

# Uncovering gene regulatory relationships from time-series expression data using networkBMA

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This document illustrates the use of the `networkBMA` R package (Fraley et al. 2012) to uncover regulatory relationships in yeast (*Saccharomyces cerevisiae*) from microarray data measuring time-dependent gene-expression levels in 95 genotyped yeast segregants subjected to a drug (rapamycin) perturbation.

## 1 Data

The expression data for this vignette is provided in the `networkBMA` package in the `vignette` database, which consists of three R objects:

**timeSeries:** A 582 by 102 data frame in which the first two columns are factors identifying the replicate and time (in minutes) after drug perturbation, and the remaining 100 columns are the expression measurements for a subset of 100 genes from the yeast-rapamycin experiment described in Yeung et al. (2011). There are  $582/6 = 97$  replicates (the 95 segregants plus two parental strains of the segregants), each with measurements at 6 time points. The complete time series data is available from Array Express (Parkinson et al. 2007) with accession number E-MTAB-412 (<http://www.ebi.ac.uk/arrayexpress/experiments/E-MTAB-412>).

**reg.known:** A 18 by 3 data frame giving known regulatory relationships among this subset of 100 genes. The first two columns give the regulator and target gene, respectively, while the third encodes the source of the regulatory information ('YPD' for Yeast Proteome Database (Hodges et al. 1999) and 'SCPD' for The Promoter Database of *Saccharomyces cerevisiae* (Zhu and Zhang 1999)). In this example, we constrained **reg.known** to high-confidence experimental results obtained from biochemical (non-high-throughput) experiments.

**reg.prob:** A 100 by 100 matrix, giving probability estimates for regulatory relationships in which the  $(i, j)$  entry gives the estimated probability that gene  $i$  regulates gene  $j$ . These were computed using the supervised framework integrating multiple data sources of Lo et al. (2012).

**referencePairs:** A 2-column data frame giving 287 regulator-gene pairs among the selected set of 100 genes reported from the literature. In this yeast example, the reference network was extracted from the documented evidence from the YEASTRACT database (Teixeira et al. 2006), which includes curated regulatory relationships from the literature inferred from high-throughput experiments.

`brem.data`: An 85 by 111 subset of the data used for network inference in yeast (Brem et al. 2002, Brem and Kruglyak 2005). The rows correspond to genes and the columns to experiments. Provided courtesy of Rachel Brem.

```
> library(networkBMA)
> data(vignette)
> dim(timeSeries)
```

```
[1] 582 102
```

```
> dim(reg.prob)
```

```
[1] 100 100
```

```
> dim(brem.data)
```

```
[1] 85 111
```

```
> reg.known
```

	Regulator	TargetGene	source
1	YDR216W	YKR009C	YPD
2	YER040W	YPL111W	YPD
3	YER040W	YKL015W	YPD
4	YER040W	YOR348C	YPD
5	YJR094C	YDR523C	YPD
6	YKL062W	YMR169C	YPD
7	YKL062W	YPL061W	YPD
8	YKL062W	YAL062W	YPD
9	YKL062W	YIL155C	YPD
10	YKL062W	YFL014W	YPD
11	YKL062W	YCR021C	YPD
12	YKL062W	YDR258C	YPD
13	YKL062W	YJR094C	YPD
14	YKL062W	YER150W	YPD
15	YKL062W	YNL194C	YPD
16	YBL103C	YNL037C	YPD
17	YKL112W	YCL064C	SCPD
18	YKL112W	YHR051W	SCPD

## 2 Network Modeling

Given the yeast expression data from the Rapamycin experiments, the `networkBMA` function can be invoked to estimate the probabilities of regulatory relationships using `ScanBMA`, `fastBMA` or iterative Bayesian Model Averaging (Yeung et al. 2005, 2011). The `ScanBMA` algorithm, as shown in Algorithm 1, is preferred when available. The parameter "prior.prob"

indicates the prior probabilities of regulatory relationships. If the parameter "prior.prob" is set to a single positive fraction, it represents the probability of a regulator-gene pair in the network (*i.e.* the expected network density as defined in (Lo et al. 2012)). The parameter "prior.prob" can also be set to a matrix in which the (i,j) entry is the estimated prior probability that gene i regulates gene j. The default value of "prior.prob" is NULL, which implies that no prior information will be used in modeling the network.

```
> edges.ScanBMA <- networkBMA(data = timeSeries[,-(1:2)],
+                             nTimePoints = length(unique(timeSeries$time)),
+                             prior.prob = reg.prob,
+                             nvar = 50,
+                             ordering = "bic1+prior", diff100 = TRUE, diff0 = TRUE)
> edges.ScanBMA[1:9,]
```

	Regulator	TargetGene	PostProb
1	YJL217W	YJL217W	1
2	YIL037C	YIL037C	1
3	YGL009C	YGL009C	1
101	YHR216W	YHR216W	1
102	YOL014W	YOL014W	1
201	YAL062W	YAL062W	1
202	YHR136C	YHR136C	1
203	YJR094C	YJR094C	1
301	YOR032C	YOR032C	1

For each gene  $g$ , the observed gene expression of genes at time  $t - 1$  serve as linear predictors for modeling the observed expression of gene  $g$  at time  $t$ . BMA modeling results in a weighted average of models consisting of relatively small numbers of predictors. The probability of gene  $h$  being a linear predictor in the model for gene  $g$  is taken as the probability that gene  $h$  regulates gene  $g$  in the network.

There are options for ordering the variables (parameter "ordering") and specifying the number of ordered variables (parameter "nvar") to be included in the modeling. In both algorithms ScanBMA and iBMA, all the candidate variables (genes) are initially ranked using the method specified in "ordering", and the top "nvar" such variables will be used as input in the BMA regression step. Note that if ScanBMA is used, the parameter "ordering" will have no effect in the BMA regression step.

Fast BMA is another algorithm option. It is a similar algorithm with Scan BMA but all coded in C++ at the backends. It also used new optimize algorithm and abandoned some options in Scan BMA which would not help efficiently increase algorithm performance. As a result, several parameters will be ignored if fast BMA is used. They are "ordering", "maxreg", "diff0" and "diff100". And flags are controlled by fastBMAcontrol list. The optimize is either a positive integer indicates the accuracy of the optimize algorithm or 0 if no optimize used.

Differentiation can also be performed on edges returned with 0% or 100% posterior probability. To include known regulatory relationships, the iBMA algorithm must be used. This can be done as shown below, but the results shown subsequently will use the call with ScanBMA as the algorithm, as above.

```

> edges.iBMA <- networkBMA(data = timeSeries[,-(1:2)],
+                           nTimePoints = length(unique(timeSeries$time)),
+                           prior.prob = reg.prob, known = reg.known,
+                           nvar = 50, control = iBMAcontrolLM(),
+                           ordering = "bic1+prior", diff100 = FALSE,
+                           diff0 = FALSE)
> edges.iBMA[1:9,]

```

	Regulator	TargetGene	PostProb
1	YBL103C	YBL103C	1
2	YNR053C	YBL103C	1
3	YOR206W	YBL103C	1
4	YKL112W	YKL112W	1
5	YMR229C	YKL112W	1
8	YDR216W	YDR216W	1
9	YDL170W	YDR216W	1
10	YOR302W	YDR216W	1
11	YPL265W	YDR216W	1

```

> edges.fastBMA <- networkBMA(data = timeSeries[,-(1:2)],
+                              nTimePoints = length(unique(timeSeries$time)),
+                              prior.prob = reg.prob,
+                              control = fastBMAcontrol(edges.iBMA),
+                              fastgCtrl = fastgControl(opt))
> edges.fastBMA[1:9,]

```

	Regulator	TargetGene	PostProb
1	YOR206W	YBL103C	1
2	YNR053C	YBL103C	1
9	YDL160C	YER040W	1
10	YNR053C	YER040W	1
11	YDR171W	YGR142W	1
17	YLR267W	YNL036W	1
19	YHR136C	YML123C	1
22	YMR229C	YML123C	1
25	YDR171W	YHR136C	1

### 3 Assessment of Network Models

Although, except for synthetic data, the true underlying network is unknown, the results can be assessed using a set of regulator-target gene network edges reported in the literature. The comparison is done as follows:

- Let  $E$  be the set of regulator-target gene edges resulting from `networkBMA`, possibly reduced using a probability threshold. In the context of the example in Section 2,  $E$  corresponds to the set of edges represented in the object `edges.ScanBMA`.

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**Algorithm 1:** ScanBMA

---

```
Initialize  $\mathcal{M}_{keep}, \mathcal{M}_{next} = \{\}$ 
Initialize  $\mathcal{M}_{active} = \{null\ model\}$ ,  $bestScore = 0$ 
while  $\mathcal{M}_{active}$  not empty do
  for model  $m_{new}$  in NeighborsOf( $\mathcal{M}_{active}$ ) do
     $mScore = EvaluateModelScore(m_{new})$ 
    if  $mScore$  in OccamsWindow( $bestScore$ ) then
      add  $m_{new}$  to  $\mathcal{M}_{next}$ 
       $bestScore = BestModelScore(bestScore, mScore)$ 
    end
  end
  Trim models from  $\mathcal{M}_{keep}$  according to  $bestScore$ 
  Add good models from  $\mathcal{M}_{active}$  to  $\mathcal{M}_{keep}$ 
   $\mathcal{M}_{active} =$  good models from  $\mathcal{M}_{next}$ 
end
return  $\mathcal{M}_{keep}$ 
```

---

- Let  $K$  be the set of known regulator-target gene edges hardcoded in the modeling. In the example in Section 2,  $K$  corresponds to `reg.known`.
- Let  $L$  be the set regulator-target gene edges reported in the literature. In the example in Section 2,  $L$  corresponds to `referencePairs`.
- Let  $E \setminus K$  and  $L \setminus K$  be the set of pairs in  $E$  and  $L$ , respectively, with any hardcoded edges removed. In the example of Section 2,  $E$  represented by `edges.ScanBMA` contains 483 pairs, and  $L$  represented by `referencePairs` contains 287 pairs. Both  $E$  and  $L$  include all 18 of the known hardcoded edges  $K$  represented by `reg.known`. Hence  $E \setminus K$  contains 465 pairs, and  $L \setminus K$  contains 269 pairs.
- Let  $U$  be the set of all directed pairs  $r-g$  such that  $r$  is a regulator in  $L \setminus K$  and  $g$  is a target gene in  $L \setminus K$ . For the example of Section 2,  $L \setminus K$  has 11 unique regulator genes and 99 unique target genes. So there are  $11 \times 99$  or 1089 pairs in  $U$ . Assume further that the linked pairs in  $U$  are precisely those pairs in  $L \setminus K$ , and that all other pairs are unlinked.
- Let  $U \setminus K$  be the set of pairs in  $U$  with any hardcoded edges removed (hardcoded edges may resurface in the unlinked pairs). For the example of Section 2, 17 of the 18 pairs in  $K$  occur in  $U$ , so there are  $1089 - 17 = 1072$  edges in  $U \setminus K$ .

The assessment is done using the contingency table of  $(E \setminus K) \cap (U \setminus K)$  relative to  $U \setminus K$ . For the example of Section 2, the assessment would be done with the 57 of the 465 pairs in  $E \setminus K$  that also belong to  $U \setminus K$ .

A function called `contabs.netBMA` is provided to produce contingency tables from a reference network according the procedure described above. Here we compare the edges produced in Section 2 by `networkBMA` modeling on the yeast data with the reference network `referencePairs` made up of results reported in the literature:

```
> ctables <- contabs.netwBMA( edges.ScanBMA, referencePairs, reg.known,
+                               thresh=c(.5,.75,.9))
```

```
[1] "network Before:"
```

	Regulator	TargetGene	prob
301	YOR032C	YOR032C	1.000000e+00
1602	YDR216W	YDR216W	1.000000e+00
2102	YDL170W	YDL170W	1.000000e+00
2202	YKL062W	YKL062W	1.000000e+00
2203	YGL254W	YGL254W	1.000000e+00
2301	YKL015W	YKL015W	1.000000e+00
2501	YKL112W	YKL112W	1.000000e+00
3401	YMR280C	YMR280C	1.000000e+00
3701	YDR043C	YDR043C	1.000000e+00
5702	YER040W	YER040W	1.000000e+00
6101	YKL112W	YNL270C	1.000000e+00
7601	YDL170W	YCR010C	1.000000e+00
8801	YKL062W	YKR009C	1.000000e+00
9801	YDL170W	YJR110W	1.000000e+00
9901	YKL062W	YDR216W	1.000000e+00
3703	YKL062W	YIL136W	1.000000e+00
7104	YKL062W	YDR361C	1.000000e+00
904	YDR216W	YDR171W	1.000000e+00
5303	YER040W	YMR229C	1.000000e+00
4903	YBL103C	YLR327C	1.000000e+00
2005	YKL015W	YER150W	9.999999e-01
2305	YDR043C	YLR009W	9.999997e-01
1002	YDR043C	YCR021C	9.999784e-01
9203	YKL062W	YLR178C	9.999588e-01
3503	YDR043C	YER002W	9.926295e-01
1603	YER040W	YDL170W	9.903681e-01
7004	YBL103C	YPR002W	9.882139e-01
605	YMR280C	YNL036W	9.870398e-01
9702	YKL015W	YKL040C	9.828064e-01
8405	YDL170W	YHR029C	9.759532e-01
1104	YKL062W	YGR043C	9.096228e-01
404	YDL170W	YER040W	8.727256e-01
2405	YKL062W	YPL111W	8.450150e-01
7005	YER040W	YPR002W	8.164570e-01
805	YKL062W	YHR136C	6.882579e-01
3005	YKL062W	YNR046W	6.295850e-01
2805	YBL103C	YOR100C	5.552321e-01
1508	YDL170W	YOR348C	5.286012e-01
3904	YDR043C	YER158C	5.123184e-01
1509	YDR216W	YOR348C	4.627022e-01

4505	YKL062W	YCL064C	4.302623e-01
3506	YKL062W	YER002W	4.202709e-01
3006	YDR043C	YNR046W	4.069155e-01
8906	YDR043C	YLL034C	3.694592e-01
4406	YMR280C	YKR056W	3.552051e-01
5207	YKL062W	YHL028W	3.319017e-01
8907	YKL062W	YLL034C	3.147426e-01
2406	YKL112W	YPL111W	3.118635e-01
6110	YKL015W	YDR258C	2.726643e-01
8408	YER040W	YHR029C	2.620775e-01
8409	YKL112W	YHR029C	2.182628e-01
9105	YDR043C	YER067W	2.008918e-01
7006	YDL170W	YPR002W	1.717569e-01
2707	YDR043C	YPL012W	1.621825e-01
4204	YMR280C	YGR067C	9.326290e-02
8706	YKL062W	YLR258W	8.575580e-02
7805	YKL062W	YPL036W	8.001430e-02
8506	YKL062W	YOL014W	7.639610e-02
1306	YMR280C	YAL054C	6.050860e-02
3207	YKL062W	YMR193W	5.076040e-02
2008	YDL170W	YER150W	3.848110e-02
2009	YBL103C	YER150W	3.700350e-02
6119	YBL103C	YDR258C	3.174569e-02
4508	YMR280C	YCL064C	3.002860e-02
3407	YDR043C	YLR174W	2.925340e-02
5706	YDL170W	YJL088W	2.902040e-02
1512	YKL062W	YOR348C	2.571560e-02
9607	YKL112W	YJL153C	2.486470e-02
709	YDR043C	YML123C	2.458570e-02
5009	YKL062W	YDL091C	2.103520e-02
5407	YKL062W	YOR206W	2.060740e-02
922	YKL062W	YDR171W	1.930490e-02
7806	YBL103C	YPL036W	1.577170e-02
1513	YKL015W	YOR348C	1.477050e-02
1710	YGL254W	YBR054W	1.424450e-02
6706	YDR043C	YKR009C	1.127072e-02
4613	YKL112W	YJL063C	1.119170e-02
815	YDR043C	YHR136C	9.952100e-03
2503	YDR043C	YOR388C	8.822526e-03
9916	YKL015W	YKL062W	7.384918e-03
7807	YOR032C	YPL036W	7.080500e-03
2711	YKL062W	YPL012W	6.664478e-03
3512	YMR280C	YER002W	6.093500e-03
6012	YKL112W	YDR043C	5.848100e-03
1807	YDR216W	YCR010C	4.388878e-03

8108	YKL112W	YBL042C	4.276927e-03
1414	YKL015W	YFL014W	4.134512e-03
319	YDR216W	YMR280C	3.392674e-03
7808	YDR043C	YPL036W	3.352507e-03
6413	YMR280C	YLR276C	3.311332e-03
5905	YKL015W	YNR028W	2.699416e-03
4412	YKL112W	YKR056W	2.263679e-03
7809	YKL112W	YPL036W	2.186318e-03
2613	YKL062W	YJL172W	2.031746e-03
321	YER040W	YMR280C	1.715859e-03
9210	YKL015W	YLR178C	1.640806e-03
2809	YMR280C	YOR100C	1.564278e-03
2114	YGL254W	YPL061W	1.349289e-03
9714	YKL112W	YKL040C	1.288645e-03
5824	YDR043C	YLL011W	1.228833e-03
4105	YKL112W	YNR064C	1.155329e-03
7612	YKL112W	YAL062W	1.143604e-03
7208	YDR043C	YLL033W	1.139963e-03
9924	YDR216W	YKL062W	1.136548e-03
2117	YER040W	YPL061W	1.097779e-03
9110	YOR032C	YER067W	9.938753e-04
5505	YKL112W	YJR094C	9.377215e-04
7615	YER040W	YAL062W	8.041847e-04
1311	YDR216W	YAL054C	7.240126e-04
3107	YER040W	YJR110W	7.085352e-04
1614	YKL062W	YDL170W	6.620358e-04
107	YKL062W	YKL112W	6.518338e-04
5314	YKL112W	YMR229C	6.153800e-04
9403	YDR043C	YOR032C	6.021894e-04
5827	YKL062W	YLL011W	5.800563e-04
1418	YDL170W	YFL014W	5.600695e-04
9823	YKL015W	YHR087W	4.882721e-04
326	YDL170W	YMR280C	4.740961e-04
8210	YGL254W	YLR130C	4.548084e-04
2909	YKL015W	YMR169C	4.510282e-04
2513	YDL170W	YOR388C	4.487671e-04
2719	YMR280C	YPL012W	3.749033e-04
2617	YER040W	YJL172W	3.361743e-04
2811	YKL062W	YOR100C	3.233403e-04
1422	YDR216W	YFL014W	3.179950e-04
8211	YDR216W	YLR130C	3.131830e-04
3916	YKL015W	YER158C	3.127803e-04
3917	YOR032C	YER158C	3.047235e-04
6207	YBL103C	YKL071W	2.745549e-04
7313	YDL170W	YOR302W	2.706648e-04



5509	YDR043C	YJR094C	2.677044e-04
5412	YDR043C	YOR206W	2.508847e-04
1315	YGL254W	YAL054C	2.484465e-04
7116	YDR043C	YDR361C	2.474675e-04
4208	YDR216W	YGR067C	2.437015e-04
8311	YBL103C	YLR267W	2.395245e-04
2024	YER040W	YER150W	2.334549e-04
3812	YKL015W	YGR183C	2.312097e-04
1022	YER040W	YCR021C	2.278207e-04
331	YGL254W	YMR280C	2.205117e-04
2722	YOR032C	YPL012W	2.181173e-04
4912	YDR216W	YLR327C	2.149646e-04
926	YBL103C	YDR171W	2.145629e-04
8215	YMR280C	YLR130C	2.124343e-04
2315	YKL062W	YLR009W	2.033173e-04
9512	YOR032C	YHR216W	2.023385e-04
3813	YKL062W	YGR183C	1.950767e-04
9933	YDR043C	YKL062W	1.860922e-04
108	YDR043C	YKL112W	1.859648e-04
4913	YER040W	YLR327C	1.794421e-04
9116	YBL103C	YER067W	1.754331e-04
7714	YKL112W	YDR523C	1.746721e-04
6018	YOR032C	YDR043C	1.741403e-04
3114	YBL103C	YJR110W	1.700068e-04
4914	YKL015W	YLR327C	1.686509e-04
5833	YGL254W	YLL011W	1.669997e-04
6809	YOR032C	YKL015W	1.653053e-04
2517	YKL062W	YOR388C	1.648864e-04
6623	YKL112W	YNL037C	1.642704e-04
4010	YOR032C	YJR148W	1.637047e-04
6127	YER040W	YDR258C	1.633385e-04
9214	YER040W	YLR178C	1.601746e-04
2121	YDL170W	YPL061W	1.597378e-04
5514	YER040W	YJR094C	1.526310e-04
9617	YDR043C	YJL153C	1.517209e-04
4711	YBL103C	YDL160C	1.405944e-04
2519	YMR280C	YOR388C	1.405749e-04
6722	YER040W	YKR009C	1.376892e-04
5913	YER040W	YNR028W	1.372189e-04
3720	YER040W	YIL136W	1.328123e-04
9725	YKL062W	YKL040C	1.314229e-04
1435	YDR043C	YFL014W	1.260688e-04
8017	YKL062W	YOR056C	1.242641e-04
8018	YDR043C	YOR056C	1.239953e-04
333	YKL015W	YMR280C	1.222894e-04

9122	YDR216W	YER067W	1.168811e-04
5516	YDL170W	YJR094C	1.163116e-04
1027	YBL103C	YCR021C	1.161262e-04
2520	YER040W	YOR388C	1.146756e-04
1111	YOR032C	YGR043C	1.121684e-04
8619	YDR043C	YNR053C	1.118330e-04
4918	YDL170W	YLR327C	1.106170e-04
5517	YOR032C	YJR094C	1.099354e-04
3115	YGL254W	YJR110W	1.098570e-04
1926	YKL112W	YDR384C	1.079826e-04
9409	YKL062W	YOR032C	1.017373e-04
335	YBL103C	YMR280C	9.858483e-05
6726	YDL170W	YKR009C	9.620874e-05
9939	YMR280C	YKL062W	9.431196e-05
5614	YKL015W	YIL155C	9.354593e-05
9729	YOR032C	YKL040C	9.145716e-05
1626	YKL112W	YDL170W	9.046739e-05
6906	YMR280C	YGL009C	8.908588e-05
5518	YBL103C	YJR094C	8.692344e-05
7718	YKL062W	YDR523C	8.603540e-05
6810	YKL062W	YKL015W	8.567141e-05
3317	YKL015W	YGL254W	8.378584e-05
9016	YBL103C	YDL110C	8.347189e-05
9831	YKL062W	YHR087W	8.229673e-05
6812	YKL112W	YKL015W	7.749511e-05
9732	YER040W	YKL040C	7.613779e-05
6627	YMR280C	YNL037C	7.514219e-05
2915	YDL170W	YMR169C	7.310313e-05
7820	YER040W	YPL036W	7.199133e-05
9942	YKL112W	YKL062W	7.197676e-05
4623	YMR280C	YJL063C	7.114622e-05
9320	YDR043C	YGL229C	7.091607e-05
3820	YMR280C	YGR183C	6.982865e-05
7908	YDR043C	YJL217W	6.963837e-05
9321	YMR280C	YGL229C	6.960399e-05
1631	YBL103C	YDL170W	6.626979e-05
7410	YKL015W	YNL270C	6.502019e-05
6813	YMR280C	YKL015W	6.384302e-05
7722	YER040W	YDR523C	6.149331e-05
2629	YDR043C	YJL172W	6.110538e-05
1930	YKL062W	YDR384C	6.107044e-05
7411	YMR280C	YNL270C	6.048286e-05
6631	YDR043C	YNL037C	5.927016e-05
8221	YKL062W	YLR130C	5.818131e-05
7911	YDR216W	YJL217W	5.803088e-05

8312	YDR043C	YLR267W	5.777822e-05
6734	YBL103C	YKR009C	5.716572e-05
7316	YKL112W	YOR302W	5.685453e-05
4812	YKL112W	YIL037C	5.673267e-05
5522	YGL254W	YJR094C	5.638254e-05
345	YKL062W	YMR280C	5.626419e-05
4217	YKL112W	YGR067C	5.606436e-05
3822	YDR043C	YGR183C	5.573155e-05
346	YOR032C	YMR280C	5.520619e-05
2918	YMR280C	YMR169C	5.451099e-05
9126	YDL170W	YER067W	5.374859e-05
415	YDR043C	YER040W	5.364057e-05
1036	YDL170W	YCR021C	5.325783e-05
7317	YBL103C	YOR302W	5.302314e-05
4715	YER040W	YDL160C	5.273234e-05
9514	YBL103C	YHR216W	5.246698e-05
2532	YBL103C	YOR388C	5.039521e-05
217	YKL015W	YDR216W	4.954761e-05
7412	YKL062W	YNL270C	4.826213e-05
1454	YMR280C	YFL014W	4.780681e-05
9417	YKL015W	YOR032C	4.762414e-05
4814	YKL062W	YIL037C	4.713642e-05
1632	YDR043C	YDL170W	4.549196e-05
6639	YKL015W	YNL037C	4.409747e-05
5416	YMR280C	YOR206W	4.353974e-05
7320	YER040W	YOR302W	4.310284e-05
828	YMR280C	YHR136C	4.264791e-05
4117	YMR280C	YNR064C	4.233747e-05
6137	YDR216W	YDR258C	4.107077e-05
1635	YOR032C	YDL170W	4.050507e-05
5716	YKL062W	YJL088W	3.835422e-05
7015	YKL112W	YPR002W	3.770909e-05
1116	YMR280C	YGR043C	3.691210e-05
5719	YER040W	YJL088W	3.687478e-05
5112	YMR280C	YHR051W	3.681192e-05
218	YDL170W	YDR216W	3.627576e-05
9742	YBL103C	YKL040C	3.538803e-05
9131	YER040W	YER067W	3.517504e-05
9743	YDL170W	YKL040C	3.497766e-05
7828	YDL170W	YPL036W	3.488702e-05
8226	YBL103C	YLR130C	3.475313e-05
8432	YBL103C	YHR029C	3.468308e-05
9217	YDL170W	YLR178C	3.400787e-05
8520	YMR280C	YOL014W	3.384804e-05
6431	YER040W	YLR276C	3.326874e-05

7915	YKL062W	YJL217W	3.266112e-05
934	YDL170W	YDR171W	3.160488e-05
729	YMR280C	YML123C	3.133920e-05
5532	YMR280C	YJR094C	3.113875e-05
4118	YBL103C	YNR064C	3.087882e-05
7217	YDL170W	YLL033W	3.070819e-05
2217	YDR043C	YKR075C	3.051942e-05
8116	YOR032C	YBL042C	3.047466e-05
2218	YMR280C	YKR075C	3.011241e-05
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8228	YDL170W	YLR130C	2.846683e-05
9517	YKL015W	YHR216W	2.820889e-05
126	YOR032C	YKL112W	2.805498e-05
1936	YER040W	YDR384C	2.805228e-05
3729	YDL170W	YIL136W	2.799122e-05
5720	YKL112W	YJL088W	2.778042e-05
6433	YKL062W	YLR276C	2.734314e-05
5851	YMR280C	YLL011W	2.686023e-05
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7919	YMR280C	YJL217W	2.647862e-05
7513	YKL112W	YFR022W	2.604530e-05
8230	YKL112W	YLR130C	2.603658e-05
7832	YMR280C	YPL036W	2.583816e-05
7129	YMR280C	YDR361C	2.548553e-05
5930	YBL103C	YNR028W	2.494533e-05
2134	YBL103C	YPL061W	2.493416e-05
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5031	YOR032C	YDL091C	2.446864e-05
357	YDR043C	YMR280C	2.416850e-05
1824	YER040W	YCR010C	2.402678e-05
1328	YDR043C	YAL054C	2.399200e-05
128	YDL170W	YKL112W	2.377286e-05
6215	YER040W	YKL071W	2.315170e-05
223	YER040W	YDR216W	2.298749e-05
7922	YOR032C	YJL217W	2.297164e-05
8233	YER040W	YLR130C	2.288770e-05
833	YGL254W	YHR136C	2.279321e-05
9331	YKL112W	YGL229C	2.233116e-05
2928	YER040W	YMR169C	2.222405e-05
9950	YOR032C	YKL062W	2.159891e-05
1826	YBL103C	YCR010C	2.153017e-05
6021	YKL062W	YDR043C	2.129365e-05
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7735	YDL170W	YDR523C	2.080357e-05
7219	YKL112W	YLL033W	2.072730e-05
2138	YKL112W	YPL061W	2.063347e-05
733	YKL062W	YML123C	2.040661e-05
7736	YDR043C	YDR523C	1.995620e-05
834	YKL015W	YHR136C	1.980063e-05
9840	YDR216W	YHR087W	1.974842e-05
6523	YKL112W	YLR438W	1.946194e-05
7518	YOR032C	YFR022W	1.935727e-05
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4822	YDL170W	YIL037C	1.845615e-05
7221	YER040W	YLL033W	1.842544e-05
3025	YBL103C	YNR046W	1.814905e-05
2324	YMR280C	YLR009W	1.811048e-05
6440	YDR043C	YLR276C	1.784551e-05
1830	YGL254W	YCR010C	1.780305e-05
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2546	YKL112W	YOR388C	1.669787e-05
2325	YDL170W	YLR009W	1.659497e-05
4720	YDR043C	YDL160C	1.653961e-05
2834	YKL112W	YOR100C	1.603619e-05
2547	YDR216W	YOR388C	1.600462e-05
2229	YKL112W	YKR075C	1.599917e-05
7628	YGL254W	YAL062W	1.597608e-05
6745	YMR280C	YKR009C	1.585847e-05
4721	YDL170W	YDL160C	1.577741e-05
5538	YDR216W	YJR094C	1.554942e-05
6145	YMR280C	YDR258C	1.544585e-05
4315	YBL103C	YPL265W	1.533936e-05
9021	YKL062W	YDL110C	1.526807e-05
5858	YDL170W	YLL011W	1.507655e-05
4232	YKL062W	YGR067C	1.502316e-05
7838	YKL015W	YPL036W	1.502199e-05
1832	YKL112W	YCR010C	1.459846e-05
9425	YKL112W	YOR032C	1.447197e-05
7428	YDR043C	YNL270C	1.433132e-05
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2838	YER040W	YOR100C	1.382148e-05
1467	YBL103C	YFL014W	1.368202e-05
3836	YKL112W	YGR183C	1.352707e-05
4427	YDR216W	YKR056W	1.341729e-05

1124	YDL170W	YGR043C	1.301385e-05
2230	YER040W	YKR075C	1.299394e-05
6932	YKL062W	YGL009C	1.289146e-05
9336	YDR216W	YGL229C	1.248088e-05
7227	YOR032C	YLL033W	1.201057e-05
1343	YDL170W	YAL054C	1.196407e-05
4936	YGL254W	YLR327C	1.194683e-05
6444	YDL170W	YLR276C	1.164164e-05
2333	YBL103C	YLR009W	1.159344e-05
7927	YDL170W	YJL217W	1.140154e-05
6747	YKL112W	YKR009C	1.134916e-05
1471	YKL112W	YFL014W	1.127983e-05
2941	YBL103C	YMR169C	1.098467e-05
9144	YKL062W	YER067W	1.097955e-05
1215	YER040W	YHR018C	1.083133e-05
9338	YBL103C	YGL229C	1.082496e-05
7231	YBL103C	YLL033W	1.076115e-05
4130	YDL170W	YNR064C	1.073972e-05
9524	YDR043C	YHR216W	1.045144e-05
7929	YER040W	YJL217W	1.039800e-05
2231	YKL062W	YKR075C	1.039025e-05
525	YER040W	YGR142W	1.037287e-05
228	YBL103C	YDR216W	1.024234e-05
6224	YOR032C	YKL071W	1.019095e-05
4017	YKL112W	YJR148W	1.003964e-05
2750	YBL103C	YPL012W	9.716072e-06
3735	YKL112W	YIL136W	9.671371e-06
1841	YKL015W	YCR010C	9.255886e-06
9339	YKL062W	YGL229C	9.223619e-06
939	YKL015W	YDR171W	9.164611e-06
3220	YDR043C	YMR193W	8.846968e-06
2650	YDL170W	YJL172W	8.765911e-06
8050	YMR280C	YOR056C	8.730850e-06
4942	YKL112W	YLR327C	8.719970e-06
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2944	YDR043C	YMR169C	8.666203e-06
6227	YDL170W	YKL071W	8.418289e-06
2652	YKL112W	YJL172W	8.344594e-06
6530	YKL062W	YLR438W	8.248821e-06
9631	YMR280C	YJL153C	8.221192e-06
6321	YKL015W	YNL194C	8.092109e-06
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6830	YDR043C	YKL015W	7.920131e-06
2842	YOR032C	YOR100C	7.858714e-06
2560	YOR032C	YOR388C	7.775450e-06

5039	YMR280C	YDL091C	7.742857e-06
2563	YGL254W	YOR388C	7.673306e-06
3737	YKL015W	YIL136W	7.634000e-06
141	YER040W	YKL112W	7.585626e-06
4321	YMR280C	YPL265W	7.562203e-06
6449	YDR216W	YLR276C	7.544046e-06
4826	YDR043C	YIL037C	7.505486e-06
7932	YGL254W	YJL217W	7.493570e-06
3738	YOR032C	YIL136W	7.300849e-06
9632	YER040W	YJL153C	7.289606e-06
9760	YDR216W	YKL040C	7.271380e-06
2947	YOR032C	YMR169C	7.011217e-06
9633	YKL062W	YJL153C	6.932814e-06
2654	YMR280C	YJL172W	6.897514e-06
5040	YKL112W	YDL091C	6.815323e-06
7530	YMR280C	YFR022W	6.623200e-06
4637	YKL062W	YJL063C	6.380821e-06
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8819	YKL062W	YDR380W	6.252150e-06
3338	YKL062W	YGL254W	6.230039e-06
4434	YKL062W	YKR056W	6.177072e-06
2846	YDL170W	YOR100C	6.089676e-06
8727	YKL015W	YLR258W	6.082714e-06
4138	YER040W	YNR064C	5.784629e-06
6833	YDL170W	YKL015W	5.579904e-06
8323	YKL112W	YLR267W	5.497778e-06
4540	YDL170W	YCL064C	5.435528e-06
6942	YDR043C	YGL009C	5.416631e-06
7937	YBL103C	YJL217W	5.410236e-06
7442	YDR216W	YNL270C	5.205863e-06
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4833	YMR280C	YIL037C	5.110947e-06
9763	YGL254W	YKL040C	5.073716e-06
5549	YKL015W	YJR094C	4.750102e-06
5943	YGL254W	YNR028W	4.728916e-06
9025	YOR032C	YDL110C	4.665576e-06
4641	YDL170W	YJL063C	4.660066e-06
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3932	YKL062W	YER158C	4.620258e-06
8824	YDR043C	YDR380W	4.581335e-06
2426	YDR043C	YPL111W	4.570775e-06
5729	YDR216W	YJL088W	4.563106e-06
4249	YER040W	YGR067C	4.538197e-06
6454	YKL112W	YLR276C	4.525177e-06
4544	YDR043C	YCL064C	4.335303e-06

7145	YER040W	YDR361C	4.291178e-06
377	YKL112W	YMR280C	4.281129e-06
3225	YGL254W	YMR193W	4.210543e-06
7942	YKL015W	YJL217W	4.155309e-06
5047	YDR043C	YDL091C	4.129784e-06
9158	YKL112W	YER067W	4.089677e-06
3742	YBL103C	YIL136W	4.006699e-06
6167	YDR043C	YDR258C	3.994869e-06
1065	YMR280C	YCR021C	3.968059e-06
4645	YDR216W	YJL063C	3.884346e-06
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3346	YDL170W	YGL254W	3.842424e-06
5870	YER040W	YLL011W	3.831991e-06
3347	YDR043C	YGL254W	3.819941e-06
9160	YKL015W	YER067W	3.814344e-06
7943	YKL112W	YJL217W	3.784805e-06
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9162	YGL254W	YER067W	3.775882e-06
4546	YER040W	YCL064C	3.749530e-06
2851	YDR216W	YOR100C	3.747063e-06
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5871	YKL015W	YLL011W	3.701246e-06
3421	YDR216W	YLR174W	3.687687e-06
7537	YER040W	YFR022W	3.684195e-06
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7765	YMR280C	YDR523C	3.576189e-06
7538	YBL103C	YFR022W	3.521667e-06
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6662	YDR216W	YNL037C	3.466172e-06
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4331	YKL112W	YPL265W	3.320012e-06
4333	YER040W	YPL265W	3.250735e-06
4965	YKL062W	YLR327C	3.208970e-06
6665	YDL170W	YNL037C	3.141530e-06
3041	YDL170W	YNR046W	3.120892e-06
9444	YER040W	YOR032C	3.065905e-06
5124	YKL062W	YHR051W	3.065417e-06
4742	YKL112W	YDL160C	3.042818e-06
2658	YBL103C	YJL172W	2.997725e-06



