Investigation into the Mode of Antifungal Action of Berberine

By

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Abstract:

Berberine is an alkaloid found in several plant genera, and notably in the root bark of Barberry, *Berberis vulgaris*. As a natural health product, berberine has several health benefits. Berberine has broad spectrum antifungal activities, it is used in the treatment of bacterial diarrhea and against the growth of several intestinal parasites, in treating ocular trachoma infections, preventing inflammation and promoting cardiovascular health. The motivation in this research is that Berberine's antifungal mode of action is not known yet. The focus of this study is to identify the biochemical basis of yeast sensitivity to berberine (i.e. "mode of action"). The MIC of berberine with yeast was determined to be in the range of 0.156 to 0.078 mg/ml. To infer berberine mode of antifungal activity, Gene Deletion Array (GDA) analysis was performed using a library of about 4700 yeast strains, each with a different gene deletion, using a berberine concentration of 0.13 mg/ml. Out of the library, the 71 most sensitive yeast deletion mutant strains were identified and analyzed with GO terms. Out of the 71 sensitive strains, 3 main groups had mutations in genes that are directly involved in cytoskeletal protein binding, transferase activity and RNA and mRNA binding. In addition, 30% of the 22 resistant strains had deletion mutations that were enriched in tubulin associated genes (P value was < 0.10). Finally, using berberine's natural fluorescence characteristic together with other histochemical stains, confocal fluorescence microscopy revealed that berberine was dynamically localized first to mitochondria and then to oil droplets within the yeast cell.

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List of Abbreviations

CF	Carboxyfluorescein
DNA	deoxyribonucleic acid
DIC	differential interference contrast
EX	Excitation
EM	Emission band
Expt	experiment
GDA	gene deletion array
HSD	honestly significant difference
Inhib	inhibition
LD	lipids droplets
LUVs	large unilamellar liposomes
mRNA	messenger RNA
MDRs	multidrug-resistance pumps
MIC	minimum inhibitory concentration
μM	Micrometer
ml	milliliter
μl	microliter
mM	millimeter
nm	nanometer
mg/ml	Milligram per milliliter
NaCl	sodium chloride

rRNA	ribosomal ribonucleic acid
SGA	synthetic genetic array
STE	steryl esters
24-SMT	24-methyl transferase
TGA	triacylglycerol
WT	wild type
YPD	yeast peptone dextrose

Introduction:

Background:

Lewis and Ausubel (2006) explained that the secret of the relatively low amount of infectious diseases in plants is due in part to the production of antimicrobial compounds. Recently, scientific studies have been focusing more on these plant-based antimicrobial agents due to the increasing needs in the pharmaceutical industry. In the last few decades, researchers have found many beneficial plant-based antifungals; berberine is one such agent (Manske *et al.*, 1953).

Berberine is an alkaloid compound (Figure 1) that occurs in several plant species. Most notably, and for which the molecule is named, berberine is found at high concentrations in *Berberis* species (Etcu and Goina, 1970). Plants from the *Berberis* genus are used as traditional remedies for many kinds of ailments, including infectious diseases (Monica Frele *et al.*, 2006). Antimicrobial properties of berberine are backed up by decades of pharmacological research on berberine which has lead to its commercialization by chemical supply companies (Frele *et al.*, 2006). Berberine has been shown to inhibit bacterial growth, as well as proliferation of viruses and fungi that can cause infections in animals, including humans (Renata Iwazaki *et al.*, 2009). Furthermore, berberine has been used to treat diarrhea caused by bacteria (Renata Iwazaki *et al.*, 2009), intestinal parasites (Kaneda *et al.*, 1991), ocular trachoma infections (Babbar *et al.*, 1982), to reduce inflammation (Wang *et al.*, 1994) and promote cardiovascular health (Marin-Neto *et al.*, 1988).

Figure 1. Chemical structure of berberine

As shown in Figure 1, berberine contains 5 heterocyclic rings attached to an incorporated nitrogen atom (Bolton *et al.*, 2008). Berberine is slightly soluble in water, especially warm water, soluble in ethanol and very soluble in methanol (Battu *et al.*, 2010). One of berberine's characteristics is a strong fluorescence under ultraviolet light, with an optimal excitation wavelength of 430 nm and an emission wavelength of 550 nm (Nobukazu *et al.*, 2007; Gibbs and Seddon, 2000).

Antifungal and Antibacterial Activities:

The aim of my research project is to determine the antifungal mode of action of berberine. Preliminary results from our lab confirm that berberine is a broad spectrum antifungal agent, but its antifungal mode of action is unknown. Understanding berberine's mode of action could allow us to develop antifungal agents with enhanced efficacy. Berberine is reported to act synergistically with the antifungal fluconazole (Quan *et al.*, 2006), and it inhibits fluconazole-resistant *Candida albicans* clinical isolates. This is consistent with a study that indicates that berberine interacts with an enzyme called sterol 24-methyl transferase (24-SMT; Park *et al.*, 1999). Notably, 24-SMT is an essential enzyme in fungi because it catalyzes a chemical reaction for the biosynthesis of sterols. These fungal sterols serve a similar function in modulating

membrane fluidity as does cholesterol in mammals (Park *et al.*, 1999). 24-SMT transfers one methyl group to zymosterol, a precursor to ergosterol (Figure 2; Bouvier-Navé *et al.*, 1998). Ergosterol is also synthesized from lanosterol by CYP51A1 (Figure 2). CYP51A is inhibited by azole drugs (Martel *et al.*, 2010). Inhibiting ergosterol biosynthesis limits fungal growth, although ergosterol-deficient fungal strains are common in clinical settings since mutation in the ergosterol biosynthetic pathway confers resistance to the commonly used antifungals amphotericin B and azole drugs (Manastir *et al.*, 2011).

Figure 2. Abbreviated biosynthesis pathways for ergosterol synthesis (adapted from: SRI International).

Berberine and Azoles are proposed to inhibit 2 pathways leading to ergosterol synthesis as indicated in Figure 2. Other indications of berberine's mode of action come from studies showing bacterial resistance to berberine in bacteria that have enhanced activities of multidrug-resistance pumps (MDRs), which quickly remove intracellular berberine, and reduce its antimicrobial efficacy. Some cationic alkaloids such as berberine are natural substrates of MDRs (Stermitz *et al.*, 2000). MDRs are membrane translocases that allow the bacterial cells to extrude toxins and inhibiting such pumps significantly increases berberine's efficacy against bacterial growth. Indeed, combining berberine with a drug that blocks MDRs can greatly increase berberine's toxicity towards bacteria and this aids in studies on berberine's mode of action (Ball *et al.*, 2006). As such, greater antimicrobial activity has been observed through synergistic use of berberine with pump inhibitors 5'-methoxyhydnocarpin or INF 55 (Stermitz *et al.*, 2000; Ball *et al.*, 2006). Pump inhibitors are gaining the interest of researchers for their potential to counter the rise of drug-resistant microbes. Indeed, drug-resistance has often been shown to be mediated by enhanced MDR activity (Stermitz *et al.*, 2000).

Once inside the cell, berberine's mechanism of inhibition on bacterial cells could be through binding to DNA, and continuing degradation of DNA (Stermitz *et al.*, 2000). More recent studies have suggested that berberine inhibits the FtsZ protein which is key to bacterial cell division (Boberek *et al.*, 2010). FtsZ coordinates septum formation during cell division, and is a homolog of tubulin in eukaryotes (Boberek *et al.*, 2010).

Minimum Inhibitory Concentration (MIC)

The standard way to determine the level of sensitivity of an antimicrobial drug is by using a Minimum Inhibitory Concentration (MIC) test (Andrews, 2001). The MIC method is based on a broth micro-dilution assay to determine the lowest concentration at which a compound inhibits cell growth (Lambert, 2001). This procedure is carried out by using a 96-well microtiter plate by first doing a serial dilution of the target compound across the rows of the plate (Wiegand *et al.*, 2008). Second, a known number of cells from overnight liquid culture is added to each well, and the plate is incubated for a specified time. It is possible to make a visual examination of wells with or without growth to get the MIC value or to use a microtiter plate reader for optical density measurements (Mann and Markham, 1998). MIC can be defined in several ways. For example, the MIC₁₀₀ is the concentration that results in complete inhibition of growth. The MIC₅₀ is a concentration that results in a 50% inhibition of growth.

Gene Deletion Array (GDA)

In this thesis, I make extensive use of a chemical-genetic interaction screening method using an *S. cerevisiae* Gene Deletion Array (GDA). GDA comprises a set of about 4700 mutants, each with a different non-essential gene deleted (Winzeler *et al.*, 1999). Genes and the pathways of *S. cerevisiae* are functionally redundant; one gene can take over the function of a second gene and therefore a deletion mutant often has no phenotypic consequences (Memarian *et al.*, 2007). The chemical-genetic interaction is determined by a large-scale drug sensitivity screen that monitors growth of the deletion mutants of *S. cerevisiae* when inoculated onto media with and without the inhibitor compound (Parsons

et al., 2004). Analysis of resistant and/or highly susceptible mutants can provide us with insights as to which genes are involved in the specific process that is targeted by the inhibition. The GDA library was developed by Winzeler *et al.* (1999). The analysis of colony size measurements was further improved by Memarian *et al.* (2007), using a computerized imaging systems that automatically detects relative yeast colony size differences. This improved method for using GDA to study antifungal has been successfully used to test *S. cerevisiae*'s sensitivity to chitosan (Galvan Marquez, *et al.*, 2013), thymol (Darvishi *et al.*), eugenol (Darvishi *et al.*) and many other compounds (Alamgir *et al.*, 2010; Parsons *et al.*, 2006)

Study Objectives.

The first stage of my study was done by the MIC assay to determine the minimum concentration of berberine needed to inhibit the growth of yeast. This information was needed for the GDA assay. I used the MIC to approximate a berberine concentration that would slightly inhibit yeast colony growth on solid medium. Then, GDA analysis was done to create a list of deletion mutants that were sensitive and resistant to berberine. Based on the digital analysis, the change in colony size of each *S. cerevisiae* gene deletion strain was determined and about 71 most-inhibited were selected. I also selected 22 of resistant strains I verified the results of the GDA analysis using a drop-out experiment with selected sensitive and non-sensitive mutants identified by GDA analysis. Finally, sensitive strains were selected for confocal fluorescence and confocal microscopy examination. Confocal microscopy was used to see where berberine is localized within yeast cells and to provide additional insight into berberine antifungal mode-of-action.

This research has many commercially relevant applications. We need antifungal agents that are safe to use with animals, which is a challenge since fungi and animals are sister clades (Oruc, 2010) and share many biochemical pathways. Currently, there are relatively few antifungals that do not also negatively affect mammals. Furthermore, existing antifungals that are available to consumers and patients are also becoming less useful due to an increasing number of antibiotic resistant fungal strains. The results of this study have the potential to enhance future knowledge in developing natural products to fight fungal diseases in agriculture or medicine.

Material and methods:

Culture preparations, growth conditions and strains:

Berberine chloride powder was obtained from Sigma-Aldrich (SLPB2771V; St. Louis, MO, USA) and stored in the dark at 4°C. To prepare a berberine stock solution, berberine was weighed and added to water in a glass vial to obtain a concentration of 0.13 mg/ml. The vial was then wrapped in aluminum foil to prevent photodegradation and then incubated at 50°C for 15 – 30 minutes or until the berberine was fully dissolved. The stock solution was kept in the fridge for future use.

Yeast strains used in this study were cultured in Yeast Peptone Dextrose (YPD) broth or agar medium. YPD medium was made of 2% Dextrose (Batch # 128477M029089, BDH, Toronto, Canada), 2% Peptone (Batch #44A32633; Bioshop, Burlington, ON, CA), and 1% Yeast Extract (Batch # 7199299, Bacto™, Sparks, MD, USA)] with or without 1.7% Agar (Batch # 3L31698, Bioshop, Burlington, ON, CA). After autoclaving, YPD medium was allowed to cool to ~50 °C in a water bath before the required amount of berberine was added. After addition of berberine the medium was mixed by shaking and plates were poured.

The square plates used for the GDA tests contained 50 ml of medium and the standard; round petri plates contained 25 ml of medium. GDA and MIC plates were re-used following washing with water and bleach, followed by drying in a B2-level hood under UV light for 30 minutes. GDA analysis was carried out using the SGA-array-ver2-1536 Yeast Mutant Library (Fisher Scientific) which was provided by Dr. Ashkan Golshani.

MIC (Minimum Inhibitory Concentration) assays.

An MIC assay was used to determine the minimum concentration of berberine that is needed for a GDA assay and subsequent secondary assays. The MIC method is based on a broth microdilution assay to determine the lowest concentration at which a compound inhibits cell growth (Lambert, 2001). Overnight cultures of the wild type S288C were obtained by inoculating a single colony from streak plates into 5 ml of YPD broth and incubating at 30 °C. The absorbance of the overnight culture was determined by using the optical density where an OD₆₀₀ of 1.0 is ~ 3x10⁷ cells/ml.

Figure 3. The figure shows an overview of the MIC procedure using 96-well, flat-bottom micro-titer plates to expose yeast cells to a range of berberine concentrations in rows A – E along with positive, negative controls and the carrier in rows F – H. All wells had a final volume of 200 µl. The inhibition of yeast growth was examined over a range of berberine concentrations from 0.625 to 6.10 x10⁻⁴mg/ml.

As shown in Figure 3, the MIC test was carried out using 96-well micro-titer plates. In the first column of the first 6 rows (A-B-C-D-E-F), 100 µl of YPD medium was added to 100 µl of berberine (0.625 mg/ml). These mixes were incrementally diluted in column 2 to column 12 by taking 100 µl from the previous column and adding to 100 µl of YPD in each well of the column before transferring to the next column. Finally, 100 µl of diluted yeast culture containing about

~100 cells of the wild type strain S288C was added to each well. As 'no yeast' control, well G1 was filled with 100 µl of 0.625 mg/ml of berberine solution and 200 µl of YPD broth in each well of row G and a serial dilution was carried out in order to obtain a 1:1 ratio with a final volume at 200 µl. As 'no inhibition' control, 150 µl of the culture and 50 µl of YPD broth were added to row H.

The wells in rows A – F served as replicates whereas rows G and H served as the controls. The plate was incubated at 30 °C for 48 hours. After incubation, the endpoint absorbance at 600 nm was read with a Biotek ELKs 808 plate reader.

The following formula was used to determine the percent inhibition in each well:

$$\% \text{ Inhibition} = 100 - \left(\left(\frac{\text{Abs}_{\text{D C}} - \text{Abs}_{\text{D BI}}}{\text{Abs}_{\text{LB C}} - \text{Abs}_{\text{LB}}} \right) \times 100 \right)$$

$\text{Abs}_{\text{D C}}$ = absorbance drug with culture

$\text{Abs}_{\text{D BI}}$ = absorbance drug blank

$\text{Abs}_{\text{LB C}}$ = absorbance LB with culture

Abs_{LB} = absorbance LB only

GDA (Gene Deletion Array).

