144%	86%	79%	55%	31%	94%	128%	97%	182%
46%	-33%	-12%	-13%	-18%	-27%	16%	55%	47%	36%	14%	137%	197%	166%	113%	235%	168%	144%	86%	79%	55%	31%	94%	128%	97%	182%
47%	-29%	-7%	-8%	-13%	-23%	34%	78%	69%	56%	30%	134%	193%	163%	110%	230%	164%	141%	84%	77%	53%	30%	91%	125%	94%	178%
48%	-25%	-2%	-6%	-10%	-20%	4%	52%	44%	34%	11%	100%	150%	124%	80%	182%	125%	106%	57%	51%	30%	11%	63%	92%	66%	137%
49%	-10%	17%	25%	19%	6%	6%	55%	47%	36%	19%	113%	167%	143%	95%	229%	163%	141%	84%	76%	52%	32%	94%	154%	119%	236%

Turkiye Demir Dokum Fab. Filter Results

APPENDIX 3.18.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	654%	657%	702%	966%	1067%	949%	1152%	1075%	1125%	1354%	1327%	1335%	1092%	875%	828%	958%	1240%	1316%	1573%	1485%	1540%	1472%	1478%	1478%
2%	600%	589%	704%	969%	1071%	1009%	991%	957%	1002%	1163%	1154%	1205%	985%	787%	745%	862%	1240%	1316%	1573%	1485%	1387%	1325%	1478%	1478%
3%	925%	846%	658%	908%	1004%	947%	872%	833%	930%	1093%	1154%	1132%	923%	737%	697%	807%	1240%	1316%	1573%	1485%	1387%	1325%	1478%	1478%
4%	830%	796%	611%	845%	968%	913%	840%	783%	846%	1055%	1154%	1132%	923%	737%	697%	777%	1197%	1316%	1573%	1485%	1387%	1325%	1478%	1478%
5%	713%	613%	500%	776%	890%	804%	713%	672%	777%	970%	1062%	1042%	849%	675%	639%	713%	1033%	1137%	1363%	1285%	1302%	1244%	1388%	1388%
6%	708%	590%	487%	755%	867%	1053%	971%	917%	903%	1045%	1142%	1015%	827%	658%	622%	694%	1033%	1137%	1363%	1285%	1302%	1244%	1388%	1388%
7%	675%	563%	463%	721%	828%	1053%	971%	917%	903%	1045%	1142%	1015%	827%	658%	622%	694%	1033%	1137%	1363%	1285%	1302%	1244%	1388%	1388%
8%	766%	785%	583%	895%	1067%	1069%	1004%	946%	1040%	1200%	1343%	1220%	1156%	927%	878%	953%	1009%	1137%	1306%	1232%	1248%	1193%	1331%	1331%
9%	691%	709%	524%	810%	966%	969%	856%	806%	981%	1132%	1343%	1220%	1156%	927%	878%	953%	1009%	1137%	1306%	1232%	1248%	1193%	1331%	1331%
10%	492%	505%	367%	586%	744%	830%	746%	701%	929%	1073%	1331%	1210%	1147%	920%	872%	902%	955%	1129%	1306%	1232%	1248%	1193%	1331%	1331%
11%	484%	497%	360%	586%	744%	830%	746%	701%	914%	1056%	1312%	1191%	1130%	906%	858%	889%	940%	1112%	1306%	1232%	1248%	1193%	1331%	1331%
12%	447%	459%	331%	555%	705%	753%	654%	615%	787%	912%	1135%	1029%	975%	779%	737%	765%	864%	1022%	1229%	1159%	1091%	1043%	1254%	1254%
13%	395%	406%	290%	493%	629%	672%	583%	547%	703%	892%	1111%	1007%	953%	762%	721%	748%	845%	1000%	1204%	1135%	1091%	1043%	1254%	1254%
14%	371%	381%	270%	493%	629%	672%	583%	547%	703%	892%	1111%	1007%	953%	762%	721%	748%	845%	1000%	1204%	1135%	1091%	1043%	1254%	1254%
15%	315%	325%	227%	442%	566%	605%	523%	491%	623%	793%	1094%	992%	939%	751%	710%	719%	814%	986%	1204%	1135%	1091%	1043%	1254%	1254%
16%	286%	296%	205%	432%	566%	605%	523%	491%	586%	747%	1033%	936%	886%	707%	668%	677%	767%	930%	1204%	1135%	1091%	1043%	1254%	1254%
17%	269%	277%	190%	406%	535%	571%	493%	463%	554%	707%	1033%	936%	886%	707%	668%	640%	726%	930%	1204%	1135%	1091%	1043%	1254%	1254%
18%	203%	197%	153%	359%	481%	515%	444%	523%	498%	638%	938%	850%	804%	639%	604%	597%	737%	943%	1185%	1117%	1074%	1026%	1233%	1233%
19%	292%	284%	227%	374%	510%	491%	423%	556%	498%	638%	938%	850%	804%	639%	604%	597%	737%	943%	1185%	1117%	1074%	1026%	1233%	1233%
20%	275%	268%	213%	355%	485%	466%	401%	529%	473%	607%	895%	810%	766%	608%	575%	568%	702%	900%	1131%	1067%	1025%	979%	1233%	1233%
21%	237%	231%	180%	308%	440%	466%	401%	529%	473%	607%	895%	810%	766%	608%	575%	568%	702%	900%	1131%	1067%	1025%	979%	1233%	1233%
22%	286%	317%	255%	426%	595%	629%	543%	537%	481%	617%	908%	822%	778%	618%	584%	647%	796%	1018%	1236%	1165%	1120%	1071%	1347%	1347%