4654	YBL103C	YJL063C	2.977507e-06
9535	YDR216W	YHR216W	2.959753e-06
9026	YDR043C	YDL110C	2.928778e-06
1534	YBL103C	YOR348C	2.927453e-06
4655	YGL254W	YJL063C	2.856963e-06
8122	YDR043C	YBL042C	2.835073e-06
7770	YDR216W	YDR523C	2.803375e-06
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3869	YOR032C	YGR183C	2.659605e-06
8735	YMR280C	YLR258W	2.656563e-06
2578	YKL015W	YOR388C	2.655979e-06
9773	YDR043C	YKL040C	2.650948e-06
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3351	YMR280C	YGL254W	2.537092e-06
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8550	YER040W	YOL014W	2.459148e-06
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1482	YER040W	YFL014W	2.376735e-06
4261	YOR032C	YGR067C	2.365293e-06
7453	YOR032C	YNL270C	2.355988e-06
8329	YDL170W	YLR267W	2.345593e-06
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9974	YBL103C	YKL062W	2.328548e-06
3149	YDR043C	YJR110W	2.292513e-06
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8737	YDR216W	YLR258W	2.235055e-06
948	YDR043C	YDR171W	2.206772e-06
9451	YGL254W	YOR032C	2.190747e-06
1483	YGL254W	YFL014W	2.188471e-06
7772	YBL103C	YDR523C	2.181965e-06
4341	YGL254W	YPL265W	2.180645e-06
4036	YMR280C	YJR148W	2.170412e-06
7157	YBL103C	YDR361C	2.162694e-06
2163	YKL015W	YPL061W	2.158359e-06

150	YBL103C	YKL112W	2.157105e-06
3045	YMR280C	YNR046W	2.157020e-06
4972	YMR280C	YLR327C	2.125996e-06
4660	YDR043C	YJL063C	2.122301e-06
6538	YBL103C	YLR438W	2.069954e-06
5958	YDR216W	YNR028W	2.053595e-06
1138	YDR043C	YGR043C	2.052446e-06
3425	YDL170W	YLR174W	2.008937e-06
7862	YGL254W	YPL036W	1.993109e-06
9646	YDL170W	YJL153C	1.977620e-06
1966	YDL170W	YDR384C	1.969089e-06
544	YDL170W	YGR142W	1.894895e-06
860	YOR032C	YHR136C	1.893873e-06
243	YKL112W	YDR216W	1.849844e-06
9648	YGL254W	YJL153C	1.810807e-06
4444	YDR043C	YKR056W	1.807817e-06
1967	YMR280C	YDR384C	1.790257e-06
7253	YMR280C	YLL033W	1.787734e-06
3936	YBL103C	YER158C	1.778938e-06
755	YGL254W	YML123C	1.770274e-06
4267	YDR043C	YGR067C	1.766114e-06
6244	YDR216W	YKL071W	1.753050e-06
2775	YKL015W	YPL012W	1.751222e-06
3937	YKL112W	YER158C	1.749050e-06
624	YKL062W	YNL036W	1.710514e-06
4344	YKL015W	YPL265W	1.667861e-06
1540	YDR043C	YOR348C	1.657474e-06
5630	YDR216W	YIL155C	1.634800e-06
8462	YKL062W	YHR029C	1.629413e-06
7551	YDR043C	YFR022W	1.615094e-06
8557	YKL112W	YOL014W	1.610283e-06
8464	YGL254W	YHR029C	1.604953e-06
9362	YOR032C	YGL229C	1.603476e-06
1362	YKL062W	YAL054C	1.593880e-06
6171	YKL112W	YDR258C	1.585309e-06
9035	YDR216W	YDL110C	1.579954e-06
2170	YDR043C	YPL061W	1.563278e-06
6245	YKL062W	YKL071W	1.549785e-06
9175	YMR280C	YER067W	1.477988e-06
1082	YOR032C	YCR021C	1.477241e-06
3875	YER040W	YGR183C	1.442289e-06
5059	YKL015W	YDL091C	1.437434e-06
2970	YKL112W	YMR169C	1.428194e-06
7463	YGL254W	YNL270C	1.426510e-06
864	YDR216W	YHR136C	1.411803e-06

5060	YDL170W	YDL091C	1.406422e-06
4667	YER040W	YJL063C	1.389297e-06
7554	YDL170W	YFR022W	1.388916e-06
7776	YKL015W	YDR523C	1.370463e-06
1364	YBL103C	YAL054C	1.346004e-06
8072	YER040W	YOR056C	1.344296e-06
4148	YDR043C	YNR064C	1.342349e-06
2250	YDL170W	YKR075C	1.324519e-06
1736	YDL170W	YBR054W	1.313490e-06
2780	YKL112W	YPL012W	1.298412e-06
2362	YKL112W	YLR009W	1.291328e-06
4346	YDR216W	YPL265W	1.287961e-06
548	YKL062W	YGR142W	1.281227e-06
9467	YDL170W	YOR032C	1.269964e-06
9546	YER040W	YHR216W	1.264038e-06
3357	YBL103C	YGL254W	1.263555e-06
9547	YMR280C	YHR216W	1.242194e-06
4561	YBL103C	YCL064C	1.241591e-06
4981	YDR043C	YLR327C	1.240844e-06
5228	YKL015W	YHL028W	1.239132e-06
1085	YDR216W	YCR021C	1.237335e-06
2363	YER040W	YLR009W	1.229627e-06
549	YOR032C	YGR142W	1.216262e-06
761	YKL015W	YML123C	1.201315e-06
6680	YKL062W	YNL037C	1.199350e-06
2676	YOR032C	YJL172W	1.164790e-06
1972	YDR043C	YDR384C	1.148392e-06
4448	YER040W	YKR056W	1.141432e-06
9233	YMR280C	YLR178C	1.132936e-06
1369	YOR032C	YAL054C	1.124635e-06
7363	YGL254W	YOR302W	1.118812e-06
9863	YMR280C	YHR087W	1.116292e-06
1144	YKL112W	YGR043C	1.112887e-06
6682	YER040W	YNL037C	1.111894e-06
4348	YDL170W	YPL265W	1.094165e-06
4984	YOR032C	YLR327C	1.069947e-06
3364	YOR032C	YGL254W	1.048031e-06
1672	YMR280C	YDL170W	1.041926e-06
9039	YMR280C	YDL110C	1.041197e-06
6542	YER040W	YLR438W	1.040094e-06
9982	YER040W	YKL062W	1.034413e-06
9983	YDL170W	YKL062W	1.032724e-06
2878	YKL015W	YOR100C	1.031000e-06
956	YMR280C	YDR171W	1.029089e-06
1550	YGL254W	YOR348C	1.027904e-06

9783	YMR280C	YKL040C	1.015636e-06
2684	YGL254W	YJL172W	1.008334e-06
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7650	YMR280C	YAL062W	9.848851e-07
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8470	YDR043C	YHR029C	9.783838e-07
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3754	YMR280C	YIL136W	9.135168e-07
2177	YMR280C	YPL061W	8.869984e-07
630	YKL112W	YNL036W	8.823279e-07
3241	YKL112W	YMR193W	8.810514e-07
5639	YKL112W	YIL155C	8.776311e-07
7166	YDL170W	YDR361C	8.761235e-07
8472	YMR280C	YHR029C	8.759649e-07
7167	YKL015W	YDR361C	8.682706e-07
7365	YDR043C	YDR302W	8.664523e-07
5973	YMR280C	YNR028W	8.639333e-07
2431	YBL103C	YPL111W	8.596604e-07
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6255	YKL112W	YKL071W	8.486958e-07
4856	YKL015W	YIL037C	8.468379e-07
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6256	YGL254W	YKL071W	8.352567e-07
4045	YER040W	YJR148W	8.338371e-07
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7260	YGL254W	YLL033W	8.290747e-07
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7654	YDL170W	YAL062W	8.165204e-07
8270	YDR043C	YLR130C	8.090509e-07
6032	YER040W	YDR043C	8.042436e-07
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3947	YMR280C	YER158C	7.858503e-07
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2787	YDR216W	YPL012W	7.691461e-07
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2788	YER040W	YPL012W	7.669801e-07
4279	YGL254W	YGR067C	7.661517e-07
4047	YDL170W	YJR148W	7.489216e-07
7883	YDR216W	YPL036W	7.387493e-07
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5642	YMR280C	YIL155C	7.361374e-07
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247	YMR280C	YDR216W	7.329538e-07
3884	YDL170W	YGR183C	7.305360e-07
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4456	YGL254W	YKR056W	7.195516e-07
3171	YDR216W	YJR110W	7.138000e-07
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632	YDR043C	YNL036W	6.706271e-07
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8077	YDL170W	YOR056C	6.658879e-07
4160	YOR032C	YNR064C	6.650012e-07
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8567	YGL254W	YOL014W	6.424376e-07
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5235	YMR280C	YHL028W	5.907707e-07
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9668	YDR216W	YJL153C	5.740501e-07

8141	YDR216W	YBL042C	5.714690e-07
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5071	YER040W	YDL091C	5.683241e-07
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9049	YER040W	YDL110C	5.589546e-07
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6549	YMR280C	YLR438W	5.550476e-07
8574	YDR216W	YOL014W	5.432053e-07
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4867	YDR216W	YIL037C	5.297112e-07
6277	YKL015W	YKL071W	5.276529e-07
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7383	YDR216W	YOR302W	5.237570e-07
8483	YKL015W	YHR029C	5.236999e-07
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3888	YDR216W	YGR183C	5.107006e-07
6980	YDR216W	YGL009C	5.106374e-07
5236	YOR032C	YHL028W	5.081975e-07
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884	YER040W	YHR136C	5.021893e-07
3181	YMR280C	YJR110W	4.998641e-07
6982	YDL170W	YGL009C	4.970752e-07
6983	YKL015W	YGL009C	4.964949e-07
964	YKL112W	YDR171W	4.947203e-07
431	YKL062W	YER040W	4.895102e-07
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4767	YMR280C	YDL160C	4.769419e-07
8751	YKL112W	YLR258W	4.740989e-07
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2260	YBL103C	YKR075C	4.684033e-07
6788	YKL015W	YKR009C	4.643860e-07
780	YKL112W	YML123C	4.601309e-07
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5883	YDR216W	YLL011W	4.434138e-07
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432	YOR032C	YER040W	4.352617e-07
6792	YOR032C	YKR009C	4.344212e-07
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6986	YOR032C	YGL009C	4.258122e-07
8931	YMR280C	YLL034C	4.248749e-07
9671	YOR032C	YJL153C	4.238481e-07
7280	YKL062W	YLL033W	4.176545e-07
9374	YGL254W	YGL229C	4.149649e-07
4289	YKL015W	YGR067C	4.148525e-07
2888	YGL254W	YOR100C	4.081420e-07
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888	YDL170W	YHR136C	3.887055e-07
7045	YMR280C	YPR002W	3.823072e-07
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9875	YOR032C	YHR087W	3.790158e-07
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6992	YGL254W	YGL009C	3.735109e-07
6337	YDL170W	YNL194C	3.729228e-07
3393	YDR216W	YGL254W	3.724096e-07
2058	YDR216W	YER150W	3.672922e-07
9056	YKL015W	YDL110C	3.609496e-07
1987	YOR032C	YDR384C	3.586172e-07
4590	YKL015W	YCL064C	3.519563e-07
8088	YBL103C	YOR056C	3.479142e-07
6484	YBL103C	YLR276C	3.442676e-07
6696	YGL254W	YNL037C	3.369853e-07
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4058	YBL103C	YJR148W	3.334640e-07
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3894	YGL254W	YGR183C	3.276725e-07
3952	YDL170W	YER158C	3.269552e-07
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4680	YKL015W	YJL063C	3.219492e-07
7587	YDR216W	YFR022W	3.217649e-07
2061	YMR280C	YER150W	3.207887e-07
7588	YKL015W	YFR022W	3.179528e-07

8492	YOR032C	YHR029C	3.127845e-07
6191	YDL170W	YDR258C	3.109435e-07
5355	YDL170W	YMR229C	3.104245e-07
8583	YDL170W	YOL014W	3.100253e-07
9248	YBL103C	YLR178C	3.097832e-07
5756	YBL103C	YJL088W	3.096002e-07
5356	YDR043C	YMR229C	3.039653e-07
5995	YOR032C	YNR028W	3.036747e-07
8765	YGL254W	YLR258W	3.024801e-07
565	YGL254W	YGR142W	3.020875e-07
4190	YGL254W	YNR064C	3.013679e-07
8766	YDL170W	YLR258W	2.984309e-07
1747	YMR280C	YBR054W	2.971727e-07
4779	YGL254W	YDL160C	2.961868e-07
4370	YOR032C	YPL265W	2.961623e-07
2996	YGL254W	YMR169C	2.958872e-07
1991	YKL015W	YDR384C	2.958298e-07
6555	YDL170W	YLR438W	2.924751e-07
7394	YOR032C	YOR302W	2.898420e-07
3070	YDR216W	YNR046W	2.884668e-07
9379	YDL170W	YGL229C	2.876939e-07
1992	YGL254W	YDR384C	2.825300e-07
1889	YOR032C	YCR010C	2.804243e-07
7190	YDR216W	YDR361C	2.792746e-07
5760	YDR043C	YJL088W	2.790037e-07
1691	YKL015W	YDL170W	2.758108e-07
4061	YDR043C	YJR148W	2.724680e-07
6698	YOR032C	YNL037C	2.669472e-07
9877	YGL254W	YHR087W	2.651968e-07
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4888	YGL254W	YIL037C	2.591776e-07
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4685	YOR032C	YJL063C	2.589502e-07
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3449	YBL103C	YLR174W	2.514381e-07
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6558	YDR043C	YLR438W	2.492428e-07
8773	YDR043C	YLR258W	2.486179e-07
2384	YDR216W	YLR009W	2.461493e-07
8349	YER040W	YLR267W	2.413679e-07



3197	YKL015W	YJR110W	2.393831e-07
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6197	YOR032C	YDR258C	2.335031e-07
3252	YDR216W	YMR193W	2.304392e-07
573	YMR280C	YGR142W	2.302145e-07
8350	YMR280C	YLR267W	2.280940e-07
9682	YKL015W	YJL153C	2.231007e-07
1751	YKL015W	YBR054W	2.224510e-07
792	YDL170W	YML123C	2.193569e-07
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5360	YKL062W	YMR229C	2.178292e-07
5361	YMR280C	YMR229C	2.171349e-07
7671	YBL103C	YAL062W	2.164409e-07
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6342	YER040W	YNL194C	2.137419e-07
9879	YDR043C	YHR087W	2.093988e-07
2391	YOR032C	YLR009W	2.083739e-07
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9880	YER040W	YHR087W	2.000043e-07
6492	YOR032C	YLR276C	1.947101e-07
4196	YDR216W	YNR064C	1.920942e-07
7194	YOR032C	YDR361C	1.849657e-07
5362	YOR032C	YMR229C	1.833765e-07
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4470	YDL170W	YKR056W	1.795745e-07
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8094	YOR032C	YOR056C	1.788916e-07
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2442	YDL170W	YPL111W	1.739175e-07
1997	YDR216W	YDR384C	1.728369e-07
438	YKL112W	YER040W	1.726597e-07
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978	YGL254W	YDR171W	1.668875e-07
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1572	YKL112W	YOR348C	1.609744e-07
8353	YGL254W	YLR267W	1.587609e-07
4072	YKL062W	YJR148W	1.583843e-07
2274	YDR216W	YKR075C	1.583642e-07
5467	YBL103C	YOR206W	1.540753e-07
1245	YKL112W	YHR018C	1.535501e-07

6344	YMR280C	YNL194C	1.528917e-07
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9883	YBL103C	YHR087W	1.455193e-07
274	YOR032C	YDR216W	1.452130e-07
4792	YKL015W	YDL160C	1.438340e-07
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1246	YDL170W	YHR018C	1.433464e-07
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9389	YKL015W	YGL229C	1.251679e-07
8860	YER040W	YDR380W	1.235397e-07
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587	YDR216W	YGR142W	1.222716e-07
6346	YDR216W	YNL194C	1.216007e-07
278	YDR043C	YDR216W	1.180717e-07
5473	YKL112W	YOR206W	1.178267e-07
5150	YOR032C	YHR051W	1.134171e-07
8636	YKL112W	YNR053C	1.105646e-07
5249	YBL103C	YHL028W	1.093626e-07
4082	YKL015W	YJR148W	1.055341e-07
1181	YKL015W	YGR043C	1.046240e-07
9578	YDL170W	YHR216W	1.034528e-07
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655	YOR032C	YNL036W	1.008842e-07
5781	YMR280C	YJL088W	9.798656e-08
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8791	YOR032C	YLR258W	9.224313e-08
594	YKL015W	YGR142W	9.173766e-08
4478	YBL103C	YKR056W	8.809371e-08
657	YBL103C	YNL036W	8.660453e-08
3461	YER040W	YLR174W	8.590534e-08
4088	YGL254W	YJR148W	8.359196e-08
3261	YER040W	YMR193W	8.144738e-08
8870	YBL103C	YDR380W	7.782381e-08
7687	YKL015W	YAL062W	7.654164e-08
7688	YOR032C	YAL062W	7.389701e-08
9266	YDR043C	YLR178C	7.364270e-08
4481	YOR032C	YKR056W	7.055061e-08
4482	YKL015W	YKR056W	7.016066e-08
3098	YKL015W	YNR046W	6.992371e-08

5481	YDL170W	YOR206W	6.966028e-08
3464	YOR032C	YLR174W	6.930614e-08
5482	YER040W	YOR206W	6.868510e-08
3465	YGL254W	YLR174W	6.782377e-08
8874	YOR032C	YDR380W	6.652638e-08
5666	YDL170W	YIL155C	6.637913e-08
9269	YKL112W	YLR178C	6.612156e-08
3645	YDR043C	YDL018C	6.604682e-08
5374	YBL103C	YMR229C	6.362157e-08
9890	YKL112W	YHR087W	6.215973e-08
2072	YDR043C	YER150W	6.178454e-08
5091	YDR216W	YDL091C	6.084416e-08
658	YDL170W	YNL036W	5.918941e-08
659	YER040W	YNL036W	5.891908e-08
1258	YDR043C	YHR018C	5.670279e-08
3469	YKL015W	YLR174W	5.463119e-08
5092	YGL254W	YDL091C	5.443634e-08
3470	YKL112W	YLR174W	5.378642e-08
2076	YOR032C	YER150W	4.948199e-08
8796	YER040W	YLR258W	4.891328e-08
1769	YKL062W	YBR054W	4.859406e-08
8649	YMR280C	YNR053C	4.490586e-08
4095	YDR216W	YJR148W	4.453732e-08
7068	YDR043C	YPR002W	4.398260e-08
2291	YKL015W	YKR075C	4.288657e-08
3784	YGL254W	YIL136W	4.173601e-08
7695	YDR216W	YAL062W	3.975500e-08
5792	YKL015W	YJL088W	3.912847e-08
5257	YKL112W	YHL028W	3.819907e-08
5679	YER040W	YIL155C	3.699628e-08
8171	YKL062W	YBL042C	3.641969e-08
1262	YMR280C	YHR018C	3.501455e-08
5165	YER040W	YHR051W	3.475488e-08
5493	YKL015W	YOR206W	3.316992e-08
5167	YDL170W	YHR051W	3.160903e-08
5258	YDL170W	YHL028W	3.132570e-08
3274	YDL170W	YMR193W	3.127197e-08
5495	YGL254W	YOR206W	2.933707e-08
3275	YBL103C	YMR193W	2.901609e-08
3276	YOR032C	YMR193W	2.894428e-08
3983	YGL254W	YER158C	2.875559e-08
8177	YDL170W	YBL042C	2.751032e-08
8798	YBL103C	YLR258W	2.741625e-08
8178	YBL103C	YBL042C	2.737798e-08
5266	YGL254W	YHL028W	2.470341e-08

8181	YGL254W	YBL042C	2.465432e-08
6062	YGL254W	YDR043C	2.352903e-08
7081	YKL062W	YPR002W	2.265495e-08
1268	YKL015W	YHR018C	2.214708e-08
9087	YKL112W	YDL110C	2.177746e-08
8893	YKL015W	YDR380W	2.176031e-08
5392	YGL254W	YMR229C	2.065439e-08
5176	YKL015W	YHR051W	1.951626e-08
5177	YDR216W	YHR051W	1.936570e-08
9286	YDR216W	YLR178C	1.933329e-08
3988	YDR216W	YER158C	1.929950e-08
5179	YBL103C	YHR051W	1.898659e-08
1776	YKL112W	YBR054W	1.877532e-08
6366	YKL112W	YNL194C	1.860593e-08
9289	YOR032C	YLR178C	1.681573e-08
7085	YOR032C	YPR002W	1.638367e-08
998	YOR032C	YDR171W	1.567563e-08
1780	YDR043C	YBR054W	1.552947e-08
1276	YDR216W	YHR018C	1.531931e-08
3563	YER040W	YER002W	1.429458e-08
8895	YGL254W	YDR380W	1.421348e-08
8376	YDR216W	YLR267W	1.419710e-08
8966	YKL112W	YLL034C	1.384586e-08
6074	YMR280C	YDR043C	1.375462e-08
8896	YDR216W	YDR380W	1.361437e-08
5398	YDR216W	YMR229C	1.334220e-08
3662	YKL112W	YDL018C	1.307774e-08
8377	YOR032C	YLR267W	1.286995e-08
8967	YOR032C	YLL034C	1.281572e-08
8192	YER040W	YBL042C	1.246717e-08
3564	YKL112W	YER002W	1.233222e-08
5187	YGL254W	YHR051W	1.223427e-08
3663	YER040W	YDL018C	1.209428e-08
6585	YKL015W	YLR438W	1.195342e-08
475	YDR216W	YER040W	1.195278e-08
8662	YOR032C	YNR053C	1.144617e-08
3665	YBL103C	YDL018C	1.132389e-08
9291	YGL254W	YLR178C	1.124196e-08
6586	YDR216W	YLR438W	1.123959e-08
3567	YOR032C	YER002W	1.115111e-08
2092	YKL112W	YER150W	1.104225e-08
7092	YGL254W	YPR002W	1.094152e-08
8663	YDL170W	YNR053C	1.090977e-08
3667	YKL062W	YDL018C	1.083190e-08
8970	YBL103C	YLL034C	1.058461e-08

3570	YKL015W	YER002W	9.790809e-09
5693	YGL254W	YIL155C	9.617025e-09
6588	YGL254W	YLR438W	9.403447e-09
3670	YMR280C	YDL018C	9.335947e-09
8387	YKL015W	YLR267W	8.984958e-09
6591	YOR032C	YLR438W	8.605294e-09
692	YKL015W	YNL036W	8.431042e-09
2472	YMR280C	YPL111W	7.946890e-09
1791	YOR032C	YBR054W	7.832869e-09
480	YGL254W	YER040W	7.808352e-09
693	YGL254W	YNL036W	7.627300e-09
8668	YER040W	YNR053C	7.309328e-09
3289	YKL015W	YMR193W	7.229978e-09
8391	YKL062W	YLR267W	7.151841e-09
489	YKL015W	YER040W	6.583925e-09
2477	YGL254W	YPL111W	6.048505e-09
6380	YBL103C	YNL194C	5.999192e-09
6381	YDR043C	YNL194C	5.560139e-09
8978	YKL015W	YLL034C	5.409282e-09
3676	YDL170W	YDL018C	5.135293e-09
8672	YGL254W	YNR053C	4.714647e-09
1294	YGL254W	YHR018C	4.640672e-09
2484	YDR216W	YPL111W	4.509132e-09
8983	YER040W	YLL034C	4.129122e-09
3683	YKL015W	YDL018C	4.087688e-09
8986	YDL170W	YLL034C	3.750259e-09
3580	YDL170W	YER002W	3.519412e-09
2489	YKL015W	YPL111W	3.388153e-09
3581	YBL103C	YER002W	3.267304e-09
8681	YBL103C	YNR053C	2.937690e-09
2490	YOR032C	YPL111W	2.889436e-09
3691	YOR032C	YDL018C	2.502677e-09
3692	YDR216W	YDL018C	2.498999e-09
6091	YDR216W	YDR043C	2.445018e-09
3589	YDR216W	YER002W	2.032706e-09
8690	YKL015W	YNR053C	1.967438e-09
3696	YGL254W	YDL018C	1.820362e-09
8993	YDR216W	YLL034C	1.675807e-09
8695	YDR216W	YNR053C	1.391757e-09
8996	YGL254W	YLL034C	1.344210e-09
3595	YGL254W	YER002W	1.177156e-09
6395	YGL254W	YNL194C	1.158014e-09

[1] "network After:"

	Regulator	TargetGene	prob
301	YOR032C	YOR032C	1.000000e+00

1602	YDR216W	YDR216W	1.000000e+00
2102	YDL170W	YDL170W	1.000000e+00
2202	YKL062W	YKL062W	1.000000e+00
2203	YGL254W	YGL254W	1.000000e+00
2301	YKL015W	YKL015W	1.000000e+00
2501	YKL112W	YKL112W	1.000000e+00
3401	YMR280C	YMR280C	1.000000e+00
3701	YDR043C	YDR043C	1.000000e+00
5702	YER040W	YER040W	1.000000e+00
6101	YKL112W	YNL270C	1.000000e+00
7601	YDL170W	YCR010C	1.000000e+00
8801	YKL062W	YKR009C	1.000000e+00
9801	YDL170W	YJR110W	1.000000e+00
9901	YKL062W	YDR216W	1.000000e+00
3703	YKL062W	YIL136W	1.000000e+00
7104	YKL062W	YDR361C	1.000000e+00
904	YDR216W	YDR171W	1.000000e+00
5303	YER040W	YMR229C	1.000000e+00
4903	YBL103C	YLR327C	1.000000e+00
2005	YKL015W	YER150W	9.999999e-01
2305	YDR043C	YLR009W	9.999997e-01
1002	YDR043C	YCR021C	9.999784e-01
9203	YKL062W	YLR178C	9.999588e-01
3503	YDR043C	YER002W	9.926295e-01
1603	YER040W	YDL170W	9.903681e-01
7004	YBL103C	YPR002W	9.882139e-01
605	YMR280C	YNL036W	9.870398e-01
9702	YKL015W	YKL040C	9.828064e-01
8405	YDL170W	YHR029C	9.759532e-01
1104	YKL062W	YGR043C	9.096228e-01
404	YDL170W	YER040W	8.727256e-01
2405	YKL062W	YPL111W	8.450150e-01
7005	YER040W	YPR002W	8.164570e-01
805	YKL062W	YHR136C	6.882579e-01
3005	YKL062W	YNR046W	6.295850e-01
2805	YBL103C	YOR100C	5.552321e-01
1508	YDL170W	YOR348C	5.286012e-01
3904	YDR043C	YER158C	5.123184e-01
1509	YDR216W	YOR348C	4.627022e-01
4505	YKL062W	YCL064C	4.302623e-01
3506	YKL062W	YER002W	4.202709e-01
3006	YDR043C	YNR046W	4.069155e-01
8906	YDR043C	YLL034C	3.694592e-01
4406	YMR280C	YKR056W	3.552051e-01
5207	YKL062W	YHL028W	3.319017e-01

8907	YKL062W	YLL034C	3.147426e-01
2406	YKL112W	YPL111W	3.118635e-01
6110	YKL015W	YDR258C	2.726643e-01
8408	YER040W	YHR029C	2.620775e-01
8409	YKL112W	YHR029C	2.182628e-01
9105	YDR043C	YER067W	2.008918e-01
7006	YDL170W	YPR002W	1.717569e-01
2707	YDR043C	YPL012W	1.621825e-01
4204	YMR280C	YGR067C	9.326290e-02
8706	YKL062W	YLR258W	8.575580e-02
7805	YKL062W	YPL036W	8.001430e-02
8506	YKL062W	YOL014W	7.639610e-02
1306	YMR280C	YAL054C	6.050860e-02
3207	YKL062W	YMR193W	5.076040e-02
2008	YDL170W	YER150W	3.848110e-02
2009	YBL103C	YER150W	3.700350e-02
6119	YBL103C	YDR258C	3.174569e-02
4508	YMR280C	YCL064C	3.002860e-02
3407	YDR043C	YLR174W	2.925340e-02
5706	YDL170W	YJL088W	2.902040e-02
1512	YKL062W	YOR348C	2.571560e-02
9607	YKL112W	YJL153C	2.486470e-02
709	YDR043C	YML123C	2.458570e-02
5009	YKL062W	YDL091C	2.103520e-02
5407	YKL062W	YOR206W	2.060740e-02
922	YKL062W	YDR171W	1.930490e-02
7806	YBL103C	YPL036W	1.577170e-02
1513	YKL015W	YOR348C	1.477050e-02
1710	YGL254W	YBR054W	1.424450e-02
6706	YDR043C	YKR009C	1.127072e-02
4613	YKL112W	YJL063C	1.119170e-02
815	YDR043C	YHR136C	9.952100e-03
2503	YDR043C	YOR388C	8.822526e-03
9916	YKL015W	YKL062W	7.384918e-03
7807	YOR032C	YPL036W	7.080500e-03
2711	YKL062W	YPL012W	6.664478e-03
3512	YMR280C	YER002W	6.093500e-03
6012	YKL112W	YDR043C	5.848100e-03
1807	YDR216W	YCR010C	4.388878e-03
8108	YKL112W	YBL042C	4.276927e-03
1414	YKL015W	YFL014W	4.134512e-03
319	YDR216W	YMR280C	3.392674e-03
7808	YDR043C	YPL036W	3.352507e-03
6413	YMR280C	YLR276C	3.311332e-03
5905	YKL015W	YNR028W	2.699416e-03

4412	YKL112W	YKR056W	2.263679e-03
7809	YKL112W	YPL036W	2.186318e-03
2613	YKL062W	YJL172W	2.031746e-03
321	YER040W	YMR280C	1.715859e-03
9210	YKL015W	YLR178C	1.640806e-03
2809	YMR280C	YOR100C	1.564278e-03
2114	YGL254W	YPL061W	1.349289e-03
9714	YKL112W	YKL040C	1.288645e-03
5824	YDR043C	YLL011W	1.228833e-03
4105	YKL112W	YNR064C	1.155329e-03
7612	YKL112W	YAL062W	1.143604e-03
7208	YDR043C	YLL033W	1.139963e-03
9924	YDR216W	YKL062W	1.136548e-03
2117	YER040W	YPL061W	1.097779e-03
9110	YOR032C	YER067W	9.938753e-04
5505	YKL112W	YJR094C	9.377215e-04
7615	YER040W	YAL062W	8.041847e-04
1311	YDR216W	YAL054C	7.240126e-04
3107	YER040W	YJR110W	7.085352e-04
1614	YKL062W	YDL170W	6.620358e-04
107	YKL062W	YKL112W	6.518338e-04
5314	YKL112W	YMR229C	6.153800e-04
9403	YDR043C	YOR032C	6.021894e-04
5827	YKL062W	YLL011W	5.800563e-04
1418	YDL170W	YFL014W	5.600695e-04
9823	YKL015W	YHR087W	4.882721e-04
326	YDL170W	YMR280C	4.740961e-04
8210	YGL254W	YLR130C	4.548084e-04
2909	YKL015W	YMR169C	4.510282e-04
2513	YDL170W	YOR388C	4.487671e-04
2719	YMR280C	YPL012W	3.749033e-04
2617	YER040W	YJL172W	3.361743e-04
2811	YKL062W	YOR100C	3.233403e-04
1422	YDR216W	YFL014W	3.179950e-04
8211	YDR216W	YLR130C	3.131830e-04
3916	YKL015W	YER158C	3.127803e-04
3917	YOR032C	YER158C	3.047235e-04
6207	YBL103C	YKL071W	2.745549e-04
7313	YDL170W	YOR302W	2.706648e-04
5509	YDR043C	YJR094C	2.677044e-04
5412	YDR043C	YOR206W	2.508847e-04
1315	YGL254W	YAL054C	2.484465e-04
7116	YDR043C	YDR361C	2.474675e-04
4208	YDR216W	YGR067C	2.437015e-04
8311	YBL103C	YLR267W	2.395245e-04



2024	YER040W	YER150W	2.334549e-04
3812	YKL015W	YGR183C	2.312097e-04
1022	YER040W	YCR021C	2.278207e-04
331	YGL254W	YMR280C	2.205117e-04
2722	YOR032C	YPL012W	2.181173e-04
4912	YDR216W	YLR327C	2.149646e-04
926	YBL103C	YDR171W	2.145629e-04
8215	YMR280C	YLR130C	2.124343e-04
2315	YKL062W	YLR009W	2.033173e-04
9512	YOR032C	YHR216W	2.023385e-04
3813	YKL062W	YGR183C	1.950767e-04
9933	YDR043C	YKL062W	1.860922e-04
108	YDR043C	YKL112W	1.859648e-04
4913	YER040W	YLR327C	1.794421e-04
9116	YBL103C	YER067W	1.754331e-04
7714	YKL112W	YDR523C	1.746721e-04
6018	YOR032C	YDR043C	1.741403e-04
3114	YBL103C	YJR110W	1.700068e-04
4914	YKL015W	YLR327C	1.686509e-04
5833	YGL254W	YLL011W	1.669997e-04
6809	YOR032C	YKL015W	1.653053e-04
2517	YKL062W	YOR388C	1.648864e-04
6623	YKL112W	YNL037C	1.642704e-04
4010	YOR032C	YJR148W	1.637047e-04
6127	YER040W	YDR258C	1.633385e-04
9214	YER040W	YLR178C	1.601746e-04
2121	YDL170W	YPL061W	1.597378e-04
5514	YER040W	YJR094C	1.526310e-04
9617	YDR043C	YJL153C	1.517209e-04
4711	YBL103C	YDL160C	1.405944e-04
2519	YMR280C	YOR388C	1.405749e-04
6722	YER040W	YKR009C	1.376892e-04
5913	YER040W	YNR028W	1.372189e-04
3720	YER040W	YIL136W	1.328123e-04
9725	YKL062W	YKL040C	1.314229e-04
1435	YDR043C	YFL014W	1.260688e-04
8017	YKL062W	YOR056C	1.242641e-04
8018	YDR043C	YOR056C	1.239953e-04
333	YKL015W	YMR280C	1.222894e-04
9122	YDR216W	YER067W	1.168811e-04
5516	YDL170W	YJR094C	1.163116e-04
1027	YBL103C	YCR021C	1.161262e-04
2520	YER040W	YOR388C	1.146756e-04
1111	YOR032C	YGR043C	1.121684e-04
8619	YDR043C	YNR053C	1.118330e-04

4918	YDL170W	YLR327C	1.106170e-04
5517	YOR032C	YJR094C	1.099354e-04
3115	YGL254W	YJR110W	1.098570e-04
1926	YKL112W	YDR384C	1.079826e-04
9409	YKL062W	YOR032C	1.017373e-04
335	YBL103C	YMR280C	9.858483e-05
6726	YDL170W	YKR009C	9.620874e-05
9939	YMR280C	YKL062W	9.431196e-05
5614	YKL015W	YIL155C	9.354593e-05
9729	YOR032C	YKL040C	9.145716e-05
1626	YKL112W	YDL170W	9.046739e-05
6906	YMR280C	YGL009C	8.908588e-05
5518	YBL103C	YJR094C	8.692344e-05
7718	YKL062W	YDR523C	8.603540e-05
6810	YKL062W	YKL015W	8.567141e-05
3317	YKL015W	YGL254W	8.378584e-05
9016	YBL103C	YDL110C	8.347189e-05
9831	YKL062W	YHR087W	8.229673e-05
6812	YKL112W	YKL015W	7.749511e-05
9732	YER040W	YKL040C	7.613779e-05
6627	YMR280C	YNL037C	7.514219e-05
2915	YDL170W	YMR169C	7.310313e-05
7820	YER040W	YPL036W	7.199133e-05
9942	YKL112W	YKL062W	7.197676e-05
4623	YMR280C	YJL063C	7.114622e-05
9320	YDR043C	YGL229C	7.091607e-05
3820	YMR280C	YGR183C	6.982865e-05
7908	YDR043C	YJL217W	6.963837e-05
9321	YMR280C	YGL229C	6.960399e-05
1631	YBL103C	YDL170W	6.626979e-05
7410	YKL015W	YNL270C	6.502019e-05
6813	YMR280C	YKL015W	6.384302e-05
7722	YER040W	YDR523C	6.149331e-05
2629	YDR043C	YJL172W	6.110538e-05
1930	YKL062W	YDR384C	6.107044e-05
7411	YMR280C	YNL270C	6.048286e-05
6631	YDR043C	YNL037C	5.927016e-05
8221	YKL062W	YLR130C	5.818131e-05
7911	YDR216W	YJL217W	5.803088e-05
8312	YDR043C	YLR267W	5.777822e-05
6734	YBL103C	YKR009C	5.716572e-05
7316	YKL112W	YOR302W	5.685453e-05
4812	YKL112W	YIL037C	5.673267e-05
5522	YGL254W	YJR094C	5.638254e-05
345	YKL062W	YMR280C	5.626419e-05