S. cerevisiae GDA analysis was done with about 4700 yeast strains, each with a different, non-essential gene deleted. Using an equal amount of inoculum from each mutant strain, the strains were 'pinned' from a master plate of gene deletion strains to a plate with a sub-inhibitory concentration of berberine using a floating pin replicator. The floating pin replicator was put through a series of washes before the colonies were pinned from the library plate to the control and then the experimental plate.

The washing process took 4 min in total and consisted of submerging the tips of the replicator in distilled autoclaved water for 1 minute, 1 minute in bleach, 3 X 30 sec washes in distilled autoclaved water and then 30 sec in 95% ethanol. The replicator tips were then passed through a flame 2-3 times. The colonies on the replicator were printed on the control plate (without berberine) for 15-20 seconds and then on the experimental plate (0.13 mg/ml of berberine) for 15-20 seconds as well. Therefore, 14 plates were required to screen the whole set of 4700 mutants (set number 2 was missing and in set number 13 a small piece was contaminated). After 2 days of incubation at 30 °C, colony sizes on both plates (with and without inhibitor) were determined by digital analysis. The size of the colony correlates with the rate of cell division (Memarian *et al.*, 2007). The images were submitted through the SGAtools website (<http://sgatools.cabr.utoronto.ca/>) to determine colony sizes on both control and experimental plates. The percentage inhibition of each mutant was calculated from the raw data values provided by SGAtools and values were recorded in Microsoft Excel.

The following formula was used to determine the percentage inhibition:

$$\text{Percentage Inhibition} = \left(\frac{\text{Control colony size} - \text{Experimental colony size}}{\text{Control colony size}} \right) \times 100\%.$$

Mean percentage inhibition values were calculated for each mutant and plotted against another set of values obtained from an experiment done by a previous student in the laboratory. From this plot, mutants that were consistently resistant or consistently sensitive in both data sets were chosen for functional analysis with GO Term tools. The total number of GDA experiments was five.

Drop-Out Assay.

Sensitive and non-sensitive mutants were randomly selected based on GDA results and plated on Yeast Peptone Dextrose (YPD) medium in petri dishes and incubated at 30 °C. A single colony from each mutant was then inoculated into 5 ml of YPD broth and cultured at 30 °C for 1.5 days prior to adjusting the culture to 1×10^9 cells/ml using spectrophotometry at OD₆₀₀ and then doing a 10-fold dilution series of the culture. Subsequently, 10 µl droplets of the dilution series were administered to agar medium in a petri dish. The negative control plates contained 25 ml of YPD-agar only. The experimental plates contained a final concentration of 0.13 mg/ml of berberine mixed with 25 ml of YPD-agar. The droplets were allowed to dry on the surface of the agar in a laminar flow hood for a few minutes prior to incubation at 30 °C for 48 hours. Finally, digital images were taken of the plates, and sensitivity to berberine was quantified, using the formula: $\left(\frac{X-Y}{X} \right)$, where X is colony count from control (no berberine) plate and Y is colony count from the experimental (with berberine) plate.

Liposome Leakage Assay:

A liposome leakage assay was used to see if berberine causes leakage in a cell membrane model. In this method, total-yeast-lipid liposomes containing carboxyfluorescein were prepared to test berberine for effects on membrane disruption/leakage. Large unilamellar liposomes (LUVs) were prepared by Dr. Cheetham at Carleton University. First, yeast lipids were dissolved in chloroform/methanol in a 2:1, v/v ratio. The solvent was then removed with nitrogen gas before drying under a vacuum. 50 mM carboxyfluorescein (CF) (Molecular Probes, OR, USA) was used to hydrate the lipid films in preparing the liposomes.

LUVs were 100 nm in diameter and consisted in dioleoylphosphatidylcholine (DOPC, Avanti Polar Lipids, Alabaster, AL, USA) loaded with carboxyfluorescein (CF) (Life Technologies Inc., Burlington, ON, Canada). The membrane disruption assay was carried out in a 96-well microplate (black/clear Optilux™ flat bottom; BD Bioscience, San Jose, CA, USA) at a predetermined LUV concentration. Each experimental well was measured for the threshold fluorescence intensity of the LUV suspension (excitation 492 nm/emission 517 nm) with an FLUOstar microplate reader (OPTIMA BMG LABTECH Inc., Durham NC, USA) to assess the fluorescence at time zero (F₀). Berberine (0.40 mg/ml) was diluted in HEPES buffer (100mM NaCl 10mM HEPES, PH 7.4) before adding to the LUV suspension (1:10) to obtain final concentrations of between 1.95×10^{-4} and 0.40 mg/ml. After adding the berberine, the microplate was incubated in darkness for 1 h at room temperature and the fluorescent emission was measured to obtain F (fluorescent intensity after berberine addition). The F100 (Fluorescence intensity with 100% leakage of CF) was read 20 min after 20 µl of triton X-100 (10% v/v) was added to each well to

allow total lysis of liposome after the first reading was completed. The following formula was used to determine the percentage liposome lysis: %leakage= $[(F-F_0)/(F_{100}-F_0)] \times 100$.

Figure 4. The figure shows an overview of the Liposome Leakage Assay 96-well, flat-bottom micro-titer plates.

As shown in Figure 4, the liposome assay was carried out by using 96-well micro-titer plates. In the first column of the first 3 rows (A-B-C) of microtiter plate # 1, 100 µl of 0.40 mg/ml Berberine solution was diluted in 100 µl of the buffer (100mM NaCl 10mM HEPES, PH 7.4). These mixes were incrementally diluted in buffer from column 2 to column 12 by taking 100 µl from the previous column and transferring it to the next one and adding 100 µl of the buffer in each column. In the first column of row D, E and F of microtiter plate # 1, 100 µl of YPD growth medium was diluted in 100 µl of the buffer (100mM NaCl 10mM HEPES, PH 7.4). These mixes were incrementally diluted in the buffer from column 2 to column 12 by taking 100 µl from the previous column and transferring it to the next one and adding 100 µl of the buffer in each column. Finally, the last 2 rows were empty.

20 µl of each well from the first 6 rows (A-B-C-D-E-F) of microplate #1 were transferred to the corresponding wells on microplate #2. 180 µl of the liposomes suspension was added to each

of these wells. In rows G and H of microplate #2, 180 μ l of the buffer and 20 μ l of the rows A and D of micro plate #1 were added to the corresponding wells (columns 1-12) of microplate #2.

Growth Curve:

A growth curve experiment was used to determine the rate of change in cell number of particular strains that can or can not grow in the presence of berberine. In this method, eight strains were used to see the different growth rates of the cells with and without berberine. The following strains were used: YLR200W and YGR078C as resistant strains; YML008C, YPR154W and YDR388W as sensitive strains; and YMR119W, YGL086W and the wild type (S288C) were chosen as 'medium sensitive strains'.

Figure 5. The figure shows an overview of the growth curve experiment using 96-well, flat-bottom micro-titer plates. All wells had a final volume of 200 μ l. The inhibitions of the mutant strain over a range of berberine concentrations from 0.25 to 0.03125 mg/ml.

As shown in Figure 5, the growth curve test was carried out using 96-well micro-titer plates. In the first row (A) from well 1-8, 100 μ l of YPD medium was added to 100 μ l of berberine (0.25 mg/ml). These mixes were incrementally diluted from row A to row D by taking 100 μ l from

the previous row and adding 100 μ l of YPD in each well of the column before transferring to the next column. Finally, 100 μ l of diluted yeast culture ($\sim$ 100 cells) of each yeast strain was added: resistant strains YLR200W and YGR078C to columns 1 and 2, respectively; sensitive strains YPR154W, YML008C and YDR388W were added to columns 3, 4 and 5, respectively; and for medium sensitive strains, wild type strain S288C, YMR119W and YGL086W were added to columns 6,7,8, respectively. As 'no yeast' control, column 9 from well A-D was filled with 200 μ l of 0.25 mg/ml of berberine solution and 100 μ l of YPD broth in the first well and 200 μ l of YPD in the rest of the wells in this column. A serial dilution was carried by serial transfer of 100 μ l from row A to B mix by pipetting and then transfer from B to C, etc., down the plate. As 'no inhibition' control, 100 μ l of the culture and 100 μ l of YPD broth were added to rows E-H. The absorbance at 600 nm was read every hour using Biotek CYTATION5 plate reader, and the Gene 2.07 program, for a total of 12 hrs at 30 °C.

Fluorescent microscopy and confocal microscopy.

Fluorescence microscopy was used to see where berberine localizes within yeast cells. This is possible because berberine has a natural yellow fluorescent color (Gibbs and Seddon, 2000). In this method, an Axioplan 2 Universal Microscope was used to examine yeast cells following exposure to berberine. Initially, 19 strains were selected based on GDA and drop-out results for fluorescence microscopy. In this method, liquid yeast cell culture was grown overnight as described above and diluted to $OD_{600} \sim 0.550$. Cells were introduced to a sub-lethal berberine concentration of a final concentration of 0.13 mg/ml. Berberine was imaged with Ex/Em=348/530nm. The following strains were examined after 40 min berberine exposure: medium sensitivity strains were S288C (wildtype), YGL086W and YMR119W; sensitive strains

were YML008C, YHR030C, YBL007C, YPR154W, YGL173C, YDR388W, YNL042W, YOR153W, YMR110C, YDR378C, YDL226C, YDR289C, and YIR002C; resistant strains were YOR058C, YLR200W and YGR078C. All the selected strains were examined after 40 min of berberine exposure under oil immersion at 630X magnification and photographed using a Carl Zeiss Axioplan 2 imaging microscope, and the Axiovision Rel.4.6 program.

In collaboration with Denise Chabot from Agriculture and Agri-Food Canada, confocal microscopy was used to get higher resolution images that would allow identification of organelles stained by berberine. In this method, an LSM510 Zeiss confocal microscope equipped with a Zeiss Alpha Plan Apo 63X na1.46 objective and zoom factor of 2.5 and ZEN software were used to examine three strains of each category (medium sensitivity, sensitive and resistant).

For berberine staining, around 4 μ l of berberine-stained yeast cells were placed on a glass slide pre-treated with poly-L-lysine. These samples were then covered with high-resolution coverslips (0.17mm) and sealed with nail polish. Berberine staining was imaged with Ex/Em=405/515-565nm.

For Rhodamine 123 + berberine staining, 100 μ l of live yeast cells were added to 100 μ l of berberine solution and then the mix was incubated in the darkness for 20 minutes at room temperature. Then, an equal volume of rhodamine 123 solution (10 mg/ml) was added and the cells were incubated for 10 minutes in the dark at room temperature. The cells were resuspended twice in berberine solution, and the sample was then covered with a high-resolution coverslip (0.17mm) and sealed with nail polish using Ex/Em= 514/ 530-600 nm.

For berberine and DAPI staining, about 100 μ l of concentrated cells (YPR154W) were mixed with 100 μ l of berberine (0.13 mg/ml) and then the mixture was incubated for 40 minutes at room temperature. Then, 2 μ l of DAPI stock solution (2mg/ml) was added prior to placing. 5 μ l of the cell mixture on a glass slide pre-treated with poly-L-lysine and the sample was then covered with a high-resolution coverslip (0.17mm) and examined under the confocal microscope using Ex/Em= 405/ 420-480nm.

For Nile Red staining, 4 μ l of a stock solution of Nile Red in acetone (2.5 mg/ml) was added to 1 ml of water for a final Nile Red concentration of 0.1 mg/ml. About 3 μ l of concentrated yeast cells were mixed with 3 μ l of Nile Red working solution. on a glass slide pre-treated with poly-L-lysine. The sample was examined under the confocal microscopy using Ex/Em= 488/530-700nm

One-Way ANOVA analysis.

A 1-way ANOVA with a post-hoc Tukey Honestly Significant Difference (HSD) test with a significance level of 5% was used in this study to test for statistical differences in berberine staining patterns among selected yeast strains.

ANOVA was performed with online tools at: <http://scistatcalc.blogspot.ca/2013/11/one-way-anova-test-calculator-in.html>.

Results:

MIC on *S. cerevisiae* wild type (S288C):

In MIC assays, the percentage inhibition of the wild-type strain was determined over a berberine concentration range of 6.10×10^{-4} – 0.625 mg/ml. Visual examination shows that there was a great inhibition in the first 4 columns (≥ 0.078 mg/ml), but inhibition decreased abruptly in the rest of the columns (≤ 0.039 mg/ml). Concentrations of 0.156 mg/ml and 0.078 mg/ml of berberine yielded 64% to 45% inhibition, respectively. A concentration of 0.13 mg/ml was used as a semi-inhibitory concentration subsequent GDA analyses.

GDA analysis:

GDA analysis was performed on a library of ~4700 yeast strains with a concentration of 0.13 mg/ml berberine incorporated into YPD agar medium. I did three replicate GDA experiments and, in collaboration with me, an undergraduate student (Fatima Haider) did two additional GDA experiments. The GDA data presented in this thesis is, therefore, based on five replicate experiments. Yeast mutants that were sensitive to berberine were identified on the plates using digital analysis of colony sizes (Figure 6). The relative sensitivities of yeast deletion mutants were ranked, from least to most sensitive to berberine, based on replicate GDA experiments (Table 2).

Figure 6. An example of the GDA on the mutant library in Plate 3 where (A) is the experimental plate (berberine concentration 0.13 mg/ml), and (B) is the control plate (no berberine). The black squares show examples of deleted mutants that are sensitive to berberine.

The colonies indicated in the figure above represent mutant strains YDR063W (at vertical, horizontal position of O,14), YDR388W [(L, 23), RVS167], YDR378C [(J, 19), LSM6], YDR289C [(N, 10), RTT103] and YDL226C [(G, 12), GCS1] which are notably sensitive to berberine.

Figure 7. Correlation of mean inhibition values from 2 GDA experiments done by F.Haider (Y-axis) and 3 GDA experiments done by me (G.Hashim, X-axis). The boxed area at left represents putatively ‘resistant’ mutants. The boxed area at right indicates putatively ‘sensitive’ mutants. The deleted genes in the boxed areas were analyzed for functional enrichment.

Figure 7. shows a correlation between the 2 GDA data sets of F. Haider and my 3 GDA data sets. The regression line has a positive slope which indicates that, in general, the relative sensitivity of the yeast deletion mutants is congruent in the two sets of experiments. An arbitrary cut-off of $\geq 60\%$ inhibition was used to select the 71 ‘most sensitive’ mutants. Deletion mutants that were ‘resistant’ were also identified. These are shown in the boxed area at the left of Figure 7 where, strains that showed the sensitivity of approximately $\leq 10\%$ were selected for further analysis. The circled mutants formed a group that was enriched in tubulin-associated genes (P value was < 0.10).

