

# Accepted Manuscript

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PII: S1574-7891(14)00065-9

DOI: [10.1016/j.molonc.2014.03.017](https://doi.org/10.1016/j.molonc.2014.03.017)

Reference: MOLONC 495

To appear in: *Molecular Oncology*

Received Date: 20 December 2013

Revised Date: 20 February 2014

Accepted Date: 24 March 2014

Please cite this article as: Doan, T.B., Eriksson, N.A., Graham, D., Funder, J.W., Simpson, E.R., Kuczek, E.S., Clyne, C., Leedman, P.J., Tilley, W.D., Fuller, P.J., Muscat, G.E.O., Clarke, C.L., Breast cancer prognosis predicted by nuclear receptor-coregulator networks, *Molecular Oncology* (2014), doi: 10.1016/j.molonc.2014.03.017.

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**Breast cancer prognosis predicted by nuclear receptor-coregulator networks**

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Although molecular signatures based on transcript expression in breast cancer samples have provided new insights into breast cancer classification and prognosis, there are acknowledged limitations in current signatures. To provide rational, pathway-based signatures of disrupted physiology in cancer tissues that may be relevant to prognosis, this study has directly quantitated changed gene expression, between normal breast and cancer tissue, as a basis for signature development. The nuclear receptor (NR) family of transcription factors, and their coregulators, are fundamental regulators of every aspect of metazoan life, and were rigorously quantified in normal breast tissues and ER $\alpha$  positive and ER $\alpha$  negative breast cancers. Coregulator expression was highly correlated with that of selected NR in normal breast, particularly from postmenopausal women. These associations were markedly decreased in breast cancer, and the expression of the majority of coregulators was down-regulated in cancer tissues compared with normal. While in cancer the loss of NR-coregulator associations observed in normal breast was common, a small number of NR (Rev-ERB $\beta$ , GR, NOR1, LRH-1 and PGR) acquired new associations with coregulators in cancer tissues. Elevated expression of these NR in cancers was associated with poorer outcome in large clinical cohorts, as well as suggesting the activation of ER $\alpha$ -related, but ER $\alpha$ -independent, pathways in ER $\alpha$  negative cancers. In addition, the combined expression of small numbers of NR and coregulators in breast cancer was identified as a signature predicting outcome in ER $\alpha$  negative breast cancer patients, not linked to proliferation and with predictive power superior to existing signatures containing many more genes. These findings highlight the power of predictive signatures derived from the quantitative determination of altered gene expression between normal breast and breast cancers. Taken together, the findings of this study identify networks of NR-coregulator associations active in normal breast but disrupted in breast cancer, and moreover provide evidence that signatures based on NR networks disrupted in cancer can provide important prognostic information in breast cancer patients.

## **1. Introduction**

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Breast cancer is one of the most common malignancies worldwide, affecting millions of women annually in developed and developing communities. Its prevalence and increasing incidence has galvanized significant advances in the treatment options available, and continued advances in understanding of its biological underpinnings have revealed that breast cancer is both clinically and biologically heterogeneous. Considerable effort has been expended to identify tumor features that are prognostic of patient outcome, and/or predictive of responsiveness to particular treatment regimens. In this regard, a defining feature of breast cancers is the presence of estrogen receptor alpha (ER $\alpha$ ), where ER $\alpha$  positive and ER $\alpha$  negative cancers are characterized by major differences in biology, sensitivity and response to treatment, and patient outcome.

While ER $\alpha$ , progesterone receptor (PR) and epidermal growth factor receptor 2 (HER 2) are the histopathological markers that underpin current clinical management of breast cancer (Weigel and Dowsett, 2010), the imperative for increasingly refined and personalized predictive tools has driven the inclusion of molecular profiling in breast cancer prognostication, and there is now a significant body of evidence that molecular profiling of transcripts expressed in breast cancer samples can contribute to classification of breast cancers and to prognostic signatures (Weigelt et al., 2010a), now being tested in clinical trials ([www.agendia.com/pages/mindact](http://www.agendia.com/pages/mindact); (Zujewski and Kamin, 2008)). Although molecular-based signatures have revealed a range of breast cancer subtypes with distinct responses to treatment and outcome, and can identify patients at higher risk of early recurrence, there are acknowledged limitations in the current signatures (Geyer et al., 2012). These include the striking lack of overlap between signatures derived from different sample sets; their primary utility in ER $\alpha$  positive breast cancers and the lack of signatures that are predictive in both ER $\alpha$  positive and ER $\alpha$  negative cancers; the contribution of proliferation-related

present in the variable proportion of normal tissue admixed with the cancer component of samples used in signature discovery (Weigelt et al., 2010b). In addition, signatures based on the combined complement of genes expressed in cancer tissue at the time of sampling fail to provide insight into biological pathways or processes involved in carcinogenesis.

The emerging evidence for increased immune response activity as a predictor of improved prognosis has prompted a focus on signatures that incorporate immune pathways. These are proving to be useful in ER $\alpha$  negative breast cancers (Nagalla et al., 2013), but identification of proliferation-independent signatures for ER $\alpha$  positive breast cancers, or signatures predictive in both ER $\alpha$  positive and ER $\alpha$  negative cancers, remains challenging. To overcome some of these limitations, and also to provide rational, pathway-based signatures of disrupted physiology in cancer tissues that may be relevant to prognosis, this study has directly quantitated changed gene expression between normal breast, and cancer tissue, as a basis for signature development. Our emphasis was two-fold: first, to base the discovery on accurately quantitated differences between normal and cancer tissue, and second, to focus on components of a gene family that serves as fundamental regulators of metazoan biology and are therefore active in every aspect of human physiology. The nuclear receptor (NR) superfamily of transcription factors are crucial in reproduction, development, growth, metabolism and homeostasis. In terms of pathophysiology, they play key roles in the cardiovascular and immune systems, the central nervous system and the musculoskeletal system, and in the genesis and progression of cancer (Conzen, 2008). The NR family are expressed in the normal breast, and pan-repression of the majority of NR is associated with carcinogenesis (Muscat et al., 2013), highlighting the rationale for a role for NR in development and progression of the disease.

The cell- and context-specificity of NR action occurs through their interaction with defined groups

of coregulators, proteins that interact with NR to either activate or repress the transcription of specific genes (Lanz et al., 2007; McKenna and O'Malley, 2010). The transcriptional outcome regulated by NR is dependent on the complement of coregulators present in the target cell. Using human breast specimens (pre- and post-menopausal normal breast, and ER $\alpha$  positive and ER $\alpha$  negative breast cancers), we have quantitated all known NR coregulators in the human breast, and identified NR-coregulator interactions altered in cancer. We have developed molecular signatures independent of proliferation that outperform existing discriminators, and of demonstrated utility in both ER $\alpha$  positive and ER $\alpha$  negative breast cancers.

## **2. Materials and Methods**

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### **2.1 Human breast tissue cohorts and mRNA profiling by TaqMan low-density array (TLDA)**

The breast tissue cohorts profiled in this study and the TLDA experimental procedures have been previously published (Muscat et al., 2013). The present study employs the same experimental procedures to profile the expression of 238 coregulators (listed in Supplementary Figure 1) in the same human breast tissue cohorts. Briefly, we custom-designed micro-fluidic cards, TaqMan Low Density arrays from ABI (Applied BioSystems), which included 238 coregulators (as defined by the Nuclear Receptor Signaling Atlas (NURSA: [www.nursa.org](http://www.nursa.org))) and 16 internal controls for normalization (these comprised 18S-Eukaryotic ribosomal RNA; ACTB - Actin, beta; 2M - Beta-2-microglobulin; GAPDH - Glyceraldehyde-3-phosphatedehydrogenase; GUSB - Glucuronidase, beta; HMBS - Hydroxymethylbilane synthase; HPRT1 - Hypoxanthine phosphoribosyltransferase 1; IPO8 - Importin 8; PGK1-Phosphoglycerate kinase 1; POLR2A - Polymerase (RNA) II (DNA directed) polypeptide A, 220kDa; PPIA - Peptidylprolyl isomerase A (cyclophilin A); RPLP0 - Ribosomal protein, large, P0; TBP - TATA box binding protein; TFRC - Transferrin receptor (p90, CD71); UBC - Ubiquitin C; YWHAZ - tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation

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protein, zeta polypeptide) against which to normalize the expression of the coregulators in normal

and neoplastic breast tissue. These controls include 18S rRNA, GAPDH and RPLP0, validated real-time PCR controls in NURSA-supported nuclear receptor profiling studies (Wang et al., 2011). The geNorm software embedded within the ABI/intergromics StatMiner V4.1 software package was used to compute least expression variation and select the most appropriate, stable and robust combination of internal control genes (MRPL19, PGK1, PPIA, TFRC and UBC ) against which to normalise the expression data (against the median of the most stable controls).

For each sample, 1.5 µg of total RNA was reverse transcribed with random hexamers and

SuperScript III reverse transcriptase (Invitrogen) in a total volume of 45 µl. A total of 100 µl

reaction mixture containing 50 µl cDNA template (333 ng) in RNase-free water and an equal

volume of TaqMan® universal master mix (Applied Biosystems, Foster City, CA) was added to each

TLDA fill reservoir. Four reservoirs per sample were filled. The TLDA includes all coregulators and

endogenous controls in triplicate. After sealing the plate, it was run on an ABI 7900HT Real Time instrument (Applied Biosystems).

We made use of the delta Ct ( $\Delta$ Ct) values previously obtained for the 48 NR in (Muscat et al., 2013)

to perform combined analyses of the expression correlation pattern of nuclear receptors and coregulators in this study.

## **2.2 Normalization of TaqMan Low Density Arrays**

TLDAAs were analysed by the relative quantification method of  $\Delta$ Ct. The geNorm (Vandesompele et al., 2002) algorithm in the Integromics StatMiner software package was used to select the most

stable house keeping genes to be used as reference for normalization. The Ct values

(Supplementary Table 1) of each assayed genes were then normalized against the median of the

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selected house keeping genes to obtain the  $\Delta$ Ct values. Supplementary Figure 1 shows a boxplot

of the  $\Delta$ Ct values of all coregulators in each of the 4 cohorts.

### **2.3 Filtering of outlier samples**

Ct value measurements above 35 cycles were considered inaccurate. Samples for which more than 40% of genes had Ct values above 35 were deemed to be outliers and removed from subsequent analyses. Three samples (ERneg02TB003, ERneg08RMH456, ERpos07RMH188) were removed from both the nuclear receptor and coregulator TLDA data.

### **2.4 Principal Component Analysis**

Principal component analysis of coregulator  $\Delta$ Ct values was performed in R with genes as variables to investigate the coregulators that best characterize the different patient cohorts. Three dimensional scatter plots of samples against the first 3 principal components were generated by the Scatterplot3d (Ligges and Machler, 2003) package.

### **2.5 Detection of differentially expressed genes**

A moderated t-statistic test based on the limma framework implemented in the HTqPCR (Dvinge and Bertone, 2009) software package was used to detect differentially expressed genes. Genes having a Benjamini and Hochberg adjusted P-value less than 0.05 and at least 1.5 fold up or down-regulated were termed differentially expressed (Supplementary Table 2A).

### **2.6 Validation of combining NR and coregulator data by investigation of TLDA cross-card batch effect**

As NR and coregulator data were derived from distinct TLDA cards, we determined the validity of a combined analysis of NR and coregulator data by comparing expression of the housekeeping control genes on both the NR and coregulator TLDAs. In addition, unsupervised hierarchical clustering of samples based on raw Ct values of all NR and coregulator genes was performed to



determine if samples clustered in a batch (array) specific manner. We found expression of the

control genes to be highly consistent between arrays ( $r^2$  value 0.98) with no evidence of cross-card batch effects in clustering of samples (results not shown).

### **2.7 Correlation-based analysis of nuclear receptors and coregulators interactions**

Pairwise Spearman Rank Correlation coefficients were calculated for all possible pairs of nuclear receptors and coregulators in a cohort-specific manner. Two genes were considered highly correlated if the Spearman Rank Correlation coefficient was  $\geq 0.7$  or  $\leq -0.7$ .

### **2.8 Pathways and functional analysis**

Differentially expressed coregulators were separated into two groups based on the direction of change in expression (up- or down-regulated). The Ingenuity Pathways Analysis (IPA) Package was used to detect over-represented functional annotations and canonical pathways associated with up-regulated or down-regulated coregulators. Given the very small number of genes that were up-regulated, we assessed only enriched functional annotations for this group and retained annotations with enrichment P-value of less than 0.05. For down-regulated coregulators, over-represented canonical pathways with Bonferroni adjusted P-values of less than 0.05 were retained.

### **2.9 Breast cancer microarray datasets**

In order to establish nuclear receptors and coregulators associated with prognosis, we compiled a large cohort of breast cancer gene expression microarrays with associated clinical data from previously published work. In total, we compiled 2227 breast cancer cases (of which 2189 were annotated with survival data) from multiple datasets profiled on the Affymetrix Hg133A platform and an additional 1992 breast cancer cases (of which 1853 were annotated with survival data) from the METABRIC study (Curtis et al., 2012) profiled on the Illumina HT-12 v3 platform.

Supplementary Table 3 lists the microarrays datasets included in our analysis.

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fRMA (Frozen Robust Multiarray Analysis) normalization (McCall et al., 2010) was performed on

the Affymetrix microarrays to enable combined analysis of the multiple datasets. This algorithm utilizes pre-computed estimates of probe-specific effects and variances obtained from large publicly available databases. These pre-computed values are then used in concert with information from new array(s) for normalization and summarization, allowing separately processed datasets to be compared. fRMA normalized expression values were retrieved from inSilicoDb via its Bioconductor package. Illumina HT-12 v3 array data (EGAD00010000210 and EGAD00010000211) were downloaded from the European Genome Phenome Archive and the normalized expression values as published in the METABRIC publication were used.

To identify genes correlated with ER $\alpha$  expression, breast cancer microarrays profiled on Affymetrix Human HG133A arrays (listed in Supplementary Table 3) were divided into ER $\alpha$  positive and ER $\alpha$  - subsets based on the associated IHC ER $\alpha$  status. Pairwise Spearman Rank Correlation coefficients were calculated for each gene profiled on the array with each of the nuclear receptors: ESR1, REV-ER $\alpha$  B $\beta$ , GR, NOR1, LRH-1 and PR. Spearman Rank Correlation coefficient  $\geq 0.7$  or  $\leq -0.7$  were used to filter for genes showing high expression correlation with these nuclear receptors in either ER $\alpha$  positive or ER $\alpha$  negative breast cancers.

### ***2.10 Identification of nuclear receptors and coregulators associated with prognosis***

We employed the process outlined in Supplementary Figure 2 to identify nuclear receptors and coregulators, expression of which associates with patient survival. In this process, samples from each of the microarray platforms were randomly divided into two groups, one used for training and the other for validation. The Training and Validation sets were of comparable size, as was the ratio of patients with events to those without events. A bootstrap approach was employed to identify genes significantly associated with breast cancer survival in the Training Set. Specifically, we randomly sampled with replacement from the Training Sets and performed Univariate Cox Regression on the randomly selected subgroup. This process (sampling with replacement followed

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by Univariate Cox Regression) was repeated 1000 times. We then defined an r-index for each gene

as the ratio of times out of the 1000 analyses that the gene showed significant association with survival (Adjusted Cox Regression P-value  $\leq 0.05$ ). We used distant metastasis free survival (DMFS) for samples where that information is available. For samples without associated DMFS information, the following survival measures in order of decreasing preference were used: relapse free survival (RFS), disease free survival (DFS) and disease specific survival (DSS).

For the Affymetrix Training samples, we identified 80 coregulators and 23 nuclear receptors with an r-index  $\geq 0.75$ ; 43 coregulators and 5 nuclear receptors were identified in the Illumina Training Set. Genes with an r-index of at least 0.75 on both Affymetrix and Illumina platforms were then selected for Multivariate Cox Regression adjusting for ER $\alpha$  status and node status. This process identified 3 nuclear receptors and 16 coregulators, expression of which significantly associates with patient survival independent of ER $\alpha$  status and node status on both microarray platforms (Supplementary Table 4).

### **2.11 Validation of NR and coregulators centered gene signature**

Breast cancer microarray samples from the Validation Sets were used to assess whether the nuclear receptors and coregulators identified can predict patient survival. We assessed the performance of 3 gene signatures: (i) 19-gene signature (19 nuclear receptors and coregulators listed in Supplementary Table 4); (ii) 3-NR signature (PPAR $\delta$ , PGR and GR); and (iii) 3 NR plus cytoskeletal gene signature (PPAR $\delta$ , PGR, GR, CFL1 and GSN).

For each signature, samples from the Validation Sets were assigned risk scores calculated on the signed average of the signature genes expression (by the "sig.score" function from the geneFu R package (Haibe-Kains et al., 2011)). In this method, the sample risk score is calculated as the average of the weighted expression of the genes in each signature. We used the sign and magnitude of the Univariate Cox Regression coefficient of expression of each gene obtained from

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all samples of the Discovery Sets as the input coefficients into sig.score. Samples were then

classified into 3 different risk groups based on the assigned risk scores: low (bottom tertile), intermediate (middle tertile) and high (top tertile). The performance of each gene signature was then assessed on Kaplan Meier and a Concordance Index [as detailed in (Harrell et al., 1996)]. The Concordance Index represents the probability that, for a pair of randomly chosen comparable patients, the patient with the higher risk prediction will experience an event before the lower risk patient.

Further, using the Validation samples (Supplementary Figure 2) of METABRIC dataset, we tested the prognostic power of the 3NR, 3NR+cytoskeletal genes and the 19 genes in breast cancer subgroups identified by immunohistochemical marker staining. Subtype classification as assigned in the METABRIC dataset was used to categorize samples into subgroups (Normal-like, Basal, Luminal A, Luminal B, HER $\alpha$  2). Then the risk prediction method as described above is used to test the prognostic power of the signatures in each of the subtypes. In this analysis, we estimated input coefficients into sig.score in a subtype specific manner instead of using all Discovery samples.

Prognostic performance of the NR and coregulator based signatures identified was assessed in comparison to 48 other published signatures (Venet et al., 2011) with the same sample cohorts and outcome association method detailed above.

### **3. Results**

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#### ***3.1 Expression of coregulators differs between normal and breast cancer tissues***

Supervised hierarchical cluster analysis demonstrates that a majority of coregulators were expressed differently in breast cancers compared with normal breast and that the expression of many coregulators also differs between ER $\alpha$  positive and ER $\alpha$  negative cancers (Figure 1A).

This observation is supported by unsupervised Principal Component Analysis (PCA), with normal

and cancer samples clustering into two relatively well-defined subgroups reflecting the change in coregulator expression in cancer samples compared with normal tissue (Figure 1B). Expression levels of coregulators showed greater variation among cancer samples, evidenced by the greater spread observed on the PCA plot. In addition, expression profiles of coregulators also differ between ER $\alpha$  positive and ER $\alpha$  negative breast cancers. This difference is more evident when PCA was performed on the cancer samples independently of the normal samples (Figure 1C).

The changed expression of the majority of coregulators between normal and cancer cohorts supports the view that the separation of cohorts based on coregulator expression reflects multiple coregulator changes, each with an individually small contribution to the phenotype, rather than a few coregulators with a large effect on the phenotype. This is reflected in the small proportion of variance of each gene captured by each principal component in the PCA analysis (Supplementary Figure 3A). The first principal component only accounted for ~55% of the total variance in the dataset with each subsequent principal components capturing small increases in cumulative variance (Supplementary Figure 3B).

### ***3.2 Pan-repression of coregulators in neoplastic breast tissues***

The majority of coregulators showed decreased expression in cancer compared with normal tissue, with coregulator repression more pronounced in ER $\alpha$  negative than ER $\alpha$  positive cancers (Figure 1A and Figure 2).

Overall, ER $\alpha$  negative breast cancers are associated with more extensive disruptions in the coregulator transcriptome, with an increased number of genes differentially expressed plus an increase in the magnitude of the change in expression (Figure 2, Supplementary Table 2A). Cluster A in Figure 2 highlights coregulators that are down-regulated in both ER $\alpha$  positive and ER $\alpha$  negative breast cancers compared with normal breast. Cluster B in Figure 2 shows coregulators

highlights coregulator expression that differs between ER $\alpha$  positive and ER $\alpha$  negative tumors.

Using a moderated t-test implemented in the HTqPCR package, we identified differentially expressed coregulators. On the criterion of at least 1.5 fold up or down-regulation and Benjamini Hochberg adjusted P-value  $\leq 0.05$ , we found 101 (42%) of the 238 coregulators profiled in ER $\alpha$  positive cancer samples are differentially expressed compared with normal, of which 11 genes are up-regulated and 90 down-regulated. In ER $\alpha$  negative cancers compared with normal, 203 (85%) of the 238 coregulators are differentially expressed, of which only 3 coregulators are up-regulated and the other 200 down-regulated (Figure 2, Supplementary Table 2B).

Although a minority of coregulators are up-regulated in either ER $\alpha$  positive or ER $\alpha$  negative breast cancers compared with normal breast, most (10/12, 83%) of these are associated with *Cellular Growth and Proliferation*, and predicted to be activated, according to functional annotation on IPA (Fisher Exact p-value = 1.03E-05, activation z-score=2.307, Supplementary Table 5A). Of the up-regulated coregulators, only CNNE1 is specifically up-regulated in ER $\alpha$  negative breast cancers while CNNA2 and TRIP13 are up-regulated in both ER $\alpha$  positive and ER $\alpha$  negative cancers; the other 9 coregulators are up-regulated specifically in ER $\alpha$  positive cancers (Figure 2B, Supplementary Table 2B).

In contrast with the specific association of coregulators up-regulated in breast cancer with NR pathways involved in proliferation and disease progression, coregulators that were down-regulated in either ER $\alpha$  positive or ER $\alpha$  negative breast cancers compared with normal were associated with a large range of NR pathways (Supplementary Table 5B). Among the most significantly down-regulated pathways in breast cancer are *Estrogen Receptor Signaling; RAR activation; Glucocorticoid Receptor Signaling, Aryl Hydrocarbon Receptor Signaling; TR-RXR Activation; and PPAR signaling*. As noted above, the numbers of down-regulated pathways in

(Supplementary Table 5B).

### **3.3 Relationships between expression of NR and coregulators in normal breast and breast cancer**

To explore the potential functional parallels between NR and coregulators, we determined the correlation between NR and coregulator expression in each of the four breast cohorts (ER $\alpha$  positive, ER $\alpha$  negative, premenopausal normal, postmenopausal normal). This was done by combining the coregulator expression data of this study with previously published expression data for NR (Muscat et al., 2013) measured in the same cohort of samples. We first examined the pairwise expression correlation between each nuclear receptor and coregulator. Figure 3A shows the numbers of coregulators with expression highly correlated (Spearman Rank Correlation  $\geq 0.7$  or  $\leq -0.7$ ) with that of each nuclear receptor, with NR ranked by decreasing NR-coregulator associations in normal postmenopausal breast samples, where the most abundant NR-coregulator associations are observed. Transcript levels of NR such as RAR $\gamma$ , ROR $\gamma$ , VDR, RAR $\beta$ , HNF4 $\gamma$ , RXR $\beta$ , COUP-TF1/2, MR and PPAR $\gamma$  are correlated with the largest number of coregulators in these tissues. Although fewer associations are evident in normal premenopausal samples, and in either ER $\alpha$  positive or ER $\alpha$  negative breast cancers, cancer-related gains and losses in NR-coregulator association are observed (Figure 3A). For example, expression of RAR $\beta$  correlates strongly with 97 coregulators specifically in postmenopausal normal but not in any of the other three sample cohorts. Likewise, expression of RXR $\alpha$  shows strong inter-correlation with multiple coregulators specifically in ER $\alpha$  positive cancer samples. In contrast, AR expression correlates with fewer coregulators and the correlation is only observed in ER $\alpha$  positive cancer samples. All nuclear receptors display positive correlation with coregulators except for PPAR $\gamma$ , expression of which strongly and negatively correlates with more than 30 coregulators only in normal breast tissues (Supplementary Table 6).

coregulators is supported by Figure 3B, which illustrates the proportion of strongly correlated NR-coregulator pairs that are observed only in normal breast, ER $\alpha$  positive or ER $\alpha$  negative samples as well as those commonly observed in multiple cohorts. Only 36% of all highly correlated NR-coregulator pairs are common to both normal and cancer samples (Figure 3B: ER $\alpha$  positive and Normal; ER $\alpha$  negative and Normal; ER $\alpha$  positive and ER $\alpha$  negative and Normal) while 31% are observed only in normal samples (Figure 3B: Normal only) and 32% are acquired correlations observed only in cancer samples (Figure 3B: ER $\alpha$  positive only; ER $\alpha$  negative only; ER $\alpha$  positive and ER $\alpha$  negative).

The proportion of highly correlated NR-coregulator pairs in ER $\alpha$  negative cancer samples not observed in normal samples is much higher (Figure 3B: ER $\alpha$  negative only, 26%) compared to that observed in ER $\alpha$  positive cancer samples (Figure 3B: ER $\alpha$  positive only, 3%). This suggests that overall, ER $\alpha$  negative breast cancers are associated with increased dysregulation of the NR-coregulator interaction network compared with ER $\alpha$  positive cancers.

Several nuclear receptors displayed pan-ER $\alpha$  status changes in expression correlation with coregulators. Of particular interest are the nuclear receptors ER $\beta$ , LXR $\alpha$  and PPAR $\gamma$  which show either no or negative correlation with most coregulators in normal breast samples but strong positive correlation with coregulators in cancer (Figure 3C). Other nuclear receptors display ER $\alpha$  status-specific shifts in expression correlation with coregulators (Figure 3D). AR, ESRR $\gamma$ , ROR $\gamma$ , RXR $\alpha$  and RXR $\gamma$  are highly correlated with multiple coregulators in ER $\alpha$  positive cancers and these correlations are disrupted in ER $\alpha$  negative cancers. In contrast, REV-ERB $\beta$ , GR, NOR1, LRH-1 and PGR displayed the opposite pattern and acquire strong correlations with multiple coregulators specifically in ER $\alpha$  negative cancers.



*coregulator interactions disrupted between normal and cancer*

To determine whether nuclear receptors that become strongly correlated with coregulators in ER $\alpha$  negative breast cancer (Figure 3D panel 1) are associated with DMFS, we made use of published microarray datasets with associated clinical information (Validation samples, refer to Supplementary Figure 2 and Materials and Methods). The prognostic value of those nuclear receptors with disrupted correlations with multiple coregulators in ER $\alpha$  negative cancers (Figure 3D panel 2) was also explored.

Breast cancer cases were classified into low, intermediate and high risk-groups based on risk scores calculated from the expression of the nuclear receptors in each of Panel 1 and Panel 2 in Figure 3D. Kaplan Meier plots of the probability of DMFS of the risk-groups for ER $\alpha$  positive and ER $\alpha$  negative breast cancers show that the expression of nuclear receptors displaying acquired correlations with multiple coregulators in ER $\alpha$  negative cancers (Group 1: Rev-ER $\beta$ , GR, NOR1, LRH-1 and PGR) significantly segregates patients at low from those at high risk (Figure 4), and this is confirmed in an independent dataset (Supplementary Figure 4). The expression of nuclear receptors showing disrupted interactions (Group 2: AR, ESRR $\gamma$ , ROR $\gamma$ , RXR $\alpha$  and RXR $\gamma$ ) has no predictive power for patient survival in ER $\alpha$  negative cancers while having modest predictive power in ER $\alpha$  positive cancers (Figure 4 and Supplementary Figure 4).

Given that Group 1 (Rev-ER $\alpha$   $\beta$ , GR, NOR1, LRH-1 and PGR) included NR linked with ER $\alpha$  expression and/or function, we asked whether the genes that acquired correlations with Group 1 NR in ER $\alpha$  negative cancers were ER $\alpha$ -associated, perhaps reflecting ER $\alpha$ -independent signaling in these cancers. Genes most strongly correlated with ER $\alpha$  were identified in the Affymetrix datasets (921 genes; Pearson correlation coefficient  $\geq 0.7$  or  $\leq -0.7$ ), and their correlation with the Group 1 NR determined. While GR and LRH-1 were correlated with few/no ER $\alpha$ -correlated genes in ER $\alpha$

positive cancers, they acquired such correlations in ER $\alpha$  negative cancers (Figure 5), supporting the

possibility that these NR may be involved in ER $\alpha$ -associated but ER $\alpha$ -independent pathways.

Although correlations were detected between PGR and these genes in ER $\alpha$  negative cancers, the significance level did not pass the cut-off threshold of 0.7 (not shown).

### **3.5 Prognostic value of nuclear receptors and coregulators in breast cancer**

The prognostic power of the small number of nuclear receptors that acquired correlation with multiple coregulators in breast cancers (Figure 4) raised the question of whether coregulators, alone or in combination with nuclear receptors, were associated with breast cancer outcome. To address this question, we performed a comprehensive survey of the association of all nuclear receptor and coregulator expression levels with patient survival in large cohort of publicly available breast cancer microarray datasets. In total, we compiled gene expression data from over 4000 breast cancer tissue microarrays profiled on two microarray platforms: Affymetrix Hg133A (2189 samples) and Illumina HT-12 v3 (1853 samples) (Supplementary Table 3). Given the multiplicity of markers already linked to clinical outcome in breast cancer, and the challenges in identifying prognostic gene signatures that perform better than chance alone (Venet et al., 2011), we employed the rigorous analytical approach outlined in Supplementary Figure 2 (Materials & Methods). Using the Affymetrix Training samples, as previously noted, we identified 80 coregulators and 23 NR having r-index  $\geq 0.750$ , and 43 coregulators and 5 NR for the Illumina Training Set.

There were 3 nuclear receptors (GR, PGR, PPAR $\delta$ ) and 16 coregulators with expression profiles robustly associated with patient survival, independent of ER $\alpha$  status or node status on both microarray platforms (listed in Supplementary Table 4). These genes have functional roles relevant to cancer biology including: cell cycle regulation (CDKN1C, CCNA2, CCNE1, PA2G4), cytoskeletal organisation (CLF1, GSN), chromatin modifiers (SMARCA2, HMGB2), known oncogenes or cancer-

related genes (RPL7A, NSD1, PRAME, FUS), and also include 4 (36%) of the 11 genes that are

increased in cancer compared with normal breast (Figure 2: TRIP13, CCNE3, CCNA2, PRAME).

Figure 6A represents a heatmap of the r-index of each of the 19 genes which represent the number of times out of 1000 bootstrap Cox regression analyses of different sample subgroups in which the expression of the gene is found to be associated with survival. The r-index thus represents the robustness of a gene's association with patient survival.

The combined expression of the 19 genes identified can segregate low-risk from high-risk breast cancers. Samples from the Validation Sets (1094 samples profiled on Affymetrix Hg133A and 927 samples profiled on Illumina HT-12 v3) were classified into 3 different risk groups based on risk scores calculated from the expression of the 19 genes: low (bottom tertile), intermediate (middle tertile) and high (top tertile). Kaplan Meier analysis showed significant segregation of the three risk-groups (Figure 6B and Figure 6C). Furthermore, classification of samples into low, intermediate and high risk-groups on expression profiles of just the 3 nuclear receptors (GR, PGR, PPAR $\delta$ ) also results in significant segregation of low, intermediate and high-risk samples (Figure 6D). We also observed that addition of the two genes known to be involved in cytoskeletal organization (CFL1 and GSN) into the survival model together with the 3 NR resulted in further separation of the risk groups (Figure 6E).

We also tested the prognostic power of the 3NR, 3NR+cytoskeletal genes and the 19-gene signature in breast cancer subgroups identified by immunohistochemical marker staining. The signatures had little or no predictive power in Basal and HER $\alpha$  2 subtypes, but identified subgroups of patients with different prognosis in the Luminal A, Luminal B and Normal-like subtypes (not shown).

### **3.6 Performance comparison**

A limitation of current breast cancer signatures is that most have been shown to be no more

strongly associated with outcome than random sets of genes, although signatures containing over 100 genes are more significant (Venet et al., 2011). We compared the performance of NR and coregulator centered gene signatures with 48 other published breast cancer signatures (compiled from (Venet et al., 2011)). Using samples from our Validation Sets, we calculated sample risk scores based on the expression of the genes in each signature. The association of the calculated risk scores with patient survival was then tested by Univariate Cox Regression and Concordance Index.

Figure 7 shows the Concordance Index for each gene signature calculated for (i) all samples in the Validation Sets (Figure 7A) and (ii) ER $\alpha$  negative samples of the Validation Sets (Figure 7B). The 19-gene signature performance is comparable to signatures of larger sizes, in all cases (Figure 7A) and more particularly in ER $\alpha$  negative cases (Figure 7B). The signatures for the 5 NR that acquired correlations in ER $\alpha$  negative cancer (from Figure 4); and the 3 NR Plus Cytoskeletal gene signatures do not rank well when all samples of the Validation Sets are used (Figure 7A), they are, however, able to predict patient survival for ER $\alpha$  negative samples better than signatures with larger gene numbers (Figure 7B). We also observed that prediction accuracy of gene signatures varies, depending on the microarray platform used, with some signatures performing better on one microarray platform than the other. In ER $\alpha$  negative breast cancers, there are two published signatures that have comparable or fewer numbers of genes than the NR-coregulator signatures identified in this study, namely the Yu (Yu et al., 2007) (14 genes) and Buffa (Buffa et al., 2010) (3 genes) signatures (Figure 7B). There was no overlap between the 19-gene NR-coregulator signature identified in this study, and the genes contained within either the Yu or Buffa signatures, nor did functional analysis reveal any overlap, with the Yu signature being associated with cell surface receptor linked signal transduction, immune response and cell motility (not shown).

It is known that most of the genes in breast cancer signatures are correlated with proliferation, and this is a major confounder in outcome prediction (Venet et al., 2011). To assess the impact of proliferation on the prognostic power of the NR-coregulator gene signatures that we identified, we adjusted the signature genes expression using the meta-PCNA signature, which comprises the genes most strongly correlated with Proliferating Cell Nuclear Antigen (PCNA) gene expression (Venet et al., 2011). We found that while for ER $\alpha$  positive cancers, meta-PCNA adjustment reduced the prognostic power of most of the gene signatures we examined, it had minimal impact for ER $\alpha$  negative cancers and the 19-gene signature; the 5 NR that acquired correlations in cancer signature (from Figure 4); and the 3 NR plus cytoskeletal gene signature remained predictive of outcome in this cohort (Supplementary Figure 5).

#### **4. Discussion**

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This study comprises the first combined profiling of nuclear receptors and coregulators in the human breast. Notable strengths include the robust quantitation of coregulator transcripts in cohorts of curated human breast tissues, both normal and cancer, plus validation cohorts comprising of all publicly available breast cancer microarray datasets across all platforms. In this regard the study provides significant pathophysiologically relevant insights to supplement studies based on cell line models (Kittler et al., 2013). Our findings reveal an almost pan-repression of coregulator expression in neoplastic breast tissue and show that ER $\alpha$  negative cancers are associated with more widespread disruptions of the coregulator transcriptome. In addition, the study highlights important cancer-associated shifts in nuclear receptor and coregulator expression patterns. We then complemented the expression profiling of nuclear receptors and coregulators with a comprehensive survey of the prognostic value of NR and coregulators in published breast cancer microarrays to identify nuclear receptors and coregulators with high prognostic significance.

The coregulator transcriptome was strikingly disrupted in cancer compared with normal breast,

with a small number of coregulators up-regulated and the majority repressed. Up-regulation was overwhelmingly associated with proliferation, consistent with different regulatory networks being operative in both ER $\alpha$  positive and ER $\alpha$  negative breast cancers; differential expression of the two cyclins CCND1 and CCNE1 in ER $\alpha$  positive and ER $\alpha$  negative cancers suggest different mechanisms for controlling progression of G1 to S phase of the cell cycle in these two subgroups. CCND1 is up-regulated in ER $\alpha$  positive and down-regulated in ER $\alpha$  negative cancers, consistent with published reports that ER $\alpha$  can induce CCND1 expression (Cicatiello et al., 2010). It is possible that in ER $\alpha$  negative cancers progression from G1 to S phase is mediated through CCNE1, which is specifically up-regulated in ER $\alpha$  negative cancers in contrast with the decreased level of CCND1. In addition, the coregulators VAV3, a Rho GTPase guanine nucleotide exchange factor, and SPDEF, the SAM pointed domain containing ETS transcription factor, are up-regulated specifically in ER $\alpha$  positive breast cancers and down-regulated in ER $\alpha$  negative breast cancers, consistent with previously published reports that VAV3 overexpression enhances ER $\alpha$ -mediated signaling (Doolan et al., 2008), and that SPDEF is associated with patient survival in ER $\alpha$  positive breast cancers (Sood et al., 2009). Up-regulation of both RAR $\alpha$  and CRABP2 (cellular retinoic binding protein 2) specifically in ER $\alpha$  positive cancers is further evidence for differential regulation, in the case of retinoic signaling, in ER $\alpha$  positive and ER $\alpha$  negative breast cancer subgroups.

Pan-repression of coregulator expression in neoplastic breast tissues was not unexpected given our earlier observation that breast cancer is associated with a pan-repression of nuclear receptors except for EAR2, AR, RAR $\alpha$  and the NR4A subgroup (Muscat et al., 2013). The specific mechanisms whereby repression of nuclear receptors and coregulators is involved in breast cancer pathogenesis are unclear. In cancers multiple NR-mediated pathways associated with cell differentiation were repressed, eg *Retinoic Acid Activation and Glucocorticoid Receptor Signaling*

pathways; with up-regulation of cell cycle related genes this would have a net effect of increased cell growth and proliferation.

In the absence of detailed genomic localization maps and protein-protein interaction data for most nuclear receptors and coregulators in breast cancer tissues, and the impossibility of experimentally deriving functional data from human tissue cohorts, we determined the correlation between NR and coregulator expression as a measure of functional relatedness. While setting very strong correlation thresholds for significance, we acknowledge that correlated expression indicates, but does not prove, functional co-operation. Nevertheless, this approach has revealed interesting insights into the complex regulatory networks of nuclear receptors in the human breast.

First, most of the strong NR-coregulator correlations occurred in the normal postmenopausal breast, with NR including RAR $\gamma$ , ROR $\gamma$ , VDR, RAR $\beta$ , HNF4 $\gamma$ , RXR $\beta$ , COUP-TF1/2, MR and PPAR $\gamma$  associating with the largest number of coregulators, and pointing to the potential for active signaling networks around these receptors in normal breast. These NR were also associated with coregulators in pre-menopausal breast, but less frequently. Many if not all of these associations were lost in cancer, consistent with the overall down-regulation both of NR (Muscat et al., 2013) and coregulators (this study) in cancer compared with normal tissue. NR that acquired expression correlations (Rev-ERB $\beta$ , GR, NOR1, LRH-1, PR) specifically in ER $\alpha$  negative breast cancers predicted poorer outcome for those patients, suggesting the potential for clinically significant activation of new signaling networks associated with unrestrained cancer biology involving these NR specifically in ER $\alpha$  negative breast cancers. Interestingly, NR whose associations with coregulators are disrupted in ER $\alpha$  negative breast cancers are not as strongly associated with patient outcome. This finding is particularly interesting in the context of regulatory networks, given that cancer is not simply a disease with a genetic basis but is ultimately driven by perturbations at the network level (Creixell et al., 2012). During cancer development, it is likely that signaling processes are not

simply disrupted but are also re-wired resulting in new signaling landscapes favorable to the

development of the cancer cells. It is therefore perhaps logical that those re-wired signaling processes favoring maintenance and progression of cancer will have a stronger impact on patient outcome.

Secondly, we observed a positive correlation between the expression of most nuclear receptors and coregulators, with the exception of PPAR $\gamma$ , ER $\beta$  and RXR $\gamma$ , expression of which inversely correlates with multiple coregulators specifically in normal but not cancer tissues. It is arguably more logical for the expression of nuclear receptors to be positively correlated with that of coregulators for co-operational control of gene regulation. It is more unexpected to observe patterns of widespread inverse correlations, as in the case of PPAR $\gamma$ ; PPAR $\gamma$  and its coregulator PPAR $\gamma$ C1A are both strongly down-regulated in both ER $\alpha$  positive and ER $\alpha$  negative cancers, consistent with reports that the presence of PPAR $\gamma$  is associated with an anti-tumorigenic effect (Bonofiglio et al., 2006; Lu et al., 2005; Suzuki et al., 2006). PPAR $\gamma$  positively correlates with very few genes, among which are the tumor suppressor CAV1, the testosterone 17-beta-dehydrogenase gene HSD17B13 and the aldo-keto reductase AKR1C1/AKR1C2 gene. HSD17B13 is involved in estrogen biosynthesis and responsible for converting estrone to estradiol-17beta while AKR1C1/AKR1C2 catalyses the reduction of progesterone to the inactive 20 $\alpha$ -hydroxy-progesterone. Both HSD17B13 and AKR1C1/AKR1C2 are strongly down-regulated, consistent with attenuated steroid metabolism, in both ER $\alpha$  positive and ER $\alpha$  negative cancer samples. The strong positive correlation of PPAR $\gamma$  with HSD17B13 and AKR1C1/AKR1C2 in normal breast only, its repression in cancer and the striking inverse correlation pattern between PPAR $\gamma$  and multiple coregulators suggest that dysregulation of this NR might contribute to altered steroid metabolism and thereby to aberrant control of estrogen and progesterone mediated signaling in breast cancer. The demonstration that NR-coregulator associations in normal breast are disrupted in cancer, and the acquisition of associations unique to cancer tissues, signal the potential for NR-coregulator



networks not only to be implicated in the biology of breast cancer but also relevant to clinical

outcome. Testing of such possibilities, in order to discover meaningful associations between gene signatures and clinical outcome, is fraught with pitfalls in that most current breast cancer signatures are not robust across datasets and microarray platforms, and moreover are no more strongly associated with outcome than random sets of genes (Venet et al., 2011). This is probably due to the extremely high individual variability of sampled tumor expression profiles resulting in passenger signals overwhelming the real cancer signature. To circumvent this limitation, we employed a bootstrap resampling approach on 2 different microarray platforms. There were only 19 genes (3 nuclear receptors (GR, PGR, PPAR $\delta$ ) and 16 coregulators) with expression profiles robustly associated with patient survival, independent of ER $\alpha$  or node status on both microarray platforms. Low levels of expression of the signature genes identify patients with a significantly lower probability of distant metastases, across both the microarray platforms, whereas high expression is associated with poorer prognosis. Low expression of the 3 NR alone, or of the 3 NR with the cytoskeletal genes, also stratified patients with better prognosis. Two of the 3 NR in the 19-gene signature (GR, PPAR $\delta$ ) have been identified by CHIP-chip to be central nodes in a regulatory network of NR and associated transcription factors in MCF-7 cells (Kittler et al., 2013), and their robust association with clinical outcome identified in this study highlights the importance of signaling networks specifically associated with these 3 NR in breast cancer.

To evaluate how well NR-coregulator-based signatures performed in comparison to other published breast cancer signatures, and mindful of the weak predictive power of published signatures containing fewer than 100 genes, the performance of the NR-coregulator-based signatures was compared to that of all published breast cancer signatures. The performance of the 19-gene NR-coregulator-based signature is comparable to many other signatures of much larger sizes in predicting outcome for all breast cancer samples (both ER $\alpha$  positive and ER $\alpha$  negative),

altered gene expression between normal breast and breast cancers.

This study highlights major differences in coregulator expression and NR-coregulator interaction between ER $\alpha$  positive and ER $\alpha$  negative breast cancers that reflects divergent regulatory controls in these two breast cancer subtypes. Specifically, a majority of the profiled coregulators (81%) are differentially expressed between ER $\alpha$  positive and ER $\alpha$  negative breast cancers, with ER $\alpha$  negative cancers being associated with an increase in both the number of coregulators being repressed as well as an increase in the magnitude of the repression. The change in coregulator expression is associated with ER $\alpha$ -specific perturbations in NR-coregulator expression. Specifically, RXR $\alpha$ , TR $\alpha$ , COUP-TF2, ROR $\gamma$  showed strong associations of with multiple coregulators in ER $\alpha$  positive breast cancers suggesting the increased importance of retinoic signaling in this subtype and consistent with proliferation being a major influence on patient outcome in ER $\alpha$  positive cancers. ER $\alpha$  negative cancers, on the other hand, are associated with acquired interactions between REV-ERB $\beta$ , TR4, GR, PPAR $\alpha$ , NOR1, LRH-1 and a large number of coregulators. NR-coregulator interactions acquired specifically in ER $\alpha$  negative cancers have the potential to impact a wide range of cellular pathways and processes including chromatin remodeling, glucocorticoid receptor signaling and cell cycle regulation. Overall, our results suggest that ER $\alpha$  negative breast cancer is associated with increased severity in perturbation of normal NR-coregulator interactions and that there exists significant differences in the way normal gene regulatory networks are altered in these breast cancers. As a consequent, some NR and coregulators have stronger influence on patient outcome in ER $\alpha$  negative or positive breast cancer compared to the other. We observed that the 3NR plus cytoskeletal genes obtained the highest Concordance Index for ER $\alpha$  negative cancer, with its performance in predicting outcome for ER $\alpha$  positive cancer less robust. In addition, PCNA-adjustment has minimal influence on the prognostic power of most gene signatures in ER $\alpha$  negative cancers. It is thus possible that while proliferation is a major influence on outcome

negative breast cancers. ER $\alpha$  negative breast cancer outcomes might be driven by factors including cell movement and metastasis, as suggested by the strong influence of cytoskeletal genes in predicting patient outcome for this subgroup. In addition, we demonstrated that NR showing acquired correlations with multiple coregulators specifically in ER $\alpha$  negative cancers have stronger influence on patient outcome in these cancers. This observation emphasizes the importance of examining not only “loss-of-function” disruptions but also “gain-of-function” perturbations in the search for therapeutic and prognostic markers for breast cancer.

In conclusion, this study has identified networks of nuclear receptor-coregulator interactions active in normal breast but disrupted in breast cancer, and moreover provides evidence that signatures based on NR networks disrupted in cancer can provide important prognostic information in breast cancer patients, including ER $\alpha$  negative patients, for whom existing prognostic measures are limited.

### **5. Acknowledgements**

This research was supported by a Collaborative Program Grant from the National Breast Cancer Foundation Australia. GEOM is a University of Queensland Vice Chancellors research fellow; ERS, PJF and CLC are research fellows of the National Health and Medical Research Council of Australia; TBD is supported by an APA Scholarship. Prince Henry’s Institute is supported by the Victorian Government’s Operational Infrastructure Program. Breast cancer and normal tissues were provided by Australian Breast Cancer Tissue Bank (ABCTB), which is supported by the National Health and Medical Research Council of Australia, the Cancer Institute NSW and the National Breast Cancer Foundation; or by the Victorian Cancer BioBank Australia, which is supported by the Victorian Government. ABCTB tissues and samples were made available to researchers on a non-exclusive basis. Normal breast biopsies were obtained from the Susan G. Komen for the Cure Tissue Bank at the IU Simon Cancer Center. We thank contributors to the Susan G. Komen for the

Cure Tissue Bank, including Indiana University that collected the samples used in this study, as well

as parents and families whose participation and help made this work possible.

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**Figure 1 – Expression profile of coregulators in different sample cohorts**

**Figure 1A** Clustered heatmap of coregulators delta Ct values supervised by cohort illustrating that a majority of coregulators expression differs between Normal and Cancer and also between ER $\alpha$  positive and ER $\alpha$  negative cancers. **Figure 1B** is a 3D plot of samples against the first 3 PCA components (unsupervised PCA analysis) illustrating the separation between Cancer and Normal samples. **Figure 1C** shows a similar plot of a PCA analysis of Cancer samples independently of Normal samples reflecting the difference in coregulator expression in ER $\alpha$  negative compared to ER $\alpha$  positive breast cancers. Samples are colored based on cohort: light blue (Premenopausal Normal), dark blue (Postmenopausal Normal), orange (ER $\alpha$  positive cancers) and red (ER $\alpha$  negative cancers).

**Figure 2 – Differentially expressed coregulators**

Clustered heatmap of the log<sub>2</sub> (Fold change) of significantly differentially expressed coregulators (adj. P-value  $\leq 0.05$  and at least 1.5 fold up or down regulated) illustrating that coregulator repression is more pronounced in ER $\alpha$  negative compared to ER $\alpha$  positive cancers. **Panel A** highlights a cluster of coregulators that are down regulated in both ER $\alpha$  positive and ER $\alpha$  negative breast cancers compared to normal breast. **Panel B** shows a cluster of coregulators with increased expression in either ER $\alpha$  positive or ER $\alpha$  negative cancers. **Panel C** highlights a subset of coregulators whose expression differs between ER $\alpha$  negative and ER $\alpha$  positive tumors.

**Figure 3 – Expression correlation patterns of nuclear receptors and coregulators**

**Figure 3A** Bar plot of the numbers of coregulators highly correlated (Spearman Rank Correlation  $\geq 0.7$ ) with each nuclear receptor in each of the 4 cohorts, ranked by NR with greatest numbers of associations in post-menopausal normal samples. **Figure 3B** Pie chart showing the proportions of highly correlated NR-coregulator gene pairs that are observed uniquely or in multiple cohorts as a



fraction of all highly correlated gene pairs observed. **Figure 3C** lists nuclear receptors displaying

pan-cancer changes in correlation pattern with coregulators. **Figure 3D** lists coregulators showing ER $\alpha$  status specific correlation pattern with coregulators. For each panel of Figure 3C and 3D, cohorts are listed in rows and all coregulators are tiled across columns. Heatmap cells are colored according to the Spearman Rank Correlation coefficients of each NR-coregulator pair.

***Figure 4 – Prognostic value of NR displaying ER $\alpha$  -status specific expression correlations with coregulators***

Kaplan Meier plots of the probability of survival for samples classified into Low, Intermediate and High risk groups based on the expression profile two different groups of nuclear receptors: Group 1 (Rev-erb $\beta$ , GR, NOR1, LRH-1 and PR) and Group 2 (AR, ERR $\gamma$ , ROR $\gamma$ , RXR $\alpha$ , RXR $\gamma$ ). Samples from the Validation Sets (Supplementary Figure 2) were used for this analysis (927 samples profiled on Illumina HT12v3 arrays). Log rank Pval represent the log rank p-value for the Kaplan Meier curves. Cox.Reg.Pval is the univariate Cox Regression P-value for the association of sample risk scores with patient survival. C-index represents the Concordance Index calculated as detailed in (Harrell et al., 1996).

***Figure 5 – Possible roles of other nuclear receptors in ER $\alpha$  -associated but ER $\alpha$  -independent pathways***

Expression correlation profiles in ER $\alpha$  positive versus ER $\alpha$  - cancers of 921 genes whose expression correlate highly with ESR1, REV-ERB $\beta$ , GR, NOR1 or LRH-1 (Spearman Rank correlation coefficients  $\geq 0.7$  or  $\leq -0.7$ ). Heatmap values represent pairwise Spearman rank correlation coefficients.

***Figure 6 – Nuclear receptors and coregulators with prognostic values***

**Figure 6A** Heatmap of r-index values of the 19-gene signature. The r-index is a measure of the robustness of a gene's association with survival and represents the number of analyses out of

1000 Cox Regression analyses of randomly sampled subgroups of samples in which the gene is

found to be significantly associated with patient survival. **Figure 6B** Kaplan Meier plot showing significant segregation of samples (1094 validation samples profiled on Affymetrix Hg133a arrays) classified into Low, Intermediate and High risk-groups based on the expression of the 19 genes.

**Figure 6C** Similar to **Figure 6B** but using a second set of 927 validation samples profiled on Illumina HT12v3 arrays. **Figure 6D and Figure 6E** Kaplan Meier plot showing significant segregation of 1094 validation samples profiled on Affymetrix Hg133a arrays classified into Low and High risk-groups based on the expression of (Figure 6D) the 3 nuclear receptors GR, PGR and PPAR $\delta$ ; and (Figure 6E) the 3 nuclear receptors and two cytoskeletal genes CFL1 and GSN.

**Figure 7 – Comparison of NR/coregulator based gene signature with other published signatures.**

**Figure 7A** Concordance indices of 48 published signatures and 3 NR/coregulator based signatures computed using 1094 samples profiled on Affymetrix Hg133a arrays (blue) and 927 samples profiled on Illumina HT12v3 arrays (red). Both ER $\alpha$  positive and ER $\alpha$  negative samples were included in the analysis. **Figure 7B** Similar to Figure 7A but concordance indices were calculated using only ER $\alpha$  negative samples.

**Supplementary Figure 1** – Boxplot of coregulator delta Ct values in each of the 4 sample cohorts.

Y-axis represents delta Ct values.

**Supplementary Figure 2**- Schematic diagram of survival analysis approach

Diagram outlines approach employed to identify nuclear receptors and coregulators whose expression significantly associates with breast cancer patient survival.

**Supplementary Figure 3** – Principal component analysis.

**Supplementary Figure 3A** - Scatter plot of factor loadings for the first 2 principal components.

**Supplementary Figure 3B** - Proportion of variance captured by each of the first 10 principal components.

**Supplementary Figure 4 – Prognostic value of NR displaying ER $\alpha$  -status specific expression correlations with coregulators**

Kaplan Meier plots of the probability of survival for samples classified into Low, Intermediate and High risk groups based on the expression profile two different groups of nuclear receptors: Group 1 (REV-ERB $\beta$ , GR, NOR1, LRH-1 and PGR) and Group 2 (AR, ESRR $\gamma$ , ROR $\gamma$ , RXR $\alpha$  and RXR $\gamma$ ). Samples from the Validation Sets (Supplementary Figure 2) were used for this analysis (1094 breast cancers profiled on Affymetrix Hg133A arrays). Log rank Pval represent the log rank p-value for the Kaplan Meier curves. Cox.Reg.Pval is the univariate Cox Regression P-value for the association of sample risk scores with patient survival. C-index represents the Concordance Index calculated as detailed in (Harrell et al., 1996).