4217	YKL112W	YGR067C	5.606436e-05
3822	YDR043C	YGR183C	5.573155e-05
346	YOR032C	YMR280C	5.520619e-05
2918	YMR280C	YMR169C	5.451099e-05
9126	YDL170W	YER067W	5.374859e-05
415	YDR043C	YER040W	5.364057e-05
1036	YDL170W	YCR021C	5.325783e-05
7317	YBL103C	YOR302W	5.302314e-05
4715	YER040W	YDL160C	5.273234e-05
9514	YBL103C	YHR216W	5.246698e-05
2532	YBL103C	YOR388C	5.039521e-05
217	YKL015W	YDR216W	4.954761e-05
7412	YKL062W	YNL270C	4.826213e-05
1454	YMR280C	YFL014W	4.780681e-05
9417	YKL015W	YOR032C	4.762414e-05
4814	YKL062W	YIL037C	4.713642e-05
1632	YDR043C	YDL170W	4.549196e-05
6639	YKL015W	YNL037C	4.409747e-05
5416	YMR280C	YOR206W	4.353974e-05
7320	YER040W	YOR302W	4.310284e-05
828	YMR280C	YHR136C	4.264791e-05
4117	YMR280C	YNR064C	4.233747e-05
6137	YDR216W	YDR258C	4.107077e-05
1635	YOR032C	YDL170W	4.050507e-05
5716	YKL062W	YJL088W	3.835422e-05
7015	YKL112W	YPR002W	3.770909e-05
1116	YMR280C	YGR043C	3.691210e-05
5719	YER040W	YJL088W	3.687478e-05
5112	YMR280C	YHR051W	3.681192e-05
218	YDL170W	YDR216W	3.627576e-05
9742	YBL103C	YKL040C	3.538803e-05
9131	YER040W	YER067W	3.517504e-05
9743	YDL170W	YKL040C	3.497766e-05
7828	YDL170W	YPL036W	3.488702e-05
8226	YBL103C	YLR130C	3.475313e-05
8432	YBL103C	YHR029C	3.468308e-05
9217	YDL170W	YLR178C	3.400787e-05
8520	YMR280C	YOL014W	3.384804e-05
6431	YER040W	YLR276C	3.326874e-05
7915	YKL062W	YJL217W	3.266112e-05
934	YDL170W	YDR171W	3.160488e-05
729	YMR280C	YML123C	3.133920e-05
5532	YMR280C	YJR094C	3.113875e-05
4118	YBL103C	YNR064C	3.087882e-05
7217	YDL170W	YLL033W	3.070819e-05

2217	YDR043C	YKR075C	3.051942e-05
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2218	YMR280C	YKR075C	3.011241e-05
9836	YDL170W	YHR087W	2.879614e-05
1821	YKL062W	YCR010C	2.857842e-05
8228	YDL170W	YLR130C	2.846683e-05
9517	YKL015W	YHR216W	2.820889e-05
126	YOR032C	YKL112W	2.805498e-05
1936	YER040W	YDR384C	2.805228e-05
3729	YDL170W	YIL136W	2.799122e-05
5720	YKL112W	YJL088W	2.778042e-05
6433	YKL062W	YLR276C	2.734314e-05
5851	YMR280C	YLL011W	2.686023e-05
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7919	YMR280C	YJL217W	2.647862e-05
7513	YKL112W	YFR022W	2.604530e-05
8230	YKL112W	YLR130C	2.603658e-05
7832	YMR280C	YPL036W	2.583816e-05
7129	YMR280C	YDR361C	2.548553e-05
5930	YBL103C	YNR028W	2.494533e-05
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5932	YKL112W	YNR028W	2.471808e-05
5031	YOR032C	YDL091C	2.446864e-05
357	YDR043C	YMR280C	2.416850e-05
1824	YER040W	YCR010C	2.402678e-05
1328	YDR043C	YAL054C	2.399200e-05
128	YDL170W	YKL112W	2.377286e-05
6215	YER040W	YKL071W	2.315170e-05
223	YER040W	YDR216W	2.298749e-05
7922	YOR032C	YJL217W	2.297164e-05
8233	YER040W	YLR130C	2.288770e-05
833	YGL254W	YHR136C	2.279321e-05
9331	YKL112W	YGL229C	2.233116e-05
2928	YER040W	YMR169C	2.222405e-05
9950	YOR032C	YKL062W	2.159891e-05
1826	YBL103C	YCR010C	2.153017e-05
6021	YKL062W	YDR043C	2.129365e-05
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7735	YDL170W	YDR523C	2.080357e-05
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733	YKL062W	YML123C	2.040661e-05
7736	YDR043C	YDR523C	1.995620e-05
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9840	YDR216W	YHR087W	1.974842e-05
6523	YKL112W	YLR438W	1.946194e-05
7518	YOR032C	YFR022W	1.935727e-05
9424	YBL103C	YOR032C	1.881462e-05
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4822	YDL170W	YIL037C	1.845615e-05
7221	YER040W	YLL033W	1.842544e-05
3025	YBL103C	YNR046W	1.814905e-05
2324	YMR280C	YLR009W	1.811048e-05
6440	YDR043C	YLR276C	1.784551e-05
1830	YGL254W	YCR010C	1.780305e-05
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522	YDR043C	YGR142W	1.699126e-05
8040	YKL112W	YOR056C	1.689480e-05
2546	YKL112W	YOR388C	1.669787e-05
2325	YDL170W	YLR009W	1.659497e-05
4720	YDR043C	YDL160C	1.653961e-05
2834	YKL112W	YOR100C	1.603619e-05
2547	YDR216W	YOR388C	1.600462e-05
2229	YKL112W	YKR075C	1.599917e-05
7628	YGL254W	YAL062W	1.597608e-05
6745	YMR280C	YKR009C	1.585847e-05
4721	YDL170W	YDL160C	1.577741e-05
5538	YDR216W	YJR094C	1.554942e-05
6145	YMR280C	YDR258C	1.544585e-05
4315	YBL103C	YPL265W	1.533936e-05
9021	YKL062W	YDL110C	1.526807e-05
5858	YDL170W	YLL011W	1.507655e-05
4232	YKL062W	YGR067C	1.502316e-05
7838	YKL015W	YPL036W	1.502199e-05
1832	YKL112W	YCR010C	1.459846e-05
9425	YKL112W	YOR032C	1.447197e-05
7428	YDR043C	YNL270C	1.433132e-05
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2838	YER040W	YOR100C	1.382148e-05
1467	YBL103C	YFL014W	1.368202e-05
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2230	YER040W	YKR075C	1.299394e-05
6932	YKL062W	YGL009C	1.289146e-05
9336	YDR216W	YGL229C	1.248088e-05
7227	YOR032C	YLL033W	1.201057e-05
1343	YDL170W	YAL054C	1.196407e-05

4936	YGL254W	YLR327C	1.194683e-05
6444	YDL170W	YLR276C	1.164164e-05
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7927	YDL170W	YJL217W	1.140154e-05
6747	YKL112W	YKR009C	1.134916e-05
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2941	YBL103C	YMR169C	1.098467e-05
9144	YKL062W	YER067W	1.097955e-05
1215	YER040W	YHR018C	1.083133e-05
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7231	YBL103C	YLL033W	1.076115e-05
4130	YDL170W	YNR064C	1.073972e-05
9524	YDR043C	YHR216W	1.045144e-05
7929	YER040W	YJL217W	1.039800e-05
2231	YKL062W	YKR075C	1.039025e-05
525	YER040W	YGR142W	1.037287e-05
228	YBL103C	YDR216W	1.024234e-05
6224	YOR032C	YKL071W	1.019095e-05
4017	YKL112W	YJR148W	1.003964e-05
2750	YBL103C	YPL012W	9.716072e-06
3735	YKL112W	YIL136W	9.671371e-06
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9339	YKL062W	YGL229C	9.223619e-06
939	YKL015W	YDR171W	9.164611e-06
3220	YDR043C	YMR193W	8.846968e-06
2650	YDL170W	YJL172W	8.765911e-06
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6227	YDL170W	YKL071W	8.418289e-06
2652	YKL112W	YJL172W	8.344594e-06
6530	YKL062W	YLR438W	8.248821e-06
9631	YMR280C	YJL153C	8.221192e-06
6321	YKL015W	YNL194C	8.092109e-06
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6830	YDR043C	YKL015W	7.920131e-06
2842	YOR032C	YOR100C	7.858714e-06
2560	YOR032C	YOR388C	7.775450e-06
5039	YMR280C	YDL091C	7.742857e-06
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3737	YKL015W	YIL136W	7.634000e-06
141	YER040W	YKL112W	7.585626e-06
4321	YMR280C	YPL265W	7.562203e-06
6449	YDR216W	YLR276C	7.544046e-06

4826	YDR043C	YIL037C	7.505486e-06
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3738	YOR032C	YIL136W	7.300849e-06
9632	YER040W	YJL153C	7.289606e-06
9760	YDR216W	YKL040C	7.271380e-06
2947	YOR032C	YMR169C	7.011217e-06
9633	YKL062W	YJL153C	6.932814e-06
2654	YMR280C	YJL172W	6.897514e-06
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7530	YMR280C	YFR022W	6.623200e-06
4637	YKL062W	YJL063C	6.380821e-06
7441	YDL170W	YNL270C	6.323033e-06
8819	YKL062W	YDR380W	6.252150e-06
3338	YKL062W	YGL254W	6.230039e-06
4434	YKL062W	YKR056W	6.177072e-06
2846	YDL170W	YOR100C	6.089676e-06
8727	YKL015W	YLR258W	6.082714e-06
4138	YER040W	YNR064C	5.784629e-06
6833	YDL170W	YKL015W	5.579904e-06
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4540	YDL170W	YCL064C	5.435528e-06
6942	YDR043C	YGL009C	5.416631e-06
7937	YBL103C	YJL217W	5.410236e-06
7442	YDR216W	YNL270C	5.205863e-06
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4833	YMR280C	YIL037C	5.110947e-06
9763	YGL254W	YKL040C	5.073716e-06
5549	YKL015W	YJR094C	4.750102e-06
5943	YGL254W	YNR028W	4.728916e-06
9025	YOR032C	YDL110C	4.665576e-06
4641	YDL170W	YJL063C	4.660066e-06
7144	YKL112W	YDR361C	4.628863e-06
3932	YKL062W	YER158C	4.620258e-06
8824	YDR043C	YDR380W	4.581335e-06
2426	YDR043C	YPL111W	4.570775e-06
5729	YDR216W	YJL088W	4.563106e-06
4249	YER040W	YGR067C	4.538197e-06
6454	YKL112W	YLR276C	4.525177e-06
4544	YDR043C	YCL064C	4.335303e-06
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377	YKL112W	YMR280C	4.281129e-06
3225	YGL254W	YMR193W	4.210543e-06
7942	YKL015W	YJL217W	4.155309e-06
5047	YDR043C	YDL091C	4.129784e-06
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3742	YBL103C	YIL136W	4.006699e-06
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1065	YMR280C	YCR021C	3.968059e-06
4645	YDR216W	YJL063C	3.884346e-06
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3346	YDL170W	YGL254W	3.842424e-06
5870	YER040W	YLL011W	3.831991e-06
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7943	YKL112W	YJL217W	3.784805e-06
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9162	YGL254W	YER067W	3.775882e-06
4546	YER040W	YCL064C	3.749530e-06
2851	YDR216W	YOR100C	3.747063e-06
6025	YKL015W	YDR043C	3.733617e-06
5871	YKL015W	YLL011W	3.701246e-06
3421	YDR216W	YLR174W	3.687687e-06
7537	YER040W	YFR022W	3.684195e-06
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7765	YMR280C	YDR523C	3.576189e-06
7538	YBL103C	YFR022W	3.521667e-06
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6662	YDR216W	YNL037C	3.466172e-06
1477	YOR032C	YFL014W	3.462118e-06
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5219	YDR043C	YHL028W	3.354458e-06
7448	YER040W	YNL270C	3.335423e-06
4331	YKL112W	YPL265W	3.320012e-06
4333	YER040W	YPL265W	3.250735e-06
4965	YKL062W	YLR327C	3.208970e-06
6665	YDL170W	YNL037C	3.141530e-06
3041	YDL170W	YNR046W	3.120892e-06
9444	YER040W	YOR032C	3.065905e-06
5124	YKL062W	YHR051W	3.065417e-06
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2658	YBL103C	YJL172W	2.997725e-06
4654	YBL103C	YJL063C	2.977507e-06
9535	YDR216W	YHR216W	2.959753e-06
9026	YDR043C	YDL110C	2.928778e-06
1534	YBL103C	YOR348C	2.927453e-06
4655	YGL254W	YJL063C	2.856963e-06
8122	YDR043C	YBL042C	2.835073e-06



7770	YDR216W	YDR523C	2.803375e-06
9028	YDL170W	YDL110C	2.757057e-06
1355	YKL112W	YAL054C	2.744895e-06
6947	YKL112W	YGL009C	2.743455e-06
149	YGL254W	YKL112W	2.727368e-06
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3869	YOR032C	YGR183C	2.659605e-06
8735	YMR280C	YLR258W	2.656563e-06
2578	YKL015W	YOR388C	2.655979e-06
9773	YDR043C	YKL040C	2.650948e-06
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418	YMR280C	YER040W	2.603506e-06
7771	YOR032C	YDR523C	2.569077e-06
3351	YMR280C	YGL254W	2.537092e-06
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8550	YER040W	YOL014W	2.459148e-06
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753	YDR216W	YML123C	2.412266e-06
1536	YMR280C	YOR348C	2.397289e-06
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1482	YER040W	YFL014W	2.376735e-06
4261	YOR032C	YGR067C	2.365293e-06
7453	YOR032C	YNL270C	2.355988e-06
8329	YDL170W	YLR267W	2.345593e-06
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8737	YDR216W	YLR258W	2.235055e-06
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4036	YMR280C	YJR148W	2.170412e-06
7157	YBL103C	YDR361C	2.162694e-06
2163	YKL015W	YPL061W	2.158359e-06
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3045	YMR280C	YNR046W	2.157020e-06
4972	YMR280C	YLR327C	2.125996e-06
4660	YDR043C	YJL063C	2.122301e-06
6538	YBL103C	YLR438W	2.069954e-06
5958	YDR216W	YNR028W	2.053595e-06

1138	YDR043C	YGR043C	2.052446e-06
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7862	YGL254W	YPL036W	1.993109e-06
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1966	YDL170W	YDR384C	1.969089e-06
544	YDL170W	YGR142W	1.894895e-06
860	YOR032C	YHR136C	1.893873e-06
243	YKL112W	YDR216W	1.849844e-06
9648	YGL254W	YJL153C	1.810807e-06
4444	YDR043C	YKR056W	1.807817e-06
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7253	YMR280C	YLL033W	1.787734e-06
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755	YGL254W	YML123C	1.770274e-06
4267	YDR043C	YGR067C	1.766114e-06
6244	YDR216W	YKL071W	1.753050e-06
2775	YKL015W	YPL012W	1.751222e-06
3937	YKL112W	YER158C	1.749050e-06
624	YKL062W	YNL036W	1.710514e-06
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9362	YOR032C	YGL229C	1.603476e-06
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6171	YKL112W	YDR258C	1.585309e-06
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2970	YKL112W	YMR169C	1.428194e-06
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864	YDR216W	YHR136C	1.411803e-06
5060	YDL170W	YDL091C	1.406422e-06
4667	YER040W	YJL063C	1.389297e-06
7554	YDL170W	YFR022W	1.388916e-06
7776	YKL015W	YDR523C	1.370463e-06
1364	YBL103C	YAL054C	1.346004e-06
8072	YER040W	YOR056C	1.344296e-06

4148	YDR043C	YNR064C	1.342349e-06
2250	YDL170W	YKR075C	1.324519e-06
1736	YDL170W	YBR054W	1.313490e-06
2780	YKL112W	YPL012W	1.298412e-06
2362	YKL112W	YLR009W	1.291328e-06
4346	YDR216W	YPL265W	1.287961e-06
548	YKL062W	YGR142W	1.281227e-06
9467	YDL170W	YOR032C	1.269964e-06
9546	YER040W	YHR216W	1.264038e-06
3357	YBL103C	YGL254W	1.263555e-06
9547	YMR280C	YHR216W	1.242194e-06
4561	YBL103C	YCL064C	1.241591e-06
4981	YDR043C	YLR327C	1.240844e-06
5228	YKL015W	YHL028W	1.239132e-06
1085	YDR216W	YCR021C	1.237335e-06
2363	YER040W	YLR009W	1.229627e-06
549	YOR032C	YGR142W	1.216262e-06
761	YKL015W	YML123C	1.201315e-06
6680	YKL062W	YNL037C	1.199350e-06
2676	YOR032C	YJL172W	1.164790e-06
1972	YDR043C	YDR384C	1.148392e-06
4448	YER040W	YKR056W	1.141432e-06
9233	YMR280C	YLR178C	1.132936e-06
1369	YOR032C	YAL054C	1.124635e-06
7363	YGL254W	YOR302W	1.118812e-06
9863	YMR280C	YHR087W	1.116292e-06
1144	YKL112W	YGR043C	1.112887e-06
6682	YER040W	YNL037C	1.111894e-06
4348	YDL170W	YPL265W	1.094165e-06
4984	YOR032C	YLR327C	1.069947e-06
3364	YOR032C	YGL254W	1.048031e-06
1672	YMR280C	YDL170W	1.041926e-06
9039	YMR280C	YDL110C	1.041197e-06
6542	YER040W	YLR438W	1.040094e-06
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2878	YKL015W	YOR100C	1.031000e-06
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1550	YGL254W	YOR348C	1.027904e-06
9783	YMR280C	YKL040C	1.015636e-06
2684	YGL254W	YJL172W	1.008334e-06
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7650	YMR280C	YAL062W	9.848851e-07

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3241	YKL112W	YMR193W	8.810514e-07
5639	YKL112W	YIL155C	8.776311e-07
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4045	YER040W	YJR148W	8.338371e-07
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7260	YGL254W	YLL033W	8.290747e-07
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3947	YMR280C	YER158C	7.858503e-07
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169	YDR216W	YKL112W	7.366588e-07
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9557	YKL062W	YHR216W	7.351072e-07
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3884	YDL170W	YGR183C	7.305360e-07
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3171	YDR216W	YJR110W	7.138000e-07
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632	YDR043C	YNL036W	6.706271e-07
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8077	YDL170W	YOR056C	6.658879e-07
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8567	YGL254W	YOL014W	6.424376e-07
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1385	YKL015W	YAL054C	5.678535e-07
8078	YDR216W	YOR056C	5.630600e-07
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6983	YKL015W	YGL009C	4.964949e-07
964	YKL112W	YDR171W	4.947203e-07
431	YKL062W	YER040W	4.895102e-07
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4767	YMR280C	YDL160C	4.769419e-07
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888	YDL170W	YHR136C	3.887055e-07
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6337	YDL170W	YNL194C	3.729228e-07
3393	YDR216W	YGL254W	3.724096e-07
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9056	YKL015W	YDL110C	3.609496e-07
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7588	YKL015W	YFR022W	3.179528e-07
8492	YOR032C	YHR029C	3.127845e-07
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9248	YBL103C	YLR178C	3.097832e-07
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8765	YGL254W	YLR258W	3.024801e-07
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8766	YDL170W	YLR258W	2.984309e-07
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4370	YOR032C	YPL265W	2.961623e-07
2996	YGL254W	YMR169C	2.958872e-07
1991	YKL015W	YDR384C	2.958298e-07
6555	YDL170W	YLR438W	2.924751e-07
7394	YOR032C	YOR302W	2.898420e-07
3070	YDR216W	YNR046W	2.884668e-07
9379	YDL170W	YGL229C	2.876939e-07
1992	YGL254W	YDR384C	2.825300e-07
1889	YOR032C	YCR010C	2.804243e-07
7190	YDR216W	YDR361C	2.792746e-07
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6698	YOR032C	YNL037C	2.669472e-07
9877	YGL254W	YHR087W	2.651968e-07
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8773	YDR043C	YLR258W	2.486179e-07
2384	YDR216W	YLR009W	2.461493e-07
8349	YER040W	YLR267W	2.413679e-07
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3252	YDR216W	YMR193W	2.304392e-07



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9682	YKL015W	YJL153C	2.231007e-07
1751	YKL015W	YBR054W	2.224510e-07
792	YDL170W	YML123C	2.193569e-07
793	YBL103C	YML123C	2.191418e-07
5360	YKL062W	YMR229C	2.178292e-07
5361	YMR280C	YMR229C	2.171349e-07
7671	YBL103C	YAL062W	2.164409e-07
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9879	YDR043C	YHR087W	2.093988e-07
2391	YOR032C	YLR009W	2.083739e-07
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2442	YDL170W	YPL111W	1.739175e-07
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978	YGL254W	YDR171W	1.668875e-07
2066	YGL254W	YER150W	1.667044e-07
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274	YOR032C	YDR216W	1.452130e-07
4792	YKL015W	YDL160C	1.438340e-07
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1246	YDL170W	YHR018C	1.433464e-07
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9389	YKL015W	YGL229C	1.251679e-07
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6346	YDR216W	YNL194C	1.216007e-07
278	YDR043C	YDR216W	1.180717e-07
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5249	YBL103C	YHL028W	1.093626e-07
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[1071] 1.177156e-09 1.158014e-09

```

```
> ctables
```

```

      TP  FN  FP  TN
0.5  18 251 21 782
0.75 18 251 16 787
0.9   18 251 13 790

```

Another function called ‘contabs’ is provided for computing contingency tables when the true underlying network is known. The `scores` function can be used to obtain common assessment statistics from the contingency tables, including sensitivity, specificity, precision, recall, and false discovery rate among other measures.

```
> scores( ctables, what = c("FDR", "precision", "recall"))
```

```

      FDR precision  recall
0.5  0.5384615 0.4615385 0.0669145
0.75 0.4705882 0.5294118 0.0669145
0.9  0.4193548 0.5806452 0.0669145

```

Areas under the ROC and Precision-Recall curves covered by contingency tables can also be estimated using functions `roc` and `prc`, with the option to plot the associated curves. The following gives the ROC and Precision-Recall curves associated with the default contingency tables, in which the thresholds are all values for posterior probabilities that appear in `edges.ScanBMA`.