23%	242%	270%	213%	365%	515%	544%	469%	464%	414%	571%	908%	822%	778%	618%	584%	626%	771%	1018%	1236%	1165%	1120%	1071%	1347%	1347%
24%	187%	256%	202%	353%	515%	544%	469%	464%	414%	571%	908%	822%	778%	618%	584%	626%	771%	1018%	1236%	1165%	1120%	1071%	1347%	1347%
25%	115%	166%	127%	312%	459%	486%	418%	413%	368%	511%	817%	738%	699%	553%	522%	560%	692%	918%	1115%	1051%	1011%	965%	1238%	1238%
26%	97%	144%	107%	277%	412%	436%	374%	369%	328%	459%	817%	738%	699%	553%	522%	504%	625%	918%	1115%	1051%	1011%	965%	1238%	1238%
27%	78%	121%	87%	241%	364%	385%	330%	325%	287%	406%	731%	659%	623%	492%	463%	447%	614%	902%	1097%	1034%	994%	949%	1238%	1238%
28%	56%	93%	64%	200%	323%	344%	292%	288%	254%	362%	731%	659%	623%	492%	463%	447%	614%	902%	1097%	1034%	994%	949%	1238%	1238%
29%	49%	85%	57%	185%	303%	322%	274%	269%	237%	340%	691%	623%	589%	463%	436%	421%	580%	854%	1039%	980%	941%	899%	1238%	1238%
30%	42%	76%	50%	172%	285%	304%	257%	253%	223%	340%	691%	623%	589%	463%	436%	421%	580%	854%	1039%	980%	941%	899%	1238%	1238%
31%	177%	252%	216%	486%	730%	550%	475%	469%	418%	608%	1171%	1085%	1085%	869%	823%	803%	1106%	1106%	1039%	980%	941%	899%	1238%	1238%
32%	177%	252%	216%	486%	730%	550%	475%	469%	418%	608%	1171%	1085%	1085%	869%	823%	803%	1106%	1106%	1039%	980%	941%	899%	1238%	1238%
33%	297%	404%	351%	759%	730%	550%	475%	469%	418%	608%	1171%	1085%	1085%	869%	823%	803%	1106%	1106%	1039%	980%	941%	899%	1238%	1238%
34%	294%	400%	347%	753%	724%	545%	470%	464%	415%	602%	1161%	1074%	1074%	862%	816%	796%	1096%	1096%	1030%	971%	933%	890%	1226%	1226%
35%	207%	289%	248%	564%	542%	402%	344%	339%	301%	446%	881%	815%	815%	649%	613%	598%	831%	831%	780%	734%	704%	671%	1066%	1066%
36%	182%	258%	221%	510%	490%	362%	308%	304%	268%	446%	881%	815%	815%	649%	613%	598%	831%	831%	780%	734%	704%	671%	1066%	1066%
37%	293%	403%	368%	510%	490%	362%	308%	304%	268%	446%	881%	815%	815%	649%	613%	598%	831%	831%	780%	734%	704%	671%	1066%	1066%
38%	224%	315%	285%	408%	391%	285%	240%	237%	207%	356%	795%	734%	734%	583%	550%	536%	831%	831%	780%	734%	704%	671%	1066%	1066%
39%	224%	315%	285%	408%	391%	285%	240%	237%	207%	356%	795%	734%	734%	583%	550%	536%	831%	831%	780%	734%	704%	671%	1066%	1066%
40%	182%	261%	235%	380%	364%	263%	221%	218%	190%	330%	795%	734%	734%	583%	550%	536%	831%	831%	780%	734%	704%	671%	1066%	1066%
41%	167%	242%	218%	354%	339%	244%	204%	201%	174%	307%	747%	690%	690%	546%	515%	502%	781%	781%	733%	690%	662%	629%	1004%	1004%
42%	167%	242%	218%	354%	339%	244%	204%	201%	174%	307%	747%	690%	690%	546%	515%	502%	781%	781%	733%	690%	662%	629%	1004%	1004%
43%	178%	242%	218%	354%	339%	244%	204%	201%	174%	307%	747%	690%	690%	546%	515%	502%	781%	781%	733%	690%	662%	629%	1004%	1004%
44%	178%	242%	218%	354%	339%	244%	204%	201%	174%	307%	747%	690%	690%	546%	515%	502%	781%	781%	733%	690%	662%	629%	1004%	1004%
45%	178%	242%	218%	354%	339%	244%	204%	201%	174%	307%	747%	690%	690%	546%	515%	502%	781%	781%	733%	690%	662%	629%	1004%	1004%
46%	178%	242%	218%	354%	339%	244%	204%	201%	174%	307%	747%	690%	690%	546%	515%	502%	781%	781%	733%	690%	662%	629%	1004%	1004%
47%	175%	237%	213%	348%	333%	239%	200%	197%	171%	301%	735%	679%	679%	537%	507%	493%	769%	769%	722%	679%	651%	620%	988%	988%
48%	135%	188%	168%	283%	270%	190%	156%	154%	131%	265%	735%	679%	679%	537%	507%	493%	769%	769%	722%	679%	651%	620%	988%	988%
49%	232%	308%	279%	441%	429%	333%	283%	279%	254%	460%	732%	676%	676%	535%	504%	491%	766%	766%	719%	675%	648%	617%	985%	985%

Turkiye Demir Dokum Fab. Filter Results