Drop-Out analysis:

We sought to substantiate the results of our GDA experiments using drop out assays. Twenty-eight yeast deletion mutants were randomly selected from the 'sensitive' and 'medium-sensitive' groups, and the wild type control strain, S288C, were all tested (Table 1, Figures 8-10).

Table 1. Berberine-sensitive and medium sensitive deletion mutants were randomly selected from the GDA data sets for sensitivity analysis by drop-out analyses. A sum of GDA sensitivity values from my 3 GDA experiments and their corresponding drop out sensitivity values are presented below. List A shows 17 most sensitive yeast deletion mutants based on my 3 GDA experiments. List B shows 12 randomly selected 'medium-sensitive' yeast deletion mutants based on my 3 GDA experiments. Drop-out sensitivity ranged from a negative value (resistant) to a positive value of 1 (complete growth inhibition).

List A, 'sensitive' strains.

Plate	Row	Column	ORF	% Inhib 1 (GDA)	% Inhib 2 (GDA)	% Inhib 3 (GDA)	Sum 1+2+3 (GDA)	Drop-out sensitivity
6	15	23	YHR030C	100	100	0	200	1.0
12	10	17	YOR153W	100	52.5	100	252.5	0.4
5	13	7	YGL173C	72.8	100	100	272.8	0.9
3	12	23	YDR388W	84.37	87.2	90.8	262.5	0.8
14	4	8	YNL042W	54.6	66.4	66.3	187.5	0.6
3	10	19	YDR378C	83.1	76.7	88.4	248.3	0.5
10	10	12	YMR110C	60.0	64.6	65.3	189.10	1.0
7	15	2	YIR002C	92.6	72.6		165.3	0.1
14	9	21	YPR154W	63.4	71.2	76.2	210.8	0.9
3	14	10	YDR289C	90.0	87.0	88.9	266.10	0
8	7	7	YKL101W	78.7	57.4	60.9	197.3	0.5
3	7	12	YDL226C	83.8	89.1	73.6	246.6	0.9

3	15	14	YDR063W	62.8	59.1	75.3	197.5	0.5
1	15	14	YBL007C	90.2	90.1	85.1	265.6	0.4
1	2	14	YBR023C	52.8	74.3	63.4	190.6	0.5
10	11	22	YML008C	77.1	71.5	64.6	213.5	0.9
4	14	5	YFR010W	79.6	87.1	86.2	252.10	0.4

List B, 'medium-sensitive' strains.

Plate	Row	Column	ORF	% Inhib 1 (GDA)	% Inhib 2 (GDA)	% Inhib 3 (GDA)	Sum 1+2+3 (GDA)	Drop-out sensitivity
3	2	8	YDR192C	25.8	25.9	25.1	76.9	-0.2
6	14	18	YHR151C	5.9	-2.9	0	3.07	-0.5
5	3	16	YFR015C	55.2	-26.1	9.2	38.4	0
5	5	19	YGL086W	54.3	40.6	0	94.9	0
14	9	3	YPR171W	41.6	53.7	-42.0	54.3	-7.3
4	3	21	YEL003W	0.9	5.6	26.2	32.8	-0.4
14	10	5	YMR119W	66.8	54.0	59.2	52.5	0
12	12	20	YOR058C	-37.2	2.9	17.9	-16.3	0
11	11	5	YNL094W	35.0	-3.2	65.2	96.98	-1
5	6	23	YGR078C	55.8	24.2	31.6	111.8	-0.5
11	4	22	YNL153C	-25.8	20.7	-36.9	-42.09	-0.5
9	2	22	YLR200W	7.64	37.4	44.0	89.16	-0.1

Figure 8. Berberine sensitivity of 29 randomly selected yeast deletion mutants that were sensitive or medium-sensitive in GDA data set and drop-out assays. The positive slope of the regression line indicates overall congruence in the results of sensitivity based on the two assays.

Figure 8. shows a good agreement between the drop-out sensitivity and % inhibition from GDA experiments. In fact, the most sensitive mutants in GDA are almost all among the most sensitive mutants in drop out assays. Figure 9 and 10 show examples of drop out assays for selected sensitive and medium-sensitive deletion mutants.

Figure 9. Example drop –out assays for 8 selected sensitive deletion mutants strains. Dilutions are given across the top.

Figure 10. Example drop-out assays for 6 'medium-sensitive' gene deletion strains and the wild type (S288C). Dilutions are given across the top of figure.

Analysis of berberine sensitivity of selected mutants based on growth curves.

For this analysis, I used the Biotek CYTATION5 plate reader, and the Gene 2.07 program to track the growth of yeast cells by measuring absorbance at 600nm. Figure 11 presents the growth curve of yeast cells in liquid culture. Significant growth can be seen in the resistant strains (columns 1 and 2) in the presence of berberine. On the other hand, growth rate is noticeably reduced by berberine in the sensitive strains (columns 3, 4 and 5) and for medium-sensitive strains including wild type (S288C) (columns 6, 7 and 8; Figure 11). Similar to drop-out assays, this verifies GDA berberine-sensitivity assays

Figure 11. Shows the growth rates of yeast culture with and without berberine. Berberine concentration ranged 0.25- 0.03125 mg/ml. Res= resistant strains based on GDA analysis; Sen= sensitive strains based on GDA analysis; Med= medium-sensitive strains.

Functional Analysis:

Table 2. shows the most sensitive mutants to berberine with percent inhibition greater than 60% that were used for functional analysis by Go Terms. Based on the cellular processes in which they were involved, GO-Term identified 17 different categories : transferase activity (11 mutants), DNA binding (5 mutants), enzyme regulator activity (5 mutants), RNA and mRNA binding (4 mutants), oxydoreductase activity (2 mutants), cytoskeletal protein binding (2 mutants), hydrolase activity (8 mutants), protein transporter activity (2 mutants), ubiquitin-like protein binding (2 mutants), lyase activity (2 mutants), structural function (2 mutants), other functions (10 mutants) and unknown function (16 mutants).

Table 2. Functional analysis of the most sensitive strains based on GDA analyses. The mutants were selected based on a size reduction of between 60% -100% (see Figure 7). The deleted genes in the most sensitive strains are arranged into functional groups in the table.

Gene	Strain	Gene function	Average Colony size reduction*
Transferase Activity			
SLT2	YHR030C	MAP kinase activity, protein serine/threonine kinase activity and protein kinase activity.	100 %
ADE8	YDR408C	phosphoribosylglycinamide formyltransferase activity.	93.4%
CYT1	YOR065W	Electron transporter, transferring electrons within CoQH2-cytochrome c reductase complex activity.	82.8%
GPH1	YPR160W	Glycogen phosphorylase activity.	79.2%
ERG6	YML008C	Sterol 24-C-methyltransferase activity.	71.1%
ARO9	YHR137W	Aromatic-amino-acid: 2-oxoglutarate aminotransferase activity.	70.8%
STE14	YDR410C	Protein C-terminal S-isoprenylcysteine carboxyl O-methyltransferase activity.	61.3%
RAD30	YDR419W	DNA-directed DNA polymerase activity.	61.1%
TDA1	YMR291W	Protein kinase activity.	60.8%
MGT1	YDL200C	Methylated-DNA-[protein]-cysteine S-methyltransferase activity.	60.8%
ASI1	YMR119W	ubiquitin-protein transferase activity.	60.0%
DNA Binding			
YAP3	YHL009C	Transcription factor activity, sequence-specific DNA binding and sequence-specific DNA binding.	81.9%
HMO1	YDR174W	DNA binding, bending, double-stranded DNA binding and four-way junction DNA binding.	77.3%

	YPR015C	Sequence-specific DNA binding.	75.1%
MSN1	YOL116W	Sequence-specific DNA binding.	67.8%
MIG1	YGL035C	RNA polymerase II core promoter proximal region sequence-specific DNA binding, transcriptional repressor activity, RNA polymerase II core promoter proximal region sequence-specific binding and sequence-specific DNA binding.	60.9%
Enzyme Regulator activity			
MSB4	YOL112W	GTPase activator activity.	74.7%
CLB6	YGR109C	cyclin-dependent protein serine/threonine kinase regulator activity.	70.5%
NEL1	YHR035W	GTPase activator activity.	70.0%
CSG2	YBR036C	Enzyme regulator activity.	64.1%
SAC7	YDR389W	GTPase activator activity.	62.8%
RNA Binding and mRNA binding			
XRN1	YGL173C	5'-3' exoribonuclease activity, chromatin binding and mRNA binding.	90.9%
LSM6	YDR378C	contributes to RNA binding.	82.7%
ARF3	YOR094W	Enzyme regulator activity, GTPase activity and mRNA binding.	71.7%
PIN4	YBL051C	mRNA binding.	60.4%
Oxidoreductase Activity			
	YMR315W	oxidoreductase activity.	71.1%
HFD1	YMR110C	3-chloroallyl aldehyde dehydrogenase activity and carboxylate reductase activity.	63.3%
Cytoskeletal Protein Binding			

RVS167	YDR388W	Cytoskeletal protein binding and contributes to lipid binding.	87.4%
GCS1	YDL226C	actin binding and GTPase activator activity.	82.1%
Hydrolase Activity			
MPH1	YIR002C	3'-5' DNA helicase activity and flap-structured DNA binding.	89.9%
UBP6	YFR010W	ubiquitin-specific protease activity.	84.3%
PDR5	YOR153W	xenobiotic-transporting ATPase activity.	84.1%
DOG1	YHR044C	2-deoxyglucose-6-phosphatase activity.	76.1%
NFT1	YKR103W	macroautophagy and transport.	73.6%
MSH2	YOL090W	ATP binding, ATPase activity, contributes to DNA binding activities.	72.1%
VMS1	YDR049W	Contributes to ubiquitin-specific protease activity.	69.4%
HRQ1	YDR291W	ATP-dependent 3'-5' DNA helicase activity.	61.3%
Protein Transporter Activity			
MSN5	YDR335W	Nuclear export signal receptor activity and protein binding.	78.4%
KAP122	YGL016W	Protein transporter activity.	70.9%
Ubiquitin-like Protein Binding			
SLA1	YBL007C	Protein binding, bridging and ubiquitin binding.	88.5%
CUE2	YKL090W	ubiquitin binding.	74.0%
Lyase Activity			
HIS3	YOR202W	imidazoleglycerol-phosphate dehydratase activity.	73.2%
PAD1	YDR538W	carboxy-lyase activity and mRNA binding.	61.2%
Structural molecular Activity			
RPS11A	YDR025W	structural constituent of ribosome.	66.1%
CWP2	YKL096W-A	structural constituent of cell wall.	60.3%

Other functions			
RTT103	YDR289C	RNA polymerase II core binding.	88.6%
CPR5	YDR304C	Peptidyl-prolyl cis-trans isomerase activity.	88.1%
MBR1	YKL093W	Protein involved in mitochondrial functions and stress response	80.2%
RIM8	YGL045W	Protein involved in proteolytic activation of Rim101p.	73.7%
PEX11	YOL147C	Peroxisomal protein required for medium-chain fatty acid oxidation.	71.0%
ADE5,7	YGL234W	phosphoribosylamine-glycine ligase and phosphoribosylformylglycinamide cyclo-ligase activity.	68.2%
ESC2	YDR363W	prevents accumulation of toxic intermediates during replication-associated recombinational repair	61.9%
PUS7	YOR243C	pseudouridine synthase activity.	61.3%
SUC2	YIL162W	beta-fructofuranosidase activity and inulinase activity.	60.2%
SRB2	YHR041C	protein domain specific binding, RNA polymerase II transcription activity.	60.1%
Unknown Function			
	YJL120W	Unknown.	90.2%
	YGL024W	Unknown.	88.9%
BSC6	YOL137W	Unknown.	87.6%
HGH1	YGR187C	Unknown.	78.2%
THI22	YPR121W	Unknown.	74.1%
	YDR010C	Unknown.	73.6%
AIM6	YDL237W	Unknown.	71.7%
	YPR078C	Unknown.	71.7%
PIN3	YPR154W	Unknown.	70.3%

PRM8	YGL053W	Unknown.	65.7%
	YBL094C	Unknown.	62.8%
	YDR415C	Unknown.	62.5%
BOP3	YNL042W	Unknown.	62.3%
APT1	YML002W	Unknown.	62.0%
SOK1	YDR006C	Unknown.	61.9%
	YDR286C	Unknown.	60.8%

*The average of 3 GDA analysis for all the plates, but plate numbers 6, 7 and 13 were done only twice.

Figure 12. Cellular processes in which the 71 most sensitive strains participate. The major groups comprise 22% with 'unknown function', 20% have a transferase activity, 15% have a hydrolase activity, 7% DNA binding, 7% enzyme regulator activity and 7% RNA and mRNA binding (P value < 0.10). Therefore, omitting 'unknown' and 'other' functions, 5 of the categories present the majority ($\approx 53\%$) of the sensitive mutants.

Figure 12. Functional distribution of 71 most sensitive genes deletion strains to 0.13 mg/ml berberine. Deleted genes in most sensitive strains were classified by function using Go-terms.

Table 3. The 22 most resistant mutants to berberine (i.e. with percentage of inhibition lower than 10%) were classified by functional analysis Go Terms. Based on the cellular processes in which they are involved, GO-Term identified 9 different categories: unknown function (4 mutants), structural constituent of ribosome (2 mutants), DNA binding (2 mutants), ATPase activity (1 mutant), transferase activity (2 mutants), oxydoreductase activity (1 mutant),

transmembrane transporter activity (2 mutants), tubulin binding (4 mutants), enzyme regulator activity (1 mutant), and others (3 mutants).

Table 3. Functional analysis of the most resistant strains based on 3 GDA analysis. The mutants were selected based on the size reduction $\leq 10\%$.

Gene	Strain	Gene function	Average % Colony size reduction*
Unknown Function.			
BUD27	YFL023W	Unknown.	-47.6%
	YDR271C	Unknown.	-34.5%
	YNL203C	Unknown.	-9.0%
	YHL005C	Unknown.	-2.1%
structural constituent of ribosome			
RPL42A	YNL162W	Structural constituent of ribosome.	-17.8%
SWS2	YNL081C	structural constituent of ribosome	-8.6 %
DNA binding			
STB4	YMR019W	DNA binding.	-43.7%
PAH1	YMR165C	phosphatidate phosphatase activity and transcription regulatory region DNA binding	-7.6 %
ATPase activity			
DYN2	YDR424C	Contributes to ATP-dependent microtubule motor activity, plus-end-directed.	-8.9%
transferase activity			
NQM1	YGR043C	sedoheptulose-7-phosphate: D-glyceraldehyde-3-phosphate glyceronetransferase activity.	-19.4%

GAS1	YMR307W	1,3-beta-glucanosyltransferase activity	-0.6%
oxidoreductase activity			
CAT5	YOR125C	monooxygenase activity.	-5.9 %
transmembrane transporter activity			
YHB1	YGR234W	Nitric oxide reductase activity.	-12.4 %
YEA4	YEL004W	UDP-N-acetylglucosamine transmembrane transporter activity.	-12.0%
Tubulin binding			
ASE1	YOR058C	Tubulin binding.	-5.4%
GIM4	YEL003W	Tubulin binding.	-8.2%
YKE2	YLR200W	Tubulin binding.	-1.8 %
PAC10	YGR078C	Tubulin binding.	-3.4 %
enzyme regulator activity			
SPL2	YHR136C	Enzyme inhibitor activity.	-4.0 %
Others			
MIC27	YNL100W	a mitochondrial inner membrane complex that extends into the intermembrane space and has a role in the maintenance of crista junctions, inner membrane architecture, and formation of contact sites to the outer membrane.	-50.7%
APQ12	YIL040W	Nuclear envelope/ER integral membrane protein; interacts and functions with Brr6p and Brl1p in lipid homeostasis	-21.8%
COX14	YML129C	Mitochondrial cytochrome c oxidase (complex IV) assembly factor.	-13.8%

Figure 13. The graph shows that 18%, 9%, 9% and 9% of the mutant strains most resistant to berberine are involved in tubulin binding, transmembrane transporter activity, transferase activity and ribosome structural constituent, respectively.