**Supplementary Figure 5 – Effect of PCNA adjustment**

Supplementary Figure 5A: Concordance indices obtained for the 48 published signatures and 3 NR/coregulator based signatures computed using ER $\alpha$  positive samples profiled on Affymetrix

Figure 5B: similar to 5A but values computed using ER $\alpha$  - samples.

## 9. Supplementary Table legends

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**Supplementary Table 1** – Ct values of all coregulators

**Supplementary Table 2A** – Differentially expressed coregulators

List of coregulators found to be differentially expressed when comparing Cancer vs. Normal, ER $\alpha$  + vs. Normal, ER $\alpha$  negative vs. Normal, and ER $\alpha$  negative vs. ER $\alpha$  + cohorts. Criteria for differential expression are Benjamini-Hochberg adjusted P-value less than 0.05 and at least 1.5 fold up or down regulated.

**Supplementary Table 2B** – Up regulated coregulators

List of coregulators up regulated in either ER $\alpha$  positive or ER $\alpha$  negative breast cancers annotated with whether the gene is associated with Cellular Growth and Proliferation according to Ingenuity Functional Analysis.

**Supplementary Table 3** – Microarray datasets used in survival analysis

Supplementary Table 3 lists the microarray breast cancer datasets used in survival analysis

**Supplementary Table 4** – Nuclear receptors and coregulators significantly associated with patient survival on both Affymetrix and Illumina platforms

Supplementary Table 4 lists the 3 nuclear receptors and 16 coregulators found to be significantly associated with patient survival in both the Affymetrix and Illumina datasets. The r-index represent the number of times out of 1000 bootstraps Univariate Cox Regression in which the gene were found to be significantly associated with survival (P-value  $\leq$  0.05). Multivariate Cox

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regression was performed adjusted for ER $\alpha$  status and node status. P-values are adjusted for

multiple testing using Benjamini-Hochberg method.

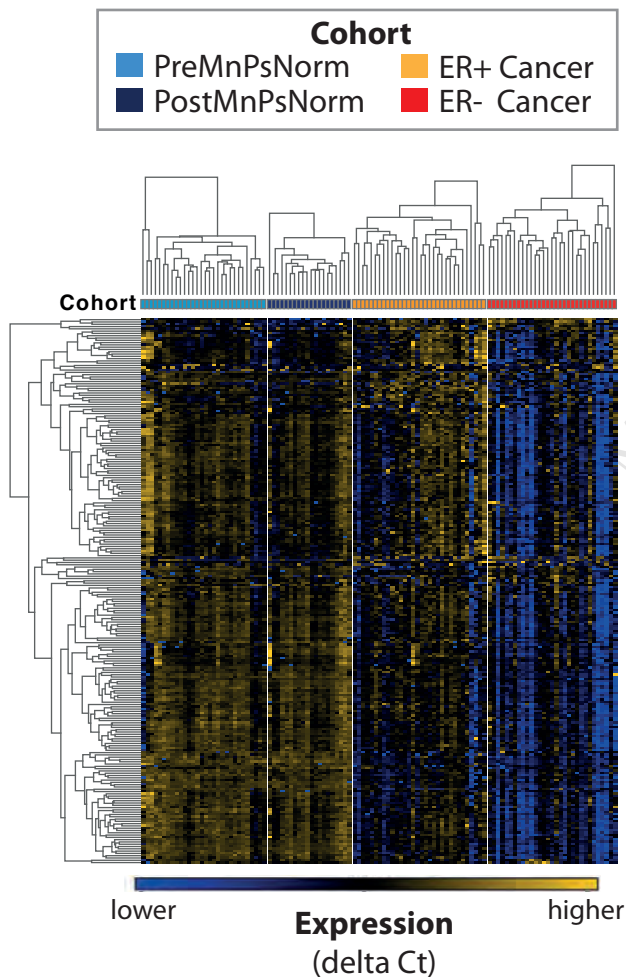
**Supplementary Table 5** – Ingenuity Pathways analysis of differentially expressed coregulators

Supplementary Table 5A lists over-represented functional annotations associated with up-regulated coregulators. Supplementary Table 5B lists significantly over-represented canonical pathways associated with down-regulated coregulators. Cell values represent the significance of enrichment (Bonferroni adjusted P-value).

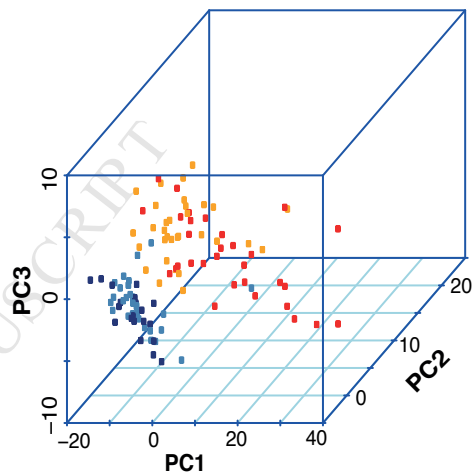
**Supplementary Table 6** – Numbers of highly correlated coregulators associated with each nuclear receptor.

Supplementary Table 6A lists the number of highly correlated coregulators associated with each nuclear receptor at Spearman Rank Correlation  $\geq 0.7$  or  $\leq -0.7$ . Supplementary Table 6B lists the number of highly correlated coregulators associated with each nuclear receptor at Spearman Rank Correlation  $\geq 0.6$  or  $\leq -0.6$ .

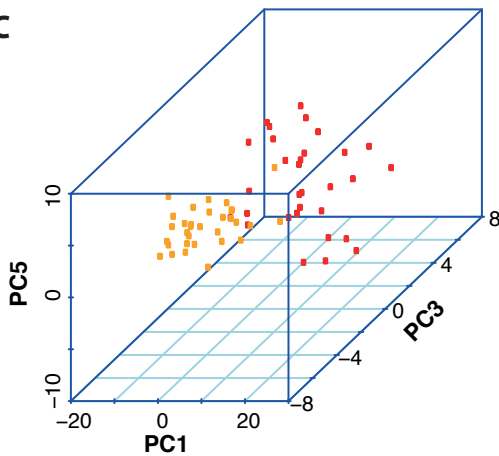
A



B

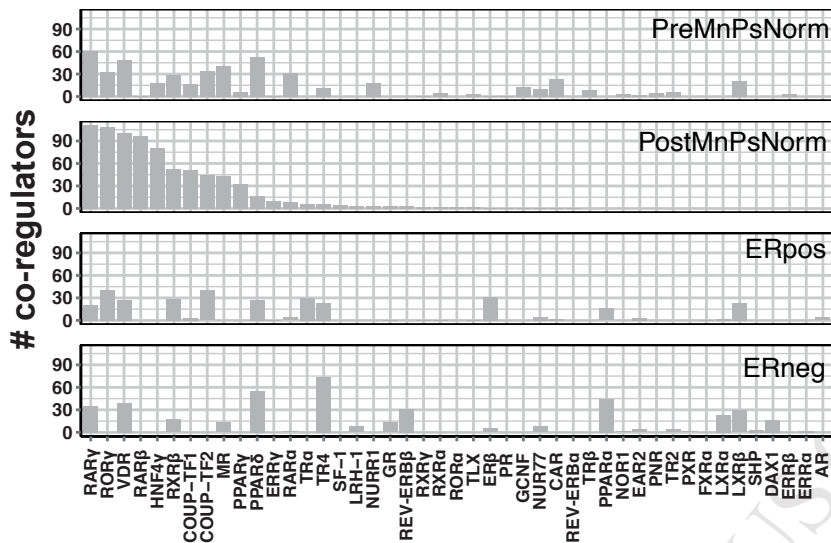


C

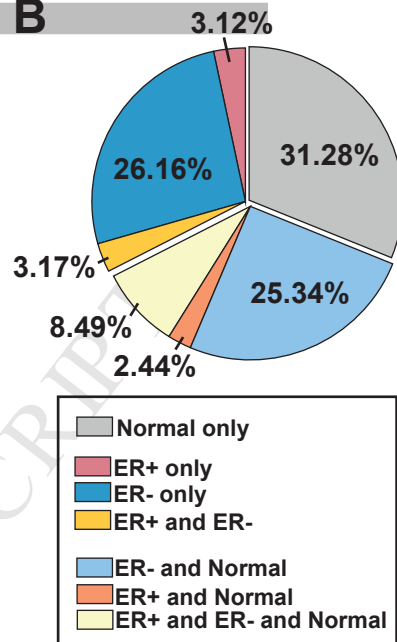




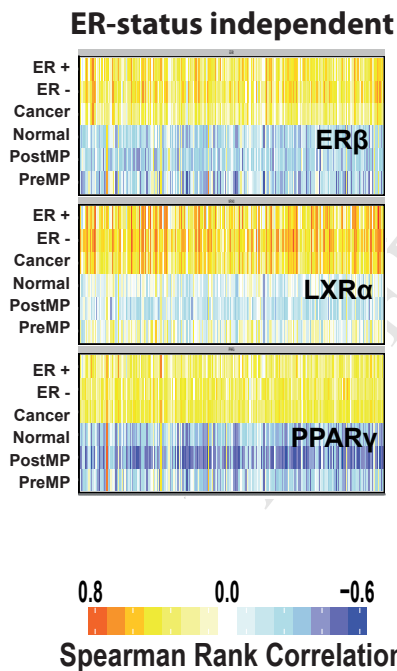
A



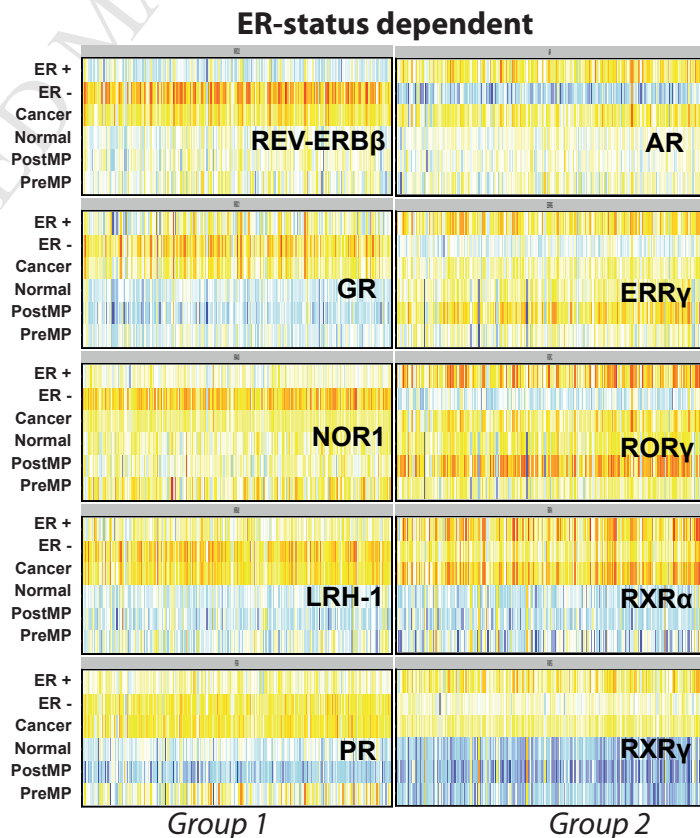
B



C



D

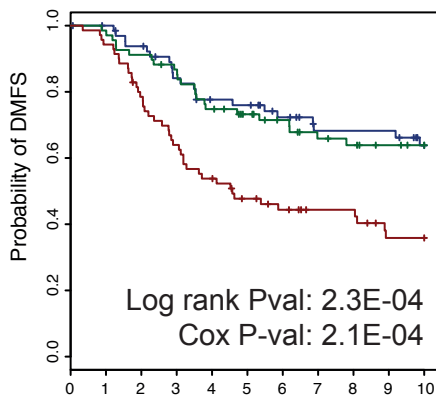




ER- Cancers

ER+ Cancers

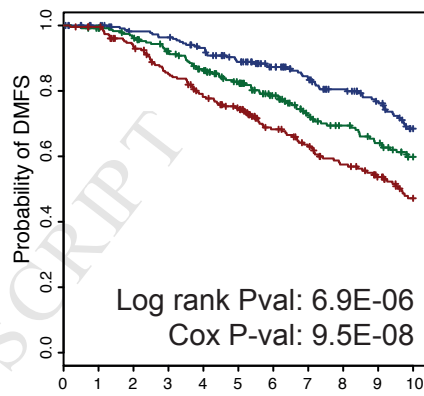
Group 1



No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	67	65	60	52	46	45	39	33	33	33	27
Intermediate	68	67	62	58	50	44	39	34	32	29	27
High	70	66	54	44	37	30	26	22	22	16	16

Time(years)

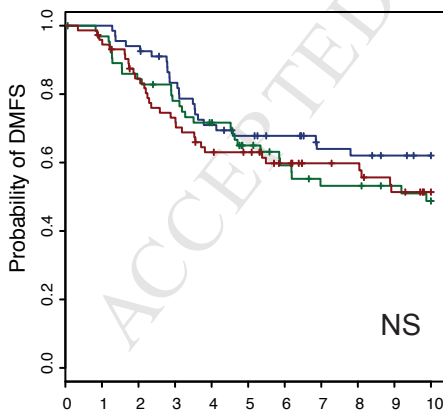


No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	233	226	215	211	200	183	164	149	136	123	102
Intermediate	235	230	222	205	187	166	139	116	105	95	80
High	231	227	208	185	166	151	120	106	93	80	64

Time(years)

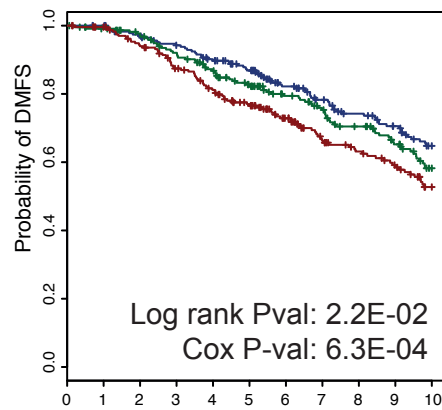
Group 2



No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	67	67	63	54	46	42	39	33	32	30	28
Intermediate	65	62	54	49	44	36	30	26	26	24	22
High	73	69	59	51	43	41	35	30	29	24	20

Time(years)



No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	233	231	219	209	196	181	152	137	124	113	97
Intermediate	225	218	208	194	177	159	138	126	113	98	80
High	241	234	218	198	180	160	133	108	97	87	69

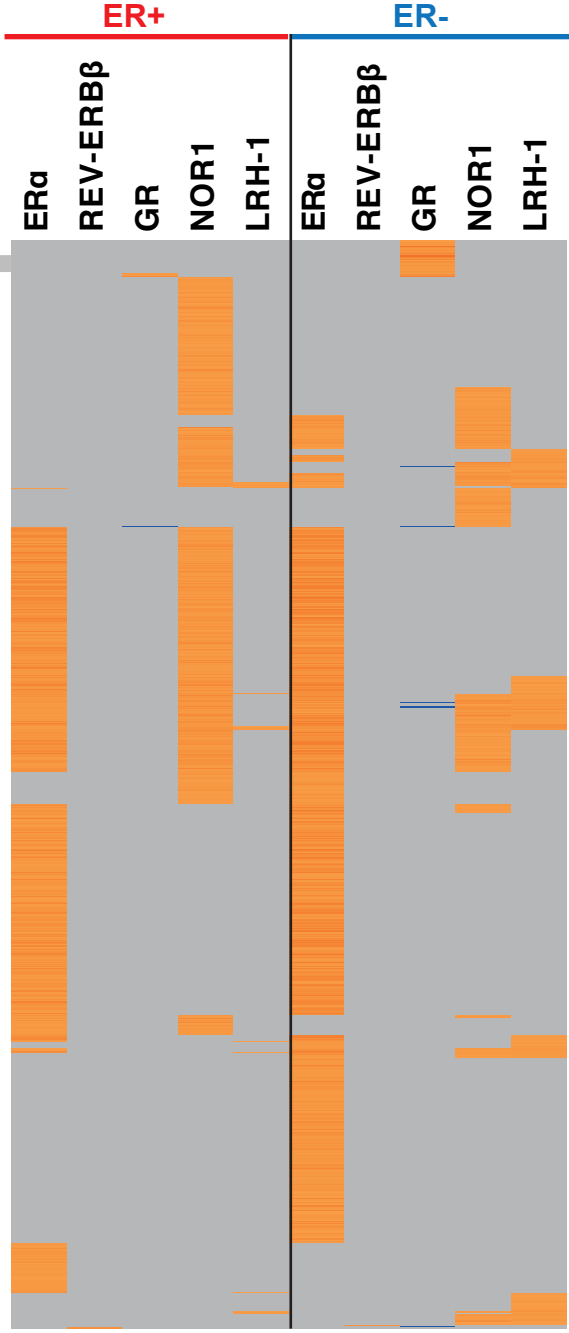
Time(years)

■ Low

■ Intermediate

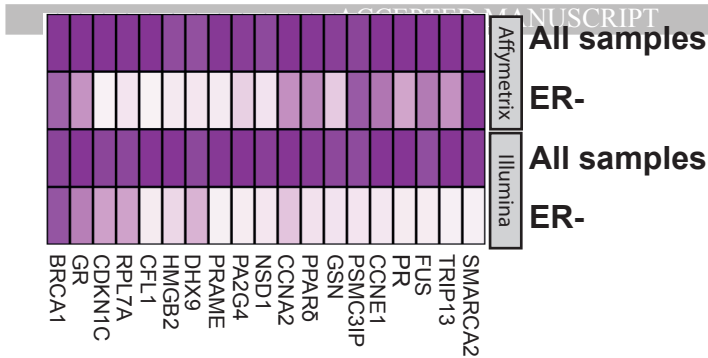
■ High

921 highly correlated genes

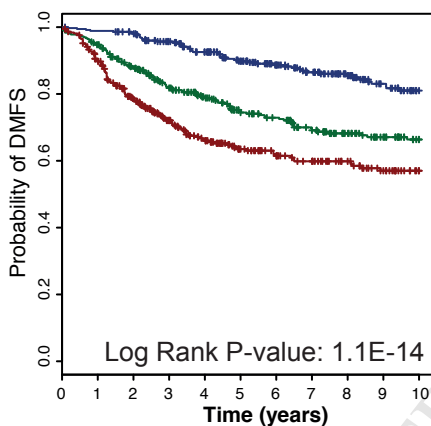


0 r-index 1000

A



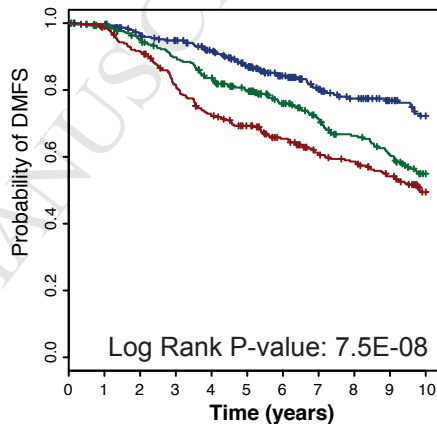
B 19 genes signature (Affymetrix samples)



No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	357	351	342	314	287	254	217	192	159	125	97
Intermediate	362	340	300	260	229	198	183	159	131	112	85
High	375	327	264	212	178	139	120	107	91	74	55

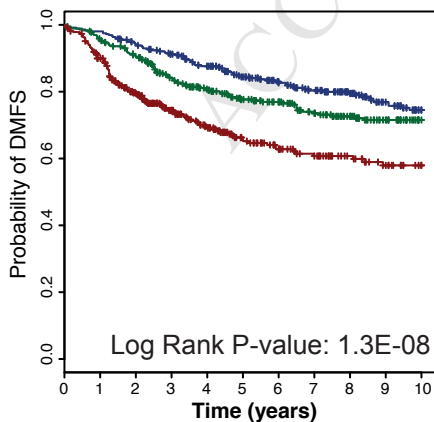
C 19 genes signature (Illumina samples)



No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	305	297	278	265	245	218	181	153	137	123	108
Intermediate	306	296	279	261	240	215	183	162	145	130	107
High	316	310	286	251	221	204	180	158	149	133	110

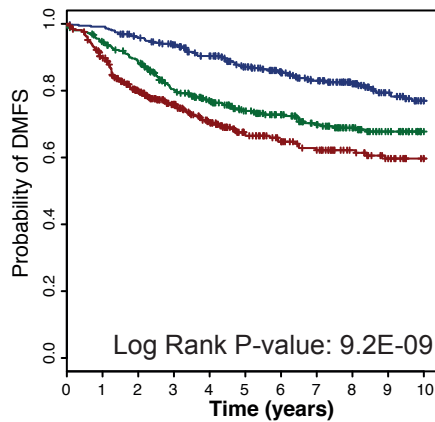
D 3 NRs (Affymetrix samples)



No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	359	351	330	310	287	257	225	203	168	138	106
Intermediate	363	342	316	274	243	213	194	168	143	116	87
High	372	325	260	202	164	121	101	87	70	57	44

E 3NRs + cytoskeletal genes (Affymetrix)

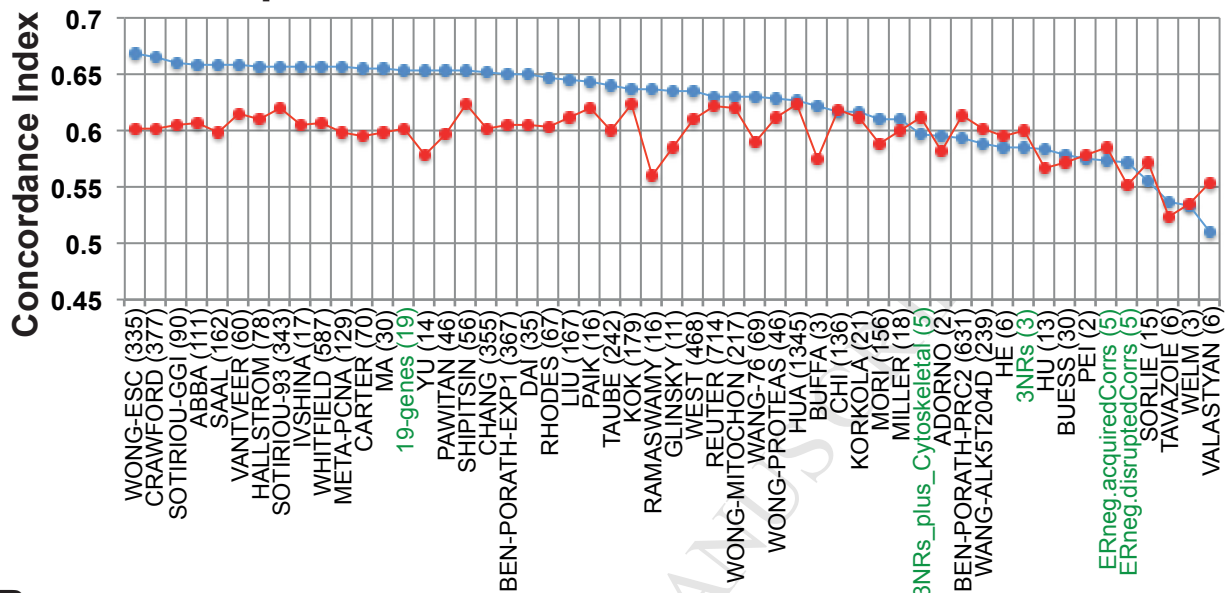


No. At Risk

	0	1	2	3	4	5	6	7	8	9	10
Low	357	353	334	314	290	260	229	204	170	139	108
Intermediate	362	337	310	264	234	204	182	157	132	106	77
High	375	328	262	208	170	127	109	97	79	66	52

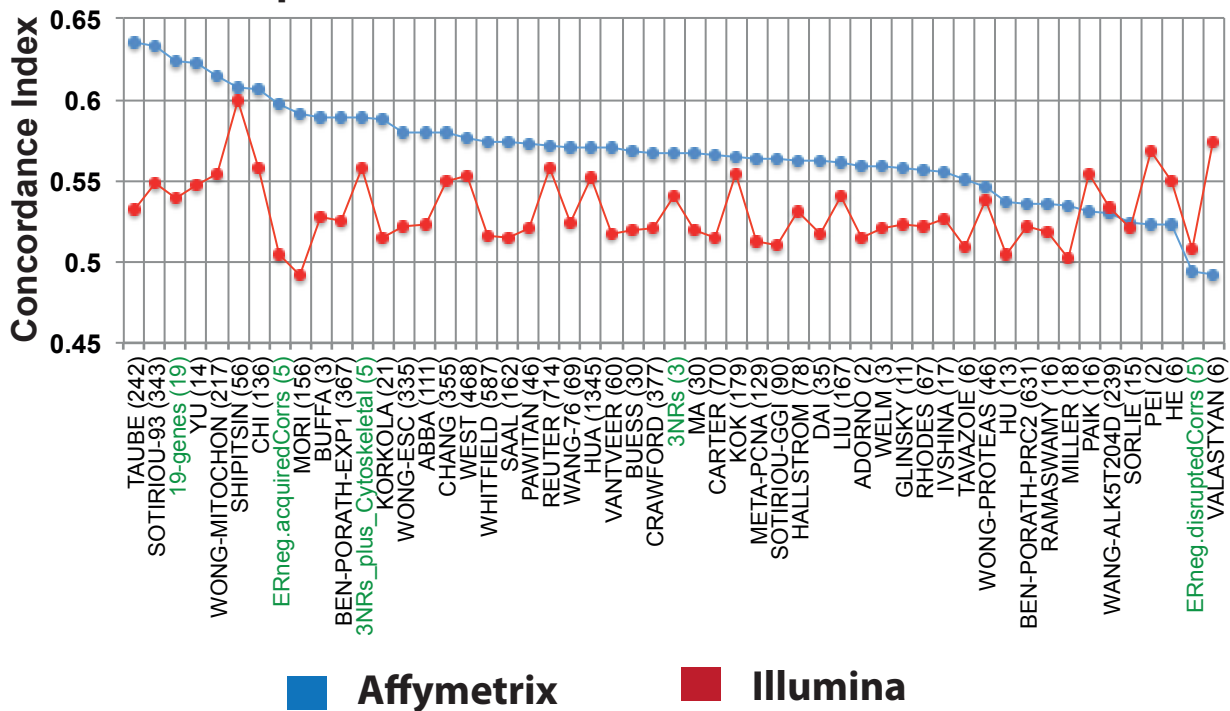
A

## All samples



B

## ER- samples



**Highlights**

- Nuclear receptor (NR) transcription factors are crucial in reproduction, development, growth and metabolism
- NR-coregulator interactions are altered between normal and cancerous breast
- Molecular signatures based on NR and coregulators predict outcome in breast cancer patients
- Signatures are independent of proliferation and outperform existing discriminators
- The power of predictive signatures based on altered gene expression between normal breast and breast cancers is demonstrated



AFFYMETRIX (2189 samples)

ILLUMINA (1853 samples)

Random split

Random split

Training Set  
1095 samples

Validation Set  
1094 samples

Training Set  
926 samples

Validation Set  
927 samples

### Bootstrap Cox Regression Analysis

repeat  
1000 times

Random sampling with replacement

Univariate Cox Regression

Calculate r-index

(number of significant results out of 1000 analyses)

r-index

(Affymetrix samples)

r-index

(Illumina samples)

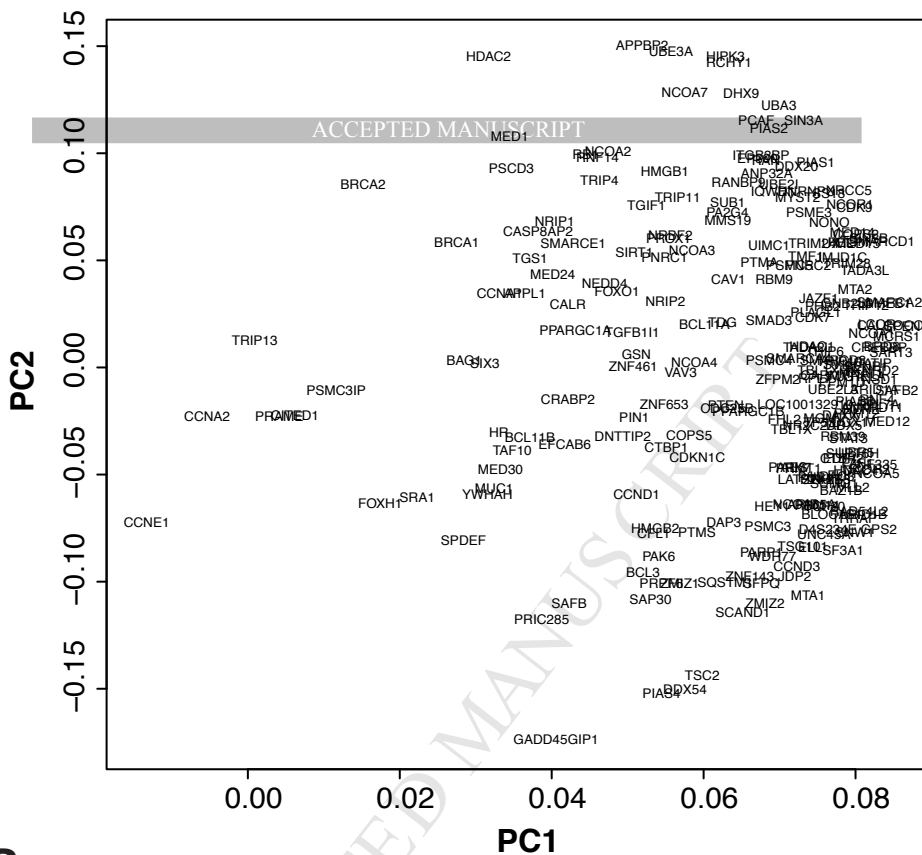
Select genes significantly associated with survival on both platforms  
( r-index  $\geq 0.750$  )

Multivariate Cox Regression  
(adjusting for ER status and NODE status)

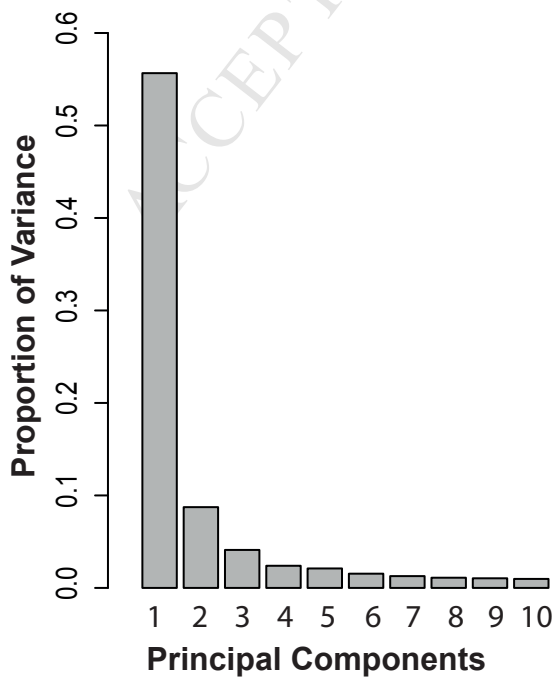
19-Genes Signature

Validate using Validation Sets

A



B

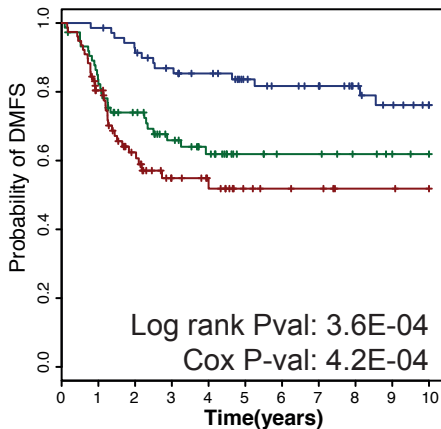




ER- Cancers

ER+ Cancers

Group 1



No. At Risk

Low 70 69 63 57 52 44 40 38 31 26 21

Intermediate 74 61 49 37 29 19 16 16 13 11 9

High 77 57 36 22 18 10 8 7 4 4 3

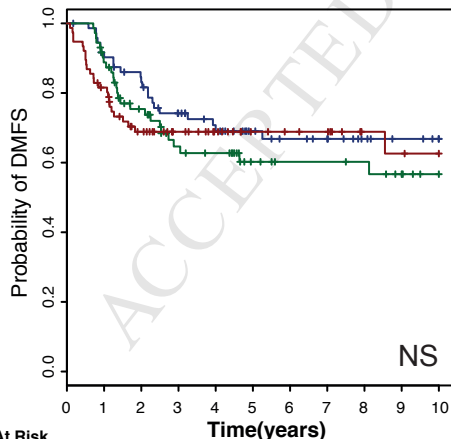
No. At Risk

Low 223 221 202 181 169 149 136 124 110 94 76

Intermediate 228 220 204 179 158 136 121 112 101 88 63

High 238 212 185 150 118 90 77 66 59 44 31

Group 2



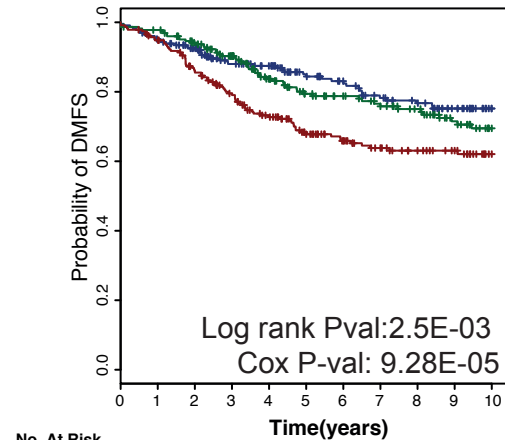
No. At Risk

Low 73 65 57 47 41 32 28 26 20 17 14

Intermediate 72 62 46 34 31 21 18 18 17 14 10

High 76 60 45 35 27 20 18 17 11 10 9

Kaplan-Meier Curve



No. At Risk

Low 229 216 199 167 155 134 122 109 101 85 66

Intermediate 226 219 201 176 145 123 110 103 92 75 56

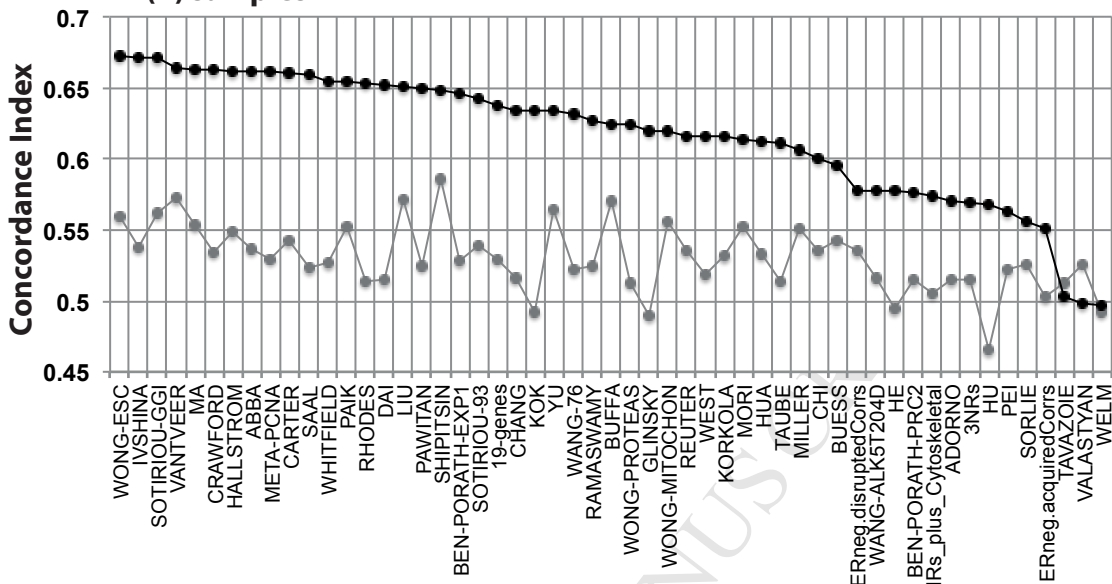
High 234 218 191 167 145 118 102 90 77 66 48

■ Low

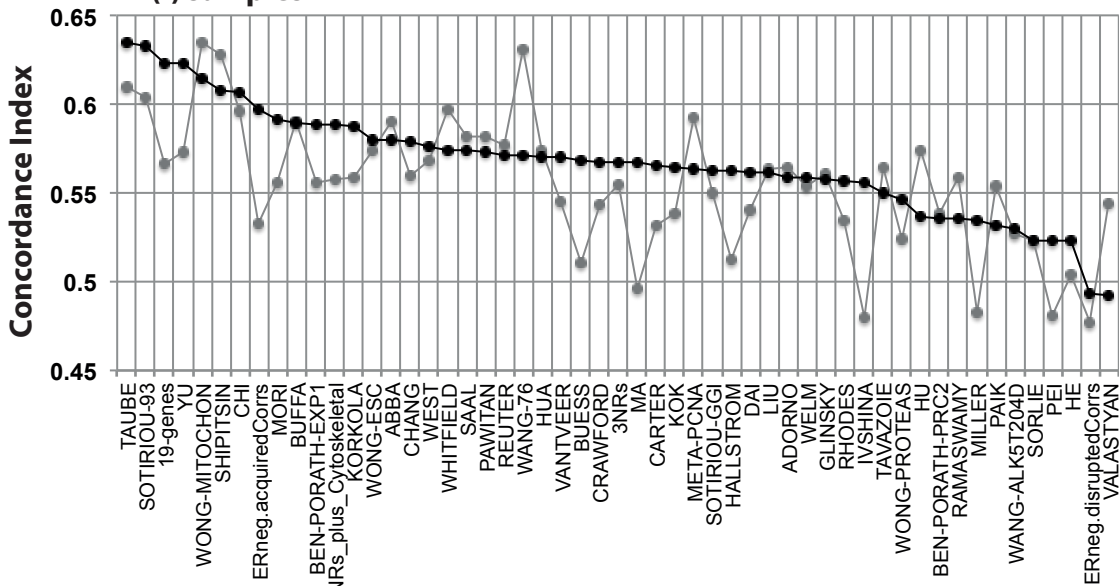
■ Intermediate

■ High

## ER(+) samples



## ER(-) samples



Supplementary Table 1: Ct values of all co-regulators profiled on TLDA

	ERneg01.06.0	ERneg01.06.0	ERneg01.06.0	ERneg01.07.1	ERneg01.08.1	ERneg01.08.1
AES	24.793	24.675	23.577	25.266	25.007	23.482
ANKRD11	27.063	28.306	28.436	29.760	29.847	28.923
ANP32A	26.403	27.309	26.612	27.224	28.138	27.174
APPBP2	27.537	29.379	28.807	29.078	29.052	28.427
APPL1	32.558	33.640	33.300	33.103	33.965	33.945
ARID1A	25.014	25.520	25.939	25.139	25.410	24.853
ARID1B	24.811	26.984	26.010	26.084	27.433	26.233
ARID5A	29.112	30.546	30.446	31.690	33.040	31.067
BAG1	28.962	30.411	30.762	30.207	40.000	30.443
BAZ1B	26.375	27.295	27.238	27.018	27.466	27.451
BCL11A	26.608	28.303	26.739	29.296	31.516	30.788
BCL11B	29.869	29.490	32.149	33.170	31.918	32.330
BCL3	27.297	27.345	28.172	27.920	27.178	27.387
BLOC1S1	26.817	27.052	27.731	27.654	27.380	26.822
BRCA1	28.959	30.422	30.245	30.218	31.107	31.211
BRCA2	27.922	29.249	29.618	30.222	31.393	29.706
BRD8	27.798	29.477	28.271	29.263	30.604	29.027
C1D	40.000	40.000	40.000	40.000	40.000	40.000
CALCOCO1	26.422	26.814	26.518	27.246	27.301	26.947
CALR	20.618	22.763	22.431	22.324	24.026	23.161
CARM1	25.124	27.162	26.724	27.298	26.275	26.567
CASP8AP2	29.278	30.736	29.132	30.243	32.423	30.850
CAV1	27.957	28.512	28.088	25.303	28.135	27.124
CCNA1	30.159	30.979	40.000	30.978	36.641	34.128
CCNA2	29.441	30.751	30.989	29.944	31.482	30.986
CCND1	22.883	24.605	26.829	26.771	28.926	23.851
CCND3	26.071	27.931	27.506	28.280	28.765	27.800
CCNE1	29.255	29.570	29.842	29.212	33.418	31.012
CDC25B	25.970	27.801	27.501	26.744	27.421	27.579
CDK7	27.816	29.360	29.356	28.574	29.761	28.777
CDK9	27.305	27.110	28.085	27.541	27.624	27.027
CDKN1C	31.642	32.603	29.168	32.851	31.967	31.182
CFL1	24.921	26.123	25.792	25.867	26.947	26.037
CITED1	17.765	19.996	40.000	35.121	40.000	35.115
CMTM2	36.206	40.000	23.269	37.145	40.000	22.668
COPS2	26.531	27.699	28.010	27.179	28.736	27.359
COPS5	29.350	31.266	30.905	30.479	31.979	31.276
CRABP2	25.456	26.573	27.873	21.815	26.153	24.412
CREBBP	25.455	26.451	25.463	26.396	26.458	25.632
CTBP1	30.490	31.406	30.672	31.168	31.261	30.232
CTBP2	26.755	28.954	27.868	28.311	28.640	27.488
D4S234E.GPS	26.305	27.743	27.650	27.682	28.709	27.851

DAP3	23.005	25.025	25.448	23.571	25.219	25.237
DAXX	26.219	27.887	27.728	27.616	28.243	27.201
DDX17	26.068	26.562	25.717	26.725	27.379	27.243
DDX20	26.977	28.584	28.152	28.006	29.412	28.127
DDX5	23.613	24.631	24.605	24.982	25.176	23.051
DDX54	28.858	29.688	29.325	28.957	30.322	29.163
DHX9	25.872	27.409	27.468	27.101	28.026	26.968
DNTTIP2	26.024	28.792	28.318	28.470	29.847	29.042
EDF1	24.555	25.064	25.524	24.901	26.178	25.586
EFCAB6	25.063	18.311	33.227	25.498	34.355	33.441
ELL	29.613	30.259	30.418	30.310	30.658	30.045
EP300	27.619	28.519	27.732	28.681	28.332	28.662
FAF1	27.664	29.288	27.737	29.104	30.451	28.680
FHL2	27.964	29.848	27.376	26.393	29.332	25.332
FLII	26.362	27.810	28.299	27.207	27.500	27.673
FOXH1	35.866	34.999	36.074	33.595	34.348	31.325
FOXO1	29.113	28.856	30.131	29.593	29.555	28.213
FUS	24.960	26.065	25.710	26.156	27.903	25.480
GADD45GIP1	27.494	29.145	29.238	28.806	29.594	29.265
GMEB1	28.244	28.434	28.810	28.511	29.707	28.529
GMEB2	40.000	40.000	33.899	40.000	38.692	37.401
GNB2L1	21.910	23.163	22.376	23.005	24.262	23.249
GSN	24.866	25.433	24.849	25.023	25.417	23.848
HDAC1	26.732	28.723	27.892	27.820	29.135	28.649
HDAC2	25.353	28.150	27.043	26.175	28.942	27.742
HDAC3	28.196	29.807	28.876	29.516	30.509	29.404
HDAC4	29.647	30.187	30.247	30.687	30.739	29.824
HEY1	31.133	33.242	32.931	32.281	32.305	31.875
HIPK3	26.446	27.695	26.687	26.869	27.618	27.528
HMGB1	28.553	29.412	28.618	29.838	30.899	28.760
HMGB2	25.085	26.015	24.835	26.617	28.383	26.830
HNRNPU	22.175	23.278	22.978	22.804	24.067	22.942
HR	31.178	30.751	28.680	30.575	30.228	31.352
HTATIP	27.051	28.590	28.107	28.172	28.661	28.452
IQWD1	26.931	29.550	28.638	27.644	28.193	28.333
ITGB3BP	28.637	30.097	29.283	29.490	32.073	30.939
JAZF1	30.403	30.435	29.676	30.267	31.461	30.631
JMJD1C	28.466	29.923	28.903	29.870	29.844	29.031
LATS2	29.139	29.736	29.350	29.395	29.540	29.246
LCOR	28.080	29.050	29.207	28.487	29.117	28.321
LOC1001329	26.065	25.775	26.811	26.686	27.655	26.582
MCRS1	26.455	27.747	28.312	28.305	27.947	27.665
MED1	28.030	29.141	29.515	29.366	27.188	26.893
MED12	26.981	27.758	27.296	27.167	27.748	27.865

MED14	27.989	28.884	28.458	27.907	28.863	28.479
MED15	26.670	27.625	27.259	27.487	27.771	27.491
MED24	25.740	28.870	29.361	28.265	28.561	24.534
MED30	27.834	30.908	30.272	28.629	32.190	27.094
MGMT	29.893	30.139	28.981	30.604	32.081	29.932
MLL2	25.655	26.491	26.902	26.932	26.570	26.252
MMS19	26.420	28.509	28.341	27.714	29.057	27.579
MNAT1	30.312	30.965	30.784	30.919	31.104	30.163
MTA1	27.472	28.762	28.615	28.303	29.545	28.412
MTA2	25.241	26.415	26.299	26.010	26.793	26.789
MUC1	28.712	27.098	26.851	27.323	22.953	24.951
MYST2	26.971	28.371	27.850	28.074	28.722	27.754
NCOA1	25.559	27.254	26.631	28.092	25.778	26.855
NCOA2	27.565	28.981	28.202	28.914	28.321	28.745
NCOA3	27.223	27.551	27.622	27.824	27.531	27.439
NCOA4	29.183	28.815	30.400	29.817	29.910	28.708
NCOA5	27.309	27.931	27.946	28.328	28.298	27.905
NCOA6	27.849	29.059	28.046	28.777	29.510	28.799
NCOA7	27.401	29.870	29.622	29.813	30.899	29.691
NCOR1	26.129	27.444	27.546	27.695	27.686	27.530
NCOR2	26.164	27.908	25.669	26.656	27.769	27.150
NEDD4	31.182	32.033	30.013	31.569	30.803	30.150
NONO	24.653	26.016	24.895	24.717	25.748	25.340
NR2C2AP	27.721	29.856	28.610	29.683	29.311	29.582
NRBF2	30.039	30.773	30.481	30.265	31.209	30.406
NRIP1	31.157	32.787	33.316	32.244	33.059	32.054
NRIP2	35.275	40.000	40.000	36.009	40.000	32.889
NSD1	27.765	28.890	27.847	28.776	29.494	28.283
PA2G4	27.303	28.552	28.763	28.360	29.099	28.422
PADI4	35.587	35.575	40.000	34.597	40.000	35.586
PAK6	29.919	29.904	28.432	30.713	28.622	28.121
PARK7	28.702	29.369	29.699	28.050	29.528	28.803
PARP1	27.289	28.413	28.273	28.338	28.296	28.051
PCAF	28.330	28.449	28.969	29.506	30.322	29.904
PELP1	25.987	27.779	27.941	27.679	28.698	27.563
PHB2	21.295	24.435	24.781	23.615	25.266	24.343
PIAS1	27.449	28.194	27.878	28.572	28.087	28.313
PIAS2	27.784	29.844	29.133	28.172	30.115	29.258
PIAS3	26.952	27.858	27.365	25.692	27.716	26.431
PIAS4	27.829	29.382	28.770	29.393	28.164	28.224
PIN1	31.756	32.630	31.699	32.761	34.553	32.380
PLAGL1	28.172	28.677	28.903	28.588	30.731	30.386
PNRC1	28.284	29.729	29.607	29.714	30.985	29.747
PNRC2	27.914	28.812	29.061	29.083	29.612	28.883

PPARGC1A	35.182	35.371	31.257	35.037	34.777	30.314
PPARGC1B	29.203	30.003	29.635	30.896	31.534	30.353
PPM1D	28.856	30.327	29.847	30.671	31.060	29.700
PRAME	25.603	27.629	28.293	29.856	40.000	40.000
PRIC285	27.212	28.898	29.305	32.083	31.804	29.539
PRMT1	28.117	29.722	29.556	28.013	31.385	29.790
PRMT2	25.374	27.472	26.074	26.450	27.216	26.586
PROX1	32.228	31.984	30.279	34.615	32.396	31.030
PRPF6	29.177	30.118	29.231	29.821	40.000	29.029
PSCD3	31.879	32.788	31.502	31.903	31.690	31.319
PSMC3	25.384	26.792	26.302	25.893	28.449	27.404
PSMC3IP	29.939	30.584	30.437	30.288	31.133	40.000
PSMC4	25.589	27.474	27.248	26.334	28.792	27.099
PSMC5	27.066	28.280	27.846	28.299	28.796	25.772
PSME3	25.189	26.651	27.390	26.170	26.708	27.180
PTEN	30.489	31.113	30.438	33.150	32.853	31.200
PTK2B	28.185	27.816	29.415	29.323	29.684	30.363
PTMA	18.421	19.817	19.865	19.807	21.066	19.529
PTMS	23.983	26.841	25.779	25.877	26.934	24.776
PUS1	27.878	29.257	29.909	29.172	30.660	29.661
RAD54L2	27.313	28.297	28.291	28.180	28.501	28.664
RAN	23.844	25.327	25.089	24.478	26.437	25.700
RANBP9	26.269	27.641	27.027	26.815	28.368	26.670
RB1	27.001	28.513	28.858	28.884	29.017	27.504
RBM14	26.133	27.515	27.043	27.244	27.731	26.384
RBM39	26.613	27.591	26.516	27.644	29.149	27.696
RBM9	26.882	29.128	27.507	27.941	28.564	27.604
RCHY1	29.740	31.080	31.146	30.749	31.666	30.526
RELA	23.711	25.447	25.505	25.200	25.432	25.585
RERE	27.423	27.827	27.905	27.400	27.611	26.967
RNF14	28.386	30.006	28.788	29.154	30.477	28.644
RNF4	26.430	27.294	27.680	26.551	26.698	27.122
RPL7	23.357	25.156	24.480	24.087	26.555	25.249
SAFB	34.549	32.887	32.732	34.113	35.333	33.921
SAFB2	27.839	28.233	28.045	28.676	28.825	28.050
SAP30	28.346	29.259	27.870	28.782	28.854	29.180
SART3	26.140	27.306	27.015	26.988	27.624	27.271
SCAND1	26.395	27.818	27.469	27.348	28.424	28.067
SENP1	26.511	27.443	28.550	28.092	28.535	28.204
SF3A1	24.825	25.811	25.321	25.548	26.142	25.803
SFPQ	23.848	25.325	24.952	25.021	25.859	25.063
SIN3A	27.144	28.486	27.845	28.848	28.515	27.917
SIN3B	26.835	28.665	27.697	28.382	28.330	28.264
SIRT1	29.442	30.316	28.923	29.669	30.534	29.914

SIX3	32.694	35.473	29.305	33.762	40.000	33.312
SMAD3	29.999	30.872	29.838	31.046	30.935	29.591
SMARCA2	26.060	27.269	26.377	28.067	28.366	27.831
SMARCA4	24.461	26.461	26.741	28.355	26.136	25.883
SMARCD1	26.096	27.418	27.766	27.514	27.887	27.116
SMARCD3	31.582	31.549	30.883	31.025	31.370	30.490
SMARCE1	26.956	28.313	28.525	28.356	28.185	27.948
SNW1	26.603	27.903	27.735	27.864	29.141	27.729
SPDEF	35.216	36.052	32.639	30.373	27.991	27.009
SPEN	28.676	29.184	29.075	29.074	29.751	29.104
SQSTM1	22.765	23.940	24.079	24.242	24.604	23.052
SRA1	26.364	28.087	27.800	27.380	29.203	27.493
SRY	40.000	22.739	40.000	21.757	40.000	18.486
SS18	25.540	26.901	25.580	26.961	28.070	27.049
STAT3	24.363	25.982	25.554	26.921	26.545	26.123
SUB1	27.661	30.282	29.344	30.053	31.027	30.074
SUMO1	24.223	26.929	26.842	26.761	27.451	26.911
SUPT6H	26.745	27.660	27.813	27.507	28.100	27.342
SVIL	25.013	28.068	27.525	26.113	29.102	26.935
TADA2L	29.742	30.555	30.026	30.745	30.612	31.467
TADA3L	26.397	27.659	26.951	27.613	27.113	27.700
TAF10	24.113	25.723	25.800	25.664	25.643	25.616
TBL1X	28.007	29.813	28.786	30.847	28.519	30.364
TBL1XR1	26.362	25.732	25.460	26.204	27.401	26.460
TCF20	26.229	28.158	27.305	27.999	28.673	28.534
TCF21	21.897	27.115	40.000	25.872	40.000	40.000
TDG	27.214	28.574	28.062	28.641	28.911	28.372
TGFB111	40.000	32.433	29.652	30.808	30.389	28.861
TGIF1	25.286	28.417	26.262	26.351	26.373	26.019
TGS1	27.849	29.415	28.879	28.906	29.756	28.956
TMF1	27.800	28.613	28.589	28.176	29.724	28.869
TP53	27.372	26.786	26.846	27.109	28.783	28.918
TRIM24	28.386	29.469	29.587	28.525	28.638	28.862
TRIM28	23.947	25.596	24.918	24.014	26.519	24.339
TRIP10	27.362	28.574	28.663	27.750	29.868	27.563
TRIP11	28.511	28.932	28.831	28.737	29.075	28.334
TRIP12	27.129	27.198	27.777	27.605	27.703	27.309
TRIP13	26.307	28.718	29.267	26.309	30.310	29.023
TRIP4	28.875	29.859	29.111	30.033	30.243	29.474
TRIP6	27.077	28.219	27.198	26.631	28.252	28.522
TRRAP	26.683	27.333	26.812	27.001	27.395	27.548
TSC2	27.561	29.528	28.425	29.262	27.570	28.727
TSG101	26.448	27.858	27.299	27.271	28.316	28.361
TXNRD2	28.521	29.657	29.164	29.520	28.418	28.932