```
> roc( contabs.netwBMA( edges.ScanBMA, referencePairs), plotit = TRUE)
```

```
[1] "network Before:"
      Regulator TargetGene      prob
203   YJR094C   YJR094C 1.000000e+00
301   YOR032C   YOR032C 1.000000e+00
1602  YDR216W   YDR216W 1.000000e+00
2102  YDL170W   YDL170W 1.000000e+00
2202  YKL062W   YKL062W 1.000000e+00
2203  YGL254W   YGL254W 1.000000e+00
2301  YKL015W   YKL015W 1.000000e+00
2501  YKL112W   YKL112W 1.000000e+00
3401  YMR280C   YMR280C 1.000000e+00
3701  YDR043C   YDR043C 1.000000e+00
5702  YER040W   YER040W 1.000000e+00
6101  YKL112W   YNL270C 1.000000e+00
7601  YDL170W   YCR010C 1.000000e+00
8801  YKL062W   YKR009C 1.000000e+00
9801  YDL170W   YJR110W 1.000000e+00
9901  YKL062W   YDR216W 1.000000e+00
2004  YKL062W   YER150W 1.000000e+00
3703  YKL062W   YIL136W 1.000000e+00
2903  YKL062W   YMR169C 1.000000e+00
7104  YKL062W   YDR361C 1.000000e+00
904   YDR216W   YDR171W 1.000000e+00
5303  YER040W   YMR229C 1.000000e+00
4903  YBL103C   YLR327C 1.000000e+00
7604  YKL062W   YAL062W 1.000000e+00
2005  YKL015W   YER150W 9.999999e-01
2305  YDR043C   YLR009W 9.999997e-01
1402  YKL062W   YFL014W 9.999968e-01
1002  YDR043C   YCR021C 9.999784e-01
9203  YKL062W   YLR178C 9.999588e-01
3503  YDR043C   YER002W 9.926295e-01
1603  YER040W   YDL170W 9.903681e-01
7004  YBL103C   YPR002W 9.882139e-01
605   YMR280C   YNL036W 9.870398e-01
9702  YKL015W   YKL040C 9.828064e-01
8405  YDL170W   YHR029C 9.759532e-01
1104  YKL062W   YGR043C 9.096228e-01
```

404	YDL170W	YER040W	8.727256e-01
2405	YKL062W	YPL111W	8.450150e-01
7005	YER040W	YPR002W	8.164570e-01
805	YKL062W	YHR136C	6.882579e-01
3005	YKL062W	YNR046W	6.295850e-01
2805	YBL103C	YOR100C	5.552321e-01
1508	YDL170W	YOR348C	5.286012e-01
3904	YDR043C	YER158C	5.123184e-01
1509	YDR216W	YOR348C	4.627022e-01
4505	YKL062W	YCL064C	4.302623e-01
3506	YKL062W	YER002W	4.202709e-01
3006	YDR043C	YNR046W	4.069155e-01
8906	YDR043C	YLL034C	3.694592e-01
4406	YMR280C	YKR056W	3.552051e-01
5207	YKL062W	YHL028W	3.319017e-01
8907	YKL062W	YLL034C	3.147426e-01
2406	YKL112W	YPL111W	3.118635e-01
6110	YKL015W	YDR258C	2.726643e-01
8408	YER040W	YHR029C	2.620775e-01
8409	YKL112W	YHR029C	2.182628e-01
9105	YDR043C	YER067W	2.008918e-01
7006	YDL170W	YPR002W	1.717569e-01
2707	YDR043C	YPL012W	1.621825e-01
8104	YJR094C	YBL042C	9.687060e-02
4204	YMR280C	YGR067C	9.326290e-02
8706	YKL062W	YLR258W	8.575580e-02
7805	YKL062W	YPL036W	8.001430e-02
8506	YKL062W	YOL014W	7.639610e-02
1306	YMR280C	YAL054C	6.050860e-02
3207	YKL062W	YMR193W	5.076040e-02
2008	YDL170W	YER150W	3.848110e-02
2009	YBL103C	YER150W	3.700350e-02
6119	YBL103C	YDR258C	3.174569e-02
4508	YMR280C	YCL064C	3.002860e-02
3407	YDR043C	YLR174W	2.925340e-02
5706	YDL170W	YJL088W	2.902040e-02
1512	YKL062W	YOR348C	2.571560e-02
9607	YKL112W	YJL153C	2.486470e-02
709	YDR043C	YML123C	2.458570e-02
5009	YKL062W	YDL091C	2.103520e-02
5407	YKL062W	YOR206W	2.060740e-02
922	YKL062W	YDR171W	1.930490e-02
7806	YBL103C	YPL036W	1.577170e-02
1513	YKL015W	YOR348C	1.477050e-02
1710	YGL254W	YBR054W	1.424450e-02

6706	YDR043C	YKR009C	1.127072e-02
4613	YKL112W	YJL063C	1.119170e-02
815	YDR043C	YHR136C	9.952100e-03
2503	YDR043C	YOR388C	8.822526e-03
9916	YKL015W	YKL062W	7.384918e-03
7807	YOR032C	YPL036W	7.080500e-03
2711	YKL062W	YPL012W	6.664478e-03
3512	YMR280C	YER002W	6.093500e-03
6012	YKL112W	YDR043C	5.848100e-03
1807	YDR216W	YCR010C	4.388878e-03
8108	YKL112W	YBL042C	4.276927e-03
1414	YKL015W	YFL014W	4.134512e-03
319	YDR216W	YMR280C	3.392674e-03
7808	YDR043C	YPL036W	3.352507e-03
6413	YMR280C	YLR276C	3.311332e-03
5905	YKL015W	YNR028W	2.699416e-03
4412	YKL112W	YKR056W	2.263679e-03
7809	YKL112W	YPL036W	2.186318e-03
2613	YKL062W	YJL172W	2.031746e-03
321	YER040W	YMR280C	1.715859e-03
9210	YKL015W	YLR178C	1.640806e-03
2809	YMR280C	YOR100C	1.564278e-03
2114	YGL254W	YPL061W	1.349289e-03
9714	YKL112W	YKL040C	1.288645e-03
5824	YDR043C	YLL011W	1.228833e-03
4105	YKL112W	YNR064C	1.155329e-03
7612	YKL112W	YAL062W	1.143604e-03
7208	YDR043C	YLL033W	1.139963e-03
9924	YDR216W	YKL062W	1.136548e-03
2117	YER040W	YPL061W	1.097779e-03
9110	YOR032C	YER067W	9.938753e-04
5505	YKL112W	YJR094C	9.377215e-04
7615	YER040W	YAL062W	8.041847e-04
1311	YDR216W	YAL054C	7.240126e-04
3107	YER040W	YJR110W	7.085352e-04
1614	YKL062W	YDL170W	6.620358e-04
107	YKL062W	YKL112W	6.518338e-04
5314	YKL112W	YMR229C	6.153800e-04
9403	YDR043C	YOR032C	6.021894e-04
5827	YKL062W	YLL011W	5.800563e-04
1418	YDL170W	YFL014W	5.600695e-04
9823	YKL015W	YHR087W	4.882721e-04
326	YDL170W	YMR280C	4.740961e-04
8210	YGL254W	YLR130C	4.548084e-04
2909	YKL015W	YMR169C	4.510282e-04

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2811	YKL062W	YOR100C	3.233403e-04
1422	YDR216W	YFL014W	3.179950e-04
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7313	YDL170W	YOR302W	2.706648e-04
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5412	YDR043C	YOR206W	2.508847e-04
1315	YGL254W	YAL054C	2.484465e-04
7116	YDR043C	YDR361C	2.474675e-04
4208	YDR216W	YGR067C	2.437015e-04
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2024	YER040W	YER150W	2.334549e-04
3812	YKL015W	YGR183C	2.312097e-04
1022	YER040W	YCR021C	2.278207e-04
331	YGL254W	YMR280C	2.205117e-04
2722	YOR032C	YPL012W	2.181173e-04
4912	YDR216W	YLR327C	2.149646e-04
926	YBL103C	YDR171W	2.145629e-04
8215	YMR280C	YLR130C	2.124343e-04
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9512	YOR032C	YHR216W	2.023385e-04
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7714	YKL112W	YDR523C	1.746721e-04
6018	YOR032C	YDR043C	1.741403e-04
3114	YBL103C	YJR110W	1.700068e-04
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5833	YGL254W	YLL011W	1.669997e-04
6809	YOR032C	YKL015W	1.653053e-04
2517	YKL062W	YOR388C	1.648864e-04
6623	YKL112W	YNL037C	1.642704e-04
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9214	YER040W	YLR178C	1.601746e-04
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5514	YER040W	YJR094C	1.526310e-04
9617	YDR043C	YJL153C	1.517209e-04

4711	YBL103C	YDL160C	1.405944e-04
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6722	YER040W	YKR009C	1.376892e-04
5913	YER040W	YNR028W	1.372189e-04
3720	YER040W	YIL136W	1.328123e-04
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9122	YDR216W	YER067W	1.168811e-04
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1111	YOR032C	YGR043C	1.121684e-04
8619	YDR043C	YNR053C	1.118330e-04
4918	YDL170W	YLR327C	1.106170e-04
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3115	YGL254W	YJR110W	1.098570e-04
1926	YKL112W	YDR384C	1.079826e-04
9409	YKL062W	YOR032C	1.017373e-04
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6726	YDL170W	YKR009C	9.620874e-05
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5614	YKL015W	YIL155C	9.354593e-05
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1626	YKL112W	YDL170W	9.046739e-05
6906	YMR280C	YGL009C	8.908588e-05
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3317	YKL015W	YGL254W	8.378584e-05
9016	YBL103C	YDL110C	8.347189e-05
9831	YKL062W	YHR087W	8.229673e-05
6812	YKL112W	YKL015W	7.749511e-05
9732	YER040W	YKL040C	7.613779e-05
6627	YMR280C	YNL037C	7.514219e-05
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1448	YJR094C	YFL014W	7.215076e-05
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4623	YMR280C	YJL063C	7.114622e-05
9320	YDR043C	YGL229C	7.091607e-05
3820	YMR280C	YGR183C	6.982865e-05
7908	YDR043C	YJL217W	6.963837e-05

9321	YMR280C	YGL229C	6.960399e-05
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7722	YER040W	YDR523C	6.149331e-05
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7411	YMR280C	YNL270C	6.048286e-05
6631	YDR043C	YNL037C	5.927016e-05
8221	YKL062W	YLR130C	5.818131e-05
7911	YDR216W	YJL217W	5.803088e-05
8312	YDR043C	YLR267W	5.777822e-05
5521	YKL062W	YJR094C	5.741613e-05
6734	YBL103C	YKR009C	5.716572e-05
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345	YKL062W	YMR280C	5.626419e-05
4217	YKL112W	YGR067C	5.606436e-05
3822	YDR043C	YGR183C	5.573155e-05
346	YOR032C	YMR280C	5.520619e-05
2918	YMR280C	YMR169C	5.451099e-05
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415	YDR043C	YER040W	5.364057e-05
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7317	YBL103C	YOR302W	5.302314e-05
4715	YER040W	YDL160C	5.273234e-05
9514	YBL103C	YHR216W	5.246698e-05
2532	YBL103C	YOR388C	5.039521e-05
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7913	YJR094C	YJL217W	4.457401e-05
6639	YKL015W	YNL037C	4.409747e-05
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7320	YER040W	YOR302W	4.310284e-05
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4117	YMR280C	YNR064C	4.233747e-05
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1635	YOR032C	YDL170W	4.050507e-05
5716	YKL062W	YJL088W	3.835422e-05
7015	YKL112W	YPR002W	3.770909e-05



2533	YJR094C	YOR388C	3.752717e-05
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218	YDL170W	YDR216W	3.627576e-05
9742	YBL103C	YKL040C	3.538803e-05
9131	YER040W	YER067W	3.517504e-05
9743	YDL170W	YKL040C	3.497766e-05
7828	YDL170W	YPL036W	3.488702e-05
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9517	YKL015W	YHR216W	2.820889e-05
126	YOR032C	YKL112W	2.805498e-05
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7919	YMR280C	YJL217W	2.647862e-05
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8230	YKL112W	YLR130C	2.603658e-05
7832	YMR280C	YPL036W	2.583816e-05
7129	YMR280C	YDR361C	2.548553e-05
5930	YBL103C	YNR028W	2.494533e-05
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1328	YDR043C	YAL054C	2.399200e-05
128	YDL170W	YKL112W	2.377286e-05
6215	YER040W	YKL071W	2.315170e-05
223	YER040W	YDR216W	2.298749e-05
7922	YOR032C	YJL217W	2.297164e-05
8233	YER040W	YLR130C	2.288770e-05
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733	YKL062W	YML123C	2.040661e-05
7736	YDR043C	YDR523C	1.995620e-05
834	YKL015W	YHR136C	1.980063e-05
9840	YDR216W	YHR087W	1.974842e-05
6523	YKL112W	YLR438W	1.946194e-05
7518	YOR032C	YFR022W	1.935727e-05
4529	YJR094C	YCL064C	1.919554e-05
9424	YBL103C	YOR032C	1.881462e-05
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7221	YER040W	YLL033W	1.842544e-05
3025	YBL103C	YNR046W	1.814905e-05
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6440	YDR043C	YLR276C	1.784551e-05
1830	YGL254W	YCR010C	1.780305e-05
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2546	YKL112W	YOR388C	1.669787e-05
2325	YDL170W	YLR009W	1.659497e-05
4720	YDR043C	YDL160C	1.653961e-05
2834	YKL112W	YOR100C	1.603619e-05
2547	YDR216W	YOR388C	1.600462e-05
2229	YKL112W	YKR075C	1.599917e-05
7628	YGL254W	YAL062W	1.597608e-05
6745	YMR280C	YKR009C	1.585847e-05

4721	YDL170W	YDL160C	1.577741e-05
5538	YDR216W	YJR094C	1.554942e-05
6145	YMR280C	YDR258C	1.544585e-05
4315	YBL103C	YPL265W	1.533936e-05
9021	YKL062W	YDL110C	1.526807e-05
5858	YDL170W	YLL011W	1.507655e-05
4232	YKL062W	YGR067C	1.502316e-05
7838	YKL015W	YPL036W	1.502199e-05
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3836	YKL112W	YGR183C	1.352707e-05
4427	YDR216W	YKR056W	1.341729e-05
1124	YDL170W	YGR043C	1.301385e-05
2230	YER040W	YKR075C	1.299394e-05
6932	YKL062W	YGL009C	1.289146e-05
9336	YDR216W	YGL229C	1.248088e-05
6149	YKL062W	YDR258C	1.215705e-05
7227	YOR032C	YLL033W	1.201057e-05
1343	YDL170W	YAL054C	1.196407e-05
4936	YGL254W	YLR327C	1.194683e-05
6444	YDL170W	YLR276C	1.164164e-05
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7927	YDL170W	YJL217W	1.140154e-05
6747	YKL112W	YKR009C	1.134916e-05
1471	YKL112W	YFL014W	1.127983e-05
2941	YBL103C	YMR169C	1.098467e-05
9144	YKL062W	YER067W	1.097955e-05
1215	YER040W	YHR018C	1.083133e-05
9338	YBL103C	YGL229C	1.082496e-05
7231	YBL103C	YLL033W	1.076115e-05
4130	YDL170W	YNR064C	1.073972e-05
9524	YDR043C	YHR216W	1.045144e-05
7929	YER040W	YJL217W	1.039800e-05
2231	YKL062W	YKR075C	1.039025e-05
525	YER040W	YGR142W	1.037287e-05
228	YBL103C	YDR216W	1.024234e-05
6224	YOR032C	YKL071W	1.019095e-05
4017	YKL112W	YJR148W	1.003964e-05
2750	YBL103C	YPL012W	9.716072e-06
3735	YKL112W	YIL136W	9.671371e-06

1841	YKL015W	YCR010C	9.255886e-06
9339	YKL062W	YGL229C	9.223619e-06
939	YKL015W	YDR171W	9.164611e-06
3220	YDR043C	YMR193W	8.846968e-06
2650	YDL170W	YJL172W	8.765911e-06
8050	YMR280C	YOR056C	8.730850e-06
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4133	YKL015W	YNR064C	8.676632e-06
2944	YDR043C	YMR169C	8.666203e-06
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2652	YKL112W	YJL172W	8.344594e-06
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9631	YMR280C	YJL153C	8.221192e-06
6321	YKL015W	YNL194C	8.092109e-06
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6830	YDR043C	YKL015W	7.920131e-06
2842	YOR032C	YOR100C	7.858714e-06
2560	YOR032C	YOR388C	7.775450e-06
5039	YMR280C	YDL091C	7.742857e-06
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3737	YKL015W	YIL136W	7.634000e-06
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4637	YKL062W	YJL063C	6.380821e-06
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3338	YKL062W	YGL254W	6.230039e-06
4434	YKL062W	YKR056W	6.177072e-06
2846	YDL170W	YOR100C	6.089676e-06
8727	YKL015W	YLR258W	6.082714e-06
4138	YER040W	YNR064C	5.784629e-06
6833	YDL170W	YKL015W	5.579904e-06
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6942	YDR043C	YGL009C	5.416631e-06
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5729	YDR216W	YJL088W	4.563106e-06
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7942	YKL015W	YJL217W	4.155309e-06
5047	YDR043C	YDL091C	4.129784e-06
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1065	YMR280C	YCR021C	3.968059e-06
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5870	YER040W	YLL011W	3.831991e-06
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6665	YDL170W	YNL037C	3.141530e-06
3041	YDL170W	YNR046W	3.120892e-06
9444	YER040W	YOR032C	3.065905e-06
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4742	YKL112W	YDL160C	3.042818e-06
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380	YJR094C	YMR280C	2.833008e-06
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6947	YKL112W	YGL009C	2.743455e-06
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149	YGL254W	YKL112W	2.727368e-06
7342	YMR280C	YOR302W	2.700377e-06
3869	YOR032C	YGR183C	2.659605e-06
8735	YMR280C	YLR258W	2.656563e-06
2578	YKL015W	YOR388C	2.655979e-06
9773	YDR043C	YKL040C	2.650948e-06
6458	YGL254W	YLR276C	2.624911e-06
9537	YKL112W	YHR216W	2.618341e-06
418	YMR280C	YER040W	2.603506e-06
7771	YOR032C	YDR523C	2.569077e-06
3351	YMR280C	YGL254W	2.537092e-06
9539	YGL254W	YHR216W	2.521926e-06
8550	YER040W	YOL014W	2.459148e-06
2861	YDR043C	YOR100C	2.457407e-06
9971	YJR094C	YKL062W	2.426860e-06

1071	YKL062W	YCR021C	2.416800e-06
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753	YDR216W	YML123C	2.412266e-06
1536	YMR280C	YOR348C	2.397289e-06
6843	YER040W	YKL015W	2.388349e-06
621	YDR216W	YNL036W	2.387436e-06
1482	YER040W	YFL014W	2.376735e-06
4261	YOR032C	YGR067C	2.365293e-06
7453	YOR032C	YNL270C	2.355988e-06
8329	YDL170W	YLR267W	2.345593e-06
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9974	YBL103C	YKL062W	2.328548e-06
3149	YDR043C	YJR110W	2.292513e-06
947	YER040W	YDR171W	2.264645e-06
8737	YDR216W	YLR258W	2.235055e-06
948	YDR043C	YDR171W	2.206772e-06
9451	YGL254W	YOR032C	2.190747e-06
1483	YGL254W	YFL014W	2.188471e-06
7251	YJR094C	YLL033W	2.187865e-06
7772	YBL103C	YDR523C	2.181965e-06
4341	YGL254W	YPL265W	2.180645e-06
4036	YMR280C	YJR148W	2.170412e-06
7157	YBL103C	YDR361C	2.162694e-06
2163	YKL015W	YPL061W	2.158359e-06
150	YBL103C	YKL112W	2.157105e-06
3045	YMR280C	YNR046W	2.157020e-06
4972	YMR280C	YLR327C	2.125996e-06
4660	YDR043C	YJL063C	2.122301e-06
6538	YBL103C	YLR438W	2.069954e-06
5958	YDR216W	YNR028W	2.053595e-06
1138	YDR043C	YGR043C	2.052446e-06
3425	YDL170W	YLR174W	2.008937e-06
7862	YGL254W	YPL036W	1.993109e-06
9646	YDL170W	YJL153C	1.977620e-06
1966	YDL170W	YDR384C	1.969089e-06
544	YDL170W	YGR142W	1.894895e-06
860	YOR032C	YHR136C	1.893873e-06
243	YKL112W	YDR216W	1.849844e-06
9648	YGL254W	YJL153C	1.810807e-06
4444	YDR043C	YKR056W	1.807817e-06
1967	YMR280C	YDR384C	1.790257e-06
7253	YMR280C	YLL033W	1.787734e-06
8065	YJR094C	YOR056C	1.781800e-06
3936	YBL103C	YER158C	1.778938e-06
755	YGL254W	YML123C	1.770274e-06

4267	YDR043C	YGR067C	1.766114e-06
6244	YDR216W	YKL071W	1.753050e-06
2775	YKL015W	YPL012W	1.751222e-06
3937	YKL112W	YER158C	1.749050e-06
624	YKL062W	YNL036W	1.710514e-06
4344	YKL015W	YPL265W	1.667861e-06
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4559	YKL112W	YCL064C	1.648619e-06
5630	YDR216W	YIL155C	1.634800e-06
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7551	YDR043C	YFR022W	1.615094e-06
8557	YKL112W	YOL014W	1.610283e-06
8464	YGL254W	YHR029C	1.604953e-06
9362	YOR032C	YGL229C	1.603476e-06
1362	YKL062W	YAL054C	1.593880e-06
6171	YKL112W	YDR258C	1.585309e-06
9035	YDR216W	YDL110C	1.579954e-06
2170	YDR043C	YPL061W	1.563278e-06
6245	YKL062W	YKL071W	1.549785e-06
9175	YMR280C	YER067W	1.477988e-06
1082	YOR032C	YCR021C	1.477241e-06
3875	YER040W	YGR183C	1.442289e-06
5059	YKL015W	YDL091C	1.437434e-06
5632	YKL062W	YIL155C	1.433407e-06
2970	YKL112W	YMR169C	1.428194e-06
7463	YGL254W	YNL270C	1.426510e-06
864	YDR216W	YHR136C	1.411803e-06
5060	YDL170W	YDL091C	1.406422e-06
4667	YER040W	YJL063C	1.389297e-06
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7776	YKL015W	YDR523C	1.370463e-06
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8072	YER040W	YOR056C	1.344296e-06
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1736	YDL170W	YBR054W	1.313490e-06
2780	YKL112W	YPL012W	1.298412e-06
2362	YKL112W	YLR009W	1.291328e-06
4346	YDR216W	YPL265W	1.287961e-06
548	YKL062W	YGR142W	1.281227e-06
9466	YJR094C	YOR032C	1.276102e-06
9467	YDL170W	YOR032C	1.269964e-06
9546	YER040W	YHR216W	1.264038e-06
3357	YBL103C	YGL254W	1.263555e-06
9547	YMR280C	YHR216W	1.242194e-06



4561	YBL103C	YCL064C	1.241591e-06
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5228	YKL015W	YHL028W	1.239132e-06
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9779	YJR094C	YKL040C	1.230766e-06
2363	YER040W	YLR009W	1.229627e-06
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761	YKL015W	YML123C	1.201315e-06
6680	YKL062W	YNL037C	1.199350e-06
6248	YJR094C	YKL071W	1.176498e-06
2676	YOR032C	YJL172W	1.164790e-06
1972	YDR043C	YDR384C	1.148392e-06
4448	YER040W	YKR056W	1.141432e-06
9233	YMR280C	YLR178C	1.132936e-06
1369	YOR032C	YAL054C	1.124635e-06
7363	YGL254W	YOR302W	1.118812e-06
9863	YMR280C	YHR087W	1.116292e-06
1144	YKL112W	YGR043C	1.112887e-06
6682	YER040W	YNL037C	1.111894e-06
2173	YKL062W	YPL061W	1.101458e-06
4348	YDL170W	YPL265W	1.094165e-06
4984	YOR032C	YLR327C	1.069947e-06
3364	YOR032C	YGL254W	1.048031e-06
1672	YMR280C	YDL170W	1.041926e-06
9039	YMR280C	YDL110C	1.041197e-06
6542	YER040W	YLR438W	1.040094e-06
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2878	YKL015W	YOR100C	1.031000e-06
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956	YMR280C	YDR171W	1.029089e-06
1550	YGL254W	YOR348C	1.027904e-06
9783	YMR280C	YKL040C	1.015636e-06
2684	YGL254W	YJL172W	1.008334e-06
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7650	YMR280C	YAL062W	9.848851e-07
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8470	YDR043C	YHR029C	9.783838e-07
869	YJR094C	YHR136C	9.761009e-07
2685	YKL015W	YJL172W	9.650616e-07
5880	YBL103C	YLL011W	9.559111e-07
7165	YGL254W	YDR361C	9.317072e-07

3754	YMR280C	YIL136W	9.135168e-07
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630	YKL112W	YNL036W	8.823279e-07
3241	YKL112W	YMR193W	8.810514e-07
5639	YKL112W	YIL155C	8.776311e-07
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8472	YMR280C	YHR029C	8.759649e-07
7167	YKL015W	YDR361C	8.682706e-07
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6255	YKL112W	YKL071W	8.486958e-07
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7654	YDL170W	YAL062W	8.165204e-07
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3884	YDL170W	YGR183C	7.305360e-07
1151	YGL254W	YGR043C	7.266207e-07
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6871	YBL103C	YKL015W	7.002450e-07
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3376	YKL112W	YGL254W	6.767052e-07
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632	YDR043C	YNL036W	6.706271e-07
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7373	YKL062W	YOR302W	6.677960e-07
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6970	YBL103C	YGL009C	6.325340e-07
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4580	YGL254W	YCL064C	5.973382e-07
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8141	YDR216W	YBL042C	5.714690e-07
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9049	YER040W	YDL110C	5.589546e-07
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4867	YDR216W	YIL037C	5.297112e-07
6277	YKL015W	YKL071W	5.276529e-07
1743	YDR216W	YBR054W	5.238594e-07
7383	YDR216W	YOR302W	5.237570e-07
8483	YKL015W	YHR029C	5.236999e-07
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3180	YOR032C	YJR110W	5.080778e-07
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6983	YKL015W	YGL009C	4.964949e-07
7488	YJR094C	YNL270C	4.962869e-07
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6697	YJR094C	YNL037C	3.086074e-07
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4779	YGL254W	YDL160C	2.961868e-07
4370	YOR032C	YPL265W	2.961623e-07
2996	YGL254W	YMR169C	2.958872e-07
1991	YKL015W	YDR384C	2.958298e-07
6555	YDL170W	YLR438W	2.924751e-07
7394	YOR032C	YOR302W	2.898420e-07
3070	YDR216W	YNR046W	2.884668e-07
9379	YDL170W	YGL229C	2.876939e-07
4683	YJR094C	YJL063C	2.863136e-07
1992	YGL254W	YDR384C	2.825300e-07
1889	YOR032C	YCR010C	2.804243e-07
7190	YDR216W	YDR361C	2.792746e-07
5760	YDR043C	YJL088W	2.790037e-07
1691	YKL015W	YDL170W	2.758108e-07
3396	YJR094C	YGL254W	2.740896e-07
4061	YDR043C	YJR148W	2.724680e-07

6798	YJR094C	YKR009C	2.702662e-07
4886	YJR094C	YIL037C	2.690251e-07
9249	YJR094C	YLR178C	2.670478e-07
6698	YOR032C	YNL037C	2.669472e-07
9877	YGL254W	YHR087W	2.651968e-07
1749	YJR094C	YBR054W	2.649163e-07
5649	YOR032C	YIL155C	2.647059e-07
4295	YJR094C	YGR067C	2.640644e-07
8496	YDR216W	YHR029C	2.626843e-07
8590	YBL103C	YOL014W	2.615476e-07
4888	YGL254W	YIL037C	2.591776e-07
4889	YOR032C	YIL037C	2.590316e-07
4685	YOR032C	YJL063C	2.589502e-07
5650	YBL103C	YIL155C	2.560221e-07
4780	YOR032C	YDL160C	2.526065e-07
6196	YGL254W	YDR258C	2.519042e-07
5457	YDR216W	YOR206W	2.515054e-07
3449	YBL103C	YLR174W	2.514381e-07
2696	YDR216W	YJL172W	2.492930e-07
6558	YDR043C	YLR438W	2.492428e-07
7396	YJR094C	YOR302W	2.490805e-07
8773	YDR043C	YLR258W	2.486179e-07
197	YJR094C	YKL112W	2.478300e-07
2384	YDR216W	YLR009W	2.461493e-07
8349	YER040W	YLR267W	2.413679e-07
3197	YKL015W	YJR110W	2.393831e-07
4063	YJR094C	YJR148W	2.390413e-07
5242	YDR216W	YHL028W	2.355628e-07
5458	YOR032C	YOR206W	2.355047e-07
3074	YOR032C	YNR046W	2.338360e-07
6197	YOR032C	YDR258C	2.335031e-07
3252	YDR216W	YMR193W	2.304392e-07
573	YMR280C	YGR142W	2.302145e-07
8350	YMR280C	YLR267W	2.280940e-07
9682	YKL015W	YJL153C	2.231007e-07
1751	YKL015W	YBR054W	2.224510e-07
9571	YJR094C	YHR216W	2.213469e-07
792	YDL170W	YML123C	2.193569e-07
793	YBL103C	YML123C	2.191418e-07
5360	YKL062W	YMR229C	2.178292e-07
5361	YMR280C	YMR229C	2.171349e-07
7671	YBL103C	YAL062W	2.164409e-07
2389	YKL015W	YLR009W	2.139381e-07
6342	YER040W	YNL194C	2.137419e-07
9879	YDR043C	YHR087W	2.093988e-07

2391	YOR032C	YLR009W	2.083739e-07
5080	YBL103C	YDL091C	2.060509e-07
5243	YER040W	YHL028W	2.059984e-07
9880	YER040W	YHR087W	2.000043e-07
6492	YOR032C	YLR276C	1.947101e-07
2697	YJR094C	YJL172W	1.921034e-07
4196	YDR216W	YNR064C	1.920942e-07
797	YJR094C	YML123C	1.900796e-07
7194	YOR032C	YDR361C	1.849657e-07
5362	YOR032C	YMR229C	1.833765e-07
1397	YJR094C	YAL054C	1.831215e-07
4198	YJR094C	YNR064C	1.823237e-07
6047	YDL170W	YDR043C	1.816037e-07
1569	YJR094C	YOR348C	1.813984e-07
4470	YDL170W	YKR056W	1.795745e-07
8596	YOR032C	YOL014W	1.795322e-07
8094	YOR032C	YOR056C	1.788916e-07
4784	YJR094C	YDL160C	1.777701e-07
2441	YER040W	YPL111W	1.767883e-07
8856	YKL112W	YDR380W	1.766264e-07
2442	YDL170W	YPL111W	1.739175e-07
2443	YJR094C	YPL111W	1.731046e-07
1997	YDR216W	YDR384C	1.728369e-07
438	YKL112W	YER040W	1.726597e-07
8632	YKL062W	YNR053C	1.726104e-07
8096	YGL254W	YOR056C	1.716742e-07
1570	YER040W	YOR348C	1.713056e-07
3076	YGL254W	YNR046W	1.705496e-07
978	YGL254W	YDR171W	1.668875e-07
2066	YGL254W	YER150W	1.667044e-07
1572	YKL112W	YOR348C	1.609744e-07
8353	YGL254W	YLR267W	1.587609e-07
4072	YKL062W	YJR148W	1.583843e-07
2274	YDR216W	YKR075C	1.583642e-07
5467	YBL103C	YOR206W	1.540753e-07
1245	YKL112W	YHR018C	1.535501e-07
6344	YMR280C	YNL194C	1.528917e-07
3960	YER040W	YER158C	1.519059e-07
1998	YJR094C	YDR384C	1.507027e-07
9883	YBL103C	YHR087W	1.455193e-07
274	YOR032C	YDR216W	1.452130e-07
4792	YKL015W	YDL160C	1.438340e-07
2277	YGL254W	YKR075C	1.437970e-07
1246	YDL170W	YHR018C	1.433464e-07
1247	YOR032C	YHR018C	1.420782e-07



5770	YOR032C	YJL088W	1.357260e-07
2397	YGL254W	YLR009W	1.356856e-07
8159	YKL015W	YBL042C	1.335370e-07
2398	YJR094C	YLR009W	1.326562e-07
6345	YOR032C	YNL194C	1.322515e-07
7053	YDR216W	YPR002W	1.279618e-07
9389	YKL015W	YGL229C	1.251679e-07
6500	YJR094C	YLR276C	1.237329e-07
8860	YER040W	YDR380W	1.235397e-07
3256	YMR280C	YMR193W	1.226089e-07
587	YDR216W	YGR142W	1.222716e-07
6346	YDR216W	YNL194C	1.216007e-07
278	YDR043C	YDR216W	1.180717e-07
5473	YKL112W	YOR206W	1.178267e-07
5775	YJR094C	YJL088W	1.144011e-07
5150	YOR032C	YHR051W	1.134171e-07
589	YJR094C	YGR142W	1.129812e-07
8636	YKL112W	YNR053C	1.105646e-07
5249	YBL103C	YHL028W	1.093626e-07
282	YJR094C	YDR216W	1.066920e-07
4082	YKL015W	YJR148W	1.055341e-07
1181	YKL015W	YGR043C	1.046240e-07
9578	YDL170W	YHR216W	1.034528e-07
8867	YDL170W	YDR380W	1.024931e-07
655	YOR032C	YNL036W	1.008842e-07
5781	YMR280C	YJL088W	9.798656e-08
5154	YKL112W	YHR051W	9.785475e-08
5782	YGL254W	YJL088W	9.710270e-08
7058	YKL015W	YPR002W	9.284758e-08
8791	YOR032C	YLR258W	9.224313e-08
594	YKL015W	YGR142W	9.173766e-08
3090	YJR094C	YNR046W	9.030254e-08
4478	YBL103C	YKR056W	8.809371e-08
985	YJR094C	YDR171W	8.737277e-08
657	YBL103C	YNL036W	8.660453e-08
3461	YER040W	YLR174W	8.590534e-08
4088	YGL254W	YJR148W	8.359196e-08
3261	YER040W	YMR193W	8.144738e-08
8870	YBL103C	YDR380W	7.782381e-08
7687	YKL015W	YAL062W	7.654164e-08
7688	YOR032C	YAL062W	7.389701e-08
9266	YDR043C	YLR178C	7.364270e-08
4481	YOR032C	YKR056W	7.055061e-08
4482	YKL015W	YKR056W	7.016066e-08
3098	YKL015W	YNR046W	6.992371e-08

5481	YDL170W	YOR206W	6.966028e-08
3464	YOR032C	YLR174W	6.930614e-08
5482	YER040W	YOR206W	6.868510e-08
5090	YJR094C	YDL091C	6.839440e-08
3465	YGL254W	YLR174W	6.782377e-08
2285	YJR094C	YKR075C	6.752585e-08
8874	YOR032C	YDR380W	6.652638e-08
5666	YDL170W	YIL155C	6.637913e-08
9269	YKL112W	YLR178C	6.612156e-08
3645	YDR043C	YDL018C	6.604682e-08
5374	YBL103C	YMR229C	6.362157e-08
3779	YJR094C	YIL136W	6.252483e-08
9890	YKL112W	YHR087W	6.215973e-08
2072	YDR043C	YER150W	6.178454e-08
9891	YJR094C	YHR087W	6.159362e-08
5091	YDR216W	YDL091C	6.084416e-08
658	YDL170W	YNL036W	5.918941e-08
659	YER040W	YNL036W	5.891908e-08
1258	YDR043C	YHR018C	5.670279e-08
3469	YKL015W	YLR174W	5.463119e-08
5092	YGL254W	YDL091C	5.443634e-08
3470	YKL112W	YLR174W	5.378642e-08
2076	YOR032C	YER150W	4.948199e-08
8796	YER040W	YLR258W	4.891328e-08
1769	YKL062W	YBR054W	4.859406e-08
3980	YJR094C	YER158C	4.572064e-08
7694	YJR094C	YAL062W	4.496336e-08
8649	YMR280C	YNR053C	4.490586e-08
4095	YDR216W	YJR148W	4.453732e-08
7068	YDR043C	YPR002W	4.398260e-08
2291	YKL015W	YKR075C	4.288657e-08
4485	YJR094C	YKR056W	4.274261e-08
4398	YJR094C	YPL265W	4.263128e-08
3784	YGL254W	YIL136W	4.173601e-08
5678	YJR094C	YIL155C	4.062722e-08
7695	YDR216W	YAL062W	3.975500e-08
5792	YKL015W	YJL088W	3.912847e-08
5257	YKL112W	YHL028W	3.819907e-08
5679	YER040W	YIL155C	3.699628e-08
8171	YKL062W	YBL042C	3.641969e-08
1262	YMR280C	YHR018C	3.501455e-08
5165	YER040W	YHR051W	3.475488e-08
5493	YKL015W	YOR206W	3.316992e-08
5167	YDL170W	YHR051W	3.160903e-08
5258	YDL170W	YHL028W	3.132570e-08

3274	YDL170W	YMR193W	3.127197e-08
5495	YGL254W	YOR206W	2.933707e-08
3275	YBL103C	YMR193W	2.901609e-08
3276	YOR032C	YMR193W	2.894428e-08
3983	YGL254W	YER158C	2.875559e-08
8177	YDL170W	YBL042C	2.751032e-08
8798	YBL103C	YLR258W	2.741625e-08
8178	YBL103C	YBL042C	2.737798e-08
5266	YGL254W	YHL028W	2.470341e-08
8181	YGL254W	YBL042C	2.465432e-08
6062	YGL254W	YDR043C	2.352903e-08
7081	YKL062W	YPR002W	2.265495e-08
5498	YJR094C	YOR206W	2.255399e-08
1268	YKL015W	YHR018C	2.214708e-08
9087	YKL112W	YDL110C	2.177746e-08
8893	YKL015W	YDR380W	2.176031e-08
2085	YJR094C	YER150W	2.169187e-08
5391	YJR094C	YMR229C	2.071793e-08
5392	YGL254W	YMR229C	2.065439e-08
5176	YKL015W	YHR051W	1.951626e-08
5177	YDR216W	YHR051W	1.936570e-08
9286	YDR216W	YLR178C	1.933329e-08
3988	YDR216W	YER158C	1.929950e-08
5179	YBL103C	YHR051W	1.898659e-08
1776	YKL112W	YBR054W	1.877532e-08
6366	YKL112W	YNL194C	1.860593e-08
9289	YOR032C	YLR178C	1.681573e-08
3490	YJR094C	YLR174W	1.640825e-08
7085	YOR032C	YPR002W	1.638367e-08
998	YOR032C	YDR171W	1.567563e-08
9088	YJR094C	YDL110C	1.554840e-08
1780	YDR043C	YBR054W	1.552947e-08
1276	YDR216W	YHR018C	1.531931e-08
3563	YER040W	YER002W	1.429458e-08
8895	YGL254W	YDR380W	1.421348e-08
8376	YDR216W	YLR267W	1.419710e-08
8966	YKL112W	YLL034C	1.384586e-08
6074	YMR280C	YDR043C	1.375462e-08
8896	YDR216W	YDR380W	1.361437e-08
5398	YDR216W	YMR229C	1.334220e-08
8898	YJR094C	YDR380W	1.329575e-08
8659	YJR094C	YNR053C	1.312783e-08
3662	YKL112W	YDL018C	1.307774e-08
8377	YOR032C	YLR267W	1.286995e-08
8967	YOR032C	YLL034C	1.281572e-08

8192	YER040W	YBL042C	1.246717e-08
3564	YKL112W	YER002W	1.233222e-08
5187	YGL254W	YHR051W	1.223427e-08
8381	YJR094C	YLR267W	1.211546e-08
3663	YER040W	YDL018C	1.209428e-08
6585	YKL015W	YLR438W	1.195342e-08
475	YDR216W	YER040W	1.195278e-08
8662	YOR032C	YNR053C	1.144617e-08
3665	YBL103C	YDL018C	1.132389e-08
9291	YGL254W	YLR178C	1.124196e-08
6586	YDR216W	YLR438W	1.123959e-08
3567	YOR032C	YER002W	1.115111e-08
2092	YKL112W	YER150W	1.104225e-08
7092	YGL254W	YPR002W	1.094152e-08
8663	YDL170W	YNR053C	1.090977e-08
3667	YKL062W	YDL018C	1.083190e-08
8970	YBL103C	YLL034C	1.058461e-08
7093	YJR094C	YPR002W	1.004977e-08
3570	YKL015W	YER002W	9.790809e-09
5693	YGL254W	YIL155C	9.617025e-09
6588	YGL254W	YLR438W	9.403447e-09
3670	YMR280C	YDL018C	9.335947e-09
8387	YKL015W	YLR267W	8.984958e-09
8972	YJR094C	YLL034C	8.943581e-09
6591	YOR032C	YLR438W	8.605294e-09
692	YKL015W	YNL036W	8.431042e-09
2472	YMR280C	YPL111W	7.946890e-09
1791	YOR032C	YBR054W	7.832869e-09
480	YGL254W	YER040W	7.808352e-09
693	YGL254W	YNL036W	7.627300e-09
481	YJR094C	YER040W	7.611104e-09
5190	YJR094C	YHR051W	7.511666e-09
3288	YJR094C	YMR193W	7.378486e-09
8668	YER040W	YNR053C	7.309328e-09
5284	YJR094C	YHL028W	7.292478e-09
3289	YKL015W	YMR193W	7.229978e-09
8391	YKL062W	YLR267W	7.151841e-09
489	YKL015W	YER040W	6.583925e-09
2477	YGL254W	YPL111W	6.048505e-09
6380	YBL103C	YNL194C	5.999192e-09
6381	YDR043C	YNL194C	5.560139e-09
8978	YKL015W	YLL034C	5.409282e-09
696	YJR094C	YNL036W	5.273857e-09
3676	YDL170W	YDL018C	5.135293e-09
8672	YGL254W	YNR053C	4.714647e-09

1294	YGL254W	YHR018C	4.640672e-09
2484	YDR216W	YPL111W	4.509132e-09
8983	YER040W	YLL034C	4.129122e-09
3683	YKL015W	YDL018C	4.087688e-09
6088	YJR094C	YDR043C	3.851574e-09
8986	YDL170W	YLL034C	3.750259e-09
6598	YJR094C	YLR438W	3.652877e-09
1297	YJR094C	YHR018C	3.601686e-09
3580	YDL170W	YER002W	3.519412e-09
2489	YKL015W	YPL111W	3.388153e-09
3581	YBL103C	YER002W	3.267304e-09
8681	YBL103C	YNR053C	2.937690e-09
2490	YOR032C	YPL111W	2.889436e-09
3689	YJR094C	YDL018C	2.758185e-09
3583	YJR094C	YER002W	2.697805e-09
3691	YOR032C	YDL018C	2.502677e-09
3692	YDR216W	YDL018C	2.498999e-09
6091	YDR216W	YDR043C	2.445018e-09
3589	YDR216W	YER002W	2.032706e-09
8690	YKL015W	YNR053C	1.967438e-09
3696	YGL254W	YDL018C	1.820362e-09
8993	YDR216W	YLL034C	1.675807e-09
8695	YDR216W	YNR053C	1.391757e-09
8996	YGL254W	YLL034C	1.344210e-09
6394	YJR094C	YNL194C	1.210824e-09
3595	YGL254W	YER002W	1.177156e-09
6395	YGL254W	YNL194C	1.158014e-09

[1] "network After:"

	Regulator	TargetGene	prob
203	YJR094C	YJR094C	1.000000e+00
301	YOR032C	YOR032C	1.000000e+00
1602	YDR216W	YDR216W	1.000000e+00
2102	YDL170W	YDL170W	1.000000e+00
2202	YKL062W	YKL062W	1.000000e+00
2203	YGL254W	YGL254W	1.000000e+00
2301	YKL015W	YKL015W	1.000000e+00
2501	YKL112W	YKL112W	1.000000e+00
3401	YMR280C	YMR280C	1.000000e+00
3701	YDR043C	YDR043C	1.000000e+00
5702	YER040W	YER040W	1.000000e+00
6101	YKL112W	YNL270C	1.000000e+00
7601	YDL170W	YCR010C	1.000000e+00
8801	YKL062W	YKR009C	1.000000e+00
9801	YDL170W	YJR110W	1.000000e+00
9901	YKL062W	YDR216W	1.000000e+00

2004	YKL062W	YER150W	1.000000e+00
3703	YKL062W	YIL136W	1.000000e+00
2903	YKL062W	YMR169C	1.000000e+00
7104	YKL062W	YDR361C	1.000000e+00
904	YDR216W	YDR171W	1.000000e+00
5303	YER040W	YMR229C	1.000000e+00
4903	YBL103C	YLR327C	1.000000e+00
7604	YKL062W	YAL062W	1.000000e+00
2005	YKL015W	YER150W	9.999999e-01
2305	YDR043C	YLR009W	9.999997e-01
1402	YKL062W	YFL014W	9.999968e-01
1002	YDR043C	YCR021C	9.999784e-01
9203	YKL062W	YLR178C	9.999588e-01
3503	YDR043C	YER002W	9.926295e-01
1603	YER040W	YDL170W	9.903681e-01
7004	YBL103C	YPR002W	9.882139e-01
605	YMR280C	YNL036W	9.870398e-01
9702	YKL015W	YKL040C	9.828064e-01
8405	YDL170W	YHR029C	9.759532e-01
1104	YKL062W	YGR043C	9.096228e-01
404	YDL170W	YER040W	8.727256e-01
2405	YKL062W	YPL111W	8.450150e-01
7005	YER040W	YPR002W	8.164570e-01
805	YKL062W	YHR136C	6.882579e-01
3005	YKL062W	YNR046W	6.295850e-01
2805	YBL103C	YOR100C	5.552321e-01
1508	YDL170W	YOR348C	5.286012e-01
3904	YDR043C	YER158C	5.123184e-01
1509	YDR216W	YOR348C	4.627022e-01
4505	YKL062W	YCL064C	4.302623e-01
3506	YKL062W	YER002W	4.202709e-01
3006	YDR043C	YNR046W	4.069155e-01
8906	YDR043C	YLL034C	3.694592e-01
4406	YMR280C	YKR056W	3.552051e-01
5207	YKL062W	YHL028W	3.319017e-01
8907	YKL062W	YLL034C	3.147426e-01
2406	YKL112W	YPL111W	3.118635e-01
6110	YKL015W	YDR258C	2.726643e-01
8408	YER040W	YHR029C	2.620775e-01
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9105	YDR043C	YER067W	2.008918e-01
7006	YDL170W	YPR002W	1.717569e-01
2707	YDR043C	YPL012W	1.621825e-01
8104	YJR094C	YBL042C	9.687060e-02
4204	YMR280C	YGR067C	9.326290e-02

8706	YKL062W	YLR258W	8.575580e-02
7805	YKL062W	YPL036W	8.001430e-02
8506	YKL062W	YOL014W	7.639610e-02
1306	YMR280C	YAL054C	6.050860e-02
3207	YKL062W	YMR193W	5.076040e-02
2008	YDL170W	YER150W	3.848110e-02
2009	YBL103C	YER150W	3.700350e-02
6119	YBL103C	YDR258C	3.174569e-02
4508	YMR280C	YCL064C	3.002860e-02
3407	YDR043C	YLR174W	2.925340e-02
5706	YDL170W	YJL088W	2.902040e-02
1512	YKL062W	YOR348C	2.571560e-02
9607	YKL112W	YJL153C	2.486470e-02