Figure 13. Functional distribution of 22 most resistant gene deletion strains to 0.13 mg/ml berberine. Deleted genes in resistant strains were classified by function using Go-terms.

Enrichment Analysis:

For this analysis, I used the Gene Ontology Term Finder (<http://www.yeastgenome.org/cgi-bin/GO/goTermFinder.pl#default>) to identify common features of the deleted genes in the most sensitive strains. Significant enrichments were observed for 'function' and 'process'. There was no significant enrichment observed for 'component'. Indeed, 3 of 71 deletions were associated with process 'cellular polysaccharide catabolic/polysaccharide catabolic process' (Table 4 A). Also, 4 of the 71 deletions were associated with function 'GTPase activator/ GTPase regulator activity', and 2 of the deletions were associated with function 'four-way junction DNA binding' (Table 4 B).

Table (4 A). Shows the significant enrichment ($P \leq 0.5$) of process 'cellular polysaccharide catabolic' and 'polysaccharide catabolic' based on most sensitive mutants.

Terms from the Process Ontology						
Gene Ontology term	Cluster frequency	Background frequency	P-Value	FDR	Expected False Positives	Genes annotated to the term
cellular polysaccharide catabolic process AmiGO	3 out of 71 genes, 4.2%	10 out of 7165 background genes, 0.1%	0.03812	0.10%	0.10	SUC2/YIL162W, MSN1/YOL116W, GPH1/YPR160W
polysaccharide catabolic process AmiGO	3 out of 71 genes, 4.2%	11 out of 7165 background genes, 0.2%	0.05204	0.07%	0.14	SUC2/YIL162W, MSN1/YOL116W, GPH1/YPR160W

Table (4 B). Shows the significant enrichment ($P \leq 0.5$) of function 'GTPase activator activity' and 'DNA binding based on most sensitive mutants.

Terms from the Function Ontology						
Gene Ontology term	Cluster frequency	Background frequency	P-Value	FDR	Expected False Positives	Genes annotated to the term
GTPase activator activity AmiGO	4 out of 71 genes, 5.6%	40 out of 7165 background genes, 0.6%	0.04080	0.34%	0.34	GCS1/YDL226C, SAC7/YDR389W, NEL1/YHR035W,MSB4/YOL112W
GTPase regulator activity AmiGO	4 out of 71 genes, 5.6%	49 out of 7165 background genes, 0.7%	0.08845	0.31%	0.62	GCS1/YDL226C, SAC7/YDR389W, NEL1/YHR035W,MSB4/YOL112W
four-way junction DNA binding AmiGO	2 out of 71 genes, 2.8%	6 out of 7165 background genes, 0.1%	0.09342	0.26%	0.78	HMO1/YDR174W, MSH2/YOL090W

Significant enrichment was observed among the most resistant strains for 'function', 'component' and 'process.' Indeed, 7 of 22 deletions were associated with process 'protein complex assembly/ protein complex subunit organization/protein complex biogenesis'; 6 of 22 most resistant strains were associated with 'cellular protein complex assembly', and 3 of the 22 were linked to 'tubulin complex assembly' process (Table5 A). Also, 4 of the 22 deletions were associated with function 'tubulin binding/cytoskeletal protein binding ' (Table5 B); and 3 of the deletions were associated with component 'prefoldin complex' (Table5 C).

Table (5 A). Shows the significant enrichment ($P \leq 0.5$) of process ‘tubulin complex assembly’ and ‘protein complex binding’ based on most resistant mutants.

Terms from the Process Ontology						
Gene Ontology term	Cluster frequency	Background frequency	P-Value	FDR	Expected False Positives	Genes annotated to the term
tubulin complex assembly AmiGO	3 out of 22 genes, 13.6%	10 out of 7165 background genes, 0.1%	0.00037	0.00%	0.00	GIM4/YEL003W, PAC10/YGR078C, YKE2/YLR200W
protein complex assembly AmiGO	7 out of 22 genes, 31.8%	316 out of 7165 background genes, 4.4%	0.00368	0.00%	0.00	DYN2/YDR424C, GIM4/YEL003W, BUD27/YFL023W, PAC10/YGR078C, YKE2/YLR200W, COX14/YML129C, ASE1/YOR058C
protein complex biogenesis AmiGO	7 out of 22 genes, 31.8%	327 out of 7165 background genes, 4.6%	0.00459	0.00%	0.00	DYN2/YDR424C, GIM4/YEL003W, BUD27/YFL023W, PAC10/YGR078C, YKE2/YLR200W, COX14/YML129C, ASE1/YOR058C
cellular protein complex assembly AmiGO	6 out of 22 genes, 27.3%	219 out of 7165 background genes, 3.1%	0.00475	0.00%	0.00	DYN2/YDR424C, GIM4/YEL003W, BUD27/YFL023W, PAC10/YGR078C, YKE2/YLR200W, COX14/YML129C
protein complex subunit organization AmiGO	7 out of 22 genes, 31.8%	477 out of 7165 background genes, 6.7%	0.04948	0.08%	0.38	DYN2/YDR424C, GIM4/YEL003W, BUD27/YFL023W, PAC10/YGR078C, YKE2/YLR200W, COX14/YML129C, ASE1/YOR058C

Table (5 B). Shows the significant enrichment ($P \leq 0.5$) of function ‘tubulin binding’ and ‘cytoskeletal protein binding’ based on most resistant mutants.

Terms from the Function Ontology						
Gene Ontology term	Cluster frequency	Background frequency	P-Value	FDR	Expected False Positives	Genes annotated to the term
tubulin binding AmiGO	4 out of 22 genes, 18.2%	35 out of 7165 background genes, 0.5%	4.26e-05	0.00%	0.00	GIM4/YEL003W, PAC10/YG R078C, YKE2/YLR200W, ASE 1/YOR058C
cytoskeletal protein binding AmiGO	4 out of 22 genes, 18.2%	67 out of 7165 background genes, 0.9%	0.000590.08845	0.02%	0.04	GIM4/YEL003W, PAC10/YG R078C, YKE2/YLR200W, ASE 1/YOR058C

Table (5 C). Shows the significant enrichment ($P \leq 0.5$) of component ‘prefoldin complex’ based on most resistant mutants.

Terms from the Component Ontology						
Gene Ontology term	Cluster frequency	Background frequency	P-Value	FDR	Expected False Positives	Genes annotated to the term
prefoldin complex AmiGO	3 out of 22 genes, 13.6%	6 out of 7165 background genes, 0.1%	2.74e-05	0.00%	0.00	GIM4/YEL003W, PAC10/YG R078C, YKE2/YLR200W

Membrane Leakage Assay:

Berberine is reported to disrupt membrane function (Kang *et al.*, 2015). However, deletions of genes involving membrane function were not prominent in the Go-Terms analysis results. Nevertheless, a membrane disruption assay was done to test the literature-based hypothesis.

The membrane-disrupting properties of berberine were investigated with a membrane leakage assay using LUVs. In this experiment the carrier control for berberine was YPD. From our

assay, we did not observe a significant effect of berberine on the yeast-like lipid membrane (Figure 14).

Figure 14. Shows that overall liposomes leakage % is not significantly different from the carrier.

'FLUORESCENCE MICROSCOPY'

Fluorescence microscopy.

Preliminary viewing by fluorescence microscopy of berberine-stained (≥ 40 min) yeast cells (sensitive, resistant and 'medium' sensitivity) indicated that there were three general staining patterns (Table 6): entire cell was stained moderately or very bright; very bright subcellular localization; moderate or very bright staining of the border of the cell. Aside from these different staining patterns, budding frequency was somewhat greater in 'berberine-resistant' strains than in 'medium sensitivity' and berberine-sensitive strains. Cell size (longest axis) was not noticeably different between the three sensitivity groups. Based on the marked

differences in staining pattern, we examined berberine staining patterns with confocal fluorescence microscopy.

Table 6. fluorescence microscopy of selected yeast strains treated with berberine for ≥ 40 .

Strains	Brightness	Staining pattern	Budding frequency	Average size (μm)
Medium sensitivity to berberine				
S288C (wild type)	moderately bright	Entire cell	56%	5.2 μm
YGL086W	Very bright	Entire cell	58%	5.6 μm
YMR119W	Very bright	Subcellular localization	54%	5.3 μm
Sensitive to berberine				
YML008C	very bright	Entire cell	36%	5.0 μm
YHR030C	very bright	Subcellular localization	44%	4.8 μm
YBL007C	very bright	Entire cell	40%	5.1 μm
YPR154W	moderately bright	Border of the cell	49%	5.0 μm
YGL173C	very bright	Entire cell	41%	4.8 μm
YDR388W	very bright	Border of the cell	48%	4.5 μm
YNL042W	moderately bright	Border of the cell	41%	6.4 μm
YOR153W	very bright	Entire cell	55%	6.0 μm
YMR110C	very bright	Entire cell	52%	4.2 μm
YDR378C	very bright	Entire cell	57%	6.1 μm
YDL226C	very bright	Subcellular localization	48%	6.4 μm
YDR289C	very bright	Entire cell	59%	5.6 μm
YIR002C	very bright	Entire cell	55%	5.6 μm
Resistant to berberine				
YLR200W	very bright	Border of the cell	65%	5.0 μm
YGR078C	very bright	Entire cell	69%	4.6 μm
YOR058C	very bright	Entire cell	72%	6.0 μm

Confocal microscopy.

Selected strains (berberine sensitive, resistant and medium sensitivity) were compared to the wild type strain (S288C) under the confocal microscope.

Several interesting berberine staining patterns were observed as illustrated in Figures 15-17. As shown in Figure 15 some berberine enters YMR119W (medium sensitivity to berberine) and stains subcellular components (organelles) in the cell (small bright spots). Some cells stain

brightly throughout the cell. These cells are likely dead or dying cells that are unable to exclude and/or pump out berberine. The non-staining structures (circles) evident in the yeast cells are the central vacuoles.

In figure 16, some berberine enters YDR388W cells (sensitive to berberine) and stains the border of the cell.

In Figure 17, some berberine enters YGR078C cells (resistant to berberine) and appears as bright spots within the cell. The bright spots likely represent a specific organelle (s). Occasionally, the entire cell is stained very brightly, representing dead or dying cells.

Figure 15. Confocal microscopy of YMR119W strain after 40 min exposure to 0.13 mg/ml berberine. Fluorescence micrograph is shown on the left, DIC (differential interference contrast) in the middle and both fluorescent-DIC overlay on the right.

Figure 16. Confocal microscopy of YDR388W strain after 40 min exposure to 0.13 mg/ml berberine. Fluorescence micrograph is shown on the left, DIC (differential interference contrast) in the middle and both fluorescent-DIC overlay on the right.

Figure 17. Confocal microscopy of YGR078C strain after 40 min exposure to 0.13 mg/ml berberine. Fluorescence micrograph is shown on the left, DIC (differential interference contrast) in the middle and both fluorescent-DIC overlay on the right.

To test whether the different berberine staining patterns correlated to berberine sensitivity, three resistant strains, two medium sensitivity strains, and three sensitive strains were examined. Following ≥ 40 min berberine exposure, confocal images were taken of 10 randomly-chosen fields of cells for each strain. The images were enumerated for 'diffuse' staining cells, bright subcellular organelles (spots) and bright (dead) staining cells (Table 7). The relative frequency of these cell staining patterns are presented in Figure 18. A one-way ANOVA with a

post-hoc Tukey HSD test was used to determine significant differences in staining patterns among strains. As can be seen from this analysis (Figure 18), different staining patterns were not correlated to sensitivity class of the yeast strain. In general, resistant strains tended to have fewer cells with distinct 'spots' (subcellular organelle staining (Figure 18). Two resistant mutants (YGR078C and YOR058C) exhibited a high frequency of cells with dim/ diffuse staining. Bright staining cell frequencies were clearly not distinctive in any of the sensitivity groups (Figure 18).

We were interested in the distinct organelle staining and did a second experiment using strains. YGL068W, YMR119W and YGR078C (Figure 19). In this experiment, the significant difference in organelle staining patterns that were seen in the first experiment (Figure 18) were not evident; none of the three strains had distinct organelle staining patterns. This suggested that organelle staining pattern may be a dynamic process, that depends on the precise timing of berberine exposure. This, and identification of organelles that stain with berberine were investigated in the next section.

Table 7. Shows the three different staining pattern of berberine on some selected mutants.