<b>UBA3</b>	26.098	27.735	28.029	27.945	29.199	28.342
<b>UBE2I</b>	23.635	25.617	24.594	25.909	25.373	24.938
<b>UBE2L3</b>	30.958	31.082	29.407	31.568	31.111	31.137
<b>UBE3A</b>	26.926	27.808	27.012	27.281	27.710	28.199
<b>UBR5</b>	26.913	27.222	27.804	27.736	28.312	27.832
<b>UIMC1</b>	28.237	27.974	27.948	28.895	29.959	28.739
<b>UNC45A</b>	28.065	29.885	27.996	29.159	29.562	28.617
<b>UXT</b>	25.719	27.521	26.787	26.073	27.830	27.431
<b>VAV3</b>	29.913	30.580	30.744	29.026	29.042	27.773
<b>WDR77</b>	27.071	28.744	28.272	27.315	29.834	28.993
<b>XRCC5</b>	25.040	25.780	25.914	25.613	26.143	25.380
<b>YWHAH</b>	27.828	28.725	27.929	28.961	28.510	28.389
<b>ZFPM2</b>	32.250	31.944	30.030	32.311	31.443	30.406
<b>ZMIZ1</b>	25.557	26.730	26.895	25.635	25.896	25.410
<b>ZMIZ2</b>	24.392	25.878	25.949	27.145	26.492	26.009
<b>ZNF143.JDP2</b>	28.388	29.416	29.298	29.495	29.980	29.223
<b>ZNF335</b>	29.790	30.073	29.891	30.150	30.573	30.300
<b>ZNF461</b>	29.424	31.237	30.926	31.632	32.735	32.154
<b>ZNF653</b>	28.600	30.673	29.497	29.921	29.802	29.736
<b>ZNHIT3</b>	28.396	29.298	29.443	29.061	29.298	30.056



ERneg01.08.1	ERneg02TB00	ERneg04.09.1	ERneg04TB15	ERneg05.07.0	ERneg05.07.0	ERneg05.07.1
24.906	28.675	25.345	26.328	26.373	23.766	25.918
27.613	34.759	29.783	29.509	29.406	28.543	29.479
26.872	30.559	28.262	28.871	28.371	26.682	28.176
27.746	40.000	30.029	30.897	29.612	28.247	28.740
33.196	40.000	34.930	35.358	33.842	33.232	35.350
24.695	34.845	26.879	27.112	26.640	25.012	26.943
26.250	32.949	27.337	27.908	26.853	26.143	27.828
31.090	31.818	31.493	32.032	31.449	30.949	31.954
31.414	34.796	31.148	32.459	32.384	30.993	32.090
26.567	35.488	28.093	28.662	27.927	27.513	28.540
28.603	35.460	29.827	28.816	28.570	31.477	33.048
29.525	34.786	31.321	31.220	31.955	30.548	33.541
27.470	33.965	27.255	29.754	28.458	26.895	28.021
27.478	31.632	28.261	28.665	28.203	26.785	28.699
28.575	40.000	31.467	34.940	34.097	30.600	31.850
30.785	40.000	31.105	32.449	31.960	30.529	31.405
28.586	39.104	29.720	30.538	29.796	28.616	29.931
40.000	31.748	40.000	40.000	40.000	31.282	34.431
26.774	34.228	27.983	27.927	27.971	26.641	28.335
21.600	31.670	23.273	25.248	23.231	22.925	23.527
26.124	40.000	28.388	29.058	28.075	26.359	27.834
29.745	40.000	31.851	31.199	31.052	30.987	31.562
28.592	34.013	28.748	29.031	29.460	27.777	28.189
33.746	40.000	32.419	34.650	31.405	34.594	33.868
28.781	40.000	31.780	31.591	30.874	30.619	30.614
27.922	31.761	26.263	25.844	27.668	24.612	26.104
28.329	30.777	28.728	29.310	27.955	27.099	28.438
29.360	33.563	30.732	32.213	30.552	30.329	32.162
28.256	35.499	27.870	29.405	29.177	27.372	29.665
28.780	31.389	29.913	30.283	29.967	28.442	29.470
27.767	36.687	28.320	29.998	29.466	26.448	28.480
30.063	35.180	32.413	31.914	32.159	31.769	32.014
25.889	28.709	26.341	26.678	26.511	25.836	25.956
40.000	35.161	40.000	24.718	40.000	3.684	33.883
21.606	40.000	36.480	40.000	40.000	20.597	35.519
27.268	35.829	28.126	29.824	28.485	27.156	28.197
29.385	40.000	31.124	31.519	30.956	28.575	31.040
24.268	29.837	26.550	26.105	26.841	20.484	23.612
28.629	34.814	27.335	28.123	28.244	26.062	27.433
30.856	35.509	31.700	32.565	31.544	30.685	32.033
27.916	32.207	28.888	29.319	29.898	28.394	28.843
26.460	34.261	27.570	29.241	27.883	27.146	28.268

23.936	31.518	25.408	26.671	25.292	23.074	26.794
27.610	36.719	28.321	29.504	28.423	27.561	28.911
26.233	34.714	26.761	27.085	27.407	26.376	27.439
27.931	40.000	29.118	30.587	28.797	28.430	30.136
23.792	32.113	25.130	25.919	25.715	24.641	25.805
29.478	28.874	30.223	30.024	30.143	29.710	31.392
26.367	40.000	27.883	30.514	28.646	26.513	28.311
28.563	35.063	29.142	30.201	28.899	28.746	30.017
24.588	30.907	25.325	26.267	26.676	24.484	25.704
35.595	40.000	33.958	35.153	36.412	33.681	33.990
30.015	40.000	31.010	31.511	30.957	30.340	31.357
28.057	36.473	28.824	30.996	29.679	27.678	29.339
28.604	33.459	29.776	30.666	28.831	28.732	30.224
27.219	33.927	27.204	29.195	30.629	28.353	27.268
26.134	33.178	26.793	28.496	28.450	26.269	28.181
40.000	34.618	35.313	28.959	29.512	34.894	27.745
29.421	35.608	29.529	30.848	30.650	28.714	30.169
26.226	33.387	26.732	27.763	26.985	26.322	27.444
28.768	33.162	29.348	29.371	29.428	29.086	29.541
28.696	40.000	29.781	30.896	29.867	28.646	29.988
34.596	29.155	37.327	40.000	40.000	35.129	40.000
22.241	29.449	23.467	25.262	24.525	22.468	24.255
25.009	31.048	26.242	25.997	26.505	24.714	26.053
27.533	35.425	28.825	30.272	28.944	27.618	29.568
26.769	40.000	29.091	30.689	28.536	28.101	29.766
29.245	36.219	30.051	31.075	29.702	28.823	30.517
29.788	40.000	30.881	31.587	30.881	30.105	31.284
33.088	33.068	32.513	34.032	34.408	32.661	32.150
26.437	40.000	28.449	29.790	28.847	26.844	28.503
29.427	32.431	29.929	29.871	31.070	28.677	31.104
25.205	32.713	28.165	27.472	27.614	26.011	27.294
22.600	32.789	23.648	25.447	24.218	23.020	24.747
31.549	40.000	32.061	31.101	31.026	32.502	31.787
27.970	36.130	29.037	29.979	29.373	27.722	28.630
27.420	40.000	29.245	30.889	29.194	28.545	30.204
29.628	37.775	31.566	32.393	29.540	29.751	31.063
29.393	40.000	32.125	32.845	31.430	29.701	31.850
29.019	40.000	30.285	31.639	30.452	27.861	30.663
29.191	33.921	29.634	30.243	31.106	28.117	30.442
28.593	35.741	28.848	31.594	29.618	28.480	29.917
27.688	31.054	26.564	27.889	28.132	26.192	27.493
27.918	36.511	29.106	29.649	29.131	27.313	29.407
27.701	40.000	27.421	31.459	30.555	26.112	24.693
27.160	38.059	28.110	29.282	29.081	26.854	28.867

27.911	40.000	29.420	30.897	28.921	27.960	29.610
27.088	40.000	28.792	29.733	28.503	27.028	28.365
27.381	40.000	25.356	30.509	28.929	28.580	25.610
27.321	35.681	31.933	31.926	26.540	28.302	32.544
30.213	34.912	32.227	30.526	30.361	29.385	31.116
26.768	33.125	26.821	27.887	27.990	26.356	27.896
27.950	35.346	29.084	31.032	28.578	28.205	30.089
30.767	40.000	31.740	32.578	30.762	30.334	31.299
28.530	31.743	29.634	29.413	29.694	29.147	29.260
25.819	35.637	26.973	28.720	27.355	25.922	27.429
25.346	30.803	24.576	29.864	32.192	25.744	26.819
27.025	35.979	27.789	29.497	29.027	28.028	28.070
26.629	34.314	27.456	28.896	28.386	26.543	28.232
27.617	40.000	28.596	31.202	29.363	27.573	29.177
28.135	35.782	27.978	29.465	28.790	26.678	28.249
29.302	36.413	29.841	32.342	29.909	29.267	31.359
28.483	33.612	28.786	29.659	29.136	28.025	29.342
29.020	34.973	29.624	30.593	29.125	28.593	29.935
29.991	40.000	30.644	31.142	30.339	29.133	31.808
26.408	36.174	27.502	29.372	28.050	26.541	28.419
26.729	31.512	28.828	28.501	28.661	27.370	28.140
30.573	40.000	30.780	33.012	31.549	30.613	29.991
24.171	34.416	25.857	27.765	26.825	24.052	26.190
29.709	35.839	31.134	31.058	30.963	29.083	30.555
30.335	31.571	31.855	30.237	31.404	28.678	31.296
32.991	40.000	32.839	31.845	33.763	32.834	32.622
40.000	40.000	40.000	40.000	35.570	35.035	40.000
27.463	33.448	29.246	30.567	29.936	28.037	29.682
28.553	32.175	29.344	40.000	29.338	28.233	29.702
27.099	36.260	40.000	37.810	37.970	40.000	38.106
27.706	33.282	30.811	30.198	30.102	26.508	30.328
28.963	40.000	29.541	30.304	29.805	28.352	30.184
27.506	34.505	29.150	30.381	28.997	28.088	28.825
28.631	40.000	30.129	30.835	30.303	28.470	30.409
26.229	36.399	28.800	30.437	28.071	27.911	29.560
25.259	31.494	25.660	27.236	24.826	24.456	25.967
27.971	36.109	28.279	30.495	29.569	27.739	28.970
27.271	40.000	30.169	31.431	29.883	29.617	30.258
26.954	33.995	27.695	29.339	28.124	26.727	27.615
29.189	30.719	28.992	29.778	30.024	28.818	29.895
31.998	33.596	34.949	33.618	32.615	32.584	34.225
29.715	37.983	31.154	30.205	28.437	29.966	30.336
29.848	40.000	30.983	30.699	30.799	29.824	31.211
28.633	30.485	29.276	28.573	29.335	28.689	29.915

31.470	40.000	35.565	33.477	26.788	40.000	33.223
40.000	36.744	32.210	31.637	31.643	30.574	32.129
29.138	38.278	30.979	31.382	30.890	30.125	31.676
29.578	40.000	31.745	34.120	34.834	29.546	27.711
29.237	34.970	30.661	30.760	29.551	30.113	30.636
28.767	33.565	30.615	31.575	30.508	29.295	30.480
26.065	32.747	27.782	27.910	27.710	26.355	28.442
29.194	40.000	32.391	33.578	35.394	33.608	36.230
28.946	33.528	28.829	29.283	29.791	29.364	30.301
31.907	40.000	33.252	33.975	40.000	31.187	33.078
26.035	34.353	27.970	28.345	27.634	26.523	26.682
29.709	40.000	31.504	40.000	40.000	40.000	32.290
26.804	34.990	28.001	29.888	27.803	25.360	28.192
27.548	36.123	29.309	30.994	29.314	28.131	29.790
25.647	36.021	27.816	29.221	27.853	26.177	28.057
32.005	32.093	33.309	31.316	31.729	31.789	33.339
28.316	33.471	30.427	30.727	28.995	29.312	31.692
18.219	27.001	20.352	21.516	21.712	19.477	20.047
26.210	31.724	27.622	27.153	25.983	25.187	26.848
29.439	40.000	30.803	31.735	30.863	29.929	32.092
27.685	32.638	29.622	29.424	28.315	28.107	29.370
25.025	30.138	26.686	28.222	26.706	25.303	27.284
26.524	37.059	27.534	29.717	28.898	26.509	27.871
29.130	36.265	28.671	31.178	29.474	27.275	28.995
26.645	33.500	27.582	29.037	28.287	26.549	28.063
27.858	31.621	28.204	28.404	27.907	27.371	28.124
27.529	40.000	29.196	29.806	29.665	27.720	28.612
29.629	40.000	32.038	33.751	31.633	29.776	31.659
24.501	33.932	25.787	27.537	26.270	24.701	26.084
27.214	34.945	27.718	29.511	29.128	27.256	27.998
28.557	40.000	29.773	40.000	29.976	28.773	29.821
27.012	33.426	27.830	29.412	28.049	26.724	28.570
24.452	28.433	23.682	25.692	25.097	23.719	25.153
34.443	40.000	34.920	36.108	35.552	34.674	35.874
28.024	40.000	29.100	29.826	29.056	28.044	29.529
29.151	31.102	29.881	29.221	29.894	28.489	29.041
26.655	34.230	28.492	29.910	28.451	27.567	29.222
28.055	31.711	28.525	29.330	27.992	27.023	27.962
27.779	40.000	28.891	29.040	29.521	28.159	28.827
25.333	28.360	26.150	26.950	25.976	25.355	26.434
24.407	31.445	25.821	26.920	25.867	24.701	25.924
28.355	38.887	29.340	31.304	29.842	27.777	29.741
27.874	40.000	28.748	30.278	29.447	28.086	29.657
29.538	37.751	30.729	33.164	31.231	28.593	31.064

31.743	40.000	40.000	34.699	31.335	31.677	40.000
31.004	32.094	29.899	30.408	31.344	28.877	30.638
26.487	35.456	28.367	28.900	27.890	27.084	28.545
25.841	33.686	26.862	29.231	28.010	26.457	27.226
27.187	36.922	28.304	30.111	28.408	27.571	28.800
27.018	37.310	31.774	31.868	31.560	30.598	30.354
27.499	40.000	28.782	28.609	29.658	24.320	28.798
27.120	32.738	28.464	29.298	28.457	27.424	28.388
35.710	33.256	27.427	33.162	33.327	26.579	27.392
28.934	40.000	29.771	30.844	30.479	28.410	30.566
22.907	30.274	25.013	25.388	24.802	22.886	24.382
27.728	31.851	28.784	30.074	28.472	26.804	28.284
23.205	40.000	24.047	24.338	24.699	40.000	24.816
25.721	40.000	28.281	28.356	27.790	25.881	27.532
24.896	31.539	27.055	27.315	26.703	26.100	26.984
30.323	31.547	32.019	30.472	31.168	30.641	31.816
25.613	31.091	27.516	27.720	27.030	26.447	27.125
26.563	34.405	26.599	28.291	28.149	27.073	28.572
27.810	34.715	27.872	28.664	28.084	27.808	27.870
29.453	34.958	31.764	31.611	32.047	30.386	31.372
27.116	34.150	28.338	29.521	28.072	26.996	27.968
25.408	32.311	25.364	28.068	26.532	25.155	26.477
27.995	36.239	29.676	30.857	30.421	28.812	30.439
26.414	33.797	27.378	27.765	27.079	26.183	26.660
27.272	33.719	28.700	29.475	28.477	27.512	29.104
40.000	40.000	37.930	28.727	27.867	40.000	38.742
27.589	28.984	28.426	27.514	29.732	28.085	29.640
30.285	40.000	30.726	31.353	40.000	29.431	29.601
25.552	34.466	27.440	29.165	27.957	25.898	27.813
28.143	40.000	29.473	30.317	29.596	28.856	30.029
28.502	40.000	30.009	30.669	29.297	28.074	29.289
28.651	32.186	29.629	30.316	27.017	26.695	30.347
27.710	40.000	29.021	31.062	29.652	27.448	30.224
25.592	34.811	26.432	28.157	26.524	24.302	26.196
28.357	40.000	28.843	30.409	29.999	28.294	29.639
28.490	40.000	29.663	30.819	30.627	28.058	29.418
26.597	38.167	27.958	29.175	28.794	26.981	28.191
27.178	40.000	29.885	30.371	28.507	29.503	29.918
29.094	40.000	30.035	31.865	30.469	28.646	30.541
27.344	35.317	28.434	29.477	28.890	30.168	30.160
26.489	31.412	27.580	28.071	27.803	27.670	28.738
28.871	28.498	29.639	28.791	29.582	28.404	29.236
27.042	32.054	28.115	29.694	28.950	26.662	28.511
28.762	36.368	29.990	30.862	30.087	29.316	30.110

27.556	40.000	28.993	30.830	28.649	27.327	28.855
25.544	33.979	25.887	27.861	26.913	25.156	26.092
30.757	33.098	30.334	31.359	30.739	30.347	30.149
27.266	40.000	27.749	29.958	29.704	26.986	27.810
26.957	34.265	28.122	28.740	28.841	26.829	28.635
28.210	34.002	29.743	30.425	29.849	28.219	29.881
29.147	33.877	29.561	30.183	29.554	29.069	30.068
26.861	40.000	27.347	29.473	27.417	26.277	27.595
27.453	35.403	28.227	30.709	29.225	25.792	29.839
27.716	34.249	28.213	29.774	28.074	28.190	30.264
24.345	34.548	26.620	28.450	26.685	25.247	26.388
27.927	33.811	29.373	29.448	29.199	27.842	40.000
30.224	40.000	31.093	31.010	32.939	30.879	30.612
26.052	33.194	26.155	28.176	26.782	24.074	25.578
25.098	29.995	26.844	26.953	27.225	26.239	27.703
29.214	31.605	29.882	30.301	29.521	28.802	29.261
30.317	33.945	31.178	32.029	31.305	30.003	31.486
30.762	31.360	32.212	29.517	32.011	31.578	32.647
29.601	35.748	31.151	31.225	31.353	29.385	30.929
28.794	40.000	30.427	30.711	29.721	29.334	30.006

ERneg05RMH	ERneg05WHC	ERneg06RMH	ERneg06RMH	ERneg07RMH	ERneg07RMH	ERneg07RMH
27.299	26.550	25.705	25.424	25.725	27.062	25.639
30.122	29.401	29.440	28.651	29.637	28.347	27.102
31.145	28.757	30.673	28.596	28.604	28.216	26.930
33.219	31.114	30.794	29.211	29.731	30.095	28.887
35.676	35.591	34.172	34.001	34.245	35.928	33.388
27.515	27.161	26.645	25.431	26.018	26.782	25.577
28.787	27.414	28.835	26.969	27.965	28.264	27.057
32.303	31.505	32.394	31.353	31.730	31.841	30.104
40.000	30.395	32.056	32.254	32.383	31.500	30.844
28.994	27.906	28.941	28.286	28.765	28.370	27.924
40.000	28.637	34.660	30.577	29.393	28.727	27.578
32.306	33.685	32.919	30.822	31.063	32.253	32.081
28.295	28.610	28.304	27.940	28.362	29.231	27.606
29.521	29.122	27.909	27.321	28.321	29.307	26.527
40.000	40.000	40.000	31.339	32.406	33.393	28.416
34.396	32.163	32.230	32.205	32.466	31.209	29.753
31.988	30.128	29.851	28.472	29.242	29.984	28.379
27.168	40.000	19.460	40.000	40.000	40.000	40.000
29.590	28.562	27.885	27.269	27.409	27.556	26.229
24.754	23.884	23.617	24.002	24.423	23.817	22.234
30.033	27.707	29.113	27.951	28.307	27.752	26.313
34.068	30.886	31.728	30.488	31.105	30.307	29.068
30.334	29.770	29.312	28.038	28.504	28.451	28.535
40.000	33.409	35.090	36.285	35.012	34.294	30.920
32.706	30.459	32.270	31.767	32.262	30.809	29.971
27.198	26.674	27.141	26.440	27.428	25.187	22.384
29.377	29.704	28.342	28.421	28.681	29.844	27.192
30.870	30.029	32.509	31.507	31.945	33.522	30.677
30.098	29.600	29.351	28.791	28.818	27.967	26.550
31.483	29.586	31.675	30.228	30.242	28.910	29.058
31.004	29.889	29.409	28.535	28.362	29.090	27.951
33.213	32.293	32.616	32.189	32.374	32.921	31.164
27.447	26.583	27.054	26.175	26.936	26.233	26.556
35.466	35.447	20.723	34.562	34.234	40.000	40.000
23.780	40.000	22.874	40.000	40.000	19.537	40.000
30.584	28.023	28.716	28.657	28.695	29.783	27.430
32.514	31.769	30.817	30.649	31.835	31.502	29.656
30.303	23.770	30.096	24.529	25.783	24.643	25.562
29.779	28.708	27.701	27.083	27.509	27.638	25.878
33.197	33.686	31.986	31.617	32.755	32.424	31.349
30.703	28.675	30.282	28.648	29.160	29.385	26.552
27.834	29.427	28.214	28.836	28.423	28.763	25.997

26.802	24.747	26.539	25.863	25.627	25.024	23.320
29.886	29.966	29.184	29.178	29.352	28.461	27.464
27.991	27.416	27.296	26.995	26.675	26.851	26.085
31.557	30.537	29.997	29.502	29.319	29.876	27.437
25.919	25.248	25.472	24.192	24.652	25.101	24.513
29.980	29.739	29.937	30.079	31.062	30.919	29.599
31.344	29.178	29.796	28.039	28.253	28.803	26.012
30.494	29.567	30.002	29.712	30.114	28.927	28.054
25.390	26.054	26.359	26.127	26.092	27.308	26.063
34.972	36.896	33.676	33.145	34.111	38.901	33.067
32.114	31.343	31.376	30.950	31.075	31.607	30.722
31.918	29.820	30.102	29.154	29.053	29.070	27.497
30.878	29.668	29.889	29.228	29.939	29.314	28.204
30.203	28.701	29.101	28.686	28.368	27.259	25.605
28.584	28.458	28.309	27.418	27.448	27.754	25.950
35.690	34.582	33.778	40.000	40.000	28.203	34.228
33.041	31.487	30.799	30.783	30.047	30.699	29.732
28.181	26.601	26.698	26.537	26.977	27.148	25.438
28.091	28.923	28.558	28.240	29.981	29.197	29.647
31.407	30.465	30.483	29.477	30.137	29.790	29.053
40.000	40.000	40.000	40.000	40.000	36.793	32.948
25.825	24.819	23.579	24.757	24.279	25.107	23.321
27.398	26.830	26.816	25.591	25.873	25.374	26.136
30.773	30.229	30.661	28.682	29.535	29.540	28.508
32.864	28.915	31.097	28.806	29.593	29.261	26.690
31.290	30.490	29.540	30.063	30.150	31.216	29.409
31.199	30.678	30.985	30.166	30.042	30.880	28.636
34.048	33.274	33.189	32.302	32.925	32.643	32.806
31.992	29.418	29.884	29.255	29.064	28.196	27.243
40.000	31.570	31.681	30.199	30.921	29.814	30.254
29.069	27.540	29.274	27.833	28.276	27.783	25.019
26.188	24.843	24.766	24.153	24.497	24.211	22.289
34.182	32.052	32.526	32.368	33.192	30.925	28.783
30.586	30.058	29.209	28.434	29.490	29.376	28.635
31.969	30.491	29.650	28.772	29.860	29.595	27.682
32.835	30.684	31.778	30.493	31.319	29.712	28.597
33.687	32.268	31.885	31.892	31.946	32.716	31.001
32.255	31.630	30.784	30.405	30.497	30.911	29.615
31.520	30.210	30.293	30.267	30.069	29.708	29.216
31.786	30.528	30.379	28.944	29.167	30.168	28.367
27.878	26.716	27.420	27.594	27.419	27.788	26.527
30.535	29.736	29.240	28.607	29.208	28.703	27.379
32.907	31.240	31.520	30.484	28.361	30.246	27.818
29.195	29.026	29.086	27.672	28.295	28.926	26.957



32.030	29.432	30.368	29.811	29.910	29.489	28.107
31.101	29.070	29.279	28.289	27.829	28.116	26.753
30.368	30.017	29.602	29.247	27.333	28.662	26.613
33.551	31.465	33.234	31.610	33.186	31.635	29.971
31.452	30.955	30.712	29.966	31.708	33.685	30.104
28.120	28.127	27.755	26.496	27.011	27.290	27.121
31.646	29.594	30.372	28.708	28.745	29.350	27.199
32.181	31.163	31.002	30.744	30.987	31.099	29.756
29.271	28.929	29.446	29.032	29.107	29.100	27.698
28.937	27.852	28.429	27.383	27.875	27.567	27.166
26.641	25.945	24.885	27.978	23.825	26.670	25.416
30.359	30.183	29.635	28.294	28.570	29.025	27.323
28.390	28.210	27.741	27.554	27.513	28.012	27.550
32.067	30.444	30.007	28.891	29.815	29.617	26.984
29.093	29.803	28.420	27.817	27.770	28.889	27.269
31.337	31.477	31.155	30.628	31.055	30.097	29.035
30.833	30.025	29.595	28.604	29.099	29.651	27.302
30.795	30.585	30.139	29.323	29.658	29.927	28.280
40.000	29.984	32.133	30.809	30.604	31.096	29.519
30.871	28.705	28.931	28.551	28.571	28.089	26.143
29.054	28.373	28.130	27.536	28.258	27.828	26.645
32.924	32.865	29.808	29.159	31.602	31.052	29.283
27.407	27.222	26.747	26.322	26.679	27.061	25.116
32.031	29.950	30.722	29.795	30.606	30.652	29.239
34.544	31.747	40.000	31.539	31.519	30.240	30.271
35.779	33.324	33.386	32.197	40.000	31.944	31.985
40.000	28.274	37.142	33.154	34.004	40.000	40.000
30.733	29.675	29.556	29.803	29.622	29.098	28.037
31.455	30.223	30.236	29.661	30.357	29.381	28.496
40.000	28.129	33.357	40.000	29.293	40.000	36.662
30.993	29.569	30.599	28.447	30.938	29.973	28.046
30.495	30.167	29.028	29.139	29.745	29.986	28.801
29.670	29.890	30.016	29.166	29.456	30.034	27.201
33.342	31.557	30.349	30.225	29.980	31.227	28.887
31.500	29.725	30.338	28.055	29.850	29.252	25.860
27.781	24.558	26.401	25.599	26.216	26.999	22.835
31.946	29.852	28.551	29.247	28.923	29.179	27.624
32.177	30.672	30.313	29.788	29.735	30.124	27.925
29.453	27.825	29.226	29.149	28.317	27.398	26.641
30.084	30.354	28.758	28.994	29.550	30.615	28.726
35.332	33.216	33.534	33.344	33.468	33.183	32.875
32.658	27.743	31.360	30.193	30.099	28.464	27.654
32.323	30.546	30.812	40.000	29.746	30.092	28.850
30.991	29.880	29.818	28.979	29.333	28.219	29.201

34.775	35.685	34.073	34.495	40.000	33.640	31.571
32.573	31.701	31.917	31.918	31.663	31.927	30.868
32.349	31.733	32.009	30.654	31.019	30.399	29.641
31.973	29.342	40.000	28.928	36.956	31.751	28.389
32.208	30.451	31.462	30.690	30.846	31.689	29.945
31.535	30.760	31.066	29.803	31.139	30.961	28.820
29.622	28.514	28.702	27.457	28.225	27.611	26.047
35.868	34.228	36.363	32.385	32.714	31.559	31.577
30.684	29.989	29.501	29.484	30.314	29.837	28.598
36.701	34.899	33.451	33.257	33.475	33.006	32.038
28.860	28.248	27.877	27.548	28.418	27.823	27.041
31.835	30.569	32.507	31.596	40.000	30.856	29.315
29.571	29.429	28.845	27.424	28.622	28.633	26.510
30.015	30.043	29.628	28.617	29.132	29.124	28.186
28.860	28.526	28.298	27.511	28.399	28.297	25.909
33.168	32.098	32.081	30.825	31.555	31.812	31.808
31.895	30.895	30.182	30.326	29.589	30.698	30.247
22.217	20.233	21.932	20.793	20.737	20.179	19.185
29.252	25.850	27.459	26.679	27.565	27.323	25.095
31.939	30.677	31.291	30.170	30.900	30.421	28.211
29.358	28.384	28.968	28.841	29.109	28.573	27.406
28.685	27.025	27.351	27.054	27.596	26.980	24.116
30.605	29.784	29.183	27.658	28.306	28.556	26.063
31.251	30.333	29.643	29.938	29.491	29.406	28.230
29.058	28.504	28.715	27.568	28.148	28.631	26.603
28.259	28.657	28.926	27.701	27.961	28.425	27.243
32.700	29.267	29.909	29.004	28.973	28.826	27.015
34.310	32.368	32.858	32.326	32.118	32.318	31.005
27.862	26.558	27.165	26.580	27.062	26.517	25.811
28.420	29.292	28.086	27.090	27.533	28.763	28.275
32.486	30.667	29.389	29.604	30.199	30.946	28.397
29.218	29.028	28.465	27.473	28.366	28.863	26.853
26.170	25.121	25.455	25.328	25.829	24.994	22.933
34.115	34.529	33.186	32.225	32.733	35.064	32.148
30.049	29.767	29.100	28.497	28.860	29.407	28.330
29.835	29.511	28.904	29.270	29.803	28.862	27.191
30.261	29.123	29.200	28.486	28.897	28.839	26.759
27.988	28.498	28.122	27.695	28.476	29.007	26.872
30.448	29.779	29.410	28.197	28.697	28.169	25.792
27.133	26.466	26.624	25.627	26.287	26.398	25.206
27.029	26.430	26.450	26.021	26.759	26.632	24.226
32.197	30.547	31.259	29.429	29.863	28.902	27.417
29.965	28.653	29.179	28.599	28.788	28.521	27.956
33.426	31.880	32.166	31.171	31.630	31.500	29.710

40.000	31.903	40.000	34.283	36.337	27.763	32.791
32.664	30.215	32.347	29.664	30.202	30.050	29.942
29.592	27.445	28.810	28.122	28.108	28.464	27.462
29.457	26.940	28.277	27.227	28.087	27.377	26.587
30.790	29.869	29.588	28.423	28.669	28.906	27.493
32.590	31.787	32.307	31.181	31.841	31.745	29.535
40.000	29.438	29.920	28.125	26.244	28.547	26.333
29.149	28.714	28.455	28.310	28.412	28.572	27.378
28.328	34.161	27.837	27.892	27.640	30.427	35.340
31.695	30.314	30.700	29.484	29.682	29.852	28.503
25.899	25.753	23.740	25.533	25.383	25.499	23.848
29.825	29.258	28.189	28.366	29.166	29.855	28.370
40.000	40.000	18.463	17.973	23.878	40.000	22.124
29.029	28.342	28.140	27.734	28.072	27.511	25.461
27.629	27.195	27.482	26.858	27.453	27.153	25.244
36.382	30.261	33.569	31.084	31.422	29.441	29.054
27.853	27.169	27.529	26.765	27.468	27.044	25.755
29.181	29.176	28.564	28.210	26.243	28.866	26.545
30.645	27.851	29.798	28.181	28.982	28.210	25.970
32.210	31.378	31.597	31.477	29.377	31.280	30.049
29.697	29.615	28.638	27.655	28.504	28.512	27.513
26.624	27.424	26.394	27.205	26.549	27.398	25.207
30.164	28.369	29.234	28.475	29.191	30.094	28.817
27.980	27.126	28.332	26.980	27.089	27.807	26.627
29.996	27.551	29.444	28.593	28.611	27.795	26.763
40.000	40.000	27.764	28.907	29.133	40.000	28.025
30.995	29.234	30.544	28.938	29.759	27.675	27.707
33.154	34.220	31.986	31.137	32.187	30.284	31.501
29.399	28.631	28.275	27.647	28.547	28.070	26.915
31.043	29.916	30.643	29.423	30.403	30.127	27.185
31.226	29.810	30.272	29.681	29.401	30.318	27.906
30.699	28.430	29.034	28.190	29.986	30.351	25.036
31.424	30.076	30.448	29.948	29.889	29.687	28.496
27.594	26.545	26.887	25.838	27.101	26.826	24.466
31.189	29.173	30.075	29.214	29.325	28.621	28.546
31.344	30.586	29.147	29.639	29.350	29.701	28.796
28.775	28.247	28.067	27.615	28.256	28.082	27.178
31.913	28.866	31.747	30.425	31.128	29.254	26.931
32.572	30.233	30.857	29.592	30.213	29.984	27.953
32.423	28.642	30.951	29.926	30.215	27.946	27.400
28.275	27.598	27.990	27.038	27.641	27.096	25.467
28.707	29.431	28.704	28.767	29.574	29.686	28.250
29.024	28.645	28.716	28.356	28.795	28.805	27.570
31.644	31.280	30.729	30.112	30.530	29.112	28.412

32.136	29.708	30.205	29.609	28.932	29.942	27.268
28.611	27.928	26.949	26.543	27.058	27.013	24.661
32.866	31.720	31.250	30.607	31.185	30.831	30.653
31.670	28.928	29.145	27.977	28.621	29.137	25.838
29.307	28.548	28.866	27.745	28.443	27.524	26.371
40.000	30.475	29.578	29.796	28.943	31.561	29.331
30.643	30.643	30.017	29.563	30.327	28.859	28.557
28.991	28.296	27.482	27.536	28.059	28.795	24.274
30.699	30.277	30.303	28.352	28.436	31.336	27.111
29.134	30.310	29.615	29.050	29.440	29.081	27.320
28.260	27.442	27.457	26.113	26.656	26.590	24.956
30.703	29.550	29.910	28.573	29.415	28.845	28.165
33.672	32.799	31.594	31.349	31.487	32.380	32.439
26.072	26.575	27.388	25.987	27.189	27.054	26.051
27.337	26.385	26.458	25.781	26.402	27.721	25.954
30.142	29.734	30.410	29.221	30.118	29.577	29.037
31.351	31.375	31.755	30.622	30.859	31.308	29.542
34.487	32.092	32.931	31.192	32.122	30.144	29.900
31.727	30.858	30.870	31.419	40.000	30.405	29.907
30.679	30.415	30.276	29.816	30.604	29.850	28.394

ERneg07SH4	ERneg07SH4	ERneg07SH5	ERneg08RMH	ERneg08RMH	ERneg08RMH	ERneg08RMH
24.802	24.257	25.200	26.604	24.232	30.310	26.871
28.309	28.126	28.871	31.901	28.323	35.093	29.547
28.510	28.454	28.497	33.897	27.669	33.321	30.593
28.662	29.363	30.609	35.938	28.707	40.000	31.901
33.347	33.529	34.642	40.000	34.816	40.000	34.810
25.426	25.715	26.247	30.404	24.838	35.849	27.089
26.594	27.120	27.123	29.203	26.126	31.896	27.755
30.898	30.487	31.222	32.323	29.488	31.915	32.584
31.229	31.309	31.915	33.985	30.696	40.000	32.244
26.724	27.994	27.718	31.420	27.773	33.174	29.390
29.917	29.430	26.564	32.617	28.470	34.516	29.653
30.983	30.323	31.742	33.947	29.368	34.298	30.433
28.359	28.118	27.840	30.886	27.330	34.361	30.026
27.191	26.843	27.913	29.459	26.382	32.712	28.555
30.791	30.709	30.696	40.000	30.837	40.000	32.272
31.482	30.996	31.670	40.000	32.013	18.801	32.055
29.240	29.898	30.322	33.274	28.398	35.451	30.965
40.000	40.000	40.000	25.073	40.000	40.000	40.000
26.850	26.897	27.609	31.640	25.880	40.000	28.912
22.828	23.268	23.971	29.634	22.788	32.664	24.937
27.555	27.857	27.800	31.045	27.003	40.000	28.807
31.249	30.713	31.065	40.000	30.270	37.003	32.126
27.407	27.356	29.735	31.542	26.747	32.846	30.332
34.315	34.927	34.105	40.000	33.658	18.265	39.210
31.542	30.967	31.156	40.000	31.064	35.563	31.913
28.105	27.434	27.140	29.061	25.919	30.791	28.757
27.609	28.033	29.206	30.040	27.622	30.521	28.216
29.642	27.756	31.760	33.511	31.330	34.820	30.604
28.503	27.913	27.865	32.140	27.710	35.003	29.646
29.454	29.841	30.232	34.304	28.661	33.512	31.749
27.671	28.055	29.695	34.139	27.470	40.000	30.592
30.760	30.290	33.136	32.768	30.317	34.413	32.192
25.589	25.454	26.732	28.586	25.634	31.392	27.003
35.162	40.000	22.901	40.000	33.651	40.000	40.000
36.581	36.539	38.111	27.599	35.988	32.258	40.000
28.077	28.255	28.975	33.371	27.518	35.076	30.303
30.739	30.839	31.509	34.512	30.013	38.741	32.812
25.782	25.411	29.624	26.609	24.728	31.818	28.779
26.622	27.112	28.088	31.263	26.636	33.184	28.581
31.167	31.873	32.465	33.458	31.025	40.000	33.190
28.294	28.845	30.247	30.585	27.884	33.015	30.231
27.512	27.668	28.217	29.724	27.031	34.547	28.984

24.809	25.326	25.667	28.544	25.259	29.850	26.691
27.901	28.163	29.468	32.814	27.973	36.336	29.510
26.394	26.613	27.316	31.048	25.786	32.207	28.609
28.800	29.058	29.430	35.722	28.274	40.000	30.722
23.703	24.244	25.348	28.174	23.694	31.596	25.994
29.866	29.306	30.145	30.680	29.425	29.479	30.187
28.020	28.451	28.463	34.521	27.675	35.988	30.265
28.908	29.148	29.384	32.678	28.812	35.452	30.066
24.218	24.618	26.485	28.291	24.425	31.140	27.313
33.586	33.827	35.725	34.681	33.049	10.792	40.000
30.187	30.278	31.573	33.625	30.052	35.311	31.841
29.023	29.027	29.731	33.613	28.423	35.543	31.554
29.001	29.437	29.382	32.045	28.981	33.064	29.330
28.207	28.964	29.711	31.030	27.283	33.278	29.272
27.126	27.538	28.975	30.145	26.858	33.305	28.320
35.555	34.695	29.200	40.000	34.957	34.590	35.240
29.317	30.038	31.128	34.486	28.790	36.292	31.939
25.935	26.350	26.653	31.262	25.549	32.601	27.757
28.541	29.007	28.736	29.633	28.509	31.559	29.473
29.398	29.387	29.466	34.127	29.424	24.034	30.836
40.000	40.000	40.000	40.000	35.100	40.000	40.000
23.337	23.587	24.928	27.607	22.492	30.451	24.522
24.625	25.003	25.316	28.023	23.574	30.343	26.296
28.340	28.451	29.077	33.162	27.479	35.396	30.349
28.971	29.249	30.096	40.000	27.594	37.269	31.165
29.275	28.954	30.567	32.514	28.817	35.050	31.766
30.676	30.318	31.110	32.892	28.818	35.297	30.650
31.719	32.893	32.687	31.979	31.230	36.186	34.189
28.376	28.927	29.306	36.624	27.757	40.000	30.712
30.522	30.721	30.833	34.838	29.908	33.053	32.047
27.055	26.254	26.657	29.835	26.615	31.446	27.891
23.586	23.886	23.763	31.647	23.433	32.955	25.354
31.410	31.844	30.497	35.472	30.999	33.371	33.535
28.590	28.362	29.294	33.034	28.057	40.000	30.107
28.303	30.410	30.354	35.399	28.818	40.000	31.790
29.877	30.265	30.628	40.000	29.486	40.000	32.015
30.849	31.388	30.438	34.763	30.187	36.162	32.054
29.328	29.561	31.084	34.524	29.403	37.608	31.825
29.300	29.527	30.950	32.016	29.365	33.967	30.455
29.031	28.782	29.427	32.472	28.223	35.753	29.945
26.560	26.584	27.622	30.291	25.563	32.511	28.750
28.007	28.025	29.114	32.376	27.434	35.117	30.286
30.159	29.435	30.966	34.402	29.531	21.533	32.019
27.590	27.341	28.022	31.169	26.298	33.689	29.512

28.816	29.249	29.105	34.198	29.051	35.049	30.675
27.790	27.884	28.540	32.467	27.455	37.920	30.191
28.745	28.689	29.662	32.310	23.966	40.000	30.822
31.952	31.555	31.800	34.747	31.111	35.836	32.235
29.589	30.543	30.082	32.767	29.946	35.923	32.185
25.964	26.368	27.050	29.774	26.066	33.097	27.958
27.778	40.000	29.557	36.131	27.792	40.000	29.797
30.423	30.834	31.674	33.915	30.223	40.000	32.405
28.359	28.457	27.437	29.812	28.104	30.830	28.120
26.915	26.521	27.063	32.225	26.392	35.047	28.553
24.779	28.215	27.199	28.146	24.614	31.813	31.474
28.761	28.763	29.653	40.000	27.904	34.256	30.514
26.462	26.267	27.177	31.274	26.496	33.651	28.215
29.515	29.254	31.031	34.775	28.772	36.208	31.766
27.628	26.989	27.956	31.680	27.491	37.108	29.668
29.483	29.176	31.754	32.884	29.624	35.579	32.371
28.662	28.695	29.312	31.750	27.920	33.416	30.142
29.319	28.825	29.587	32.427	28.880	34.744	30.954
29.568	30.603	31.590	40.000	29.530	40.000	31.557
27.681	27.387	28.183	35.647	27.144	40.000	29.957
27.361	27.376	27.282	29.922	26.708	30.378	27.252
30.287	30.625	32.365	38.539	30.034	38.925	32.421
25.905	25.852	26.814	30.908	24.565	34.496	28.561
29.486	29.356	29.998	33.789	29.350	35.884	31.041
30.647	31.536	31.439	40.000	30.084	33.490	33.231
32.397	32.866	33.587	40.000	31.759	34.218	34.953
32.055	40.000	40.000	40.000	31.909	40.000	40.000
28.143	28.832	29.692	32.058	28.165	33.750	29.868
29.369	29.148	28.841	35.397	28.113	35.567	31.258
36.920	40.000	40.000	40.000	40.000	40.000	34.652
27.722	29.640	29.479	30.331	29.391	33.416	28.429
28.248	28.631	29.090	32.796	28.421	37.040	30.821
28.854	28.910	29.185	31.669	28.642	34.382	30.174
29.375	29.406	30.295	37.573	28.716	40.000	32.136
28.713	28.861	29.725	34.200	27.910	35.888	29.670
25.818	25.074	25.731	28.564	24.015	30.376	26.461
28.693	28.501	28.878	35.486	27.727	40.000	31.326
29.358	29.819	29.911	40.000	29.034	36.444	30.441
27.866	27.964	28.245	31.032	26.848	35.474	29.898
28.896	28.149	29.487	29.972	29.007	31.530	30.169
32.551	32.784	33.370	36.899	31.943	35.819	33.329
29.606	29.923	29.764	35.452	28.431	40.000	30.107
29.379	29.641	31.026	34.361	28.254	36.787	32.236
28.542	28.636	29.514	33.742	27.863	32.661	31.106

33.589	40.000	40.000	35.896	32.853	40.000	36.735
31.229	30.916	31.008	33.167	30.946	34.732	32.166
30.302	30.537	31.190	34.202	29.755	40.000	31.462
30.363	26.347	28.182	40.000	32.817	40.000	30.543
29.420	29.632	30.260	31.642	30.108	33.557	31.804
30.703	30.006	29.409	32.786	30.181	34.359	31.461
27.309	27.815	28.924	29.593	26.339	31.971	27.642
32.337	33.693	28.409	40.000	29.878	32.533	40.000
29.146	28.282	30.031	30.864	28.925	32.180	31.125
31.359	33.046	33.746	40.000	32.754	40.000	35.604
27.130	27.333	26.722	29.828	26.889	33.124	28.076
31.878	31.218	40.000	35.344	30.700	40.000	40.000
27.882	28.497	28.943	32.821	27.398	36.109	29.584
27.771	29.006	29.901	33.187	28.327	36.109	30.594
27.269	27.641	28.941	32.670	27.131	34.531	29.354
29.506	30.574	31.780	34.489	30.571	36.714	31.939
28.987	29.132	29.133	32.235	28.400	33.533	30.595
20.643	20.197	21.756	25.748	19.031	28.378	22.385
26.313	26.736	26.370	28.582	26.091	32.517	26.466
30.554	30.401	30.135	34.001	29.527	35.356	32.312
28.065	28.266	28.837	31.062	27.718	32.168	28.381
26.373	26.362	26.815	32.733	25.100	34.462	28.443
27.194	27.830	29.002	34.034	27.340	31.318	30.562
28.555	28.870	29.691	34.778	28.724	40.000	32.777
27.754	27.340	27.928	30.918	27.307	31.715	28.433
27.776	26.489	28.119	30.602	26.804	33.048	29.120
28.164	28.780	30.156	35.261	27.701	25.692	30.644
31.599	32.330	33.126	40.000	30.840	40.000	33.598
25.809	25.953	26.620	30.294	25.326	33.827	27.366
27.028	27.385	27.611	31.239	26.913	33.898	29.188
40.000	30.027	31.123	40.000	29.010	40.000	32.385
27.639	27.634	28.454	31.676	27.190	32.867	29.429
25.355	24.840	25.857	28.124	23.396	28.304	26.993
32.318	33.226	32.477	34.409	33.188	36.279	32.977
28.410	28.466	28.282	32.911	27.792	37.187	30.579
28.500	28.714	29.077	30.510	28.664	31.870	30.178
28.240	27.539	28.105	31.535	27.090	33.118	29.141
27.900	26.726	28.344	29.516	27.451	34.089	29.608
27.746	28.640	27.898	32.763	28.013	34.493	28.414
25.509	25.631	26.124	27.262	25.265	29.553	26.793
25.655	25.769	25.795	28.599	25.437	30.415	26.533
28.984	29.788	30.457	36.318	28.217	36.148	31.749
27.741	28.382	28.678	35.116	27.579	35.347	29.506
30.807	31.321	32.167	28.610	30.597	40.000	33.381



34.710	37.294	32.531	37.201	33.534	40.000	32.582
30.047	30.287	30.343	40.000	28.628	33.797	31.695
27.628	27.436	27.502	33.046	26.804	33.736	29.775
27.341	27.616	28.461	31.376	26.250	40.000	28.025
28.317	28.230	28.733	33.628	27.073	40.000	29.665
30.290	30.141	31.551	33.918	28.757	35.396	30.517
28.332	27.112	28.965	34.225	27.316	33.246	29.653
27.699	28.032	28.631	30.532	27.255	32.290	29.153
27.345	27.429	27.479	29.683	27.210	40.000	33.930
28.958	29.528	30.080	34.133	28.477	40.000	31.241
23.431	24.812	25.985	27.110	24.154	29.903	25.810
27.979	28.386	28.863	29.957	27.678	31.945	30.037
22.238	40.000	40.000	27.018	40.000	40.000	21.123
26.462	27.598	27.690	33.337	26.435	40.000	28.335
26.402	26.831	27.718	30.191	25.769	31.558	28.058
30.573	31.272	31.744	35.161	30.120	33.861	32.179
26.404	27.018	27.334	30.811	26.706	32.886	27.866
27.558	27.565	28.519	29.676	27.254	34.659	28.810
27.590	27.749	30.179	31.800	27.113	35.111	29.084
30.787	29.709	30.912	40.000	30.002	34.050	31.570
28.044	27.958	29.653	33.804	27.070	36.628	28.602
26.160	26.290	27.185	29.561	25.620	31.631	27.683
29.576	28.476	30.558	32.390	28.813	36.269	31.418
26.968	27.089	27.678	30.104	26.593	35.869	28.513
28.685	28.300	28.706	31.490	28.239	33.832	29.487
40.000	28.339	27.782	40.000	40.000	40.000	39.073
29.395	29.059	28.988	32.583	26.991	31.616	31.190
31.042	31.023	32.426	33.694	30.715	37.777	31.519
26.812	27.641	28.107	32.095	27.214	35.295	29.364
29.762	29.790	29.854	34.921	28.906	35.390	31.265
28.980	28.977	30.204	40.000	28.340	40.000	30.150
29.214	27.356	28.492	31.450	27.023	31.937	30.171
28.941	29.757	30.041	35.977	29.271	40.000	30.329
25.753	26.749	26.978	30.491	25.284	34.034	27.998
28.415	28.756	29.046	32.920	27.563	35.445	30.223
28.641	28.941	30.155	35.417	28.866	40.000	31.232
27.002	27.333	28.517	32.418	27.141	40.000	29.289
30.358	28.261	29.422	34.622	29.557	34.587	29.776
28.929	29.782	30.343	36.906	29.222	40.000	40.000
29.654	29.675	29.197	32.865	27.834	34.501	29.452
26.266	27.131	27.204	29.874	26.798	31.437	27.718
28.573	28.435	29.295	29.085	28.476	30.289	29.663
27.914	28.376	29.462	30.420	27.820	32.091	29.553
29.136	30.043	30.737	33.356	28.711	40.000	31.498

28.694	29.156	30.096	35.684	27.794	40.000	31.232
26.146	26.153	27.245	32.199	25.538	34.983	28.282
30.509	30.694	30.723	33.698	30.001	40.000	32.288
28.208	27.991	29.093	40.000	27.327	40.000	31.019
28.282	27.641	28.331	31.991	27.380	33.837	28.824
28.372	28.663	29.776	34.867	28.030	35.917	30.152
29.302	29.802	30.392	30.846	28.982	34.103	31.035
27.305	27.263	27.901	33.729	26.439	34.858	29.309
28.084	28.800	32.256	32.737	29.285	40.000	32.857
28.698	28.665	29.268	32.270	28.554	33.626	29.954
26.081	26.402	27.194	32.251	25.329	33.811	28.324
28.751	28.789	29.963	30.821	28.686	33.645	31.124
30.240	31.076	32.063	33.966	29.896	40.000	32.405
26.555	26.330	27.541	28.946	26.176	32.353	26.923
25.200	25.734	24.903	27.631	26.005	30.390	25.994
29.101	28.822	29.921	29.541	28.885	32.732	30.163
30.622	29.807	31.261	33.015	29.820	33.731	31.520
30.965	31.892	32.574	34.018	29.571	33.974	33.176
30.213	30.451	30.407	34.965	29.571	35.966	31.599
29.220	28.633	30.490	31.473	28.377	36.763	30.967

ERneg09RMH	ERnegHUN.0	ERnegNSH.07	ERnegP07.00	ERnegRPA.07	ERnegWMD.1	ERpos01.06.0
24.802	22.220	26.982	26.161	25.166	22.483	23.724
27.929	25.959	31.406	28.418	29.424	27.235	29.503
27.302	25.413	31.109	28.000	28.066	27.119	26.935
28.654	26.957	32.112	29.089	26.572	27.174	28.028
32.039	34.131	36.977	36.082	33.781	33.231	32.357
25.418	24.833	29.587	26.014	25.762	25.685	25.032
27.035	25.610	30.766	26.913	27.506	26.432	26.437
31.070	28.538	33.503	31.112	30.970	28.006	30.681
31.095	27.132	33.406	32.832	31.672	27.357	28.866
27.024	25.743	30.673	28.710	28.148	26.357	28.096
28.158	31.948	36.421	28.659	30.486	28.428	35.770
29.168	32.706	34.985	30.035	30.298	31.263	35.479
27.001	26.119	29.857	28.292	27.653	27.029	27.179
27.409	25.339	29.981	28.541	27.653	25.925	26.902
30.294	40.000	40.000	40.000	31.167	31.770	30.837
29.762	29.457	34.270	30.788	31.457	30.435	31.052
27.824	26.417	32.996	29.278	29.975	27.569	28.213
40.000	40.000	26.122	40.000	22.748	40.000	40.000
27.297	25.592	30.514	26.903	27.272	26.045	26.330
21.799	20.852	25.392	24.022	23.690	21.332	23.248
25.549	25.662	30.515	27.773	27.656	26.141	27.016
30.602	28.877	34.623	31.298	31.015	28.357	40.000
28.353	26.195	31.020	29.084	27.934	25.454	28.642
32.311	30.606	36.102	34.886	35.704	30.020	35.845
29.043	28.996	33.235	31.703	30.921	30.806	32.332
27.109	24.751	29.491	28.266	26.558	22.885	23.771
27.350	26.651	30.980	28.532	28.418	27.553	28.293
28.690	28.347	35.818	30.446	31.808	29.334	33.165
26.291	27.134	31.244	26.966	28.479	28.538	29.427
29.027	27.406	33.052	29.432	29.958	27.820	27.600
28.145	26.619	31.375	27.862	27.792	27.229	27.425
32.160	28.695	32.242	32.492	30.927	28.700	32.549
25.891	21.834	28.850	27.037	26.291	22.751	27.032
34.655	22.564	40.000	40.000	15.768	34.432	33.708
40.000	34.403	24.074	40.000	34.567	35.081	36.431
27.711	26.127	30.969	28.750	28.230	26.420	27.008
30.043	26.329	33.123	31.527	31.512	27.659	30.812
23.246	22.032	31.353	24.819	24.952	26.016	23.939
26.598	25.058	30.078	27.031	27.178	25.910	26.720
32.076	28.706	32.958	32.919	31.572	28.030	31.109
28.718	25.044	32.240	29.071	28.913	26.622	28.652
27.811	26.596	30.697	28.233	28.178	26.605	27.359