APPENDIX 3.18.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	91%	330%	399%	194%	247%	339%	358%	421%	458%	404%	316%	448%	647%	684%	484%	362%	424%	406%	451%	424%	480%	453%	497%	533%	526%
2%	242%	450%	476%	285%	322%	439%	512%	415%	462%	447%	396%	552%	603%	638%	449%	351%	302%	289%	339%	318%	372%	349%	385%	415%	409%
3%	204%	353%	401%	228%	357%	522%	536%	468%	530%	552%	550%	793%	643%	670%	494%	395%	362%	346%	404%	379%	372%	349%	385%	415%	529%
4%	229%	373%	350%	274%	375%	488%	501%	451%	529%	502%	521%	753%	680%	724%	536%	438%	406%	436%	506%	476%	342%	321%	354%	381%	488%
5%	158%	210%	248%	212%	406%	551%	592%	534%	467%	442%	586%	919%	632%	674%	510%	463%	434%	465%	553%	586%	462%	435%	478%	513%	648%
6%	288%	256%	327%	233%	380%	442%	426%	382%	344%	332%	411%	659%	462%	492%	367%	331%	339%	372%	475%	504%	394%	371%	409%	439%	559%
7%	376%	351%	487%	358%	311%	364%	295%	286%	245%	236%	321%	550%	381%	398%	301%	270%	287%	316%	462%	490%	383%	360%	397%	427%	544%
8%	567%	479%	692%	563%	477%	499%	424%	284%	234%	243%	339%	492%	378%	394%	298%	271%	288%	372%	537%	570%	510%	453%	497%	533%	750%
9%	394%	303%	431%	345%	292%	347%	263%	166%	133%	160%	233%	226%	182%	191%	135%	145%	184%	245%	366%	399%	355%	312%	354%	381%	599%
10%	237%	194%	364%	288%	265%	316%	240%	150%	109%	137%	203%	196%	160%	124%	84%	93%	154%	209%	326%	356%	316%	277%	315%	340%	538%
11%	228%	183%	391%	281%	273%	325%	257%	170%	134%	151%	238%	267%	174%	136%	94%	120%	190%	253%	386%	462%	460%	325%	233%	344%	378%
12%	261%	261%	477%	417%	429%	546%	466%	308%	208%	276%	344%	313%	221%	188%	142%	197%	302%	421%	458%	545%	598%	429%	324%	465%	591%
13%	318%	258%	395%	361%	381%	367%	309%	167%	101%	146%	230%	213%	143%	118%	83%	125%	205%	316%	346%	415%	457%	323%	238%	402%	514%
14%	212%	230%	369%	364%	313%	356%	299%	163%	98%	149%	241%	223%	161%	134%	63%	116%	213%	341%	401%	375%	413%	289%	211%	362%	465%
15%	230%	278%	467%	475%	411%	522%	445%	282%	225%	307%	458%	351%	209%	177%	98%	164%	293%	453%	545%	511%	598%	429%	324%	528%	465%
16%	246%	330%	545%	566%	398%	532%	453%	314%	252%	372%	547%	423%	258%	229%	135%	172%	343%	589%	487%	456%	535%	381%	285%	471%	414%
17%	258%	352%	575%	620%	438%	578%	494%	364%	331%	420%	666%	528%	374%	335%	227%	219%	481%	924%	773%	751%	888%	731%	565%	886%	800%
18%	149%	203%	352%	383%	261%	383%	323%	230%	207%	336%	542%	426%	297%	264%	174%	168%	387%	759%	632%	613%	729%	597%	458%	789%	711%
19%	132%	182%	322%	350%	236%	355%	304%	235%	211%	341%	551%	440%	355%	317%	214%	213%	470%	967%	810%	787%	930%	819%	636%	1072%	970%
20%	110%	180%	336%	341%	230%	364%	235%	178%	242%	270%	502%	400%	321%	286%	190%	190%	453%	948%	793%	771%	911%	802%	622%	1051%	951%
21%	93%	155%	264%	277%	182%	297%	187%	138%	193%	216%	415%	327%	260%	230%	148%	148%	373%	797%	679%	659%	782%	687%	530%	904%	816%
22%	151%	266%	439%	512%	357%	396%	259%	189%	176%	172%	385%	303%	239%	211%	144%	159%	395%	985%	842%	819%	988%	871%	677%	1139%	1058%
23%	144%	256%	424%	494%	344%	382%	257%	192%	219%	215%	462%	366%	292%	270%	190%	134%	378%	947%	809%	786%	950%	836%	650%	1095%	1017%
24%	180%	223%	375%	469%	326%	451%	308%	233%	265%	278%	627%	503%	408%	394%	288%	213%	586%	1049%	916%	891%	1096%	998%	779%	986%	916%
25%	140%	176%	358%	471%	327%	452%	316%	298%	361%	377%	891%	722%	592%	549%	409%	311%	801%	1051%	919%	893%	1099%	1001%	781%	860%	798%
26%	77%	119%	264%	354%	239%	339%	231%	217%	267%	279%	688%	554%	450%	416%	305%	227%	665%	958%	888%	863%	1063%	968%	755%	831%	771%
27%	133%	203%	467%	441%	304%	434%	312%	276%	335%	281%	766%	651%	532%	492%	365%	293%	879%	1254%	835%	812%	1021%	929%	724%	798%	740%