Strain	Field# (total cells)	Dim/Diffuse	Spots	Bright
YGR078C (resistant)	1 (11)	10	0	1
	2 (12)	7	3	2
	3 (12)	8	0	4
	4 (15)	11	1	3
	5 (15)	12	0	3
	6 (11)	7	4	0
	7 (18)	8	8	2
	8 (9)	7	0	2
	9 (33)	18	10	5
	10 (34)	18	7	9

YOR058C (resistant)	1 (5)	4	0	1
	2 (5)	4	0	1
	3 (5)	4	0	1
	4 (1)	1	0	0
	5 (10)	2	8	0
	6 (8)	4	3	1
	7 (7)	4	3	0
	8 (5)	1	4	0
	9 (8)	6	2	0
	10 (4)	3	0	1
YLR200W (resistant)	1 (4)	1	3	0
	2 (5)	4	1	0
	3 (6)	4	2	0
	4 (6)	4	2	0
	5 (7)	2	5	0
	6 (7)	1	6	0
	7 (4)	2	2	0
	8 (4)	1	3	0
	9 (4)	2	2	0
	10 (7)	3	4	0
YMR119W (medium)	1 (13)	4	9	0
	2 (14)	1	13	0
	3 (11)	0	11	0
	4 (13)	3	9	1
	5 (12)	3	8	1
	6 (11)	2	8	1
	7 (18)	3	15	0
	8 (13)	2	11	0
	9 (15)	1	14	0
	10 (11)	1	10	0
YGL086W (medium)	1 (14)	2	9	2
	2 (10)	5	5	0
	3 (12)	8	3	1
	4 (6)	2	4	0
	5 (5)	3	2	0
	6 (5)	2	3	0
	7 (4)	1	3	0
	8 (5)	2	2	1
	9 (9)	4	5	0
	10 (10)	7	2	1
YHR030C (sensitive)	1 (9)	1	8	0
	2 (9)	2	7	0
	3 (10)	3	7	0
	4 (13)	5	5	3
	5 (13)	6	7	0
	6 (14)	4	10	0

	7 (10)	7	3	0
	8 (7)	4	0	3
	9 (10)	6	4	0
	10 (10)	5	5	0
YML008C (sensitive)	1 (5)	1	2	2
	2 (3)	0	2	1
	3 (2)	0	2	0
	4 (2)	0	2	0
	5 (3)	3	0	0
	6 (1)	0	1	0
	7 (2)	1	1	0
	8 (2)	1	2	0
	9 (6)	3	3	0
	10 (6)	1	5	0
YPR154W (sensitive)	1 (11)	2	6	3
	2 (12)	4	6	2
	3 (14)	4	8	2
	4 (14)	3	10	0
	5 (17)	7	10	0
	6 (12)	2	10	0
	7 (9)	3	6	0
	8 (10)	3	4	3
	9 (15)	4	9	2
	10 (16)	2	14	0

Figure 18. Berberine staining patterns from first experiment with selected resistant, medium sensitive and sensitive strains. Significant differences in berberine staining patterns based on Tukey's HSD test are indicated by different letters.

Figure 19. Results of second experiment assaying berberine staining patterns of strains that had distinct staining patterns in the first experiment. There were no significant differences in the frequencies of cells with berberine staining 'spots'.

Analysis of berberine localization in yeast cells.

DAPI, Nile Red, Rhodamine 123 and berberine stains.

We hypothesized that the bright berberine-staining spots evident in confocal micrographs could represent nuclei, mitochondria or oil droplets in the yeast cell. In order to determine where berberine is located, fluorescent stains DAPI (binds to DNA in mitochondria and nuclei), Nile Red (stains lipids) and Rhodamine 123 (stains mitochondria) were used alone and/or in combination with berberine staining (Figure 20). During short berberine exposure times (≤ 20 minutes) berberine appears to localize to mitochondria (Figure 20C) that are located around the inside perimeter of the cell. During long berberine exposure times (≥ 40 minutes) berberine appears to localize to oil droplets, based on co-localization with Nile Red (Figure 20 A) and does not appear to co-localize with DAPI-staining structures (nucleus and mitochondria) (Figure 20 B). As seen in

Figure 20 B, berberine is not colocalized with DAPI when exposed to berberine for ≥ 1 hour (does not localize to mitochondria and nuclei).

Figure 20. Live cell imaging of YPR154W, (A) long (≥ 40 min) berberine exposure results in berberine localized to oil droplets. In the top right of the panel is shown Nile Red oil droplet staining (yellow arrows) that correspond to organelles that are stained with berberine (bottom right). (B) in long berberine exposures (≥ 40 min) berberine and DAPI (nucleus and mitochondria) do not co-localized, On the top left of the panel nuclei and mitochondria are indicated in blue by DAPI staining. On the top right of the panel berberine staining is shown in green. In the bottom right of the panel berberine and DAPI staining are overlaid to show nuclei and mitochondrial DAPI signal in blue that is not localized with berberine (green). (C) With a short (≤ 20 min) exposure to 0.13 mg/ml berberine, followed by 10 min exposure both rhodamine 123 stain (stains mitochondria) and berberine appear to localize to the mitochondria (white arrows) that are arranged along the inside perimeter of the cell.

Discussion:

Due to the pathological nature of many fungal strains, their spreading in monoculture farming and their increasing resistance to previously used antifungal agents, there is an increasing need for the development of new antifungals. Berberine is an outstanding candidate in this regard (Manske *et al.*, 1953). Berberine is a plant alkaloid found in several genera but mostly in the root bark of *Berberis vulgaris* (Etcu and Goina, 1970). Plants containing berberine have been used to treat cardiovascular, digestive and inflammatory diseases (Kulkarni and Dhir, 2010). The study by Ball *et al.*, (2006) indicated that berberine is a stronger antibacterial agent when combined with 5-MHC (Ball *et al.*, 2006). Berberine shows an inhibitory action against multiple strains of *Malassezia* and *Candida* fungi (Vollekova *et al.*, 2001 and Park *et al.*, 1999).

In the current study, we examined antifungal properties of berberine on the yeast *Saccharomyces cerevisiae*. *S. cerevisiae* was our model of choice because it is the most extensively studied eukaryotic model organism in molecular and cellular biology. Because the *S. cerevisiae* genome has been sequenced and a library of about 4700 mutant strains are available, we were able to test these mutants for their sensitivity to berberine and, in the process, gain some insights on berberine's antifungal mode of action.

MIC and GDA:

Many studies have suggested an antimicrobial and an antifungal activity of the plant alkaloid berberine. To investigate the potential of berberine as an antifungal agent, MIC assays were performed on *S. cerevisiae*. In this study, *S. cerevisiae* showed enough sensitivity to berberine, so that GDA assays could be performed with a concentration of 0.13 mg/ml.

A library of about 4700 *S. cerevisiae* mutant strains was tested through GDA assays to identify some possible modes of action of berberine on *S. cerevisiae*. Functional analysis of GDA results revealed the importance of certain cell processes in the yeast's sensitivity to berberine. Remarkably, a 70% - 100% inhibition was observed in several mutant strains (YHR030C, YGR260W, YGL173C and YOR202W), suggesting that the deleted genes in these stains are involved in *S.cerevisiae's* sensitivity to berberine. Indeed, the genomic analysis suggests that these mutants' higher sensitivity to berberine is related to some defects in their actin filaments as Table 2 shows.

Previous studies have shown that berberine can accumulate in cell membranes and cause leaks. Therefore, mutations in genes involved in actin filament could make these yeast strains more sensitive to berberine as actin filaments have an important function in determining the shape and movement of the cell membrane. Another proposed mode of action of berberine is its intercalation in DNA, thereby interfering with processes such as transcription by RNA polymerase. As Table (2) shows, the YDR289C and YGL173C mutations play a role in gene transcription by RNA polymerase II. Such mutations could, therefore, make the RNA polymerase II even less able to perform gene transcription, making those mutants even more sensitive to berberine. These mutants would be interesting to investigate under Fluorescent microscopy. Finally, a third possible mode of action of berberine that I identified from my literature research and GDA assays is through reduction of 24-SMT activity. 24-SMT is an enzyme that catalyzes a chemical reaction which is necessary for the biosynthesis of sterols and, therefore, essential for cell growth. These sterol molecules are located in both the lipid particles in the cell membrane and the mitochondrial outer membrane. As seen in Table (2), the YML008C mutation affects 24-

SMT activity as well, possibly making the yeast even more sensitive to berberine. Park *et al.* (1999) indicated that with increasing berberine concentrations there were dramatic reductions in ergosterol accumulation in the yeast *C. albicans*. Because ergosterol is a crucial component of fungal cell membranes, this effect of berberine on *C. albicans* could support this antifungal mode of action of berberine. The YML008C mutant would, therefore, be a good candidate as well for an investigation under the microscope.

The study by Ball *et al.* (2006) hypothesized that berberine was removed through a Multi-Drug Resistance (MDR) pumps. MICs were determined by these authors for two purposes; to establish relevant concentrations of berberine for experimental purposes and to test the possibility of the importance of an *S. aureus* MDR pump (NorA) in berberine containing culture conditions (Ball *et al.*, 2006). From these results, it is clear that INF₅₅, a known MDR inhibitor, is an effective antimicrobial inhibitor that accumulate in bacteria. INF₅₅ alone has no significant inhibitory effect on *S. aureus* growth at concentrations exceeding even 525 μ M. MICs were established to be 40, 325 and >625 μ M, respectively. This result alone is compelling evidence that the NorA MDR pump is important for *S. aureus survival* in the presence of berberine (Ball *et al.*, 2006). This indicates a remarkable potentiation of berberine antimicrobial activity in the presence of INF₅₅. Furthermore, when *S.aureus* was incubated with a chemically synthesized berberine-INF₅₅ hybrid molecule, MICs were determined to be reduced by another 50%, 75% and 87.5%, respectively (Ball *et al.*, 2006).

In this study, the Minimum Inhibition Concentration value of berberine was determined by using liquid broth protocol on S288C. Since the MIC test was carried out using discontinuous values, the exact MIC value could not be determined by just an MIC test (Canetti *et al.*, 1969). Nevertheless, the MIC analysis provided some idea of an appropriate berberine concentration to use in GDA tests. Based on the test GDA runs, 0.13 mg/ml was determined as an appropriate concentration since the mutants on the plate exhibited ~ 90-65% inhibition.

The antifungal activity of berberine was examined using a chemical- genomic screen with about 4700 yeast strains, each with a different, non-essential gene deleted to 0.13 mg/ml of berberine. The GDA and SGAtools analysis in this study showed 71 strains most sensitive to berberine that had a colony size reduction $\geq 60\%$. As showed in Table 2, we distinguished 17 different categories out of the sensitive strains based on SGAtools. Out of the 17 categories, three main groups had mutations in genes that are directly involved in the cytoskeleton, cell membrane integrity or cell division: cytoskeletal protein binding (2.86%), transferase activity (15.7%) and RNA and mRNA binding (5.7%). Also, 30% of the 22 resistant deletion mutations identified from GDA analysis were identified as linked to tubulin binding. This group of mutants was enriched in tubulin associated genes (P value was < 0.10).

60% - 100% inhibition can be seen in mutants YHR030C, YGR260W, YGL173C, YML008C and YOR202W are the top most sensitive strains to berberine at the concentration of 0.13 mg/ml. The YHR030C mutant (SLT2 gene) was 100% sensitive to berberine in the GDA assays which is interesting because the SLT2 gene codes for some domains on the MAP kinase. The YGR260W (TNA1 gene) was 78.5% sensitive to berberine. This gene codes for a transmembrane transporter in the plasma membrane and mitochondrial membrane. The HIS3 (YOR202W) gene codes for a

histidine biosynthetic enzyme (Hope and Kevin, 1985). The KEM1 gene (YGL173C) is also known as XRN1 (Kenna *et al.*, 1993). And is located on chromosome VII. It encodes the 5'-3' exoribonuclease enzyme which is involved in mRNA by turning the genes on and off, in this case, this enzyme is responsible for and actual degradation of the mRNA with positive regulation of transcription initiation and elongation via RNA Pol II interactions (Haimovich *et al.*, 2013). The ERG6 gene, modified on the YML008C mutant, encodes for the 24- SMT enzyme involved in cell growth.

GO Term Analysis:

Based on the GDA most sensitive mutants we used the GO Term tools to identify the genes involved in the yeast sensitivity to berberine. Among all the genes that were affected in the sensitive mutants, most of them were related to actin filaments, the cell membrane's integrity, lipids binding and cytokinesis which are interrelated because actin filaments are linked to the cell membrane and give it its shape and some of its functions (Table 2).

Membrane Leakage Assay:

Ball *et al.*, 2006 and Kang *et al.*, 2015 proposed that berberine disrupts membrane function but this was not supported by the GDA results (Table 2 and 3) or by the liposome leakage assay (Figure 14) in this study. However, because membranes are associated with other complexes, including cytoskeletal elements, berberine may affect membrane structure indirectly through other associations.

Drop-Out:

As it is shown in Figure 9, the colony size and number were decreased in the presence of berberine at the concentration of 0.13 mg/ml in the experimental plates of the drop-out experiment compared to the control plates. Which suggests that the strains in figure 9 were identified as sensitive strains. This experiment shows a correlation between the GDA and Drop-out experiments because the most sensitive mutants in GDA are almost the same most sensitive mutants in drop outs (Figure 8).

Growth Curve:

This experiment was an attempt to predict the growth behavior of yeast cells of *S. cerevisiae* treated with berberine. The growth rates differences can easily be seen in the proposed experiment (Figure 11). A sharp increase in the growth rate was observed in the resistant strains YLR200W and YGR078C in the presence of berberine compared to the wild type growth rate. On the other hand, the growth rate dropped down upon some of the most sensitive strains compared to the wild type growth rate, and the growth rate of the wild-type decreased in the presence of berberine much more than in the resistant ones.

Fluorescence microscopy:

A study by Stermitz *et al.*, 2009 claims that berberine seems to bind strongly to DNA and the bound form of its DNA shows an increased fluorescence (Stermitz *et al.*, 2009). As Table 6 shows, YML008C seemed to be a sensitive strain to berberine compared to the wild type with an

MIC of 0.13 mg/ml. As it was mentioned before, the ERG6 gene encodes for the 24- SMT enzyme necessary for cell growth.

The YHR030C mutant (SLT2 gene) also seemed to be strongly sensitive to berberine with an MIC 0.13 mg/ml. Fluorescent Microscopy shows that subcellular localization of the cell was stained with berberine with 44% of budding frequency. The SL2 gene is involved in MAP kinase activity in the membrane and cytoplasm.

The YGL173C mutant (KEM1 gene) showed high sensitivity to berberine at the concentration of 0.13 mg/ml. Under the microscope, the entire cell was stained with berberine. This was expected, considering that KEM1 gene's function is related to chromatin and mRNA.

Another sensitive strain was YDL226C (GCS1 gene). As seen under the fluorescence microscope, berberine was observed at the subcellular level. The function of the GCS1 gene which is related to the plasma membrane. The GCS1 gene encodes an ATR GTPase activator which is found on chromosome IV. During the cell cycle, this enzyme has the responsibility for the reorganization of actin filaments all the way between the ER and Golgi and between the Golgi and Plasma Membrane (Cherry *et al.*, 2012; Blader *et al.*, 1999; Poon *et al.*, 1996; Poon *et al.*, 1999).

Another sensitive strain was YDR378C mutant (LSM6 gene) showed 57% of budding frequency in the presence of berberine, and the whole cell was stained. The LSM6 gene encodes for an RNA binding protein located on chromosome IV and is involved in the development of SSU-

rRNA maturation and mRNA splicing via spliceosome (Cherry *et al.*, 2012; Hernandez *et al.*, 2004; Li *et al.*, 2009; Stevens and Abelson, 1999).

Lastly, YDR388W mutant (RVS167 gene) showed 48% of budding frequency in the presence of the antifungal berberine, and only the border of the cell was stained. The RVS167 gene encodes for an actin-associated protein which is involved in regulation of cytoskeleton, endocytosis and starvation and osmotic stress responses. The RVS167 gene, present on chromosome IV, encodes for a protein involved in the actin cortical patch localization and lipid tube assembly (Cherry *et al.*, 2012).

Confocal microscopy.