23.570	22.759	28.276	25.694	25.792	23.838	24.999
28.099	27.251	31.767	28.063	28.949	28.467	28.130
26.124	23.965	30.294	26.572	27.165	25.174	26.178
28.762	27.268	32.028	29.284	29.150	27.456	28.428
24.370	23.277	29.021	24.384	24.685	24.912	24.593
29.136	26.496	31.025	31.129	30.102	27.207	29.897
26.872	25.703	31.323	27.655	27.871	26.773	27.600
29.098	25.816	32.051	29.927	30.129	27.117	29.005
25.306	23.522	29.127	26.328	25.942	24.441	24.650
36.235	31.910	36.659	34.095	34.621	34.473	32.180
29.958	28.609	33.067	31.080	30.749	28.819	29.931
28.313	26.445	32.211	29.132	28.591	26.819	28.054
28.733	27.454	31.569	29.177	29.789	27.249	29.074
26.658	25.358	30.827	27.903	28.096	24.999	28.936
26.909	25.829	30.780	27.252	27.763	26.452	27.631
32.621	35.535	31.216	36.038	40.000	40.000	36.089
29.382	27.603	31.999	28.718	29.113	27.290	30.797
25.392	25.409	29.163	27.081	26.799	24.700	26.359
27.283	26.283	30.880	30.592	30.162	26.260	28.661
29.272	26.909	32.526	29.935	28.963	27.649	28.974
33.735	35.581	40.000	40.000	40.000	40.000	36.252
22.703	21.763	26.308	24.094	23.870	22.772	22.121
25.493	21.619	28.840	26.349	24.995	22.131	25.864
28.736	26.099	32.637	27.497	29.398	27.219	28.200
28.384	25.798	31.555	28.822	29.138	26.819	28.852
29.516	25.695	31.806	30.573	29.908	27.324	28.951
30.211	27.862	33.866	30.664	30.618	28.523	30.723
32.735	30.934	34.741	30.816	32.423	30.350	31.623
26.973	26.344	30.319	27.137	28.054	26.446	26.600
29.650	26.747	31.977	29.503	30.547	26.573	29.559
25.775	26.031	30.678	27.588	27.425	25.918	26.019
23.066	22.490	27.433	24.218	24.037	22.655	23.350
28.965	30.503	33.507	31.556	34.600	28.511	35.378
28.563	25.821	30.607	30.097	28.629	26.921	28.044
28.828	26.198	30.621	29.208	29.436	26.964	28.521
29.669	28.324	32.935	30.411	31.833	29.125	30.117
30.778	29.873	33.561	30.397	30.571	29.481	30.608
29.816	26.644	32.591	29.528	30.095	27.594	29.416
29.704	27.220	32.421	30.244	30.035	27.308	30.779
28.997	27.095	32.162	29.166	28.730	28.119	28.457
26.205	22.751	29.470	27.661	27.281	23.029	26.181
27.881	26.256	30.861	28.878	28.550	27.240	28.049
29.080	25.467	32.699	29.476	28.290	29.459	29.224
27.053	26.344	31.839	27.690	28.086	27.056	28.241

28.094	26.708	32.455	28.430	29.325	27.488	28.858
27.204	26.454	30.685	27.135	28.182	26.332	27.949
26.790	27.501	31.897	28.767	25.916	27.059	29.492
29.734	29.227	34.095	31.713	32.459	29.408	31.661
29.038	26.309	33.839	30.497	30.872	27.262	29.225
26.197	25.259	30.715	27.347	27.240	27.007	26.687
27.398	26.317	31.130	27.654	28.152	27.612	29.601
29.949	28.808	33.218	30.654	31.666	29.182	30.475
28.202	27.375	31.144	29.631	29.698	26.874	28.647
26.606	24.970	30.023	27.779	26.383	26.504	27.013
24.755	23.656	25.730	27.075	27.340	27.030	25.167
27.845	26.919	31.298	28.319	26.313	27.249	27.910
27.457	26.195	30.599	26.659	27.514	26.428	26.288
27.748	27.297	31.700	28.658	28.876	27.450	28.093
27.234	25.951	30.662	27.357	27.718	27.965	28.217
29.355	29.023	33.815	29.621	28.978	28.060	29.707
27.510	25.941	31.577	28.652	29.127	27.371	28.333
28.224	26.846	31.269	29.898	29.247	27.221	28.730
30.026	28.755	33.190	29.523	30.092	28.445	30.810
27.130	26.246	31.234	27.508	27.891	26.135	26.640
26.498	25.871	30.849	27.628	27.792	26.132	27.514
31.719	28.598	32.983	31.002	31.346	28.864	30.942
25.545	23.582	29.002	25.982	26.328	25.145	25.340
28.893	27.962	32.110	30.834	30.294	28.204	29.704
30.403	27.250	40.000	28.991	31.098	28.614	31.239
31.790	29.422	34.239	30.360	32.993	30.272	31.412
36.300	31.359	34.465	32.682	32.389	31.098	33.263
28.176	26.317	32.247	29.002	28.592	27.758	28.223
28.002	26.993	32.832	28.804	29.517	28.906	28.190
40.000	24.252	40.000	27.758	40.000	36.344	28.088
32.092	27.852	32.284	30.915	29.594	30.395	28.156
29.424	25.001	31.747	29.811	29.955	26.707	28.357
28.414	27.273	31.642	28.576	28.907	28.397	28.993
29.037	29.289	31.984	28.586	29.092	28.480	28.448
27.169	26.800	31.876	28.107	28.658	27.374	27.605
24.685	22.460	28.067	25.211	25.425	23.423	23.805
28.461	26.708	29.886	28.188	28.549	27.883	28.136
28.370	27.038	32.720	29.207	30.104	28.405	28.298
26.652	26.594	30.943	27.750	28.248	26.659	27.779
28.256	25.461	29.952	30.415	29.393	27.406	28.752
31.985	30.536	33.852	33.073	33.090	29.577	31.742
27.910	29.297	34.092	28.809	30.160	27.018	31.148
30.175	26.825	31.590	30.438	29.856	25.984	30.489
28.345	25.936	32.399	27.600	29.588	26.863	27.439

35.391	30.370	33.075	34.102	34.527	32.333	40.000
30.411	30.390	35.390	31.520	31.620	30.303	31.768
30.166	29.122	34.055	30.439	28.062	29.639	30.428
27.429	37.283	32.755	40.000	38.189	33.567	31.308
29.082	28.774	33.614	30.587	30.844	27.830	30.574
29.039	28.958	32.574	30.581	30.756	29.641	29.647
26.613	25.019	31.077	27.105	27.764	25.603	27.702
32.004	32.297	34.360	32.365	32.174	29.990	33.508
28.922	26.161	32.113	30.530	30.571	27.469	29.075
32.375	27.167	34.754	32.572	32.123	28.341	32.418
26.816	24.257	29.339	28.655	28.051	25.531	26.148
30.814	30.144	36.487	31.928	40.000	30.018	40.000
26.835	25.722	30.232	27.374	28.221	27.222	27.015
28.245	25.105	31.492	28.949	28.697	26.986	27.975
26.786	24.550	30.093	27.494	27.487	25.147	26.693
32.106	26.757	31.762	30.385	30.853	27.004	31.738
28.599	28.939	32.695	28.467	28.887	28.159	29.241
20.181	18.324	25.077	21.016	20.891	19.288	20.332
25.660	24.295	28.711	27.524	26.753	23.893	26.608
28.550	28.496	32.972	30.629	30.900	30.550	30.953
27.561	26.747	30.563	28.645	29.170	27.136	28.464
25.112	24.042	29.055	26.383	26.570	24.981	26.243
28.558	26.113	30.552	28.222	28.246	27.023	27.316
28.667	25.248	30.970	28.595	28.579	26.653	27.487
26.962	25.540	30.659	28.163	27.888	26.900	28.020
26.465	25.067	30.900	28.227	28.394	25.482	27.226
28.476	26.498	31.538	28.597	28.821	26.087	27.911
31.490	29.124	33.713	31.925	31.388	29.146	30.422
24.703	24.267	28.895	26.360	25.771	25.470	25.799
28.715	26.693	30.446	28.294	27.897	27.427	26.712
29.163	26.787	31.686	29.925	30.091	28.028	28.171
27.466	25.832	30.829	27.552	27.846	26.031	27.194
23.246	21.800	26.941	24.487	25.692	22.098	24.655
33.135	32.864	35.634	40.000	32.872	32.491	33.377
27.453	26.793	31.507	28.672	28.702	27.957	27.990
28.216	27.631	32.238	28.464	30.092	27.602	28.054
26.814	26.006	31.373	28.040	27.975	27.139	27.799
27.776	25.688	30.297	28.909	28.180	26.124	27.063
27.563	27.403	32.089	28.287	28.519	28.311	28.405
25.204	23.625	29.544	26.370	26.076	25.563	25.519
24.854	23.087	29.273	26.000	25.980	24.564	25.840
28.947	27.057	32.148	28.767	28.901	27.926	27.703
27.545	27.017	31.257	28.418	28.965	26.967	28.063
30.069	28.114	33.927	30.828	30.263	28.783	29.405

30.635	31.836	40.000	29.630	35.754	27.560	35.752
30.501	27.495	34.538	29.507	30.510	29.117	29.528
26.800	26.335	30.848	27.924	27.764	26.463	26.577
25.445	26.032	30.613	28.042	27.772	27.238	26.445
27.178	25.747	30.988	28.004	28.328	27.772	27.404
28.057	29.455	33.403	30.150	30.793	28.201	29.052
28.112	26.844	30.855	27.903	28.424	26.686	27.452
27.637	26.140	30.903	28.861	28.526	26.527	27.335
31.927	25.158	29.976	31.492	28.781	34.318	27.165
29.296	27.416	32.992	29.267	29.719	28.825	29.105
23.787	21.903	26.005	26.040	24.178	23.110	24.080
27.461	25.336	30.431	29.168	28.755	26.668	26.821
40.000	40.000	40.000	22.754	22.722	30.582	17.492
26.282	25.601	31.153	27.375	27.452	25.977	26.428
25.078	24.266	29.828	26.495	26.460	24.573	25.734
28.929	29.098	33.061	28.409	31.113	27.558	27.519
25.662	25.170	30.351	27.109	27.303	26.273	26.634
27.492	24.474	31.322	27.895	27.829	26.169	27.166
27.224	26.223	31.691	26.649	28.348	25.733	28.041
30.923	27.230	34.518	31.297	31.119	29.799	30.466
27.248	27.185	30.287	28.052	27.443	26.056	26.978
25.821	23.949	28.433	26.777	26.137	25.440	25.963
27.968	26.616	40.000	29.944	28.929	29.289	28.622
25.021	23.904	29.630	27.478	27.203	24.499	26.864
28.072	27.352	31.350	28.261	28.416	27.651	28.434
40.000	34.682	29.544	27.253	40.000	36.019	40.000
27.293	26.337	32.878	26.637	29.278	28.072	29.281
30.783	27.535	33.341	32.073	31.061	27.379	30.541
27.574	24.249	29.877	27.859	27.627	25.801	27.683
28.713	27.516	40.000	29.457	29.498	28.397	30.143
28.072	26.517	31.974	28.606	29.364	27.166	27.861
27.481	28.471	32.945	29.206	28.294	28.271	28.378
29.081	27.731	32.051	29.437	29.472	27.953	28.989
25.399	23.560	28.779	25.779	25.915	24.252	24.565
28.480	27.504	31.727	28.837	28.929	27.904	28.739
28.895	26.738	31.095	29.402	29.150	27.450	27.712
27.397	26.009	31.203	27.547	27.877	27.122	27.772
26.252	23.765	33.263	28.748	30.289	28.016	30.169
29.303	26.910	32.012	30.459	30.295	28.498	29.694
26.906	25.416	30.710	29.299	28.840	27.094	28.160
26.531	25.961	30.781	27.686	27.870	26.682	27.911
28.783	26.525	30.414	29.729	29.698	26.946	29.313
28.334	25.343	30.331	28.869	28.736	25.862	26.960
28.767	27.999	31.515	29.606	30.147	28.643	29.170

27.001	25.915	31.921	28.275	28.493	26.992	28.008
25.643	23.633	28.605	26.682	26.677	24.459	26.430
30.429	28.752	33.969	30.334	30.950	29.933	30.863
27.191	26.195	30.608	27.862	27.948	27.384	26.563
26.643	25.965	30.934	27.686	28.501	26.743	27.356
29.400	26.288	31.470	29.365	28.644	27.233	28.431
29.377	26.250	31.893	30.394	30.267	26.823	29.368
26.877	25.883	30.238	27.405	27.867	26.542	27.006
29.791	26.278	32.717	29.899	29.919	28.218	27.017
28.450	26.966	32.054	29.417	29.480	27.355	29.039
26.075	23.959	29.398	26.410	25.896	24.887	25.459
27.956	23.003	30.412	30.153	28.645	24.656	28.391
31.359	29.163	32.475	31.286	30.743	28.491	31.175
25.838	24.784	30.109	24.256	26.135	26.835	26.337
25.636	26.019	29.610	25.430	26.899	26.759	26.952
29.569	26.141	32.398	30.284	30.066	26.247	28.779
30.031	28.914	33.195	30.356	30.643	30.407	30.068
30.597	40.000	35.704	28.944	31.612	30.482	40.000
29.628	28.643	40.000	31.705	30.831	29.154	29.816
29.427	25.144	32.556	29.789	30.113	27.465	29.029



ERpos01.06.0	ERpos01.08.0	ERpos01.08.1	ERpos01.08.1	ERpos01.08.1	ERpos01.09.0	ERpos02TB00
23.481	24.172	24.466	24.310	24.799	25.113	27.660
28.205	28.489	28.795	28.288	29.305	28.146	31.394
26.118	25.605	27.551	27.058	27.201	26.521	28.055
27.360	28.242	28.595	28.114	28.190	27.966	30.627
32.276	32.538	33.982	33.186	32.873	33.252	37.150
23.855	25.285	25.536	25.363	24.935	25.910	28.478
26.531	26.355	26.878	26.682	27.043	26.026	29.041
28.559	30.253	30.073	29.852	31.504	32.025	33.228
28.493	29.010	30.414	30.776	30.140	32.261	34.142
26.966	27.209	28.153	27.673	27.343	27.832	30.102
31.013	32.529	29.541	30.017	32.471	34.662	33.517
31.820	33.290	30.211	31.954	35.491	35.637	34.050
26.335	27.567	27.600	27.294	27.419	27.174	30.612
25.900	27.448	27.478	27.127	27.150	26.931	29.712
28.962	30.440	31.374	31.419	29.428	30.821	32.570
30.323	30.940	32.372	32.657	31.365	33.098	40.000
27.899	28.174	29.337	29.235	28.795	28.673	30.657
40.000	40.000	40.000	34.223	33.638	40.000	40.000
25.970	26.340	26.293	25.968	26.183	26.204	28.371
22.771	23.499	23.441	22.576	23.149	23.508	26.147
26.793	26.942	27.679	26.725	27.065	27.289	29.393
29.955	30.900	31.126	30.971	30.872	30.811	32.857
27.061	27.347	26.876	26.414	27.406	27.241	30.086
34.994	35.045	32.857	33.310	40.000	34.487	35.993
30.655	31.638	32.790	32.843	31.254	33.205	34.759
23.484	21.761	23.867	25.415	21.944	24.884	28.342
27.439	28.571	27.552	28.083	28.471	28.093	30.587
31.379	40.000	32.021	32.060	40.000	32.534	35.189
27.903	28.060	28.539	28.604	28.119	29.032	30.770
28.083	28.822	29.172	28.728	28.763	29.292	29.648
26.520	26.886	27.742	27.472	27.341	28.430	29.836
29.937	29.482	29.995	29.862	31.769	30.973	33.749
25.451	25.987	26.153	25.895	26.194	26.629	26.440
31.968	35.258	31.714	32.860	34.446	22.398	33.914
40.000	40.000	40.000	40.000	20.518	37.431	23.963
26.892	27.354	28.026	27.590	27.630	27.194	30.609
29.860	29.304	31.344	30.567	30.217	31.370	33.635
21.219	22.992	24.674	26.121	22.224	20.926	26.856
25.847	25.495	26.776	26.592	26.288	25.787	28.899
30.312	30.087	31.170	30.692	31.066	31.662	34.152
27.641	27.959	28.703	27.970	28.151	28.354	29.599
26.510	27.570	27.775	27.493	27.721	28.000	29.566

23.870	24.869	25.825	25.641	24.939	25.122	27.471
26.475	27.371	28.613	27.991	28.515	28.791	30.337
25.529	25.686	27.046	26.513	26.606	26.628	28.679
27.439	28.044	29.058	28.579	28.881	29.447	31.522
23.319	24.368	24.650	24.273	24.743	24.525	27.029
28.766	30.004	30.247	29.924	29.883	30.041	32.307
26.004	27.154	27.745	27.446	27.223	26.807	29.954
28.142	28.741	29.386	29.058	29.301	29.954	32.317
24.414	24.815	25.593	25.200	25.330	25.915	27.926
31.455	32.385	33.017	33.669	32.206	35.680	34.775
29.726	33.311	30.460	30.328	30.504	30.041	32.736
27.250	27.486	28.400	27.971	27.767	28.149	31.429
28.543	28.836	29.401	29.241	29.227	28.884	32.234
25.594	27.688	26.717	25.500	26.479	27.663	28.669
26.377	27.289	27.754	26.845	28.143	27.492	28.419
34.194	34.687	35.788	35.908	34.730	34.487	32.139
29.496	28.910	28.919	28.266	40.000	28.840	31.540
25.474	25.525	26.689	26.334	25.903	26.893	28.384
28.128	29.199	28.942	29.212	29.204	29.648	32.022
27.862	29.100	29.450	28.834	29.156	29.330	32.286
33.261	35.114	38.143	40.000	36.458	34.918	40.000
22.683	23.228	23.030	22.510	23.897	23.806	26.103
23.195	24.774	23.831	23.557	25.097	25.838	27.924
27.607	27.099	28.930	28.694	28.101	28.173	31.377
27.875	28.918	28.911	28.404	28.797	28.728	31.659
28.590	29.086	29.287	29.032	29.283	29.639	31.755
29.465	30.695	30.119	29.818	30.194	30.410	31.560
31.702	31.479	31.302	31.087	31.493	31.934	34.515
26.042	26.754	27.312	27.090	26.522	26.652	30.794
29.012	28.746	29.480	29.223	29.875	30.094	30.281
25.636	25.817	27.593	27.502	26.617	29.120	30.264
21.976	22.980	23.654	23.585	23.212	23.035	26.056
29.956	35.431	31.670	31.534	30.387	33.343	40.000
27.024	27.560	28.204	28.058	27.030	28.143	31.610
27.331	28.188	29.154	28.510	28.081	29.067	30.879
29.510	29.826	31.425	30.907	29.920	31.299	33.018
29.954	31.595	30.300	29.506	31.037	30.289	33.078
28.436	30.207	29.452	29.071	29.570	30.156	32.644
29.172	29.541	29.471	28.360	30.030	28.702	31.409
27.168	28.536	29.309	28.970	28.572	28.512	31.164
25.443	26.823	26.288	25.875	27.245	28.156	27.535
27.117	27.842	28.163	27.780	27.771	27.666	30.321
28.339	28.491	29.422	29.394	28.648	28.675	31.705
26.907	27.129	27.708	27.534	28.135	27.025	29.773

28.322	28.568	29.168	28.591	28.454	28.843	31.364
26.999	27.178	28.102	27.363	27.714	28.076	30.465
27.726	27.699	28.762	28.474	28.065	27.632	31.125
30.828	28.125	27.640	27.774	27.991	32.801	36.553
28.913	29.101	29.369	29.614	29.006	29.137	31.517
26.059	26.352	26.817	26.699	26.969	26.302	28.896
27.221	28.702	28.588	27.820	28.352	27.745	31.039
30.091	29.923	31.112	30.873	30.448	30.505	32.397
27.790	28.149	28.529	28.220	28.651	28.822	30.308
25.882	26.688	27.058	26.543	25.440	27.359	29.551
22.852	25.094	26.773	26.530	24.014	25.966	25.820
27.094	27.416	28.166	27.961	27.273	26.997	30.424
26.636	26.247	27.203	26.727	26.760	26.396	28.634
27.916	27.014	28.887	28.270	28.302	27.268	31.422
27.404	26.612	28.292	28.029	27.189	27.150	30.200
28.858	30.018	29.214	29.055	29.428	30.094	32.510
27.447	27.487	28.821	28.504	27.801	28.493	30.358
27.966	27.790	29.127	28.847	28.501	29.325	31.459
29.566	30.376	30.084	29.351	30.666	30.587	33.123
25.850	26.281	27.495	27.342	27.813	27.169	29.271
26.825	27.291	27.200	26.697	27.426	26.895	29.070
29.621	29.912	30.543	29.870	30.275	29.064	32.578
24.459	25.303	26.147	25.273	25.621	25.658	28.672
28.351	29.211	29.814	29.973	29.396	29.868	32.545
30.380	31.649	31.174	30.229	31.560	32.037	29.284
30.006	31.173	32.650	31.487	30.652	33.065	31.421
32.598	33.180	32.268	32.068	33.002	34.546	33.642
27.937	28.387	28.700	28.478	28.918	28.708	30.991
27.233	28.528	28.342	28.595	27.939	28.910	29.604
34.546	28.170	40.000	40.000	34.939	40.000	40.000
26.865	27.677	28.864	29.259	27.753	28.109	32.790
27.587	28.465	28.849	28.794	28.889	28.818	32.014
26.910	28.283	29.145	28.986	28.770	28.487	30.685
28.975	29.567	29.569	29.123	30.307	29.765	31.651
26.842	27.962	28.502	28.491	28.316	27.765	30.073
23.909	24.963	25.049	24.502	24.865	24.754	27.660
27.842	28.183	28.637	28.191	28.296	27.530	30.622
28.171	28.259	29.300	28.637	29.761	28.739	31.570
25.439	26.462	27.212	26.676	27.294	27.358	28.181
27.945	28.321	29.243	28.231	29.344	29.947	31.371
30.885	31.881	32.577	32.611	32.371	33.613	31.080
29.762	30.562	29.699	29.285	30.287	29.951	32.066
29.548	29.661	30.375	29.884	31.185	30.239	31.837
27.412	28.841	28.934	28.746	28.449	28.909	28.944

33.847	33.590	40.000	33.292	34.322	34.962	36.437
31.877	32.583	30.999	30.869	31.416	31.830	33.469
29.435	29.401	30.191	29.855	29.490	29.687	32.394
26.614	40.000	31.778	40.000	25.687	29.625	40.000
29.221	30.513	29.912	30.674	29.263	30.293	33.154
29.437	29.975	30.464	30.238	29.803	29.429	33.746
26.085	27.054	26.867	26.612	27.164	26.850	29.433
31.803	31.847	31.086	30.839	32.978	32.868	35.718
28.341	28.175	29.649	29.762	28.565	28.482	31.479
31.505	31.279	31.282	30.907	31.547	31.115	34.338
26.186	26.874	27.317	27.053	26.671	27.476	30.203
29.739	29.987	31.233	31.273	29.415	40.000	40.000
26.794	27.246	27.677	27.504	27.454	26.954	30.314
27.269	27.989	27.988	27.999	27.760	27.643	31.047
25.792	26.247	26.805	27.297	26.053	25.818	29.453
28.736	31.081	32.051	29.801	30.892	31.872	30.336
28.023	30.797	29.239	29.549	29.189	30.113	31.584
18.306	20.340	20.809	20.304	20.811	20.489	23.250
24.101	25.931	25.643	25.541	26.029	26.346	28.557
29.621	30.703	30.549	30.075	30.584	30.807	32.504
27.793	27.994	28.867	28.499	28.492	28.037	30.820
24.912	25.989	26.304	25.816	26.287	26.249	29.661
27.078	27.142	28.169	27.674	27.561	27.032	30.718
26.559	27.563	28.440	27.942	28.463	27.909	31.551
26.732	26.634	28.243	27.534	27.491	27.428	30.171
26.527	26.309	27.900	27.545	27.080	28.025	28.579
26.768	27.788	27.944	27.124	28.222	28.424	30.704
29.931	30.920	30.860	30.359	30.937	31.458	34.170
24.721	24.957	25.542	25.317	24.702	25.329	28.299
26.115	27.273	27.224	27.126	27.322	26.608	29.480
27.964	27.785	29.597	29.171	29.001	29.075	31.463
26.591	26.491	27.895	27.523	27.307	27.873	30.431
24.372	24.548	25.036	24.326	25.340	25.510	25.938
31.342	34.416	34.285	34.564	34.549	34.488	36.569
27.651	28.275	28.715	28.585	28.180	28.393	30.833
29.843	29.391	30.156	29.653	29.791	30.026	28.725
26.707	27.338	27.761	27.599	27.720	27.626	30.193
26.891	26.347	27.620	27.323	27.021	27.951	29.353
27.812	28.227	28.696	28.416	28.083	28.368	30.327
24.765	25.005	25.821	25.837	25.497	25.892	29.006
24.616	25.287	26.215	25.481	25.386	25.508	28.480
26.850	27.500	28.409	28.224	27.541	27.347	31.329
27.275	27.027	28.589	28.160	28.152	28.184	30.053
28.312	30.027	30.230	29.847	29.543	29.942	32.964

40.000	40.000	32.855	40.000	40.000	34.687	40.000
28.354	29.123	30.035	40.000	28.786	29.512	29.999
25.886	26.240	27.548	27.153	27.409	27.451	29.523
26.313	26.680	27.148	26.527	26.664	27.034	29.438
26.579	27.525	27.815	27.574	27.985	28.028	30.039
27.118	29.230	29.240	28.613	28.689	29.386	32.726
26.552	26.929	27.729	27.676	27.195	27.976	29.293
26.522	27.204	28.128	27.864	27.667	27.974	30.053
27.641	27.156	28.391	29.274	28.484	27.385	29.855
28.520	28.972	29.728	29.055	28.951	28.593	31.694
23.292	23.667	23.732	23.946	23.705	23.649	27.355
26.780	27.245	27.280	27.518	27.628	27.785	30.857
40.000	15.393	40.000	22.918	40.000	40.000	16.706
25.736	26.725	27.196	26.802	27.501	26.320	29.435
25.146	26.167	26.154	25.672	25.654	25.065	27.977
28.065	27.923	29.846	30.027	30.112	30.515	30.714
25.517	26.569	27.347	26.791	26.955	26.710	28.112
26.604	26.806	27.300	27.229	27.240	26.486	29.788
26.058	27.818	27.122	26.287	27.893	28.121	30.134
29.753	30.363	30.982	30.555	30.214	30.441	32.735
25.960	26.693	27.725	26.923	27.177	26.722	29.804
25.064	25.201	26.212	25.627	25.252	26.242	28.150
27.292	27.746	28.901	28.390	27.438	28.125	30.914
25.127	26.600	26.927	26.445	26.543	26.177	29.862
27.326	27.708	28.443	28.191	28.043	28.744	31.810
25.125	35.137	37.406	26.318	40.000	40.000	36.546
28.218	29.134	29.226	28.944	29.152	28.841	26.840
30.495	29.454	28.796	27.155	29.672	28.444	31.531
25.611	25.963	26.814	26.368	27.221	26.261	29.503
28.631	28.480	29.808	29.055	28.801	29.232	32.504
27.555	28.481	28.791	28.745	28.670	28.541	31.185
26.749	27.628	28.026	27.797	28.143	28.299	29.217
28.027	27.955	29.675	29.504	28.710	29.414	31.505
24.150	24.668	25.565	24.833	24.654	25.233	28.466
28.249	28.812	28.733	28.571	28.410	29.062	30.914
27.369	27.595	29.104	28.645	28.223	28.097	40.000
27.057	27.311	28.107	27.438	27.406	26.874	29.866
28.911	29.274	30.817	30.705	29.266	31.645	32.011
28.751	29.275	30.078	29.432	29.321	28.648	32.806
27.322	28.608	28.162	28.255	27.814	27.830	30.886
26.946	26.977	27.802	27.736	27.199	27.654	29.226
28.494	27.799	29.438	28.708	28.149	28.939	29.905
26.518	26.704	28.454	27.639	26.921	28.279	30.657
28.279	28.478	29.441	29.252	30.544	30.042	32.055

27.327	28.102	28.499	28.206	28.040	28.162	31.039
25.178	24.904	26.414	25.843	25.779	26.232	28.651
29.781	29.321	31.077	30.507	30.083	31.586	30.333
26.550	26.225	27.719	27.333	27.292	26.700	30.293
27.300	26.638	28.484	27.750	26.543	27.000	30.299
27.605	28.708	28.940	28.637	29.218	29.080	30.941
27.870	28.643	29.190	29.030	28.602	28.441	32.218
26.612	26.946	27.658	26.933	27.658	26.922	29.371
26.262	26.588	28.586	27.571	25.671	28.692	30.289
27.966	28.142	29.165	28.836	29.258	29.564	31.658
24.617	25.440	26.215	25.420	25.685	25.403	28.387
27.357	28.422	28.685	27.805	28.538	28.920	31.104
30.152	30.323	29.946	29.490	30.795	29.238	32.212
25.356	25.029	26.773	26.376	26.117	25.810	27.910
26.119	26.134	26.807	26.906	26.190	26.577	28.028
28.718	29.702	29.539	28.617	29.631	28.815	31.157
29.767	29.828	30.827	30.485	30.163	30.019	31.988
30.259	31.476	31.804	31.559	31.498	30.831	29.440
29.260	29.023	30.319	29.750	29.933	29.758	32.212
27.986	29.024	28.983	29.656	28.730	28.671	31.260

ERpos02TB15	ERpos05.08.C	ERpos05.08.C	ERpos05.08.C	ERpos05.09.C	ERpos05RMH	ERpos06RMH
25.359	26.317	25.144	25.986	25.108	25.203	24.115
28.932	29.805	29.546	29.729	29.496	28.857	28.598
28.855	29.005	27.304	28.146	28.093	29.207	28.099
29.725	30.041	29.414	29.482	27.050	30.370	28.833
33.129	33.701	34.261	33.178	34.497	33.924	34.221
25.664	26.805	26.403	26.045	26.422	26.014	25.285
26.797	28.199	26.938	26.958	27.913	27.028	26.306
30.419	32.714	32.321	31.881	31.656	31.036	30.449
30.409	30.903	30.522	31.503	31.089	31.080	30.536
28.254	28.909	28.037	28.115	28.620	28.513	28.109
35.006	33.935	34.068	34.546	32.988	32.013	31.065
34.105	40.000	31.845	32.821	31.927	30.940	32.335
28.630	28.627	27.033	27.985	28.332	28.396	27.616
27.856	28.190	27.172	28.233	27.681	27.208	27.004
31.441	31.504	31.740	40.000	33.496	31.563	40.000
33.239	33.437	32.462	31.843	31.745	32.353	33.047
28.967	29.845	29.423	28.976	30.028	29.869	28.613
40.000	33.881	17.687	40.000	40.000	32.981	40.000
26.641	28.217	28.293	27.277	28.439	26.762	26.311
24.510	24.769	21.772	23.636	23.833	24.705	23.747
28.552	29.249	27.091	26.779	28.013	28.556	27.941
31.320	40.000	31.174	32.227	32.130	32.016	31.710
29.178	29.725	29.123	28.785	28.984	26.212	27.064
35.808	38.005	36.542	37.557	39.021	34.138	34.127
33.489	31.970	31.294	30.631	31.706	32.876	31.842
24.789	25.376	25.201	23.949	26.158	25.555	25.353
28.381	29.385	28.871	29.176	28.232	27.724	27.954
34.019	33.744	32.819	35.156	32.855	32.741	32.760
29.772	29.024	28.742	28.893	27.646	28.804	28.739
29.825	29.911	29.170	29.731	30.331	29.878	28.710
28.106	29.799	28.617	28.471	28.369	28.646	28.121
30.899	34.189	32.751	33.002	31.652	30.141	31.196
26.394	26.934	25.408	26.928	26.824	26.461	25.812
31.456	25.351	35.149	34.352	30.864	32.087	31.522
24.424	36.592	36.488	31.595	24.976	36.401	40.000
28.701	29.626	27.627	28.975	28.971	29.872	28.123
31.503	31.171	30.488	29.694	30.914	31.106	30.227
28.295	24.491	23.013	24.350	23.409	25.584	22.823
27.677	27.868	27.166	27.227	27.761	27.153	26.549
31.388	32.885	31.890	31.922	30.985	31.878	31.047
29.602	29.473	29.213	28.440	28.547	29.232	28.011
27.959	28.884	28.226	28.653	28.350	27.532	27.703

26.057	25.492	24.680	25.699	25.905	26.118	25.146
28.495	29.428	28.696	29.025	28.865	29.186	28.063
25.918	27.388	27.415	27.114	28.247	27.345	26.524
29.575	29.775	29.508	29.202	29.007	29.678	28.906
24.478	25.389	25.136	25.934	26.055	25.078	23.709
30.000	30.107	29.300	30.231	30.799	29.705	29.080
29.161	28.772	27.666	28.080	28.167	29.375	28.445
29.552	30.127	29.396	30.201	29.645	29.957	28.967
25.988	26.785	25.071	25.457	25.505	25.848	25.267
31.876	34.208	35.371	32.649	40.000	34.542	32.244
31.572	31.479	31.133	31.095	31.280	30.310	30.268
29.335	29.867	29.304	28.944	29.452	29.956	29.063
29.729	30.324	29.717	29.736	29.988	29.990	29.170
27.478	28.966	27.294	28.709	29.487	27.122	27.471
28.201	28.939	27.994	28.536	28.272	27.423	27.674
27.158	28.224	26.829	34.661	35.155	34.881	35.595
31.528	31.916	30.391	30.940	30.456	29.424	29.388
27.335	27.176	26.179	27.144	26.933	26.848	25.752
29.212	30.019	27.638	28.483	29.250	29.074	28.268
29.544	30.785	29.668	29.149	30.173	30.094	29.192
40.000	40.000	40.000	35.012	40.000	34.868	38.267
24.127	23.907	22.642	23.739	24.399	24.560	22.560
25.780	27.460	26.511	26.302	26.233	24.314	24.192
29.019	29.689	28.541	28.816	29.258	29.952	28.959
30.048	30.801	28.335	28.681	29.621	31.054	29.448
29.734	30.605	29.558	30.035	30.534	29.845	29.102
31.197	30.828	30.869	31.231	31.407	30.565	29.393
30.820	33.428	33.639	32.433	33.526	32.622	31.978
29.704	29.008	28.013	28.667	29.074	29.094	28.386
30.808	29.802	29.942	30.619	30.057	31.224	29.838
28.272	27.123	26.405	25.799	27.634	27.641	27.359
24.337	24.184	23.825	24.273	24.657	24.751	23.720
29.569	35.877	40.000	33.733	34.288	32.673	32.215
29.094	29.929	27.510	28.877	29.294	28.981	28.322
30.267	29.827	28.472	29.087	29.471	30.129	28.593
31.347	31.041	30.846	30.588	31.672	31.416	30.639
31.479	32.844	31.120	30.674	31.637	31.403	30.943
30.534	32.033	30.207	31.113	31.179	30.727	30.107
30.997	31.977	30.431	30.969	30.878	29.147	29.008
29.425	29.501	29.153	29.544	29.389	29.543	28.456
26.686	27.593	26.537	26.710	27.010	27.215	26.081
29.218	29.483	27.960	28.568	28.621	29.147	28.301
31.010	30.455	30.419	29.801	30.944	30.674	30.708
28.259	28.608	28.477	28.550	28.897	28.544	27.639



30.159	30.066	29.471	30.157	29.906	30.225	29.549
28.969	28.918	28.031	28.755	29.091	28.827	28.146
29.438	29.665	29.134	29.098	29.507	29.496	28.722
31.728	29.779	29.716	30.905	30.439	31.759	31.214
29.661	30.315	29.207	29.551	30.418	29.812	28.556
26.723	27.796	27.139	27.262	27.336	26.989	26.309
29.230	29.297	28.567	28.980	29.230	29.364	28.123
30.812	31.803	30.634	31.386	30.555	31.178	30.784
28.524	29.432	28.443	29.526	29.955	28.401	27.131
28.005	28.617	28.074	27.720	27.611	27.874	27.180
25.941	27.289	23.482	28.683	24.583	25.854	24.795
28.637	28.959	29.192	28.744	28.484	29.232	27.813
27.993	29.777	28.268	28.552	28.152	26.986	26.534
29.859	28.795	28.986	27.924	29.214	29.690	28.627
29.315	29.212	28.395	28.253	28.615	28.761	27.883
31.203	31.441	30.275	30.815	30.370	29.867	31.130
28.829	29.518	28.863	29.015	29.119	29.229	28.198
29.629	29.325	28.950	29.510	29.095	29.563	29.117
31.337	32.398	30.976	30.186	31.570	31.134	30.001
27.368	30.434	28.152	28.608	28.701	28.101	27.688
27.511	29.273	27.443	28.403	28.686	27.509	27.189
32.146	31.403	30.566	32.189	31.653	31.121	30.803
26.287	26.408	25.658	26.298	26.368	27.348	26.296
30.424	30.382	30.230	28.403	30.941	31.113	29.444
32.989	32.274	31.325	32.049	32.214	31.292	31.012
33.375	32.323	33.182	33.626	32.504	32.521	31.851
40.000	34.040	40.000	40.000	40.000	40.000	32.082
29.330	29.934	28.511	29.393	29.896	29.614	28.662
29.341	29.265	29.272	28.895	29.282	29.982	28.673
40.000	29.201	28.417	37.539	28.303	28.817	38.240
29.890	29.005	30.006	28.071	30.607	29.652	28.668
28.944	29.687	29.335	29.766	29.626	29.079	28.652
29.804	29.138	28.616	29.353	29.372	30.021	29.219
29.807	31.682	29.816	31.278	30.171	29.736	29.784
29.167	29.807	28.716	28.840	29.007	29.863	28.933
26.664	26.365	25.154	25.548	25.416	26.191	25.221
29.143	30.209	29.197	29.359	29.262	29.644	28.726
29.870	30.667	30.120	29.396	30.462	30.166	29.582
27.931	28.852	27.307	28.263	28.241	28.342	27.028
29.082	30.150	30.028	29.935	29.792	28.837	28.355
32.849	34.173	31.423	32.660	32.103	33.357	31.786
31.011	32.544	30.824	31.994	31.129	29.542	29.121
30.786	31.835	29.943	31.932	31.227	31.013	29.398
28.258	29.385	29.334	29.625	28.705	29.300	28.154

40.000	38.524	35.494	34.802	34.889	34.074	33.551
33.396	32.771	32.256	32.347	32.594	31.851	30.707
30.807	30.875	30.988	30.894	29.302	30.975	29.514
28.734	37.233	31.279	25.308	40.000	31.286	28.535
31.488	32.116	30.958	31.087	30.071	30.352	30.586
30.164	30.606	30.322	31.460	30.144	31.171	30.327
28.081	28.814	28.035	27.621	26.130	27.825	26.823
31.911	35.412	33.294	35.491	40.000	33.916	33.198
29.319	29.593	29.531	30.323	29.930	29.416	28.982
40.000	40.000	33.320	32.231	33.643	33.135	32.063
28.039	28.257	26.948	27.975	27.661	27.805	27.267
31.874	30.980	40.000	30.407	32.217	31.759	40.000
29.001	28.033	27.732	28.534	27.727	28.534	28.228
29.615	29.421	28.007	29.193	26.555	29.422	28.638
27.952	27.769	27.569	27.401	27.780	28.430	28.232
30.314	31.717	31.072	33.651	31.337	30.991	30.010
29.640	31.678	29.435	30.139	29.914	29.516	30.298
21.645	20.792	20.756	20.637	20.863	21.701	21.093
26.010	26.961	24.811	26.324	26.102	26.256	25.291
31.007	31.818	31.058	30.761	31.443	30.878	30.647
28.696	30.049	29.525	28.946	29.227	28.318	27.978
27.191	27.631	26.804	26.818	26.771	27.388	26.689
28.978	29.175	27.368	28.857	27.982	29.128	28.431
29.536	30.599	28.821	29.362	29.013	29.387	29.234
28.178	28.524	28.086	28.207	28.443	28.783	27.816
27.986	28.067	27.807	27.936	28.291	27.776	27.144
28.853	30.146	29.066	28.731	29.688	29.918	28.396
32.222	32.291	31.985	31.620	31.329	32.487	31.462
26.902	27.101	25.600	26.371	26.934	26.494	25.790
26.686	28.216	29.015	27.886	28.807	27.846	27.084
29.786	29.901	29.249	29.982	29.639	30.324	29.554
28.311	29.152	28.360	28.566	27.999	28.581	27.858
25.497	25.027	24.395	24.036	25.629	25.458	23.868
32.476	34.750	34.051	33.378	34.169	32.773	33.297
28.511	29.879	29.218	28.992	29.556	29.244	28.163
29.417	30.118	29.042	28.021	30.444	28.911	29.260
28.383	29.089	27.570	28.140	28.701	28.765	28.248
28.336	27.829	27.151	28.393	27.238	27.919	27.305
29.126	29.527	28.557	29.097	29.295	28.602	28.146
25.864	26.921	26.566	26.330	27.110	26.020	25.478
26.524	26.611	26.180	26.268	26.397	26.806	25.543
30.111	30.336	28.806	28.678	29.483	30.421	29.380
29.116	30.407	28.511	28.395	29.752	28.782	28.153
31.610	30.935	30.410	30.812	30.815	31.758	30.895

40.000	40.000	35.847	40.000	40.000	30.480	32.857
29.560	31.898	30.931	29.613	31.811	30.293	28.987
27.284	28.787	28.633	27.800	29.096	27.972	26.904
27.740	28.388	26.597	26.146	27.441	28.437	27.464
28.800	29.266	28.177	28.683	28.384	28.735	28.188
30.198	32.646	31.626	32.096	30.275	30.222	29.547
28.370	28.093	29.036	28.231	28.738	28.440	27.993
28.035	29.012	27.818	28.947	28.357	28.019	28.038
28.650	27.936	27.634	27.928	27.503	28.145	27.171
29.523	30.521	30.100	28.999	30.091	30.173	29.064
24.998	24.383	23.192	24.789	24.547	24.832	24.288
28.904	28.793	27.311	28.497	28.401	28.918	28.278
23.161	21.875	22.570	40.000	40.000	40.000	20.443
27.745	27.920	27.069	27.245	27.684	27.474	25.694
26.497	27.191	26.507	27.323	27.745	26.840	26.500
30.928	30.834	30.147	31.260	28.484	30.134	29.335
27.150	27.923	27.685	27.118	27.985	27.319	26.862
27.869	28.430	28.462	28.293	28.577	27.988	27.117
28.229	29.607	28.792	27.960	29.548	28.628	26.665
31.108	30.836	32.163	30.993	32.506	31.051	30.742
28.148	28.666	27.370	28.700	28.035	28.147	27.424
26.978	27.441	26.618	26.801	26.773	26.483	26.438
29.164	28.914	28.816	29.109	29.602	29.202	26.796
27.425	27.443	27.742	27.440	27.866	27.768	25.897
28.974	29.965	29.681	28.753	29.966	29.174	28.412
40.000	28.290	26.253	38.022	40.000	28.556	37.464
30.621	29.654	28.900	29.952	29.442	29.383	28.645
31.934	32.153	31.234	31.243	32.208	31.450	30.253
28.275	27.867	26.014	26.385	27.760	28.362	26.968
30.260	30.552	29.976	28.137	29.948	29.699	29.155
29.478	29.926	29.181	29.470	29.306	29.245	28.691
28.634	29.188	28.248	30.169	28.116	28.408	27.920
30.064	30.110	29.957	29.718	29.543	30.695	29.401
26.731	25.410	26.102	25.277	26.015	27.039	25.807
30.053	31.374	28.268	28.641	30.016	29.527	28.986
29.288	29.669	28.610	29.967	28.972	29.794	29.546
28.005	28.872	28.884	29.678	28.673	27.814	27.605
32.806	30.445	30.038	28.809	30.776	31.564	30.389
30.412	30.888	29.576	30.917	30.163	30.845	30.086
29.706	30.283	28.599	31.398	30.968	29.057	28.717
27.550	28.600	28.729	27.733	28.205	27.467	27.111
29.125	30.652	29.281	29.017	30.087	28.551	27.837
27.766	28.002	28.028	28.089	28.238	28.366	27.737
29.768	30.503	29.859	28.755	30.576	30.021	28.898

29.494	29.365	28.920	28.468	28.758	30.043	28.995
27.479	26.666	25.959	26.810	26.194	27.145	26.115
30.344	30.608	31.673	31.071	31.794	31.185	30.004
28.504	29.441	27.404	27.875	28.313	29.353	27.902
28.032	28.459	28.490	26.931	28.873	28.070	26.968
28.783	29.851	28.320	29.564	29.624	29.723	28.541
29.577	30.242	29.089	29.711	29.714	29.954	29.167
28.265	28.545	27.252	28.421	28.172	28.159	27.316
30.414	29.144	29.668	26.726	26.445	28.700	28.038
29.338	29.613	29.971	28.937	29.701	29.461	28.755
26.947	26.840	26.526	26.335	26.129	27.500	26.149
29.365	29.400	29.111	28.892	29.424	29.886	29.204
31.578	32.152	31.667	31.881	31.982	29.990	29.666
26.255	26.069	26.437	25.895	27.155	26.095	25.991
26.256	27.652	27.135	27.320	27.222	26.601	25.642
30.520	31.714	29.517	30.292	30.535	28.913	28.914
31.490	31.617	30.881	30.715	31.084	31.041	30.324
31.958	32.573	31.860	31.899	32.103	31.535	30.775
30.323	31.687	30.529	31.347	31.271	31.150	29.641
29.627	29.143	29.940	28.944	30.300	29.448	29.251

ERpos06RMH	ERpos06RMH	ERpos06RMH	ERpos07AH4	ERpos07RMH	ERpos07RMH	ERpos07RMH
25.661	24.294	24.435	26.172	23.297	24.005	26.553
29.486	28.929	28.777	29.800	27.983	28.301	31.951
28.792	28.112	28.300	30.479	26.745	28.084	32.461
29.828	28.758	30.024	30.639	27.802	28.788	40.000
33.797	40.000	34.797	35.382	33.608	34.332	38.734
26.264	25.173	25.772	26.733	24.180	25.350	30.163
27.309	26.232	26.254	28.117	25.433	26.591	28.237
31.306	30.195	30.487	31.634	29.665	31.671	32.409
30.767	30.167	30.164	31.892	29.876	40.000	40.000
29.041	28.084	28.597	29.199	26.766	27.912	31.056
30.510	28.738	32.737	34.697	30.771	31.835	33.859
32.176	31.134	34.246	35.319	31.614	32.025	32.506
28.964	27.549	27.012	29.382	26.597	28.136	31.394
28.303	26.913	26.815	28.786	25.799	26.845	29.238
32.580	31.239	40.000	40.000	29.756	29.666	40.000
33.384	32.742	33.665	34.422	31.566	31.449	36.405
29.238	28.257	28.833	30.111	27.187	27.887	32.514
40.000	40.000	24.970	40.000	40.000	40.000	40.000
26.935	26.227	26.971	27.181	24.588	26.101	30.335
25.436	23.377	23.145	25.535	23.115	23.356	29.523
28.877	27.365	28.274	29.638	26.604	26.967	30.341
31.611	30.661	31.759	32.014	30.121	31.018	40.000
28.450	27.187	28.947	28.029	23.786	27.147	29.387
36.388	34.363	37.279	36.086	33.586	33.935	40.000
34.378	32.381	33.685	38.267	32.086	30.235	34.755
27.234	25.582	23.989	28.162	23.672	24.606	26.205
28.689	28.163	28.162	29.456	27.489	28.324	28.931
34.591	40.000	33.037	40.000	32.579	31.212	34.089
30.024	29.007	29.947	30.453	28.463	26.771	31.478
30.731	28.677	28.344	30.783	27.770	28.674	33.033
28.192	27.448	28.220	29.474	26.588	27.866	33.503
31.531	30.516	31.907	32.967	29.333	31.316	30.589
27.466	26.263	25.682	27.027	25.483	26.304	28.700
33.144	31.058	33.651	40.000	33.211	32.102	33.107
40.000	40.000	40.000	26.451	39.163	40.000	25.310
28.840	27.270	28.094	29.724	26.676	28.280	33.040
31.439	30.132	30.874	32.023	29.463	30.612	33.730
25.341	23.532	24.070	26.238	24.680	22.056	26.316
27.281	26.666	27.854	28.053	25.306	26.945	30.199
33.038	30.751	31.212	32.589	30.627	31.168	33.783
29.239	27.166	28.951	29.939	27.272	28.892	30.359
28.831	27.373	27.180	28.782	26.413	26.742	29.522

26.050	24.846	24.980	26.498	24.500	25.135	28.317
29.550	28.141	28.586	30.062	27.437	27.544	32.213
26.532	25.590	26.532	27.185	25.474	26.747	30.145
29.785	28.297	29.361	30.933	27.884	29.494	38.299
25.291	23.756	24.390	25.555	22.966	24.390	27.938
30.671	29.852	29.346	30.156	28.752	29.073	30.640
29.238	27.711	28.620	30.323	27.006	28.347	33.720
30.044	28.894	29.326	30.396	27.994	29.291	32.874
26.451	24.437	24.981	26.855	24.196	24.990	28.747
32.792	32.581	32.348	33.582	31.353	31.809	34.444
31.886	30.235	30.238	31.847	29.459	30.812	32.156
29.736	28.302	29.530	31.156	27.526	28.952	33.295
30.163	28.833	29.924	30.514	28.088	29.615	31.762
28.072	25.844	24.895	30.047	25.813	28.528	30.170
27.546	26.371	27.244	28.250	25.940	26.644	30.117
36.023	35.500	34.867	35.090	34.909	34.746	31.639
30.371	29.181	31.666	31.511	27.906	29.076	32.927
26.967	26.025	26.441	26.889	24.598	25.659	30.964
30.119	29.005	28.096	29.780	28.520	28.194	29.387
30.024	28.938	29.613	30.754	28.186	29.289	34.255
40.000	34.346	33.741	40.000	35.339	37.057	36.784
24.326	21.975	23.194	25.698	22.085	23.590	27.133
25.247	24.575	25.906	26.030	22.344	25.248	26.764
29.796	28.983	29.326	30.194	27.550	29.209	33.236
30.886	28.446	30.640	31.694	27.929	28.539	40.000
30.247	29.371	29.282	30.564	28.263	29.530	32.315
30.051	29.939	30.551	30.885	29.027	30.499	32.943
32.706	31.508	33.173	32.609	31.554	31.639	32.839
28.868	27.261	28.990	30.105	26.124	27.052	35.936
31.166	30.622	30.947	31.692	29.026	29.477	33.497
28.722	28.005	27.540	30.359	26.397	26.732	28.881
24.440	23.422	24.354	25.242	22.639	23.892	31.434
32.891	31.400	33.355	34.119	40.000	31.418	33.997
29.606	28.392	27.966	30.312	27.561	28.489	32.115
30.138	28.407	29.578	31.137	27.857	28.657	33.782
31.622	29.477	30.623	32.428	28.909	30.073	34.583
31.832	30.588	31.579	32.043	29.552	31.340	34.443
31.014	29.598	30.497	30.959	28.771	30.448	34.652
29.815	28.995	30.367	29.630	27.697	28.963	31.253
29.469	28.251	28.898	30.481	27.525	28.896	32.189
27.818	25.551	26.327	28.240	25.376	27.267	29.765
29.035	27.730	28.706	30.069	27.338	27.871	32.563
30.872	29.708	30.746	32.025	28.698	29.667	35.767
28.528	27.579	28.137	29.413	26.762	27.544	30.166

30.463	29.042	30.318	31.018	28.162	29.168	33.297
28.940	27.260	28.582	30.014	26.999	27.581	32.249
29.748	28.459	29.026	29.845	26.594	28.451	32.375
31.889	31.190	32.249	33.077	30.881	31.726	33.778
29.910	29.011	29.627	30.722	28.718	29.960	32.365
27.307	26.816	26.976	28.168	25.757	26.085	28.849
28.835	27.547	28.946	29.807	26.934	28.246	33.458
31.030	29.847	30.797	31.344	28.910	30.839	33.276
28.951	27.868	28.278	29.268	27.109	28.940	29.942
28.340	26.630	27.566	28.827	26.244	27.144	31.728
24.670	24.294	24.226	22.961	24.769	24.596	31.909
28.697	27.511	28.862	29.705	26.858	27.223	32.677
27.139	26.187	27.985	27.793	25.781	26.689	31.115
30.066	28.674	29.460	30.426	27.805	29.498	40.000
28.848	27.628	29.359	29.944	27.357	27.207	31.700
32.285	30.513	31.555	33.353	28.322	30.907	33.132
28.861	28.218	29.101	29.719	27.382	27.760	30.501
29.762	29.222	29.639	30.257	28.138	27.561	31.515
31.095	29.942	31.500	32.047	28.270	30.399	40.000
28.527	27.029	27.441	28.643	25.834	26.608	32.640
27.673	27.072	27.859	27.887	26.246	26.716	29.427
31.001	30.111	31.066	31.030	29.174	30.903	36.632
27.248	26.145	26.766	28.080	25.128	26.292	30.431
30.747	29.663	29.692	31.711	28.825	29.955	33.420
32.357	30.841	32.175	32.881	29.578	31.476	33.039
33.952	40.000	32.722	34.095	31.213	32.222	40.000
32.963	31.213	40.000	33.638	31.370	32.435	37.530
29.651	28.082	28.841	30.146	27.350	28.459	32.111
30.476	28.573	29.217	31.370	28.180	28.406	34.029
26.329	33.471	40.000	40.000	33.339	40.000	40.000
29.136	29.951	28.092	30.867	29.707	28.795	30.719
30.235	28.882	28.686	30.277	27.874	28.735	32.608
30.069	28.770	29.757	30.598	28.403	29.323	31.594
30.212	29.120	30.799	31.015	27.993	29.975	40.000
29.572	27.506	29.039	30.076	27.180	27.778	33.629
26.363	24.154	25.293	27.660	23.804	25.135	28.798
29.117	27.746	29.520	30.264	27.174	28.424	34.049
30.186	29.163	29.166	31.246	27.914	28.068	36.338
28.397	26.799	27.751	28.326	26.044	27.486	30.294
30.016	28.400	28.442	29.899	27.984	28.164	28.952
33.733	33.387	32.063	33.662	31.609	32.576	35.964
30.034	28.238	30.426	30.311	27.639	29.660	32.700
30.435	28.789	31.345	31.760	27.362	30.512	36.832
29.710	28.300	28.039	29.791	27.199	29.281	32.304