28%	127%	195%	451%	426%	304%	433%	312%	317%	383%	323%	861%	734%	602%	557%	431%	349%	716%	1028%	679%	660%	834%	758%	587%	648%	600%
29%	115%	179%	422%	398%	282%	405%	290%	295%	358%	300%	811%	690%	565%	523%	403%	325%	673%	969%	638%	619%	834%	758%	587%	648%	600%
30%	171%	263%	579%	559%	511%	706%	523%	531%	631%	540%	1354%	1161%	1010%	952%	780%	644%	886%	886%	581%	564%	761%	691%	534%	590%	545%
31%	203%	307%	666%	643%	588%	809%	636%	646%	763%	656%	1748%	1502%	1346%	1270%	1137%	946%	794%	794%	517%	501%	681%	617%	474%	526%	485%
32%	295%	429%	896%	866%	796%	1083%	858%	646%	763%	656%	1748%	1502%	1346%	1270%	1137%	946%	794%	794%	517%	501%	681%	617%	474%	526%	485%
33%	285%	416%	871%	842%	842%	1143%	861%	705%	832%	644%	1849%	1683%	1470%	1388%	1193%	993%	773%	773%	503%	488%	663%	601%	461%	511%	472%
34%	200%	299%	539%	766%	766%	1085%	858%	703%	581%	443%	1340%	1218%	1060%	999%	855%	707%	545%	545%	346%	334%	464%	418%	315%	352%	322%
35%	169%	259%	483%	691%	691%	1085%	858%	703%	581%	443%	1340%	1218%	1060%	999%	855%	707%	545%	545%	346%	334%	464%	418%	315%	352%	322%
36%	177%	248%	465%	666%	666%	1048%	828%	743%	614%	470%	1169%	1062%	922%	869%	742%	612%	469%	469%	293%	283%	406%	364%	272%	305%	279%
37%	241%	333%	475%	591%	591%	935%	831%	745%	616%	471%	1112%	1009%	876%	825%	674%	554%	389%	389%	238%	229%	335%	299%	220%	248%	226%
38%	248%	308%	442%	551%	551%	875%	777%	696%	574%	438%	1041%	945%	819%	771%	629%	516%	360%	360%	218%	210%	309%	276%	201%	228%	207%
39%	206%	258%	376%	509%	509%	812%	720%	578%	475%	403%	968%	877%	760%	715%	582%	476%	331%	331%	198%	190%	309%	276%	201%	228%	207%
40%	182%	230%	338%	460%	460%	739%	611%	488%	398%	336%	882%	799%	691%	650%	527%	430%	296%	296%	174%	167%	277%	246%	177%	202%	182%
41%	182%	230%	338%	460%	460%	739%	611%	488%	398%	336%	882%	799%	691%	650%	527%	430%	296%	296%	174%	167%	277%	246%	177%	202%	182%
42%	221%	215%	318%	435%	435%	701%	578%	462%	376%	316%	838%	758%	655%	616%	499%	406%	278%	278%	161%	155%	260%	230%	165%	188%	169%
43%	246%	239%	263%	365%	365%	596%	525%	418%	339%	284%	764%	691%	596%	560%	452%	366%	248%	248%	141%	135%	231%	204%	144%	166%	148%
44%	216%	209%	232%	325%	325%	536%	471%	418%	339%	284%	764%	691%	596%	560%	452%	366%	248%	248%	141%	135%	231%	204%	144%	166%	148%
45%	194%	188%	209%	295%	295%	492%	457%	404%	327%	274%	763%	690%	613%	575%	487%	396%	271%	271%	186%	178%	293%	261%	189%	215%	195%
46%	198%	343%	454%	438%	438%	419%	367%	323%	258%	191%	623%	562%	497%	466%	392%	316%	211%	211%	140%	133%	230%	203%	142%	164%	147%
47%	198%	343%	454%	438%	438%	419%	367%	323%	258%	191%	623%	562%	497%	466%	392%	316%	211%	211%	140%	133%	230%	203%	142%	164%	147%
48%	210%	358%	408%	393%	393%	376%	328%	287%	229%	166%	580%	522%	461%	432%	362%	291%	192%	192%	125%	119%	230%	203%	142%	164%	147%
49%	210%	358%	408%	393%	393%	376%	328%	287%	229%	166%	580%	522%	461%	432%	362%	291%	192%	192%	125%	119%	230%	203%	142%	164%	147%

Turkiye Sise Cam Fab. Filter Results

APPENDIX 3.19.a

x%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
y%																								
1%	648%	611%	644%	587%	536%	552%	681%	822%	682%	742%	564%	535%	786%	753%	586%	584%	633%	586%	586%	661%	661%	661%	616%	596%
2%	549%	527%	546%	496%	452%	465%	577%	678%	559%	611%	460%	477%	676%	647%	501%	477%	518%	529%	529%	689%	689%	689%	642%	621%
3%	702%	619%	641%	584%	533%	549%	677%	646%	533%	582%	460%	477%	676%	647%	501%	477%	493%	504%	504%	689%	689%	689%	642%	621%
4%	714%	619%	674%	570%	520%	545%	724%	612%	503%	550%	481%	489%	640%	612%	473%	430%	493%	504%	504%	719%	719%	719%	670%	649%
5%	935%	747%	947%	806%	739%	823%	692%	612%	503%	550%	481%	446%	611%	585%	451%	409%	493%	504%	504%	719%	719%	719%	670%	649%