A study on *Candida albicans* by Sanjiveeni Dhamgaye *et al.*, 2014 claims that berberine treatment resulted in dysfunctional mitochondria and the cell wall integrity. In their study, they examined *Candida albicans*, which is a pathogenic yeast, by using an electronic microscope to view the internal organelles.

Recently, lipids droplets organelles in yeast have gained many researchers' attention (Maja Radulovic *et al.*, 2013). *S. cerevisiae* is a useful model to know the pathways of natural lipids metabolism because of its natural lipids synthesis feature. The exact mechanism that involved in LD formation remains unknown, however, some researchers have established the biochemical pathways that linked to the formation of neutral lipids.

Saccharomyces cerevisiae's neutral lipids are mainly triacylglycerols (TGA) and steryl esters (STE). Also, they are part of intracellular structures called lipid droplets. *Saccharomyces cerevisiae* storage compounds are synthesized under stress conditions but not during exponential

growth (Maja Radulovic *et al.*, 2013). Indeed, lipid droplets are formed by a hydrophobic core of triacylglycerol (TGA) and sterol esters (STE) surrounded by a phospholipid monolayer with some particular proteins embedded (Jing Pu^{1,2} *et al.*, 2011). Neutral lipids have the ability to be hydrolyzed into ergosterol, fatty acids, and diacylglycerol, that is used to build blocks for membrane synthesis and for producing energy (Maja Radulovic *et al.*, 2013).

Previous studies showed that lipid droplets are highly energetic and able to make the interaction between other organelles (Martin and Parton, 2006; Goodman, 2008; Murphy *et al.*, 2009; Zhang *et al.*, 2010; Jing Pu^{1,2} *et al.*, 2011). Specifically, lipids droplets usually have the ability to interact with endosome, mitochondria, ER and peroxisomes. However, the exact functions of these organelles remain unidentified.

A study by Jing Pu *et al.*, 2011 claims that the interaction can occur between lipids droplets and mitochondria in *S. cerevisiae* due to some proteins exchange between the two organelles. In their study they examined 22 lipid droplets proteins and only 8 of them seemed to interact with prey proteins, Erg6 and Pet10 were identified as the most active ones in such interactions between lipids droplets and mitochondria in yeast cells.

In the current study, we used a confocal microscope to look at the way berberine was taken into the cell. In this experiment, we used different kinds of staining to confirm our suspicion of the stained organelles in the yeast cell. We stained the yeast cell with DAPI stain to see the nucleus and then the sample was stained with DAPI and berberine together. We found that the berberine didn't stain the nucleus. As it can be seen in Figure 20 B, ≥ 40 min of berberine exposure within the yeast cells followed by 2 hours exposure to DAPI stain before viewing by confocal microscopy; berberine and DAPI don't co-localized. Total time of berberine exposure (2

hrs and 40 min) the berberine is not localized to nuclei or mitochondria. Then we stained the sample with Nile blue and berberine together, and both seemed to stain the same organelles. Berberine co-localizes with Nile-Red (Figure 20 A). Another stain was used to confirm our prediction; we stained the cells with rhodamine 123 to stain the mitochondria and berberine to look at the stained organelles. Short berberine exposure (≤ 20 minutes) stained the mitochondria with both stains in some cases, and after ≥ 40 minutes of berberine exposure surprisingly we found that berberine was taken up in parts of other organelles which might be lipid droplets (Figure 20). Our prediction from this experiment is that berberine travels from the mitochondria to oil droplets. Future work is needed to confirm this theory. The conclusion from this experiment is that berberine seems to accumulate in lipid bodies.

Indeed, several of the mutants examined by confocal microscopy had berberine localized to the periphery of the cell (Table 6). These mutants should be examined again to see if the staining pattern is reproducible. In fact, these mutants maybe a valuable tool in looking at how berberine is taken up by living cells.

Figure 12. shows that almost 16% of the most sensitive mutants to berberine were associated with hydrolase activity which relates to lysosomes (Li and Kana, 2009). Lysosomes are organelles that have degradative enzymes and also have been found to fuse with the plasma membrane in the yeast cell (Li and Kana, 2009). These organelles are possible to see under the confocal microscope using lysosome fluorescence stains. The possibility that berberine localizes to the lysosome should be investigated.

One-Way ANOVA analysis:

ANOVA analysis is a wise statistical method to test the difference in means between groups (Ding *et al.*, 2014). In the present study, 1-way ANOVA analysis with a post-hoc Tukey Honestly Significant Difference (HSD) test with a significance level of 5% was performed for statistical differences in berberine staining patterns among selected yeast strains by using an on-line tool from SCISTAT for 1-way ANOVA (<http://scistatcalc.blogspot.ca/2013/11/one-way-anova-test-calculator-in.html>). The results of confocal microscopy analysis led to the identification of three uptake patterns groups (dim, spots and bright) as shown in Table 7.

The graphs in Figure 18 and 19 are generated from some yeast strains and show that the berberine staining is relatively consistent for a given time in a given experiment. This is evident from the relatively small standard errors in, for example, experiment 1 (Figure 18 A). However, when the time of berberine exposure differs, the staining pattern also differs, as can be seen by comparing results from experiment 1 and 2 (experiment 2 in Figure 19). This led us to investigate the pattern of staining following relatively short vs. long berberine exposure times.

In addition, we investigated the performance of berberine staining on eight yeast strains using confocal microscopy followed by feature selection technique test (ANOVA). The 'BRIGHT' cells were identified as dead cells, and that was not a great deal of variety. The 'SPOTS' cells showed that the berberine associated with oil droplets in the yeast cell. Indeed, there were no significant differences in the frequencies of cells with berberine staining 'spots' (Figure 19).

Conclusion:

The aim of this study was to investigate berberine's potential as an antifungal agent against yeast, a well-documented model eukaryotic unicellular organism. In the process, we hoped to gain some insights on berberine's mode of action by using a comprehensive library of mutants. Previous research already showed some antifungal activity of berberine and indicated that berberine interferes with membrane function, DNA, actin filaments and some important enzymatic reactions. In order to carry out this research project, we chose first to use MIC with a view to quantifying the minimum concentration at which the wildtype S288C yeast is significantly inhibited. We could then carry on with testing the 4700 mutant strains for their sensitivity to berberine, using a GDA. Finally, once we had identified the most sensitive mutants through GDA, we searched, using GO TERMS, for the functions of the genes that were modified in the sensitive mutants and tested them with a drop-out, fluorescence microscopy, and confocal microscopy to see the cellular distribution of berberine in the strains of interest.

The most sensitive mutants identified through GDA were mostly related to actin filaments functions, the cell membrane's integrity and cytokinesis. This indicates that berberine is interfering with actin filaments and the cell membrane. Fluorescence microscopy confirmed this, as berberine was mostly concentrated on the plasma membrane of the yeast cells in most berberine sensitive strains. An additional evidence in regards to the interaction between the mitochondria and oil droplets in the presence of berberine is provided by the confocal microscopy results in the current study. DAPI, Nile Red and Rhodamine 123 stains were used as a double staining with berberine to confirm our hypothesis. The findings of 1-way ANOVA analysis

and confocal microscopy investigation provide evidence that berberine can associate with lipids droplets in the yeast cell.

Researching the mode of action of berberine on *S. cerevisiae* was the main goal of our research project. Thanks to GDA, we could identify several mutants which showed a strong sensitivity to berberine. Further investigation with ANOVA analysis and confocal microscopy indicated a strong correlation between oil droplets functions and berberine's mode of action. Our results are therefore promising for finding berberine's mode of action on *S. cerevisiae*, and further research should aim at investigating how berberine interacts with lipids droplets. In order to do this, real time fluorescence microscopy could be used, using yeast cells that were transformed with fluorescent GFP-actin genes or other fluorescent actin gene fusions. This method would allow us to visualize and track in real-time the interactions of berberine with lipids droplets or/and actin filaments while yeast cells are being incubated in a berberine-containing medium. In order to investigate the possible binding of berberine to lipids droplets' proteins or actin-binding proteins, pull-down assays could be performed. Because berberine has been shown to inhibit 24-SMT, one of the few enzymes found in yeast lipid droplets (Athenstaedt K *et al.*, 1999), enzymatic activity of 24-SMT in the presence of berberine should be measured by enzymatic methyltransferase assays. Furthermore, because the synergistic association of berberine with synthetic antifungal agents such as fluconazole could reduce the concentration of drugs needed and thereby prevent the rise of drug-resistant fungi, we should also test berberine's synergistic action with other synthetic antifungal agents.

Although these results are promising in order to gain an understanding of berberine's mode of action at the molecular and cellular level, we should bear in mind that the fungus kingdom is part of the eukaryotic domain and as such, berberine is likely to be toxic to humans and other members of the eukaryotic domain as well at higher concentrations. Indeed, research on berberine's neurotoxicity (Kysenius *et al.*, 2014) has shown that berberine sensitizes neurons to glutamate and rotenone injury.

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Appendix 1	GENE					Ghyda's	Fatima's
	ORF	plate	row	column	Average x3	Average x2	
	HIS3	YOR202W	1	1	1	-14.2308	
	HIS3	YOR202W	1	1	2	14.67297	
	HIS3	YOR202W	1	1	3	8.597301	
	HIS3	YOR202W	1	1	4	8.070146	
	HIS3	YOR202W	1	1	5	13.53352	
	HIS3	YOR202W	1	1	6	-8.86208	
	HIS3	YOR202W	1	1	7	-16.2149	
	HIS3	YOR202W	1	1	8	0.515528	
	HIS3	YOR202W	1	1	9	-42.659	
	HIS3	YOR202W	1	1	10	16.47829	
	HIS3	YOR202W	1	1	11	5.570054	
	HIS3	YOR202W	1	1	12	9.674323	
	HIS3	YOR202W	1	1	13	14.09307	
	HIS3	YOR202W	1	1	14	11.32904	
	HIS3	YOR202W	1	1	15	10.07011	
	HIS3	YOR202W	1	1	16	-6.42092	
	HIS3	YOR202W	1	1	17	7.472276	
	HIS3	YOR202W	1	1	18	8.773368	
	HIS3	YOR202W	1	1	19	10.25571	
	HIS3	YOR202W	1	1	20	-1.98611	
	HIS3	YOR202W	1	1	21	-10.4015	
	HIS3	YOR202W	1	1	22	2.975541	
	HIS3	YOR202W	1	1	23	17.74155	
	HIS3	YOR202W	1	1	24	9.171372	
	HIS3	YOR202W	1	2	1	-3.84309	
		YBR030W	1	2	2	43.04095	49.81447
	HDR1	YBR138C	1	2	3	31.19816	21.7898
		YBR028C	1	2	4	8.265776	35.96395
		YBR137W	1	2	5	19.70116	42.63876
		YBR027C	1	2	6	42.37332	33.83057
		YBR134W	1	2	7	49.84178	46.45752
	ETR1	YBR026C	1	2	8	48.34441	44.95729
	AGP2	YBR132C	1	2	9	7.316037	-9.81426
		YBR025C	1	2	10	#DIV/0!	48.94615
	CCZ1	YBR131W	1	2	11	12.17321	39.05786
	SCO2	YBR024W	1	2	12	43.77514	41.0427
	SHE3	YBR130C	1	2	13	9.34691	32.01168
	CHS3	YBR023C	1	2	14	63.5221	71.15447
	OPY1	YBR129C	1	2	15	15.79232	35.03087

POA1	YBR022W	1	2	16	25.41699	42.22375
ATG14	YBR128C	1	2	17	13.7453	44.63006
GAL1	YBR020W	1	2	18	55.617	63.53759
TPS1	YBR126C	1	2	19	8.079483	#DIV/0!
GAL10	YBR019C	1	2	20	20.22476	51.25833
PTC4	YBR125C	1	2	21	29.79649	53.82896
GAL7	YBR018C	1	2	22	17.61258	21.75927
MRPL36	YBR122C	1	2	23	23.84943	22.30982
HIS3	YOR202W	1	2	24	13.11756	#DIV/0!
HIS3	YOR202W	1	3	1	2.546798	#DIV/0!
PSK1	YAL017W	1	3	2	40.50823	40.87401
HEK2	YBL032W	1	3	3	#DIV/0!	38.74674
NTG1	YAL015C	1	3	4	11.23264	36.44761
SHE1	YBL031W	1	3	5	21.18764	25.79532
SYN8	YAL014C	1	3	6	25.48896	47.78979
	YBL029W	1	3	7	18.6012	30.19195
DEP1	YAL013W	1	3	8	14.91597	30.42026
0	YBL028C	1	3	9	38.29671	39.57492
SWC3	YAL011W	1	3	10	15.13881	27.12232
RPL19B	YBL027W	1	3	11	14.98574	53.02513
MDM10	YAL010C	1	3	12	17.74348	45.82754
RRN10	YBL025W	1	3	13	8.101625	30.51053
FUN14	YAL008W	1	3	14	7.748495	13.67562
NCL1	YBL024W	1	3	15	7.694408	49.5238
ERP2	YAL007C	1	3	16	21.5755	37.59726
HAP3	YBL021C	1	3	17	14.19609	20.83966
SSA1	YAL005C	1	3	18	66.66544	48.32172
APN2	YBL019W	1	3	19	18.92721	24.06193
	YAL004W	1	3	20	7.711214	-1.91371
PEP1	YBL017C	1	3	21	21.72173	12.81503
VPS8	YAL002W	1	3	22	24.26523	21.99771
FUS3	YBL016W	1	3	23	18.58742	17.76618
HIS3	YOR202W	1	3	24	13.54918	#DIV/0!
HIS3	YOR202W	1	4	1	40.45042	#DIV/0!
GIP1	YBR045C	1	4	2	12.41013	34.97818
SLI15	YBR156C	1	4	3	23.13502	43.15902
TCM62	YBR044C	1	4	4	38.44157	40.76381
APD1	YBR151W	1	4	5	21.00588	43.63846
QDR3	YBR043C	1	4	6	37.53259	43.61121
TBS1	YBR150C	1	4	7	10.93324	34.79127
	YBR042C	1	4	8	52.13889	31.22199
ARA1	YBR149W	1	4	9	#DIV/0!	46.9293
FAT1	YBR041W	1	4	10	12.98844	27.95833