34.203	32.253	37.056	34.014	31.789	33.995	35.617
32.812	30.343	30.795	33.257	30.262	32.561	33.763
30.944	29.767	31.395	32.010	29.025	29.955	33.578
35.223	34.950	26.129	33.592	34.154	25.747	40.000
31.645	31.050	30.859	31.588	29.949	29.786	31.173
32.082	29.943	29.956	32.031	29.305	30.022	33.140
28.227	26.513	27.992	28.703	26.497	27.392	29.313
31.868	32.512	34.253	34.359	30.541	31.824	40.000
29.806	29.262	29.230	30.235	28.397	28.886	29.669
33.081	32.531	34.398	40.000	31.621	31.786	40.000
28.683	27.545	27.236	29.218	26.460	27.623	30.886
40.000	30.880	40.000	40.000	29.989	29.891	34.221
29.147	27.278	27.984	29.514	26.942	27.403	31.907
29.915	28.710	28.914	30.497	27.521	29.053	33.193
28.140	26.915	28.111	29.432	26.303	27.157	32.514
31.610	30.292	30.793	31.816	28.886	31.263	33.712
30.432	29.212	28.860	31.570	28.381	30.514	31.986
21.961	20.946	20.561	23.108	18.948	20.956	25.812
26.907	26.137	25.226	28.573	24.951	26.824	27.260
31.286	29.890	30.410	32.031	29.706	30.337	34.099
28.628	28.092	28.476	29.131	27.211	27.894	29.736
27.672	25.932	27.056	28.686	25.636	26.368	32.507
29.268	27.639	29.180	30.419	27.053	27.169	33.627
30.299	28.217	29.402	30.482	27.549	28.625	33.476
28.363	27.420	28.009	29.822	26.871	28.111	30.900
28.175	27.283	27.468	28.399	26.021	24.950	30.073
29.410	27.722	29.328	30.311	27.217	28.106	25.996
32.232	31.378	31.998	32.851	30.175	31.748	40.000
26.867	25.462	25.897	27.829	25.294	25.629	29.274
27.366	26.907	27.512	28.666	25.834	27.425	30.804
29.975	28.624	29.402	31.285	28.257	28.693	35.117
28.233	26.860	28.067	29.244	26.683	26.767	30.690
25.616	23.386	25.185	26.562	23.314	24.783	26.852
32.543	34.606	31.968	34.231	31.973	33.394	34.444
28.977	28.146	28.403	29.497	27.086	27.959	31.993
30.031	29.852	28.148	30.540	28.640	29.593	29.747
28.833	27.745	28.614	29.246	26.715	27.550	32.454
29.570	27.413	27.330	29.216	27.009	28.122	29.192
29.138	28.344	29.227	30.044	27.221	28.341	31.745
26.294	25.568	25.754	27.251	24.762	25.647	27.146
27.080	25.714	26.332	27.804	24.893	25.928	28.358
29.782	28.311	29.801	30.700	26.882	28.758	35.362
29.217	27.972	28.916	29.581	27.206	27.697	33.622
32.029	30.025	31.681	32.433	28.894	30.511	35.740



34.674	32.340	35.444	32.619	33.383	40.000	40.000
29.797	29.066	29.319	30.957	27.734	28.985	31.363
28.048	26.681	27.578	28.364	25.804	28.022	31.827
28.547	27.044	27.601	28.877	26.716	27.014	31.063
29.123	27.467	28.719	29.756	26.731	27.995	33.572
30.551	28.932	30.886	30.966	29.120	28.945	33.164
28.600	27.436	28.257	29.404	26.380	27.633	32.282
28.411	27.175	27.588	28.805	26.564	28.189	30.498
28.377	26.284	27.179	28.595	27.012	27.975	30.154
29.814	28.679	29.546	30.779	27.796	29.225	33.014
25.424	24.398	24.577	25.922	23.432	24.233	26.939
28.981	27.846	27.948	29.460	26.773	28.216	30.028
40.000	20.668	16.784	40.000	19.858	40.000	40.000
27.905	26.254	26.799	28.811	25.542	27.312	33.000
26.803	25.273	26.458	27.463	24.747	26.687	29.413
31.195	29.140	30.687	32.815	28.796	29.984	32.672
27.490	26.772	27.046	28.180	25.952	26.841	30.037
28.199	27.055	27.863	28.851	26.182	27.136	30.712
27.874	27.022	28.849	29.036	26.764	28.503	30.586
31.375	30.127	31.105	31.513	29.504	29.961	33.769
28.346	26.770	27.732	29.066	26.140	27.789	32.524
27.130	25.438	25.530	27.455	25.039	26.404	29.149
28.918	27.600	29.167	30.076	27.663	27.836	30.971
27.984	26.434	28.055	28.420	25.714	27.458	30.687
29.219	28.409	28.961	30.158	27.943	28.607	30.547
40.000	26.263	40.000	40.000	40.000	40.000	37.597
30.349	27.965	29.841	30.138	27.971	28.267	30.801
31.875	30.720	32.162	31.263	29.856	30.718	33.919
28.345	26.852	27.387	28.825	25.550	27.823	32.316
30.446	29.074	30.509	30.715	28.590	29.342	32.062
29.542	28.029	28.778	30.323	27.337	28.395	32.577
28.790	26.961	28.067	29.708	26.971	27.009	30.710
30.581	29.166	30.163	31.666	28.417	29.968	34.654
26.754	25.153	25.686	28.346	24.454	25.022	29.742
29.655	28.704	29.642	30.159	27.564	28.792	32.829
29.797	28.169	29.500	30.037	27.346	29.010	35.519
28.528	27.263	28.065	28.866	26.099	27.910	32.640
33.100	31.176	31.249	34.829	30.218	29.244	33.782
30.533	29.380	30.591	31.475	28.453	29.826	35.570
29.013	27.556	28.321	28.955	27.057	28.205	32.830
27.616	26.666	27.458	28.102	25.981	26.825	29.466
29.210	28.498	28.390	29.060	27.245	27.914	28.171
28.677	27.891	27.420	29.659	27.274	28.314	29.151
29.930	28.396	29.295	31.123	28.371	28.936	32.242

29.561	27.624	29.655	30.733	27.270	28.186	34.726
27.469	25.893	27.257	28.347	24.997	25.855	31.774
31.636	30.649	30.523	32.503	30.481	30.098	33.781
28.583	26.920	27.844	29.856	25.980	27.982	40.000
28.646	27.219	28.093	28.796	26.546	27.948	29.800
29.023	28.196	28.883	29.739	27.095	28.647	33.194
30.075	29.022	29.453	30.278	27.916	28.602	31.924
28.131	26.208	27.276	29.544	26.103	27.431	32.099
28.162	26.101	27.723	29.014	25.594	28.247	30.963
29.555	28.663	29.368	30.755	28.175	29.151	30.828
27.220	25.156	26.958	28.192	24.615	26.143	31.693
29.803	29.138	28.892	30.444	28.161	28.875	31.728
31.315	31.481	30.977	30.067	28.644	30.209	32.672
26.804	26.556	25.500	27.574	25.548	26.427	28.337
26.486	26.582	26.682	27.091	25.709	26.295	27.164
29.520	28.551	28.670	29.150	27.215	29.316	30.079
30.704	30.583	30.291	31.775	29.524	29.960	32.390
31.955	30.743	31.039	31.934	30.073	30.185	32.844
31.223	29.985	30.036	40.000	29.151	29.278	33.099
30.277	28.450	28.701	30.636	28.168	28.785	32.800

ERpos07RMH	ERpos07RMH	ERpos07RMH	ERpos07SH48	ERpos07WH1	ERpos08RMH	ERpos08RMH
25.196	31.469	24.789	25.060	24.421	20.973	24.041
29.510	40.000	28.491	29.045	28.818	26.271	27.887
29.562	30.708	28.973	27.838	27.619	25.170	25.744
31.347	40.000	30.207	27.871	29.157	25.364	25.666
34.406	40.000	33.813	32.099	33.340	30.876	33.977
25.885	33.633	25.716	25.021	25.579	22.902	24.545
26.686	33.330	26.619	26.891	26.790	24.983	25.974
31.190	33.510	31.255	30.770	31.411	26.159	31.174
31.835	34.573	32.656	30.567	30.626	25.680	28.623
28.480	40.000	27.944	27.729	28.140	24.430	27.777
31.306	40.000	33.607	32.341	32.783	34.154	31.653
30.292	40.000	34.678	32.699	32.813	32.712	31.438
27.998	35.274	28.896	27.947	27.966	25.992	27.792
27.094	34.161	27.590	26.530	26.949	22.906	26.456
31.631	40.000	30.958	28.873	30.846	26.144	29.905
32.730	40.000	33.174	31.788	32.147	28.479	30.196
29.389	37.093	28.419	28.213	28.731	24.681	27.376
40.000	40.000	40.000	36.969	20.390	33.129	40.000
26.877	35.402	26.423	26.003	26.566	23.793	24.953
25.440	32.875	24.159	22.951	24.168	20.588	22.918
28.590	35.407	28.283	26.920	27.788	25.253	27.014
32.154	40.000	31.057	30.464	31.788	27.818	30.455
29.573	33.693	29.005	28.758	28.479	26.399	27.555
37.768	40.000	38.393	40.000	35.289	36.132	36.767
33.286	40.000	32.073	30.410	32.329	28.154	29.554
27.840	32.630	26.534	24.499	24.949	20.304	22.651
28.132	34.166	28.580	29.177	28.611	26.537	28.000
32.259	40.000	30.977	31.030	32.969	30.177	29.914
28.641	40.000	29.791	28.444	29.363	23.783	27.065
28.919	31.749	29.123	28.642	28.489	25.029	28.559
28.791	36.389	28.476	27.841	27.988	25.232	27.402
32.326	34.449	32.296	31.595	32.482	28.589	30.815
26.572	29.960	25.976	25.557	26.251	21.581	25.532
32.513	35.537	34.565	30.203	32.802	30.704	30.832
40.000	40.000	24.967	35.564	21.142	34.270	40.000
29.931	40.000	29.013	28.116	28.038	25.119	27.265
30.894	39.082	31.068	29.656	30.841	24.095	29.772
24.455	30.964	28.554	22.206	23.229	17.422	21.090
26.784	33.662	26.925	25.863	27.181	23.169	26.416
32.206	40.000	40.000	31.512	32.054	27.786	30.645
27.816	33.781	27.908	27.719	28.479	25.321	28.461
27.610	33.899	28.532	27.697	27.486	25.846	27.017

25.311	32.212	24.589	23.992	25.036	21.319	24.553
28.700	36.371	27.654	28.517	28.118	26.386	27.994
27.752	31.453	23.443	25.830	25.250	23.225	25.442
30.294	40.000	28.464	28.733	28.964	25.877	28.093
25.607	32.298	24.850	24.275	24.374	22.357	21.065
29.893	30.454	30.280	28.943	30.099	26.243	29.856
29.456	40.000	28.260	27.115	27.841	24.253	26.752
30.181	40.000	28.367	29.183	29.552	25.106	28.748
25.867	32.022	26.154	25.275	25.236	22.230	24.306
33.904	37.076	32.791	32.436	31.731	30.132	32.100
30.511	40.000	30.224	30.867	30.039	27.809	29.757
29.912	36.638	27.354	27.924	28.700	25.435	27.542
30.432	34.280	28.881	29.419	29.623	25.130	28.722
29.411	33.905	28.992	27.617	25.510	25.240	26.653
27.969	33.485	28.898	27.667	27.631	25.849	26.252
34.888	40.000	33.828	32.320	34.262	31.247	34.658
31.045	40.000	30.972	30.583	31.300	28.473	29.461
26.458	33.725	25.876	25.105	26.618	21.868	25.410
28.777	34.264	29.318	28.594	29.046	24.287	28.096
30.455	40.000	30.002	28.497	29.235	26.335	28.451
35.494	40.000	38.497	40.000	40.000	32.484	36.534
24.292	31.258	24.278	23.115	23.767	20.371	22.537
26.876	31.295	26.438	26.701	26.064	23.664	25.414
29.388	35.602	28.605	28.504	29.007	24.409	27.275
31.003	40.000	29.758	29.019	30.870	26.292	28.224
29.886	34.221	29.398	29.126	29.998	24.542	29.117
30.360	34.151	30.141	29.774	30.148	27.805	30.207
32.703	34.707	33.015	32.771	32.879	27.176	31.777
30.249	35.020	29.168	27.428	28.270	24.839	27.310
31.386	31.553	30.971	29.588	29.807	25.320	28.265
27.103	34.515	27.456	25.586	27.058	22.238	24.525
24.385	33.021	23.576	22.799	23.220	20.514	22.657
31.157	40.000	31.121	31.959	31.185	33.394	30.599
29.630	40.000	29.529	28.039	28.248	25.197	27.666
29.556	40.000	28.863	27.244	28.753	25.368	28.129
30.785	37.090	29.953	30.233	29.965	25.660	29.039
32.492	40.000	32.859	31.921	31.929	28.755	30.962
31.366	37.783	30.404	30.033	30.486	27.492	29.873
30.715	33.589	29.952	29.691	30.434	28.838	29.112
28.963	37.259	29.074	28.436	28.626	25.810	27.698
27.005	31.368	27.568	26.846	27.093	21.473	25.631
28.878	36.497	28.593	27.617	28.426	24.231	27.209
40.000	37.863	30.168	28.750	29.659	27.071	29.198
27.925	37.390	27.346	27.162	27.861	24.977	26.911

30.556	36.701	30.214	28.462	29.215	26.274	28.122
29.551	40.000	28.748	27.891	28.196	25.973	27.119
29.379	40.000	29.475	27.536	29.212	25.292	28.416
31.836	40.000	32.091	31.424	32.603	27.309	31.027
29.656	40.000	30.274	28.299	29.513	26.216	28.561
26.784	34.838	26.155	26.196	26.759	23.726	25.744
29.850	35.785	28.869	27.668	28.317	26.083	27.547
30.279	40.000	31.541	29.914	31.085	26.376	29.268
27.790	31.031	27.954	28.355	28.606	25.333	27.209
28.520	36.419	27.731	26.725	27.504	24.864	26.665
22.905	30.189	23.202	25.020	24.323	27.288	24.850
29.321	36.218	28.625	27.224	28.331	24.190	27.664
27.519	34.500	28.379	26.499	27.766	24.656	26.998
29.781	37.637	29.336	28.298	28.762	24.310	27.593
28.312	40.000	27.870	27.552	28.605	25.489	26.745
30.995	40.000	31.565	29.914	31.203	28.401	30.908
28.337	35.416	28.194	27.868	28.594	25.379	27.911
29.229	20.724	28.703	27.696	29.288	24.960	28.501
31.369	40.000	31.085	30.903	31.621	29.306	31.236
27.936	34.809	28.507	26.664	26.800	25.261	25.984
27.685	30.963	27.480	26.826	27.981	25.181	26.773
32.175	38.212	31.442	30.782	31.059	28.365	30.417
27.117	35.150	26.797	25.259	26.311	22.764	24.971
29.943	36.304	28.994	29.147	28.904	25.392	28.387
31.838	31.758	31.921	40.000	32.075	28.254	31.324
32.519	33.178	32.518	32.660	31.758	27.739	30.513
40.000	40.000	40.000	34.772	40.000	31.179	40.000
29.618	35.097	28.520	28.155	28.794	24.853	27.920
30.114	33.281	28.820	28.504	29.513	25.787	28.070
40.000	40.000	40.000	39.388	40.000	40.000	40.000
30.202	35.121	30.056	29.372	28.405	25.313	28.120
29.717	34.822	29.610	28.752	29.588	23.320	28.256
29.665	35.137	29.024	28.371	29.128	25.915	28.603
29.769	40.000	30.724	29.778	30.319	27.771	29.235
29.831	40.000	29.473	28.221	28.231	25.384	27.004
26.457	33.041	26.546	24.630	25.916	22.405	24.383
29.903	35.341	29.691	28.666	28.327	26.133	27.017
30.309	40.000	29.980	27.660	28.809	25.037	27.971
27.188	34.168	26.753	25.745	26.974	25.374	26.494
28.658	32.543	27.973	28.887	28.461	25.417	28.336
32.752	34.876	32.483	32.838	33.968	28.216	32.514
30.850	40.000	30.355	29.877	31.019	29.709	30.392
31.535	40.000	30.447	30.498	31.708	27.503	30.775
29.468	29.996	28.832	28.484	28.321	24.079	28.325

40.000	40.000	32.819	34.987	36.164	35.635	40.000
31.577	37.012	31.308	31.772	31.091	30.838	31.867
31.272	40.000	31.541	29.580	30.747	27.313	25.645
28.525	40.000	25.687	40.000	40.000	40.000	32.158
29.233	40.000	30.045	30.205	30.859	27.348	29.982
31.426	40.000	31.186	30.180	30.239	26.694	27.967
28.352	32.019	27.077	27.641	27.645	25.126	25.138
40.000	40.000	40.000	34.523	33.243	32.588	31.871
29.092	33.742	28.377	28.992	29.783	24.145	28.994
34.592	36.565	32.112	33.404	40.000	26.106	31.210
28.614	34.911	28.045	26.873	27.645	24.078	26.810
40.000	22.368	31.266	29.613	31.207	26.524	30.898
28.598	35.732	28.682	27.755	27.571	25.670	26.738
29.862	37.632	29.651	28.196	29.141	24.564	26.204
29.229	36.105	27.959	26.154	27.467	23.084	27.174
31.972	34.994	31.053	30.278	33.524	26.904	32.167
29.007	36.472	30.084	29.786	29.625	27.733	29.772
21.101	27.355	21.002	20.324	21.079	17.058	20.015
25.098	40.000	26.281	24.959	27.694	22.016	25.748
31.090	36.831	30.985	29.822	30.670	27.831	30.119
28.178	33.985	28.778	27.986	28.688	24.988	28.208
27.490	40.000	27.469	25.236	26.923	23.018	25.555
29.790	40.000	28.132	27.245	28.609	25.245	26.689
30.314	37.007	30.302	29.004	28.987	26.012	27.937
28.460	33.287	28.716	26.954	27.419	24.582	26.947
27.252	31.534	26.304	26.351	27.573	22.243	26.223
30.022	36.527	28.595	27.975	28.579	25.751	27.632
33.126	40.000	31.838	31.130	31.903	27.851	30.269
26.901	34.662	26.695	25.507	25.797	24.458	25.479
28.097	34.128	27.464	27.040	27.205	24.361	26.448
30.652	40.000	30.173	28.900	29.389	25.224	28.272
28.350	33.500	27.603	26.929	27.732	24.236	26.644
25.809	28.564	25.586	24.252	25.285	19.399	23.434
32.605	38.569	32.172	32.264	34.050	30.106	33.314
29.005	37.421	28.556	28.042	27.769	25.289	27.054
28.419	32.798	27.492	28.555	29.331	25.605	28.218
28.079	33.854	28.346	27.357	28.153	24.872	27.288
27.709	32.956	27.914	26.868	28.080	23.881	27.615
28.485	35.457	28.610	27.419	28.744	25.310	27.248
26.076	32.458	26.205	25.625	25.870	24.245	25.227
26.447	31.869	25.628	25.385	25.876	22.345	25.056
30.481	37.827	30.410	28.857	28.987	26.066	27.728
29.090	36.626	27.858	28.180	28.524	25.575	26.992
31.721	40.000	31.740	29.839	30.533	27.408	29.907

35.463	40.000	40.000	27.834	40.000	40.000	40.000
29.978	32.680	30.349	29.304	29.094	26.301	28.900
27.586	34.149	27.645	27.583	27.329	24.012	26.143
27.938	34.483	28.201	26.912	26.963	24.400	25.859
28.671	40.000	28.576	27.828	28.221	25.400	27.283
31.726	40.000	29.584	30.542	31.114	26.991	28.770
29.063	31.092	27.891	26.944	28.558	24.260	28.190
27.387	33.170	28.889	27.432	27.658	24.406	26.878
26.786	35.463	26.933	26.699	28.361	24.542	27.515
29.866	40.000	29.451	29.156	29.111	26.128	28.294
25.075	31.062	24.842	23.574	24.883	20.650	23.727
29.019	34.121	28.112	28.034	28.395	24.484	27.919
40.000	40.000	23.522	40.000	40.000	19.252	40.000
27.962	35.656	27.758	26.122	26.752	23.575	25.914
27.427	31.479	26.596	25.636	26.198	24.118	26.667
30.193	31.456	30.652	30.422	29.976	23.189	29.585
27.473	31.097	26.531	26.349	26.988	24.015	25.365
28.152	35.356	28.206	26.508	27.706	24.071	27.264
28.338	35.016	29.675	27.216	28.456	27.855	27.285
31.404	37.420	31.597	29.445	30.405	26.716	30.485
28.537	36.787	27.397	27.355	27.774	25.172	27.258
27.119	33.056	27.680	25.337	25.432	24.289	25.524
28.577	36.379	30.612	28.131	27.869	25.787	26.274
27.954	35.465	25.943	26.505	27.336	23.216	27.237
28.773	40.000	28.440	27.710	28.463	26.018	27.495
28.740	40.000	27.803	38.585	40.000	24.509	27.481
29.201	29.195	29.906	28.769	29.318	25.996	27.932
33.474	40.000	31.475	31.125	31.205	29.315	29.681
28.327	35.545	27.383	27.457	26.932	24.257	26.602
30.516	39.405	29.719	29.076	30.238	25.399	29.114
29.550	40.000	28.208	28.644	28.299	25.387	28.591
28.663	36.389	30.223	27.954	27.809	26.668	26.585
29.964	37.188	29.047	29.402	29.392	25.929	29.158
26.519	35.765	26.668	25.195	25.516	22.751	24.692
30.650	40.000	29.897	28.925	29.041	27.736	28.463
29.618	36.818	28.661	28.044	28.658	25.045	27.945
28.290	35.860	27.690	27.106	27.810	24.711	27.436
31.809	40.000	30.149	29.445	29.917	26.065	28.074
30.872	40.000	29.737	29.630	30.299	26.937	26.988
29.512	35.083	29.473	29.211	28.247	27.054	28.644
27.455	33.383	27.197	27.458	27.324	24.338	26.956
28.046	31.062	27.992	27.670	28.925	24.750	28.607
28.517	34.884	28.391	26.829	27.376	24.074	26.829
30.799	40.000	29.339	29.503	29.146	25.359	28.220

30.783	40.000	28.335	27.980	28.530	24.860	28.172
27.232	34.488	26.793	25.532	26.895	22.124	25.161
31.380	34.964	30.483	30.700	30.782	27.193	29.898
29.706	40.000	28.827	27.399	27.824	24.974	27.529
28.179	34.769	27.585	26.604	27.903	22.955	26.841
29.716	35.798	28.955	28.303	28.743	24.612	28.237
30.361	34.545	29.749	29.421	29.552	25.906	28.066
27.691	35.528	28.687	27.278	27.325	24.358	26.487
29.128	35.512	26.386	27.028	27.579	23.741	26.481
29.700	35.375	28.823	28.564	29.038	25.321	28.361
27.788	33.627	26.150	25.762	26.297	22.821	24.650
30.519	35.097	29.777	28.096	28.656	25.013	28.158
31.226	40.000	30.797	30.977	32.111	30.352	30.466
25.365	33.677	26.153	25.146	25.534	24.482	24.784
25.656	31.454	26.561	26.496	26.350	23.743	25.764
30.083	32.779	29.834	29.775	28.998	27.062	29.309
30.530	33.573	30.066	30.659	30.746	28.857	30.203
31.115	30.828	31.602	30.626	30.807	28.198	30.093
30.259	35.949	30.211	29.845	29.756	27.271	29.497
29.599	36.806	29.692	26.780	28.952	24.772	28.557



ERpos09SH07	ERpos601377	ERpos700282	ERpos700423	PostMnPsNo	PostMnPsNo	PostMnPsNo
24.760	27.542	26.118	26.807	27.955	25.248	26.029
29.343	31.880	29.335	31.524	30.912	28.745	28.899
26.519	31.423	28.646	32.391	26.642	27.467	27.543
27.410	33.843	29.392	34.032	31.381	28.506	29.397
34.048	37.717	34.756	40.000	40.000	33.057	34.174
25.528	28.826	24.921	28.565	28.200	25.812	25.936
26.734	28.826	26.383	28.233	29.141	26.838	27.022
31.977	32.650	32.468	31.411	32.646	30.293	31.194
30.410	31.960	31.305	31.578	35.446	31.884	32.705
28.112	30.207	28.646	29.847	31.511	28.451	29.101
31.184	33.816	31.710	34.527	31.493	28.704	29.211
35.449	40.000	32.402	40.000	33.629	31.388	33.496
28.899	30.299	28.000	29.661	30.342	29.740	29.340
27.572	28.912	27.373	28.498	30.181	27.421	28.264
31.798	34.411	40.000	40.000	35.378	31.760	33.958
31.385	34.279	33.391	35.040	40.000	32.691	33.262
28.578	31.569	29.174	31.700	31.168	29.054	29.037
40.000	40.000	40.000	23.723	40.000	40.000	40.000
26.670	29.333	27.078	28.473	28.130	25.814	25.679
24.154	26.687	22.515	27.487	27.712	24.874	25.584
27.843	30.784	28.147	30.444	30.030	27.819	28.063
31.575	34.059	31.849	34.773	33.921	40.000	31.757
27.837	30.639	28.162	31.091	28.421	24.672	26.204
35.614	40.000	35.814	40.000	40.000	34.520	35.062
31.313	33.962	32.628	33.943	40.000	40.000	24.407
24.144	27.410	25.021	26.506	29.238	26.130	27.948
28.296	30.430	28.278	30.050	31.063	29.271	28.882
33.360	35.341	32.227	33.546	37.501	35.541	34.870
29.578	32.685	29.927	31.373	31.040	29.125	28.598
28.569	31.908	28.986	32.271	29.100	30.190	29.846
28.414	31.627	28.474	31.936	30.387	27.905	27.948
31.432	32.589	30.604	33.278	33.570	30.639	31.014
25.489	28.210	26.498	27.838	25.566	27.748	27.062
30.350	23.918	40.000	19.841	40.000	34.904	33.990
40.000	27.085	35.484	40.000	40.000	35.552	40.000
27.981	30.669	28.862	31.199	30.748	27.850	28.833
31.009	32.880	31.259	32.794	34.778	31.651	32.481
22.783	26.712	23.390	25.517	27.187	24.341	25.926
26.465	29.334	27.759	28.772	28.506	26.337	26.394
32.143	34.561	32.193	32.942	34.455	32.171	32.590
27.915	30.522	28.164	31.567	30.444	28.527	29.028
28.719	29.900	26.840	28.778	29.522	28.070	28.514

25.277	27.308	25.378	26.276	28.922	26.178	27.088
28.607	30.969	29.136	30.752	31.501	29.245	29.299
26.894	26.974	27.379	28.161	28.068	26.034	25.880
29.267	32.001	29.606	32.757	31.517	29.172	29.635
23.170	26.530	23.494	26.857	27.335	24.718	25.206
30.313	31.151	29.902	30.063	32.903	30.585	32.107
27.509	32.485	29.089	31.617	29.494	27.731	28.508
30.428	32.477	29.514	31.469	33.043	30.237	30.905
26.297	27.422	25.195	27.601	28.349	26.490	26.628
33.158	33.830	33.727	33.322	34.318	34.191	32.685
31.215	33.078	30.702	32.363	33.180	31.199	32.059
28.768	32.372	30.044	32.664	31.130	28.451	28.528
29.942	31.800	29.769	31.220	32.099	29.380	30.484
27.416	29.153	25.787	28.161	28.990	26.841	27.856
28.116	29.248	26.860	28.393	29.536	27.769	27.762
32.416	35.645	36.562	34.780	28.338	26.919	35.644
30.695	33.169	30.502	32.866	30.676	27.937	29.030
26.731	28.770	26.974	28.998	29.699	27.070	27.720
30.426	29.735	27.306	29.515	33.419	30.976	31.555
29.676	32.433	29.695	32.266	31.922	29.525	30.193
36.603	40.000	36.163	40.000	40.000	40.000	40.000
24.644	26.312	23.691	25.964	26.032	22.916	23.829
25.741	27.735	25.342	27.788	26.574	23.052	24.546
28.993	32.894	29.162	31.634	31.398	29.517	29.681
28.597	33.175	30.406	34.328	32.653	29.389	30.128
30.946	31.799	30.120	32.056	31.996	30.081	30.450
31.233	32.326	30.191	32.070	32.316	30.371	30.855
33.411	34.500	32.177	34.769	34.576	32.221	33.263
27.898	32.564	29.491	33.085	30.476	27.011	28.129
27.710	33.674	31.323	33.625	28.554	29.520	28.728
26.820	29.606	28.217	29.084	30.796	28.534	29.292
23.793	26.735	24.292	27.357	26.877	23.949	24.694
29.783	40.000	32.571	32.695	34.114	40.000	32.893
28.708	30.952	28.905	31.125	31.254	28.739	29.334
28.801	31.999	29.478	31.744	32.018	29.699	30.332
30.268	33.932	30.696	33.945	32.756	29.869	30.515
31.644	33.472	31.994	33.757	33.569	30.577	31.597
30.998	32.971	31.246	32.914	32.374	29.519	30.432
30.488	32.010	29.116	32.007	31.668	29.594	30.336
28.325	32.193	28.932	31.819	31.468	28.908	29.246
27.007	28.730	27.090	28.475	26.806	26.201	27.347
28.113	31.398	28.811	31.646	30.653	28.355	28.845
30.273	33.669	28.338	35.209	31.440	28.908	29.487
27.097	30.364	28.427	30.013	29.547	27.522	27.844

29.034	32.253	29.839	32.839	31.757	29.184	30.143
27.837	31.088	28.824	31.190	30.036	27.989	28.166
29.591	31.759	28.627	31.446	31.050	29.122	29.552
32.131	34.003	31.536	32.280	33.069	32.045	32.982
29.290	31.649	30.231	31.396	31.749	29.900	30.252
26.938	29.277	26.891	29.033	29.238	27.143	27.029
27.955	31.705	28.745	31.829	30.658	27.884	28.583
31.223	32.851	30.708	33.340	33.222	30.528	31.181
28.942	29.848	28.483	29.445	31.090	28.968	29.245
27.566	30.171	27.881	30.574	29.942	27.620	28.055
25.614	25.333	22.932	25.027	28.045	27.713	26.900
28.394	31.149	29.639	31.038	30.598	27.479	27.946
27.488	29.446	26.709	30.057	28.890	26.566	26.860
27.768	32.241	30.046	33.059	40.000	28.503	29.276
27.932	31.394	28.031	32.029	30.259	28.060	28.819
31.034	33.848	31.551	33.285	34.340	30.746	32.128
28.461	30.617	28.872	30.859	30.865	28.643	28.951
29.716	32.414	29.860	31.627	33.251	30.210	30.133
31.227	33.837	30.021	40.000	33.432	30.487	30.781
27.787	30.574	28.387	30.386	30.177	27.195	27.805
27.658	30.220	27.150	29.529	28.871	26.994	27.221
30.874	33.459	30.747	33.353	32.822	40.000	31.282
25.828	29.674	27.194	29.168	28.489	25.598	26.226
30.072	33.136	30.451	32.209	33.692	30.674	31.304
28.624	36.301	30.917	34.514	27.908	31.345	29.818
29.988	40.000	32.916	34.959	30.452	32.180	30.794
40.000	40.000	32.848	35.941	33.881	32.422	32.568
29.555	31.576	29.540	31.878	31.838	28.931	29.823
28.312	33.445	29.971	32.931	28.620	28.273	28.677
36.175	33.670	40.000	40.000	35.522	35.363	40.000
27.289	30.782	28.000	30.287	31.542	29.817	29.034
29.274	30.992	29.009	30.911	31.985	30.096	30.398
28.929	31.044	29.364	29.554	31.838	29.830	30.408
30.490	32.117	30.566	34.447	31.493	28.838	29.567
28.649	32.018	28.943	31.485	30.220	28.188	28.278
25.220	28.525	25.470	28.101	27.530	25.198	26.038
28.205	32.143	29.290	32.602	30.073	27.933	28.513
29.204	32.226	31.082	32.797	31.535	28.695	29.744
26.896	29.729	26.482	29.830	29.513	27.436	27.570
29.924	30.427	29.655	29.866	32.150	29.699	30.753
30.587	35.373	34.094	34.697	29.456	33.835	32.791
31.206	32.400	29.482	32.816	31.033	29.020	29.228
31.299	40.000	30.725	33.283	31.918	30.331	30.134
27.490	32.135	29.338	32.633	27.553	28.842	27.918

34.060	40.000	33.664	35.653	35.486	30.371	34.159
32.417	36.959	31.901	34.466	33.568	30.183	32.612
28.892	33.057	29.960	32.588	32.361	30.346	30.787
27.525	33.809	29.865	40.000	40.000	38.763	40.000
31.164	32.263	31.033	32.316	34.272	32.085	32.522
30.193	33.743	30.704	32.245	32.572	30.634	31.314
27.381	29.725	27.502	29.425	29.859	26.835	27.164
40.000	29.362	33.140	40.000	33.295	29.539	31.618
30.318	30.148	29.681	30.326	32.140	30.237	30.535
32.955	36.228	33.628	34.466	34.173	32.278	32.526
28.852	29.619	27.859	30.084	30.742	28.536	29.136
40.000	33.884	30.903	33.770	40.000	40.000	32.275
27.782	30.678	27.491	31.121	30.652	29.134	29.316
27.221	31.393	28.435	31.576	31.593	28.893	29.622
27.594	31.113	28.931	30.408	29.339	27.296	27.643
29.028	34.420	31.829	33.000	28.602	31.696	31.855
30.806	32.481	30.177	31.381	32.211	29.389	30.144
21.383	25.010	20.317	24.133	23.162	21.426	21.947
27.119	30.620	25.817	28.386	28.951	27.004	27.395
30.958	33.291	30.866	32.139	33.663	31.133	32.184
28.333	30.613	28.194	30.281	30.357	28.425	28.932
26.572	29.985	27.320	30.273	29.564	26.855	27.790
27.136	31.097	28.799	31.547	31.656	29.010	29.464
28.932	31.403	29.543	32.153	40.000	28.526	29.586
28.244	29.808	27.908	30.178	29.705	28.113	28.439
27.156	29.592	27.782	29.482	28.042	28.141	28.169
29.069	31.792	28.911	33.986	30.387	27.684	28.398
31.597	35.220	32.685	35.844	33.738	30.563	31.277
25.747	29.032	26.143	28.606	27.906	26.035	26.433
27.481	30.933	27.037	29.667	28.668	27.043	26.838
28.996	40.000	30.056	33.398	31.783	29.219	29.571
27.133	30.169	27.677	30.414	29.881	27.757	28.314
24.283	27.585	24.706	26.222	25.040	24.666	25.243
40.000	35.070	33.317	33.964	38.283	35.036	35.189
28.537	30.808	29.212	31.085	31.273	28.435	28.388
27.749	30.885	29.233	30.085	27.429	30.019	29.804
28.226	30.759	28.555	30.891	30.750	28.098	28.576
27.641	30.012	27.365	29.395	28.607	28.464	29.077
29.018	31.201	29.033	30.845	30.680	28.398	28.892
26.606	27.759	25.954	26.942	28.017	25.921	26.324
26.128	28.570	25.893	27.556	29.061	26.443	27.432
28.045	32.648	29.574	32.899	31.007	28.364	28.596
28.111	31.555	28.614	32.271	30.377	28.013	28.053
30.140	34.655	32.284	34.064	33.322	30.154	31.226

33.427	40.000	40.000	35.672	40.000	33.123	33.135
28.937	32.620	29.353	32.788	28.817	29.577	29.252
26.850	30.447	27.974	30.518	29.485	26.841	27.169
26.852	30.663	28.178	30.046	29.860	27.362	28.391
28.388	31.459	28.554	31.391	30.252	27.656	28.565
29.350	32.182	29.422	31.398	31.761	29.292	30.459
27.767	31.637	27.617	30.807	28.214	40.000	28.266
28.875	29.446	27.668	29.676	30.571	28.382	29.172
28.033	29.238	27.037	28.812	31.143	31.152	30.119
29.338	32.270	29.758	31.936	31.871	28.929	29.137
25.776	26.413	24.219	25.769	27.238	24.961	25.823
29.463	30.574	28.353	30.145	31.730	28.911	29.805
24.142	40.000	23.222	27.583	27.154	23.075	20.008
26.735	30.992	27.533	30.093	29.573	27.082	27.438
27.723	28.536	23.665	27.674	29.331	26.422	26.728
27.686	35.015	31.844	35.166	29.019	29.748	28.583
27.184	28.725	27.072	29.162	27.686	27.513	27.590
26.509	29.894	25.917	29.272	29.418	27.397	27.845
27.792	31.383	28.336	29.387	29.818	27.370	28.138
32.016	32.784	31.417	32.442	33.678	31.271	31.699
27.474	30.387	27.542	30.320	30.084	27.529	27.573
27.353	28.460	25.843	27.994	29.100	26.906	27.563
27.868	31.031	28.626	29.563	30.233	28.415	28.517
27.126	29.523	26.522	29.964	30.605	27.190	28.375
29.070	30.919	29.542	30.159	31.292	28.961	29.400
40.000	40.000	26.409	40.000	34.674	34.456	35.296
26.157	33.169	28.500	32.066	25.708	28.884	27.278
31.477	33.337	30.653	33.524	30.739	28.651	29.128
26.798	30.671	27.746	29.971	29.172	27.736	27.547
28.763	31.860	30.659	40.000	40.000	29.490	30.522
28.430	30.784	28.836	31.448	31.885	28.917	29.482
28.148	29.678	27.805	29.072	30.080	27.560	28.542
29.288	32.484	30.179	32.717	32.153	29.962	30.465
24.887	29.096	26.100	28.528	27.595	25.438	25.671
29.163	32.055	29.833	31.041	31.971	29.310	29.715
29.635	31.971	29.942	32.924	31.837	28.702	29.581
28.478	30.998	27.548	30.580	30.066	27.750	28.784
29.312	33.162	32.271	32.932	34.481	32.303	33.119
29.929	33.115	30.362	34.430	40.000	29.622	30.356
28.226	30.661	28.802	30.112	31.024	28.541	29.209
27.352	29.528	27.192	28.681	29.528	27.482	27.685
29.685	28.883	28.823	28.306	31.167	29.329	29.556
28.835	29.425	28.075	29.304	30.971	28.387	29.251
30.341	31.540	30.075	31.454	31.133	29.187	29.568

28.060	32.062	29.764	33.797	31.073	28.256	28.890
26.283	29.543	27.155	29.074	29.655	26.897	27.529
30.098	32.795	31.816	32.306	29.153	29.977	30.136
27.612	31.622	28.447	32.238	29.512	27.366	28.435
27.356	29.942	28.636	29.873	30.913	28.024	28.758
29.686	32.137	29.486	32.427	30.859	28.653	29.191
29.489	31.515	29.566	30.707	32.308	29.806	30.429
27.630	29.994	27.632	30.623	29.771	27.286	28.121
28.136	30.568	27.498	29.091	31.575	28.382	28.402
29.283	30.437	29.574	30.946	32.232	29.972	30.661
26.240	29.376	26.858	29.738	29.323	26.134	26.880
30.242	30.628	29.797	30.381	32.149	30.572	31.479
32.508	32.876	30.023	34.070	32.254	29.748	31.401
25.330	28.488	25.363	27.830	29.040	27.044	27.701
26.690	28.397	26.396	26.838	28.311	26.484	26.779
31.212	30.917	28.404	31.114	32.189	29.842	30.304
30.808	32.802	30.366	32.807	31.982	30.039	30.087
29.231	35.006	40.000	34.566	28.781	30.757	29.268
30.558	33.469	31.317	32.444	32.670	30.705	30.692
29.838	31.354	29.899	30.881	31.698	29.991	30.291

PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo
24.555	23.989	24.363	23.707	24.474	24.077	24.565
28.334	27.760	28.182	27.749	28.597	28.326	28.302
27.421	27.041	27.323	26.836	27.227	27.118	27.775
28.448	28.230	28.259	28.115	28.963	27.830	29.181
32.896	32.293	33.385	32.797	33.661	33.324	33.462
26.424	25.717	25.837	25.029	26.047	26.080	25.792
27.166	26.581	26.411	26.269	27.116	26.801	26.737
30.082	29.630	30.351	29.244	31.623	30.621	29.161
40.000	30.462	30.649	30.200	30.802	30.309	31.204
28.204	27.742	27.463	27.971	28.343	27.749	28.329
28.385	28.643	29.697	29.149	30.303	31.000	29.009
31.763	31.942	32.405	32.033	32.423	32.629	32.741
28.745	29.069	29.169	27.923	29.595	29.506	28.409
27.372	26.843	26.841	26.708	27.198	26.286	27.239
31.977	31.622	31.780	31.235	32.160	31.151	31.895
32.021	32.238	33.099	32.352	33.663	32.226	32.286
28.590	28.419	28.685	28.280	29.043	28.713	28.892
24.772	40.000	32.754	40.000	40.000	40.000	40.000
25.783	25.472	25.334	25.081	25.848	24.999	25.685
24.752	24.422	24.948	23.449	24.655	24.494	24.709
28.368	27.567	27.869	27.420	28.083	27.461	28.090
30.802	30.417	30.860	30.535	31.366	30.791	31.296
25.073	24.477	23.183	25.007	23.637	22.450	24.327
34.752	36.180	34.522	34.175	33.883	35.571	34.896
34.480	36.501	40.000	34.412	35.082	35.056	34.205
26.359	26.710	25.936	25.590	26.481	26.446	26.066
28.603	27.945	28.363	27.643	28.746	28.201	28.368
33.494	40.000	33.009	33.223	33.585	33.736	40.000
29.173	28.286	28.894	28.428	28.600	28.379	28.604
29.476	28.737	29.642	28.564	29.558	29.390	29.690
27.469	26.926	27.148	26.899	27.672	27.020	27.665
29.550	29.134	29.476	29.434	29.521	28.220	29.993
27.247	26.822	26.846	26.333	27.289	27.136	26.944
32.760	32.459	30.912	30.640	33.257	35.464	32.362
40.000	40.000	40.000	36.138	37.153	40.000	40.000
27.195	27.069	27.271	27.001	27.617	26.929	27.790
31.072	30.974	31.125	30.350	31.188	30.726	30.970
24.508	24.482	25.462	24.165	26.040	25.783	24.197
26.523	25.824	26.454	26.350	26.875	26.502	26.616
31.251	31.053	31.645	30.861	31.599	31.031	31.504
28.468	28.437	28.188	27.902	28.890	28.974	28.282
28.002	27.498	27.353	27.472	27.962	27.340	27.831

25.902	25.588	25.942	25.710	26.199	25.653	26.036
29.128	28.479	28.491	27.712	29.205	28.913	29.010
25.534	25.438	25.503	25.414	26.268	26.266	25.828
28.422	28.380	28.423	28.115	29.098	28.682	29.033
24.584	24.424	24.143	23.601	24.636	24.495	24.288
30.249	30.076	29.991	29.352	30.365	30.203	30.178
27.981	27.524	27.672	27.432	28.256	27.750	28.348
29.275	29.028	28.994	28.910	29.641	28.916	29.640
25.216	24.832	25.138	25.059	25.353	25.307	25.488
32.704	33.228	40.000	32.056	33.596	33.916	32.430
30.532	30.416	30.636	30.070	31.102	31.185	30.887
28.512	28.016	28.490	27.857	28.674	28.242	28.502
28.794	28.589	29.003	28.498	29.443	28.802	29.098
27.457	26.715	27.250	26.862	27.689	27.729	27.039
27.806	27.383	27.321	26.861	27.577	27.337	27.273
40.000	34.424	40.000	33.173	27.392	40.000	40.000
28.705	27.962	27.719	28.116	28.216	27.431	28.417
26.541	26.001	26.545	26.071	27.049	26.785	26.727
29.750	29.664	29.548	28.925	29.852	29.712	29.591
29.108	28.705	28.866	28.811	29.409	29.211	29.218
40.000	37.200	40.000	34.680	40.000	40.000	40.000
22.243	22.166	23.096	22.601	23.235	22.942	23.169
22.717	22.267	22.350	22.635	22.224	20.918	22.924
29.219	28.538	28.945	27.900	29.311	29.545	28.819
28.814	28.411	28.738	28.350	29.515	28.867	29.216
29.576	29.125	29.645	28.975	29.853	29.440	29.839
29.900	29.367	29.295	29.311	29.781	29.572	29.149
31.644	31.251	31.480	31.507	31.629	31.528	31.846
26.944	26.494	26.734	26.882	26.942	25.937	27.558
29.023	28.211	29.274	28.690	29.122	28.725	29.758
27.420	26.714	27.753	27.428	27.310	26.650	27.626
23.868	23.576	23.867	23.539	24.027	23.622	23.832
31.483	31.696	31.300	31.232	32.361	33.139	31.859
28.232	27.556	28.169	27.746	28.707	28.115	28.294
29.276	29.001	28.446	27.821	28.963	28.544	29.399
28.562	28.914	29.713	29.121	30.679	29.562	30.317
30.913	29.695	30.082	30.225	29.965	29.079	30.694
28.799	28.698	29.112	29.054	29.571	28.972	29.477
29.425	29.478	28.761	29.356	29.228	28.680	29.577
28.613	28.364	28.483	28.225	29.195	28.824	28.932
25.940	25.807	26.780	26.047	26.954	26.433	26.944
28.258	28.080	28.131	27.847	28.514	28.116	28.355
29.548	28.998	29.124	29.049	29.571	29.038	29.671
27.807	27.246	27.450	27.115	27.880	27.385	27.592



29.309	28.994	29.027	28.477	29.731	29.028	29.341
28.187	28.108	27.260	27.222	28.085	27.468	27.804
28.945	28.199	28.302	27.778	29.249	28.504	28.679
31.378	31.609	31.984	31.494	32.082	31.592	32.130
28.659	28.943	28.794	28.688	28.888	29.099	28.958
27.189	26.544	26.583	26.283	27.077	27.043	26.636
27.913	27.571	27.754	27.641	28.263	27.831	28.225
29.728	29.718	29.513	29.962	30.314	29.792	30.676
28.696	28.231	28.450	27.973	28.686	28.469	28.433
27.445	27.083	27.094	26.568	27.465	26.857	27.375
27.611	27.479	26.620	23.818	27.010	29.259	26.302
27.451	26.946	27.389	27.242	28.174	27.726	27.771
26.513	26.031	26.313	26.110	26.968	26.213	26.541
28.610	28.147	28.417	28.234	29.310	28.736	28.938
28.283	27.996	28.024	27.626	28.876	28.171	28.483
31.283	29.678	29.233	30.306	29.411	28.100	30.360
28.788	28.596	28.535	28.332	28.859	28.653	28.607
29.859	29.701	29.591	28.998	30.097	29.663	29.677
29.930	29.094	28.865	29.519	29.599	28.947	30.013
27.028	26.549	26.427	26.318	27.174	26.686	27.275
27.476	26.511	26.954	26.681	27.377	26.971	27.124
30.093	29.693	29.606	29.421	30.531	29.796	30.525
25.890	25.467	25.859	25.466	26.423	25.924	25.978
30.049	29.347	30.243	29.758	30.669	30.279	30.045
30.788	30.653	30.670	30.576	30.741	30.153	31.147
32.480	31.755	31.262	30.912	31.826	31.267	32.185
31.707	31.348	31.437	31.631	31.932	33.825	31.561
28.612	28.301	28.305	28.313	29.158	28.680	29.105
28.210	27.835	28.239	28.458	28.492	27.956	28.593
38.578	34.447	35.666	35.263	34.370	33.617	28.828
30.083	28.840	29.412	28.333	30.034	30.775	29.664
29.292	28.831	28.953	28.528	29.085	28.787	29.271
29.848	29.330	29.513	29.129	29.797	29.605	29.797
28.746	28.660	28.120	28.488	28.684	27.596	28.575
28.545	28.057	28.008	27.859	28.630	28.340	28.559
24.292	24.205	25.005	24.593	25.207	24.908	25.462
27.844	27.585	27.817	27.617	28.630	27.955	28.495
28.478	28.283	28.039	28.032	28.822	28.164	28.949
27.224	26.943	27.395	26.220	27.763	27.539	27.557
29.754	29.823	29.475	28.751	29.769	29.811	29.346
33.261	32.904	32.902	33.097	31.840	32.914	32.823
28.475	28.445	28.509	27.482	28.716	28.527	28.738
28.909	28.786	28.716	29.298	30.010	29.366	29.517
28.109	27.770	27.920	27.615	28.222	28.135	28.488

30.825	31.095	31.299	32.886	31.108	31.086	31.986
30.578	30.586	30.135	30.646	31.134	30.498	30.812
30.146	29.891	29.877	29.960	30.322	29.818	30.117
33.676	40.000	30.181	35.790	36.980	37.001	40.000
31.753	31.058	31.088	30.795	31.462	30.919	30.922
30.295	30.083	30.145	29.751	30.708	30.459	30.870
26.427	26.306	26.603	26.355	27.227	26.775	26.636
30.287	28.812	29.508	30.073	30.263	29.393	30.154
29.777	29.261	29.548	29.062	29.931	29.815	29.460
32.409	31.053	31.419	31.212	31.427	30.502	32.045
27.599	27.601	27.372	27.242	27.946	27.057	27.870
40.000	31.146	32.160	31.319	40.000	31.139	31.677
28.806	28.631	28.336	27.760	28.677	28.222	28.717
28.703	28.241	28.265	27.746	28.819	27.988	28.640
27.604	27.220	27.045	26.552	27.591	27.048	27.579
31.269	30.884	30.196	30.631	31.020	30.351	31.422
29.763	29.197	29.325	29.637	29.875	29.672	29.462
21.097	20.741	20.595	20.503	21.541	21.078	20.974
27.474	26.323	26.165	26.512	26.876	26.381	27.230
30.886	30.800	30.518	30.090	30.941	31.045	30.617
28.134	27.737	28.053	27.485	28.232	27.789	28.236
26.431	26.391	26.538	25.893	27.066	26.582	26.845
28.882	28.382	27.971	27.601	28.723	27.751	29.039
28.650	28.686	28.163	28.079	28.951	28.118	29.025
28.796	28.591	28.251	28.298	28.440	28.652	28.280
27.096	26.715	27.475	27.035	27.636	27.703	27.409
27.635	27.306	27.543	27.357	27.813	27.261	28.055
30.389	30.047	30.620	29.965	31.023	30.500	31.457
26.215	25.914	25.951	25.491	26.413	25.898	26.151
27.125	26.542	26.749	26.110	26.988	26.201	27.123
28.988	28.740	28.621	28.623	29.303	28.833	29.163
27.868	27.617	27.589	27.045	27.991	27.754	28.070
23.627	23.446	24.383	24.074	24.359	24.270	24.612
34.678	33.632	40.000	33.927	34.221	34.135	34.269
28.240	27.779	28.102	27.994	28.447	28.194	28.434
29.827	29.801	29.727	29.107	29.592	30.005	29.430
27.860	27.489	27.714	27.519	28.202	27.876	27.795
28.295	27.976	28.020	27.437	28.317	27.970	28.185
28.140	28.152	28.320	27.750	28.611	28.364	28.010
25.983	25.589	25.519	25.438	26.057	25.679	25.849
26.673	26.384	26.181	25.860	26.794	26.204	26.604
28.342	28.058	28.088	27.737	28.773	28.119	29.053
27.746	27.315	27.587	27.388	28.209	27.615	27.804
29.543	29.078	29.628	29.394	30.109	28.763	30.295

32.040	32.356	40.000	36.363	40.000	35.471	40.000
28.868	28.664	28.810	28.392	29.100	28.951	29.522
26.574	26.112	26.359	26.169	26.997	26.492	26.857
27.835	27.509	27.797	26.759	28.050	27.870	27.320
27.965	27.864	27.573	27.279	27.994	27.627	27.764
29.182	28.662	29.099	28.879	29.549	28.979	28.065
27.436	26.885	27.592	26.965	27.950	27.189	27.816
27.878	27.395	27.947	27.596	28.073	27.619	27.862
29.740	30.154	28.777	27.993	30.109	32.897	30.770
29.115	28.753	28.853	28.787	29.149	28.892	29.416
24.888	24.579	24.060	24.000	24.786	23.946	24.784
28.910	28.376	28.475	27.475	28.668	28.104	28.678
40.000	40.000	40.000	40.000	22.150	40.000	40.000
26.597	26.613	26.760	26.188	27.176	26.862	26.953
26.615	26.246	26.097	25.543	26.726	26.156	26.360
29.175	28.875	28.646	27.722	29.189	28.579	30.341
27.271	27.023	26.886	26.573	27.457	26.985	27.255
27.332	26.976	27.401	26.652	27.532	26.942	27.335
27.292	26.702	26.924	26.989	27.575	26.488	26.677
30.547	30.266	30.135	30.329	31.060	30.499	30.968
27.591	27.383	27.219	26.949	27.906	27.545	27.819
26.761	26.365	26.281	25.631	26.795	26.066	26.409
28.307	28.044	28.141	28.221	28.996	28.532	28.495
26.547	26.389	26.475	26.670	27.098	26.436	27.338
28.805	28.640	28.529	28.020	29.443	29.182	28.621
40.000	35.188	40.000	38.233	40.000	36.202	38.569
28.787	28.359	28.578	28.480	28.806	28.883	29.172
29.087	28.708	30.012	28.722	29.429	29.289	29.226
27.702	27.437	27.450	27.123	27.763	28.135	27.473
29.148	28.979	29.182	29.237	29.857	29.227	29.789
28.431	28.160	28.457	28.115	28.917	28.420	28.893
28.041	27.954	28.108	27.432	28.697	28.630	28.001
29.703	29.240	29.382	29.453	29.971	29.522	30.059
25.866	25.163	25.487	24.807	25.992	25.544	25.576
28.842	28.438	28.471	28.430	28.601	27.242	28.987
28.145	28.164	28.220	28.171	28.604	28.262	28.657
27.414	27.110	27.110	26.612	27.543	26.785	27.444
31.715	32.548	32.224	31.108	32.638	32.589	32.032
29.326	29.126	29.411	28.716	29.640	29.225	29.788
28.339	27.802	28.200	27.898	28.685	28.245	28.237
27.468	27.094	27.234	26.849	27.771	27.888	27.314
28.854	28.618	28.383	28.259	28.963	28.861	28.567
27.939	27.914	27.957	27.509	28.369	27.787	28.150
29.170	28.750	29.012	28.103	29.279	29.141	29.106