6%	828%	659%	839%	712%	652%	728%	636%	562%	461%	504%	441%	407%	561%	537%	413%	374%	451%	461%	461%	661%	661%	661%	616%	596%
7%	807%	642%	818%	694%	635%	709%	620%	521%	427%	468%	429%	396%	546%	523%	401%	363%	418%	427%	427%	661%	661%	661%	616%	596%
8%	734%	583%	779%	660%	604%	675%	589%	495%	405%	443%	406%	375%	519%	496%	380%	343%	396%	405%	405%	629%	629%	629%	586%	567%
9%	641%	507%	723%	611%	559%	625%	545%	446%	363%	361%	330%	303%	408%	429%	326%	294%	332%	340%	340%	578%	578%	578%	538%	520%
10%	577%	485%	652%	550%	502%	563%	511%	417%	338%	337%	307%	303%	408%	429%	326%	294%	332%	340%	340%	578%	578%	578%	538%	520%
11%	408%	339%	745%	631%	654%	776%	710%	605%	498%	496%	419%	404%	339%	357%	268%	240%	273%	315%	315%	578%	578%	578%	538%	520%
12%	659%	556%	745%	631%	654%	776%	710%	605%	498%	496%	419%	404%	339%	357%	268%	240%	273%	315%	315%	564%	564%	564%	525%	507%
13%	574%	482%	650%	548%	569%	678%	619%	526%	431%	429%	361%	348%	290%	306%	227%	202%	258%	299%	299%	537%	537%	537%	499%	483%
14%	520%	421%	590%	497%	516%	616%	619%	526%	430%	448%	377%	364%	304%	321%	239%	213%	271%	313%	313%	560%	560%	560%	521%	504%
15%	520%	421%	590%	497%	516%	616%	619%	526%	430%	448%	377%	364%	304%	321%	239%	213%	271%	313%	313%	692%	692%	692%	645%	625%
16%	512%	421%	590%	497%	516%	616%	619%	526%	430%	448%	377%	364%	304%	321%	239%	213%	271%	313%	313%	692%	692%	692%	645%	625%
17%	1022%	874%	804%	734%	760%	966%	970%	831%	746%	774%	662%	640%	556%	609%	471%	459%	562%	637%	637%	675%	675%	675%	628%	608%
18%	953%	814%	748%	683%	708%	900%	904%	774%	694%	663%	565%	546%	473%	565%	436%	425%	522%	592%	592%	654%	654%	654%	609%	590%
19%	1289%	1125%	1099%	1006%	1041%	1314%	1344%	1255%	1130%	1137%	979%	948%	866%	1022%	822%	822%	1040%	1169%	1169%	982%	982%	982%	917%	889%
20%	1265%	1103%	1077%	986%	1021%	1288%	1318%	1230%	1108%	1115%	959%	929%	849%	1002%	805%	805%	1019%	1146%	1146%	962%	962%	962%	899%	871%
21%	1090%	949%	927%	847%	891%	1127%	1154%	1076%	968%	975%	837%	810%	739%	875%	701%	701%	890%	1084%	1084%	909%	909%	909%	849%	822%
22%	1404%	1259%	1230%	1158%	1217%	1574%	1610%	1593%	1437%	1447%	1287%	1247%	1218%	1430%	1157%	1157%	1157%	1403%	1403%	1181%	1181%	1181%	1105%	1072%
23%	1383%	1240%	1212%	1141%	1217%	1574%	1610%	1593%	1437%	1447%	1287%	1247%	1218%	1430%	1157%	1157%	1157%	1403%	1403%	1181%	1181%	1181%	1105%	1072%
24%	1248%	1118%	1092%	1028%	1163%	1505%	1670%	1652%	1491%	1447%	1287%	1247%	1218%	1430%	1157%	1157%	1157%	1403%	1403%	1181%	1181%	1181%	1105%	1072%
25%	1170%	1047%	1023%	963%	1089%	1505%	1670%	1652%	1491%	1447%	1287%	1247%	1218%	1430%	1157%	1157%	1157%	1403%	1403%	1181%	1181%	1181%	1105%	1072%
26%	1170%	1047%	1023%	963%	1089%	1505%	1670%	1652%	1491%	1447%	1287%	1247%	1218%	1430%	1157%	1157%	1157%	1403%	1403%	1181%	1181%	1181%	1105%	1072%
27%	1125%	1006%	983%	925%	1047%	1448%	1607%	1589%	1434%	1392%	1237%	1199%	1171%	1393%	1126%	1126%	1126%	1367%	1367%	1150%	1150%	1150%	1075%	1043%
28%	920%	822%	802%	754%	855%	1189%	1322%	1308%	1178%	1143%	1014%	983%	959%	1201%	969%	969%	969%	1179%	1179%	990%	990%	990%	925%	896%
29%	920%	822%	802%	754%	855%	1189%	1322%	1308%	1178%	1143%	1014%	983%	959%	1201%	969%	969%	969%	1179%	1179%	990%	990%	990%	925%	896%
30%	891%	795%	776%	729%	828%	1152%	1281%	1267%	1142%	1107%	982%	952%	929%	1164%	938%	938%	938%	1179%	1179%	990%	990%	990%	925%	896%
31%	798%	711%	694%	652%	785%	1094%	1217%	1204%	1084%	1051%	932%	903%	881%	1105%	890%	890%	890%	1119%	1119%	939%	939%	939%	877%	850%