YSW1	YBR148W	1	4	11	33.09511	35.25832
FIG1	YBR040W	1	4	12	22.95009	15.61638
	YBR147W	1	4	13	15.68589	25.91725
CSG2	YBR036C	1	4	14	64.17575	71.13533
MRPS9	YBR146W	1	4	15	25.20914	24.18807
HMT1	YBR034C	1	4	16	19.14123	42.08514
ADH5	YBR145W	1	4	17	20.83562	47.70084
EDS1	YBR033W	1	4	18	53.55355	44.1145
	YBR144C	1	4	19	44.43626	48.52256
	YBR032W	1	4	20	19.23735	34.45318
	YBR141C	1	4	21	29.10213	34.95783
RPL4A	YBR031W	1	4	22	24.38362	1.733746
	YBR139W	1	4	23	-1.72709	47.12423
HIS3	YOR202W	1	4	24	4.906628	#DIV/0!
HIS3	YOR202W	1	5	1	-28.1202	#DIV/0!
FUN21	YAL031C	1	5	2	14.33573	55.2091
SAS3	YBL052C	1	5	3	18.0169	50.58812
SNC1	YAL030W	1	5	4	19.43915	32.78424
PIN4	YBL051C	1	5	5	60.49303	68.19636
MYO4	YAL029C	1	5	6	23.57635	44.80369
MOH1	YBL049W	1	5	7	51.84055	57.52913
FRT2	YAL028W	1	5	8	26.27412	46.48414
	YBL048W	1	5	9	10.20136	40.26323
	YAL027W	1	5	10	19.0936	52.27239
EDE1	YBL047C	1	5	11	11.40138	20.89416
DRS2	YAL026C	1	5	12	3.144376	1.605761
	YBL046W	1	5	13	16.60259	31.48875
PMT2	YAL023C	1	5	14	39.38882	32.0132
ECM13	YBL043W	1	5	15	17.58105	19.49217
FUN26	YAL022C	1	5	16	-6.23647	35.19058
FUI1	YBL042C	1	5	17	3.022699	26.09944
ATS1	YAL020C	1	5	18	19.78251	48.87117
URA7	YBL039C	1	5	19	22.39959	22.11492
FUN30	YAL019W	1	5	20	13.96942	24.23332
APL3	YBL037W	1	5	21	46.91291	38.2944
	YAL018C	1	5	22	-5.70862	38.94163
	YBL036C	1	5	23	14.15078	34.63124
HIS3	YOR202W	1	5	24	6.410862	#DIV/0!
HIS3	YOR202W	1	6	1	15.58694	#DIV/0!
UBP14	YBR058C	1	6	2	12.19436	41.40742
SSE2	YBR169C	1	6	3	-0.61049	0.60389
MUM2	YBR057C	1	6	4	-10.1148	31.58316
PEX32	YBR168W	1	6	5	7.639346	41.37826

	YBR056W	1	6	6	-17.2579	45.05267
TYR1	YBR166C	1	6	7	3.968564	40.35981
YRO2	YBR054W	1	6	8	26.82616	47.14612
UBS1	YBR165W	1	6	9	-6.11366	14.41654
	YBR053C	1	6	10	29.39988	57.53442
ARL1	YBR164C	1	6	11	21.80092	22.56824
	YBR052C	1	6	12	37.68394	36.11719
	YBR162W-					
YSY6	A	1	6	13	-5.97023	24.73325
	YBR051W	1	6	14	25.35196	25.70231
TOS1	YBR162C	1	6	15	37.86547	31.78813
REG2	YBR050C	1	6	16	14.78411	44.84239
CSH1	YBR161W	1	6	17	11.35155	42.51641
RPS11B	YBR048W	1	6	18	-2.44582	39.22714
	YBR159W	1	6	19	-0.36704	36.97976
FMP23	YBR047W	1	6	20	24.70878	41.71011
AMN1	YBR158W	1	6	21	31.84421	47.83999
ZTA1	YBR046C	1	6	22	49.67872	39.91169
ICS2	YBR157C	1	6	23	19.35499	52.03154
HIS3	YOR202W	1	6	24	-2.22016	#DIV/0!
HIS3	YOR202W	1	7	1	-6.529	#DIV/0!
ACS1	YAL054C	1	7	2	12.80465	42.45327
PRX1	YBL064C	1	7	3	13.60354	31.36482
	YAL053W	1	7	4	55.94984	36.3293
KIP1	YBL063W	1	7	5	12.05134	26.27383
OAF1	YAL051W	1	7	6	44.89791	33.064
	YBL062W	1	7	7	42.73494	57.47576
	YAL049C	1	7	8	12.50389	36.29772
SKT5	YBL061C	1	7	9	22.99517	33.72785
	YAL045C	1	7	10	31.78411	44.84885
	YBL060W	1	7	11	16.82321	47.77667
	YAL043C-A	1	7	12	46.19639	33.56205
	YBL059W	1	7	13	14.09693	29.28146
ERV46	YAL042W	1	7	14	15.76087	48.35096
PTH2	YBL057C	1	7	15	13.51532	34.29793
CLN3	YAL040C	1	7	16	27.96972	51.88719
PTC3	YBL056W	1	7	17	32.48074	13.91206
	YAL037W	1	7	18	19.52329	54.50662
	YBL055C	1	7	19	9.301877	52.69591
RBG1	YAL036C	1	7	20	15.84776	45.90629
	YBL054W	1	7	21	24.42267	15.69849
FUN19	YAL034C	1	7	22	2.802363	43.62612
	YBL053W	1	7	23	23.06308	37.50065

HIS3	YOR202W	1	7	24	-4.26538	#DIV/0!
HIS3	YOR202W	1	8	1	9.747801	#DIV/0!
	YBR071W	1	8	2	13.94803	47.67391
SMP1	YBR182C	1	8	3	10.98999	44.62207
TAT1	YBR069C	1	8	4	1.512456	15.38485
RPS6B	YBR181C	1	8	5	8.524925	24.1389
BAP2	YBR068C	1	8	6	-9.80563	37.84818
DTR1	YBR180W	1	8	7	14.47332	45.91993
TIP1	YBR067C	1	8	8	48.62183	35.23213
	YBR178W	1	8	9	17.91925	37.10189
NRG2	YBR066C	1	8	10	16.97764	45.88465
EHT1	YBR177C	1	8	11	15.2882	50.67294
ECM2	YBR065C	1	8	12	9.346162	43.80011
ECM31	YBR176W	1	8	13	12.8758	32.68434
	YBR064W	1	8	14	19.78251	48.79559
SWD3	YBR175W	1	8	15	14.98111	6.497777
	YBR063C	1	8	16	31.97084	40.13003
	YBR174C	1	8	17	21.17402	1.030137
	YBR062C	1	8	18	24.59764	22.44624
SMY2	YBR172C	1	8	19	26.04847	45.87122
TRM7	YBR061C	1	8	20	27.64541	47.27797
SEC66	YBR171W	1	8	21	13.46785	19.67038
AKL1	YBR059C	1	8	22	15.49141	37.25011
NPL4	YBR170C	1	8	23	-2.85492	27.67434
HIS3	YOR202W	1	8	24	-17.8041	#DIV/0!
HIS3	YOR202W	1	9	1	-23.6664	#DIV/0!
	YAL066W	1	9	2	17.39135	40.16782
NUP170	YBL079W	1	9	3	-0.81018	44.03432
	YAL065C	1	9	4	3.825752	31.54517
ATG8	YBL078C	1	9	5	61.70397	54.32237
	YAL064C-A	1	9	6	18.53881	36.09136
SSA3	YBL075C	1	9	7	32.97021	45.07801
GDH3	YAL062W	1	9	8	21.26147	23.47316
RPS8A	YBL072C	1	9	9	6.172854	13.57802
	YAL061W	1	9	10	9.525706	50.83646
	YBL071C	1	9	11	10.86418	39.96568
BDH1	YAL060W	1	9	12	16.8598	40.10747
	YBL070C	1	9	13	28.19301	49.48362
ECM1	YAL059W	1	9	14	19.00575	#DIV/0!
AST1	YBL069W	1	9	15	0.924124	#DIV/0!
CNE1	YAL058W	1	9	16	-2.86618	#DIV/0!
PRS4	YBL068W	1	9	17	42.39178	58.89055
	YAL058C-A	1	9	18	27.78871	50.38313

UBP13	YBL067C	1	9	19	23.12039	50.83707
GPB2	YAL056W	1	9	20	21.40369	46.74451
SEF1	YBL066C	1	9	21	31.12945	44.23039
PEX22	YAL055W	1	9	22	5.00431	27.16322
	YBL065W	1	9	23	#DIV/0!	31.86207
HIS3	YOR202W	1	9	24	-15.9064	#DIV/0!
HIS3	YOR202W	1	10	1	-3.23111	#DIV/0!
	YBR090C	1	10	2	38.24872	48.12082
KTR4	YBR199W	1	10	3	4.797959	29.23201
MIS1	YBR084W	1	10	4	-0.72731	19.47169
	YBR197C	1	10	5	-6.45753	28.72797
RPL19A	YBR084C-A	1	10	6	19.02823	50.15852
MSI1	YBR195C	1	10	7	13.42262	25.27821
TEC1	YBR083W	1	10	8	-21.2521	37.87053
SOY1	YBR194W	1	10	9	17.05427	47.75521
UBC4	YBR082C	1	10	10	20.90432	43.37693
RPS9B	YBR189W	1	10	11	38.36467	44.88291
SLM4	YBR077C	1	10	12	#DIV/0!	29.46306
NTC20	YBR188C	1	10	13	40.09965	51.13953
ECM8	YBR076W	1	10	14	8.584098	#DIV/0!
	YBR187W	1	10	15	30.62229	#DIV/0!
	YBR075W	1	10	16	58.65138	#DIV/0!
PCH2	YBR186W	1	10	17	33.31948	53.86576
	YBR074W	1	10	18	10.37947	37.67122
MBA1	YBR185C	1	10	19	23.84445	44.7371
RDH54	YBR073W	1	10	20	11.85165	29.43462
	YBR184W	1	10	21	17.37403	52.45274
HSP26	YBR072W	1	10	22	49.11487	59.76986
YPC1	YBR183W	1	10	23	36.05024	50.44771
HIS3	YOR202W	1	10	24	22.00294	#DIV/0!
HIS3	YOR202W	1	11	1	2.545615	#DIV/0!
UIP3	YAR027W	1	11	2	20.74006	40.97874
	YBL094C	1	11	3	62.78998	62.156
	YAR023C	1	11	4	10.33667	37.15923
SCS22	YBL091C-A	1	11	5	3.132937	31.00592
PAU7	YAR020C	1	11	6	-1.02976	19.88413
MAP2	YBL091C	1	11	7	23.71743	43.95053
KIN3	YAR018C	1	11	8	13.15324	30.38225
AVT5	YBL089W	1	11	9	16.39789	44.70744
ADE1	YAR015W	1	11	10	22.41737	#DIV/0!
TEL1	YBL088C	1	11	11	17.4015	31.40378
BUD14	YAR014C	1	11	12	21.40783	28.04814
RPL23A	YBL087C	1	11	13	11.83469	21.66421

SWD1	YAR003W	1	11	14	19.51961	25.49691
	YBL086C	1	11	15	24.17233	44.85876
NUP60	YAR002W	1	11	16	28.70147	27.95677
BOI1	YBL085W	1	11	17	2.51561	51.7413
ERP1	YAR002C-A	1	11	18	7.176993	42.477
	YBL083C	1	11	19	18.42295	32.68245
	YAL068C	1	11	20	9.789055	46.73335
RHK1	YBL082C	1	11	21	-1.1495	32.38532
SEO1	YAL067C	1	11	22	48.8567	23.92708
	YBL081W	1	11	23	21.45724	50.39905
HIS3	YOR202W	1	11	24	15.45855	#DIV/0!
HIS3	YOR202W	1	12	1	-9.60089	#DIV/0!
YMC2	YBR104W	1	12	2	7.106782	43.59025
NGR1	YBR212W	1	12	3	-8.04217	35.01048
SIF2	YBR103W	1	12	4	#DIV/0!	33.04424
ERV15	YBR210W	1	12	5	5.073727	27.23709
FES1	YBR101C	1	12	6	0.353322	51.17505
	YBR209W	1	12	7	11.20799	26.395
	YBR100W	1	12	8	35.81348	48.1
DUR1,2	YBR208C	1	12	9	#DIV/0!	45.65015
	YBR099C	1	12	10	15.61465	47.75
FTH1	YBR207W	1	12	11	17.72523	42.85536
MMS4	YBR098W	1	12	12	25.88227	37.37882
	YBR206W	1	12	13	20.14854	54.51831
RXT2	YBR095C	1	12	14	27.15864	28.31986
KTR3	YBR205W	1	12	15	10.08012	49.87289
	YBR094W	1	12	16	#DIV/0!	42.32339
	YBR204C	1	12	17	7.714464	42.9328
PHO5	YBR093C	1	12	18	-8.04097	34.9759
COS111	YBR203W	1	12	19	5.41316	46.19796
PHO3	YBR092C	1	12	20	39.37427	57.45291
DER1	YBR201W	1	12	21	34.42956	49.78331
	YBR090C-A	1	12	22	8.948376	47.47931
BEM1	YBR200W	1	12	23	12.00924	21.9844
HIS3	YOR202W	1	12	24	18.03214	#DIV/0!
HIS3	YOR202W	1	13	1	9.234345	#DIV/0!
	YAR047C	1	13	2	-5.9658	30.48417
NTH2	YBR001C	1	13	3	1.72782	41.1063
OSH1	YAR044W	1	13	4	-0.84182	46.68489
	YBL107C	1	13	5	#DIV/0!	44.07464
	YAR043C	1	13	6	18.67683	36.97685
SRO77	YBL106C	1	13	7	#DIV/0!	48.66437
SWH1	YAR042W	1	13	8	20.59303	51.02876

	YBL104C	1	13	9	17.06596	38.59321
	YAR040C	1	13	10	15.59577	43.51871
RTG3	YBL103C	1	13	11	15.33704	19.45455
	YAR037W	1	13	12	15.24088	23.02449
SFT2	YBL102W	1	13	13	5.995412	41.39472
YAT1	YAR035W	1	13	14	21.08294	22.56661
ECM21	YBL101C	1	13	15	34.05883	41.94115
PRM9	YAR031W	1	13	16	#DIV/0!	51.07804
	YBL100C	1	13	17	#DIV/0!	38.5716
	YAR030C	1	13	18	18.30806	47.24017
BNA4	YBL098W	1	13	19	11.61919	52.35325
	YAR029W	1	13	20	17.2655	46.50227
	YBL096C	1	13	21	21.49198	53.37714
	YAR028W	1	13	22	16.74757	45.1443
	YBL095W	1	13	23	20.99781	43.78964
HIS3	YOR202W	1	13	24	5.103767	#DIV/0!
HIS3	YOR202W	1	14	1	33.62272	#DIV/0!
GRS1	YBR121C	1	14	2	-0.21244	23.96414
TDP1	YBR223C	1	14	3	35.66962	41.01239
MUD1	YBR119W	1	14	4	31.02962	34.12149
PCS60	YBR222C	1	14	5	12.58208	25.04367
	YBR116C	1	14	6	32.2141	39.9037
PDB1	YBR221C	1	14	7	29.92838	53.73983
LYS2	YBR115C	1	14	8	20.8141	35.90924
	YBR220C	1	14	9	4.014024	39.22125
RAD16	YBR114W	1	14	10	14.96979	47.58635
	YBR219C	1	14	11	10.15824	38.00982
	YBR113W	1	14	12	-2.65293	19.6293
PYC2	YBR218C	1	14	13	19.72733	42.18247
YSA1	YBR111C	1	14	14	16.43147	44.56894
ATG12	YBR217W	1	14	15	12.37093	37.32802
	YBR108W	1	14	16	#DIV/0!	47.92103
YBP1	YBR216C	1	14	17	#DIV/0!	47.77915
IML3	YBR107C	1	14	18	23.99197	14.26191
HPC2	YBR215W	1	14	19	16.09829	47.17768
PHO88	YBR106W	1	14	20	14.77767	25.0788
SDS24	YBR214W	1	14	21	14.33603	50.56419
VID24	YBR105C	1	14	22	-0.53921	37.033
MET8	YBR213W	1	14	23	42.05011	57.04445
HIS3	YOR202W	1	14	24	-5.66844	#DIV/0!
HIS3	YOR202W	1	15	1	3.845827	#DIV/0!
ACH1	YBL015W	1	15	2	16.61236	38.93417
	YBR016W	1	15	3	23.9481	46.34659