28.203	27.983	27.884	27.587	28.517	27.873	28.460
26.692	25.908	26.390	26.040	26.843	26.295	26.984
29.990	29.767	29.382	29.429	29.887	30.305	29.555
27.317	27.113	27.016	27.083	27.911	27.245	27.821
27.558	27.261	27.494	27.567	28.250	27.618	27.874
27.912	27.498	28.208	27.815	28.466	27.952	28.161
29.594	28.922	29.122	28.680	29.441	29.229	29.109
26.970	26.955	27.348	26.869	27.775	26.903	27.617
28.540	28.425	28.155	27.344	29.069	29.836	28.800
29.790	29.641	29.228	29.008	29.732	29.482	30.108
25.657	25.678	25.926	25.445	26.469	25.850	26.367
30.176	30.126	29.629	29.560	29.841	29.659	29.416
30.164	28.950	29.145	29.715	29.425	28.286	30.099
27.676	26.869	26.820	26.705	27.100	27.131	26.844
26.702	26.424	26.561	26.168	26.875	26.897	26.163
29.447	29.064	29.008	28.882	29.257	28.160	29.563
30.053	29.764	30.023	29.615	30.738	30.485	30.720
30.378	40.000	30.680	30.317	30.504	31.041	30.498
30.315	30.282	30.101	29.755	31.183	31.443	30.251
29.217	28.583	29.221	29.015	29.790	29.588	29.313

PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo	PostMnPsNo
24.727	24.317	24.613	24.625	24.428	24.297	25.977
28.257	28.150	28.295	28.181	28.025	28.219	28.947
27.323	27.194	27.503	26.959	27.191	27.215	27.298
29.175	28.310	28.744	28.142	28.556	28.534	29.236
33.200	33.418	33.016	32.614	33.060	33.054	40.000
25.719	25.741	25.906	25.629	25.770	25.874	25.991
26.840	26.994	27.067	26.783	26.614	26.658	27.258
29.651	29.893	30.108	29.634	30.734	30.442	30.606
30.907	30.898	30.782	30.770	30.524	30.544	31.935
28.302	28.026	27.938	27.739	27.943	28.242	28.838
28.675	30.198	29.187	29.200	29.314	30.189	28.994
30.719	32.022	33.341	31.706	31.987	33.390	31.740
28.570	29.486	28.894	28.755	28.336	29.151	28.661
27.318	26.388	27.058	26.736	27.212	27.167	28.297
40.000	31.360	31.407	31.417	31.523	31.802	32.070
32.472	32.065	32.398	32.790	33.034	32.964	33.942
28.689	29.062	28.949	28.731	28.976	28.825	29.158
32.226	40.000	40.000	38.537	40.000	40.000	40.000
25.804	25.239	25.758	25.275	25.711	25.564	26.886
24.499	24.549	24.663	24.474	24.357	24.197	25.136
28.051	27.840	28.274	27.726	27.732	27.681	28.273
30.729	31.076	30.935	30.615	30.757	31.087	31.528
25.419	22.911	23.886	23.009	24.203	23.772	26.018
34.101	34.454	33.828	34.533	33.673	34.792	34.412
34.143	33.861	34.570	36.379	34.578	26.775	35.220
27.189	25.663	26.341	26.620	25.494	25.630	27.584
28.475	28.034	28.065	28.096	28.094	28.228	28.542
34.041	33.841	33.398	40.000	34.213	40.000	34.023
28.474	28.496	28.843	28.482	28.835	28.860	28.807
29.555	29.452	29.343	29.394	29.285	29.277	28.952
27.525	27.335	27.691	26.969	27.078	27.403	27.807
29.748	29.729	40.000	28.878	29.875	29.562	31.453
26.811	27.089	26.726	27.104	27.093	26.818	26.665
31.651	35.591	30.528	33.178	31.253	31.088	34.452
36.447	40.000	35.320	36.422	40.000	40.000	35.122
27.880	27.219	27.584	27.068	27.540	27.562	28.426
31.003	31.088	30.733	30.753	31.020	31.479	31.887
25.097	26.451	25.540	24.881	24.505	25.419	25.666
26.392	26.599	26.714	26.180	26.066	26.664	27.215
31.622	31.419	31.403	31.320	31.174	31.052	31.867
28.666	28.740	28.406	28.505	28.643	28.652	28.859
27.895	27.312	27.470	27.617	27.638	27.800	28.081

25.926	25.817	25.860	25.681	25.684	25.922	26.338
28.790	28.909	29.066	28.431	28.693	28.699	29.438
25.816	26.362	25.704	25.936	25.632	26.036	26.365
28.831	28.669	28.814	28.655	28.587	29.252	29.805
24.521	24.455	24.402	24.288	24.493	24.306	25.101
30.403	30.592	30.360	30.430	29.977	30.194	30.672
28.252	28.055	27.775	27.669	27.647	27.963	28.359
29.258	29.020	29.051	40.000	29.108	29.468	30.180
25.406	25.639	25.790	25.227	25.366	25.331	26.504
33.559	33.727	32.405	32.750	32.747	33.288	33.313
30.629	30.942	30.525	30.695	30.605	30.538	31.558
28.748	28.322	28.583	28.160	28.271	28.506	28.768
29.395	28.887	28.995	29.008	28.941	29.000	30.089
26.834	27.781	26.621	26.881	26.111	26.954	27.435
27.480	27.398	27.558	27.638	27.319	27.386	27.477
34.332	34.896	35.843	36.152	40.000	37.006	28.961
28.731	27.452	28.092	27.809	27.861	28.086	28.645
26.460	27.157	26.569	26.636	26.422	26.676	27.271
29.925	29.809	29.367	29.590	30.103	29.637	30.881
29.230	29.118	29.268	28.899	28.822	29.417	29.984
40.000	37.313	40.000	38.595	40.000	40.000	34.962
24.354	23.213	23.091	22.826	22.688	23.153	23.791
22.958	21.816	22.642	21.691	22.413	21.983	23.682
29.181	29.478	28.675	29.136	28.895	29.141	30.140
29.384	29.318	29.075	28.652	28.920	28.857	29.561
29.412	29.101	29.353	29.463	29.705	29.419	30.453
29.283	29.734	30.091	29.444	29.527	29.391	30.636
31.979	31.153	31.655	31.445	31.615	31.979	32.845
27.572	26.300	26.856	26.376	26.713	27.019	27.652
29.244	28.894	28.758	28.829	28.948	28.582	28.465
27.311	27.447	27.535	27.416	27.610	27.434	28.295
23.963	24.023	23.949	23.658	23.830	23.892	24.475
32.060	31.987	31.457	32.169	31.861	31.670	33.230
28.293	28.192	28.228	28.248	28.571	28.370	29.001
29.483	28.559	28.873	28.744	28.925	28.843	29.998
29.502	29.896	30.156	30.274	29.487	30.112	30.843
30.534	29.461	30.067	30.162	30.135	29.615	30.996
29.378	29.026	29.269	28.915	29.158	29.437	29.782
29.573	28.800	29.175	28.763	28.589	29.253	29.835
28.831	28.841	28.968	28.670	28.610	28.820	29.090
26.284	26.921	26.541	26.444	26.463	26.627	27.674
28.346	28.480	28.172	28.122	28.360	28.251	28.853
29.361	29.333	29.767	28.945	29.215	29.373	29.955
27.675	27.548	27.582	27.164	27.528	27.561	28.092

29.429	29.373	29.247	28.960	29.320	29.272	29.725
27.607	27.703	28.068	27.754	27.672	28.252	28.346
28.721	28.737	28.267	28.555	29.066	28.670	29.427
32.082	32.142	32.734	31.518	32.047	32.328	32.535
28.982	29.291	28.997	29.349	28.955	29.416	29.886
26.536	26.926	26.941	26.554	26.549	26.630	26.973
28.087	27.976	28.332	27.756	27.994	27.959	28.262
30.585	30.437	29.919	30.146	29.795	30.394	31.125
28.391	28.594	28.356	28.337	28.583	28.421	29.254
27.408	27.002	27.342	26.836	27.156	27.029	27.683
26.547	28.243	27.074	27.377	27.240	26.624	26.977
27.648	28.264	27.711	27.257	27.445	27.836	28.028
26.762	26.472	26.559	26.379	26.584	26.583	26.846
29.027	28.803	28.649	28.705	28.980	29.152	29.532
28.259	28.093	28.342	28.313	28.377	28.338	29.227
29.761	28.200	30.227	29.131	29.510	29.323	30.223
28.644	28.888	28.639	28.526	28.728	28.747	29.711
29.723	29.840	29.572	29.304	29.484	29.857	30.449
30.090	29.587	29.512	29.043	29.056	29.608	30.464
27.275	27.073	26.890	26.736	26.861	26.956	27.610
27.067	27.028	27.281	27.006	27.045	26.943	27.525
30.508	29.797	29.803	29.875	30.040	30.508	30.752
26.046	26.156	26.144	25.616	25.877	25.910	26.751
30.291	30.419	30.550	29.895	30.159	30.379	31.201
30.909	30.824	30.879	30.480	31.041	30.235	29.492
31.883	31.727	31.470	31.142	31.898	30.638	30.934
31.445	31.560	31.466	32.144	31.731	31.429	32.480
29.116	28.805	28.570	28.585	28.647	29.021	29.357
28.339	28.312	28.471	28.255	28.292	28.317	28.677
39.423	32.827	38.733	37.755	32.758	33.908	38.294
29.266	31.581	28.757	29.650	29.244	29.394	30.141
29.230	29.025	28.938	28.966	29.216	28.927	30.279
30.131	29.904	29.694	29.517	29.533	29.673	29.881
28.902	27.719	28.679	28.402	28.514	28.484	28.951
28.383	28.656	28.660	28.244	28.082	28.268	29.472
25.229	25.050	25.423	24.995	25.022	25.120	25.757
28.332	28.165	28.116	27.913	28.112	28.176	28.472
28.903	28.470	28.706	28.415	28.559	28.672	29.533
27.291	27.869	27.055	27.263	27.180	27.192	27.945
29.798	29.902	29.684	29.344	29.973	29.812	30.561
33.508	33.221	32.712	33.746	32.833	33.996	31.894
28.391	28.316	28.496	28.300	28.189	27.849	29.237
29.199	29.401	29.954	29.357	29.159	29.992	29.481
27.999	28.260	27.968	28.150	27.926	27.663	27.932

32.573	31.582	32.372	31.316	32.024	31.767	32.388
31.111	30.631	30.797	29.921	30.770	30.509	31.017
30.179	30.005	30.255	29.920	30.039	29.987	30.792
26.850	26.540	40.000	37.496	40.000	40.000	35.662
31.160	40.000	31.395	31.663	31.292	31.585	31.862
30.657	30.621	29.993	30.484	30.187	30.442	31.358
26.708	26.728	26.263	26.527	26.671	26.801	27.326
29.878	30.182	29.930	29.068	31.242	29.200	30.150
29.509	29.782	29.583	29.528	29.935	29.841	30.731
31.366	30.757	31.560	31.015	30.976	30.863	32.127
28.247	27.531	28.003	27.427	27.861	27.605	28.749
31.197	31.725	40.000	31.279	31.297	32.050	40.000
28.579	28.437	28.720	28.656	28.676	28.766	29.254
28.957	28.545	28.647	28.321	28.429	28.282	29.261
27.656	27.158	27.284	27.061	27.115	26.982	27.743
31.354	30.691	31.335	31.343	30.802	31.296	30.384
29.438	29.337	29.934	29.397	29.358	29.803	29.535
20.967	21.323	21.028	20.604	21.141	20.896	21.576
26.613	27.175	26.516	26.791	26.678	26.441	28.083
30.911	31.309	30.870	30.459	30.629	30.961	31.578
28.033	28.336	28.046	27.993	27.963	28.043	28.769
26.859	26.782	26.679	26.375	26.374	26.545	27.252
29.197	28.149	28.535	28.043	28.559	28.462	29.316
29.508	28.190	28.455	28.284	28.322	28.578	29.512
28.398	28.531	28.526	28.168	28.086	28.631	28.881
27.341	27.649	27.154	27.320	27.308	27.392	27.672
27.991	27.909	27.644	27.641	27.703	27.580	28.732
30.789	30.870	30.623	30.159	30.727	30.571	31.335
26.109	26.079	26.206	25.923	26.009	26.014	26.675
26.973	26.798	26.973	26.709	26.700	26.690	27.551
29.169	28.680	28.790	28.796	28.888	28.953	29.822
27.571	27.873	27.850	27.772	27.760	27.605	28.142
24.231	24.501	24.218	24.168	24.223	24.313	24.804
33.580	33.833	33.564	33.627	33.315	33.714	33.661
28.074	28.609	28.313	27.974	27.944	28.265	28.593
29.053	30.238	29.736	29.397	30.146	29.596	29.737
27.943	28.191	27.940	27.645	28.007	27.851	28.443
28.458	28.035	28.312	28.305	28.274	28.180	29.103
28.122	28.623	28.165	28.163	28.160	28.192	29.275
25.817	25.821	26.083	25.730	25.702	26.001	26.611
26.850	26.779	26.772	26.161	25.932	26.585	26.961
28.549	28.613	28.590	28.226	28.242	28.641	29.133
27.718	27.816	28.043	27.653	27.688	27.823	28.174
30.456	29.467	29.904	29.500	29.756	30.129	31.220



35.034	35.542	27.943	40.000	33.213	40.000	40.000
28.774	29.783	28.984	29.104	28.864	29.127	29.180
27.014	26.557	26.794	26.235	26.567	26.651	27.254
27.644	27.698	27.800	27.626	27.381	27.557	28.336
27.949	27.692	27.958	27.615	27.838	27.704	28.196
28.730	29.265	29.255	28.412	29.328	29.197	29.746
27.705	27.427	27.407	27.376	27.553	27.572	27.545
27.912	27.893	28.023	27.884	27.954	27.811	28.810
30.114	32.326	29.542	31.522	29.713	29.451	30.631
29.105	29.142	28.896	28.739	28.644	29.071	29.580
24.549	24.298	24.812	24.478	24.712	24.757	25.454
28.953	28.104	28.403	28.317	28.610	28.111	29.654
40.000	40.000	40.000	40.000	21.782	40.000	25.901
27.083	27.008	26.700	26.613	26.799	26.741	27.381
26.586	26.400	26.493	26.244	26.254	26.366	26.922
29.944	29.045	28.797	28.747	28.863	27.746	29.076
27.304	27.193	27.237	27.155	27.197	27.089	27.671
27.618	27.456	27.530	27.052	27.284	27.094	27.960
27.332	26.726	26.911	26.565	27.014	26.974	27.469
30.883	30.690	30.733	30.334	30.992	30.537	31.255
27.697	27.696	27.630	27.490	27.502	27.473	27.977
26.742	26.479	26.824	26.187	26.665	26.437	40.000
28.975	28.923	28.462	28.495	28.707	28.554	29.272
27.207	26.628	26.629	26.518	26.828	27.044	27.760
28.927	29.154	28.854	28.610	28.746	29.000	29.114
34.498	34.077	34.800	35.032	34.255	33.944	33.943
28.641	28.871	28.884	28.602	28.424	28.286	26.915
29.345	28.972	28.758	29.263	28.231	28.715	29.273
27.663	27.990	27.938	27.805	27.676	27.914	28.097
29.704	29.699	29.555	29.553	29.595	29.579	30.283
28.851	28.771	28.580	28.550	28.963	28.680	29.505
27.977	28.577	28.465	28.233	28.119	28.198	28.252
30.094	29.786	29.784	29.552	29.708	29.963	30.817
25.709	25.931	25.512	25.567	25.578	25.427	26.355
29.036	28.173	29.092	27.934	28.457	28.325	29.422
28.749	28.466	28.505	28.082	28.578	28.662	29.004
27.594	27.106	27.462	27.224	27.340	27.194	27.929
32.220	31.725	32.732	31.567	31.894	32.181	32.296
29.481	29.383	29.666	29.428	29.600	29.804	30.403
28.339	28.341	28.271	28.007	28.178	28.174	29.788
27.114	27.677	27.579	27.329	27.191	27.596	27.732
28.954	29.133	29.047	28.632	28.983	29.452	30.105
28.502	27.819	27.903	28.037	28.072	28.207	28.996
29.124	29.151	29.056	29.330	29.056	29.148	29.551

28.458	28.030	28.251	27.891	28.151	28.214	28.853
26.483	26.165	26.592	26.309	26.377	26.406	27.111
30.019	29.939	29.632	29.646	29.603	30.109	30.013
28.036	27.668	27.406	27.276	27.574	27.721	28.517
27.938	27.821	27.772	27.428	27.782	28.016	28.594
28.250	27.815	27.747	27.843	27.814	28.084	28.740
29.247	29.545	29.787	29.251	29.413	29.447	30.276
27.366	27.484	27.784	27.204	27.524	27.542	27.853
29.247	30.172	28.362	28.905	28.576	28.626	29.043
29.390	29.458	29.372	29.181	29.273	29.412	30.094
26.368	26.102	26.094	25.982	25.900	26.023	26.640
29.593	29.223	29.589	29.439	29.528	29.267	30.066
29.563	28.834	29.808	29.105	29.500	28.950	30.431
26.899	27.152	27.351	26.966	27.181	26.849	27.308
26.125	26.939	26.979	26.631	26.763	26.804	26.840
29.590	28.665	29.104	29.064	28.893	29.207	30.099
30.054	30.329	30.304	30.439	30.222	30.362	30.437
30.651	31.776	30.785	30.855	30.573	30.109	29.131
30.572	31.137	30.649	30.242	30.250	30.605	31.045
29.414	29.531	29.597	29.323	29.457	29.509	29.668

PostMnPsNo	PostMnPsNo	PostMnPsNo	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor
25.144	25.693	24.595	26.906	28.396	27.195	26.844
28.493	29.034	28.039	30.195	31.923	30.057	29.990
27.594	27.492	27.120	27.658	34.899	31.718	31.381
29.039	30.501	28.901	29.929	40.000	32.949	32.736
33.878	34.524	32.970	34.659	40.000	40.000	35.580
26.198	26.380	25.945	27.725	29.738	27.580	27.373
27.304	27.583	26.648	28.326	29.246	27.829	27.591
30.633	31.604	29.477	31.068	31.236	31.021	29.722
31.295	31.958	30.960	32.909	32.687	40.000	32.932
28.463	28.870	28.116	29.478	31.149	29.962	29.477
29.141	29.040	27.982	30.313	32.528	30.888	31.146
40.000	33.670	30.581	33.129	34.823	32.347	34.014
29.256	30.085	29.328	30.400	32.213	30.323	30.272
27.822	28.165	27.365	29.338	30.182	28.697	28.397
40.000	33.396	40.000	40.000	37.156	34.343	40.000
32.903	33.478	32.764	34.226	40.000	40.000	40.000
28.950	29.031	28.572	29.695	32.908	31.864	31.051
40.000	28.610	40.000	40.000	25.775	40.000	40.000
26.119	25.966	25.629	26.940	29.861	28.072	27.736
24.961	25.578	24.746	26.269	29.785	26.902	26.402
28.149	28.481	27.852	29.298	32.225	30.928	30.644
31.137	32.332	30.872	31.783	40.000	34.980	33.143
25.558	25.608	24.905	26.393	28.432	27.416	26.600
35.643	35.045	34.118	36.297	36.684	35.777	40.000
40.000	35.989	35.235	35.151	37.778	37.718	37.385
27.212	26.829	26.436	28.944	28.383	27.572	27.393
28.443	29.289	28.528	29.960	30.517	29.199	28.825
37.035	40.000	40.000	40.000	36.845	34.570	35.702
29.241	29.672	28.977	30.139	32.187	30.970	30.707
29.544	29.560	29.486	29.416	36.146	32.750	32.222
27.579	28.129	27.526	28.668	33.573	30.272	30.152
30.145	30.348	29.834	31.397	29.999	30.216	30.431
27.209	27.032	26.798	26.561	31.446	29.464	28.850
32.858	33.212	40.000	34.613	40.000	31.422	35.471
40.000	40.000	35.377	40.000	40.000	40.000	40.000
28.085	28.116	27.640	28.640	32.346	30.432	29.943
32.004	32.197	31.320	33.655	36.180	34.214	33.007
25.320	25.902	24.739	26.611	29.763	27.798	27.334
26.754	27.543	26.451	27.622	30.695	29.060	28.536
31.505	31.944	31.675	32.953	33.794	33.924	33.416
28.795	28.785	28.378	29.449	31.539	30.686	30.253
28.065	28.515	27.550	29.312	31.192	28.884	28.384

26.329	26.875	26.025	27.586	29.748	28.009	27.527
29.204	29.609	28.860	30.250	33.082	30.556	30.176
25.990	27.344	25.642	27.381	27.321	27.234	27.295
29.357	29.521	28.947	30.383	34.350	32.010	31.413
25.162	25.570	25.023	25.856	28.136	25.991	25.436
30.816	30.761	29.947	31.977	30.504	30.934	30.992
28.117	28.570	28.123	29.091	36.420	32.582	31.868
29.658	30.140	29.301	30.748	33.639	31.431	30.797
25.944	26.211	25.245	27.258	29.388	27.520	27.110
33.604	33.254	32.790	34.870	34.886	33.352	34.250
31.614	31.508	30.534	32.476	32.670	31.713	32.140
28.733	28.791	28.611	29.612	40.000	31.623	31.481
29.806	30.251	28.974	30.886	32.044	30.982	30.499
27.354	27.583	27.296	28.366	30.858	28.764	27.633
27.972	28.144	27.627	28.875	30.276	28.731	28.472
35.386	29.556	35.808	36.029	35.670	27.467	35.381
28.805	40.000	28.796	29.726	32.657	31.294	30.588
27.040	27.871	26.538	28.318	31.752	29.120	28.742
30.098	30.596	29.770	32.078	29.882	30.037	29.905
29.667	29.858	29.128	30.754	34.671	31.608	31.008
37.318	37.714	40.000	40.000	40.000	40.000	40.000
23.293	23.169	22.249	24.058	27.928	25.691	25.027
23.220	24.156	23.211	24.622	25.028	24.746	23.947
29.448	29.966	28.725	30.461	33.425	31.676	31.847
29.567	29.788	29.083	30.274	40.000	33.711	33.226
30.056	30.574	29.554	31.485	33.078	31.963	31.897
29.772	30.854	29.783	30.890	31.534	30.921	30.898
32.210	31.815	31.704	32.565	32.475	33.859	32.637
27.594	28.315	27.556	28.855	34.694	31.491	30.947
28.982	28.507	29.157	28.917	40.000	34.922	33.865
28.148	28.423	27.563	28.971	30.132	29.495	29.288
24.321	24.898	23.845	25.519	29.840	26.513	25.886
31.869	32.842	31.705	40.000	33.871	33.214	33.210
28.614	29.172	28.295	30.155	32.911	30.661	30.295
29.757	30.107	29.490	31.179	35.287	32.919	32.379
30.038	30.267	29.559	31.546	40.000	33.984	32.756
30.526	31.536	31.015	30.958	35.294	32.946	32.481
29.727	30.380	28.901	30.243	34.064	32.573	31.511
29.982	30.562	29.566	30.192	30.827	30.111	30.157
28.958	29.943	29.099	30.345	34.995	32.385	31.370
27.222	26.921	26.054	27.168	30.944	28.435	28.083
28.928	28.896	28.242	30.021	32.237	31.114	30.632
29.586	29.904	29.271	30.785	36.446	33.930	32.473
27.854	27.834	27.409	28.903	31.235	29.597	29.442

29.616	30.026	29.353	30.649	34.982	32.736	31.994
28.434	28.582	27.920	28.969	33.596	31.304	30.215
29.620	29.073	29.244	30.314	32.901	40.000	30.602
31.995	33.607	32.077	33.650	33.190	33.388	33.480
29.858	30.472	29.014	30.217	32.290	31.659	31.417
26.877	27.735	26.657	28.366	30.758	28.746	28.437
28.037	28.155	27.842	29.438	34.420	31.803	30.370
30.671	30.790	30.395	31.986	35.111	32.648	31.938
28.687	28.721	28.188	30.218	30.016	29.302	29.284
27.690	28.135	27.350	28.826	32.221	29.969	29.837
26.817	27.586	27.324	28.847	30.071	28.847	29.052
27.822	28.071	27.535	29.182	31.921	30.765	30.271
26.642	27.541	26.493	27.962	31.605	28.986	28.609
29.184	29.965	28.683	30.394	34.836	32.314	32.018
28.778	28.832	28.162	29.550	40.000	30.779	30.349
30.935	31.481	30.842	31.840	33.231	32.806	32.414
29.332	29.250	28.769	30.138	31.624	30.660	30.798
30.183	30.621	29.495	30.934	33.155	31.748	31.185
30.162	30.519	29.691	31.379	40.000	31.171	31.606
27.200	27.458	27.108	28.741	32.885	30.437	30.031
27.195	27.686	26.929	28.374	29.379	28.432	28.175
30.603	31.613	40.000	32.165	35.711	33.217	32.309
27.396	27.505	25.688	27.304	31.560	29.227	28.504
30.377	30.738	29.863	31.689	34.462	33.014	31.861
30.272	30.712	30.892	28.771	40.000	34.954	34.227
31.710	30.636	32.352	29.311	40.000	36.493	37.711
31.898	31.773	31.360	33.326	35.864	34.531	33.198
29.203	29.559	28.941	30.332	32.407	31.381	31.091
28.490	28.614	28.283	28.754	34.535	31.525	30.710
40.000	36.483	38.594	40.000	40.000	32.844	38.321
29.380	29.865	29.841	31.309	32.936	31.011	30.535
29.730	30.259	29.557	31.097	33.154	31.376	30.871
30.048	30.377	29.584	31.262	32.315	31.479	31.644
28.885	29.193	29.059	29.818	36.470	31.921	31.405
28.395	29.017	28.142	29.647	32.558	31.272	30.802
25.521	25.618	24.809	26.555	29.143	28.017	27.530
28.483	29.138	28.333	29.274	33.822	32.113	31.644
29.072	29.251	28.700	29.886	35.137	32.454	32.065
27.289	28.195	27.363	28.978	31.442	29.951	29.570
29.990	30.159	29.571	31.066	30.475	30.093	30.218
33.196	31.585	32.698	31.890	36.917	36.289	35.431
28.936	29.011	28.216	29.663	31.845	30.334	29.940
29.524	29.409	29.077	29.892	32.675	31.792	31.694
28.280	28.010	28.174	28.077	35.709	32.208	32.185

32.176	32.602	31.409	33.781	35.424	35.541	36.693
31.760	31.726	30.821	31.912	33.163	33.149	32.670
30.648	30.900	30.180	30.999	33.422	31.774	31.336
35.954	40.000	40.000	40.000	40.000	36.716	40.000
31.515	32.029	31.529	33.350	32.506	32.548	32.185
30.958	31.416	30.451	32.222	34.105	32.222	31.945
26.618	27.600	26.597	28.518	29.427	29.116	28.721
29.721	30.954	30.987	30.449	33.414	33.528	32.364
29.959	30.210	29.283	31.266	30.500	30.200	30.046
31.888	31.852	31.860	40.000	40.000	34.984	34.813
28.486	28.538	27.876	29.723	31.032	29.672	29.160
31.830	31.841	40.000	40.000	36.383	33.132	33.341
29.250	29.359	29.108	30.375	32.809	30.818	30.498
29.137	29.829	28.763	30.181	33.772	31.570	31.136
27.852	27.950	27.698	29.077	32.431	30.853	30.336
31.468	31.566	31.430	30.150	35.209	33.171	33.206
29.807	30.366	29.400	30.951	32.313	31.309	31.211
21.722	21.805	21.112	22.278	26.901	24.021	23.018
27.833	27.690	27.303	28.201	31.060	28.536	28.004
31.322	31.845	30.814	31.999	33.445	32.430	31.991
28.329	28.675	27.858	29.665	30.192	29.287	28.989
27.179	27.708	26.856	28.601	32.515	30.044	29.302
29.181	29.410	29.306	29.914	34.270	31.598	31.251
29.696	29.662	29.097	29.941	40.000	32.954	31.965
28.561	28.955	28.553	29.409	31.429	29.914	29.896
27.358	27.792	26.951	27.570	32.403	29.450	29.041
27.978	28.711	27.963	29.238	33.735	31.261	30.116
30.977	31.788	30.529	32.268	40.000	35.220	34.250
26.529	26.836	25.946	27.565	30.283	28.067	27.291
27.011	27.468	27.221	28.051	29.945	28.135	28.075
29.712	29.651	29.452	30.663	36.536	32.804	32.557
28.265	28.288	27.875	29.338	30.928	29.632	30.620
24.981	24.468	23.941	24.699	27.918	26.825	26.180
33.935	33.671	33.715	36.022	35.853	33.484	33.619
28.621	29.550	28.167	29.422	31.660	30.463	30.169
29.735	29.349	29.523	29.247	31.960	31.124	30.616
28.312	28.433	27.534	29.093	31.927	30.397	30.004
28.571	28.876	28.336	29.831	30.839	29.351	29.379
28.370	28.424	28.348	29.439	33.584	31.129	30.407
26.127	26.271	26.226	27.195	28.396	26.924	26.623
26.624	27.835	26.886	28.536	28.808	28.166	27.660
28.575	29.060	28.458	30.003	35.945	31.907	31.649
28.106	27.990	27.571	29.057	33.609	30.636	30.605
30.116	31.942	29.932	31.153	36.038	40.000	33.196

33.599	40.000	32.801	36.074	40.000	34.061	40.000
29.001	29.674	29.142	29.216	32.596	30.918	31.464
27.122	27.592	26.755	28.158	30.378	29.055	28.991
28.396	28.183	27.302	29.017	32.372	30.338	29.942
29.029	28.497	28.041	29.352	32.840	30.604	30.024
30.005	29.806	28.608	30.684	32.746	30.921	29.861
27.762	27.655	27.515	28.139	33.711	31.167	40.000
28.369	29.056	27.980	29.476	30.012	28.895	28.770
29.648	30.664	30.666	31.778	32.370	29.637	31.959
29.299	29.927	28.856	30.534	33.700	31.312	30.643
25.504	26.393	24.956	26.268	26.452	26.019	25.972
29.503	29.517	28.893	30.340	31.814	30.567	30.375
21.175	40.000	40.000	40.000	26.290	25.667	40.000
27.238	27.339	26.850	28.527	34.477	30.813	29.879
27.168	27.279	26.565	27.924	29.462	28.652	28.065
29.887	31.240	30.288	29.604	37.302	34.119	34.393
27.596	28.750	27.296	27.988	30.503	29.027	28.530
27.998	28.894	27.265	29.022	30.458	29.166	29.273
27.392	27.673	26.883	28.565	30.257	28.863	28.255
31.324	31.382	30.723	31.704	34.005	32.328	31.821
28.396	28.335	28.105	29.233	33.697	30.274	30.022
27.184	27.361	26.574	28.270	30.288	28.512	28.341
28.620	29.170	28.462	29.916	31.911	30.325	29.896
27.496	28.452	26.948	28.605	31.871	29.571	29.377
28.801	29.224	28.292	30.107	31.348	30.253	30.035
36.429	35.719	35.392	40.000	40.000	36.253	40.000
27.838	27.967	28.795	26.427	34.161	32.314	32.503
29.326	29.986	28.678	30.526	34.366	32.509	31.723
27.696	28.409	27.649	28.100	40.000	30.372	29.657
29.698	40.000	29.213	30.367	40.000	31.349	31.070
29.492	29.638	28.688	29.941	32.342	31.194	30.995
28.484	28.318	27.869	29.213	31.682	30.022	29.342
30.000	30.356	29.883	31.241	35.261	32.711	32.287
26.304	26.574	25.378	27.548	31.013	28.890	28.322
29.378	29.998	29.176	30.378	32.409	30.546	30.121
28.646	29.238	28.555	29.989	34.902	32.185	31.842
27.896	28.653	27.549	29.038	33.040	29.939	29.495
32.362	32.226	31.423	32.462	40.000	34.100	34.852
30.048	30.234	29.861	31.012	35.640	33.072	32.997
28.895	28.970	28.173	29.837	31.859	30.079	30.198
27.369	27.832	27.268	28.801	30.375	28.797	28.536
29.216	30.482	28.615	30.329	29.414	29.736	29.468
28.759	29.359	28.230	29.826	31.557	30.164	29.924
29.133	29.831	29.153	30.556	33.394	31.475	31.634

28.779	29.109	28.495	29.559	34.225	32.492	31.983
26.988	27.558	26.627	28.085	33.187	29.619	28.970
29.860	30.962	29.920	29.918	33.737	32.525	31.816
27.922	28.564	27.611	28.975	34.429	32.244	31.323
28.544	28.773	27.859	29.332	30.796	29.641	29.514
28.075	28.873	28.089	29.506	32.665	31.040	31.050
29.864	29.980	29.108	31.461	31.906	31.046	30.502
27.836	27.755	27.045	28.626	33.056	30.184	29.023
28.592	28.980	28.900	30.578	34.942	32.330	31.484
30.008	30.577	29.603	31.168	32.539	31.140	30.539
26.548	26.960	26.606	27.644	31.434	29.370	28.752
30.817	31.011	30.055	31.086	33.105	31.540	31.868
29.682	30.863	30.686	30.860	33.745	31.403	31.294
27.665	27.547	27.175	28.241	29.461	28.390	27.859
26.932	26.969	26.905	28.105	28.563	27.597	27.347
29.751	30.228	29.368	30.691	30.748	30.164	29.955
30.581	30.942	30.049	31.339	33.087	32.013	31.882
30.532	29.560	30.796	28.943	36.875	34.162	35.235
30.523	30.928	30.318	31.728	33.583	32.281	31.616
29.762	29.680	29.392	31.216	32.844	31.030	31.013



PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor
25.106	25.609	24.324	25.990	26.732	24.407	24.836
29.381	28.753	28.088	29.094	30.145	27.468	27.908
28.351	27.796	26.469	29.321	30.122	27.597	28.034
29.446	29.512	27.476	29.865	30.483	28.446	28.952
35.011	34.177	32.161	40.000	36.165	33.904	34.314
27.499	26.266	25.026	25.898	27.154	25.394	25.574
27.339	27.030	26.163	26.510	27.534	26.282	26.260
32.462	30.555	29.801	30.429	31.619	28.142	29.777
31.656	40.000	31.192	40.000	32.837	30.248	30.714
28.659	28.955	27.331	29.238	29.753	27.929	28.266
32.014	28.733	27.026	28.837	29.742	28.316	28.580
40.000	32.492	32.041	33.912	32.527	31.114	31.694
30.241	29.721	28.636	29.577	29.787	28.435	28.470
26.925	28.063	26.617	28.103	28.332	26.656	27.286
40.000	31.579	30.166	31.938	32.706	31.481	31.425
32.947	32.897	30.519	34.265	34.292	31.996	32.831
29.583	28.961	27.073	28.687	29.755	28.124	28.448
40.000	40.000	40.000	24.906	40.000	40.000	23.530
26.386	25.893	24.969	26.185	27.242	25.339	25.665
24.825	25.629	23.033	25.291	26.129	24.036	24.472
28.635	28.255	26.904	27.981	28.955	27.465	27.937
31.487	31.762	29.931	32.201	32.483	30.539	31.060
23.975	25.762	26.010	27.434	27.666	24.099	25.147
36.017	34.603	33.837	34.304	34.464	33.130	33.737
32.436	40.000	31.838	34.432	40.000	36.320	33.636
26.904	26.420	25.107	27.240	28.087	25.077	25.772
28.480	28.221	27.606	27.857	29.163	27.340	28.160
32.623	35.036	32.632	34.377	36.107	33.831	33.516
29.138	29.441	29.037	28.986	29.927	27.964	27.883
30.376	29.514	28.143	30.258	31.093	29.020	29.487
28.380	28.125	26.924	28.025	28.636	27.086	27.607
29.474	31.033	30.217	30.377	31.291	28.842	29.840
27.694	27.593	26.684	27.773	28.501	26.700	26.907
31.962	35.421	32.356	33.777	33.088	33.990	32.037
40.000	35.757	36.711	40.000	35.464	40.000	40.000
28.039	28.039	26.191	28.248	29.215	26.805	27.551
31.917	32.392	30.474	31.879	32.533	30.065	31.355
26.359	25.820	23.831	24.916	26.101	24.343	24.320
27.410	26.654	25.683	26.600	27.793	26.195	26.449
32.389	32.296	31.056	32.330	32.597	30.799	31.333
29.997	28.505	26.839	28.339	29.465	27.799	28.164
28.239	28.229	27.140	28.649	28.822	27.196	27.389

26.415	26.467	24.552	26.923	27.173	25.312	25.777
29.522	29.727	27.717	29.604	30.048	28.297	28.973
27.502	26.172	24.805	26.336	27.240	25.458	25.629
30.170	29.400	27.793	29.388	30.237	28.366	28.446
25.037	25.318	23.790	24.999	25.727	23.889	23.982
31.135	30.522	29.075	30.960	31.601	29.136	29.672
29.133	28.733	26.493	28.947	30.038	27.378	27.928
30.096	29.912	28.493	30.124	30.901	28.574	29.211
25.933	26.034	24.126	26.388	26.839	24.509	25.190
35.418	32.592	32.400	32.764	33.175	32.086	32.302
31.742	31.130	30.325	31.156	31.867	29.820	29.920
29.918	28.963	27.534	28.853	30.227	28.303	28.622
30.175	29.668	28.142	29.636	30.481	28.182	28.738
28.463	28.066	26.959	27.332	27.939	26.601	26.193
28.253	27.755	26.834	27.482	27.937	26.667	26.737
28.853	28.604	35.849	40.000	40.000	40.000	40.000
28.419	28.970	28.109	28.856	29.521	27.796	28.467
27.767	27.326	25.854	27.508	28.124	25.596	26.003
29.807	30.671	29.893	31.200	31.283	28.714	29.352
30.449	29.969	28.280	29.672	30.374	28.594	28.946
40.000	40.000	40.000	33.567	37.954	33.801	34.461
23.610	22.814	20.599	23.401	23.967	21.779	22.209
22.937	24.302	23.464	40.000	24.689	22.082	23.135
30.430	29.747	27.862	30.506	30.678	28.589	29.112
30.010	29.691	27.555	29.687	30.705	27.877	40.000
30.728	30.254	28.969	30.509	31.513	29.095	29.603
30.636	30.758	29.890	30.447	31.174	28.623	29.324
31.201	31.737	31.165	32.119	32.865	31.234	31.951
27.479	27.828	26.739	28.079	29.099	26.575	26.973
30.788	29.028	28.448	32.087	32.205	29.726	30.059
27.021	27.837	26.812	28.686	29.489	27.474	27.727
24.903	24.549	22.645	24.954	25.541	23.210	23.726
33.041	32.105	31.579	33.044	32.983	30.679	31.402
29.139	29.042	27.615	29.443	29.925	27.859	28.424
29.850	30.163	28.406	29.994	30.875	28.441	28.958
31.289	30.845	28.629	29.883	30.728	28.757	28.833
30.666	31.404	29.672	30.336	31.830	29.861	30.419
30.565	30.114	28.077	30.545	31.320	28.548	29.279
29.290	29.777	29.108	28.962	29.498	28.678	29.061
30.277	29.100	27.881	29.311	29.971	28.336	28.562
27.451	26.879	25.044	27.647	27.917	24.781	25.982
29.029	28.789	27.390	28.978	29.520	27.700	28.023
30.076	29.672	28.254	30.191	31.101	28.943	29.268
28.752	28.076	26.837	28.058	28.819	27.268	27.492

30.124	29.772	28.175	29.785	31.005	28.795	29.296
28.628	28.380	26.755	27.938	29.065	27.337	27.347
29.371	29.644	27.967	29.136	30.042	27.207	27.781
31.631	32.430	31.720	31.797	32.397	31.277	31.432
29.980	29.353	28.230	29.440	30.671	28.377	29.386
27.991	26.977	26.035	27.218	27.871	27.091	27.131
28.840	28.277	26.790	28.158	29.249	26.909	27.187
31.306	30.909	29.286	30.719	31.614	29.019	29.725
29.424	28.978	27.766	28.971	29.770	28.183	28.357
28.223	28.081	26.306	27.843	28.572	26.621	27.202
30.015	27.115	25.702	27.318	27.689	26.592	26.257
28.584	27.924	26.640	27.989	29.287	27.227	27.275
27.311	27.021	25.773	26.652	27.707	26.083	26.352
30.181	29.578	28.149	29.408	30.263	28.272	28.479
28.892	28.497	26.996	28.072	29.166	27.867	27.964
29.616	31.673	30.156	31.386	31.659	29.252	30.046
30.079	29.292	27.613	28.937	29.641	27.895	28.117
29.951	30.393	28.881	30.023	30.928	28.670	29.301
30.212	30.125	29.158	29.759	30.287	28.607	29.541
28.159	27.843	26.115	27.829	28.722	26.819	26.755
28.623	27.272	26.456	26.768	28.062	26.356	26.727
30.955	30.997	29.538	31.197	31.825	29.578	29.946
27.115	26.071	24.045	27.108	28.195	25.181	25.647
31.154	30.709	29.143	30.938	31.570	29.429	30.079
31.797	30.052	30.314	31.769	32.326	30.245	30.866
32.416	31.052	31.974	40.000	34.575	40.000	32.419
40.000	33.292	30.713	31.277	32.857	30.726	31.083
29.626	29.417	27.837	29.032	30.215	27.668	28.066
29.219	28.619	27.162	29.663	30.174	27.917	28.440
40.000	32.896	34.657	40.000	29.155	39.192	33.748
31.863	29.899	29.663	29.875	30.748	29.614	29.206
29.630	30.402	28.076	31.065	30.838	28.331	29.038
30.168	30.184	28.416	30.553	30.961	29.034	29.171
29.155	29.203	28.250	29.378	30.091	28.018	28.632
29.435	28.387	26.975	29.018	29.504	27.387	27.814
25.340	24.902	23.026	24.995	25.947	23.970	24.348
28.838	28.392	27.380	28.378	29.329	27.850	27.877
29.725	29.375	27.242	29.715	30.823	28.631	29.150
28.536	27.936	26.446	27.430	28.600	27.017	27.102
30.286	29.859	28.892	29.880	30.640	29.094	29.411
33.205	40.000	33.100	33.966	34.095	32.608	32.338
28.321	28.438	27.271	27.535	29.255	27.294	28.132
29.963	29.749	27.591	29.326	30.310	27.931	29.263
29.766	28.473	28.427	29.988	30.410	27.851	28.447

32.032	40.000	30.949	32.500	33.210	31.764	31.364
31.190	30.431	29.763	31.786	32.180	29.572	30.277
30.638	30.160	29.379	30.688	31.167	29.760	30.124
30.876	40.000	29.830	34.937	40.000	40.000	33.320
32.558	31.745	31.527	32.156	32.440	30.753	31.419
30.488	31.070	29.354	31.416	31.265	29.771	30.360
27.976	27.498	25.879	27.279	28.334	26.241	26.534
34.294	32.046	31.071	30.985	30.826	29.977	30.616
30.785	29.949	29.087	30.352	30.655	28.777	29.349
32.169	32.762	31.041	32.960	34.251	31.033	31.489
28.280	28.789	27.103	28.813	29.223	27.255	27.918
32.374	32.289	30.137	32.149	40.000	30.901	31.298
28.868	28.870	27.280	28.821	29.687	27.841	27.827
29.277	29.621	27.531	29.901	30.445	27.751	28.563
28.447	28.115	26.028	28.120	29.148	26.956	27.380
31.605	32.181	29.341	31.422	32.454	30.226	31.723
31.425	30.049	29.171	30.159	30.410	28.927	29.343
21.974	21.387	18.895	22.053	22.668	20.199	20.796
26.736	27.651	25.600	27.150	27.838	25.291	26.910
31.523	31.304	29.941	31.482	31.663	29.830	30.406
29.362	28.171	27.260	28.562	29.050	27.510	27.884
27.393	27.403	25.045	27.841	28.400	25.928	26.539
28.743	29.387	27.415	28.755	29.973	28.070	28.356
29.504	29.224	27.566	29.521	30.449	28.458	28.967
28.739	28.454	26.365	28.467	28.910	28.000	27.815
28.049	27.866	26.224	28.183	28.649	26.821	27.206
28.465	28.393	26.813	27.672	29.112	27.176	27.203
32.057	31.698	29.581	32.539	33.218	30.074	31.026
26.798	26.252	24.783	26.461	27.391	25.473	25.670
27.943	27.141	26.429	26.987	27.623	26.929	26.829
29.785	29.893	28.049	29.853	30.968	28.706	29.411
28.902	27.890	26.507	27.935	28.597	27.101	27.143
25.011	24.220	22.414	25.186	25.598	22.844	23.627
36.292	34.984	34.609	33.869	34.151	32.376	33.249
29.432	28.779	27.507	28.587	29.451	27.720	28.063
30.707	30.170	29.712	30.624	30.912	29.647	29.459
28.998	28.353	26.897	28.464	29.493	27.177	27.616
28.218	29.228	28.031	29.675	29.750	27.601	28.016
28.834	28.918	27.416	28.857	29.257	27.928	28.131
26.763	26.018	24.729	25.966	26.632	25.272	25.562
27.395	27.491	25.600	27.619	28.063	25.799	26.090
29.527	28.728	27.151	28.490	29.744	27.549	28.126
29.181	27.958	27.122	28.388	29.110	27.433	27.769
30.675	30.593	29.174	30.841	32.208	29.255	30.113

40.000	33.684	32.184	32.691	34.603	33.158	32.749
29.360	29.499	28.904	28.814	29.975	28.256	28.534
28.158	27.102	25.795	27.072	28.037	26.014	26.273
29.353	27.496	25.962	28.346	28.966	27.271	27.388
28.670	28.373	26.656	28.201	29.183	27.411	27.649
30.042	29.515	28.121	29.836	30.384	28.019	28.675
28.394	28.739	26.924	28.291	29.505	27.191	27.462
28.538	28.364	27.077	28.385	29.200	27.311	27.437
32.059	30.260	27.744	29.264	29.231	29.699	28.785
30.504	28.961	28.292	29.442	30.241	28.262	28.579
24.870	25.600	24.334	25.370	25.940	24.479	25.005
28.928	40.000	27.747	29.444	30.140	27.888	28.623
40.000	40.000	40.000	19.587	18.520	19.214	20.373
28.029	27.384	25.970	27.448	28.268	26.254	26.782
27.545	26.902	25.262	26.715	27.586	25.406	25.773
30.395	29.445	28.593	30.831	31.808	28.997	29.515
27.681	27.988	26.191	28.407	28.989	26.762	27.452
28.306	27.552	26.775	27.595	28.717	26.878	27.108
28.225	27.763	27.013	27.017	28.192	26.338	26.700
31.648	31.063	29.843	31.474	31.947	29.807	30.018
28.233	28.325	26.496	27.978	28.673	27.402	27.442
26.448	27.301	25.199	27.316	27.776	25.765	26.237
29.504	28.803	27.379	28.819	29.632	27.998	28.322
27.666	27.807	26.024	27.734	28.528	26.398	26.959
30.561	29.168	27.582	29.330	29.989	27.913	28.195
40.000	40.000	24.446	36.065	38.492	40.000	36.976
30.051	27.304	27.802	29.064	30.364	28.678	28.259
29.986	30.306	29.059	31.786	31.791	30.475	30.285
28.407	27.394	26.016	27.808	28.521	27.667	27.445
30.382	30.014	28.325	30.227	30.764	28.838	29.577
29.783	29.324	27.734	28.914	29.811	27.710	28.515
29.514	27.643	25.646	27.974	28.582	27.206	27.436
30.682	29.981	28.762	30.332	31.249	29.267	29.713
26.793	25.665	24.090	26.021	26.940	24.925	25.192
28.618	29.619	28.624	29.411	30.037	27.990	29.067
29.671	29.461	27.686	29.675	30.438	28.107	28.748
27.748	28.009	26.784	28.272	28.843	26.988	27.459
31.212	31.057	29.516	31.609	32.955	30.974	31.193
30.432	30.269	28.823	30.323	31.004	28.989	29.454
29.305	28.703	27.302	28.902	29.782	27.393	28.020
28.188	27.534	26.513	27.261	27.980	26.768	27.008
29.536	29.641	28.144	29.533	29.921	28.226	28.418
28.459	28.673	27.274	29.118	29.446	27.532	28.133
30.457	29.606	28.443	29.482	30.683	28.475	28.720

29.096	28.571	26.864	28.744	29.909	27.538	28.208
26.875	27.093	25.415	27.153	28.145	25.644	26.094
31.865	31.005	30.312	31.515	32.006	29.722	29.867
28.893	28.118	26.240	28.238	29.620	26.869	27.609
28.699	28.275	26.943	28.207	28.982	27.191	27.432
28.995	28.816	27.268	28.787	29.064	27.547	27.643
30.103	30.022	28.654	29.885	30.492	28.536	28.982
27.459	27.461	25.355	27.774	28.450	26.197	26.735
30.835	29.287	26.856	27.980	29.658	28.290	28.693
29.856	30.258	28.352	30.572	30.885	28.940	29.343
27.095	26.598	24.661	26.415	27.496	25.180	25.656
40.000	30.656	28.948	30.943	31.018	29.310	30.006
29.496	31.094	31.157	29.915	30.714	29.108	29.565
28.181	27.615	26.300	27.138	28.133	26.759	26.841
28.475	26.700	25.660	27.086	27.416	26.439	26.161
29.141	30.197	28.966	29.228	29.918	28.667	29.230
31.229	30.243	29.571	30.203	30.792	29.536	29.763
32.497	29.612	29.829	31.166	32.604	30.120	30.574
31.628	30.862	29.199	30.805	31.173	30.432	30.434
30.053	29.619	28.387	29.618	30.469	28.430	29.170

PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor
24.567	24.335	23.879	24.444	24.806	24.897	24.704
28.056	28.034	27.918	28.042	28.285	28.280	27.644
27.744	27.959	27.807	28.085	27.950	28.373	27.305
28.718	28.586	28.617	29.140	28.788	28.858	28.494
40.000	34.065	35.083	33.682	34.213	35.601	33.929
25.836	25.908	25.930	25.797	25.568	25.992	25.325
26.439	26.628	26.515	26.495	26.380	26.732	26.119
29.916	30.596	30.231	29.226	30.275	30.223	30.026
31.140	30.410	31.474	31.156	31.063	30.852	31.152
28.215	28.050	27.952	28.483	28.375	28.340	27.896
28.798	29.342	30.372	29.867	28.103	28.890	27.980
32.224	32.997	33.001	32.549	31.712	32.716	30.805
29.181	28.840	29.175	27.896	29.308	29.161	28.670
26.867	26.842	26.432	27.090	27.158	27.554	27.139
30.903	30.870	30.878	31.348	30.683	31.704	30.699
32.789	32.463	32.221	33.507	32.338	32.657	31.713
28.313	28.643	29.045	28.887	28.272	28.302	27.862
40.000	40.000	40.000	25.339	40.000	40.000	40.000
25.711	25.284	25.613	25.716	25.769	25.666	25.415
24.190	24.261	24.003	24.263	24.141	24.907	24.060
27.793	27.570	27.575	27.548	27.630	28.122	27.181
30.972	31.222	31.298	31.525	30.726	31.123	30.439
23.858	23.252	22.275	24.186	25.437	24.848	25.019
35.030	35.595	33.786	34.347	33.727	35.177	34.054
35.181	33.431	36.207	35.038	33.487	33.554	32.795
25.790	25.041	25.184	26.270	25.753	25.721	25.056
27.990	27.605	27.883	28.206	27.992	28.494	28.122
32.976	32.533	33.523	34.682	33.188	34.233	32.076
28.773	28.185	28.514	28.046	28.875	28.653	28.680
29.360	29.620	29.780	30.169	29.187	29.725	28.989
27.409	27.407	27.334	27.267	27.341	27.702	27.093
29.025	29.231	29.547	29.116	29.771	29.375	29.647
26.991	27.224	27.404	27.237	26.905	27.194	26.788
31.257	31.489	34.484	33.733	35.870	32.207	31.894
40.000	21.420	35.463	21.724	35.983	40.000	16.133
27.211	27.130	27.262	27.661	27.195	27.542	27.231
30.603	30.768	31.237	31.351	30.535	31.149	31.049
24.492	25.364	26.111	24.769	25.008	24.731	24.162
26.211	26.724	26.473	26.255	26.291	27.052	26.085
31.479	30.900	31.012	31.400	31.256	31.557	31.039
28.128	28.392	28.819	28.405	27.756	28.013	27.315
27.497	27.429	27.501	27.392	27.251	27.992	27.293