709	YDR043C	YML123C	2.458570e-02
5009	YKL062W	YDL091C	2.103520e-02
5407	YKL062W	YOR206W	2.060740e-02
922	YKL062W	YDR171W	1.930490e-02
7806	YBL103C	YPL036W	1.577170e-02
1513	YKL015W	YOR348C	1.477050e-02
1710	YGL254W	YBR054W	1.424450e-02
6706	YDR043C	YKR009C	1.127072e-02
4613	YKL112W	YJL063C	1.119170e-02
815	YDR043C	YHR136C	9.952100e-03
2503	YDR043C	YOR388C	8.822526e-03
9916	YKL015W	YKL062W	7.384918e-03
7807	YOR032C	YPL036W	7.080500e-03
2711	YKL062W	YPL012W	6.664478e-03
3512	YMR280C	YER002W	6.093500e-03
6012	YKL112W	YDR043C	5.848100e-03
1807	YDR216W	YCR010C	4.388878e-03
8108	YKL112W	YBL042C	4.276927e-03
1414	YKL015W	YFL014W	4.134512e-03
319	YDR216W	YMR280C	3.392674e-03
7808	YDR043C	YPL036W	3.352507e-03
6413	YMR280C	YLR276C	3.311332e-03
5905	YKL015W	YNR028W	2.699416e-03
4412	YKL112W	YKR056W	2.263679e-03
7809	YKL112W	YPL036W	2.186318e-03
2613	YKL062W	YJL172W	2.031746e-03
321	YER040W	YMR280C	1.715859e-03
9210	YKL015W	YLR178C	1.640806e-03
2809	YMR280C	YOR100C	1.564278e-03
2114	YGL254W	YPL061W	1.349289e-03
9714	YKL112W	YKL040C	1.288645e-03
5824	YDR043C	YLL011W	1.228833e-03

4105	YKL112W	YNR064C	1.155329e-03
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7208	YDR043C	YLL033W	1.139963e-03
9924	YDR216W	YKL062W	1.136548e-03
2117	YER040W	YPL061W	1.097779e-03
9110	YOR032C	YER067W	9.938753e-04
5505	YKL112W	YJR094C	9.377215e-04
7615	YER040W	YAL062W	8.041847e-04
1311	YDR216W	YAL054C	7.240126e-04
3107	YER040W	YJR110W	7.085352e-04
1614	YKL062W	YDL170W	6.620358e-04
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5314	YKL112W	YMR229C	6.153800e-04
9403	YDR043C	YOR032C	6.021894e-04
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2909	YKL015W	YMR169C	4.510282e-04
2513	YDL170W	YOR388C	4.487671e-04
2719	YMR280C	YPL012W	3.749033e-04
2617	YER040W	YJL172W	3.361743e-04
2811	YKL062W	YOR100C	3.233403e-04
1422	YDR216W	YFL014W	3.179950e-04
8211	YDR216W	YLR130C	3.131830e-04
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3917	YOR032C	YER158C	3.047235e-04
6207	YBL103C	YKL071W	2.745549e-04
7313	YDL170W	YOR302W	2.706648e-04
5509	YDR043C	YJR094C	2.677044e-04
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1315	YGL254W	YAL054C	2.484465e-04
7116	YDR043C	YDR361C	2.474675e-04
4208	YDR216W	YGR067C	2.437015e-04
8311	YBL103C	YLR267W	2.395245e-04
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3812	YKL015W	YGR183C	2.312097e-04
1022	YER040W	YCR021C	2.278207e-04
331	YGL254W	YMR280C	2.205117e-04
2722	YOR032C	YPL012W	2.181173e-04
4912	YDR216W	YLR327C	2.149646e-04
926	YBL103C	YDR171W	2.145629e-04
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9512	YOR032C	YHR216W	2.023385e-04
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9933	YDR043C	YKL062W	1.860922e-04
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4913	YER040W	YLR327C	1.794421e-04
9116	YBL103C	YER067W	1.754331e-04
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6018	YOR032C	YDR043C	1.741403e-04
3114	YBL103C	YJR110W	1.700068e-04
4914	YKL015W	YLR327C	1.686509e-04
5833	YGL254W	YLL011W	1.669997e-04
6809	YOR032C	YKL015W	1.653053e-04
2517	YKL062W	YOR388C	1.648864e-04
6623	YKL112W	YNL037C	1.642704e-04
4010	YOR032C	YJR148W	1.637047e-04
6127	YER040W	YDR258C	1.633385e-04
9214	YER040W	YLR178C	1.601746e-04
2121	YDL170W	YPL061W	1.597378e-04
5514	YER040W	YJR094C	1.526310e-04
9617	YDR043C	YJL153C	1.517209e-04
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9725	YKL062W	YKL040C	1.314229e-04
1435	YDR043C	YFL014W	1.260688e-04
8017	YKL062W	YOR056C	1.242641e-04
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333	YKL015W	YMR280C	1.222894e-04
9122	YDR216W	YER067W	1.168811e-04
5516	YDL170W	YJR094C	1.163116e-04
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2520	YER040W	YOR388C	1.146756e-04
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5517	YOR032C	YJR094C	1.099354e-04
3115	YGL254W	YJR110W	1.098570e-04
1926	YKL112W	YDR384C	1.079826e-04
9409	YKL062W	YOR032C	1.017373e-04
335	YBL103C	YMR280C	9.858483e-05
6726	YDL170W	YKR009C	9.620874e-05
9939	YMR280C	YKL062W	9.431196e-05
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9729	YOR032C	YKL040C	9.145716e-05
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6906	YMR280C	YGL009C	8.908588e-05
5518	YBL103C	YJR094C	8.692344e-05
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6812	YKL112W	YKL015W	7.749511e-05
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6627	YMR280C	YNL037C	7.514219e-05
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4623	YMR280C	YJL063C	7.114622e-05
9320	YDR043C	YGL229C	7.091607e-05
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9321	YMR280C	YGL229C	6.960399e-05
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7722	YER040W	YDR523C	6.149331e-05
2629	YDR043C	YJL172W	6.110538e-05
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7411	YMR280C	YNL270C	6.048286e-05
6631	YDR043C	YNL037C	5.927016e-05
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8312	YDR043C	YLR267W	5.777822e-05
5521	YKL062W	YJR094C	5.741613e-05
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5522	YGL254W	YJR094C	5.638254e-05
345	YKL062W	YMR280C	5.626419e-05
4217	YKL112W	YGR067C	5.606436e-05
3822	YDR043C	YGR183C	5.573155e-05
346	YOR032C	YMR280C	5.520619e-05
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9126	YDL170W	YER067W	5.374859e-05
415	YDR043C	YER040W	5.364057e-05
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7317	YBL103C	YOR302W	5.302314e-05
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9514	YBL103C	YHR216W	5.246698e-05
2532	YBL103C	YOR388C	5.039521e-05
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7412	YKL062W	YNL270C	4.826213e-05
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9417	YKL015W	YOR032C	4.762414e-05
4814	YKL062W	YIL037C	4.713642e-05
1632	YDR043C	YDL170W	4.549196e-05
7913	YJR094C	YJL217W	4.457401e-05
6639	YKL015W	YNL037C	4.409747e-05
5416	YMR280C	YOR206W	4.353974e-05
7320	YER040W	YOR302W	4.310284e-05
828	YMR280C	YHR136C	4.264791e-05
4117	YMR280C	YNR064C	4.233747e-05
6137	YDR216W	YDR258C	4.107077e-05
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7015	YKL112W	YPR002W	3.770909e-05
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1116	YMR280C	YGR043C	3.691210e-05
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5112	YMR280C	YHR051W	3.681192e-05
218	YDL170W	YDR216W	3.627576e-05
9742	YBL103C	YKL040C	3.538803e-05
9131	YER040W	YER067W	3.517504e-05
9743	YDL170W	YKL040C	3.497766e-05
7828	YDL170W	YPL036W	3.488702e-05
8226	YBL103C	YLR130C	3.475313e-05
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9217	YDL170W	YLR178C	3.400787e-05
8520	YMR280C	YOL014W	3.384804e-05
6431	YER040W	YLR276C	3.326874e-05
7915	YKL062W	YJL217W	3.266112e-05
934	YDL170W	YDR171W	3.160488e-05
729	YMR280C	YML123C	3.133920e-05
5532	YMR280C	YJR094C	3.113875e-05
4118	YBL103C	YNR064C	3.087882e-05
7217	YDL170W	YLL033W	3.070819e-05
2217	YDR043C	YKR075C	3.051942e-05
8116	YOR032C	YBL042C	3.047466e-05
2218	YMR280C	YKR075C	3.011241e-05
9836	YDL170W	YHR087W	2.879614e-05
1821	YKL062W	YCR010C	2.857842e-05

8228	YDL170W	YLR130C	2.846683e-05
9517	YKL015W	YHR216W	2.820889e-05
126	YOR032C	YKL112W	2.805498e-05
1936	YER040W	YDR384C	2.805228e-05
3729	YDL170W	YIL136W	2.799122e-05
5720	YKL112W	YJL088W	2.778042e-05
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6318	YKL062W	YNL194C	2.659118e-05
7919	YMR280C	YJL217W	2.647862e-05
7513	YKL112W	YFR022W	2.604530e-05
8230	YKL112W	YLR130C	2.603658e-05
7832	YMR280C	YPL036W	2.583816e-05
7129	YMR280C	YDR361C	2.548553e-05
5930	YBL103C	YNR028W	2.494533e-05
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5031	YOR032C	YDL091C	2.446864e-05
357	YDR043C	YMR280C	2.416850e-05
1824	YER040W	YCR010C	2.402678e-05
1328	YDR043C	YAL054C	2.399200e-05
128	YDL170W	YKL112W	2.377286e-05
6215	YER040W	YKL071W	2.315170e-05
223	YER040W	YDR216W	2.298749e-05
7922	YOR032C	YJL217W	2.297164e-05
8233	YER040W	YLR130C	2.288770e-05
833	YGL254W	YHR136C	2.279321e-05
9331	YKL112W	YGL229C	2.233116e-05
2928	YER040W	YMR169C	2.222405e-05
9950	YOR032C	YKL062W	2.159891e-05
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7735	YDL170W	YDR523C	2.080357e-05
7219	YKL112W	YLL033W	2.072730e-05
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733	YKL062W	YML123C	2.040661e-05
7736	YDR043C	YDR523C	1.995620e-05
834	YKL015W	YHR136C	1.980063e-05
9840	YDR216W	YHR087W	1.974842e-05
6523	YKL112W	YLR438W	1.946194e-05
7518	YOR032C	YFR022W	1.935727e-05
4529	YJR094C	YCL064C	1.919554e-05

9424	YBL103C	YOR032C	1.881462e-05
2932	YDR216W	YMR169C	1.861922e-05
4822	YDL170W	YIL037C	1.845615e-05
7221	YER040W	YLL033W	1.842544e-05
3025	YBL103C	YNR046W	1.814905e-05
2324	YMR280C	YLR009W	1.811048e-05
6440	YDR043C	YLR276C	1.784551e-05
1830	YGL254W	YCR010C	1.780305e-05
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1339	YER040W	YAL054C	1.757101e-05
522	YDR043C	YGR142W	1.699126e-05
8040	YKL112W	YOR056C	1.689480e-05
2546	YKL112W	YOR388C	1.669787e-05
2325	YDL170W	YLR009W	1.659497e-05
4720	YDR043C	YDL160C	1.653961e-05
2834	YKL112W	YOR100C	1.603619e-05
2547	YDR216W	YOR388C	1.600462e-05
2229	YKL112W	YKR075C	1.599917e-05
7628	YGL254W	YAL062W	1.597608e-05
6745	YMR280C	YKR009C	1.585847e-05
4721	YDL170W	YDL160C	1.577741e-05
5538	YDR216W	YJR094C	1.554942e-05
6145	YMR280C	YDR258C	1.544585e-05
4315	YBL103C	YPL265W	1.533936e-05
9021	YKL062W	YDL110C	1.526807e-05
5858	YDL170W	YLL011W	1.507655e-05
4232	YKL062W	YGR067C	1.502316e-05
7838	YKL015W	YPL036W	1.502199e-05
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1832	YKL112W	YCR010C	1.459846e-05
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7428	YDR043C	YNL270C	1.433132e-05
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1467	YBL103C	YFL014W	1.368202e-05
3836	YKL112W	YGR183C	1.352707e-05
4427	YDR216W	YKR056W	1.341729e-05
1124	YDL170W	YGR043C	1.301385e-05
2230	YER040W	YKR075C	1.299394e-05
6932	YKL062W	YGL009C	1.289146e-05
9336	YDR216W	YGL229C	1.248088e-05
6149	YKL062W	YDR258C	1.215705e-05
7227	YOR032C	YLL033W	1.201057e-05
1343	YDL170W	YAL054C	1.196407e-05
4936	YGL254W	YLR327C	1.194683e-05

6444	YDL170W	YLR276C	1.164164e-05
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6747	YKL112W	YKR009C	1.134916e-05
1471	YKL112W	YFL014W	1.127983e-05
2941	YBL103C	YMR169C	1.098467e-05
9144	YKL062W	YER067W	1.097955e-05
1215	YER040W	YHR018C	1.083133e-05
9338	YBL103C	YGL229C	1.082496e-05
7231	YBL103C	YLL033W	1.076115e-05
4130	YDL170W	YNR064C	1.073972e-05
9524	YDR043C	YHR216W	1.045144e-05
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2231	YKL062W	YKR075C	1.039025e-05
525	YER040W	YGR142W	1.037287e-05
228	YBL103C	YDR216W	1.024234e-05
6224	YOR032C	YKL071W	1.019095e-05
4017	YKL112W	YJR148W	1.003964e-05
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3735	YKL112W	YIL136W	9.671371e-06
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9339	YKL062W	YGL229C	9.223619e-06
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3220	YDR043C	YMR193W	8.846968e-06
2650	YDL170W	YJL172W	8.765911e-06
8050	YMR280C	YOR056C	8.730850e-06
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4133	YKL015W	YNR064C	8.676632e-06
2944	YDR043C	YMR169C	8.666203e-06
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2652	YKL112W	YJL172W	8.344594e-06
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9631	YMR280C	YJL153C	8.221192e-06
6321	YKL015W	YNL194C	8.092109e-06
1127	YBL103C	YGR043C	7.981064e-06
6830	YDR043C	YKL015W	7.920131e-06
2842	YOR032C	YOR100C	7.858714e-06
2560	YOR032C	YOR388C	7.775450e-06
5039	YMR280C	YDL091C	7.742857e-06
2563	YGL254W	YOR388C	7.673306e-06
3737	YKL015W	YIL136W	7.634000e-06
141	YER040W	YKL112W	7.585626e-06
4321	YMR280C	YPL265W	7.562203e-06
6449	YDR216W	YLR276C	7.544046e-06
4826	YDR043C	YIL037C	7.505486e-06

7932	YGL254W	YJL217W	7.493570e-06
3738	YOR032C	YIL136W	7.300849e-06
9632	YER040W	YJL153C	7.289606e-06
9760	YDR216W	YKL040C	7.271380e-06
2947	YOR032C	YMR169C	7.011217e-06
9633	YKL062W	YJL153C	6.932814e-06
2654	YMR280C	YJL172W	6.897514e-06
5040	YKL112W	YDL091C	6.815323e-06
7530	YMR280C	YFR022W	6.623200e-06
4637	YKL062W	YJL063C	6.380821e-06
7441	YDL170W	YNL270C	6.323033e-06
8819	YKL062W	YDR380W	6.252150e-06
3338	YKL062W	YGL254W	6.230039e-06
4434	YKL062W	YKR056W	6.177072e-06
2846	YDL170W	YOR100C	6.089676e-06
8727	YKL015W	YLR258W	6.082714e-06
4138	YER040W	YNR064C	5.784629e-06
6833	YDL170W	YKL015W	5.579904e-06
8323	YKL112W	YLR267W	5.497778e-06
4540	YDL170W	YCL064C	5.435528e-06
6942	YDR043C	YGL009C	5.416631e-06
7937	YBL103C	YJL217W	5.410236e-06
7442	YDR216W	YNL270C	5.205863e-06
1958	YBL103C	YDR384C	5.189335e-06
4833	YMR280C	YIL037C	5.110947e-06
9763	YGL254W	YKL040C	5.073716e-06
5549	YKL015W	YJR094C	4.750102e-06
5943	YGL254W	YNR028W	4.728916e-06
9025	YOR032C	YDL110C	4.665576e-06
4641	YDL170W	YJL063C	4.660066e-06
7144	YKL112W	YDR361C	4.628863e-06
3932	YKL062W	YER158C	4.620258e-06
8824	YDR043C	YDR380W	4.581335e-06
2426	YDR043C	YPL111W	4.570775e-06
5729	YDR216W	YJL088W	4.563106e-06
4249	YER040W	YGR067C	4.538197e-06
6454	YKL112W	YLR276C	4.525177e-06
4544	YDR043C	YCL064C	4.335303e-06
7145	YER040W	YDR361C	4.291178e-06
377	YKL112W	YMR280C	4.281129e-06
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7942	YKL015W	YJL217W	4.155309e-06
5047	YDR043C	YDL091C	4.129784e-06
9158	YKL112W	YER067W	4.089677e-06
3742	YBL103C	YIL136W	4.006699e-06

6167	YDR043C	YDR258C	3.994869e-06
1065	YMR280C	YCR021C	3.968059e-06
4645	YDR216W	YJL063C	3.884346e-06
1066	YKL112W	YCR021C	3.843331e-06
3346	YDL170W	YGL254W	3.842424e-06
5870	YER040W	YLL011W	3.831991e-06
3347	YDR043C	YGL254W	3.819941e-06
9160	YKL015W	YER067W	3.814344e-06
7943	YKL112W	YJL217W	3.784805e-06
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9162	YGL254W	YER067W	3.775882e-06
4546	YER040W	YCL064C	3.749530e-06
2851	YDR216W	YOR100C	3.747063e-06
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5871	YKL015W	YLL011W	3.701246e-06
3421	YDR216W	YLR174W	3.687687e-06
7537	YER040W	YFR022W	3.684195e-06
4251	YDL170W	YGR067C	3.660468e-06
7765	YMR280C	YDR523C	3.576189e-06
7538	YBL103C	YFR022W	3.521667e-06
9352	YER040W	YGL229C	3.488473e-06
6662	YDR216W	YNL037C	3.466172e-06
1477	YOR032C	YFL014W	3.462118e-06
3422	YMR280C	YLR174W	3.402917e-06
6234	YDR043C	YKL071W	3.395999e-06
4739	YDR216W	YDL160C	3.382019e-06
7447	YBL103C	YNL270C	3.361308e-06
5219	YDR043C	YHL028W	3.354458e-06
7448	YER040W	YNL270C	3.335423e-06
4331	YKL112W	YPL265W	3.320012e-06
4333	YER040W	YPL265W	3.250735e-06
4965	YKL062W	YLR327C	3.208970e-06
6665	YDL170W	YNL037C	3.141530e-06
3041	YDL170W	YNR046W	3.120892e-06
9444	YER040W	YOR032C	3.065905e-06
5124	YKL062W	YHR051W	3.065417e-06
4742	YKL112W	YDL160C	3.042818e-06
2658	YBL103C	YJL172W	2.997725e-06
4654	YBL103C	YJL063C	2.977507e-06
9535	YDR216W	YHR216W	2.959753e-06
9026	YDR043C	YDL110C	2.928778e-06
1534	YBL103C	YOR348C	2.927453e-06
4655	YGL254W	YJL063C	2.856963e-06
8122	YDR043C	YBL042C	2.835073e-06
380	YJR094C	YMR280C	2.833008e-06



7770	YDR216W	YDR523C	2.803375e-06
9028	YDL170W	YDL110C	2.757057e-06
1355	YKL112W	YAL054C	2.744895e-06
6947	YKL112W	YGL009C	2.743455e-06
9641	YJR094C	YJL153C	2.740551e-06
149	YGL254W	YKL112W	2.727368e-06
7342	YMR280C	YOR302W	2.700377e-06
3869	YOR032C	YGR183C	2.659605e-06
8735	YMR280C	YLR258W	2.656563e-06
2578	YKL015W	YOR388C	2.655979e-06
9773	YDR043C	YKL040C	2.650948e-06
6458	YGL254W	YLR276C	2.624911e-06
9537	YKL112W	YHR216W	2.618341e-06
418	YMR280C	YER040W	2.603506e-06
7771	YOR032C	YDR523C	2.569077e-06
3351	YMR280C	YGL254W	2.537092e-06
9539	YGL254W	YHR216W	2.521926e-06
8550	YER040W	YOL014W	2.459148e-06
2861	YDR043C	YOR100C	2.457407e-06
9971	YJR094C	YKL062W	2.426860e-06
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1072	YGL254W	YCR021C	2.415506e-06
753	YDR216W	YML123C	2.412266e-06
1536	YMR280C	YOR348C	2.397289e-06
6843	YER040W	YKL015W	2.388349e-06
621	YDR216W	YNL036W	2.387436e-06
1482	YER040W	YFL014W	2.376735e-06
4261	YOR032C	YGR067C	2.365293e-06
7453	YOR032C	YNL270C	2.355988e-06
8329	YDL170W	YLR267W	2.345593e-06
539	YKL112W	YGR142W	2.332661e-06
9974	YBL103C	YKL062W	2.328548e-06
3149	YDR043C	YJR110W	2.292513e-06
947	YER040W	YDR171W	2.264645e-06
8737	YDR216W	YLR258W	2.235055e-06
948	YDR043C	YDR171W	2.206772e-06
9451	YGL254W	YOR032C	2.190747e-06
1483	YGL254W	YFL014W	2.188471e-06
7251	YJR094C	YLL033W	2.187865e-06
7772	YBL103C	YDR523C	2.181965e-06
4341	YGL254W	YPL265W	2.180645e-06
4036	YMR280C	YJR148W	2.170412e-06
7157	YBL103C	YDR361C	2.162694e-06
2163	YKL015W	YPL061W	2.158359e-06
150	YBL103C	YKL112W	2.157105e-06

3045	YMR280C	YNR046W	2.157020e-06
4972	YMR280C	YLR327C	2.125996e-06
4660	YDR043C	YJL063C	2.122301e-06
6538	YBL103C	YLR438W	2.069954e-06
5958	YDR216W	YNR028W	2.053595e-06
1138	YDR043C	YGR043C	2.052446e-06
3425	YDL170W	YLR174W	2.008937e-06
7862	YGL254W	YPL036W	1.993109e-06
9646	YDL170W	YJL153C	1.977620e-06
1966	YDL170W	YDR384C	1.969089e-06
544	YDL170W	YGR142W	1.894895e-06
860	YOR032C	YHR136C	1.893873e-06
243	YKL112W	YDR216W	1.849844e-06
9648	YGL254W	YJL153C	1.810807e-06
4444	YDR043C	YKR056W	1.807817e-06
1967	YMR280C	YDR384C	1.790257e-06
7253	YMR280C	YLL033W	1.787734e-06
8065	YJR094C	YOR056C	1.781800e-06
3936	YBL103C	YER158C	1.778938e-06
755	YGL254W	YML123C	1.770274e-06
4267	YDR043C	YGR067C	1.766114e-06
6244	YDR216W	YKL071W	1.753050e-06
2775	YKL015W	YPL012W	1.751222e-06
3937	YKL112W	YER158C	1.749050e-06
624	YKL062W	YNL036W	1.710514e-06
4344	YKL015W	YPL265W	1.667861e-06
1540	YDR043C	YOR348C	1.657474e-06
4559	YKL112W	YCL064C	1.648619e-06
5630	YDR216W	YIL155C	1.634800e-06
8462	YKL062W	YHR029C	1.629413e-06
7551	YDR043C	YFR022W	1.615094e-06
8557	YKL112W	YOL014W	1.610283e-06
8464	YGL254W	YHR029C	1.604953e-06
9362	YOR032C	YGL229C	1.603476e-06
1362	YKL062W	YAL054C	1.593880e-06
6171	YKL112W	YDR258C	1.585309e-06
9035	YDR216W	YDL110C	1.579954e-06
2170	YDR043C	YPL061W	1.563278e-06
6245	YKL062W	YKL071W	1.549785e-06
9175	YMR280C	YER067W	1.477988e-06
1082	YOR032C	YCRO21C	1.477241e-06
3875	YER040W	YGR183C	1.442289e-06
5059	YKL015W	YDL091C	1.437434e-06
5632	YKL062W	YIL155C	1.433407e-06
2970	YKL112W	YMR169C	1.428194e-06

7463	YGL254W	YNL270C	1.426510e-06
864	YDR216W	YHR136C	1.411803e-06
5060	YDL170W	YDL091C	1.406422e-06
4667	YER040W	YJL063C	1.389297e-06
7554	YDL170W	YFR022W	1.388916e-06
7776	YKL015W	YDR523C	1.370463e-06
1364	YBL103C	YAL054C	1.346004e-06
8072	YER040W	YOR056C	1.344296e-06
4148	YDR043C	YNR064C	1.342349e-06
2250	YDL170W	YKR075C	1.324519e-06
1736	YDL170W	YBR054W	1.313490e-06
2780	YKL112W	YPL012W	1.298412e-06
2362	YKL112W	YLR009W	1.291328e-06
4346	YDR216W	YPL265W	1.287961e-06
548	YKL062W	YGR142W	1.281227e-06
9466	YJR094C	YOR032C	1.276102e-06
9467	YDL170W	YOR032C	1.269964e-06
9546	YER040W	YHR216W	1.264038e-06
3357	YBL103C	YGL254W	1.263555e-06
9547	YMR280C	YHR216W	1.242194e-06
4561	YBL103C	YCL064C	1.241591e-06
4981	YDR043C	YLR327C	1.240844e-06
5228	YKL015W	YHL028W	1.239132e-06
1085	YDR216W	YCR021C	1.237335e-06
9779	YJR094C	YKL040C	1.230766e-06
2363	YER040W	YLR009W	1.229627e-06
549	YOR032C	YGR142W	1.216262e-06
761	YKL015W	YML123C	1.201315e-06
6680	YKL062W	YNL037C	1.199350e-06
6248	YJR094C	YKL071W	1.176498e-06
2676	YOR032C	YJL172W	1.164790e-06
1972	YDR043C	YDR384C	1.148392e-06
4448	YER040W	YKR056W	1.141432e-06
9233	YMR280C	YLR178C	1.132936e-06
1369	YOR032C	YAL054C	1.124635e-06
7363	YGL254W	YOR302W	1.118812e-06
9863	YMR280C	YHR087W	1.116292e-06
1144	YKL112W	YGR043C	1.112887e-06
6682	YER040W	YNL037C	1.111894e-06
2173	YKL062W	YPL061W	1.101458e-06
4348	YDL170W	YPL265W	1.094165e-06
4984	YOR032C	YLR327C	1.069947e-06
3364	YOR032C	YGL254W	1.048031e-06
1672	YMR280C	YDL170W	1.041926e-06
9039	YMR280C	YDL110C	1.041197e-06

6542	YER040W	YLR438W	1.040094e-06
9982	YER040W	YKL062W	1.034413e-06
9983	YDL170W	YKL062W	1.032724e-06
2878	YKL015W	YOR100C	1.031000e-06
1868	YJR094C	YCR010C	1.030673e-06
956	YMR280C	YDR171W	1.029089e-06
1550	YGL254W	YOR348C	1.027904e-06
9783	YMR280C	YKL040C	1.015636e-06
2684	YGL254W	YJL172W	1.008334e-06
9182	YJR094C	YER067W	9.999383e-07
5134	YDR043C	YHR051W	9.971306e-07
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3753	YDR216W	YIL136W	9.857975e-07
7650	YMR280C	YAL062W	9.848851e-07
1145	YDR216W	YGR043C	9.804780e-07
8470	YDR043C	YHR029C	9.783838e-07
869	YJR094C	YHR136C	9.761009e-07
2685	YKL015W	YJL172W	9.650616e-07
5880	YBL103C	YLL011W	9.559111e-07
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3754	YMR280C	YIL136W	9.135168e-07
2177	YMR280C	YPL061W	8.869984e-07
630	YKL112W	YNL036W	8.823279e-07
3241	YKL112W	YMR193W	8.810514e-07
5639	YKL112W	YIL155C	8.776311e-07
7166	YDL170W	YDR361C	8.761235e-07
8472	YMR280C	YHR029C	8.759649e-07
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7365	YDR043C	YOR302W	8.664523e-07
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6256	YGL254W	YKL071W	8.352567e-07
4045	YER040W	YJR148W	8.338371e-07
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7260	YGL254W	YLL033W	8.290747e-07
9661	YBL103C	YJL153C	8.286573e-07
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6031	YBL103C	YDR043C	8.191252e-07
9043	YGL254W	YDL110C	8.165861e-07

7654	YDL170W	YAL062W	8.165204e-07
8270	YDR043C	YLR130C	8.090509e-07
6032	YER040W	YDR043C	8.042436e-07
7263	YDR216W	YLL033W	7.994614e-07
5975	YDR043C	YNR028W	7.923494e-07
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5348	YKL015W	YMR229C	7.879052e-07
3947	YMR280C	YER158C	7.858503e-07
1093	YJR094C	YCR021C	7.836278e-07
4857	YER040W	YIL037C	7.781892e-07
1149	YER040W	YGR043C	7.764863e-07
2787	YDR216W	YPL012W	7.691461e-07
9477	YDR216W	YOR032C	7.679790e-07
2788	YER040W	YPL012W	7.669801e-07
4279	YGL254W	YGR067C	7.661517e-07
4047	YDL170W	YJR148W	7.489216e-07
7883	YDR216W	YPL036W	7.387493e-07
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5642	YMR280C	YIL155C	7.361374e-07
6965	YJR094C	YGL009C	7.361006e-07
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3884	YDL170W	YGR183C	7.305360e-07
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4456	YGL254W	YKR056W	7.195516e-07
3171	YDR216W	YJR110W	7.138000e-07
557	YBL103C	YGR142W	7.092592e-07
6871	YBL103C	YKL015W	7.002450e-07
6264	YMR280C	YKL071W	6.904484e-07
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632	YDR043C	YNL036W	6.706271e-07
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2186	YOR032C	YPL061W	6.625361e-07
3886	YBL103C	YGR183C	6.597691e-07
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8567	YGL254W	YOL014W	6.424376e-07
171	YMR280C	YKL112W	6.413236e-07
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8569	YKL015W	YOL014W	6.323808e-07
3175	YKL062W	YJR110W	6.300661e-07
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427	YBL103C	YER040W	6.169015e-07
2793	YGL254W	YPL012W	5.990736e-07
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4580	YGL254W	YCL064C	5.973382e-07
8278	YJR094C	YLR130C	5.940737e-07
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881	YKL112W	YHR136C	5.596740e-07
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8483	YKL015W	YHR029C	5.236999e-07
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8575	YJR094C	YOL014W	5.118661e-07
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6980	YDR216W	YGL009C	5.106374e-07
5236	YOR032C	YHL028W	5.081975e-07
3180	YOR032C	YJR110W	5.080778e-07
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884	YER040W	YHR136C	5.021893e-07
3181	YMR280C	YJR110W	4.998641e-07
6982	YDL170W	YGL009C	4.970752e-07

6983	YKL015W	YGL009C	4.964949e-07
7488	YJR094C	YNL270C	4.962869e-07
964	YKL112W	YDR171W	4.947203e-07
7790	YJR094C	YDR523C	4.920074e-07
431	YKL062W	YER040W	4.895102e-07
8280	YOR032C	YLR130C	4.781167e-07
4767	YMR280C	YDL160C	4.769419e-07
6787	YDR216W	YKR009C	4.766632e-07
7889	YJR094C	YPL036W	4.745089e-07
8751	YKL112W	YLR258W	4.740989e-07
5882	YOR032C	YLL011W	4.713644e-07
2260	YBL103C	YKR075C	4.684033e-07
6788	YKL015W	YKR009C	4.643860e-07
780	YKL112W	YML123C	4.601309e-07
6882	YGL254W	YKL015W	4.552744e-07
1236	YBL103C	YHR018C	4.530883e-07
8841	YMR280C	YDR380W	4.485931e-07
781	YOR032C	YML123C	4.472986e-07
2261	YOR032C	YKR075C	4.466654e-07
3761	YDR043C	YIL136W	4.448584e-07
5883	YDR216W	YLL011W	4.434138e-07
7793	YGL254W	YDR523C	4.390647e-07
432	YOR032C	YER040W	4.352617e-07
6792	YOR032C	YKR009C	4.344212e-07
7579	YGL254W	YFR022W	4.316667e-07
4172	YKL062W	YNR064C	4.288806e-07
2796	YJR094C	YPL012W	4.265350e-07
6986	YOR032C	YGL009C	4.258122e-07
8931	YMR280C	YLL034C	4.248749e-07
9671	YOR032C	YJL153C	4.238481e-07
7280	YKL062W	YLL033W	4.176545e-07
9374	YGL254W	YGL229C	4.149649e-07
4289	YKL015W	YGR067C	4.148525e-07
7181	YJR094C	YDR361C	4.097223e-07
2888	YGL254W	YOR100C	4.081420e-07
1744	YBL103C	YBR054W	4.029918e-07
6795	YGL254W	YKR009C	4.005733e-07
7282	YKL015W	YLL033W	3.980712e-07
888	YDL170W	YHR136C	3.887055e-07
6187	YJR094C	YDR258C	3.883281e-07
7045	YMR280C	YPR002W	3.823072e-07
6887	YDR216W	YKL015W	3.821312e-07
889	YBL103C	YHR136C	3.793572e-07
9875	YOR032C	YHR087W	3.790158e-07
5991	YJR094C	YNR028W	3.767127e-07

2196	YDR216W	YPL061W	3.761245e-07
6992	YGL254W	YGL009C	3.735109e-07
6337	YDL170W	YNL194C	3.729228e-07
3393	YDR216W	YGL254W	3.724096e-07
2058	YDR216W	YER150W	3.672922e-07
6889	YJR094C	YKL015W	3.616828e-07
8762	YJR094C	YLR258W	3.615510e-07
9056	YKL015W	YDL110C	3.609496e-07
1987	YOR032C	YDR384C	3.586172e-07
5890	YJR094C	YLL011W	3.581117e-07
2197	YJR094C	YPL061W	3.537643e-07
4590	YKL015W	YCL064C	3.519563e-07
8088	YBL103C	YOR056C	3.479142e-07
6484	YBL103C	YLR276C	3.442676e-07
3893	YJR094C	YGR183C	3.421678e-07
7586	YJR094C	YFR022W	3.390082e-07
6696	YGL254W	YNL037C	3.369853e-07
5648	YDR043C	YIL155C	3.354674e-07
4058	YBL103C	YJR148W	3.334640e-07
3444	YKL062W	YLR174W	3.327381e-07
4591	YOR032C	YCL064C	3.298702e-07
1161	YJR094C	YGR043C	3.293227e-07
4592	YDR216W	YCL064C	3.292035e-07
7392	YKL015W	YOR302W	3.283913e-07
3894	YGL254W	YGR183C	3.276725e-07
3952	YDL170W	YER158C	3.269552e-07
4777	YKL062W	YDL160C	3.264302e-07
9376	YJR094C	YGL229C	3.254555e-07
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4680	YKL015W	YJL063C	3.219492e-07
7587	YDR216W	YFR022W	3.217649e-07
2061	YMR280C	YER150W	3.207887e-07
7588	YKL015W	YFR022W	3.179528e-07
3191	YJR094C	YJR110W	3.130935e-07
8492	YOR032C	YHR029C	3.127845e-07
6191	YDL170W	YDR258C	3.109435e-07
5355	YDL170W	YMR229C	3.104245e-07
8583	YDL170W	YOL014W	3.100253e-07
9248	YBL103C	YLR178C	3.097832e-07
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6697	YJR094C	YNL037C	3.086074e-07
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5995	YOR032C	YNR028W	3.036747e-07
8765	YGL254W	YLR258W	3.024801e-07
565	YGL254W	YGR142W	3.020875e-07



4190	YGL254W	YNR064C	3.013679e-07
2891	YJR094C	YOR100C	3.007617e-07
8766	YDL170W	YLR258W	2.984309e-07
1747	YMR280C	YBR054W	2.971727e-07
4779	YGL254W	YDL160C	2.961868e-07
4370	YOR032C	YPL265W	2.961623e-07
2996	YGL254W	YMR169C	2.958872e-07
1991	YKL015W	YDR384C	2.958298e-07
6555	YDL170W	YLR438W	2.924751e-07
7394	YOR032C	YOR302W	2.898420e-07
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9379	YDL170W	YGL229C	2.876939e-07
4683	YJR094C	YJL063C	2.863136e-07
1992	YGL254W	YDR384C	2.825300e-07
1889	YOR032C	YCR010C	2.804243e-07
7190	YDR216W	YDR361C	2.792746e-07
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4886	YJR094C	YIL037C	2.690251e-07
9249	YJR094C	YLR178C	2.670478e-07
6698	YOR032C	YNL037C	2.669472e-07
9877	YGL254W	YHR087W	2.651968e-07
1749	YJR094C	YBR054W	2.649163e-07
5649	YOR032C	YIL155C	2.647059e-07
4295	YJR094C	YGR067C	2.640644e-07
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8590	YBL103C	YOL014W	2.615476e-07
4888	YGL254W	YIL037C	2.591776e-07
4889	YOR032C	YIL037C	2.590316e-07
4685	YOR032C	YJL063C	2.589502e-07
5650	YBL103C	YIL155C	2.560221e-07
4780	YOR032C	YDL160C	2.526065e-07
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2696	YDR216W	YJL172W	2.492930e-07
6558	YDR043C	YLR438W	2.492428e-07
7396	YJR094C	YOR302W	2.490805e-07
8773	YDR043C	YLR258W	2.486179e-07
197	YJR094C	YKL112W	2.478300e-07
2384	YDR216W	YLR009W	2.461493e-07
8349	YER040W	YLR267W	2.413679e-07

3197	YKL015W	YJR110W	2.393831e-07
4063	YJR094C	YJR148W	2.390413e-07
5242	YDR216W	YHL028W	2.355628e-07
5458	YOR032C	YOR206W	2.355047e-07
3074	YOR032C	YNR046W	2.338360e-07
6197	YOR032C	YDR258C	2.335031e-07
3252	YDR216W	YMR193W	2.304392e-07
573	YMR280C	YGR142W	2.302145e-07
8350	YMR280C	YLR267W	2.280940e-07
9682	YKL015W	YJL153C	2.231007e-07
1751	YKL015W	YBR054W	2.224510e-07
9571	YJR094C	YHR216W	2.213469e-07
792	YDL170W	YML123C	2.193569e-07
793	YBL103C	YML123C	2.191418e-07
5360	YKL062W	YMR229C	2.178292e-07
5361	YMR280C	YMR229C	2.171349e-07
7671	YBL103C	YAL062W	2.164409e-07
2389	YKL015W	YLR009W	2.139381e-07
6342	YER040W	YNL194C	2.137419e-07
9879	YDR043C	YHR087W	2.093988e-07
2391	YOR032C	YLR009W	2.083739e-07
5080	YBL103C	YDL091C	2.060509e-07
5243	YER040W	YHL028W	2.059984e-07
9880	YER040W	YHR087W	2.000043e-07
6492	YOR032C	YLR276C	1.947101e-07
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4196	YDR216W	YNR064C	1.920942e-07
797	YJR094C	YML123C	1.900796e-07
7194	YOR032C	YDR361C	1.849657e-07
5362	YOR032C	YMR229C	1.833765e-07
1397	YJR094C	YAL054C	1.831215e-07
4198	YJR094C	YNR064C	1.823237e-07
6047	YDL170W	YDR043C	1.816037e-07
1569	YJR094C	YOR348C	1.813984e-07
4470	YDL170W	YKR056W	1.795745e-07
8596	YOR032C	YOL014W	1.795322e-07
8094	YOR032C	YOR056C	1.788916e-07
4784	YJR094C	YDL160C	1.777701e-07
2441	YER040W	YPL111W	1.767883e-07
8856	YKL112W	YDR380W	1.766264e-07
2442	YDL170W	YPL111W	1.739175e-07
2443	YJR094C	YPL111W	1.731046e-07
1997	YDR216W	YDR384C	1.728369e-07
438	YKL112W	YER040W	1.726597e-07
8632	YKL062W	YNR053C	1.726104e-07

8096	YGL254W	YOR056C	1.716742e-07
1570	YER040W	YOR348C	1.713056e-07
3076	YGL254W	YNR046W	1.705496e-07
978	YGL254W	YDR171W	1.668875e-07
2066	YGL254W	YER150W	1.667044e-07
1572	YKL112W	YOR348C	1.609744e-07
8353	YGL254W	YLR267W	1.587609e-07
4072	YKL062W	YJR148W	1.583843e-07
2274	YDR216W	YKR075C	1.583642e-07
5467	YBL103C	YOR206W	1.540753e-07
1245	YKL112W	YHR018C	1.535501e-07
6344	YMR280C	YNL194C	1.528917e-07
3960	YER040W	YER158C	1.519059e-07
1998	YJR094C	YDR384C	1.507027e-07
9883	YBL103C	YHR087W	1.455193e-07
274	YOR032C	YDR216W	1.452130e-07
4792	YKL015W	YDL160C	1.438340e-07
2277	YGL254W	YKR075C	1.437970e-07
1246	YDL170W	YHR018C	1.433464e-07
1247	YOR032C	YHR018C	1.420782e-07
5770	YOR032C	YJL088W	1.357260e-07
2397	YGL254W	YLR009W	1.356856e-07
8159	YKL015W	YBL042C	1.335370e-07
2398	YJR094C	YLR009W	1.326562e-07
6345	YOR032C	YNL194C	1.322515e-07
7053	YDR216W	YPR002W	1.279618e-07
9389	YKL015W	YGL229C	1.251679e-07
6500	YJR094C	YLR276C	1.237329e-07
8860	YER040W	YDR380W	1.235397e-07
3256	YMR280C	YMR193W	1.226089e-07
587	YDR216W	YGR142W	1.222716e-07
6346	YDR216W	YNL194C	1.216007e-07
278	YDR043C	YDR216W	1.180717e-07
5473	YKL112W	YOR206W	1.178267e-07
5775	YJR094C	YJL088W	1.144011e-07
5150	YOR032C	YHR051W	1.134171e-07
589	YJR094C	YGR142W	1.129812e-07
8636	YKL112W	YNR053C	1.105646e-07
5249	YBL103C	YHL028W	1.093626e-07
282	YJR094C	YDR216W	1.066920e-07
4082	YKL015W	YJR148W	1.055341e-07
1181	YKL015W	YGR043C	1.046240e-07
9578	YDL170W	YHR216W	1.034528e-07
8867	YDL170W	YDR380W	1.024931e-07
655	YOR032C	YNL036W	1.008842e-07

5781	YMR280C	YJL088W	9.798656e-08
5154	YKL112W	YHR051W	9.785475e-08
5782	YGL254W	YJL088W	9.710270e-08
7058	YKL015W	YPR002W	9.284758e-08
8791	YOR032C	YLR258W	9.224313e-08
594	YKL015W	YGR142W	9.173766e-08
3090	YJR094C	YNR046W	9.030254e-08
4478	YBL103C	YKR056W	8.809371e-08
985	YJR094C	YDR171W	8.737277e-08
657	YBL103C	YNL036W	8.660453e-08
3461	YER040W	YLR174W	8.590534e-08
4088	YGL254W	YJR148W	8.359196e-08
3261	YER040W	YMR193W	8.144738e-08
8870	YBL103C	YDR380W	7.782381e-08
7687	YKL015W	YAL062W	7.654164e-08
7688	YOR032C	YAL062W	7.389701e-08
9266	YDR043C	YLR178C	7.364270e-08
4481	YOR032C	YKR056W	7.055061e-08
4482	YKL015W	YKR056W	7.016066e-08
3098	YKL015W	YNR046W	6.992371e-08
5481	YDL170W	YOR206W	6.966028e-08
3464	YOR032C	YLR174W	6.930614e-08
5482	YER040W	YOR206W	6.868510e-08
5090	YJR094C	YDL091C	6.839440e-08
3465	YGL254W	YLR174W	6.782377e-08
2285	YJR094C	YKR075C	6.752585e-08
8874	YOR032C	YDR380W	6.652638e-08
5666	YDL170W	YIL155C	6.637913e-08
9269	YKL112W	YLR178C	6.612156e-08
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5374	YBL103C	YMR229C	6.362157e-08
3779	YJR094C	YIL136W	6.252483e-08
9890	YKL112W	YHR087W	6.215973e-08
2072	YDR043C	YER150W	6.178454e-08
9891	YJR094C	YHR087W	6.159362e-08
5091	YDR216W	YDL091C	6.084416e-08
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659	YER040W	YNL036W	5.891908e-08
1258	YDR043C	YHR018C	5.670279e-08
3469	YKL015W	YLR174W	5.463119e-08
5092	YGL254W	YDL091C	5.443634e-08
3470	YKL112W	YLR174W	5.378642e-08
2076	YOR032C	YER150W	4.948199e-08
8796	YER040W	YLR258W	4.891328e-08
1769	YKL062W	YBR054W	4.859406e-08

3980	YJR094C	YER158C	4.572064e-08
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8649	YMR280C	YMR053C	4.490586e-08
4095	YDR216W	YJR148W	4.453732e-08
7068	YDR043C	YPR002W	4.398260e-08
2291	YKL015W	YKR075C	4.288657e-08
4485	YJR094C	YKR056W	4.274261e-08
4398	YJR094C	YPL265W	4.263128e-08
3784	YGL254W	YIL136W	4.173601e-08
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7695	YDR216W	YAL062W	3.975500e-08
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5679	YER040W	YIL155C	3.699628e-08
8171	YKL062W	YBL042C	3.641969e-08
1262	YMR280C	YHR018C	3.501455e-08
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5493	YKL015W	YOR206W	3.316992e-08
5167	YDL170W	YHR051W	3.160903e-08
5258	YDL170W	YHL028W	3.132570e-08
3274	YDL170W	YMR193W	3.127197e-08
5495	YGL254W	YOR206W	2.933707e-08
3275	YBL103C	YMR193W	2.901609e-08
3276	YOR032C	YMR193W	2.894428e-08
3983	YGL254W	YER158C	2.875559e-08
8177	YDL170W	YBL042C	2.751032e-08
8798	YBL103C	YLR258W	2.741625e-08
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6062	YGL254W	YDR043C	2.352903e-08
7081	YKL062W	YPR002W	2.265495e-08
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1268	YKL015W	YHR018C	2.214708e-08
9087	YKL112W	YDL110C	2.177746e-08
8893	YKL015W	YDR380W	2.176031e-08
2085	YJR094C	YER150W	2.169187e-08
5391	YJR094C	YMR229C	2.071793e-08
5392	YGL254W	YMR229C	2.065439e-08
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9286	YDR216W	YLR178C	1.933329e-08
3988	YDR216W	YER158C	1.929950e-08
5179	YBL103C	YHR051W	1.898659e-08
1776	YKL112W	YBR054W	1.877532e-08

6366	YKL112W	YNL194C	1.860593e-08
9289	YOR032C	YLR178C	1.681573e-08
3490	YJR094C	YLR174W	1.640825e-08
7085	YOR032C	YPR002W	1.638367e-08
998	YOR032C	YDR171W	1.567563e-08
9088	YJR094C	YDL110C	1.554840e-08
1780	YDR043C	YBR054W	1.552947e-08
1276	YDR216W	YHR018C	1.531931e-08
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8895	YGL254W	YDR380W	1.421348e-08
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8966	YKL112W	YLL034C	1.384586e-08
6074	YMR280C	YDR043C	1.375462e-08