32%	798%	711%	694%	652%	785%	1094%	1217%	1204%	1084%	1051%	932%	903%	881%	1105%	890%	890%	890%	1119%	1119%	939%	939%	939%	877%	850%
33%	778%	693%	676%	634%	765%	1094%	1217%	1204%	1084%	1051%	932%	903%	881%	1105%	890%	890%	890%	1119%	1119%	939%	939%	939%	877%	850%
34%	588%	522%	509%	476%	578%	836%	948%	937%	842%	816%	721%	698%	680%	943%	757%	757%	757%	1041%	1041%	873%	873%	873%	815%	789%
35%	588%	522%	509%	476%	578%	836%	948%	937%	842%	816%	721%	698%	680%	943%	757%	757%	757%	1041%	1041%	873%	873%	873%	815%	789%
36%	518%	458%	446%	417%	508%	797%	948%	937%	842%	816%	721%	698%	680%	943%	757%	757%	757%	1041%	1041%	873%	873%	873%	815%	789%
37%	465%	410%	399%	373%	456%	721%	858%	849%	762%	738%	651%	630%	614%	854%	684%	684%	684%	944%	944%	790%	790%	790%	737%	714%
38%	432%	381%	370%	345%	456%	721%	858%	849%	762%	738%	651%	630%	614%	854%	684%	684%	684%	944%	944%	790%	790%	790%	737%	714%
39%	432%	381%	370%	345%	456%	721%	858%	849%	762%	738%	651%	630%	614%	854%	684%	684%	684%	944%	944%	790%	790%	790%	737%	714%
40%	390%	342%	333%	310%	412%	655%	782%	773%	693%	671%	591%	571%	557%	778%	621%	621%	621%	861%	861%	718%	718%	718%	670%	649%
41%	390%	342%	333%	310%	412%	655%	782%	773%	693%	671%	591%	571%	557%	778%	621%	621%	621%	861%	861%	718%	718%	718%	670%	649%
42%	376%	330%	321%	299%	398%	635%	782%	773%	693%	671%	591%	571%	557%	778%	621%	621%	621%	861%	861%	718%	718%	718%	670%	649%
43%	339%	297%	288%	267%	359%	577%	713%	704%	631%	610%	537%	519%	505%	709%	564%	564%	564%	785%	785%	654%	654%	654%	610%	590%
44%	339%	297%	288%	267%	359%	577%	713%	704%	631%	610%	537%	519%	505%	709%	564%	564%	564%	785%	785%	654%	654%	654%	610%	590%
45%	460%	414%	414%	386%	532%	522%	646%	639%	571%	552%	485%	468%	456%	643%	510%	510%	510%	785%	785%	654%	654%	654%	610%	590%
46%	395%	354%	354%	329%	497%	487%	624%	617%	551%	533%	468%	451%	439%	643%	510%	510%	510%	785%	785%	654%	654%	654%	610%	590%
47%	395%	354%	354%	329%	497%	487%	624%	617%	551%	533%	468%	451%	439%	643%	510%	510%	510%	785%	785%	654%	654%	654%	610%	590%
48%	395%	354%	354%	329%	497%	487%	624%	617%	551%	533%	468%	451%	439%	643%	510%	510%	510%	785%	785%	654%	654%	654%	610%	590%
49%	395%	354%	354%	329%	497%	487%	624%	617%	551%	533%	468%	451%	439%	643%	510%	510%	510%	785%	785%	654%	654%	654%	610%	590%

Turkiye Sise Cam Fab. Filter Results

APPENDIX 3.19.b

x% / y%	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%
1%	-92%	-85%	-70%	-44%	-38%	-58%	-39%	-7%	-25%	-25%	-1%	4%	46%	142%	242%	242%	354%	286%	289%	240%	343%	379%	533%	532%	766%
2%	-82%	-76%	-63%	-46%	-45%	-61%	-40%	0%	-7%	-7%	23%	4%	46%	159%	292%	292%	400%	398%	403%	339%	473%	490%	679%	678%	705%
3%	-64%	-48%	-51%	-30%	-48%	-64%	-48%	2%	-3%	-1%	31%	10%	51%	116%	197%	233%	457%	455%	399%	336%	385%	399%	640%	639%	665%
4%	-49%	-28%	-30%	-38%	-54%	-66%	-45%	12%	-8%	6%	33%	14%	30%	82%	143%	172%	434%	411%	359%	307%	361%	375%	631%	603%	578%
5%	10%	54%	94%	84%	15%	-14%	3%	97%	56%	37%	72%	62%	48%	98%	179%	221%	440%	417%	444%	436%	409%	360%	554%	529%	506%
6%	4%	41%	107%	118%	46%	16%	39%	150%	108%	53%	91%	78%	62%	117%	206%	253%	375%	389%	414%	393%	376%	331%	512%	488%	467%
7%	6%	30%	91%	121%	48%	23%	43%	156%	130%	48%	62%	57%	52%	116%	213%	196%	299%	316%	343%	336%	321%	281%	457%	436%	438%
8%	-3%	22%	61%	69%	16%	12%	34%	132%	149%	61%	56%	51%	56%	122%	159%	140%	267%	283%	307%	310%	296%	258%	437%	417%	419%
9%	11%	38%	14%	37%	2%	-1%	20%	95%	109%	35%	31%	27%	35%	74%	105%	104%	211%	238%	259%	291%	278%	242%	412%	393%	383%
10%	-10%	21%	1%	3%	-30%	-44%	-25%	41%	72%	11%	-3%	-5%	6%	39%	52%	54%	181%	223%	250%	318%	344%	301%	347%	330%	322%