25.851	25.841	25.701	26.112	25.622	26.111	25.301
28.630	28.756	29.004	28.662	28.608	28.351	27.816
25.781	26.032	26.276	25.965	25.692	25.572	25.101
28.075	28.772	28.656	28.493	27.978	29.009	28.138
23.886	24.161	23.718	23.722	23.802	24.159	23.736
29.708	30.205	30.086	29.875	29.697	30.020	29.063
27.623	27.866	27.753	27.972	27.413	28.101	27.150
29.085	29.454	29.382	29.167	29.023	29.549	28.847
25.024	25.166	25.577	25.498	25.022	25.321	24.479
32.769	32.833	34.023	32.873	32.111	32.254	31.735
30.475	30.776	30.677	30.391	30.625	30.473	30.195
28.444	28.561	28.684	28.452	28.296	28.549	28.151
28.805	28.817	28.614	28.831	28.674	28.935	28.434
27.175	27.132	27.452	26.253	27.076	27.035	27.148
26.916	26.754	26.690	26.480	26.825	27.234	25.843
35.899	37.047	35.282	40.000	35.105	34.811	34.299
28.180	27.370	27.016	27.696	28.305	28.554	28.373
26.035	26.424	26.784	26.437	26.239	26.426	25.652
29.424	29.537	29.564	29.788	29.513	29.902	29.341
29.128	29.217	29.569	29.272	28.891	29.254	28.695
35.402	36.342	34.993	34.232	36.299	37.966	36.647
22.425	22.800	23.050	23.092	21.834	22.566	21.477
22.875	22.140	22.193	21.597	23.030	23.805	23.971
28.574	29.082	29.890	29.282	28.846	29.169	28.521
28.366	28.636	28.679	28.588	27.813	28.585	27.863
29.430	29.576	30.035	29.728	29.382	29.651	29.220
29.217	29.239	29.484	28.928	29.358	29.471	29.141
31.019	30.920	31.201	32.013	31.973	31.676	30.853
26.661	26.716	25.900	26.867	27.038	27.269	26.941
30.181	30.383	29.869	30.446	29.778	30.433	29.822
27.806	27.786	27.765	28.055	28.055	28.487	27.787
23.596	23.882	23.716	23.861	23.413	23.990	23.223
31.010	32.336	32.209	31.142	31.485	32.265	31.861
28.265	28.445	28.816	28.281	28.204	28.856	28.307
28.664	28.429	28.396	28.862	28.680	29.130	28.667
29.213	30.435	29.911	29.612	29.266	29.900	28.773
30.191	29.669	29.313	29.515	30.653	30.421	30.292
29.252	29.511	29.347	29.195	29.121	29.307	29.020
28.867	28.744	28.149	28.660	29.152	29.528	29.513
28.512	28.592	28.919	28.626	28.363	28.720	28.201
25.873	26.226	26.894	26.853	25.614	26.284	25.552
27.963	28.190	28.000	28.030	28.026	28.307	27.821
29.388	29.339	29.307	29.184	29.090	29.790	28.666
27.397	27.425	27.511	27.679	27.655	27.770	27.047



29.070	29.292	29.209	29.445	29.245	28.971	28.342
27.416	27.483	26.767	27.384	27.594	27.245	27.389
28.127	28.305	27.361	27.723	27.449	27.854	27.369
31.306	31.058	31.824	31.274	30.766	31.400	31.552
28.773	28.805	28.709	29.512	29.085	28.914	28.336
27.099	27.427	27.567	27.118	27.228	27.443	26.189
27.265	27.561	27.519	27.390	27.108	27.708	26.891
29.294	29.797	29.616	29.996	28.822	29.767	29.349
28.369	28.418	28.714	28.649	28.452	28.572	27.891
27.012	26.875	26.784	26.914	27.209	27.169	26.595
26.855	27.854	28.274	26.766	26.512	26.582	24.657
27.260	27.628	27.722	27.729	27.185	27.654	26.979
26.435	26.443	26.125	26.192	26.384	26.605	25.981
28.376	28.746	28.564	28.425	28.360	28.574	28.351
28.168	28.011	28.049	27.905	27.752	28.226	27.705
29.848	28.929	27.800	29.778	30.387	30.345	30.580
28.264	28.362	28.686	28.298	28.224	28.469	27.750
29.256	29.023	30.036	29.484	28.725	29.505	29.094
28.559	29.021	28.659	28.893	29.150	29.456	29.441
26.900	27.053	27.103	27.375	26.817	26.767	26.014
26.902	26.781	26.692	26.271	27.018	27.052	26.285
29.827	30.314	29.899	30.144	29.744	30.318	29.765
25.788	25.972	25.911	26.010	25.434	25.980	24.879
30.005	30.356	30.754	30.342	29.432	29.894	29.587
31.053	30.663	30.205	30.841	31.138	31.174	30.530
31.638	31.863	33.006	33.155	32.536	32.422	32.217
31.050	31.158	32.908	32.452	31.477	31.943	30.915
27.905	28.062	28.407	28.349	27.870	28.157	27.609
28.499	28.541	28.457	28.552	28.088	28.736	27.629
34.078	33.264	34.245	38.908	36.621	37.077	33.707
29.668	30.527	30.783	29.984	30.871	30.353	29.732
29.319	29.227	29.306	29.740	29.220	29.528	29.098
29.072	29.213	29.150	29.562	28.733	29.403	28.414
28.521	27.800	27.584	28.272	28.433	28.607	28.643
27.700	28.278	28.170	27.875	27.356	28.191	26.726
24.438	24.431	24.405	24.767	24.223	24.692	23.780
27.980	28.251	27.769	27.909	28.193	28.071	27.291
28.656	28.787	28.462	29.037	28.758	28.564	28.120
26.983	27.179	27.929	27.345	27.511	27.106	26.564
29.545	29.570	29.560	29.602	29.389	29.253	28.432
32.474	33.104	32.745	33.539	32.516	33.174	33.265
27.398	27.656	28.255	27.683	28.307	27.699	27.556
28.685	29.271	29.226	29.060	28.003	29.175	28.526
28.251	28.456	28.782	28.645	28.175	28.352	27.749

31.935	32.362	31.463	31.934	31.223	31.720	31.256
30.203	29.735	30.218	30.821	29.705	30.525	29.714
29.531	29.739	29.655	29.662	29.831	29.907	29.641
35.973	31.938	34.766	36.573	40.000	40.000	33.491
31.380	31.313	31.540	31.423	31.013	31.557	31.162
30.174	30.404	30.333	30.706	30.315	30.432	29.627
26.495	26.496	26.517	26.348	26.283	26.878	26.367
30.228	30.229	31.060	28.661	30.484	30.622	31.488
29.171	29.912	29.776	29.589	29.350	29.202	28.940
31.400	31.072	31.077	31.250	31.511	32.059	31.567
27.670	27.640	27.531	27.726	27.747	28.064	27.350
31.199	31.404	31.722	31.685	30.722	31.646	40.000
27.851	27.801	27.292	27.944	28.160	28.481	27.514
28.271	28.220	28.275	28.454	27.815	28.698	27.879
27.409	26.984	26.795	27.148	27.226	27.600	26.541
30.508	29.886	30.636	31.422	30.134	30.950	30.874
29.662	29.779	29.397	29.474	29.306	29.942	29.145
20.347	21.328	20.816	20.664	19.841	21.472	19.728
26.607	26.687	26.334	26.298	25.794	26.708	26.691
30.513	30.498	30.977	30.502	29.952	30.586	29.619
27.858	27.952	28.024	27.686	27.879	28.036	27.189
26.706	26.215	26.226	26.593	25.973	26.895	25.743
27.989	28.125	27.764	28.397	28.344	28.166	27.995
28.478	28.341	28.189	28.934	28.146	28.378	28.118
28.068	27.816	28.078	28.029	27.680	28.869	27.549
27.203	27.411	27.925	27.483	26.959	27.241	26.846
27.298	27.245	27.185	27.484	27.126	27.724	27.220
30.454	30.806	31.172	31.238	30.105	30.693	30.196
26.398	26.065	25.826	25.568	25.801	26.170	25.298
26.870	27.278	26.738	26.800	27.402	27.255	26.516
28.793	28.577	28.432	29.318	28.220	28.969	28.582
27.311	27.499	27.323	27.369	27.174	27.546	26.854
23.555	23.954	24.470	24.314	23.369	23.859	23.065
32.676	33.214	33.549	33.211	32.691	36.632	35.567
28.138	28.153	28.521	28.170	27.919	28.242	27.543
30.128	30.046	30.532	29.881	29.651	29.926	29.334
27.581	27.973	28.098	27.737	27.436	28.154	27.241
28.233	27.875	27.577	28.035	28.255	28.404	27.767
28.147	28.616	28.580	28.265	28.349	28.480	27.761
25.386	25.648	25.518	25.467	25.369	25.824	25.148
26.081	26.121	26.236	26.247	25.852	26.763	25.219
27.881	28.361	28.280	28.235	27.830	27.997	27.599
27.902	28.023	28.057	27.956	27.920	27.905	27.289
29.568	29.515	29.846	29.981	29.386	29.919	29.634

32.337	34.517	31.630	35.391	33.505	40.000	32.796
28.286	28.708	28.667	28.087	28.749	28.572	28.042
26.280	26.463	26.112	26.420	26.188	26.562	26.004
27.589	27.682	27.795	27.572	27.197	27.399	26.288
27.653	27.642	27.372	27.529	27.528	27.745	26.939
28.871	29.290	29.193	28.961	28.639	29.381	28.686
27.433	27.544	27.332	27.435	27.433	27.896	27.032
27.721	27.664	27.533	27.644	27.512	27.843	27.358
29.000	29.874	30.414	31.646	28.459	28.576	26.845
28.766	28.615	29.237	29.002	28.324	28.758	28.085
24.979	24.796	23.667	24.540	24.783	24.789	24.774
28.402	28.028	27.823	28.340	28.660	28.798	28.363
22.177	22.143	40.000	40.000	40.000	40.000	40.000
26.605	26.634	26.809	26.611	26.521	26.849	26.260
25.882	25.790	25.821	25.551	25.797	26.346	25.546
28.720	29.535	28.236	29.674	29.140	28.901	28.214
27.054	27.134	27.229	27.454	27.103	27.539	26.937
27.136	27.174	27.077	27.291	27.223	27.272	26.598
26.853	26.849	26.790	26.712	27.331	27.208	27.030
30.261	30.362	30.673	29.742	30.162	30.534	29.732
27.406	27.312	27.080	27.269	27.062	27.608	26.984
26.056	26.088	25.858	26.429	26.205	26.613	25.814
28.289	28.495	28.708	28.492	28.583	28.499	28.148
26.470	26.839	26.431	27.195	26.341	26.803	26.389
28.425	28.725	28.991	28.552	28.168	28.621	27.700
40.000	40.000	40.000	40.000	40.000	37.981	40.000
28.678	28.857	29.231	29.052	28.754	28.680	27.987
30.848	30.484	30.319	30.080	31.042	31.293	30.320
27.589	28.325	27.505	28.045	27.773	27.757	26.991
28.897	28.718	29.406	29.634	28.917	29.857	28.842
28.437	28.636	28.572	28.371	28.035	28.411	28.095
27.910	28.402	28.327	27.886	27.140	28.052	26.521
29.471	29.609	29.515	29.913	29.444	29.732	29.106
25.561	25.436	25.707	25.437	24.901	25.616	24.580
28.205	27.971	27.987	27.852	28.747	29.021	28.730
28.318	28.299	28.575	28.783	28.159	28.384	27.976
27.263	27.098	26.594	27.220	27.327	27.627	27.189
31.364	31.043	30.832	32.235	30.398	31.744	30.105
29.192	29.473	29.140	29.598	29.573	29.543	29.285
27.997	27.868	28.140	28.081	27.939	27.677	27.071
27.170	27.266	27.341	27.181	27.233	27.311	26.516
28.772	28.736	28.965	29.031	28.745	28.489	27.879
27.978	27.787	28.088	28.082	27.905	28.456	28.014
28.853	28.984	28.945	28.860	28.569	28.874	27.876

27.849	27.793	27.635	27.983	27.457	27.788	27.182
26.187	26.590	26.226	26.263	26.106	26.749	25.872
29.949	30.274	30.393	30.080	30.000	29.906	29.066
27.184	27.429	27.262	27.726	26.776	27.397	27.154
27.403	27.728	27.382	27.668	27.244	27.470	27.139
27.762	28.092	28.085	28.060	27.716	28.460	27.744
29.176	29.262	29.375	29.508	29.275	30.001	29.185
26.843	26.835	26.833	27.014	26.919	27.237	26.251
28.519	28.991	29.312	29.009	28.642	27.715	27.748
28.980	28.746	29.336	29.435	28.866	29.598	28.343
25.608	25.666	25.524	25.863	25.568	26.073	25.112
29.884	29.682	29.448	29.169	29.966	30.469	29.877
29.127	29.151	28.465	27.964	29.778	30.750	30.446
27.168	26.998	26.776	26.518	26.855	27.069	26.216
26.924	26.922	26.400	26.524	26.680	26.678	25.603
28.611	28.446	28.201	28.203	29.324	29.166	29.322
29.842	30.121	29.878	29.735	29.892	30.434	29.599
30.552	31.379	31.251	30.956	30.783	31.038	30.748
30.360	30.808	31.257	30.473	30.463	30.487	29.784
29.093	29.191	28.882	29.172	28.798	28.919	28.841

PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor
24.308	24.542	25.086	24.495	25.002	24.049	26.080
28.198	28.088	28.366	28.071	28.301	28.175	28.817
27.366	28.170	28.236	27.481	27.731	27.465	27.514
28.665	28.813	29.341	28.587	29.092	27.918	28.906
33.288	34.081	33.670	33.142	33.765	32.846	40.000
25.758	25.776	26.296	25.556	26.210	25.994	26.029
26.522	26.559	27.187	26.675	27.129	26.584	27.091
30.325	30.472	29.782	29.665	29.981	29.949	31.312
30.808	30.418	31.602	30.963	30.813	31.080	32.254
27.738	28.178	28.502	27.854	28.182	27.559	28.681
28.385	29.020	28.913	28.157	29.063	29.521	29.057
32.010	31.704	31.974	31.923	32.009	32.401	32.717
28.866	28.670	29.660	28.868	28.847	28.441	29.296
27.212	26.760	27.789	26.967	27.345	26.662	28.384
30.906	31.356	40.000	31.497	31.746	31.434	31.639
32.136	33.577	34.059	31.965	31.686	32.472	32.499
28.394	28.827	28.888	28.386	29.076	28.793	28.778
34.465	26.323	33.657	40.000	40.000	40.000	40.000
25.592	25.493	25.874	25.517	25.843	25.187	26.073
24.497	24.440	25.005	24.484	25.060	24.171	25.382
27.794	27.820	28.455	28.021	28.414	27.557	27.992
30.660	31.125	31.397	30.739	30.870	30.895	31.518
25.264	23.287	25.500	24.669	25.041	22.751	25.486
34.212	34.898	34.149	33.974	33.759	36.386	33.860
34.107	33.600	26.043	34.852	34.232	34.631	33.026
25.894	25.505	26.825	26.126	26.759	25.600	26.814
28.260	27.874	27.799	27.776	28.689	28.122	28.966
33.576	32.546	34.257	33.647	33.901	33.683	33.758
28.939	28.667	29.052	29.022	29.166	28.767	28.630
29.299	29.464	29.951	29.539	29.852	29.769	29.283
27.372	27.476	27.839	27.430	27.798	27.114	28.258
29.039	28.894	29.903	29.207	29.569	29.366	30.466
26.667	27.081	27.158	26.688	26.960	27.168	26.079
31.936	33.441	31.951	33.501	32.243	34.973	33.453
23.853	22.673	40.000	40.000	36.988	23.517	40.000
27.484	27.318	27.866	27.587	27.870	27.092	27.860
31.034	30.713	31.526	31.263	30.691	31.016	31.838
24.957	25.356	25.919	25.082	25.360	25.664	25.029
26.161	26.501	26.666	26.185	26.760	26.304	26.730
31.193	31.165	31.857	31.239	30.841	31.264	32.301
27.924	28.503	28.767	28.079	28.608	28.507	28.236
27.510	27.337	27.893	27.809	27.975	27.454	28.136

25.875	25.850	26.206	25.713	26.091	25.742	26.780
28.259	28.998	29.050	28.721	29.144	28.598	29.045
25.379	25.908	25.800	25.866	26.196	25.964	26.261
28.533	28.539	29.484	28.402	28.867	28.914	29.063
24.467	23.948	24.975	24.476	24.920	24.462	24.975
29.682	30.033	29.819	29.763	30.352	29.751	31.383
27.827	27.771	28.588	27.713	27.881	27.767	28.080
29.108	28.902	29.451	29.017	29.138	29.066	30.328
24.867	25.085	25.336	24.884	25.109	25.160	26.299
32.091	33.438	32.532	33.265	33.015	34.189	32.517
30.529	30.698	30.683	30.525	30.417	30.934	31.146
28.466	28.547	29.333	28.610	28.793	28.506	28.858
28.942	28.901	29.549	28.969	29.133	28.926	29.747
26.906	27.830	27.031	26.996	27.457	26.898	27.760
27.200	26.812	27.744	27.316	27.812	26.855	27.024
34.934	35.063	28.926	35.951	40.000	36.516	40.000
28.551	27.475	28.787	28.231	28.332	27.359	28.797
26.300	26.437	26.908	26.274	26.466	26.849	27.418
29.477	29.148	29.889	29.606	29.368	30.061	31.101
28.838	29.883	29.166	28.852	29.411	28.859	30.173
40.000	34.294	40.000	40.000	40.000	40.000	40.000
22.447	22.691	22.762	22.179	22.651	23.130	23.185
23.669	22.160	23.843	23.100	22.804	21.814	24.173
28.769	29.547	29.403	29.035	28.887	29.165	30.052
28.898	28.637	29.808	28.948	29.130	28.884	28.565
29.268	29.443	29.975	29.441	29.628	29.532	30.424
29.606	29.590	29.787	29.596	29.440	29.388	30.376
31.121	30.924	32.103	31.478	32.041	31.685	31.964
27.344	26.460	27.981	27.217	27.137	26.181	27.445
29.462	30.247	30.156	29.467	29.075	29.209	29.690
27.717	27.872	27.947	27.978	27.512	27.702	28.852
23.500	23.866	24.146	23.787	23.910	23.761	24.843
30.625	31.425	32.488	31.391	31.588	31.969	31.912
28.361	28.339	28.577	28.191	28.217	28.119	29.741
29.109	28.520	29.946	29.009	29.373	28.735	29.707
29.789	29.988	30.437	29.360	29.800	29.982	30.214
30.460	29.656	30.973	30.319	30.915	29.525	30.081
28.969	29.690	29.272	28.966	29.220	28.923	29.920
29.147	28.365	29.733	29.244	29.697	28.789	29.726
28.378	28.819	29.350	28.545	29.060	28.808	28.911
25.900	25.882	26.435	25.894	25.697	26.654	26.549
28.269	28.107	28.556	28.063	28.586	27.995	28.849
29.369	29.129	29.894	29.249	29.775	29.187	29.527
27.282	27.603	27.900	27.327	28.018	27.293	28.105

28.936	29.263	29.975	28.875	29.397	29.062	29.308
27.956	27.166	28.331	27.871	28.494	27.315	27.467
28.495	27.366	28.904	28.587	28.182	29.047	28.292
31.824	31.022	32.589	31.776	31.747	31.994	32.822
28.783	28.844	29.881	28.618	29.187	29.279	29.313
26.572	27.344	26.793	26.677	27.127	26.537	27.512
27.611	27.319	28.023	28.488	28.242	27.731	27.696
30.185	29.207	30.572	29.926	30.055	30.191	29.945
28.132	28.564	28.498	28.170	28.646	28.549	29.121
27.186	27.011	28.035	27.246	27.727	26.863	27.721
26.439	27.100	26.822	26.840	26.280	28.455	27.328
27.333	27.708	28.096	27.640	27.784	27.440	27.899
26.487	26.555	26.889	26.331	26.981	26.189	26.954
28.535	28.674	29.384	28.771	29.300	28.846	28.921
28.250	28.376	28.492	28.345	28.666	27.881	28.345
30.960	29.335	30.981	30.668	30.682	28.943	28.917
28.357	28.152	28.805	28.535	28.726	28.663	28.691
29.676	29.384	30.487	29.822	29.579	29.634	30.421
29.441	28.468	30.247	29.504	29.864	28.854	28.912
26.444	27.101	27.365	26.656	27.464	26.841	27.183
26.765	26.909	27.249	26.816	27.288	26.659	27.187
30.123	30.124	31.098	30.264	30.219	29.706	30.735
25.657	25.889	26.210	25.494	26.184	25.687	25.989
29.607	29.986	30.233	29.870	29.919	30.406	31.291
31.136	30.395	31.313	30.949	31.174	30.638	28.341
32.247	31.814	32.263	32.328	31.772	32.317	30.548
31.288	32.231	31.952	32.275	32.028	31.706	31.926
28.239	28.051	29.443	28.467	28.920	28.489	28.410
28.136	28.708	28.837	28.423	28.601	28.094	28.451
32.014	34.121	34.150	40.000	36.519	35.700	31.644
28.208	30.126	29.932	29.200	30.325	30.143	30.687
29.096	28.987	29.687	29.126	29.014	28.896	30.233
29.523	29.456	29.975	29.475	29.571	29.412	29.650
28.809	28.097	29.211	28.831	28.964	27.901	28.708
28.162	28.007	28.698	28.089	28.449	28.216	28.318
24.916	24.282	25.276	24.424	24.754	24.819	25.074
28.008	28.234	28.559	27.972	28.477	27.827	28.111
28.263	28.920	29.518	28.166	29.165	28.101	28.988
26.921	27.583	27.708	27.072	27.463	27.463	27.838
29.115	29.430	29.538	29.393	29.744	29.694	30.091
33.757	31.937	33.446	33.078	32.402	33.461	31.795
28.530	27.880	28.776	27.660	28.129	28.077	27.876
28.765	28.547	29.506	28.551	29.905	28.380	29.581
28.159	28.490	28.750	28.291	28.015	27.994	27.350

31.742	31.899	31.498	40.000	32.607	31.785	32.119
30.520	29.683	31.240	30.404	30.621	30.479	30.792
30.057	29.802	30.418	30.309	30.624	29.814	30.283
35.877	40.000	26.167	35.432	40.000	37.233	36.590
31.564	31.537	30.127	31.285	31.478	31.186	32.394
30.400	30.263	30.913	30.254	30.244	30.555	31.072
26.617	26.404	27.239	26.661	26.960	26.702	27.141
29.878	30.565	29.836	30.945	30.690	30.815	30.353
29.231	29.443	29.443	29.522	29.471	29.852	30.839
32.377	31.310	32.089	31.795	31.500	30.777	32.198
27.660	27.486	28.012	27.751	27.687	27.526	28.932
40.000	30.795	40.000	31.732	31.518	31.360	32.223
28.397	28.024	29.259	28.558	28.777	28.203	28.818
28.713	28.050	29.175	28.603	28.577	28.420	29.296
27.556	27.386	28.134	27.317	27.691	26.908	27.555
30.916	30.002	31.307	30.376	30.772	30.173	28.894
29.560	29.822	29.789	29.427	29.743	29.298	30.073
20.676	21.120	21.344	20.510	20.975	20.738	21.061
26.667	26.625	27.506	26.551	26.773	26.499	27.633
30.530	30.251	31.162	30.699	30.756	30.937	31.484
27.951	27.751	28.259	27.847	27.957	27.869	28.402
26.782	26.226	27.292	26.642	26.482	26.366	27.454
28.460	27.966	29.121	28.263	28.942	27.907	28.590
28.836	28.594	29.456	28.549	28.873	28.323	29.202
27.875	28.368	28.646	28.303	28.808	28.223	28.333
26.779	27.468	27.357	27.022	27.058	27.635	27.265
27.742	27.478	28.574	27.566	28.084	27.579	27.851
30.672	30.940	31.574	30.571	30.508	30.605	31.792
25.630	26.018	26.273	25.814	26.428	25.814	26.379
27.028	26.903	27.282	26.848	27.555	26.797	27.346
29.031	28.682	29.869	29.090	29.844	28.673	29.728
27.654	27.389	27.977	27.603	28.169	27.546	27.818
23.798	23.786	24.130	23.562	23.894	24.385	23.990
34.468	32.841	34.189	34.363	34.401	34.444	40.000
27.853	28.043	28.661	28.139	28.450	28.239	28.655
29.849	30.072	29.609	30.137	30.230	30.134	27.662
27.555	27.650	28.160	27.497	28.025	27.752	28.976
28.132	28.076	28.600	28.280	28.175	28.220	27.864
27.529	28.554	28.220	27.823	28.706	28.500	28.774
25.501	25.613	25.747	25.551	26.312	25.514	26.365
26.319	26.043	26.776	26.491	26.459	26.562	27.088
28.029	28.216	29.055	28.264	28.895	28.266	28.507
27.674	27.846	28.045	27.467	28.090	28.141	28.253
29.899	29.414	31.030	29.678	29.980	29.708	30.138



32.056	34.903	34.603	33.362	32.598	32.636	40.000
28.849	28.641	29.435	29.258	29.045	28.831	28.092
26.572	26.367	27.341	26.501	27.139	26.501	26.974
27.419	27.739	27.925	27.552	27.696	27.675	27.937
28.009	27.622	28.340	27.606	28.213	27.559	27.786
28.869	28.956	29.152	28.654	28.965	28.850	29.489
27.996	27.684	28.231	27.357	27.837	27.334	27.531
27.776	27.699	28.209	27.731	28.229	27.745	28.829
29.239	29.861	29.291	29.755	30.883	31.333	29.991
28.607	28.945	29.605	28.600	29.213	29.180	28.755
24.487	24.804	24.882	24.744	25.149	24.232	25.901
28.725	28.254	29.276	28.865	28.620	28.331	29.921
40.000	40.000	22.311	40.000	40.000	40.000	18.643
26.658	26.660	27.386	26.639	27.202	26.604	27.208
26.516	26.219	26.758	26.202	26.434	25.987	26.491
29.747	29.128	30.324	29.304	29.221	28.995	28.639
27.202	27.242	27.641	27.218	27.463	27.100	27.583
27.315	27.126	27.538	27.287	27.847	27.053	27.574
27.299	27.000	27.524	27.144	27.131	27.061	27.599
30.487	29.945	30.909	30.508	30.562	30.337	31.294
27.461	27.675	28.275	27.528	28.090	27.248	28.024
26.430	26.023	26.945	26.433	26.583	26.260	27.136
28.199	28.547	28.492	27.873	28.899	28.331	28.901
26.511	26.664	27.496	26.828	27.246	26.548	27.283
28.487	28.600	28.848	28.249	29.044	28.809	29.033
36.361	40.000	34.359	35.342	38.958	39.118	40.000
28.340	28.920	29.112	28.366	29.074	28.883	25.695
30.283	30.743	30.197	30.198	29.182	29.545	31.126
26.799	28.618	27.732	27.030	27.754	27.710	28.177
29.262	29.273	29.811	29.122	29.473	28.983	29.925
28.611	28.219	29.182	28.474	28.993	28.513	28.711
27.559	28.281	28.165	27.348	27.955	28.145	27.623
29.704	29.661	30.168	29.407	30.016	29.651	30.263
24.982	25.743	25.793	25.348	25.837	25.518	25.494
28.978	28.001	29.273	29.210	29.411	27.877	28.967
28.182	28.796	29.112	28.517	28.811	28.175	29.352
27.604	27.033	28.088	27.318	28.008	26.824	28.265
31.518	31.246	32.117	31.338	31.531	31.851	30.997
29.750	29.628	30.225	29.500	29.645	29.106	30.520
27.890	27.813	28.369	27.950	28.218	28.043	28.864
26.787	27.291	27.275	27.098	27.588	27.262	27.676
27.991	28.760	28.586	28.352	29.445	28.644	29.532
28.037	27.922	28.675	28.085	28.287	27.948	29.014
29.205	28.457	29.512	28.849	29.157	29.186	29.348

28.254	27.632	28.930	27.963	28.511	27.802	28.328
26.326	26.076	27.149	26.331	26.514	26.540	27.317
29.428	29.995	29.643	29.427	30.838	29.784	29.049
27.384	27.503	28.483	27.331	27.871	27.402	27.662
27.445	27.593	28.096	27.670	27.997	27.472	28.112
27.858	27.898	28.294	28.036	28.040	27.619	28.817
29.037	28.951	29.296	29.468	29.390	29.499	30.510
27.145	26.881	27.360	26.881	27.474	27.121	27.512
27.852	29.833	29.445	28.444	29.181	29.463	28.863
29.364	28.997	30.215	29.634	29.506	29.224	29.835
25.886	25.701	26.691	25.804	26.237	25.693	26.388
29.946	29.930	30.476	30.393	29.502	29.239	31.208
29.917	28.820	30.048	30.103	30.145	29.608	29.905
26.926	27.452	27.201	27.162	27.928	27.107	27.084
26.185	27.006	26.179	26.071	27.293	26.308	26.918
29.288	28.673	30.015	29.376	29.644	28.478	29.625
29.955	30.239	30.205	29.632	30.662	30.408	30.142
30.688	30.980	30.726	30.635	31.155	40.000	28.298
29.678	30.998	30.150	30.257	30.812	30.450	30.976
28.982	28.829	29.422	29.125	29.351	29.436	30.423

PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNor	PreMnPsNormK102626
25.102	25.332	24.195	24.923	24.076
27.905	28.881	28.345	28.228	27.774
28.152	28.609	27.066	27.212	26.921
28.906	28.690	28.294	28.851	28.348
34.393	36.179	32.524	33.173	32.312
25.769	26.505	25.833	25.756	25.333
26.589	27.262	26.553	26.796	26.424
30.352	31.866	29.877	30.213	29.355
30.918	31.184	30.528	31.103	30.620
28.417	28.742	27.902	28.195	27.597
28.994	30.308	28.093	27.850	27.959
32.660	32.661	31.166	31.883	30.890
28.982	29.912	28.744	30.314	29.112
27.386	27.712	26.932	27.249	26.809
31.082	31.826	30.920	30.612	31.125
32.755	33.027	32.279	31.404	31.623
28.572	29.035	28.253	28.362	28.054
40.000	40.000	33.864	31.771	40.000
25.754	26.108	25.495	25.923	25.097
24.247	25.527	24.204	24.085	24.003
27.643	28.536	27.659	27.843	27.457
40.000	31.571	30.360	30.775	30.548
24.736	23.882	24.226	26.792	25.569
40.000	34.613	34.960	34.664	34.580
33.265	36.341	34.836	32.970	33.798
26.520	26.405	25.726	25.730	25.902
28.332	28.929	28.400	28.780	28.399
33.331	34.072	34.545	32.663	32.999
28.420	29.134	28.742	29.478	28.769
29.504	30.591	28.837	28.784	28.769
27.787	28.103	27.356	27.943	27.237
29.027	29.655	30.334	30.191	29.422
26.982	28.060	26.620	26.611	26.421
32.240	34.406	40.000	33.183	31.626
20.947	40.000	37.464	40.000	40.000
27.576	28.249	26.945	27.390	27.002
30.806	31.292	30.294	31.062	30.450
24.589	25.743	25.768	24.185	24.359
26.188	27.225	26.194	26.533	26.131
31.216	32.003	30.937	31.321	30.759
28.262	29.186	28.295	27.987	27.863
27.662	27.974	27.061	28.093	27.579

26.096	26.661	25.554	25.549	25.317
28.845	28.917	28.353	28.742	28.313
25.750	26.170	25.829	25.980	25.220
28.932	28.922	28.644	28.904	28.515
23.972	24.344	24.624	25.162	24.515
29.913	30.845	29.786	29.844	30.087
27.931	28.840	27.489	27.658	27.338
29.307	29.864	28.918	29.076	29.067
25.392	25.884	24.977	24.984	24.652
32.676	33.154	32.368	32.760	32.231
30.746	31.164	30.843	31.139	30.361
28.704	29.240	28.172	28.531	27.918
29.084	29.793	28.331	29.001	28.696
27.398	28.088	26.782	27.874	27.080
27.290	27.468	27.150	27.476	27.249
37.246	35.978	40.000	40.000	28.049
28.382	28.151	28.500	29.566	28.735
26.416	27.577	26.490	26.262	26.032
29.372	30.438	29.887	29.687	29.399
29.241	30.507	28.702	29.177	28.657
34.650	40.000	40.000	40.000	40.000
22.551	23.692	21.964	21.688	21.921
22.082	23.476	22.534	24.827	22.890
29.796	29.880	28.807	28.848	28.223
28.620	29.404	28.446	28.312	28.407
29.675	30.384	29.402	29.475	28.979
29.175	30.112	29.677	30.168	29.019
31.676	31.841	31.787	31.606	30.943
26.922	27.365	26.870	28.104	27.148
30.481	30.499	28.913	29.143	28.571
28.111	28.828	27.321	27.627	27.337
23.757	24.712	23.504	23.616	23.335
31.494	32.455	30.876	31.436	32.189
28.350	29.416	28.018	28.397	28.149
28.743	29.015	28.955	29.336	28.725
29.642	29.851	29.746	29.417	29.540
29.434	30.163	30.378	30.924	30.152
29.659	29.907	28.397	29.670	28.807
29.358	29.088	29.456	30.280	29.654
28.825	29.464	28.234	28.808	28.069
25.799	27.515	25.961	25.377	25.592
28.195	28.622	28.110	28.119	27.903
29.306	30.135	29.049	29.430	28.998
27.398	28.248	27.375	27.476	26.954

29.291	29.777	28.970	29.354	28.619
27.442	27.060	27.806	28.070	27.888
27.598	28.990	28.783	28.489	28.090
31.463	32.288	31.124	32.312	31.694
29.229	29.515	28.523	28.516	28.272
27.481	28.052	26.646	26.520	26.112
27.296	28.207	27.763	27.827	27.526
29.307	30.252	29.750	30.349	29.622
28.418	29.289	28.306	28.222	27.871
27.256	27.886	27.165	27.336	27.106
26.618	27.769	26.864	25.871	26.281
27.549	28.332	27.303	27.859	27.029
26.608	27.127	26.198	26.752	26.026
28.676	29.513	28.332	29.207	28.353
28.259	28.897	28.012	28.159	27.941
29.630	29.157	30.617	32.041	30.553
28.364	29.073	28.343	28.523	28.008
29.430	30.211	29.508	29.624	29.241
28.354	29.283	29.641	30.722	29.466
27.088	27.556	26.654	27.130	26.347
26.984	27.536	26.869	27.113	26.634
30.267	30.594	29.582	30.778	29.762
25.833	26.726	25.563	25.288	25.154
29.964	31.048	29.659	29.857	29.727
30.755	31.716	30.326	30.635	30.591
32.252	32.864	32.192	32.129	31.909
31.458	33.488	31.915	31.434	30.427
28.090	28.793	28.545	28.702	28.314
28.910	29.161	27.623	27.942	27.882
37.699	34.430	40.000	40.000	36.834
30.503	30.695	30.175	30.017	29.327
29.337	29.962	28.966	29.162	28.786
29.235	29.721	29.525	29.431	29.201
28.350	28.510	28.475	29.544	28.152
28.090	28.357	27.885	27.797	27.775
24.586	25.280	24.426	24.195	24.565
28.086	28.608	27.957	28.564	27.872
29.033	29.047	28.327	28.698	28.095
27.274	28.030	27.530	27.640	26.927
29.516	29.915	29.593	29.379	29.136
32.584	33.199	34.306	33.087	33.672
27.086	28.198	28.323	28.014	27.068
29.069	28.644	28.386	29.786	29.000
28.224	28.776	27.953	28.307	27.513

31.552	31.931	30.704	31.535	31.220
30.798	30.948	29.677	30.927	30.481
29.871	30.272	30.102	30.639	29.760
25.087	29.726	40.000	36.814	26.151
31.237	31.594	31.697	31.825	31.174
30.271	31.116	30.193	30.123	30.265
26.473	27.477	26.402	26.621	26.039
29.516	31.301	29.122	31.289	29.366
29.401	30.072	29.375	29.598	29.270
32.210	32.279	31.315	31.510	31.196
27.591	28.472	27.452	27.754	27.490
31.057	31.905	31.122	31.046	30.780
28.279	28.559	28.469	28.711	28.401
28.338	29.106	27.989	28.314	28.111
27.837	27.982	27.006	27.274	27.057
30.718	31.079	30.484	31.414	31.098
29.899	30.058	29.293	29.792	29.220
21.735	21.675	20.533	20.755	20.569
26.642	26.235	27.213	27.566	27.026
30.528	31.606	30.377	30.245	30.744
27.977	28.462	27.866	28.098	27.437
26.305	27.474	26.364	26.086	26.358
28.386	28.589	28.523	28.880	28.494
28.665	28.841	28.208	28.619	27.929
28.216	28.988	27.911	28.106	28.033
27.135	28.089	26.663	26.923	26.552
27.262	27.752	27.993	27.996	27.445
31.027	31.606	29.635	30.369	30.079
26.318	26.674	25.897	26.177	25.859
26.915	27.817	27.109	27.403	26.687
29.249	29.338	28.710	29.191	28.727
27.592	28.274	27.553	27.780	27.400
23.635	25.089	23.419	23.252	23.276
32.474	40.000	33.637	33.581	33.280
28.160	28.843	28.123	28.375	27.641
29.424	30.761	29.999	30.277	29.413
27.616	28.429	27.705	27.814	27.370
28.336	28.851	28.005	28.222	27.909
28.401	29.156	27.890	28.393	28.066
25.755	26.418	25.530	25.834	25.523
26.302	27.269	26.175	26.129	26.165
28.646	28.738	28.260	28.428	27.954
28.118	28.473	27.579	27.887	27.294
29.927	30.242	29.339	30.398	29.609

33.649	33.219	33.462	33.631	32.083
28.347	29.082	29.004	29.159	28.503
26.386	27.074	26.360	26.945	26.004
27.661	28.748	27.020	26.900	26.818
28.055	27.994	27.826	27.889	27.738
28.915	29.884	28.946	27.704	28.407
27.666	28.343	27.283	27.524	26.917
27.787	28.569	27.427	27.812	27.488
29.786	30.719	30.066	29.255	29.406
28.624	29.322	28.671	28.937	28.416
24.970	25.067	24.622	25.569	24.777
28.662	29.540	28.516	28.252	40.000
40.000	40.000	24.378	40.000	22.609
26.544	27.384	26.499	26.861	26.194
26.061	27.011	25.903	26.705	26.334
29.894	29.697	29.548	29.597	29.361
27.189	28.037	26.960	27.085	26.718
27.282	27.788	27.230	27.585	27.046
27.046	27.807	27.310	27.436	26.640
30.543	31.253	30.498	30.869	30.303
27.452	28.083	27.566	27.727	27.313
26.300	27.045	26.392	26.297	26.226
28.354	29.161	28.955	28.462	27.812
26.672	27.261	26.360	27.002	26.483
28.394	29.332	28.517	28.668	28.129
40.000	40.000	40.000	40.000	27.987
29.042	29.358	28.566	28.395	28.249
30.644	31.422	29.324	29.525	28.909
28.064	28.310	27.239	27.587	26.768
29.377	29.792	28.873	29.470	29.042
28.464	28.961	28.188	28.704	28.116
27.807	28.977	27.661	27.179	27.445
29.786	30.156	29.531	29.716	29.339
25.515	26.333	25.164	25.223	25.048
28.570	28.746	28.884	29.525	28.689
28.374	29.227	27.860	28.579	27.985
27.621	27.930	27.120	27.945	27.623
31.537	32.108	32.201	30.531	31.383
29.248	30.155	29.104	29.675	29.269
27.910	28.675	27.878	27.420	27.452
27.175	27.983	27.190	27.342	26.888
28.829	29.116	28.873	28.914	28.610
28.000	28.721	27.539	28.312	27.833
29.027	29.650	29.386	29.201	28.962

27.900	28.319	27.659	27.987	27.610
25.923	27.006	26.374	26.443	26.116
30.393	30.008	29.488	29.981	29.199
27.642	28.013	27.069	27.538	27.001
27.632	28.113	27.148	27.961	27.340
28.097	29.003	27.691	28.345	27.520
29.097	30.197	29.148	29.157	28.746
27.121	27.984	26.608	26.790	26.712
28.313	29.022	27.941	28.183	27.212
29.121	29.881	29.267	29.145	28.988
25.983	26.576	25.737	25.969	25.677
29.814	30.768	29.610	29.867	29.647
28.645	29.058	29.536	31.852	30.158
27.111	27.897	27.068	27.042	26.970
26.706	27.274	26.388	26.441	26.359
28.207	28.897	29.068	29.942	28.914
29.979	30.712	30.236	30.281	29.807
31.035	31.563	30.203	30.584	30.114
30.576	31.302	30.246	30.759	30.024
28.999	29.912	29.089	29.277	28.871



Supplementary Table 2A: Differentially expressed co-regulators

<i>Entrez Gene ID</i>	<i>Gene Symbol</i>	<i>Comparison</i>	<i>P-value</i>	<i>Adjusted_P-value (Benjamini-Hochberg)</i>
857	CAV1	Cancer-Normal	5.32E-37	1.94E-34
221037	JMJD1C	Cancer-Normal	3.08E-20	1.60E-18
5325	PLAGL1	Cancer-Normal	5.05E-20	2.05E-18
221895	JAZF1	Cancer-Normal	1.56E-19	5.70E-18
9318	COPS2	Cancer-Normal	4.41E-19	1.46E-17
6595	SMARCA2	Cancer-Normal	1.15E-17	3.22E-16
10399	GNB2L1	Cancer-Normal	2.20E-17	5.74E-16
8850	PCAF	Cancer-Normal	7.91E-17	1.81E-15
23414	ZFPM2	Cancer-Normal	1.90E-16	3.86E-15
57658	CALCOCO1	Cancer-Normal	3.73E-16	6.80E-15
6604	SMARCD3	Cancer-Normal	3.61E-16	6.80E-15
5629	PROX1	Cancer-Normal	5.97E-16	1.04E-14
4331	MNAT1	Cancer-Normal	1.03E-14	1.58E-13
83714	NRIP2	Cancer-Normal	1.04E-14	1.58E-13
10957	PNRC1	Cancer-Normal	1.50E-14	2.10E-13
6840	SVIL	Cancer-Normal	4.21E-14	5.69E-13
8648	NCOA1	Cancer-Normal	4.65E-14	6.07E-13
2308	FOXO1	Cancer-Normal	5.50E-14	6.92E-13
10114	HIPK3	Cancer-Normal	9.31E-14	1.06E-12
2934	GSN	Cancer-Normal	9.23E-14	1.06E-12
29123	ANKRD11	Cancer-Normal	9.93E-14	1.10E-12
1025	CDK9	Cancer-Normal	2.85E-13	3.06E-12
23309	SIN3B	Cancer-Normal	4.65E-13	4.85E-12
473	RERE	Cancer-Normal	5.35E-13	5.43E-12
25942	SIN3A	Cancer-Normal	9.50E-13	9.38E-12
4255	MGMT	Cancer-Normal	9.82E-13	9.43E-12
8554	PIAS1	Cancer-Normal	1.69E-12	1.58E-11
25898	RCHY1	Cancer-Normal	1.74E-12	1.59E-11
9063	PIAS2	Cancer-Normal	1.89E-12	1.68E-11
51720	UIMC1	Cancer-Normal	2.33E-12	1.97E-11
11331	PHB2	Cancer-Normal	2.54E-12	2.10E-11
23013	SPEN	Cancer-Normal	3.31E-12	2.57E-11
9039	UBA3	Cancer-Normal	3.79E-12	2.82E-11
1387	CREBBP	Cancer-Normal	5.21E-12	3.73E-11
11143	MYST2	Cancer-Normal	1.09E-11	7.49E-11
10587	TXNRD2	Cancer-Normal	1.44E-11	9.74E-11
10891	PPARGC1A	Cancer-Normal	1.56E-11	1.03E-10

9759	HDAC4	Cancer-Normal	2.25E-11	1.47E-10
10521	DDX17	Cancer-Normal	2.39E-11	1.53E-10
3275	PRMT2	Cancer-Normal	2.56E-11	1.59E-10
4841	NONO	Cancer-Normal	2.57E-11	1.59E-10
53335	BCL11A	Cancer-Normal	3.31E-11	1.96E-10
9968	MED12	Cancer-Normal	3.32E-11	1.96E-10
51586	MED15	Cancer-Normal	3.91E-11	2.27E-10
9322	TRIP10	Cancer-Normal	4.16E-11	2.37E-10
135112	NCOA7	Cancer-Normal	4.25E-11	2.39E-10
27043	PELP1	Cancer-Normal	5.34E-11	2.95E-10
6602	SMARCD1	Cancer-Normal	6.04E-11	3.24E-10
9611	NCOR1	Cancer-Normal	7.63E-11	3.98E-10
1028	CDKN1C	Cancer-Normal	8.12E-11	4.09E-10
7041	TGFB1I1	Cancer-Normal	8.17E-11	4.09E-10
9667	SAFB2	Cancer-Normal	9.75E-11	4.81E-10
6129	RPL7	Cancer-Normal	1.15E-10	5.49E-10
7520	XRCC5	Cancer-Normal	1.16E-10	5.49E-10
10902	BRD8	Cancer-Normal	1.43E-10	6.71E-10
8409	UXT	Cancer-Normal	1.62E-10	7.47E-10
10445	MCRS1	Cancer-Normal	2.12E-10	9.69E-10
133522	PPARGC1B	Cancer-Normal	2.66E-10	1.18E-09
10155	TRIM28	Cancer-Normal	2.76E-10	1.20E-09
9320	TRIP12	Cancer-Normal	4.80E-10	2.04E-09
9321	TRIP11	Cancer-Normal	5.44E-10	2.28E-09
7205	TRIP6	Cancer-Normal	7.69E-10	3.19E-09
7332	UBE2L3	Cancer-Normal	9.54E-10	3.91E-09
64324	NSD1	Cancer-Normal	1.62E-09	6.49E-09
23543	RBM9	Cancer-Normal	1.77E-09	7.03E-09
5036	PA2G4	Cancer-Normal	2.81E-09	1.09E-08
64210	MMS19	Cancer-Normal	3.33E-09	1.28E-08
23421	ITGB3BP	Cancer-Normal	3.66E-09	1.38E-08
10197	PSME3	Cancer-Normal	4.29E-09	1.60E-08
23411	SIRT1	Cancer-Normal	5.54E-09	2.03E-08
11218	DDX20	Cancer-Normal	6.19E-09	2.24E-08
26524	LATS2	Cancer-Normal	8.60E-09	3.08E-08
9265	PSCD3	Cancer-Normal	9.39E-09	3.30E-08
10524	HTATIP	Cancer-Normal	1.29E-08	4.35E-08
6830	SUPT6H	Cancer-Normal	1.28E-08	4.35E-08
84458	LCOR	Cancer-Normal	1.57E-08	5.26E-08
23132	RAD54L2	Cancer-Normal	1.63E-08	5.40E-08
4088	SMAD3	Cancer-Normal	1.73E-08	5.64E-08
8031	NCOA4	Cancer-Normal	1.77E-08	5.70E-08
9733	SART3	Cancer-Normal	2.01E-08	6.42E-08
6130	LOC100132910.1	Cancer-Normal	2.72E-08	8.63E-08

7110	TMF1	Cancer-Normal	2.89E-08	8.93E-08
8493	PPM1D	Cancer-Normal	3.80E-08	1.16E-07
9282	MED14	Cancer-Normal	5.02E-08	1.51E-07
9612	NCOR2	Cancer-Normal	5.39E-08	1.61E-07
9219	MTA2	Cancer-Normal	7.05E-08	2.09E-07
5705	PSMC5	Cancer-Normal	7.49E-08	2.21E-07
7337	UBE3A	Cancer-Normal	9.94E-08	2.90E-07
10474	TADA3L	Cancer-Normal	1.04E-07	3.01E-07
1655	DDX5	Cancer-Normal	1.65E-07	4.67E-07
2274	FHL2	Cancer-Normal	1.64E-07	4.67E-07
2314	FLII	Cancer-Normal	1.70E-07	4.78E-07
5970	RELA	Cancer-Normal	1.84E-07	5.12E-07
6047	RNF4	Cancer-Normal	1.92E-07	5.32E-07
11124	FAF1	Cancer-Normal	2.08E-07	5.71E-07
8721	EDF1	Cancer-Normal	2.14E-07	5.83E-07
9604	RNF14	Cancer-Normal	2.39E-07	6.46E-07
29843	SEN1	Cancer-Normal	2.62E-07	6.99E-07
6760	SS18	Cancer-Normal	3.17E-07	8.39E-07
2033	EP300	Cancer-Normal	4.06E-07	1.06E-06
63925	ZNF335	Cancer-Normal	4.08E-07	1.06E-06
2647	BLOC1S1	Cancer-Normal	4.15E-07	1.08E-06
10865	ARID5A	Cancer-Normal	5.36E-07	1.38E-06
166	AES	Cancer-Normal	6.28E-07	1.60E-06
79718	TBL1XR1	Cancer-Normal	7.10E-07	1.79E-06
23462	HEY1	Cancer-Normal	7.72E-07	1.93E-06
1660	DHX9	Cancer-Normal	1.11E-06	2.73E-06
6907	TBL1X	Cancer-Normal	1.37E-06	3.33E-06
10401	PIAS3	Cancer-Normal	1.50E-06	3.61E-06
57492	ARID1B	Cancer-Normal	1.61E-06	3.85E-06
7157	TP53	Cancer-Normal	2.04E-06	4.84E-06
2874	D4S234E.GPS2	Cancer-Normal	2.41E-06	5.67E-06
9325	TRIP4	Cancer-Normal	2.65E-06	6.19E-06
9326	ZNHIT3	Cancer-Normal	2.90E-06	6.74E-06
51366	UBR5	Cancer-Normal	3.33E-06	7.69E-06
10923	SUB1	Cancer-Normal	4.11E-06	9.39E-06
1487	CTBP1	Cancer-Normal	4.32E-06	9.80E-06
890	CCNA2	Cancer-Normal	5.04E-06	1.13E-05
10513	APPBP2	Cancer-Normal	5.13E-06	1.15E-05
6871	TADA2L	Cancer-Normal	5.80E-06	1.29E-05
8178	ELL	Cancer-Normal	7.48E-06	1.66E-05
3192	HNRNPU	Cancer-Normal	7.69E-06	1.69E-05
55827	IQWD1	Cancer-Normal	9.96E-06	2.16E-05
8289	ARID1A	Cancer-Normal	9.95E-06	2.16E-05
22938	SNW1	Cancer-Normal	1.12E-05	2.40E-05

8125	ANP32A	Cancer-Normal	1.30E-05	2.75E-05
57727	NCOA5	Cancer-Normal	1.59E-05	3.33E-05
8841	HDAC3	Cancer-Normal	1.61E-05	3.35E-05
1488	CTBP2	Cancer-Normal	1.92E-05	3.98E-05
55629	PNRC2	Cancer-Normal	2.23E-05	4.56E-05
10291	SF3A1	Cancer-Normal	2.54E-05	5.06E-05
9319	TRIP13	Cancer-Normal	3.15E-05	6.24E-05
6774	STAT3	Cancer-Normal	4.06E-05	8.01E-05
8085	MLL2	Cancer-Normal	4.53E-05	8.88E-05
9031	BAZ1B	Cancer-Normal	4.55E-05	8.88E-05
9584	RBM39	Cancer-Normal	4.89E-05	9.50E-05
7329	UBE2I	Cancer-Normal	5.54E-05	1.06E-04
8295	TRRAP	Cancer-Normal	7.24E-05	1.38E-04
2185	PTK2B	Cancer-Normal	7.52E-05	1.42E-04
4734	NEDD4	Cancer-Normal	9.88E-05	1.85E-04
10691	GMEB1	Cancer-Normal	1.02E-04	1.91E-04
994	CDC25B	Cancer-Normal	1.30E-04	2.41E-04
898	CCNE1	Cancer-Normal	1.37E-04	2.52E-04
5901	RAN	Cancer-Normal	1.69E-04	3.07E-04
11315	PARK7	Cancer-Normal	1.81E-04	3.28E-04
55898	UNC45A	Cancer-Normal	1.86E-04	3.34E-04
8805	TRIM24	Cancer-Normal	2.28E-04	4.04E-04
3146	HMGB1	Cancer-Normal	3.13E-04	5.52E-04
10499	NCOA2	Cancer-Normal	3.18E-04	5.56E-04
122953	ZNF143.JDP2	Cancer-Normal	3.17E-04	5.56E-04
5728	PTEN	Cancer-Normal	3.70E-04	6.36E-04
3276	PRMT1	Cancer-Normal	4.02E-04	6.89E-04
80324	PUS1	Cancer-Normal	4.36E-04	7.40E-04
6942	TCF20	Cancer-Normal	4.38E-04	7.41E-04
896	CCND3	Cancer-Normal	5.97E-04	9.95E-04
2521	FUS	Cancer-Normal	7.47E-04	1.24E-03
10498	CARM1	Cancer-Normal	7.99E-04	1.32E-03
115950	ZNF653	Cancer-Normal	8.79E-04	1.45E-03
29982	NRBF2	Cancer-Normal	1.00E-03	1.64E-03
1616	DAXX	Cancer-Normal	1.07E-03	1.74E-03
5925	RB1	Cancer-Normal	1.24E-03	2.01E-03
8202	NCOA3	Cancer-Normal	2.23E-03	3.56E-03
6996	TDG	Cancer-Normal	3.50E-03	5.49E-03
5469	MED1	Cancer-Normal	3.80E-03	5.79E-03
9862	MED24	Cancer-Normal	3.93E-03	5.96E-03
9112	MTA1	Cancer-Normal	4.45E-03	6.72E-03
8204	NRIP1	Cancer-Normal	4.88E-03	7.31E-03
3066	HDAC2	Cancer-Normal	5.93E-03	8.80E-03
6597	SMARCA4	Cancer-Normal	6.76E-03	9.91E-03