8896	YDR216W	YDR380W	1.361437e-08
5398	YDR216W	YMR229C	1.334220e-08
8898	YJR094C	YDR380W	1.329575e-08
8659	YJR094C	YNR053C	1.312783e-08
3662	YKL112W	YDL018C	1.307774e-08
8377	YOR032C	YLR267W	1.286995e-08
8967	YOR032C	YLL034C	1.281572e-08
8192	YER040W	YBL042C	1.246717e-08
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5187	YGL254W	YHR051W	1.223427e-08
8381	YJR094C	YLR267W	1.211546e-08
3663	YER040W	YDL018C	1.209428e-08
6585	YKL015W	YLR438W	1.195342e-08
475	YDR216W	YER040W	1.195278e-08
8662	YOR032C	YNR053C	1.144617e-08
3665	YBL103C	YDL018C	1.132389e-08
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6586	YDR216W	YLR438W	1.123959e-08
3567	YOR032C	YER002W	1.115111e-08
2092	YKL112W	YER150W	1.104225e-08
7092	YGL254W	YPR002W	1.094152e-08
8663	YDL170W	YNR053C	1.090977e-08
3667	YKL062W	YDL018C	1.083190e-08
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> title("ROC")
> prc( contabs.netwBMA( edges.ScanBMA, referencePairs), plotit = TRUE)

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1602  YDR216W   YDR216W 1.000000e+00
2102  YDL170W   YDL170W 1.000000e+00
2202  YKL062W   YKL062W 1.000000e+00
2203  YGL254W   YGL254W 1.000000e+00
2301  YKL015W   YKL015W 1.000000e+00
2501  YKL112W   YKL112W 1.000000e+00
3401  YMR280C   YMR280C 1.000000e+00
3701  YDR043C   YDR043C 1.000000e+00
5702  YER040W   YER040W 1.000000e+00
6101  YKL112W   YNL270C 1.000000e+00
7601  YDL170W   YCR010C 1.000000e+00
8801  YKL062W   YKR009C 1.000000e+00
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2004  YKL062W   YER150W 1.000000e+00
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605	YMR280C	YNL036W	9.870398e-01
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6810	YKL062W	YKL015W	8.567141e-05

3317	YKL015W	YGL254W	8.378584e-05
9016	YBL103C	YDL110C	8.347189e-05
9831	YKL062W	YHR087W	8.229673e-05
6812	YKL112W	YKL015W	7.749511e-05
9732	YER040W	YKL040C	7.613779e-05
6627	YMR280C	YNL037C	7.514219e-05
2915	YDL170W	YMR169C	7.310313e-05
1448	YJR094C	YFL014W	7.215076e-05
7820	YER040W	YPL036W	7.199133e-05
9942	YKL112W	YKL062W	7.197676e-05
4623	YMR280C	YJL063C	7.114622e-05
9320	YDR043C	YGL229C	7.091607e-05
3820	YMR280C	YGR183C	6.982865e-05
7908	YDR043C	YJL217W	6.963837e-05
9321	YMR280C	YGL229C	6.960399e-05
1631	YBL103C	YDL170W	6.626979e-05
7410	YKL015W	YNL270C	6.502019e-05
6813	YMR280C	YKL015W	6.384302e-05
7722	YER040W	YDR523C	6.149331e-05
2629	YDR043C	YJL172W	6.110538e-05
1930	YKL062W	YDR384C	6.107044e-05
7411	YMR280C	YNL270C	6.048286e-05
6631	YDR043C	YNL037C	5.927016e-05
8221	YKL062W	YLR130C	5.818131e-05
7911	YDR216W	YJL217W	5.803088e-05
8312	YDR043C	YLR267W	5.777822e-05
5521	YKL062W	YJR094C	5.741613e-05
6734	YBL103C	YKR009C	5.716572e-05
7316	YKL112W	YOR302W	5.685453e-05
4812	YKL112W	YIL037C	5.673267e-05
5522	YGL254W	YJR094C	5.638254e-05
345	YKL062W	YMR280C	5.626419e-05
4217	YKL112W	YGR067C	5.606436e-05
3822	YDR043C	YGR183C	5.573155e-05
346	YOR032C	YMR280C	5.520619e-05
2918	YMR280C	YMR169C	5.451099e-05
9126	YDL170W	YER067W	5.374859e-05
415	YDR043C	YER040W	5.364057e-05
1036	YDL170W	YCR021C	5.325783e-05
7317	YBL103C	YOR302W	5.302314e-05
4715	YER040W	YDL160C	5.273234e-05
9514	YBL103C	YHR216W	5.246698e-05
2532	YBL103C	YOR388C	5.039521e-05
217	YKL015W	YDR216W	4.954761e-05
7412	YKL062W	YNL270C	4.826213e-05

1454	YMR280C	YFL014W	4.780681e-05
9417	YKL015W	YOR032C	4.762414e-05
4814	YKL062W	YIL037C	4.713642e-05
1632	YDR043C	YDL170W	4.549196e-05
7913	YJR094C	YJL217W	4.457401e-05
6639	YKL015W	YNL037C	4.409747e-05
5416	YMR280C	YOR206W	4.353974e-05
7320	YER040W	YOR302W	4.310284e-05
828	YMR280C	YHR136C	4.264791e-05
4117	YMR280C	YNR064C	4.233747e-05
6137	YDR216W	YDR258C	4.107077e-05
1635	YOR032C	YDL170W	4.050507e-05
5716	YKL062W	YJL088W	3.835422e-05
7015	YKL112W	YPR002W	3.770909e-05
2533	YJR094C	YOR388C	3.752717e-05
1116	YMR280C	YGR043C	3.691210e-05
5719	YER040W	YJL088W	3.687478e-05
5112	YMR280C	YHR051W	3.681192e-05
218	YDL170W	YDR216W	3.627576e-05
9742	YBL103C	YKL040C	3.538803e-05
9131	YER040W	YER067W	3.517504e-05
9743	YDL170W	YKL040C	3.497766e-05
7828	YDL170W	YPL036W	3.488702e-05
8226	YBL103C	YLR130C	3.475313e-05
8432	YBL103C	YHR029C	3.468308e-05
9217	YDL170W	YLR178C	3.400787e-05
8520	YMR280C	YOL014W	3.384804e-05
6431	YER040W	YLR276C	3.326874e-05
7915	YKL062W	YJL217W	3.266112e-05
934	YDL170W	YDR171W	3.160488e-05
729	YMR280C	YML123C	3.133920e-05
5532	YMR280C	YJR094C	3.113875e-05
4118	YBL103C	YNR064C	3.087882e-05
7217	YDL170W	YLL033W	3.070819e-05
2217	YDR043C	YKR075C	3.051942e-05
8116	YOR032C	YBL042C	3.047466e-05
2218	YMR280C	YKR075C	3.011241e-05
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1821	YKL062W	YCR010C	2.857842e-05
8228	YDL170W	YLR130C	2.846683e-05
9517	YKL015W	YHR216W	2.820889e-05
126	YOR032C	YKL112W	2.805498e-05
1936	YER040W	YDR384C	2.805228e-05
3729	YDL170W	YIL136W	2.799122e-05
5720	YKL112W	YJL088W	2.778042e-05

6433	YKL062W	YLR276C	2.734314e-05
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9423	YMR280C	YOR032C	2.677814e-05
6318	YKL062W	YNL194C	2.659118e-05
7919	YMR280C	YJL217W	2.647862e-05
7513	YKL112W	YFR022W	2.604530e-05
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7832	YMR280C	YPL036W	2.583816e-05
7129	YMR280C	YDR361C	2.548553e-05
5930	YBL103C	YNR028W	2.494533e-05
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5031	YOR032C	YDL091C	2.446864e-05
357	YDR043C	YMR280C	2.416850e-05
1824	YER040W	YCR010C	2.402678e-05
1328	YDR043C	YAL054C	2.399200e-05
128	YDL170W	YKL112W	2.377286e-05
6215	YER040W	YKL071W	2.315170e-05
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7922	YOR032C	YJL217W	2.297164e-05
8233	YER040W	YLR130C	2.288770e-05
833	YGL254W	YHR136C	2.279321e-05
9331	YKL112W	YGL229C	2.233116e-05
2928	YER040W	YMR169C	2.222405e-05
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7735	YDL170W	YDR523C	2.080357e-05
7219	YKL112W	YLL033W	2.072730e-05
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733	YKL062W	YML123C	2.040661e-05
7736	YDR043C	YDR523C	1.995620e-05
834	YKL015W	YHR136C	1.980063e-05
9840	YDR216W	YHR087W	1.974842e-05
6523	YKL112W	YLR438W	1.946194e-05
7518	YOR032C	YFR022W	1.935727e-05
4529	YJR094C	YCL064C	1.919554e-05
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4822	YDL170W	YIL037C	1.845615e-05
7221	YER040W	YLL033W	1.842544e-05
3025	YBL103C	YNR046W	1.814905e-05
2324	YMR280C	YLR009W	1.811048e-05

6440	YDR043C	YLR276C	1.784551e-05
1830	YGL254W	YCR010C	1.780305e-05
1214	YKL062W	YHR018C	1.774828e-05
1339	YER040W	YAL054C	1.757101e-05
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8040	YKL112W	YOR056C	1.689480e-05
2546	YKL112W	YOR388C	1.669787e-05
2325	YDL170W	YLR009W	1.659497e-05
4720	YDR043C	YDL160C	1.653961e-05
2834	YKL112W	YOR100C	1.603619e-05
2547	YDR216W	YOR388C	1.600462e-05
2229	YKL112W	YKR075C	1.599917e-05
7628	YGL254W	YAL062W	1.597608e-05
6745	YMR280C	YKR009C	1.585847e-05
4721	YDL170W	YDL160C	1.577741e-05
5538	YDR216W	YJR094C	1.554942e-05
6145	YMR280C	YDR258C	1.544585e-05
4315	YBL103C	YPL265W	1.533936e-05
9021	YKL062W	YDL110C	1.526807e-05
5858	YDL170W	YLL011W	1.507655e-05
4232	YKL062W	YGR067C	1.502316e-05
7838	YKL015W	YPL036W	1.502199e-05
6648	YBL103C	YNL037C	1.477513e-05
1832	YKL112W	YCR010C	1.459846e-05
9425	YKL112W	YOR032C	1.447197e-05
7428	YDR043C	YNL270C	1.433132e-05
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2838	YER040W	YOR100C	1.382148e-05
1467	YBL103C	YFL014W	1.368202e-05
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2230	YER040W	YKR075C	1.299394e-05
6932	YKL062W	YGL009C	1.289146e-05
9336	YDR216W	YGL229C	1.248088e-05
6149	YKL062W	YDR258C	1.215705e-05
7227	YOR032C	YLL033W	1.201057e-05
1343	YDL170W	YAL054C	1.196407e-05
4936	YGL254W	YLR327C	1.194683e-05
6444	YDL170W	YLR276C	1.164164e-05
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9144	YKL062W	YER067W	1.097955e-05
1215	YER040W	YHR018C	1.083133e-05
9338	YBL103C	YGL229C	1.082496e-05
7231	YBL103C	YLL033W	1.076115e-05
4130	YDL170W	YNR064C	1.073972e-05
9524	YDR043C	YHR216W	1.045144e-05
7929	YER040W	YJL217W	1.039800e-05
2231	YKL062W	YKR075C	1.039025e-05
525	YER040W	YGR142W	1.037287e-05
228	YBL103C	YDR216W	1.024234e-05
6224	YOR032C	YKL071W	1.019095e-05
4017	YKL112W	YJR148W	1.003964e-05
2750	YBL103C	YPL012W	9.716072e-06
3735	YKL112W	YIL136W	9.671371e-06
1841	YKL015W	YCR010C	9.255886e-06
9339	YKL062W	YGL229C	9.223619e-06
939	YKL015W	YDR171W	9.164611e-06
3220	YDR043C	YMR193W	8.846968e-06
2650	YDL170W	YJL172W	8.765911e-06
8050	YMR280C	YOR056C	8.730850e-06
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4133	YKL015W	YNR064C	8.676632e-06
2944	YDR043C	YMR169C	8.666203e-06
6227	YDL170W	YKL071W	8.418289e-06
2652	YKL112W	YJL172W	8.344594e-06
6530	YKL062W	YLR438W	8.248821e-06
9631	YMR280C	YJL153C	8.221192e-06
6321	YKL015W	YNL194C	8.092109e-06
1127	YBL103C	YGR043C	7.981064e-06
6830	YDR043C	YKL015W	7.920131e-06
2842	YOR032C	YOR100C	7.858714e-06
2560	YOR032C	YOR388C	7.775450e-06
5039	YMR280C	YDL091C	7.742857e-06
2563	YGL254W	YOR388C	7.673306e-06
3737	YKL015W	YIL136W	7.634000e-06
141	YER040W	YKL112W	7.585626e-06
4321	YMR280C	YPL265W	7.562203e-06
6449	YDR216W	YLR276C	7.544046e-06
4826	YDR043C	YIL037C	7.505486e-06
7932	YGL254W	YJL217W	7.493570e-06
3738	YOR032C	YIL136W	7.300849e-06
9632	YER040W	YJL153C	7.289606e-06
9760	YDR216W	YKL040C	7.271380e-06
2947	YOR032C	YMR169C	7.011217e-06
9633	YKL062W	YJL153C	6.932814e-06

2654	YMR280C	YJL172W	6.897514e-06
5040	YKL112W	YDL091C	6.815323e-06
7530	YMR280C	YFR022W	6.623200e-06
4637	YKL062W	YJL063C	6.380821e-06
7441	YDL170W	YNL270C	6.323033e-06
8819	YKL062W	YDR380W	6.252150e-06
3338	YKL062W	YGL254W	6.230039e-06
4434	YKL062W	YKR056W	6.177072e-06
2846	YDL170W	YOR100C	6.089676e-06
8727	YKL015W	YLR258W	6.082714e-06
4138	YER040W	YNR064C	5.784629e-06
6833	YDL170W	YKL015W	5.579904e-06
8323	YKL112W	YLR267W	5.497778e-06
4540	YDL170W	YCL064C	5.435528e-06
6942	YDR043C	YGL009C	5.416631e-06
7937	YBL103C	YJL217W	5.410236e-06
7442	YDR216W	YNL270C	5.205863e-06
1958	YBL103C	YDR384C	5.189335e-06
4833	YMR280C	YIL037C	5.110947e-06
9763	YGL254W	YKL040C	5.073716e-06
5549	YKL015W	YJR094C	4.750102e-06
5943	YGL254W	YNR028W	4.728916e-06
9025	YOR032C	YDL110C	4.665576e-06
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7144	YKL112W	YDR361C	4.628863e-06
3932	YKL062W	YER158C	4.620258e-06
8824	YDR043C	YDR380W	4.581335e-06
2426	YDR043C	YPL111W	4.570775e-06
5729	YDR216W	YJL088W	4.563106e-06
4249	YER040W	YGR067C	4.538197e-06
6454	YKL112W	YLR276C	4.525177e-06
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7145	YER040W	YDR361C	4.291178e-06
377	YKL112W	YMR280C	4.281129e-06
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7942	YKL015W	YJL217W	4.155309e-06
5047	YDR043C	YDL091C	4.129784e-06
9158	YKL112W	YER067W	4.089677e-06
3742	YBL103C	YIL136W	4.006699e-06
6167	YDR043C	YDR258C	3.994869e-06
1065	YMR280C	YCR021C	3.968059e-06
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3347	YDR043C	YGL254W	3.819941e-06
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3348	YER040W	YGL254W	3.779341e-06
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2851	YDR216W	YOR100C	3.747063e-06
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5871	YKL015W	YLL011W	3.701246e-06
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7537	YER040W	YFR022W	3.684195e-06
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7765	YMR280C	YDR523C	3.576189e-06
7538	YBL103C	YFR022W	3.521667e-06
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4331	YKL112W	YPL265W	3.320012e-06
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4965	YKL062W	YLR327C	3.208970e-06
6665	YDL170W	YNL037C	3.141530e-06
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9444	YER040W	YOR032C	3.065905e-06
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4742	YKL112W	YDL160C	3.042818e-06
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4654	YBL103C	YJL063C	2.977507e-06
9535	YDR216W	YHR216W	2.959753e-06
9026	YDR043C	YDL110C	2.928778e-06
1534	YBL103C	YOR348C	2.927453e-06
4655	YGL254W	YJL063C	2.856963e-06
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380	YJR094C	YMR280C	2.833008e-06
7770	YDR216W	YDR523C	2.803375e-06
9028	YDL170W	YDL110C	2.757057e-06
1355	YKL112W	YAL054C	2.744895e-06
6947	YKL112W	YGL009C	2.743455e-06
9641	YJR094C	YJL153C	2.740551e-06
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7342	YMR280C	YOR302W	2.700377e-06
3869	YOR032C	YGR183C	2.659605e-06
8735	YMR280C	YLR258W	2.656563e-06
2578	YKL015W	YOR388C	2.655979e-06
9773	YDR043C	YKL040C	2.650948e-06
6458	YGL254W	YLR276C	2.624911e-06
9537	YKL112W	YHR216W	2.618341e-06
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7771	YOR032C	YDR523C	2.569077e-06
3351	YMR280C	YGL254W	2.537092e-06
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1482	YER040W	YFL014W	2.376735e-06
4261	YOR032C	YGR067C	2.365293e-06
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948	YDR043C	YDR171W	2.206772e-06
9451	YGL254W	YOR032C	2.190747e-06
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7251	YJR094C	YLL033W	2.187865e-06
7772	YBL103C	YDR523C	2.181965e-06
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4036	YMR280C	YJR148W	2.170412e-06
7157	YBL103C	YDR361C	2.162694e-06
2163	YKL015W	YPL061W	2.158359e-06
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3045	YMR280C	YNR046W	2.157020e-06
4972	YMR280C	YLR327C	2.125996e-06
4660	YDR043C	YJL063C	2.122301e-06
6538	YBL103C	YLR438W	2.069954e-06
5958	YDR216W	YNR028W	2.053595e-06
1138	YDR043C	YGR043C	2.052446e-06

3425	YDL170W	YLR174W	2.008937e-06
7862	YGL254W	YPL036W	1.993109e-06
9646	YDL170W	YJL153C	1.977620e-06
1966	YDL170W	YDR384C	1.969089e-06
544	YDL170W	YGR142W	1.894895e-06
860	YOR032C	YHR136C	1.893873e-06
243	YKL112W	YDR216W	1.849844e-06
9648	YGL254W	YJL153C	1.810807e-06
4444	YDR043C	YKR056W	1.807817e-06
1967	YMR280C	YDR384C	1.790257e-06
7253	YMR280C	YLL033W	1.787734e-06
8065	YJR094C	YOR056C	1.781800e-06
3936	YBL103C	YER158C	1.778938e-06
755	YGL254W	YML123C	1.770274e-06
4267	YDR043C	YGR067C	1.766114e-06
6244	YDR216W	YKL071W	1.753050e-06
2775	YKL015W	YPL012W	1.751222e-06
3937	YKL112W	YER158C	1.749050e-06
624	YKL062W	YNL036W	1.710514e-06
4344	YKL015W	YPL265W	1.667861e-06
1540	YDR043C	YOR348C	1.657474e-06
4559	YKL112W	YCL064C	1.648619e-06
5630	YDR216W	YIL155C	1.634800e-06
8462	YKL062W	YHR029C	1.629413e-06
7551	YDR043C	YFR022W	1.615094e-06
8557	YKL112W	YOL014W	1.610283e-06
8464	YGL254W	YHR029C	1.604953e-06
9362	YOR032C	YGL229C	1.603476e-06
1362	YKL062W	YAL054C	1.593880e-06
6171	YKL112W	YDR258C	1.585309e-06
9035	YDR216W	YDL110C	1.579954e-06
2170	YDR043C	YPL061W	1.563278e-06
6245	YKL062W	YKL071W	1.549785e-06
9175	YMR280C	YER067W	1.477988e-06
1082	YOR032C	YCR021C	1.477241e-06
3875	YER040W	YGR183C	1.442289e-06
5059	YKL015W	YDL091C	1.437434e-06
5632	YKL062W	YIL155C	1.433407e-06
2970	YKL112W	YMR169C	1.428194e-06
7463	YGL254W	YNL270C	1.426510e-06
864	YDR216W	YHR136C	1.411803e-06
5060	YDL170W	YDL091C	1.406422e-06
4667	YER040W	YJL063C	1.389297e-06
7554	YDL170W	YFR022W	1.388916e-06
7776	YKL015W	YDR523C	1.370463e-06

1364	YBL103C	YAL054C	1.346004e-06
8072	YER040W	YOR056C	1.344296e-06
4148	YDR043C	YNR064C	1.342349e-06
2250	YDL170W	YKR075C	1.324519e-06
1736	YDL170W	YBR054W	1.313490e-06
2780	YKL112W	YPL012W	1.298412e-06
2362	YKL112W	YLR009W	1.291328e-06
4346	YDR216W	YPL265W	1.287961e-06
548	YKL062W	YGR142W	1.281227e-06
9466	YJR094C	YOR032C	1.276102e-06
9467	YDL170W	YOR032C	1.269964e-06
9546	YER040W	YHR216W	1.264038e-06
3357	YBL103C	YGL254W	1.263555e-06
9547	YMR280C	YHR216W	1.242194e-06
4561	YBL103C	YCL064C	1.241591e-06
4981	YDR043C	YLR327C	1.240844e-06
5228	YKL015W	YHL028W	1.239132e-06
1085	YDR216W	YCR021C	1.237335e-06
9779	YJR094C	YKL040C	1.230766e-06
2363	YER040W	YLR009W	1.229627e-06
549	YOR032C	YGR142W	1.216262e-06
761	YKL015W	YML123C	1.201315e-06
6680	YKL062W	YNL037C	1.199350e-06
6248	YJR094C	YKL071W	1.176498e-06
2676	YOR032C	YJL172W	1.164790e-06
1972	YDR043C	YDR384C	1.148392e-06
4448	YER040W	YKR056W	1.141432e-06
9233	YMR280C	YLR178C	1.132936e-06
1369	YOR032C	YAL054C	1.124635e-06
7363	YGL254W	YOR302W	1.118812e-06
9863	YMR280C	YHR087W	1.116292e-06
1144	YKL112W	YGR043C	1.112887e-06
6682	YER040W	YNL037C	1.111894e-06
2173	YKL062W	YPL061W	1.101458e-06
4348	YDL170W	YPL265W	1.094165e-06
4984	YOR032C	YLR327C	1.069947e-06
3364	YOR032C	YGL254W	1.048031e-06
1672	YMR280C	YDL170W	1.041926e-06
9039	YMR280C	YDL110C	1.041197e-06
6542	YER040W	YLR438W	1.040094e-06
9982	YER040W	YKL062W	1.034413e-06
9983	YDL170W	YKL062W	1.032724e-06
2878	YKL015W	YOR100C	1.031000e-06
1868	YJR094C	YCR010C	1.030673e-06
956	YMR280C	YDR171W	1.029089e-06

1550	YGL254W	YOR348C	1.027904e-06
9783	YMR280C	YKL040C	1.015636e-06
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9182	YJR094C	YER067W	9.999383e-07
5134	YDR043C	YHR051W	9.971306e-07
3053	YER040W	YNR046W	9.909783e-07
3753	YDR216W	YIL136W	9.857975e-07
7650	YMR280C	YAL062W	9.848851e-07
1145	YDR216W	YGR043C	9.804780e-07
8470	YDR043C	YHR029C	9.783838e-07
869	YJR094C	YHR136C	9.761009e-07
2685	YKL015W	YJL172W	9.650616e-07
5880	YBL103C	YLL011W	9.559111e-07
7165	YGL254W	YDR361C	9.317072e-07
3754	YMR280C	YIL136W	9.135168e-07
2177	YMR280C	YPL061W	8.869984e-07
630	YKL112W	YNL036W	8.823279e-07
3241	YKL112W	YMR193W	8.810514e-07
5639	YKL112W	YIL155C	8.776311e-07
7166	YDL170W	YDR361C	8.761235e-07
8472	YMR280C	YHR029C	8.759649e-07
7167	YKL015W	YDR361C	8.682706e-07
7365	YDR043C	YOR302W	8.664523e-07
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2431	YBL103C	YPL111W	8.596604e-07
4991	YJR094C	YLR327C	8.580288e-07
8268	YKL015W	YLR130C	8.561111e-07
6255	YKL112W	YKL071W	8.486958e-07
4856	YKL015W	YIL037C	8.468379e-07
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6256	YGL254W	YKL071W	8.352567e-07
4045	YER040W	YJR148W	8.338371e-07
6961	YER040W	YGL009C	8.316683e-07
7260	YGL254W	YLL033W	8.290747e-07
9661	YBL103C	YJL153C	8.286573e-07
4352	YDR043C	YPL265W	8.229360e-07
6031	YBL103C	YDR043C	8.191252e-07
9043	YGL254W	YDL110C	8.165861e-07
7654	YDL170W	YAL062W	8.165204e-07
8270	YDR043C	YLR130C	8.090509e-07
6032	YER040W	YDR043C	8.042436e-07
7263	YDR216W	YLL033W	7.994614e-07
5975	YDR043C	YNR028W	7.923494e-07
2786	YDL170W	YPL012W	7.880993e-07

5348	YKL015W	YMR229C	7.879052e-07
3947	YMR280C	YER158C	7.858503e-07
1093	YJR094C	YCR021C	7.836278e-07
4857	YER040W	YIL037C	7.781892e-07
1149	YER040W	YGR043C	7.764863e-07
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9477	YDR216W	YOR032C	7.679790e-07
2788	YER040W	YPL012W	7.669801e-07
4279	YGL254W	YGR067C	7.661517e-07
4047	YDL170W	YJR148W	7.489216e-07
7883	YDR216W	YPL036W	7.387493e-07
169	YDR216W	YKL112W	7.366588e-07
5642	YMR280C	YIL155C	7.361374e-07
6965	YJR094C	YGL009C	7.361006e-07
9557	YKL062W	YHR216W	7.351072e-07
247	YMR280C	YDR216W	7.329538e-07
3884	YDL170W	YGR183C	7.305360e-07
1151	YGL254W	YGR043C	7.266207e-07
4456	YGL254W	YKR056W	7.195516e-07
3171	YDR216W	YJR110W	7.138000e-07
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6871	YBL103C	YKL015W	7.002450e-07
6264	YMR280C	YKL071W	6.904484e-07
3376	YKL112W	YGL254W	6.767052e-07
1871	YDR043C	YCR010C	6.712263e-07
632	YDR043C	YNL036W	6.706271e-07
1680	YGL254W	YDL170W	6.693954e-07
7373	YKL062W	YOR302W	6.677960e-07
8077	YDL170W	YOR056C	6.658879e-07
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3886	YBL103C	YGR183C	6.597691e-07
772	YER040W	YML123C	6.541292e-07
3057	YKL112W	YNR046W	6.503307e-07
170	YKL015W	YKL112W	6.432367e-07
8567	YGL254W	YOL014W	6.424376e-07
171	YMR280C	YKL112W	6.413236e-07
1681	YJR094C	YDL170W	6.360728e-07
6970	YBL103C	YGL009C	6.325340e-07
8569	YKL015W	YOL014W	6.323808e-07
3175	YKL062W	YJR110W	6.300661e-07
7660	YDR043C	YAL062W	6.185747e-07
427	YBL103C	YER040W	6.169015e-07
2793	YGL254W	YPL012W	5.990736e-07
1876	YMR280C	YCR010C	5.978319e-07

4580	YGL254W	YCL064C	5.973382e-07
8278	YJR094C	YLR130C	5.940737e-07
1742	YER040W	YBR054W	5.938857e-07
4282	YBL103C	YGR067C	5.922053e-07
6477	YKL015W	YLR276C	5.916423e-07
5235	YMR280C	YHL028W	5.907707e-07
250	YGL254W	YDR216W	5.902564e-07
9668	YDR216W	YJL153C	5.740501e-07
8141	YDR216W	YBL042C	5.714690e-07
1098	YKL015W	YCR021C	5.696122e-07
5071	YER040W	YDL091C	5.683241e-07
1385	YKL015W	YAL054C	5.678535e-07
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8573	YDR043C	YOL014W	5.625008e-07
4865	YBL103C	YIL037C	5.614932e-07
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881	YKL112W	YHR136C	5.596740e-07
9049	YER040W	YDL110C	5.589546e-07
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6549	YMR280C	YLR438W	5.550476e-07
8574	YDR216W	YOL014W	5.432053e-07
1557	YOR032C	YOR348C	5.431034e-07
4867	YDR216W	YIL037C	5.297112e-07
6277	YKL015W	YKL071W	5.276529e-07
1743	YDR216W	YBR054W	5.238594e-07
7383	YDR216W	YOR302W	5.237570e-07
8483	YKL015W	YHR029C	5.236999e-07
1685	YDR216W	YDL170W	5.192202e-07
5981	YKL062W	YNR028W	5.162115e-07
8575	YJR094C	YOL014W	5.118661e-07
3888	YDR216W	YGR183C	5.107006e-07
6980	YDR216W	YGL009C	5.106374e-07
5236	YOR032C	YHL028W	5.081975e-07
3180	YOR032C	YJR110W	5.080778e-07
8143	YMR280C	YBL042C	5.073793e-07
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884	YER040W	YHR136C	5.021893e-07
3181	YMR280C	YJR110W	4.998641e-07
6982	YDL170W	YGL009C	4.970752e-07
6983	YKL015W	YGL009C	4.964949e-07
7488	YJR094C	YNL270C	4.962869e-07
964	YKL112W	YDR171W	4.947203e-07
7790	YJR094C	YDR523C	4.920074e-07
431	YKL062W	YER040W	4.895102e-07
8280	YOR032C	YLR130C	4.781167e-07

4767	YMR280C	YDL160C	4.769419e-07
6787	YDR216W	YKR009C	4.766632e-07
7889	YJR094C	YPL036W	4.745089e-07
8751	YKL112W	YLR258W	4.740989e-07
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6788	YKL015W	YKR009C	4.643860e-07
780	YKL112W	YML123C	4.601309e-07
6882	YGL254W	YKL015W	4.552744e-07
1236	YBL103C	YHR018C	4.530883e-07
8841	YMR280C	YDR380W	4.485931e-07
781	YOR032C	YML123C	4.472986e-07
2261	YOR032C	YKR075C	4.466654e-07
3761	YDR043C	YIL136W	4.448584e-07
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7793	YGL254W	YDR523C	4.390647e-07
432	YOR032C	YER040W	4.352617e-07
6792	YOR032C	YKR009C	4.344212e-07
7579	YGL254W	YFR022W	4.316667e-07
4172	YKL062W	YNR064C	4.288806e-07
2796	YJR094C	YPL012W	4.265350e-07
6986	YOR032C	YGL009C	4.258122e-07
8931	YMR280C	YLL034C	4.248749e-07
9671	YOR032C	YJL153C	4.238481e-07
7280	YKL062W	YLL033W	4.176545e-07
9374	YGL254W	YGL229C	4.149649e-07
4289	YKL015W	YGR067C	4.148525e-07
7181	YJR094C	YDR361C	4.097223e-07
2888	YGL254W	YOR100C	4.081420e-07
1744	YBL103C	YBR054W	4.029918e-07
6795	YGL254W	YKR009C	4.005733e-07
7282	YKL015W	YLL033W	3.980712e-07
888	YDL170W	YHR136C	3.887055e-07
6187	YJR094C	YDR258C	3.883281e-07
7045	YMR280C	YPR002W	3.823072e-07
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889	YBL103C	YHR136C	3.793572e-07
9875	YOR032C	YHR087W	3.790158e-07
5991	YJR094C	YNR028W	3.767127e-07
2196	YDR216W	YPL061W	3.761245e-07
6992	YGL254W	YGL009C	3.735109e-07
6337	YDL170W	YNL194C	3.729228e-07
3393	YDR216W	YGL254W	3.724096e-07
2058	YDR216W	YER150W	3.672922e-07
6889	YJR094C	YKL015W	3.616828e-07

8762	YJR094C	YLR258W	3.615510e-07
9056	YKL015W	YDL110C	3.609496e-07
1987	YOR032C	YDR384C	3.586172e-07
5890	YJR094C	YLL011W	3.581117e-07
2197	YJR094C	YPL061W	3.537643e-07
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6484	YBL103C	YLR276C	3.442676e-07
3893	YJR094C	YGR183C	3.421678e-07
7586	YJR094C	YFR022W	3.390082e-07
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5648	YDR043C	YIL155C	3.354674e-07
4058	YBL103C	YJR148W	3.334640e-07
3444	YKL062W	YLR174W	3.327381e-07
4591	YOR032C	YCL064C	3.298702e-07
1161	YJR094C	YGR043C	3.293227e-07
4592	YDR216W	YCL064C	3.292035e-07
7392	YKL015W	YOR302W	3.283913e-07
3894	YGL254W	YGR183C	3.276725e-07
3952	YDL170W	YER158C	3.269552e-07
4777	YKL062W	YDL160C	3.264302e-07
9376	YJR094C	YGL229C	3.254555e-07
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4680	YKL015W	YJL063C	3.219492e-07
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2061	YMR280C	YER150W	3.207887e-07
7588	YKL015W	YFR022W	3.179528e-07
3191	YJR094C	YJR110W	3.130935e-07
8492	YOR032C	YHR029C	3.127845e-07
6191	YDL170W	YDR258C	3.109435e-07
5355	YDL170W	YMR229C	3.104245e-07
8583	YDL170W	YOL014W	3.100253e-07
9248	YBL103C	YLR178C	3.097832e-07
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6697	YJR094C	YNL037C	3.086074e-07
5356	YDR043C	YMR229C	3.039653e-07
5995	YOR032C	YNR028W	3.036747e-07
8765	YGL254W	YLR258W	3.024801e-07
565	YGL254W	YGR142W	3.020875e-07
4190	YGL254W	YNR064C	3.013679e-07
2891	YJR094C	YOR100C	3.007617e-07
8766	YDL170W	YLR258W	2.984309e-07
1747	YMR280C	YBR054W	2.971727e-07
4779	YGL254W	YDL160C	2.961868e-07
4370	YOR032C	YPL265W	2.961623e-07



2996	YGL254W	YMR169C	2.958872e-07
1991	YKL015W	YDR384C	2.958298e-07
6555	YDL170W	YLR438W	2.924751e-07
7394	YOR032C	YOR302W	2.898420e-07
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9379	YDL170W	YGL229C	2.876939e-07
4683	YJR094C	YJL063C	2.863136e-07
1992	YGL254W	YDR384C	2.825300e-07
1889	YOR032C	YCR010C	2.804243e-07
7190	YDR216W	YDR361C	2.792746e-07
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3396	YJR094C	YGL254W	2.740896e-07
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6798	YJR094C	YKR009C	2.702662e-07
4886	YJR094C	YIL037C	2.690251e-07
9249	YJR094C	YLR178C	2.670478e-07
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8590	YBL103C	YOL014W	2.615476e-07
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3449	YBL103C	YLR174W	2.514381e-07
2696	YDR216W	YJL172W	2.492930e-07
6558	YDR043C	YLR438W	2.492428e-07
7396	YJR094C	YOR302W	2.490805e-07
8773	YDR043C	YLR258W	2.486179e-07
197	YJR094C	YKL112W	2.478300e-07
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4063	YJR094C	YJR148W	2.390413e-07
5242	YDR216W	YHL028W	2.355628e-07
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3074	YOR032C	YNR046W	2.338360e-07
6197	YOR032C	YDR258C	2.335031e-07

3252	YDR216W	YMR193W	2.304392e-07
573	YMR280C	YGR142W	2.302145e-07
8350	YMR280C	YLR267W	2.280940e-07
9682	YKL015W	YJL153C	2.231007e-07
1751	YKL015W	YBR054W	2.224510e-07
9571	YJR094C	YHR216W	2.213469e-07
792	YDL170W	YML123C	2.193569e-07
793	YBL103C	YML123C	2.191418e-07
5360	YKL062W	YMR229C	2.178292e-07
5361	YMR280C	YMR229C	2.171349e-07
7671	YBL103C	YAL062W	2.164409e-07
2389	YKL015W	YLR009W	2.139381e-07
6342	YER040W	YNL194C	2.137419e-07
9879	YDR043C	YHR087W	2.093988e-07
2391	YOR032C	YLR009W	2.083739e-07
5080	YBL103C	YDL091C	2.060509e-07
5243	YER040W	YHL028W	2.059984e-07
9880	YER040W	YHR087W	2.000043e-07
6492	YOR032C	YLR276C	1.947101e-07
2697	YJR094C	YJL172W	1.921034e-07
4196	YDR216W	YNR064C	1.920942e-07
797	YJR094C	YML123C	1.900796e-07
7194	YOR032C	YDR361C	1.849657e-07
5362	YOR032C	YMR229C	1.833765e-07
1397	YJR094C	YAL054C	1.831215e-07
4198	YJR094C	YNR064C	1.823237e-07
6047	YDL170W	YDR043C	1.816037e-07
1569	YJR094C	YOR348C	1.813984e-07
4470	YDL170W	YKR056W	1.795745e-07
8596	YOR032C	YOL014W	1.795322e-07
8094	YOR032C	YOR056C	1.788916e-07
4784	YJR094C	YDL160C	1.777701e-07
2441	YER040W	YPL111W	1.767883e-07
8856	YKL112W	YDR380W	1.766264e-07
2442	YDL170W	YPL111W	1.739175e-07
2443	YJR094C	YPL111W	1.731046e-07
1997	YDR216W	YDR384C	1.728369e-07
438	YKL112W	YER040W	1.726597e-07
8632	YKL062W	YNR053C	1.726104e-07
8096	YGL254W	YOR056C	1.716742e-07
1570	YER040W	YOR348C	1.713056e-07
3076	YGL254W	YNR046W	1.705496e-07
978	YGL254W	YDR171W	1.668875e-07
2066	YGL254W	YER150W	1.667044e-07
1572	YKL112W	YOR348C	1.609744e-07

8353	YGL254W	YLR267W	1.587609e-07
4072	YKL062W	YJR148W	1.583843e-07
2274	YDR216W	YKR075C	1.583642e-07
5467	YBL103C	YOR206W	1.540753e-07
1245	YKL112W	YHR018C	1.535501e-07
6344	YMR280C	YNL194C	1.528917e-07
3960	YER040W	YER158C	1.519059e-07
1998	YJR094C	YDR384C	1.507027e-07
9883	YBL103C	YHR087W	1.455193e-07
274	YOR032C	YDR216W	1.452130e-07
4792	YKL015W	YDL160C	1.438340e-07
2277	YGL254W	YKR075C	1.437970e-07
1246	YDL170W	YHR018C	1.433464e-07
1247	YOR032C	YHR018C	1.420782e-07
5770	YOR032C	YJL088W	1.357260e-07
2397	YGL254W	YLR009W	1.356856e-07
8159	YKL015W	YBL042C	1.335370e-07
2398	YJR094C	YLR009W	1.326562e-07
6345	YOR032C	YNL194C	1.322515e-07
7053	YDR216W	YPR002W	1.279618e-07
9389	YKL015W	YGL229C	1.251679e-07
6500	YJR094C	YLR276C	1.237329e-07
8860	YER040W	YDR380W	1.235397e-07
3256	YMR280C	YMR193W	1.226089e-07
587	YDR216W	YGR142W	1.222716e-07
6346	YDR216W	YNL194C	1.216007e-07
278	YDR043C	YDR216W	1.180717e-07
5473	YKL112W	YOR206W	1.178267e-07
5775	YJR094C	YJL088W	1.144011e-07
5150	YOR032C	YHR051W	1.134171e-07
589	YJR094C	YGR142W	1.129812e-07
8636	YKL112W	YNR053C	1.105646e-07
5249	YBL103C	YHL028W	1.093626e-07
282	YJR094C	YDR216W	1.066920e-07
4082	YKL015W	YJR148W	1.055341e-07
1181	YKL015W	YGR043C	1.046240e-07
9578	YDL170W	YHR216W	1.034528e-07
8867	YDL170W	YDR380W	1.024931e-07
655	YOR032C	YNL036W	1.008842e-07
5781	YMR280C	YJL088W	9.798656e-08
5154	YKL112W	YHR051W	9.785475e-08
5782	YGL254W	YJL088W	9.710270e-08
7058	YKL015W	YPR002W	9.284758e-08
8791	YOR032C	YLR258W	9.224313e-08
594	YKL015W	YGR142W	9.173766e-08

3090	YJR094C	YNR046W	9.030254e-08
4478	YBL103C	YKR056W	8.809371e-08
985	YJR094C	YDR171W	8.737277e-08
657	YBL103C	YNL036W	8.660453e-08
3461	YER040W	YLR174W	8.590534e-08
4088	YGL254W	YJR148W	8.359196e-08
3261	YER040W	YMR193W	8.144738e-08
8870	YBL103C	YDR380W	7.782381e-08
7687	YKL015W	YAL062W	7.654164e-08
7688	YOR032C	YAL062W	7.389701e-08
9266	YDR043C	YLR178C	7.364270e-08
4481	YOR032C	YKR056W	7.055061e-08
4482	YKL015W	YKR056W	7.016066e-08
3098	YKL015W	YNR046W	6.992371e-08
5481	YDL170W	YOR206W	6.966028e-08
3464	YOR032C	YLR174W	6.930614e-08
5482	YER040W	YOR206W	6.868510e-08
5090	YJR094C	YDL091C	6.839440e-08
3465	YGL254W	YLR174W	6.782377e-08
2285	YJR094C	YKR075C	6.752585e-08
8874	YOR032C	YDR380W	6.652638e-08
5666	YDL170W	YIL155C	6.637913e-08
9269	YKL112W	YLR178C	6.612156e-08
3645	YDR043C	YDL018C	6.604682e-08
5374	YBL103C	YMR229C	6.362157e-08
3779	YJR094C	YIL136W	6.252483e-08
9890	YKL112W	YHR087W	6.215973e-08
2072	YDR043C	YER150W	6.178454e-08
9891	YJR094C	YHR087W	6.159362e-08
5091	YDR216W	YDL091C	6.084416e-08
658	YDL170W	YNL036W	5.918941e-08
659	YER040W	YNL036W	5.891908e-08
1258	YDR043C	YHR018C	5.670279e-08
3469	YKL015W	YLR174W	5.463119e-08
5092	YGL254W	YDL091C	5.443634e-08
3470	YKL112W	YLR174W	5.378642e-08
2076	YOR032C	YER150W	4.948199e-08
8796	YER040W	YLR258W	4.891328e-08
1769	YKL062W	YBR054W	4.859406e-08
3980	YJR094C	YER158C	4.572064e-08
7694	YJR094C	YAL062W	4.496336e-08
8649	YMR280C	YNR053C	4.490586e-08
4095	YDR216W	YJR148W	4.453732e-08
7068	YDR043C	YPR002W	4.398260e-08
2291	YKL015W	YKR075C	4.288657e-08

4485	YJR094C	YKR056W	4.274261e-08
4398	YJR094C	YPL265W	4.263128e-08
3784	YGL254W	YIL136W	4.173601e-08
5678	YJR094C	YIL155C	4.062722e-08
7695	YDR216W	YAL062W	3.975500e-08
5792	YKL015W	YJL088W	3.912847e-08
5257	YKL112W	YHL028W	3.819907e-08
5679	YER040W	YIL155C	3.699628e-08
8171	YKL062W	YBL042C	3.641969e-08
1262	YMR280C	YHR018C	3.501455e-08
5165	YER040W	YHR051W	3.475488e-08
5493	YKL015W	YOR206W	3.316992e-08
5167	YDL170W	YHR051W	3.160903e-08
5258	YDL170W	YHL028W	3.132570e-08
3274	YDL170W	YMR193W	3.127197e-08
5495	YGL254W	YOR206W	2.933707e-08
3275	YBL103C	YMR193W	2.901609e-08
3276	YOR032C	YMR193W	2.894428e-08
3983	YGL254W	YER158C	2.875559e-08
8177	YDL170W	YBL042C	2.751032e-08
8798	YBL103C	YLR258W	2.741625e-08
8178	YBL103C	YBL042C	2.737798e-08
5266	YGL254W	YHL028W	2.470341e-08
8181	YGL254W	YBL042C	2.465432e-08
6062	YGL254W	YDR043C	2.352903e-08
7081	YKL062W	YPR002W	2.265495e-08
5498	YJR094C	YOR206W	2.255399e-08
1268	YKL015W	YHR018C	2.214708e-08
9087	YKL112W	YDL110C	2.177746e-08
8893	YKL015W	YDR380W	2.176031e-08
2085	YJR094C	YER150W	2.169187e-08
5391	YJR094C	YMR229C	2.071793e-08
5392	YGL254W	YMR229C	2.065439e-08
5176	YKL015W	YHR051W	1.951626e-08
5177	YDR216W	YHR051W	1.936570e-08
9286	YDR216W	YLR178C	1.933329e-08
3988	YDR216W	YER158C	1.929950e-08
5179	YBL103C	YHR051W	1.898659e-08
1776	YKL112W	YBR054W	1.877532e-08
6366	YKL112W	YNL194C	1.860593e-08
9289	YOR032C	YLR178C	1.681573e-08
3490	YJR094C	YLR174W	1.640825e-08
7085	YOR032C	YPR002W	1.638367e-08
998	YOR032C	YDR171W	1.567563e-08
9088	YJR094C	YDL110C	1.554840e-08

1780	YDR043C	YBR054W	1.552947e-08
1276	YDR216W	YHR018C	1.531931e-08
3563	YER040W	YER002W	1.429458e-08
8895	YGL254W	YDR380W	1.421348e-08
8376	YDR216W	YLR267W	1.419710e-08
8966	YKL112W	YLL034C	1.384586e-08
6074	YMR280C	YDR043C	1.375462e-08
8896	YDR216W	YDR380W	1.361437e-08
5398	YDR216W	YMR229C	1.334220e-08
8898	YJR094C	YDR380W	1.329575e-08
8659	YJR094C	YNR053C	1.312783e-08
3662	YKL112W	YDL018C	1.307774e-08
8377	YOR032C	YLR267W	1.286995e-08
8967	YOR032C	YLL034C	1.281572e-08
8192	YER040W	YBL042C	1.246717e-08
3564	YKL112W	YER002W	1.233222e-08
5187	YGL254W	YHR051W	1.223427e-08
8381	YJR094C	YLR267W	1.211546e-08
3663	YER040W	YDL018C	1.209428e-08
6585	YKL015W	YLR438W	1.195342e-08
475	YDR216W	YER040W	1.195278e-08
8662	YOR032C	YNR053C	1.144617e-08
3665	YBL103C	YDL018C	1.132389e-08
9291	YGL254W	YLR178C	1.124196e-08
6586	YDR216W	YLR438W	1.123959e-08
3567	YOR032C	YER002W	1.115111e-08
2092	YKL112W	YER150W	1.104225e-08
7092	YGL254W	YPR002W	1.094152e-08
8663	YDL170W	YNR053C	1.090977e-08
3667	YKL062W	YDL018C	1.083190e-08
8970	YBL103C	YLL034C	1.058461e-08
7093	YJR094C	YPR002W	1.004977e-08
3570	YKL015W	YER002W	9.790809e-09
5693	YGL254W	YIL155C	9.617025e-09
6588	YGL254W	YLR438W	9.403447e-09
3670	YMR280C	YDL018C	9.335947e-09
8387	YKL015W	YLR267W	8.984958e-09
8972	YJR094C	YLL034C	8.943581e-09
6591	YOR032C	YLR438W	8.605294e-09
692	YKL015W	YNL036W	8.431042e-09
2472	YMR280C	YPL111W	7.946890e-09
1791	YOR032C	YBR054W	7.832869e-09
480	YGL254W	YER040W	7.808352e-09
693	YGL254W	YNL036W	7.627300e-09
481	YJR094C	YER040W	7.611104e-09

5190	YJR094C	YHR051W	7.511666e-09
3288	YJR094C	YMR193W	7.378486e-09
8668	YER040W	YNR053C	7.309328e-09
5284	YJR094C	YHL028W	7.292478e-09
3289	YKL015W	YMR193W	7.229978e-09
8391	YKL062W	YLR267W	7.151841e-09
489	YKL015W	YER040W	6.583925e-09
2477	YGL254W	YPL111W	6.048505e-09
6380	YBL103C	YNL194C	5.999192e-09
6381	YDR043C	YNL194C	5.560139e-09
8978	YKL015W	YLL034C	5.409282e-09
696	YJR094C	YNL036W	5.273857e-09
3676	YDL170W	YDL018C	5.135293e-09
8672	YGL254W	YNR053C	4.714647e-09
1294	YGL254W	YHR018C	4.640672e-09
2484	YDR216W	YPL111W	4.509132e-09
8983	YER040W	YLL034C	4.129122e-09
3683	YKL015W	YDL018C	4.087688e-09
6088	YJR094C	YDR043C	3.851574e-09
8986	YDL170W	YLL034C	3.750259e-09
6598	YJR094C	YLR438W	3.652877e-09
1297	YJR094C	YHR018C	3.601686e-09
3580	YDL170W	YER002W	3.519412e-09
2489	YKL015W	YPL111W	3.388153e-09
3581	YBL103C	YER002W	3.267304e-09
8681	YBL103C	YNR053C	2.937690e-09
2490	YOR032C	YPL111W	2.889436e-09
3689	YJR094C	YDL018C	2.758185e-09
3583	YJR094C	YER002W	2.697805e-09
3691	YOR032C	YDL018C	2.502677e-09
3692	YDR216W	YDL018C	2.498999e-09
6091	YDR216W	YDR043C	2.445018e-09
3589	YDR216W	YER002W	2.032706e-09
8690	YKL015W	YNR053C	1.967438e-09
3696	YGL254W	YDL018C	1.820362e-09
8993	YDR216W	YLL034C	1.675807e-09