11%	18%	43%	9%	12%	-22%	-36%	-16%	71%	124%	52%	42%	38%	40%	94%	114%	117%	218%	265%	219%	280%	303%	265%	308%	293%	315%
12%	16%	47%	12%	23%	-15%	-28%	-7%	56%	131%	39%	57%	53%	3%	48%	72%	74%	155%	214%	174%	227%	247%	214%	251%	238%	233%
13%	15%	44%	17%	33%	-5%	-25%	-3%	49%	121%	33%	50%	53%	3%	47%	49%	51%	121%	172%	137%	183%	200%	171%	206%	195%	203%
14%	12%	40%	29%	31%	-6%	-19%	15%	57%	112%	27%	44%	57%	6%	28%	29%	31%	91%	144%	112%	154%	169%	143%	175%	164%	172%
15%	-13%	9%	8%	4%	-25%	-36%	-3%	31%	83%	10%	25%	41%	-5%	14%	27%	29%	89%	150%	118%	115%	146%	123%	152%	142%	149%
16%	-15%	7%	6%	7%	-23%	-34%	-4%	31%	64%	-1%	12%	26%	-15%	6%	18%	20%	75%	132%	102%	99%	128%	106%	133%	124%	131%
17%	-13%	11%	16%	23%	-25%	-36%	-14%	29%	53%	-1%	13%	27%	-14%	7%	19%	29%	95%	168%	134%	92%	120%	99%	125%	116%	122%
18%	25%	40%	21%	28%	-16%	-24%	6%	67%	93%	25%	29%	52%	3%	28%	61%	77%	183%	314%	261%	134%	190%	142%	196%	185%	205%
19%	1%	8%	-7%	0%	-33%	-41%	-19%	37%	60%	4%	11%	32%	-11%	26%	57%	73%	177%	305%	253%	129%	183%	137%	196%	185%	205%
20%	17%	19%	9%	24%	-8%	-29%	1%	74%	106%	51%	38%	64%	11%	31%	71%	93%	183%	234%	191%	89%	134%	96%	144%	135%	156%
21%	-14%	-13%	-15%	-4%	-28%	-44%	-23%	44%	71%	26%	15%	36%	-8%	9%	42%	60%	135%	181%	145%	59%	97%	65%	124%	115%	135%
22%	1%	8%	5%	27%	-6%	-27%	4%	95%	81%	39%	27%	50%	1%	26%	64%	85%	172%	233%	191%	93%	139%	116%	194%	183%	230%
23%	11%	28%	33%	64%	22%	4%	10%	120%	123%	72%	50%	90%	50%	85%	85%	131%	239%	348%	290%	159%	221%	190%	295%	280%	355%
24%	19%	37%	89%	79%	48%	26%	34%	173%	186%	157%	111%	167%	127%	181%	180%	250%	318%	464%	392%	286%	413%	363%	558%	532%	657%
25%	16%	39%	92%	82%	55%	34%	61%	264%	207%	176%	127%	187%	151%	211%	219%	331%	414%	614%	523%	400%	565%	522%	783%	749%	955%
26%	30%	55%	115%	104%	73%	50%	80%	264%	207%	176%	127%	187%	151%	211%	219%	331%	414%	614%	523%	400%	565%	522%	783%	749%	955%
27%	99%	154%	117%	98%	66%	43%	75%	254%	179%	133%	112%	169%	136%	192%	199%	304%	382%	591%	502%	383%	542%	502%	754%	721%	920%
28%	90%	154%	117%	98%	66%	43%	75%	254%	179%	133%	112%	169%	136%	192%	199%	304%	382%	591%	502%	383%	542%	502%	754%	721%	920%
29%	63%	100%	71%	57%	34%	16%	38%	203%	139%	99%	82%	130%	101%	149%	167%	261%	331%	517%	438%	332%	474%	437%	662%	633%	810%
30%	52%	87%	71%	57%	34%	16%	38%	203%	139%	99%	82%	130%	101%	149%	167%	261%	331%	517%	438%	332%	474%	437%	662%	633%	810%
31%	113%	105%	81%	71%	43%	14%	50%	229%	163%	137%	113%	173%	140%	197%	218%	329%	269%	452%	381%	286%	413%	381%	582%	556%	769%
32%	126%	118%	85%	81%	45%	10%	51%	243%	175%	145%	98%	155%	124%	177%	197%	300%	245%	414%	349%	260%	379%	348%	575%	549%	760%
33%	138%	130%	95%	87%	54%	6%	41%	221%	177%	147%	94%	157%	125%	179%	204%	311%	268%	463%	391%	320%	504%	466%	752%	719%	665%
34%	115%	108%	76%	69%	54%	6%	32%	200%	177%	147%	94%	157%	125%	179%	204%	311%	268%	463%	391%	320%	504%	466%	752%	719%	665%
35%	71%	65%	49%	43%	31%	-10%	12%	154%	138%	112%	82%	141%	111%	111%	155%	267%	229%	414%	348%	283%	451%	416%	677%	647%	597%
36%	64%	58%	43%	37%	23%	-16%	7%	143%	124%	99%	74%	130%	102%	102%	144%	251%	214%	414%	348%	283%	451%	416%	677%	647%	597%
37%	99%	91%	67%	64%	57%	30%	94%	340%	305%	261%	206%	317%	276%	282%	214%	352%	305%	362%	303%	244%	395%	364%	598%	572%	527%
38%	99%	91%	67%	64%	53%	26%	94%	340%	294%	251%	206%	317%	276%	282%	214%	352%	305%	362%	303%	244%	395%	364%	598%	572%	527%
39%	81%	74%	52%	44%	45%	19%	79%	316%	281%	243%	239%	362%	327%	333%	265%	426%	384%	477%	406%	351%	549%	508%	542%	517%	476%
40%	46%	41%	14%	8%	6%	-14%	34%	259%	229%	196%	193%	299%	269%	274%	216%	355%	318%	399%	337%	290%	461%	425%	454%	433%	398%