23532	PRAME	Cancer-Normal	6.86E-03	1.00E-02
6605	SMARCE1	Cancer-Normal	1.07E-02	1.52E-02
92283	ZNF461	Cancer-Normal	1.16E-02	1.65E-02
55806	HR	Cancer-Normal	1.53E-02	2.15E-02
9994	CASP8AP2	Cancer-Normal	1.66E-02	2.31E-02
96764	TGS1	Cancer-Normal	2.46E-02	3.37E-02
10451	VAV3	Cancer-Normal	2.83E-02	3.87E-02
26060	APPL1	Cancer-Normal	3.07E-02	4.15E-02
10451	VAV3	ERneg-ERpos	1.59E-16	1.45E-14
595	CCND1	ERneg-ERpos	1.02E-12	7.46E-11
10902	BRD8	ERneg-ERpos	1.55E-12	9.41E-11
4255	MGMT	ERneg-ERpos	4.67E-12	2.43E-10
11315	PARK7	ERneg-ERpos	2.19E-11	7.98E-10
1382	CRABP2	ERneg-ERpos	3.35E-11	1.02E-09
6907	TBL1X	ERneg-ERpos	1.34E-10	3.49E-09
9326	ZNHIT3	ERneg-ERpos	2.00E-10	4.88E-09
10401	PIAS3	ERneg-ERpos	2.44E-10	5.56E-09
57658	CALCOCO1	ERneg-ERpos	2.68E-10	5.75E-09
10445	MCRS1	ERneg-ERpos	5.28E-10	1.07E-08
10987	COPS5	ERneg-ERpos	7.21E-10	1.32E-08
1387	CREBBP	ERneg-ERpos	6.89E-10	1.32E-08
25803	SPDEF	ERneg-ERpos	8.14E-10	1.42E-08
473	RERE	ERneg-ERpos	1.07E-09	1.77E-08
4331	MNAT1	ERneg-ERpos	1.22E-09	1.94E-08
2647	BLOC1S1	ERneg-ERpos	2.10E-09	3.19E-08
84458	LCOR	ERneg-ERpos	2.81E-09	4.10E-08
8841	HDAC3	ERneg-ERpos	4.34E-09	6.10E-08
6595	SMARCA2	ERneg-ERpos	4.51E-09	6.10E-08
51366	UBR5	ERneg-ERpos	4.84E-09	6.31E-08
5705	PSMC5	ERneg-ERpos	5.51E-09	6.93E-08
8289	ARID1A	ERneg-ERpos	6.54E-09	7.70E-08
10155	TRIM28	ERneg-ERpos	7.42E-09	8.47E-08
6604	SMARCD3	ERneg-ERpos	1.64E-08	1.76E-07
9667	SAFB2	ERneg-ERpos	3.40E-08	3.35E-07
7251	TSG101	ERneg-ERpos	4.69E-08	4.39E-07
10474	TADA3L	ERneg-ERpos	4.99E-08	4.55E-07
2521	FUS	ERneg-ERpos	5.42E-08	4.61E-07
7110	TMF1	ERneg-ERpos	5.28E-08	4.61E-07
7520	XRCC5	ERneg-ERpos	5.43E-08	4.61E-07
9584	RBM39	ERneg-ERpos	6.81E-08	5.52E-07
8878	SQSTM1	ERneg-ERpos	7.57E-08	6.00E-07
166	AES	ERneg-ERpos	8.61E-08	6.54E-07
23013	SPEN	ERneg-ERpos	8.59E-08	6.54E-07
1655	DDX5	ERneg-ERpos	1.20E-07	8.76E-07

1025	CDK9	ERneg-ERpos	1.36E-07	9.34E-07
8721	EDF1	ERneg-ERpos	1.39E-07	9.38E-07
10521	DDX17	ERneg-ERpos	1.48E-07	9.82E-07
6830	SUPT6H	ERneg-ERpos	1.57E-07	1.02E-06
2274	FHL2	ERneg-ERpos	1.64E-07	1.05E-06
8493	PPM1D	ERneg-ERpos	1.73E-07	1.09E-06
10399	GNB2L1	ERneg-ERpos	2.01E-07	1.22E-06
57727	NCOA5	ERneg-ERpos	2.15E-07	1.29E-06
9611	NCOR1	ERneg-ERpos	2.23E-07	1.31E-06
55827	IQWD1	ERneg-ERpos	2.90E-07	1.66E-06
51282	SCAND1	ERneg-ERpos	3.18E-07	1.79E-06
4582	MUC1	ERneg-ERpos	3.79E-07	2.10E-06
6047	RNF4	ERneg-ERpos	5.21E-07	2.80E-06
10524	HTATIP	ERneg-ERpos	5.67E-07	3.00E-06
22938	SNW1	ERneg-ERpos	6.21E-07	3.24E-06
9968	MED12	ERneg-ERpos	6.37E-07	3.27E-06
10587	TXNRD2	ERneg-ERpos	6.66E-07	3.38E-06
8085	MLL2	ERneg-ERpos	6.79E-07	3.40E-06
126382	NR2C2AP	ERneg-ERpos	9.34E-07	4.61E-06
23414	ZFPM2	ERneg-ERpos	9.84E-07	4.79E-06
10197	PSME3	ERneg-ERpos	1.00E-06	4.81E-06
25942	SIN3A	ERneg-ERpos	1.01E-06	4.81E-06
57492	ARID1B	ERneg-ERpos	1.11E-06	5.19E-06
51720	UIMC1	ERneg-ERpos	1.18E-06	5.44E-06
11143	MYST2	ERneg-ERpos	1.30E-06	5.93E-06
5704	PSMC4	ERneg-ERpos	1.33E-06	6.00E-06
57178	ZMIZ1	ERneg-ERpos	1.69E-06	7.53E-06
64324	NSD1	ERneg-ERpos	2.12E-06	9.22E-06
6760	SS18	ERneg-ERpos	2.40E-06	1.03E-05
23309	SIN3B	ERneg-ERpos	2.84E-06	1.21E-05
2874	D4S234E.GPS2	ERneg-ERpos	2.98E-06	1.25E-05
1022	CDK7	ERneg-ERpos	3.41E-06	1.41E-05
6130	LOC100132910.	ERneg-ERpos	4.79E-06	1.90E-05
6774	STAT3	ERneg-ERpos	5.03E-06	1.97E-05
9063	PIAS2	ERneg-ERpos	5.58E-06	2.16E-05
1616	DAXX	ERneg-ERpos	6.27E-06	2.39E-05
55898	UNC45A	ERneg-ERpos	7.14E-06	2.63E-05
5970	RELA	ERneg-ERpos	7.65E-06	2.79E-05
9733	SART3	ERneg-ERpos	8.08E-06	2.92E-05
8409	UXT	ERneg-ERpos	9.00E-06	3.22E-05
3065	HDAC1	ERneg-ERpos	9.30E-06	3.30E-05
857	CAV1	ERneg-ERpos	1.07E-05	3.68E-05
4841	NONO	ERneg-ERpos	1.21E-05	4.14E-05
7818	DAP3	ERneg-ERpos	1.25E-05	4.22E-05

3192	HNRNPU	ERneg-ERpos	1.34E-05	4.48E-05
9604	RNF14	ERneg-ERpos	1.42E-05	4.70E-05
8805	TRIM24	ERneg-ERpos	1.49E-05	4.90E-05
8648	NCOA1	ERneg-ERpos	1.71E-05	5.57E-05
5036	PA2G4	ERneg-ERpos	2.11E-05	6.71E-05
9759	HDAC4	ERneg-ERpos	2.10E-05	6.71E-05
9320	TRIP12	ERneg-ERpos	2.23E-05	7.01E-05
9318	COPS2	ERneg-ERpos	2.26E-05	7.06E-05
1488	CTBP2	ERneg-ERpos	2.31E-05	7.16E-05
602	BCL3	ERneg-ERpos	2.52E-05	7.73E-05
56924	PAK6	ERneg-ERpos	2.56E-05	7.78E-05
8554	PIAS1	ERneg-ERpos	3.16E-05	9.31E-05
7329	UBE2I	ERneg-ERpos	3.92E-05	1.14E-04
2033	EP300	ERneg-ERpos	4.16E-05	1.19E-04
7041	TGFB1I1	ERneg-ERpos	4.18E-05	1.19E-04
9321	TRIP11	ERneg-ERpos	4.44E-05	1.26E-04
10114	HIPK3	ERneg-ERpos	5.12E-05	1.43E-04
64210	MMS19	ERneg-ERpos	5.38E-05	1.49E-04
8178	ELL	ERneg-ERpos	6.17E-05	1.69E-04
6602	SMARCD1	ERneg-ERpos	7.27E-05	1.97E-04
10923	SUB1	ERneg-ERpos	7.75E-05	2.08E-04
24148	PRPF6	ERneg-ERpos	8.08E-05	2.14E-04
2314	FLII	ERneg-ERpos	8.94E-05	2.32E-04
29843	SEN1	ERneg-ERpos	9.84E-05	2.53E-04
3275	PRMT2	ERneg-ERpos	1.00E-04	2.55E-04
7050	TGIF1	ERneg-ERpos	1.13E-04	2.87E-04
6597	SMARCA4	ERneg-ERpos	1.20E-04	2.99E-04
9039	UBA3	ERneg-ERpos	1.26E-04	3.14E-04
9282	MED14	ERneg-ERpos	1.31E-04	3.22E-04
142	PARP1	ERneg-ERpos	1.35E-04	3.32E-04
7157	TP53	ERneg-ERpos	1.45E-04	3.53E-04
6129	RPL7	ERneg-ERpos	1.52E-04	3.67E-04
221895	JAZF1	ERneg-ERpos	1.55E-04	3.71E-04
8125	ANP32A	ERneg-ERpos	1.57E-04	3.75E-04
23054	NCOA6	ERneg-ERpos	1.65E-04	3.88E-04
7341	SUMO1	ERneg-ERpos	1.65E-04	3.88E-04
79718	TBL1XR1	ERneg-ERpos	1.66E-04	3.88E-04
7332	UBE2L3	ERneg-ERpos	1.67E-04	3.89E-04
10498	CARM1	ERneg-ERpos	1.94E-04	4.46E-04
9325	TRIP4	ERneg-ERpos	2.14E-04	4.86E-04
9112	MTA1	ERneg-ERpos	2.20E-04	4.95E-04
6871	TADA2L	ERneg-ERpos	2.29E-04	5.13E-04
55629	PNRC2	ERneg-ERpos	2.75E-04	6.08E-04
23421	ITGB3BP	ERneg-ERpos	2.91E-04	6.41E-04

25898	RCHY1	ERneg-ERpos	3.33E-04	7.28E-04
898	CCNE1	ERneg-ERpos	3.39E-04	7.31E-04
221037	JMJD1C	ERneg-ERpos	3.99E-04	8.52E-04
5763	PTMS	ERneg-ERpos	4.48E-04	9.51E-04
63925	ZNF335	ERneg-ERpos	4.81E-04	1.01E-03
1660	DHX9	ERneg-ERpos	5.12E-04	1.07E-03
5702	PSMC3	ERneg-ERpos	5.32E-04	1.11E-03
10513	APPBP2	ERneg-ERpos	5.54E-04	1.15E-03
4088	SMAD3	ERneg-ERpos	6.46E-04	1.32E-03
7205	TRIP6	ERneg-ERpos	6.49E-04	1.32E-03
115950	ZNF653	ERneg-ERpos	6.72E-04	1.35E-03
23132	RAD54L2	ERneg-ERpos	6.75E-04	1.35E-03
23462	HEY1	ERneg-ERpos	6.71E-04	1.35E-03
7337	UBE3A	ERneg-ERpos	7.01E-04	1.38E-03
10499	NCOA2	ERneg-ERpos	7.06E-04	1.39E-03
9612	NCOR2	ERneg-ERpos	7.68E-04	1.48E-03
27043	PELP1	ERneg-ERpos	8.09E-04	1.55E-03
5925	RB1	ERneg-ERpos	8.13E-04	1.55E-03
6605	SMARCE1	ERneg-ERpos	8.41E-04	1.59E-03
51586	MED15	ERneg-ERpos	9.50E-04	1.79E-03
9219	MTA2	ERneg-ERpos	9.92E-04	1.86E-03
11218	DDX20	ERneg-ERpos	1.12E-03	2.08E-03
4734	NEDD4	ERneg-ERpos	1.17E-03	2.17E-03
6421	SFPQ	ERneg-ERpos	1.25E-03	2.31E-03
3148	HMGB2	ERneg-ERpos	1.27E-03	2.32E-03
10432	RBM14	ERneg-ERpos	1.34E-03	2.43E-03
6840	SVIL	ERneg-ERpos	2.14E-03	3.81E-03
79084	WDR77	ERneg-ERpos	2.14E-03	3.81E-03
23543	RBM9	ERneg-ERpos	2.20E-03	3.90E-03
51588	PIAS4	ERneg-ERpos	2.32E-03	4.10E-03
5300	PIN1	ERneg-ERpos	2.35E-03	4.13E-03
90480	GADD45GIP1	ERneg-ERpos	2.37E-03	4.14E-03
1072	CFL1	ERneg-ERpos	2.42E-03	4.20E-03
11331	PHB2	ERneg-ERpos	2.52E-03	4.36E-03
5728	PTEN	ERneg-ERpos	2.68E-03	4.62E-03
3146	HMGB1	ERneg-ERpos	3.00E-03	5.12E-03
26524	LATS2	ERneg-ERpos	3.05E-03	5.15E-03
53335	BCL11A	ERneg-ERpos	3.03E-03	5.15E-03
80324	PUS1	ERneg-ERpos	3.52E-03	5.87E-03
8295	TRRAP	ERneg-ERpos	3.50E-03	5.87E-03
23411	SIRT1	ERneg-ERpos	3.60E-03	5.95E-03
573	BAG1	ERneg-ERpos	4.14E-03	6.77E-03
9322	TRIP10	ERneg-ERpos	4.28E-03	6.97E-03
9031	BAZ1B	ERneg-ERpos	4.46E-03	7.23E-03



10291	SF3A1	ERneg-ERpos	4.55E-03	7.36E-03
7249	TSC2	ERneg-ERpos	4.61E-03	7.41E-03
1028	CDKN1C	ERneg-ERpos	4.87E-03	7.73E-03
11124	FAF1	ERneg-ERpos	5.02E-03	7.94E-03
10048	RANBP9	ERneg-ERpos	5.29E-03	8.28E-03
5757	PTMA	ERneg-ERpos	7.90E-03	1.23E-02
8850	PCAF	ERneg-ERpos	9.02E-03	1.39E-02
122953	ZNF143.JDP2	ERneg-ERpos	9.11E-03	1.40E-02
26060	APPL1	ERneg-ERpos	9.58E-03	1.46E-02
6294	SAFB	ERneg-ERpos	9.91E-03	1.50E-02
6881	TAF10	ERneg-ERpos	1.14E-02	1.71E-02
10011	SRA1	ERneg-ERpos	1.38E-02	2.04E-02
10865	ARID5A	ERneg-ERpos	1.39E-02	2.06E-02
1487	CTBP1	ERneg-ERpos	1.45E-02	2.12E-02
8204	NRIP1	ERneg-ERpos	1.44E-02	2.12E-02
8900	CCNA1	ERneg-ERpos	1.52E-02	2.21E-02
8202	NCOA3	ERneg-ERpos	1.60E-02	2.31E-02
26205	GMEB2	ERneg-ERpos	1.78E-02	2.54E-02
83637	ZMIZ2	ERneg-ERpos	2.06E-02	2.91E-02
64919	BCL11B	ERneg-ERpos	2.21E-02	3.08E-02
83714	NRIP2	ERneg-ERpos	2.21E-02	3.08E-02
8819	SAP30	ERneg-ERpos	2.36E-02	3.28E-02
896	CCND3	ERneg-ERpos	2.55E-02	3.52E-02
2185	PTK2B	ERneg-ERpos	2.74E-02	3.75E-02
7533	YWHAH	ERneg-ERpos	3.11E-02	4.22E-02
857	CAV1	ERneg-Normal	2.21E-38	8.08E-36
6595	SMARCA2	ERneg-Normal	4.28E-25	3.13E-23
57658	CALCOCO1	ERneg-Normal	7.10E-25	3.70E-23
4255	MGMT	ERneg-Normal	3.84E-23	1.75E-21
6604	SMARCD3	ERneg-Normal	4.73E-23	1.92E-21
10399	GNB2L1	ERneg-Normal	5.91E-23	2.16E-21
4331	MNAT1	ERneg-Normal	8.93E-23	2.96E-21
9318	COPS2	ERneg-Normal	2.44E-22	7.43E-21
221037	JMJD1C	ERneg-Normal	8.14E-22	2.28E-20
221895	JAZF1	ERneg-Normal	1.03E-21	2.51E-20
23414	ZFPM2	ERneg-Normal	1.97E-21	4.22E-20
10902	BRD8	ERneg-Normal	2.79E-21	5.66E-20
473	RERE	ERneg-Normal	3.62E-21	6.96E-20
1387	CREBBP	ERneg-Normal	2.21E-20	4.04E-19
1025	CDK9	ERneg-Normal	2.53E-19	4.20E-18
10445	MCRS1	ERneg-Normal	7.77E-19	1.18E-17
23013	SPEN	ERneg-Normal	1.60E-18	2.24E-17
25942	SIN3A	ERneg-Normal	5.78E-18	7.54E-17
8648	NCOA1	ERneg-Normal	6.65E-18	8.37E-17

23309	SIN3B	ERneg-Normal	9.13E-18	1.11E-16
10155	TRIM28	ERneg-Normal	1.27E-17	1.50E-16
51720	UIMC1	ERneg-Normal	1.62E-17	1.85E-16
9667	SAFB2	ERneg-Normal	1.88E-17	2.08E-16
10521	DDX17	ERneg-Normal	1.96E-17	2.11E-16
5325	PLAGL1	ERneg-Normal	2.28E-17	2.37E-16
7520	XRCC5	ERneg-Normal	3.39E-17	3.43E-16
10114	HIPK3	ERneg-Normal	4.80E-17	4.49E-16
10587	TXNRD2	ERneg-Normal	5.10E-17	4.65E-16
8850	PCAF	ERneg-Normal	5.60E-17	4.86E-16
9063	PIAS2	ERneg-Normal	7.05E-17	5.98E-16
11143	MYST2	ERneg-Normal	7.82E-17	6.49E-16
9611	NCOR1	ERneg-Normal	9.68E-17	7.85E-16
9968	MED12	ERneg-Normal	1.09E-16	8.63E-16
8554	PIAS1	ERneg-Normal	3.75E-16	2.73E-15
84458	LCOR	ERneg-Normal	4.18E-16	2.99E-15
4841	NONO	ERneg-Normal	1.54E-15	1.03E-14
6840	SVIL	ERneg-Normal	1.76E-15	1.15E-14
9759	HDAC4	ERneg-Normal	2.80E-15	1.76E-14
9039	UBA3	ERneg-Normal	3.53E-15	2.18E-14
5705	PSMC5	ERneg-Normal	4.09E-15	2.47E-14
25898	RCHY1	ERneg-Normal	6.04E-15	3.46E-14
6907	TBL1X	ERneg-Normal	6.07E-15	3.46E-14
8409	UXT	ERneg-Normal	7.72E-15	4.33E-14
10401	PIAS3	ERneg-Normal	1.09E-14	6.03E-14
7110	TMF1	ERneg-Normal	1.19E-14	6.51E-14
6830	SUPT6H	ERneg-Normal	1.23E-14	6.60E-14
2647	BLOC1S1	ERneg-Normal	1.35E-14	7.15E-14
83714	NRIP2	ERneg-Normal	1.38E-14	7.17E-14
3275	PRMT2	ERneg-Normal	1.54E-14	7.92E-14
64324	NSD1	ERneg-Normal	1.97E-14	9.99E-14
9326	ZNHIT3	ERneg-Normal	2.24E-14	1.12E-13
10197	PSME3	ERneg-Normal	2.38E-14	1.17E-13
6602	SMARCD1	ERneg-Normal	2.49E-14	1.21E-13
7041	TGFB1I1	ERneg-Normal	3.51E-14	1.66E-13
10524	HTATIP	ERneg-Normal	4.22E-14	1.98E-13
10474	TADA3L	ERneg-Normal	4.33E-14	2.00E-13
8493	PPM1D	ERneg-Normal	4.56E-14	2.08E-13
9320	TRIP12	ERneg-Normal	5.33E-14	2.40E-13
29123	ANKRD11	ERneg-Normal	5.59E-14	2.49E-13
11331	PHB2	ERneg-Normal	8.34E-14	3.67E-13
6129	RPL7	ERneg-Normal	1.06E-13	4.61E-13
9321	TRIP11	ERneg-Normal	1.27E-13	5.45E-13
1655	DDX5	ERneg-Normal	1.65E-13	6.91E-13

2274	FHL2	ERneg-Normal	2.09E-13	8.57E-13
8721	EDF1	ERneg-Normal	2.53E-13	1.02E-12
51586	MED15	ERneg-Normal	2.82E-13	1.13E-12
5036	PA2G4	ERneg-Normal	3.06E-13	1.21E-12
27043	PELP1	ERneg-Normal	3.12E-13	1.23E-12
2934	GSN	ERneg-Normal	3.24E-13	1.26E-12
51366	UBR5	ERneg-Normal	3.65E-13	1.40E-12
166	AES	ERneg-Normal	5.22E-13	1.96E-12
6047	RNF4	ERneg-Normal	6.60E-13	2.43E-12
6130	LOC100132910	ERneg-Normal	6.70E-13	2.44E-12
9733	SART3	ERneg-Normal	7.28E-13	2.63E-12
64210	MMS19	ERneg-Normal	8.69E-13	3.11E-12
7332	UBE2L3	ERneg-Normal	8.83E-13	3.13E-12
10957	PNRC1	ERneg-Normal	8.97E-13	3.15E-12
11315	PARK7	ERneg-Normal	9.64E-13	3.32E-12
8289	ARID1A	ERneg-Normal	1.60E-12	5.47E-12
9322	TRIP10	ERneg-Normal	1.74E-12	5.89E-12
8841	HDAC3	ERneg-Normal	2.06E-12	6.88E-12
10451	VAV3	ERneg-Normal	2.77E-12	9.11E-12
7205	TRIP6	ERneg-Normal	2.97E-12	9.68E-12
1028	CDKN1C	ERneg-Normal	4.63E-12	1.46E-11
6760	SS18	ERneg-Normal	4.66E-12	1.46E-11
23421	ITGB3BP	ERneg-Normal	5.39E-12	1.68E-11
5970	RELA	ERneg-Normal	6.80E-12	2.10E-11
5629	PROX1	ERneg-Normal	1.05E-11	3.23E-11
57492	ARID1B	ERneg-Normal	1.41E-11	4.28E-11
2308	FOXO1	ERneg-Normal	1.56E-11	4.72E-11
9604	RNF14	ERneg-Normal	1.76E-11	5.25E-11
23543	RBM9	ERneg-Normal	2.41E-11	7.15E-11
9282	MED14	ERneg-Normal	2.66E-11	7.82E-11
55827	IQWD1	ERneg-Normal	3.48E-11	1.02E-10
11218	DDX20	ERneg-Normal	3.53E-11	1.02E-10
2874	D4S234E.GPS2	ERneg-Normal	4.77E-11	1.36E-10
57727	NCOA5	ERneg-Normal	4.86E-11	1.38E-10
23132	RAD54L2	ERneg-Normal	5.13E-11	1.44E-10
4088	SMAD3	ERneg-Normal	5.36E-11	1.49E-10
2314	FLII	ERneg-Normal	7.22E-11	2.00E-10
9584	RBM39	ERneg-Normal	7.37E-11	2.02E-10
22938	SNW1	ERneg-Normal	7.98E-11	2.17E-10
2033	EP300	ERneg-Normal	9.31E-11	2.52E-10
29843	SENP1	ERneg-Normal	1.10E-10	2.94E-10
23411	SIRT1	ERneg-Normal	1.22E-10	3.25E-10
26524	LATS2	ERneg-Normal	1.49E-10	3.94E-10
9612	NCOR2	ERneg-Normal	1.81E-10	4.73E-10

9219	MTA2	ERneg-Normal	2.84E-10	7.36E-10
7337	UBE3A	ERneg-Normal	3.06E-10	7.86E-10
135112	NCOA7	ERneg-Normal	3.27E-10	8.34E-10
8085	MLL2	ERneg-Normal	4.25E-10	1.08E-09
79718	TBL1XR1	ERneg-Normal	4.67E-10	1.18E-09
3192	HNRNPU	ERneg-Normal	6.14E-10	1.54E-09
63925	ZNF335	ERneg-Normal	7.90E-10	1.95E-09
7157	TP53	ERneg-Normal	1.34E-09	3.26E-09
10923	SUB1	ERneg-Normal	1.74E-09	4.17E-09
6774	STAT3	ERneg-Normal	1.83E-09	4.37E-09
23462	HEY1	ERneg-Normal	2.15E-09	5.08E-09
2521	FUS	ERneg-Normal	2.16E-09	5.08E-09
133522	PPARGC1B	ERneg-Normal	2.18E-09	5.10E-09
8178	ELL	ERneg-Normal	2.32E-09	5.40E-09
1660	DHX9	ERneg-Normal	2.37E-09	5.49E-09
9325	TRIP4	ERneg-Normal	2.41E-09	5.53E-09
1488	CTBP2	ERneg-Normal	2.76E-09	6.30E-09
11124	FAF1	ERneg-Normal	4.57E-09	1.02E-08
6871	TADA2L	ERneg-Normal	5.79E-09	1.27E-08
10513	APPBP2	ERneg-Normal	1.20E-08	2.60E-08
7329	UBE2I	ERneg-Normal	1.28E-08	2.76E-08
8125	ANP32A	ERneg-Normal	1.34E-08	2.87E-08
55898	UNC45A	ERneg-Normal	1.37E-08	2.91E-08
10891	PPARGC1A	ERneg-Normal	1.90E-08	3.95E-08
7251	TSG101	ERneg-Normal	1.90E-08	3.95E-08
8805	TRIM24	ERneg-Normal	3.07E-08	6.26E-08
55629	PNRC2	ERneg-Normal	3.18E-08	6.41E-08
9265	PSCD3	ERneg-Normal	3.33E-08	6.64E-08
10865	ARID5A	ERneg-Normal	3.46E-08	6.86E-08
10987	COPS5	ERneg-Normal	4.43E-08	8.73E-08
8031	NCOA4	ERneg-Normal	5.09E-08	9.98E-08
8878	SQSTM1	ERneg-Normal	5.76E-08	1.12E-07
1616	DAXX	ERneg-Normal	1.05E-07	2.05E-07
1487	CTBP1	ERneg-Normal	2.35E-07	4.50E-07
898	CCNE1	ERneg-Normal	3.82E-07	7.18E-07
10291	SF3A1	ERneg-Normal	3.95E-07	7.40E-07
4734	NEDD4	ERneg-Normal	5.17E-07	9.59E-07
9031	BAZ1B	ERneg-Normal	6.50E-07	1.19E-06
3065	HDAC1	ERneg-Normal	6.63E-07	1.20E-06
1382	CRABP2	ERneg-Normal	7.10E-07	1.28E-06
126382	NR2C2AP	ERneg-Normal	7.83E-07	1.40E-06
8295	TRRAP	ERneg-Normal	8.60E-07	1.53E-06
10498	CARM1	ERneg-Normal	9.78E-07	1.73E-06
10499	NCOA2	ERneg-Normal	1.01E-06	1.79E-06

595	CCND1	ERneg-Normal	1.32E-06	2.31E-06
115950	ZNF653	ERneg-Normal	2.92E-06	5.00E-06
5728	PTEN	ERneg-Normal	3.59E-06	6.06E-06
3146	HMGB1	ERneg-Normal	4.66E-06	7.84E-06
5925	RB1	ERneg-Normal	4.95E-06	8.29E-06
80324	PUS1	ERneg-Normal	5.52E-06	9.20E-06
2185	PTK2B	ERneg-Normal	6.43E-06	1.06E-05
1022	CDK7	ERneg-Normal	8.22E-06	1.35E-05
53335	BCL11A	ERneg-Normal	8.26E-06	1.35E-05
9112	MTA1	ERneg-Normal	8.25E-06	1.35E-05
5704	PSMC4	ERneg-Normal	8.96E-06	1.45E-05
6597	SMARCA4	ERneg-Normal	8.93E-06	1.45E-05
122953	ZNF143.JDP2	ERneg-Normal	9.19E-06	1.48E-05
51282	SCAND1	ERneg-Normal	1.45E-05	2.29E-05
9319	TRIP13	ERneg-Normal	2.00E-05	3.14E-05
5702	PSMC3	ERneg-Normal	2.36E-05	3.70E-05
10691	GMEB1	ERneg-Normal	2.77E-05	4.30E-05
3276	PRMT1	ERneg-Normal	3.30E-05	5.10E-05
896	CCND3	ERneg-Normal	4.35E-05	6.67E-05
7341	SUMO1	ERneg-Normal	4.91E-05	7.47E-05
6605	SMARCE1	ERneg-Normal	6.19E-05	9.33E-05
5757	PTMA	ERneg-Normal	6.85E-05	1.02E-04
10048	RANBP9	ERneg-Normal	7.13E-05	1.06E-04
890	CCNA2	ERneg-Normal	7.51E-05	1.11E-04
7050	TGIF1	ERneg-Normal	1.04E-04	1.51E-04
8202	NCOA3	ERneg-Normal	1.04E-04	1.51E-04
6942	TCF20	ERneg-Normal	1.38E-04	1.99E-04
24148	PRPF6	ERneg-Normal	1.60E-04	2.30E-04
994	CDC25B	ERneg-Normal	1.74E-04	2.49E-04
5901	RAN	ERneg-Normal	1.96E-04	2.80E-04
8204	NRIP1	ERneg-Normal	2.53E-04	3.55E-04
10432	RBM14	ERneg-Normal	5.16E-04	7.16E-04
25803	SPDEF	ERneg-Normal	6.50E-04	8.99E-04
29982	NRBF2	ERneg-Normal	6.78E-04	9.34E-04
5763	PTMS	ERneg-Normal	1.13E-03	1.53E-03
6996	TDG	ERneg-Normal	1.17E-03	1.59E-03
26060	APPL1	ERneg-Normal	1.29E-03	1.74E-03
83637	ZMIZ2	ERneg-Normal	2.12E-03	2.82E-03
79084	WDR77	ERneg-Normal	2.48E-03	3.27E-03
9862	MED24	ERneg-Normal	2.49E-03	3.27E-03
96764	TGS1	ERneg-Normal	2.79E-03	3.64E-03
92283	ZNF461	ERneg-Normal	3.94E-03	5.14E-03
56924	PAK6	ERneg-Normal	4.53E-03	5.86E-03
7249	TSC2	ERneg-Normal	6.27E-03	8.03E-03

57178	ZMIZ1	ERneg-Normal	7.49E-03	9.56E-03
30836	DNTTIP2	ERneg-Normal	9.12E-03	1.16E-02
5300	PIN1	ERneg-Normal	1.03E-02	1.31E-02
3066	HDAC2	ERneg-Normal	1.16E-02	1.46E-02
672	BRCA1	ERneg-Normal	1.98E-02	2.43E-02
573	BAG1	ERneg-Normal	2.07E-02	2.54E-02
6881	TAF10	ERneg-Normal	2.29E-02	2.79E-02
23054	NCOA6	ERneg-Normal	2.71E-02	3.28E-02
5629	PROX1	ERpos-Normal	6.63E-13	3.03E-11
83714	NRIP2	ERpos-Normal	6.59E-09	9.25E-08
53335	BCL11A	ERpos-Normal	1.04E-12	4.23E-11
857	CAV1	ERpos-Normal	1.08E-27	3.93E-25
10891	PPARGC1A	ERpos-Normal	3.41E-09	5.66E-08
5325	PLAGL1	ERpos-Normal	3.71E-14	2.71E-12
2934	GSN	ERpos-Normal	1.61E-08	2.02E-07
2308	FOXO1	ERpos-Normal	5.25E-10	1.01E-08
6496	SIX3	ERpos-Normal	5.96E-03	1.45E-02
10957	PNRC1	ERpos-Normal	7.59E-10	1.39E-08
135112	NCOA7	ERpos-Normal	4.68E-07	4.17E-06
8850	PCAF	ERpos-Normal	2.67E-10	5.74E-09
9265	PSCD3	ERpos-Normal	1.94E-05	1.07E-04
8900	CCNA1	ERpos-Normal	4.56E-03	1.19E-02
1028	CDKN1C	ERpos-Normal	1.10E-05	6.68E-05
133522	PPARGC1B	ERpos-Normal	1.32E-06	1.00E-05
23414	ZFPM2	ERpos-Normal	1.96E-08	2.31E-07
7041	TGFB1I1	ERpos-Normal	7.51E-05	3.26E-04
10114	HIPK3	ERpos-Normal	6.97E-07	5.78E-06
55806	HR	ERpos-Normal	3.64E-03	9.69E-03
221895	JAZF1	ERpos-Normal	1.13E-11	3.44E-10
221037	JMJD1C	ERpos-Normal	1.94E-12	7.07E-11
6840	SVIL	ERpos-Normal	7.65E-08	8.03E-07
6604	SMARCD3	ERpos-Normal	7.70E-08	8.03E-07
57658	CALCOCO1	ERpos-Normal	1.54E-07	1.56E-06
64919	BCL11B	ERpos-Normal	5.03E-03	1.29E-02
4088	SMAD3	ERpos-Normal	1.01E-03	3.18E-03
9318	COPS2	ERpos-Normal	4.97E-11	1.21E-09
5469	MED1	ERpos-Normal	3.13E-03	8.52E-03
25898	RCHY1	ERpos-Normal	2.67E-06	1.95E-05
29123	ANKRD11	ERpos-Normal	3.90E-08	4.45E-07
6595	SMARCA2	ERpos-Normal	5.10E-09	7.45E-08
51720	UIMC1	ERpos-Normal	2.28E-05	1.19E-04
23543	RBM9	ERpos-Normal	1.38E-04	5.61E-04
10399	GNB2L1	ERpos-Normal	4.14E-09	6.30E-08
9039	UBA3	ERpos-Normal	7.22E-06	4.71E-05

64210	MMS19	ERpos-Normal	8.87E-04	2.84E-03
9063	PIAS2	ERpos-Normal	1.24E-05	7.28E-05
8648	NCOA1	ERpos-Normal	5.87E-07	4.99E-06
7337	UBE3A	ERpos-Normal	2.78E-03	7.68E-03
7332	UBE2L3	ERpos-Normal	2.65E-04	9.77E-04
10865	ARID5A	ERpos-Normal	1.99E-03	5.72E-03
8554	PIAS1	ERpos-Normal	6.56E-06	4.36E-05
1025	CDK9	ERpos-Normal	8.26E-06	5.20E-05
23309	SIN3B	ERpos-Normal	5.38E-06	3.71E-05
25942	SIN3A	ERpos-Normal	1.22E-05	7.28E-05
51586	MED15	ERpos-Normal	1.55E-05	8.84E-05
11143	MYST2	ERpos-Normal	6.36E-05	2.87E-04
9322	TRIP10	ERpos-Normal	7.49E-06	4.80E-05
5036	PA2G4	ERpos-Normal	1.04E-03	3.25E-03
23411	SIRT1	ERpos-Normal	2.21E-04	8.24E-04
9321	TRIP11	ERpos-Normal	2.95E-04	1.08E-03
23421	ITGB3BP	ERpos-Normal	5.11E-04	1.73E-03
9759	HDAC4	ERpos-Normal	4.55E-05	2.16E-04
8031	NCOA4	ERpos-Normal	2.94E-05	1.49E-04
6602	SMARCD1	ERpos-Normal	5.88E-05	2.68E-04
9604	RNF14	ERpos-Normal	1.52E-02	3.21E-02
27043	PELP1	ERpos-Normal	2.03E-05	1.11E-04
11218	DDX20	ERpos-Normal	4.16E-04	1.42E-03
4331	MNAT1	ERpos-Normal	1.63E-06	1.21E-05
11331	PHB2	ERpos-Normal	1.26E-06	9.79E-06
7205	TRIP6	ERpos-Normal	1.33E-04	5.46E-04
26524	LATS2	ERpos-Normal	3.18E-04	1.15E-03
6129	RPL7	ERpos-Normal	6.72E-05	2.99E-04
9611	NCOR1	ERpos-Normal	3.58E-04	1.26E-03
23013	SPEN	ERpos-Normal	5.34E-05	2.50E-04
10521	DDX17	ERpos-Normal	1.83E-04	7.11E-04
3275	PRMT2	ERpos-Normal	2.89E-05	1.49E-04
473	RERE	ERpos-Normal	3.44E-05	1.70E-04
10587	TXNRD2	ERpos-Normal	8.96E-05	3.85E-04
9320	TRIP12	ERpos-Normal	3.37E-04	1.20E-03
4255	MGMT	ERpos-Normal	1.22E-04	5.08E-04
23462	HEY1	ERpos-Normal	9.00E-03	2.05E-02
9612	NCOR2	ERpos-Normal	1.83E-03	5.38E-03
8409	UXT	ERpos-Normal	2.13E-04	8.01E-04
23132	RAD54L2	ERpos-Normal	9.13E-04	2.90E-03
9968	MED12	ERpos-Normal	1.55E-04	6.23E-04
10691	GMEB1	ERpos-Normal	1.67E-02	3.49E-02
9667	SAFB2	ERpos-Normal	6.21E-04	2.02E-03
1487	CTBP1	ERpos-Normal	6.75E-03	1.60E-02

1387	CREBBP	ERpos-Normal	1.82E-04	7.11E-04
63925	ZNF335	ERpos-Normal	7.08E-03	1.67E-02
4841	NONO	ERpos-Normal	5.54E-05	2.56E-04
11124	FAF1	ERpos-Normal	1.80E-03	5.33E-03
7110	TMF1	ERpos-Normal	1.65E-02	3.45E-02
7157	TP53	ERpos-Normal	2.45E-02	4.92E-02
6130	LOC100132910.1	ERpos-Normal	5.87E-03	1.44E-02
1660	DHX9	ERpos-Normal	1.18E-02	2.60E-02
5901	RAN	ERpos-Normal	8.64E-03	1.98E-02
2314	FLII	ERpos-Normal	7.16E-03	1.67E-02
57178	ZMIZ1	ERpos-Normal	5.31E-03	1.33E-02
602	BCL3	ERpos-Normal	6.03E-04	2.01E-03
90480	GADD45GIP1	ERpos-Normal	9.62E-03	2.17E-02
10451	VAV3	ERpos-Normal	5.41E-03	1.33E-02
9319	TRIP13	ERpos-Normal	5.34E-03	1.33E-02
1382	CRABP2	ERpos-Normal	5.29E-03	1.33E-02
595	CCND1	ERpos-Normal	3.62E-04	1.26E-03
4582	MUC1	ERpos-Normal	7.33E-05	3.22E-04
25803	SPDEF	ERpos-Normal	1.94E-04	7.39E-04
890	CCNA2	ERpos-Normal	1.87E-04	7.20E-04
23532	PRAME	ERpos-Normal	1.27E-02	2.77E-02



Supplementary Table 2B: Up-regulated coregulators

<b>Fold Change (log2)</b>
-4.207
-1.712
-2.794
-1.781
-1.652
-1.853
-1.690
-2.383
-2.297
-2.284
-2.154
-3.851
-1.583
-4.710
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-1.772
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-2.550
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-2.949
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-1.703
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-1.616
-1.636
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-1.549
-1.688
-1.748
-1.892
-1.224
-1.569
-1.657
-1.341
-1.663
-1.441
-3.391

	Entrez ID	Symbol	Up-regulated in ER+ cancers
1	57178	ZMIZ1	yes
2	602	BCL3	yes
3	90480	GADD45GIP1	yes
4	10451	VAV3	yes
5	9319	TRIP13	yes
6	1382	CRABP2	yes
7	595	CCND1	yes
8	4582	MUC1	yes
9	25803	SPDEF	yes
10	890	CCNA2	yes
11	23532	PRAME	yes
12	898	CCNE1	

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-1.051
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-1.328
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-0.677
-0.588



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-0.812
-1.038
-1.259
-0.835
-0.993
-0.900
-0.690
-1.286
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-2.520
-2.947
-2.233
-2.244
-2.067
-2.060
-2.177
-3.035
-2.120
-2.358
-1.998
-2.381
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-2.118

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-1.774
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-1.986
-2.322
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-2.720
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-2.798
-2.385
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-2.406
-1.810
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-1.673
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-2.184
-1.413
-2.178
-2.481
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-1.478
-1.645
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-1.757
-1.725
-1.947
-1.922
-1.738
-1.527
-1.859
-2.206
-1.749

-2.138
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-1.840
-2.408
-1.734
-3.392
-1.451
-1.516
-1.344
-1.756
-1.378
-2.659
-2.210
-2.547
-1.354
-1.662
-1.667
-1.285
-2.045
-1.816
-2.825
-2.036
-2.097
-1.363
-3.720
-1.652
-2.675
-2.844
-2.161
-1.233
-1.542
-1.862
-1.513
-1.289
-1.595
-2.825
-1.553
-1.639
-1.425
-1.631
-1.534
-1.825
-1.730
-1.689

-1.210
-2.363
-2.575
-1.382
-1.219
-1.487
-1.635
-1.769
-2.306
-1.399
-1.944
-1.167
-2.102
-1.337
-1.542
-1.907
-1.418
-1.282
-1.519
-1.998
-1.042
-1.679
-1.197
-3.292
-1.078
-1.213
-1.807
-2.366
-1.934
-0.953
-1.273
-0.902
-1.091
-1.385
2.700
-1.276
-1.821
-0.969
-0.949
-1.730
-0.948
-1.221
-1.239
-1.543

-1.385
-1.710
-1.619
-1.791
-1.429
-0.943
-1.183
-1.249
-2.198
-1.309
-0.766
-1.134
-1.294
-0.917
1.193
-0.682
-1.283
-0.840
-1.070
-0.918
-1.878
-0.818
-0.775
2.050
-0.993
-1.034
-0.896
-1.317
-0.803
-0.861
-1.827
-0.654
-1.658
-1.767
-0.803
-1.274
-1.201
-0.881
-0.592
-1.048
-1.241
-1.794
-0.853
-0.910

-0.599
-0.788
-0.936
-1.041
-1.674
-1.217
-0.692
-0.821
-3.982
-3.912
-3.769
-3.582
-3.489
-2.588
-2.506
-2.426
-2.172
-2.128
-1.999
-1.967
-1.781
-1.769
-1.683
-1.652
-1.560
-1.472
-1.446
-1.428
-1.385
-1.365
-1.361
-1.361
-1.358
-1.331
-1.316
-1.236
-1.231
-1.198
-1.196
-1.193
-1.153
-1.152
-1.147
-1.131

-1.129
-1.111
-1.094
-1.048
-1.035
-1.035
-1.029
-1.025
-1.012
-1.008
-1.006
-0.991
-0.989
-0.983
-0.983
-0.980
-0.975
-0.969
-0.950
-0.942
-0.940
-0.936
-0.924
-0.921
-0.921
-0.920
-0.912
-0.911
-0.908
-0.896
-0.894
-0.891
-0.874
-0.840
-0.829
-0.804
-0.795
-0.770
-0.767
-0.749
-0.728
-0.713
-0.696
-0.695

-0.684
-0.669
-0.656
-0.646
-0.620
-0.611
-0.610
-0.609
-0.598
-0.592
0.625
0.672
0.703
0.742
0.761
0.937
0.997
1.617
1.821
1.926
2.648



Up-regulated in ER- cancers	Associated with Cell Growth and Proliferation according to IPA
	yes
	yes
	yes
	yes
yes	
	yes
	yes
	yes
	yes
yes	yes
	yes
yes	

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**Supplementary Table 3: List of microarray breast cancer datasets used in su**

<b>Study</b>	<b>GEO accession</b>	<b>Number of samples</b>
Schmidt et al., 2008	GSE11121	200
Pawitan et al., 2005	GSE1456	159
Symmans et al., 2010	GSE17705	298
Wang et al., 2006	GSE2034	286
Hatzis et al., 2011	GSE25055	310
Hatzis et al., 2011	GSE25065	198
Miller et al., 2005	GSE3494	251
Loi et al., 2007	GSE6532	327
Desmedt et al., 2007	GSE7390	198
Curtis et al., 2012 (METABRIC)	EGAS00000000083	1992



**Supplementary Table 4: Nuclear receptors and co-regulators significantly associate**  
*r.index* : Number of times out of 1000 bootstraps of Univariate Cox Regression in w/  
**Multivariate Cox P-value** : P-value of multivariate Cox regression adjusted for ER sta  
P-values are adjusted using Benjamini-Hochberg method

Entrez Gene ID	Gene Symbol	AFFY		
		probe	r.index	univariate cox hazard_ratio
1028	CDKN1C	213348_at	990	0.728
1072	CFL1	200021_at	996	3.580
1660	DHX9	212107_s_at	762	0.809
23532	PRAME	204086_at	960	1.213
2521	FUS	217370_x_at	981	0.707
2908	GR	201866_s_at	985	0.608
2934	GSN	214040_s_at	909	0.702
29893	PSMC3IP	213951_s_at	864	1.574
3148	HMGB2	208808_s_at	787	1.197
5036	PA2G4	208676_s_at	915	1.756
5241	PR	208305_at	1000	0.583
5467	PPAR $\delta$	208044_s_at	967	2.326
6130	RPL7A	217740_x_at	959	0.379
64324	NSD1	219084_at	816	2.015
6595	SMARCA2	212257_s_at	1000	0.607
672	BRCA1	204531_s_at	972	2.032
890	CCNA2	213226_at	1000	1.636
898	CCNE1	213523_at	998	1.541
9319	TRIP13	204033_at	1000	1.509

**associated with patient survival on both Affymetrix and Illumina platforms**

in which the gene were found to be significantly associated with survival (Univariate Cox Regression) and Node status, multiple testing corrected using Benjamin Hochberg method

AFFYMETRIX ARRAYS			ILLUMINA ARRAYS	
univariate cox (adj. P-value)	multivariate cox hazard ratio	multivariate cox (adj. P-value)	probe	r.index
1.184E-04	0.753	4.931E-03	ILMN_1718565	859
6.805E-05	2.751	1.234E-02	ILMN_1705617	983
8.421E-03	0.680	7.290E-04	ILMN_1690965	826
1.698E-04	1.149	4.564E-02	ILMN_2306033	964
1.184E-04	0.639	1.225E-04	ILMN_2306066	774
1.184E-04	0.723	3.815E-02	ILMN_2389347	981
2.942E-03	0.605	4.931E-03	ILMN_1787518	822
2.594E-03	1.781	1.165E-03	ILMN_2396948	800
7.520E-03	1.191	3.815E-02	ILMN_1654268	984
1.312E-03	1.628	1.923E-02	ILMN_1728984	1000
4.769E-07	0.608	3.592E-04	ILMN_1811014	989
3.024E-04	1.867	3.815E-02	ILMN_1674282	937
2.489E-04	0.415	9.479E-03	ILMN_1740749	842
3.928E-03	2.104	1.918E-02	ILMN_1686136	914
4.562E-07	0.566	7.219E-06	ILMN_1791702	935
9.794E-05	2.610	1.051E-05	ILMN_2311089	881
3.881E-09	1.518	1.705E-04	ILMN_1786125	999
1.254E-06	1.392	9.479E-03	ILMN_2374425	991
4.589E-10	1.480	1.051E-05	ILMN_1796589	998

gression P-value  $\leq 0.05$ )

ILLUMMINA ARRAYS (METABRIC DATASETS)			
univariate cox hazard_ratio	univariate cox (adj. P-value)	multivariate cox hazard ratio	multivariate cox (adj. P-value)
0.761	3.334E-03	0.784	1.227E-02
1.645	2.516E-04	1.440	1.227E-02
1.720	4.082E-03	1.516	3.505E-02
1.251	2.962E-04	1.163	1.789E-02
1.434	6.527E-03	1.493	7.594E-03
0.474	1.829E-04	0.479	1.086E-03
0.657	6.527E-03	0.674	1.723E-02
1.402	5.415E-03	1.437	7.594E-03
1.336	1.932E-04	1.246	7.594E-03
1.844	6.093E-07	1.732	1.829E-05
0.795	2.067E-04	0.834	7.712E-03
1.595	8.681E-04	1.403	2.161E-02
0.750	3.998E-03	0.759	1.120E-02
1.957	1.356E-03	1.743	1.227E-02
0.742	1.284E-03	0.754	6.754E-03
1.514	2.503E-03	1.552	6.754E-03
1.422	5.411E-06	1.292	6.754E-03
1.292	3.079E-05	1.214	1.227E-02
1.311	1.859E-05	1.220	7.594E-03

**Supplementary Table 5A: Over-represented functional annotations c**

Category	Functions
Cellular Growth and Proliferation	proliferation
Gene Expression	transcription
Cell Death and Survival	apoptosis
Cellular Growth and Proliferation	proliferation
Gene Expression	transcription
Cell Death and Survival	cell death
Cancer	genital tumor
Cell Morphology	morphology
Cellular Movement	invasion
Cancer	ovarian cancer
Cellular Growth and Proliferation	growth
Cancer	endometrial carcinoma
Cancer	epithelial ovarian cancer
Endocrine System Disorders	epithelial ovarian cancer
Cellular Movement	invasion
Cancer	non-small cell lung cancer
Respiratory Disease	non-small cell lung cancer
Cell Death and Survival	apoptosis
DNA Replication, Recombination, and Re	DNA damage response
Cancer	lymphocytic leukemia
Cellular Growth and Proliferation	stimulation

**Supplementary Table 5B: Canonical pathways significantly enriched**

*Cell values represents the significance of the over-representation (Bon*

<b>IPA Canonical Pathways</b>	<b>Cancer-Normal</b>
Estrogen Receptor Signaling	4.736E-18
RAR Activation	2.374E-21
Glucocorticoid Receptor Signaling	2.988E-10
Aryl Hydrocarbon Receptor Signaling	1.974E-06
TR-RXR Activation	2.988E-09
PPAR Signaling	3.762E-11
Chronic Myeloid Leukemia Signaling	4.125E-05
Cell Cycle: G1-S Checkpoint Regulation	3.058E-03
Estrogen-Dependent Breast Cancer Signa	1.430E-05
Prostate Cancer Signaling	1.217E-05
Androgen Signaling	1.974E-05
PPAR $\pm$ -RXR $\pm$ Activation	2.603E-04
Small Cell Lung Cancer Signaling	7.681E-03
Cyclins and Cell Cycle Regulation	
Hereditary Breast Cancer Signaling	2.486E-02
VDR-RXR Activation	9.670E-05

Non-Small Cell Lung Cancer Signaling	
FXR-RXR Activation	2.663E-03
PXR-RXR Activation	
Estrogen Biosynthesis	2.116E-03
p53 Signaling	4.420E-04
Role of Oct4 in Mammalian Embryonic Stem Cell Pluripotency	
Pancreatic Adenocarcinoma Signaling	
Glioma Signaling	
Molecular Mechanisms of Cancer	
ErbB2-ErbB3 Signaling	
Estrogen-mediated S-phase Entry	
Thyroid Cancer Signaling	
Role of BRCA1 in DNA Damage Response	
Xenobiotic Metabolism Signaling	8.043E-03
Hypoxia Signaling in the Cardiovascular System	
JAK-Stat Signaling	
Prolactin Signaling	
Wnt- $\beta$ -catenin Signaling	
FLT3 Signaling in Hematopoietic Progenitor Cells	
Endometrial Cancer Signaling	
Huntington's Disease Signaling	
Granzyme A Signaling	3.511E-02



## of up-regulated co-regulators

Functions Annotation	p-Value	Predicted Acti	Activation z-score
proliferation of cells	1.03E-05	Increased	2.307
transcription of RNA	5.10E-07		-0.128
apoptosis	1.85E-04		-1.967
proliferation of tumor cell lines	1.69E-06	Increased	2.075
transcription of DNA	2.61E-05		0.832
cell death of tumor cell lines	2.74E-04		0.119
genital tumor	1.60E-04		
morphology of cells	3.70E-04		
invasion of cells	1.21E-04		0.095
ovarian cancer	5.89E-05		
arrest in growth of tumor cell lin	6.78E-07		
endometrial carcinoma	9.32E-04		
epithelial ovarian cancer	1.27E-04		
epithelial ovarian cancer	1.27E-04		
invasion of tumor cell lines	4.29E-04		0.44
non-small cell lung cancer	3.85E-05		
non-small cell lung cancer	3.85E-05		
apoptosis of breast cancer cell li	7.51E-04		
DNA damage response of cells	1.34E-04		
lymphocytic leukemia	6.32E-04		
stimulation of cells	9.42E-04		

## with down-regulated co-regulators

*ferroni adjusted P-values)*

<i>ERneg-ERpos</i>	<i>ERneg-Normal</i>	<i>ERpos-Normal</i>
7.506E-13	1.498E-28	2.920E-04
4.736E-24	1.498E-27	1.190E-11
1.886E-14	5.963E-16	9.450E-06
2.067E-05	1.886E-14	6.244E-04
1.533E-05	2.988E-14	1.246E-05
4.847E-04	3.762E-12	1.275E-06
1.190E-08	5.963E-11	8.819E-03
1.246E-05	7.506E-09	
7.506E-07	9.450E-09	
4.736E-08	2.988E-08	
1.190E-07	1.605E-07	
	2.215E-07	3.431E-02
6.101E-04	7.169E-07	
1.533E-03	2.988E-06	
2.429E-06	2.486E-05	
	2.663E-05	2.988E-03

4.221E-03	4.847E-05	
	7.506E-05	2.920E-04
	7.681E-04	1.217E-03
	1.464E-03	
4.847E-03	1.533E-03	
5.963E-03	4.847E-03	
1.464E-03	5.438E-03	
5.694E-03	1.430E-02	
1.110E-02	2.067E-02	
1.720E-03	2.374E-02	
	2.603E-02	
	2.854E-02	
	3.353E-02	
	3.676E-02	
3.431E-04		
5.193E-03		
9.235E-03		
1.036E-02		
1.110E-02		
1.398E-02		
1.843E-02		

Molecules	# Molecules
BCL3,CCNA2,CCN	10
BCL3,CCNA2,CCN	9
BCL3,CCNA2,CCN	8
CCNA2,CCND1,C	8
BCL3,CCNA2,CRA	7
BCL3,CCND1,CRA	6
CCND1,CRABP2,	6
BCL3,CCNA2,CCN	6
CCNA2,CCND1,M	5
CCND1,CRABP2,	5
CCND1,GADD45	4
CCNA2,CCND1,C	4
CCND1,CRABP2,	4
CCND1,CRABP2,	4
CCNA2,MUC1,SP	4
CCNA2,CCND1,M	4
CCNA2,CCND1,M	4
CCND1,CRABP2,	3
BCL3,CCND1,VA	3
BCL3,CCND1,ZM	3
CCNA2,CCND1,M	3















VDR	HNF-4 $\alpha$
48	0
100	0
27	0
39	0
0	0
0	0
0	0
0	0

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VDR	HNF-4 $\alpha$
79	0
143	0
61	0
74	0
0	0
0	0
0	0
0	0

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