8695	YDR216W	YNR053C	1.391757e-09
8996	YGL254W	YLL034C	1.344210e-09
6394	YJR094C	YNL194C	1.210824e-09
3595	YGL254W	YER002W	1.177156e-09
6395	YGL254W	YNL194C	1.158014e-09

[1] "network After:"

	Regulator	TargetGene	prob
203	YJR094C	YJR094C	1.000000e+00
301	YOR032C	YOR032C	1.000000e+00

1602	YDR216W	YDR216W	1.000000e+00
2102	YDL170W	YDL170W	1.000000e+00
2202	YKL062W	YKL062W	1.000000e+00
2203	YGL254W	YGL254W	1.000000e+00
2301	YKL015W	YKL015W	1.000000e+00
2501	YKL112W	YKL112W	1.000000e+00
3401	YMR280C	YMR280C	1.000000e+00
3701	YDR043C	YDR043C	1.000000e+00
5702	YER040W	YER040W	1.000000e+00
6101	YKL112W	YNL270C	1.000000e+00
7601	YDL170W	YCR010C	1.000000e+00
8801	YKL062W	YKR009C	1.000000e+00
9801	YDL170W	YJR110W	1.000000e+00
9901	YKL062W	YDR216W	1.000000e+00
2004	YKL062W	YER150W	1.000000e+00
3703	YKL062W	YIL136W	1.000000e+00
2903	YKL062W	YMR169C	1.000000e+00
7104	YKL062W	YDR361C	1.000000e+00
904	YDR216W	YDR171W	1.000000e+00
5303	YER040W	YMR229C	1.000000e+00
4903	YBL103C	YLR327C	1.000000e+00
7604	YKL062W	YAL062W	1.000000e+00
2005	YKL015W	YER150W	9.999999e-01
2305	YDR043C	YLR009W	9.999997e-01
1402	YKL062W	YFL014W	9.999968e-01
1002	YDR043C	YCR021C	9.999784e-01
9203	YKL062W	YLR178C	9.999588e-01
3503	YDR043C	YER002W	9.926295e-01
1603	YER040W	YDL170W	9.903681e-01
7004	YBL103C	YPR002W	9.882139e-01
605	YMR280C	YNL036W	9.870398e-01
9702	YKL015W	YKL040C	9.828064e-01
8405	YDL170W	YHR029C	9.759532e-01
1104	YKL062W	YGR043C	9.096228e-01
404	YDL170W	YER040W	8.727256e-01
2405	YKL062W	YPL111W	8.450150e-01
7005	YER040W	YPR002W	8.164570e-01
805	YKL062W	YHR136C	6.882579e-01
3005	YKL062W	YNR046W	6.295850e-01
2805	YBL103C	YOR100C	5.552321e-01
1508	YDL170W	YOR348C	5.286012e-01
3904	YDR043C	YER158C	5.123184e-01
1509	YDR216W	YOR348C	4.627022e-01
4505	YKL062W	YCL064C	4.302623e-01
3506	YKL062W	YER002W	4.202709e-01



3006	YDR043C	YNR046W	4.069155e-01
8906	YDR043C	YLL034C	3.694592e-01
4406	YMR280C	YKR056W	3.552051e-01
5207	YKL062W	YHL028W	3.319017e-01
8907	YKL062W	YLL034C	3.147426e-01
2406	YKL112W	YPL111W	3.118635e-01
6110	YKL015W	YDR258C	2.726643e-01
8408	YER040W	YHR029C	2.620775e-01
8409	YKL112W	YHR029C	2.182628e-01
9105	YDR043C	YER067W	2.008918e-01
7006	YDL170W	YPR002W	1.717569e-01
2707	YDR043C	YPL012W	1.621825e-01
8104	YJR094C	YBL042C	9.687060e-02
4204	YMR280C	YGR067C	9.326290e-02
8706	YKL062W	YLR258W	8.575580e-02
7805	YKL062W	YPL036W	8.001430e-02
8506	YKL062W	YOL014W	7.639610e-02
1306	YMR280C	YAL054C	6.050860e-02
3207	YKL062W	YMR193W	5.076040e-02
2008	YDL170W	YER150W	3.848110e-02
2009	YBL103C	YER150W	3.700350e-02
6119	YBL103C	YDR258C	3.174569e-02
4508	YMR280C	YCL064C	3.002860e-02
3407	YDR043C	YLR174W	2.925340e-02
5706	YDL170W	YJL088W	2.902040e-02
1512	YKL062W	YOR348C	2.571560e-02
9607	YKL112W	YJL153C	2.486470e-02
709	YDR043C	YML123C	2.458570e-02
5009	YKL062W	YDL091C	2.103520e-02
5407	YKL062W	YOR206W	2.060740e-02
922	YKL062W	YDR171W	1.930490e-02
7806	YBL103C	YPL036W	1.577170e-02
1513	YKL015W	YOR348C	1.477050e-02
1710	YGL254W	YBR054W	1.424450e-02
6706	YDR043C	YKR009C	1.127072e-02
4613	YKL112W	YJL063C	1.119170e-02
815	YDR043C	YHR136C	9.952100e-03
2503	YDR043C	YOR388C	8.822526e-03
9916	YKL015W	YKL062W	7.384918e-03
7807	YOR032C	YPL036W	7.080500e-03
2711	YKL062W	YPL012W	6.664478e-03
3512	YMR280C	YER002W	6.093500e-03
6012	YKL112W	YDR043C	5.848100e-03
1807	YDR216W	YCR010C	4.388878e-03
8108	YKL112W	YBL042C	4.276927e-03

1414	YKL015W	YFL014W	4.134512e-03
319	YDR216W	YMR280C	3.392674e-03
7808	YDR043C	YPL036W	3.352507e-03
6413	YMR280C	YLR276C	3.311332e-03
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4412	YKL112W	YKR056W	2.263679e-03
7809	YKL112W	YPL036W	2.186318e-03
2613	YKL062W	YJL172W	2.031746e-03
321	YER040W	YMR280C	1.715859e-03
9210	YKL015W	YLR178C	1.640806e-03
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2114	YGL254W	YPL061W	1.349289e-03
9714	YKL112W	YKL040C	1.288645e-03
5824	YDR043C	YLL011W	1.228833e-03
4105	YKL112W	YNR064C	1.155329e-03
7612	YKL112W	YAL062W	1.143604e-03
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9924	YDR216W	YKL062W	1.136548e-03
2117	YER040W	YPL061W	1.097779e-03
9110	YOR032C	YER067W	9.938753e-04
5505	YKL112W	YJR094C	9.377215e-04
7615	YER040W	YAL062W	8.041847e-04
1311	YDR216W	YAL054C	7.240126e-04
3107	YER040W	YJR110W	7.085352e-04
1614	YKL062W	YDL170W	6.620358e-04
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5314	YKL112W	YMR229C	6.153800e-04
9403	YDR043C	YOR032C	6.021894e-04
5827	YKL062W	YLL011W	5.800563e-04
1418	YDL170W	YFL014W	5.600695e-04
9823	YKL015W	YHR087W	4.882721e-04
326	YDL170W	YMR280C	4.740961e-04
8210	YGL254W	YLR130C	4.548084e-04
2909	YKL015W	YMR169C	4.510282e-04
2513	YDL170W	YOR388C	4.487671e-04
2719	YMR280C	YPL012W	3.749033e-04
2617	YER040W	YJL172W	3.361743e-04
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1422	YDR216W	YFL014W	3.179950e-04
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3916	YKL015W	YER158C	3.127803e-04
3917	YOR032C	YER158C	3.047235e-04
6207	YBL103C	YKL071W	2.745549e-04
7313	YDL170W	YOR302W	2.706648e-04
5509	YDR043C	YJR094C	2.677044e-04

5412	YDR043C	YOR206W	2.508847e-04
1315	YGL254W	YAL054C	2.484465e-04
7116	YDR043C	YDR361C	2.474675e-04
4208	YDR216W	YGR067C	2.437015e-04
8311	YBL103C	YLR267W	2.395245e-04
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3812	YKL015W	YGR183C	2.312097e-04
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2722	YOR032C	YPL012W	2.181173e-04
4912	YDR216W	YLR327C	2.149646e-04
926	YBL103C	YDR171W	2.145629e-04
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9116	YBL103C	YER067W	1.754331e-04
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3114	YBL103C	YJR110W	1.700068e-04
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9214	YER040W	YLR178C	1.601746e-04
2121	YDL170W	YPL061W	1.597378e-04
5514	YER040W	YJR094C	1.526310e-04
9617	YDR043C	YJL153C	1.517209e-04
4711	YBL103C	YDL160C	1.405944e-04
2519	YMR280C	YOR388C	1.405749e-04
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3720	YER040W	YIL136W	1.328123e-04
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1435	YDR043C	YFL014W	1.260688e-04
8017	YKL062W	YOR056C	1.242641e-04
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9122	YDR216W	YER067W	1.168811e-04

5516	YDL170W	YJR094C	1.163116e-04
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2520	YER040W	YOR388C	1.146756e-04
1111	YOR032C	YGR043C	1.121684e-04
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4918	YDL170W	YLR327C	1.106170e-04
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9732	YER040W	YKL040C	7.613779e-05
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1448	YJR094C	YFL014W	7.215076e-05
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4623	YMR280C	YJL063C	7.114622e-05
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6631	YDR043C	YNL037C	5.927016e-05
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8312	YDR043C	YLR267W	5.777822e-05
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7316	YKL112W	YOR302W	5.685453e-05
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4217	YKL112W	YGR067C	5.606436e-05
3822	YDR043C	YGR183C	5.573155e-05
346	YOR032C	YMR280C	5.520619e-05
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7317	YBL103C	YOR302W	5.302314e-05
4715	YER040W	YDL160C	5.273234e-05
9514	YBL103C	YHR216W	5.246698e-05
2532	YBL103C	YOR388C	5.039521e-05
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7913	YJR094C	YJL217W	4.457401e-05
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9742	YBL103C	YKL040C	3.538803e-05
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7828	YDL170W	YPL036W	3.488702e-05
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9217	YDL170W	YLR178C	3.400787e-05
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6431	YER040W	YLR276C	3.326874e-05
7915	YKL062W	YJL217W	3.266112e-05
934	YDL170W	YDR171W	3.160488e-05
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5532	YMR280C	YJR094C	3.113875e-05
4118	YBL103C	YNR064C	3.087882e-05
7217	YDL170W	YLL033W	3.070819e-05
2217	YDR043C	YKR075C	3.051942e-05
8116	YOR032C	YBL042C	3.047466e-05
2218	YMR280C	YKR075C	3.011241e-05
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126	YOR032C	YKL112W	2.805498e-05
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7919	YMR280C	YJL217W	2.647862e-05
7513	YKL112W	YFR022W	2.604530e-05
8230	YKL112W	YLR130C	2.603658e-05
7832	YMR280C	YPL036W	2.583816e-05
7129	YMR280C	YDR361C	2.548553e-05
5930	YBL103C	YNR028W	2.494533e-05
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5031	YOR032C	YDL091C	2.446864e-05
357	YDR043C	YMR280C	2.416850e-05
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1328	YDR043C	YAL054C	2.399200e-05
128	YDL170W	YKL112W	2.377286e-05
6215	YER040W	YKL071W	2.315170e-05
223	YER040W	YDR216W	2.298749e-05
7922	YOR032C	YJL217W	2.297164e-05
8233	YER040W	YLR130C	2.288770e-05
833	YGL254W	YHR136C	2.279321e-05
9331	YKL112W	YGL229C	2.233116e-05
2928	YER040W	YMR169C	2.222405e-05

9950	YOR032C	YKL062W	2.159891e-05
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6021	YKL062W	YDR043C	2.129365e-05
5852	YKL112W	YLL011W	2.110915e-05
7735	YDL170W	YDR523C	2.080357e-05
7219	YKL112W	YLL033W	2.072730e-05
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733	YKL062W	YML123C	2.040661e-05
7736	YDR043C	YDR523C	1.995620e-05
834	YKL015W	YHR136C	1.980063e-05
9840	YDR216W	YHR087W	1.974842e-05
6523	YKL112W	YLR438W	1.946194e-05
7518	YOR032C	YFR022W	1.935727e-05
4529	YJR094C	YCL064C	1.919554e-05
9424	YBL103C	YOR032C	1.881462e-05
2932	YDR216W	YMR169C	1.861922e-05
4822	YDL170W	YIL037C	1.845615e-05
7221	YER040W	YLL033W	1.842544e-05
3025	YBL103C	YNR046W	1.814905e-05
2324	YMR280C	YLR009W	1.811048e-05
6440	YDR043C	YLR276C	1.784551e-05
1830	YGL254W	YCR010C	1.780305e-05
1214	YKL062W	YHR018C	1.774828e-05
1339	YER040W	YAL054C	1.757101e-05
522	YDR043C	YGR142W	1.699126e-05
8040	YKL112W	YOR056C	1.689480e-05
2546	YKL112W	YOR388C	1.669787e-05
2325	YDL170W	YLR009W	1.659497e-05
4720	YDR043C	YDL160C	1.653961e-05
2834	YKL112W	YOR100C	1.603619e-05
2547	YDR216W	YOR388C	1.600462e-05
2229	YKL112W	YKR075C	1.599917e-05
7628	YGL254W	YAL062W	1.597608e-05
6745	YMR280C	YKR009C	1.585847e-05
4721	YDL170W	YDL160C	1.577741e-05
5538	YDR216W	YJR094C	1.554942e-05
6145	YMR280C	YDR258C	1.544585e-05
4315	YBL103C	YPL265W	1.533936e-05
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5858	YDL170W	YLL011W	1.507655e-05
4232	YKL062W	YGR067C	1.502316e-05
7838	YKL015W	YPL036W	1.502199e-05
6648	YBL103C	YNL037C	1.477513e-05
1832	YKL112W	YCR010C	1.459846e-05
9425	YKL112W	YOR032C	1.447197e-05

7428	YDR043C	YNL270C	1.433132e-05
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1467	YBL103C	YFL014W	1.368202e-05
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1124	YDL170W	YGR043C	1.301385e-05
2230	YER040W	YKR075C	1.299394e-05
6932	YKL062W	YGL009C	1.289146e-05
9336	YDR216W	YGL229C	1.248088e-05
6149	YKL062W	YDR258C	1.215705e-05
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1343	YDL170W	YAL054C	1.196407e-05
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6444	YDL170W	YLR276C	1.164164e-05
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6747	YKL112W	YKR009C	1.134916e-05
1471	YKL112W	YFL014W	1.127983e-05
2941	YBL103C	YMR169C	1.098467e-05
9144	YKL062W	YER067W	1.097955e-05
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2944	YDR043C	YMR169C	8.666203e-06
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6530	YKL062W	YLR438W	8.248821e-06
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6830	YDR043C	YKL015W	7.920131e-06
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2560	YOR032C	YOR388C	7.775450e-06
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2947	YOR032C	YMR169C	7.011217e-06
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2654	YMR280C	YJL172W	6.897514e-06
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3932	YKL062W	YER158C	4.620258e-06
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2426	YDR043C	YPL111W	4.570775e-06
5729	YDR216W	YJL088W	4.563106e-06
4249	YER040W	YGR067C	4.538197e-06
6454	YKL112W	YLR276C	4.525177e-06
4544	YDR043C	YCL064C	4.335303e-06
7145	YER040W	YDR361C	4.291178e-06
377	YKL112W	YMR280C	4.281129e-06
3225	YGL254W	YMR193W	4.210543e-06
7942	YKL015W	YJL217W	4.155309e-06
5047	YDR043C	YDL091C	4.129784e-06
9158	YKL112W	YER067W	4.089677e-06
3742	YBL103C	YIL136W	4.006699e-06
6167	YDR043C	YDR258C	3.994869e-06
1065	YMR280C	YCR021C	3.968059e-06
4645	YDR216W	YJL063C	3.884346e-06
1066	YKL112W	YCR021C	3.843331e-06
3346	YDL170W	YGL254W	3.842424e-06
5870	YER040W	YLL011W	3.831991e-06
3347	YDR043C	YGL254W	3.819941e-06
9160	YKL015W	YER067W	3.814344e-06
7943	YKL112W	YJL217W	3.784805e-06
3348	YER040W	YGL254W	3.779341e-06
9162	YGL254W	YER067W	3.775882e-06
4546	YER040W	YCL064C	3.749530e-06
2851	YDR216W	YOR100C	3.747063e-06
6025	YKL015W	YDR043C	3.733617e-06
5871	YKL015W	YLL011W	3.701246e-06
3421	YDR216W	YLR174W	3.687687e-06
7537	YER040W	YFR022W	3.684195e-06
4251	YDL170W	YGR067C	3.660468e-06
7765	YMR280C	YDR523C	3.576189e-06
7538	YBL103C	YFR022W	3.521667e-06
9352	YER040W	YGL229C	3.488473e-06
6662	YDR216W	YNL037C	3.466172e-06
1477	YOR032C	YFL014W	3.462118e-06
3422	YMR280C	YLR174W	3.402917e-06
6234	YDR043C	YKL071W	3.395999e-06
4739	YDR216W	YDL160C	3.382019e-06
7447	YBL103C	YNL270C	3.361308e-06
5219	YDR043C	YHL028W	3.354458e-06
7448	YER040W	YNL270C	3.335423e-06
4331	YKL112W	YPL265W	3.320012e-06
4333	YER040W	YPL265W	3.250735e-06

4965	YKL062W	YLR327C	3.208970e-06
6665	YDL170W	YNL037C	3.141530e-06
3041	YDL170W	YNR046W	3.120892e-06
9444	YER040W	YOR032C	3.065905e-06
5124	YKL062W	YHR051W	3.065417e-06
4742	YKL112W	YDL160C	3.042818e-06
2658	YBL103C	YJL172W	2.997725e-06
4654	YBL103C	YJL063C	2.977507e-06
9535	YDR216W	YHR216W	2.959753e-06
9026	YDR043C	YDL110C	2.928778e-06
1534	YBL103C	YOR348C	2.927453e-06
4655	YGL254W	YJL063C	2.856963e-06
8122	YDR043C	YBL042C	2.835073e-06
380	YJR094C	YMR280C	2.833008e-06
7770	YDR216W	YDR523C	2.803375e-06
9028	YDL170W	YDL110C	2.757057e-06
1355	YKL112W	YAL054C	2.744895e-06
6947	YKL112W	YGL009C	2.743455e-06
9641	YJR094C	YJL153C	2.740551e-06
149	YGL254W	YKL112W	2.727368e-06
7342	YMR280C	YOR302W	2.700377e-06
3869	YOR032C	YGR183C	2.659605e-06
8735	YMR280C	YLR258W	2.656563e-06
2578	YKL015W	YOR388C	2.655979e-06
9773	YDR043C	YKL040C	2.650948e-06
6458	YGL254W	YLR276C	2.624911e-06
9537	YKL112W	YHR216W	2.618341e-06
418	YMR280C	YER040W	2.603506e-06
7771	YOR032C	YDR523C	2.569077e-06
3351	YMR280C	YGL254W	2.537092e-06
9539	YGL254W	YHR216W	2.521926e-06
8550	YER040W	YOL014W	2.459148e-06
2861	YDR043C	YOR100C	2.457407e-06
9971	YJR094C	YKL062W	2.426860e-06
1071	YKL062W	YCR021C	2.416800e-06
1072	YGL254W	YCR021C	2.415506e-06
753	YDR216W	YML123C	2.412266e-06
1536	YMR280C	YOR348C	2.397289e-06
6843	YER040W	YKL015W	2.388349e-06
621	YDR216W	YNL036W	2.387436e-06
1482	YER040W	YFL014W	2.376735e-06
4261	YOR032C	YGR067C	2.365293e-06
7453	YOR032C	YNL270C	2.355988e-06
8329	YDL170W	YLR267W	2.345593e-06
539	YKL112W	YGR142W	2.332661e-06

9974	YBL103C	YKL062W	2.328548e-06
3149	YDR043C	YJR110W	2.292513e-06
947	YER040W	YDR171W	2.264645e-06
8737	YDR216W	YLR258W	2.235055e-06
948	YDR043C	YDR171W	2.206772e-06
9451	YGL254W	YOR032C	2.190747e-06
1483	YGL254W	YFL014W	2.188471e-06
7251	YJR094C	YLL033W	2.187865e-06
7772	YBL103C	YDR523C	2.181965e-06
4341	YGL254W	YPL265W	2.180645e-06
4036	YMR280C	YJR148W	2.170412e-06
7157	YBL103C	YDR361C	2.162694e-06
2163	YKL015W	YPL061W	2.158359e-06
150	YBL103C	YKL112W	2.157105e-06
3045	YMR280C	YNR046W	2.157020e-06
4972	YMR280C	YLR327C	2.125996e-06
4660	YDR043C	YJL063C	2.122301e-06
6538	YBL103C	YLR438W	2.069954e-06
5958	YDR216W	YNR028W	2.053595e-06
1138	YDR043C	YGR043C	2.052446e-06
3425	YDL170W	YLR174W	2.008937e-06
7862	YGL254W	YPL036W	1.993109e-06
9646	YDL170W	YJL153C	1.977620e-06
1966	YDL170W	YDR384C	1.969089e-06
544	YDL170W	YGR142W	1.894895e-06
860	YOR032C	YHR136C	1.893873e-06
243	YKL112W	YDR216W	1.849844e-06
9648	YGL254W	YJL153C	1.810807e-06
4444	YDR043C	YKR056W	1.807817e-06
1967	YMR280C	YDR384C	1.790257e-06
7253	YMR280C	YLL033W	1.787734e-06
8065	YJR094C	YOR056C	1.781800e-06
3936	YBL103C	YER158C	1.778938e-06
755	YGL254W	YML123C	1.770274e-06
4267	YDR043C	YGR067C	1.766114e-06
6244	YDR216W	YKL071W	1.753050e-06
2775	YKL015W	YPL012W	1.751222e-06
3937	YKL112W	YER158C	1.749050e-06
624	YKL062W	YNL036W	1.710514e-06
4344	YKL015W	YPL265W	1.667861e-06
1540	YDR043C	YOR348C	1.657474e-06
4559	YKL112W	YCL064C	1.648619e-06
5630	YDR216W	YIL155C	1.634800e-06
8462	YKL062W	YHR029C	1.629413e-06
7551	YDR043C	YFR022W	1.615094e-06

8557	YKL112W	YOL014W	1.610283e-06
8464	YGL254W	YHR029C	1.604953e-06
9362	YOR032C	YGL229C	1.603476e-06
1362	YKL062W	YAL054C	1.593880e-06
6171	YKL112W	YDR258C	1.585309e-06
9035	YDR216W	YDL110C	1.579954e-06
2170	YDR043C	YPL061W	1.563278e-06
6245	YKL062W	YKL071W	1.549785e-06
9175	YMR280C	YER067W	1.477988e-06
1082	YOR032C	YCR021C	1.477241e-06
3875	YER040W	YGR183C	1.442289e-06
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5632	YKL062W	YIL155C	1.433407e-06
2970	YKL112W	YMR169C	1.428194e-06
7463	YGL254W	YNL270C	1.426510e-06
864	YDR216W	YHR136C	1.411803e-06
5060	YDL170W	YDL091C	1.406422e-06
4667	YER040W	YJL063C	1.389297e-06
7554	YDL170W	YFR022W	1.388916e-06
7776	YKL015W	YDR523C	1.370463e-06
1364	YBL103C	YAL054C	1.346004e-06
8072	YER040W	YOR056C	1.344296e-06
4148	YDR043C	YNR064C	1.342349e-06
2250	YDL170W	YKR075C	1.324519e-06
1736	YDL170W	YBR054W	1.313490e-06
2780	YKL112W	YPL012W	1.298412e-06
2362	YKL112W	YLR009W	1.291328e-06
4346	YDR216W	YPL265W	1.287961e-06
548	YKL062W	YGR142W	1.281227e-06
9466	YJR094C	YOR032C	1.276102e-06
9467	YDL170W	YOR032C	1.269964e-06
9546	YER040W	YHR216W	1.264038e-06
3357	YBL103C	YGL254W	1.263555e-06
9547	YMR280C	YHR216W	1.242194e-06
4561	YBL103C	YCL064C	1.241591e-06
4981	YDR043C	YLR327C	1.240844e-06
5228	YKL015W	YHL028W	1.239132e-06
1085	YDR216W	YCR021C	1.237335e-06
9779	YJR094C	YKL040C	1.230766e-06
2363	YER040W	YLR009W	1.229627e-06
549	YOR032C	YGR142W	1.216262e-06
761	YKL015W	YML123C	1.201315e-06
6680	YKL062W	YNL037C	1.199350e-06
6248	YJR094C	YKL071W	1.176498e-06
2676	YOR032C	YJL172W	1.164790e-06

1972	YDR043C	YDR384C	1.148392e-06
4448	YER040W	YKR056W	1.141432e-06
9233	YMR280C	YLR178C	1.132936e-06
1369	YOR032C	YAL054C	1.124635e-06
7363	YGL254W	YOR302W	1.118812e-06
9863	YMR280C	YHR087W	1.116292e-06
1144	YKL112W	YGR043C	1.112887e-06
6682	YER040W	YNL037C	1.111894e-06
2173	YKL062W	YPL061W	1.101458e-06
4348	YDL170W	YPL265W	1.094165e-06
4984	YOR032C	YLR327C	1.069947e-06
3364	YOR032C	YGL254W	1.048031e-06
1672	YMR280C	YDL170W	1.041926e-06
9039	YMR280C	YDL110C	1.041197e-06
6542	YER040W	YLR438W	1.040094e-06
9982	YER040W	YKL062W	1.034413e-06
9983	YDL170W	YKL062W	1.032724e-06
2878	YKL015W	YOR100C	1.031000e-06
1868	YJR094C	YCR010C	1.030673e-06
956	YMR280C	YDR171W	1.029089e-06
1550	YGL254W	YOR348C	1.027904e-06
9783	YMR280C	YKL040C	1.015636e-06
2684	YGL254W	YJL172W	1.008334e-06
9182	YJR094C	YER067W	9.999383e-07
5134	YDR043C	YHR051W	9.971306e-07
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3753	YDR216W	YIL136W	9.857975e-07
7650	YMR280C	YAL062W	9.848851e-07
1145	YDR216W	YGR043C	9.804780e-07
8470	YDR043C	YHR029C	9.783838e-07
869	YJR094C	YHR136C	9.761009e-07
2685	YKL015W	YJL172W	9.650616e-07
5880	YBL103C	YLL011W	9.559111e-07
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3754	YMR280C	YIL136W	9.135168e-07
2177	YMR280C	YPL061W	8.869984e-07
630	YKL112W	YNL036W	8.823279e-07
3241	YKL112W	YMR193W	8.810514e-07
5639	YKL112W	YIL155C	8.776311e-07
7166	YDL170W	YDR361C	8.761235e-07
8472	YMR280C	YHR029C	8.759649e-07
7167	YKL015W	YDR361C	8.682706e-07
7365	YDR043C	YOR302W	8.664523e-07
5973	YMR280C	YNR028W	8.639333e-07
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4991	YJR094C	YLR327C	8.580288e-07
8268	YKL015W	YLR130C	8.561111e-07
6255	YKL112W	YKL071W	8.486958e-07
4856	YKL015W	YIL037C	8.468379e-07
7561	YKL062W	YFR022W	8.416769e-07
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6256	YGL254W	YKL071W	8.352567e-07
4045	YER040W	YJR148W	8.338371e-07
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7260	YGL254W	YLL033W	8.290747e-07
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6031	YBL103C	YDR043C	8.191252e-07
9043	YGL254W	YDL110C	8.165861e-07
7654	YDL170W	YAL062W	8.165204e-07
8270	YDR043C	YLR130C	8.090509e-07
6032	YER040W	YDR043C	8.042436e-07
7263	YDR216W	YLL033W	7.994614e-07
5975	YDR043C	YNR028W	7.923494e-07
2786	YDL170W	YPL012W	7.880993e-07
5348	YKL015W	YMR229C	7.879052e-07
3947	YMR280C	YER158C	7.858503e-07
1093	YJR094C	YCR021C	7.836278e-07
4857	YER040W	YIL037C	7.781892e-07
1149	YER040W	YGR043C	7.764863e-07
2787	YDR216W	YPL012W	7.691461e-07
9477	YDR216W	YDR032C	7.679790e-07
2788	YER040W	YPL012W	7.669801e-07
4279	YGL254W	YGR067C	7.661517e-07
4047	YDL170W	YJR148W	7.489216e-07
7883	YDR216W	YPL036W	7.387493e-07
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5642	YMR280C	YIL155C	7.361374e-07
6965	YJR094C	YGL009C	7.361006e-07
9557	YKL062W	YHR216W	7.351072e-07
247	YMR280C	YDR216W	7.329538e-07
3884	YDL170W	YGR183C	7.305360e-07
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4456	YGL254W	YKR056W	7.195516e-07
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557	YBL103C	YGR142W	7.092592e-07
6871	YBL103C	YKL015W	7.002450e-07
6264	YMR280C	YKL071W	6.904484e-07
3376	YKL112W	YGL254W	6.767052e-07
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7373	YKL062W	YOR302W	6.677960e-07
8077	YDL170W	YOR056C	6.658879e-07
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171	YMR280C	YKL112W	6.413236e-07
1681	YJR094C	YDL170W	6.360728e-07
6970	YBL103C	YGL009C	6.325340e-07
8569	YKL015W	YOL014W	6.323808e-07
3175	YKL062W	YJR110W	6.300661e-07
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427	YBL103C	YER040W	6.169015e-07
2793	YGL254W	YPL012W	5.990736e-07
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6277	YKL015W	YKL071W	5.276529e-07
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884	YER040W	YHR136C	5.021893e-07
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2888	YGL254W	YOR100C	4.081420e-07
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6795	YGL254W	YKR009C	4.005733e-07
7282	YKL015W	YLL033W	3.980712e-07
888	YDL170W	YHR136C	3.887055e-07
6187	YJR094C	YDR258C	3.883281e-07
7045	YMR280C	YPR002W	3.823072e-07
6887	YDR216W	YKL015W	3.821312e-07
889	YBL103C	YHR136C	3.793572e-07
9875	YOR032C	YHR087W	3.790158e-07
5991	YJR094C	YNR028W	3.767127e-07
2196	YDR216W	YPL061W	3.761245e-07
6992	YGL254W	YGL009C	3.735109e-07
6337	YDL170W	YNL194C	3.729228e-07
3393	YDR216W	YGL254W	3.724096e-07
2058	YDR216W	YER150W	3.672922e-07
6889	YJR094C	YKL015W	3.616828e-07
8762	YJR094C	YLR258W	3.615510e-07
9056	YKL015W	YDL110C	3.609496e-07
1987	YOR032C	YDR384C	3.586172e-07
5890	YJR094C	YLL011W	3.581117e-07
2197	YJR094C	YPL061W	3.537643e-07
4590	YKL015W	YCL064C	3.519563e-07
8088	YBL103C	YOR056C	3.479142e-07
6484	YBL103C	YLR276C	3.442676e-07
3893	YJR094C	YGR183C	3.421678e-07
7586	YJR094C	YFR022W	3.390082e-07
6696	YGL254W	YNL037C	3.369853e-07
5648	YDR043C	YIL155C	3.354674e-07
4058	YBL103C	YJR148W	3.334640e-07
3444	YKL062W	YLR174W	3.327381e-07
4591	YOR032C	YCL064C	3.298702e-07
1161	YJR094C	YGR043C	3.293227e-07
4592	YDR216W	YCL064C	3.292035e-07
7392	YKL015W	YOR302W	3.283913e-07
3894	YGL254W	YGR183C	3.276725e-07
3952	YDL170W	YER158C	3.269552e-07
4777	YKL062W	YDL160C	3.264302e-07
9376	YJR094C	YGL229C	3.254555e-07
2993	YJR094C	YMR169C	3.244753e-07
4680	YKL015W	YJL063C	3.219492e-07
7587	YDR216W	YFR022W	3.217649e-07

2061	YMR280C	YER150W	3.207887e-07
7588	YKL015W	YFR022W	3.179528e-07
3191	YJR094C	YJR110W	3.130935e-07
8492	YOR032C	YHR029C	3.127845e-07
6191	YDL170W	YDR258C	3.109435e-07
5355	YDL170W	YMR229C	3.104245e-07
8583	YDL170W	YOL014W	3.100253e-07
9248	YBL103C	YLR178C	3.097832e-07
5756	YBL103C	YJL088W	3.096002e-07
6697	YJR094C	YNL037C	3.086074e-07
5356	YDR043C	YMR229C	3.039653e-07
5995	YOR032C	YNR028W	3.036747e-07
8765	YGL254W	YLR258W	3.024801e-07
565	YGL254W	YGR142W	3.020875e-07
4190	YGL254W	YNR064C	3.013679e-07
2891	YJR094C	YOR100C	3.007617e-07
8766	YDL170W	YLR258W	2.984309e-07
1747	YMR280C	YBR054W	2.971727e-07
4779	YGL254W	YDL160C	2.961868e-07
4370	YOR032C	YPL265W	2.961623e-07
2996	YGL254W	YMR169C	2.958872e-07
1991	YKL015W	YDR384C	2.958298e-07
6555	YDL170W	YLR438W	2.924751e-07
7394	YOR032C	YOR302W	2.898420e-07
3070	YDR216W	YNR046W	2.884668e-07
9379	YDL170W	YGL229C	2.876939e-07
4683	YJR094C	YJL063C	2.863136e-07
1992	YGL254W	YDR384C	2.825300e-07
1889	YOR032C	YCR010C	2.804243e-07
7190	YDR216W	YDR361C	2.792746e-07
5760	YDR043C	YJL088W	2.790037e-07
1691	YKL015W	YDL170W	2.758108e-07
3396	YJR094C	YGL254W	2.740896e-07
4061	YDR043C	YJR148W	2.724680e-07
6798	YJR094C	YKR009C	2.702662e-07
4886	YJR094C	YIL037C	2.690251e-07
9249	YJR094C	YLR178C	2.670478e-07
6698	YOR032C	YNL037C	2.669472e-07
9877	YGL254W	YHR087W	2.651968e-07
1749	YJR094C	YBR054W	2.649163e-07
5649	YOR032C	YIL155C	2.647059e-07
4295	YJR094C	YGR067C	2.640644e-07
8496	YDR216W	YHR029C	2.626843e-07
8590	YBL103C	YOL014W	2.615476e-07
4888	YGL254W	YIL037C	2.591776e-07

4889	YOR032C	YIL037C	2.590316e-07
4685	YOR032C	YJL063C	2.589502e-07
5650	YBL103C	YIL155C	2.560221e-07
4780	YOR032C	YDL160C	2.526065e-07
6196	YGL254W	YDR258C	2.519042e-07
5457	YDR216W	YOR206W	2.515054e-07
3449	YBL103C	YLR174W	2.514381e-07
2696	YDR216W	YJL172W	2.492930e-07
6558	YDR043C	YLR438W	2.492428e-07
7396	YJR094C	YOR302W	2.490805e-07
8773	YDR043C	YLR258W	2.486179e-07
197	YJR094C	YKL112W	2.478300e-07
2384	YDR216W	YLR009W	2.461493e-07
8349	YER040W	YLR267W	2.413679e-07
3197	YKL015W	YJR110W	2.393831e-07
4063	YJR094C	YJR148W	2.390413e-07
5242	YDR216W	YHL028W	2.355628e-07
5458	YOR032C	YOR206W	2.355047e-07
3074	YOR032C	YNR046W	2.338360e-07
6197	YOR032C	YDR258C	2.335031e-07
3252	YDR216W	YMR193W	2.304392e-07
573	YMR280C	YGR142W	2.302145e-07
8350	YMR280C	YLR267W	2.280940e-07
9682	YKL015W	YJL153C	2.231007e-07
1751	YKL015W	YBR054W	2.224510e-07
9571	YJR094C	YHR216W	2.213469e-07
792	YDL170W	YML123C	2.193569e-07
793	YBL103C	YML123C	2.191418e-07
5360	YKL062W	YMR229C	2.178292e-07
5361	YMR280C	YMR229C	2.171349e-07
7671	YBL103C	YAL062W	2.164409e-07
2389	YKL015W	YLR009W	2.139381e-07
6342	YER040W	YNL194C	2.137419e-07
9879	YDR043C	YHR087W	2.093988e-07
2391	YOR032C	YLR009W	2.083739e-07
5080	YBL103C	YDL091C	2.060509e-07
5243	YER040W	YHL028W	2.059984e-07
9880	YER040W	YHR087W	2.000043e-07
6492	YOR032C	YLR276C	1.947101e-07
2697	YJR094C	YJL172W	1.921034e-07
4196	YDR216W	YNR064C	1.920942e-07
797	YJR094C	YML123C	1.900796e-07
7194	YOR032C	YDR361C	1.849657e-07
5362	YOR032C	YMR229C	1.833765e-07
1397	YJR094C	YAL054C	1.831215e-07

4198	YJR094C	YNR064C	1.823237e-07
6047	YDL170W	YDR043C	1.816037e-07
1569	YJR094C	YOR348C	1.813984e-07
4470	YDL170W	YKR056W	1.795745e-07
8596	YOR032C	YOL014W	1.795322e-07
8094	YOR032C	YOR056C	1.788916e-07
4784	YJR094C	YDL160C	1.777701e-07
2441	YER040W	YPL111W	1.767883e-07
8856	YKL112W	YDR380W	1.766264e-07
2442	YDL170W	YPL111W	1.739175e-07
2443	YJR094C	YPL111W	1.731046e-07
1997	YDR216W	YDR384C	1.728369e-07
438	YKL112W	YER040W	1.726597e-07
8632	YKL062W	YNR053C	1.726104e-07
8096	YGL254W	YOR056C	1.716742e-07
1570	YER040W	YOR348C	1.713056e-07
3076	YGL254W	YNR046W	1.705496e-07
978	YGL254W	YDR171W	1.668875e-07
2066	YGL254W	YER150W	1.667044e-07
1572	YKL112W	YOR348C	1.609744e-07
8353	YGL254W	YLR267W	1.587609e-07
4072	YKL062W	YJR148W	1.583843e-07
2274	YDR216W	YKR075C	1.583642e-07
5467	YBL103C	YOR206W	1.540753e-07
1245	YKL112W	YHR018C	1.535501e-07
6344	YMR280C	YNL194C	1.528917e-07
3960	YER040W	YER158C	1.519059e-07
1998	YJR094C	YDR384C	1.507027e-07
9883	YBL103C	YHR087W	1.455193e-07
274	YOR032C	YDR216W	1.452130e-07
4792	YKL015W	YDL160C	1.438340e-07
2277	YGL254W	YKR075C	1.437970e-07
1246	YDL170W	YHR018C	1.433464e-07
1247	YOR032C	YHR018C	1.420782e-07
5770	YOR032C	YJL088W	1.357260e-07
2397	YGL254W	YLR009W	1.356856e-07
8159	YKL015W	YBL042C	1.335370e-07
2398	YJR094C	YLR009W	1.326562e-07
6345	YOR032C	YNL194C	1.322515e-07
7053	YDR216W	YPR002W	1.279618e-07
9389	YKL015W	YGL229C	1.251679e-07
6500	YJR094C	YLR276C	1.237329e-07
8860	YER040W	YDR380W	1.235397e-07
3256	YMR280C	YMR193W	1.226089e-07
587	YDR216W	YGR142W	1.222716e-07

6346	YDR216W	YNL194C	1.216007e-07
278	YDR043C	YDR216W	1.180717e-07
5473	YKL112W	YOR206W	1.178267e-07
5775	YJR094C	YJL088W	1.144011e-07
5150	YOR032C	YHR051W	1.134171e-07
589	YJR094C	YGR142W	1.129812e-07
8636	YKL112W	YNR053C	1.105646e-07
5249	YBL103C	YHL028W	1.093626e-07
282	YJR094C	YDR216W	1.066920e-07
4082	YKL015W	YJR148W	1.055341e-07
1181	YKL015W	YGR043C	1.046240e-07
9578	YDL170W	YHR216W	1.034528e-07
8867	YDL170W	YDR380W	1.024931e-07
655	YOR032C	YNL036W	1.008842e-07
5781	YMR280C	YJL088W	9.798656e-08
5154	YKL112W	YHR051W	9.785475e-08
5782	YGL254W	YJL088W	9.710270e-08
7058	YKL015W	YPR002W	9.284758e-08
8791	YOR032C	YLR258W	9.224313e-08
594	YKL015W	YGR142W	9.173766e-08
3090	YJR094C	YNR046W	9.030254e-08
4478	YBL103C	YKR056W	8.809371e-08
985	YJR094C	YDR171W	8.737277e-08
657	YBL103C	YNL036W	8.660453e-08
3461	YER040W	YLR174W	8.590534e-08
4088	YGL254W	YJR148W	8.359196e-08
3261	YER040W	YMR193W	8.144738e-08
8870	YBL103C	YDR380W	7.782381e-08
7687	YKL015W	YAL062W	7.654164e-08
7688	YOR032C	YAL062W	7.389701e-08
9266	YDR043C	YLR178C	7.364270e-08
4481	YOR032C	YKR056W	7.055061e-08
4482	YKL015W	YKR056W	7.016066e-08
3098	YKL015W	YNR046W	6.992371e-08
5481	YDL170W	YOR206W	6.966028e-08
3464	YOR032C	YLR174W	6.930614e-08
5482	YER040W	YOR206W	6.868510e-08
5090	YJR094C	YDL091C	6.839440e-08
3465	YGL254W	YLR174W	6.782377e-08
2285	YJR094C	YKR075C	6.752585e-08
8874	YOR032C	YDR380W	6.652638e-08
5666	YDL170W	YIL155C	6.637913e-08
9269	YKL112W	YLR178C	6.612156e-08
3645	YDR043C	YDL018C	6.604682e-08
5374	YBL103C	YMR229C	6.362157e-08

3779	YJR094C	YIL136W	6.252483e-08
9890	YKL112W	YHR087W	6.215973e-08
2072	YDR043C	YER150W	6.178454e-08
9891	YJR094C	YHR087W	6.159362e-08
5091	YDR216W	YDL091C	6.084416e-08
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659	YER040W	YNL036W	5.891908e-08
1258	YDR043C	YHR018C	5.670279e-08
3469	YKL015W	YLR174W	5.463119e-08
5092	YGL254W	YDL091C	5.443634e-08
3470	YKL112W	YLR174W	5.378642e-08
2076	YOR032C	YER150W	4.948199e-08
8796	YER040W	YLR258W	4.891328e-08
1769	YKL062W	YBR054W	4.859406e-08
3980	YJR094C	YER158C	4.572064e-08
7694	YJR094C	YAL062W	4.496336e-08
8649	YMR280C	YNR053C	4.490586e-08
4095	YDR216W	YJR148W	4.453732e-08
7068	YDR043C	YPR002W	4.398260e-08
2291	YKL015W	YKR075C	4.288657e-08
4485	YJR094C	YKR056W	4.274261e-08
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3784	YGL254W	YIL136W	4.173601e-08
5678	YJR094C	YIL155C	4.062722e-08
7695	YDR216W	YAL062W	3.975500e-08
5792	YKL015W	YJL088W	3.912847e-08
5257	YKL112W	YHL028W	3.819907e-08
5679	YER040W	YIL155C	3.699628e-08
8171	YKL062W	YBL042C	3.641969e-08
1262	YMR280C	YHR018C	3.501455e-08
5165	YER040W	YHR051W	3.475488e-08
5493	YKL015W	YOR206W	3.316992e-08
5167	YDL170W	YHR051W	3.160903e-08
5258	YDL170W	YHL028W	3.132570e-08
3274	YDL170W	YMR193W	3.127197e-08
5495	YGL254W	YOR206W	2.933707e-08
3275	YBL103C	YMR193W	2.901609e-08
3276	YOR032C	YMR193W	2.894428e-08
3983	YGL254W	YER158C	2.875559e-08
8177	YDL170W	YBL042C	2.751032e-08
8798	YBL103C	YLR258W	2.741625e-08
8178	YBL103C	YBL042C	2.737798e-08
5266	YGL254W	YHL028W	2.470341e-08
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6062	YGL254W	YDR043C	2.352903e-08

7081	YKL062W	YPR002W	2.265495e-08
5498	YJR094C	YOR206W	2.255399e-08
1268	YKL015W	YHR018C	2.214708e-08
9087	YKL112W	YDL110C	2.177746e-08
8893	YKL015W	YDR380W	2.176031e-08
2085	YJR094C	YER150W	2.169187e-08
5391	YJR094C	YMR229C	2.071793e-08
5392	YGL254W	YMR229C	2.065439e-08
5176	YKL015W	YHR051W	1.951626e-08
5177	YDR216W	YHR051W	1.936570e-08
9286	YDR216W	YLR178C	1.933329e-08
3988	YDR216W	YER158C	1.929950e-08
5179	YBL103C	YHR051W	1.898659e-08
1776	YKL112W	YBR054W	1.877532e-08
6366	YKL112W	YNL194C	1.860593e-08
9289	YOR032C	YLR178C	1.681573e-08
3490	YJR094C	YLR174W	1.640825e-08
7085	YOR032C	YPR002W	1.638367e-08
998	YOR032C	YDR171W	1.567563e-08
9088	YJR094C	YDL110C	1.554840e-08
1780	YDR043C	YBR054W	1.552947e-08
1276	YDR216W	YHR018C	1.531931e-08
3563	YER040W	YER002W	1.429458e-08
8895	YGL254W	YDR380W	1.421348e-08
8376	YDR216W	YLR267W	1.419710e-08
8966	YKL112W	YLL034C	1.384586e-08
6074	YMR280C	YDR043C	1.375462e-08
8896	YDR216W	YDR380W	1.361437e-08
5398	YDR216W	YMR229C	1.334220e-08
8898	YJR094C	YDR380W	1.329575e-08
8659	YJR094C	YNR053C	1.312783e-08
3662	YKL112W	YDL018C	1.307774e-08
8377	YOR032C	YLR267W	1.286995e-08
8967	YOR032C	YLL034C	1.281572e-08
8192	YER040W	YBL042C	1.246717e-08
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5187	YGL254W	YHR051W	1.223427e-08
8381	YJR094C	YLR267W	1.211546e-08
3663	YER040W	YDL018C	1.209428e-08
6585	YKL015W	YLR438W	1.195342e-08
475	YDR216W	YER040W	1.195278e-08
8662	YOR032C	YNR053C	1.144617e-08
3665	YBL103C	YDL018C	1.132389e-08
9291	YGL254W	YLR178C	1.124196e-08
6586	YDR216W	YLR438W	1.123959e-08



3567	YOR032C	YER002W	1.115111e-08
2092	YKL112W	YER150W	1.104225e-08
7092	YGL254W	YPR002W	1.094152e-08
8663	YDL170W	YNR053C	1.090977e-08
3667	YKL062W	YDL018C	1.083190e-08
8970	YBL103C	YLL034C	1.058461e-08
7093	YJR094C	YPR002W	1.004977e-08
3570	YKL015W	YER002W	9.790809e-09
5693	YGL254W	YIL155C	9.617025e-09
6588	YGL254W	YLR438W	9.403447e-09
3670	YMR280C	YDL018C	9.335947e-09
8387	YKL015W	YLR267W	8.984958e-09
8972	YJR094C	YLL034C	8.943581e-09
6591	YOR032C	YLR438W	8.605294e-09
692	YKL015W	YNL036W	8.431042e-09
2472	YMR280C	YPL111W	7.946890e-09
1791	YOR032C	YBR054W	7.832869e-09
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3288	YJR094C	YMR193W	7.378486e-09
8668	YER040W	YNR053C	7.309328e-09
5284	YJR094C	YHL028W	7.292478e-09
3289	YKL015W	YMR193W	7.229978e-09
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2477	YGL254W	YPL111W	6.048505e-09
6380	YBL103C	YNL194C	5.999192e-09
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8978	YKL015W	YLL034C	5.409282e-09
696	YJR094C	YNL036W	5.273857e-09
3676	YDL170W	YDL018C	5.135293e-09
8672	YGL254W	YNR053C	4.714647e-09
1294	YGL254W	YHR018C	4.640672e-09
2484	YDR216W	YPL111W	4.509132e-09
8983	YER040W	YLL034C	4.129122e-09
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8986	YDL170W	YLL034C	3.750259e-09
6598	YJR094C	YLR438W	3.652877e-09
1297	YJR094C	YHR018C	3.601686e-09
3580	YDL170W	YER002W	3.519412e-09
2489	YKL015W	YPL111W	3.388153e-09
3581	YBL103C	YER002W	3.267304e-09

8681	YBL103C	YNR053C	2.937690e-09
2490	YOR032C	YPL111W	2.889436e-09
3689	YJR094C	YDL018C	2.758185e-09
3583	YJR094C	YER002W	2.697805e-09
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[1181] 1.967438e-09 1.820362e-09 1.675807e-09 1.391757e-09 1.344210e-09
[1186] 1.210824e-09 1.177156e-09 1.158014e-09
      area      sector      width
0.2925873 0.2910458 0.9686411