41%	48%	36%	17%	15%	3%	-17%	34%	259%	229%	196%	186%	299%	269%	274%	216%	355%	318%	399%	337%	290%	461%	425%	454%	433%	398%
42%	50%	37%	31%	33%	19%	-4%	45%	279%	238%	201%	169%	276%	247%	252%	197%	328%	294%	370%	312%	267%	428%	395%	423%	402%	369%
43%	22%	21%	15%	17%	12%	-9%	34%	250%	218%	183%	153%	254%	227%	232%	180%	328%	294%	370%	312%	267%	428%	395%	423%	402%	369%
44%	21%	19%	14%	16%	10%	-11%	32%	246%	214%	179%	150%	249%	223%	227%	176%	323%	289%	364%	307%	263%	428%	395%	423%	402%	369%
45%	19%	13%	10%	13%	3%	-17%	26%	231%	200%	167%	133%	234%	209%	213%	164%	305%	272%	364%	307%	263%	428%	395%	423%	402%	369%
46%	60%	54%	55%	60%	45%	25%	37%	259%	256%	217%	184%	307%	276%	282%	222%	393%	367%	483%	427%	370%	428%	395%	423%	402%	369%
47%	60%	54%	55%	60%	45%	25%	37%	259%	256%	217%	184%	307%	276%	282%	222%	393%	367%	483%	427%	370%	428%	395%	423%	402%	369%
48%	43%	38%	35%	39%	26%	8%	20%	213%	209%	176%	144%	254%	227%	232%	180%	328%	306%	406%	358%	309%	359%	330%	354%	337%	308%
49%	31%	27%	24%	28%	16%	-1%	9%	213%	209%	176%	144%	254%	227%	232%	180%	328%	306%	406%	358%	309%	359%	330%	354%	337%	308%

Yasas Filter Results

APPENDIX 3.20.a

x% / y%	26%	27%	28%	29%	30%	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%	41%	42%	43%	44%	45%	46%	47%	48%	49%
1%	810%	676%	673%	834%	837%	919%	914%	932%	990%	1075%	964%	857%	919%	919%	1116%	1065%	1047%	1120%	1124%	1251%	1194%	1194%	1146%	1146%
2%	746%	676%	673%	834%	837%	919%	914%	932%	990%	1075%	964%	857%	919%	919%	957%	913%	971%	1040%	1124%	1251%	1194%	1194%	1146%	1146%
3%	704%	637%	615%	790%	892%	861%	856%	874%	823%	895%	964%	857%	919%	919%	957%	913%	971%	1040%	1124%	1183%	1129%	1129%	1084%	1084%
4%	612%	552%	533%	747%	892%	861%	856%	874%	823%	895%	843%	748%	803%	803%	836%	797%	971%	1125%	1214%	1278%	1129%	1129%	1084%	1084%
5%	590%	533%	514%	950%	861%	831%	827%	844%	794%	790%	743%	659%	775%	775%	836%	797%	971%	1217%	1313%	1278%	1129%	1129%	1084%	1084%
6%	546%	492%	474%	882%	799%	771%	827%	844%	794%	790%	743%	659%	775%	775%	836%	797%	971%	1217%	1313%	1278%	1129%	1129%	1084%	1084%
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11%	373%	356%	325%	824%	642%	626%	672%	797%	750%	746%	702%	621%	731%	731%	716%	682%	796%	1129%	1262%	1229%	1086%	1086%	1042%	1042%
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13%	245%	257%	233%	624%	481%	468%	544%	760%	714%	681%	645%	570%	672%	672%	637%	607%	768%	925%	1072%	1043%	920%	920%	882%	882%
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15%	216%	208%	187%	577%	443%	432%	502%	621%	583%	554%	567%	500%	672%	672%	637%	607%	717%	925%	1072%	1043%	920%	920%	882%	882%
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17%	182%	175%	156%	539%	413%	402%	468%	581%	545%	518%	468%	411%	557%	557%	527%	501%	635%	944%	1130%	1100%	971%	971%	931%	931%
18%	287%	277%	252%	509%	388%	378%	441%	548%	514%	488%	478%	420%	568%	568%	527%	501%	635%	895%	1072%	1043%	920%	920%	882%	882%
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21%	198%	200%	180%	384%	288%	280%	370%	503%	471%	448%	437%	383%	522%	522%	484%	459%	584%	825%	1072%	1043%	920%	920%	882%	882%
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25%	955%	1090%	1042%	1014%	852%	832%	1145%	1458%	1376%	1376%	1275%	1137%	1137%	1137%	1061%	1013%	981%	913%	1183%	1152%	1017%	1017%	975%	975%
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29%	810%	927%	885%	861%	722%	704%	974%	1290%	1217%	1217%	1127%	1004%	1004%	1004%	936%	893%	865%	804%	1141%	1110%	980%	980%	940%	940%
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Yasas Filter Results

APPENDIX 3.20.b