```

```
> title("Precision-Recall")
```

The resulting plots are shown in Figure 1. The output components are as follows:

- **area:** The estimated area under the curve for the horizontal sector ranging from 0 to 1. This should be used with caution when the sector in which the data falls is small.
- **sector:** The estimated area under the horizontal sector covered by the contingency tables.
- **width:** The width of the horizontal sector covered by the contingency tables.

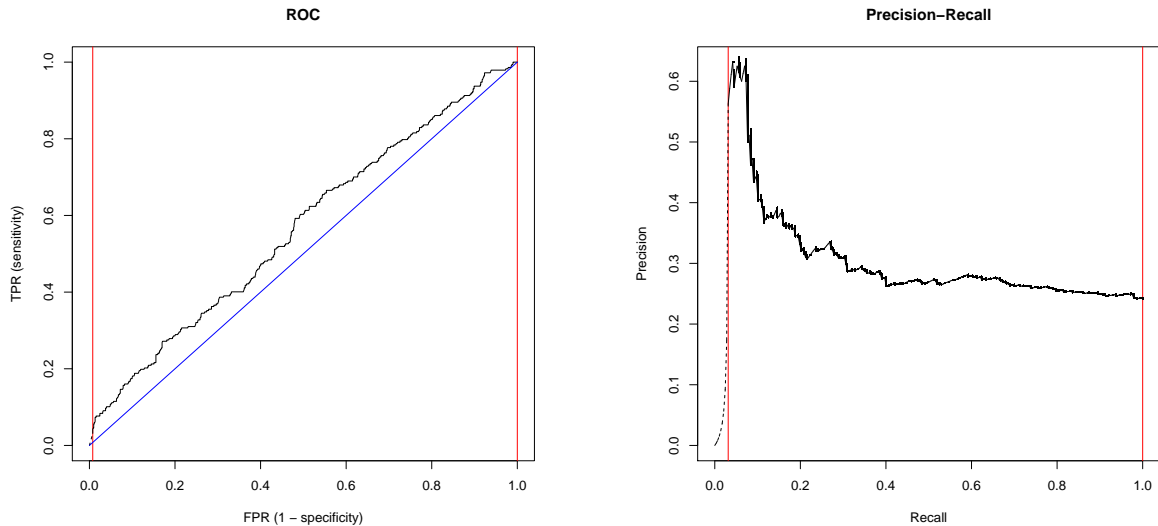


Figure 1: ROC and Precision-Recall curve sectors for a `networkBMA` model of the yeast-rapamycin test data. The black lines delineate the estimated curves. The vertical red lines delineate the range of horizontal values covered by the contingency tables. The dotted black lines are linear interpolants outside this range. The diagonal blue line on the ROC plot indicates the line between  $(0,0)$  and  $(1,1)$ .

## 4 Linear Modeling for Static Gene Expression Data

`networkBMA` relies on sparse linear modeling via iterative Bayesian model averaging (BMA). BMA addresses uncertainty in model selection, and builds a weighted-average model from plausible models. The resulting model has better overall predictive ability than constituent models, and tends to use few variables from among a larger set. BMA has been iteratively extended to data with more variables than observations (Yeung et al. 2005, 2009, 2011). The `networkBMA` package functions, `ScanBMA` and `iterateBMA1m`, for linear modeling via iterative BMA. We illustrate their use on a static gene expression dataset (without any time points), `brem.data`, to infer the regulators of a particular gene by regressing it on the expression levels of the other genes. Functions `ScanBMA` and `iterateBMA1m` can be applied to each gene so as to infer all edges in the network. For one gene, the procedure is as follows:

```
> gene <- "YNL037C"
> variables <- which(rownames(brem.data) != gene)
> control <- ScanBMAcontrol(OR = 20, useg = TRUE,
+                           gCtrl = gControl(optimize = FALSE, g0 = 20))
> ScanBMAmodel.YNL037C <- ScanBMA(x = t(brem.data[variables,]),
+                                y = unlist(brem.data[gene,]), control = control)
```

Function `ScanBMAcontrol` facilitates input of BMA control parameters, including `useg` for indicating whether to use Zellner's  $g$ -prior or BIC for model likelihood approximation and `OR` for defining the width of 'Occam's window' for model exclusion. `gCtrl` allows specification



of parameters related to the use of Zellner's  $g$ -prior, including whether to use a static  $g$  or optimize  $g$  using an EM algorithm. See the R help documentation for `ScanBMAcontrol` and `gControl` for detailed description of these parameters, and Hoeting et al. (1999) for a tutorial on the underlying BMA paradigm. The estimated posterior probabilities (in percent) for genes that regulate YBL103C can be seen as follows:

```
> ScanBMAmodel.YNL037C$probne0[ScanBMAmodel.YNL037C$probne0 > 0]
```

YBL103C	YDL170W	YDR043C	YDR216W	YER040W	YGL254W	YJR094C	YKL062W
15.81895	6.33311	17.25494	99.30193	5.31088	2.83664	1.58314	3.95383
YMR280C	YOR032C	YLR276C	YMR193W	YHR051W	YPL111W	YGL009C	YPR002W
2.83050	5.24749	2.94435	1.39853	2.58522	2.79859	3.43629	100.00000
YML123C	YHR136C	YER158C	YJL217W	YKR075C	YLR258W	YDR171W	YIL136W
3.63262	1.38361	1.72177	1.60902	1.21411	100.00000	100.00000	99.72728
YKR056W	YAL062W	YCR021C	YDL110C	YGR043C	YGR142W	YHR018C	YJL088W
10.12298	100.00000	1.09232	1.36683	1.92756	1.74354	2.40810	1.29696
YJR148W	YLR009W	YLR130C	YLR267W	YLR327C	YNL036W	YNR053C	YOR302W
100.00000	3.22791	2.11767	1.29808	8.36596	1.45602	1.32398	1.24863
YPL012W	YIL037C	YKR009C	YFR022W	YPL265W	YOR100C	YOR348C	YHL028W
84.09918	1.23302	1.32936	100.00000	100.00000	99.41495	98.79002	1.40035
YGR067C	YLL011W	YPL036W	YAL054C	YLR438W	YIL155C	YBR054W	YCL064C
1.10718	1.88925	1.05122	5.08782	3.38030	1.36713	2.34692	100.00000
YDL160C	YDR384C	YER067W	YER150W	YFL014W	YHR029C	YHR087W	YLR178C
1.26625	4.70142	2.49145	2.05581	5.76384	5.43642	1.91634	64.98200
YMR169C	YMR229C	YNR064C	YOR206W	YOR388C	YDR380W	YPL061W	YJL172W
9.73588	100.00000	4.78895	2.77098	17.46033	1.91489	1.23917	1.45981
YNL194C	YDR361C	YHR216W	YNR046W	YGR183C	YLL034C	YDR523C	YOL014W
11.01615	4.27226	1.36634	1.15586	99.73287	36.44980	7.59316	3.15712
YLR174W	YJL153C	YGL229C	YJL063C				
1.52603	100.00000	100.00000	1.21337				

## 5 Acknowledgements

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