FMT1	YBL013W	1	15	4	3.0223	12.24314
MNN2	YBR015C	1	15	5	#DIV/0!	43.59529
SCT1	YBL011W	1	15	6	8.328853	#DIV/0!
	YBR014C	1	15	7	26.74358	#DIV/0!
	YBL010C	1	15	8	17.77941	50.26636
	YBR013C	1	15	9	12.34257	33.61807
	YBL009W	1	15	10	31.74401	42.12058
	YBR012C	1	15	11	16.70642	41.31622
HIR1	YBL008W	1	15	12	16.08351	50.30949
HHT1	YBR010W	1	15	13	40.02875	38.97687
SLA1	YBL007C	1	15	14	88.50865	72.27051
HHF1	YBR009C	1	15	15	-7.15078	34.7872
PDR3	YBL005W	1	15	16	11.92729	30.13005
FLR1	YBR008C	1	15	17	23.17911	35.16163
HTA2	YBL003C	1	15	18	13.2202	41.79188
DSF2	YBR007C	1	15	19	49.97662	54.67359
ECM15	YBL001C	1	15	20	35.01874	52.70864
UGA2	YBR006W	1	15	21	31.27211	47.46629
FLO1	YAR050W	1	15	22	10.58375	50.64246
RCR1	YBR005W	1	15	23	14.02771	42.54578
HIS3	YOR202W	1	15	24	-2.74729	#DIV/0!
HIS3	YOR202W	1	16	1	17.67762	#DIV/0!
HIS3	YOR202W	1	16	2	20.59839	#DIV/0!
HIS3	YOR202W	1	16	3	14.25478	#DIV/0!
HIS3	YOR202W	1	16	4	-14.1763	#DIV/0!
HIS3	YOR202W	1	16	5	#DIV/0!	#DIV/0!
HIS3	YOR202W	1	16	6	7.049678	#DIV/0!
HIS3	YOR202W	1	16	7	-5.3782	#DIV/0!
HIS3	YOR202W	1	16	8	12.94464	#DIV/0!
HIS3	YOR202W	1	16	9	26.13047	#DIV/0!
HIS3	YOR202W	1	16	10	30.06855	#DIV/0!
HIS3	YOR202W	1	16	11	9.357009	#DIV/0!
HIS3	YOR202W	1	16	12	12.4787	#DIV/0!
HIS3	YOR202W	1	16	13	15.59897	#DIV/0!
HIS3	YOR202W	1	16	14	31.56846	#DIV/0!
HIS3	YOR202W	1	16	15	#DIV/0!	#DIV/0!
HIS3	YOR202W	1	16	16	19.98234	#DIV/0!
HIS3	YOR202W	1	16	17	20.21798	#DIV/0!
HIS3	YOR202W	1	16	18	15.08847	#DIV/0!
HIS3	YOR202W	1	16	19	12.289	#DIV/0!
HIS3	YOR202W	1	16	20	-2.21998	#DIV/0!
HIS3	YOR202W	1	16	21	3.245053	#DIV/0!
HIS3	YOR202W	1	16	22	4.614257	#DIV/0!

HIS3	YOR202W	1	16	23	-9.2944	#DIV/0!
HIS3	YOR202W	1	16	24	20.36035	#DIV/0!
HIS3	YOR202W	3	1	1	62.59128	#DIV/0!
HIS3	YOR202W	3	1	2	3.084673	#DIV/0!
HIS3	YOR202W	3	1	3	11.80692	#DIV/0!
HIS3	YOR202W	3	1	4	7.26562	#DIV/0!
HIS3	YOR202W	3	1	5	2.211391	#DIV/0!
HIS3	YOR202W	3	1	6	-7.483	#DIV/0!
HIS3	YOR202W	3	1	7	18.14248	#DIV/0!
HIS3	YOR202W	3	1	8	12.95304	#DIV/0!
HIS3	YOR202W	3	1	9	19.04429	#DIV/0!
HIS3	YOR202W	3	1	10	12.97181	#DIV/0!
HIS3	YOR202W	3	1	11	21.35916	#DIV/0!
HIS3	YOR202W	3	1	12	28.55879	#DIV/0!
HIS3	YOR202W	3	1	13	2.951219	#DIV/0!
HIS3	YOR202W	3	1	14	23.71495	#DIV/0!
HIS3	YOR202W	3	1	15	10.55482	#DIV/0!
HIS3	YOR202W	3	1	16	34.32457	#DIV/0!
HIS3	YOR202W	3	1	17	6.256505	#DIV/0!
HIS3	YOR202W	3	1	18	7.079899	#DIV/0!
HIS3	YOR202W	3	1	19	11.44934	#DIV/0!
HIS3	YOR202W	3	1	20	4.222856	#DIV/0!
HIS3	YOR202W	3	1	21	4.019112	#DIV/0!
HIS3	YOR202W	3	1	22	-2.089	#DIV/0!
HIS3	YOR202W	3	1	23	-6.17371	#DIV/0!
HIS3	YOR202W	3	1	24	-17.9897	#DIV/0!
HIS3	YOR202W	3	2	1	37.10456	#DIV/0!
	YDR199W	3	2	2	22.85261	30.69547
OMS1	YDR316W	3	2	3	13.38031	35.75428
	YDR198C	3	2	4	20.9195	40.01653
IPK1	YDR315C	3	2	5	30.39003	34.78934
	YDR193W	3	2	6	23.76251	20.50271
	YDR314C	3	2	7	28.95709	50.09361
NUP42	YDR192C	3	2	8	25.62311	29.15713
PIB1	YDR313C	3	2	9	60.44509	26.57986
HST4	YDR191W	3	2	10	32.43823	11.84673
SSF2	YDR312W	3	2	11	48.26358	42.79744
	YDR186C	3	2	12	16.71318	51.99524
SUM1	YDR310C	3	2	13	29.21517	43.10226
	YDR185C	3	2	14	11.84354	49.43692
GIC2	YDR309C	3	2	15	9.598124	47.19575
ATC1	YDR184C	3	2	16	23.80024	48.78625
	YDR307W	3	2	17	7.097609	60.54249

PLP1	YDR183W	3	2	18	31.8117	49.87057
	YDR306C	3	2	19	11.53547	49.15004
SAS4	YDR181C	3	2	20	33.85531	50.38985
HNT2	YDR305C	3	2	21	22.12061	31.32452
	YDR179W-					
	A	3	2	22	25.99453	30.7884
CPR5	YDR304C	3	2	23	88.13559	58.16797
HIS3	YOR202W	3	2	24	#DIV/0!	#DIV/0!
HIS3	YOR202W	3	3	1	32.115	#DIV/0!
	YDL199C	3	3	2	45.10559	53.28751
	YDR090C	3	3	3	18.94684	19.41452
ASF2	YDL197C	3	3	4	37.3363	50.14655
	YDR089W	3	3	5	19.2417	36.37502
SNF3	YDL194W	3	3	6	32.72019	60.15176
AFR1	YDR085C	3	3	7	50.48491	27.45962
ARF1	YDL192W	3	3	8	12.03508	41.72932
TVP23	YDR084C	3	3	9	16.85002	39.57521
RPL35A	YDL191W	3	3	10	23.55473	61.92526
RRP8	YDR083W	3	3	11	21.89648	55.75702
UFD2	YDL190C	3	3	12	16.0042	53.38863
VPS41	YDR080W	3	3	13	33.98429	67.65571
RBS1	YDL189W	3	3	14	13.60757	11.4716
SED1	YDR077W	3	3	15	15.786	60.95513
PPH22	YDL188C	3	3	16	24.15854	61.91308
RAD55	YDR076W	3	3	17	61.90502	58.79025
	YDL187C	3	3	18	21.51364	64.91604
PPH3	YDR075W	3	3	19	15.83369	55.10702
	YDL186W	3	3	20	19.90558	60.53031
TPS2	YDR074W	3	3	21	#DIV/0!	45.45492
TFP1	YDL185W	3	3	22	24.06044	55.18745
SNF11	YDR073W	3	3	23	8.660164	41.49773
HIS3	YOR202W	3	3	24	-9.26073	#DIV/0!
HIS3	YOR202W	3	4	1	43.76751	#DIV/0!
ADR1	YDR216W	3	4	2	21.92495	22.08503
MSN5	YDR335W	3	4	3	78.4881	66.46933
	YDR215C	3	4	4	32.11992	31.69425
SWR1	YDR334W	3	4	5	17.04068	47.469
AHA1	YDR214W	3	4	6	11.87147	25.75834
	YDR333C	3	4	7	41.11907	30.48272
UPC2	YDR213W	3	4	8	15.95218	51.38671
	YDR332W	3	4	9	11.19563	36.36685
	YDR210W	3	4	10	53.76282	31.9691
UBX5	YDR330W	3	4	11	32.25114	54.40772

	YDR209C	3	4	12	22.44391	57.87755
PEX3	YDR329C	3	4	13	6.992011	42.07841
UME6	YDR207C	3	4	14	40.12917	44.69466
ASP1	YDR321W	3	4	15	53.18383	60.40874
EBS1	YDR206W	3	4	16	55.74098	63.9272
SWA2	YDR320C	3	4	17	26.7277	56.25499
MSC2	YDR205W	3	4	18	46.38874	62.02884
	YDR319C	3	4	19	22.71912	42.59032
	YDR203W	3	4	20	14.11822	45.01419
MCM21	YDR318W	3	4	21	15.78399	54.49936
RAV2	YDR202C	3	4	22	25.21191	48.39028
	YDR317W	3	4	23	62.22349	60.39059
HIS3	YOR202W	3	4	24	#DIV/0!	#DIV/0!
HIS3	YOR202W	3	5	1	28.64989	#DIV/0!
RRI1	YDL216C	3	5	2	22.66316	50.33794
	YDR102C	3	5	3	23.088	44.87101
GDH2	YDL215C	3	5	4	20.10311	24.91685
ARX1	YDR101C	3	5	5	16.54219	31.52896
PRR2	YDL214C	3	5	6	26.2862	35.21229
TVP15	YDR100W	3	5	7	15.34787	51.49365
NOP6	YDL213C	3	5	8	19.63536	42.91776
BMH2	YDR099W	3	5	9	37.361	31.38281
	YDL211C	3	5	10	31.97351	68.86433
GRX3	YDR098C	3	5	11	18.75	40.14024
UGA4	YDL210W	3	5	12	9.181527	56.22473
MSH6	YDR097C	3	5	13	23.50601	33.22011
	YDL206W	3	5	14	18.56841	69.64451
GIS1	YDR096W	3	5	15	14.86268	13.43769
RTN2	YDL204W	3	5	16	13.11419	62.33266
	YDR095C	3	5	17	31.48545	58.20077
	YDL203C	3	5	18	24.78972	42.33964
	YDR094W	3	5	19	28.50849	66.13817
TRM8	YDL201W	3	5	20	16.86633	56.39381
DNF2	YDR093W	3	5	21	13.89465	39.23435
MGT1	YDL200C	3	5	22	60.83935	61.82308
UBC13	YDR092W	3	5	23	43.85849	60.89474
HIS3	YOR202W	3	5	24	7.992485	#DIV/0!
HIS3	YOR202W	3	6	1	19.95646	#DIV/0!
RTN1	YDR233C	3	6	2	34.25896	44.07066
TRP4	YDR354W	3	6	3	47.73227	26.86887
IVY1	YDR229W	3	6	4	41.97109	45.3783
	YDR352W	3	6	5	38.81054	45.45775
SIR4	YDR227W	3	6	6	35.72056	56.17133

SBE2	YDR351W	3	6	7	39.46438	56.50129
HTA1	YDR225W	3	6	8	13.80454	31.8986
YPS7	YDR349C	3	6	9	12.27713	38.46711
CRF1	YDR223W	3	6	10	12.36197	37.84848
	YDR348C	3	6	11	22.55576	57.85635
	YDR222W	3	6	12	33.096	58.88009
SVF1	YDR346C	3	6	13	15.46036	46.51773
	YDR221W	3	6	14	33.60774	68.85277
HXT3	YDR345C	3	6	15	27.26217	55.04742
	YDR220C	3	6	16	15.14538	67.68572
	YDR344C	3	6	17	83.05831	45.32327
	YDR219C	3	6	18	18.47375	23.31813
	YDR340W	3	6	19	15.17619	51.71359
SPR28	YDR218C	3	6	20	14.51314	33.62685
	YDR338C	3	6	21	19.32206	54.41752
RAD9	YDR217C	3	6	22	29.80897	25.66198
	YDR336W	3	6	23	32.45228	19.6795
HIS3	YOR202W	3	6	24	20.46442	#DIV/0!
HIS3	YOR202W	3	7	1	23.40384	#DIV/0!
OST4	YDL232W	3	7	2	41.39422	-3.56201
RBF64	YDR117C	3	7	3	19.96075	56.55521
BRE4	YDL231C	3	7	4	29.36612	29.59299
MRPL1	YDR116C	3	7	5	37.90266	48.30797
PTP1	YDL230W	3	7	6	21.98909	43.17433
	YDR112W	3	7	7	24.14955	60.73219
SSB1	YDL229W	3	7	8	29.37227	33.33234
ALT2	YDR111C	3	7	9	35.22032	47.43898
HO	YDL227C	3	7	10	37.9998	55.32622
FOB1	YDR110W	3	7	11	5.192641	48.07159
GCS1	YDL226C	3	7	12	82.19847	89.25583
STE5	YDR103W	3	7	13	20.71745	69.62351
WHI4	YDL224C	3	7	14	17.45446	60.27318
	YDR109C	3	7	15	13.69657	66.25113
HBT1	YDL223C	3	7	16	35.19497	75.17536
GSG1	YDR108W	3	7	17	9.905566	59.14178
FMP45	YDL222C	3	7	18	25.40323	60.57434
	YDR107C	3	7	19	-3.00216	57.80536
DTD1	YDL219W	3	7	20	26.09371	55.21034
TMS1	YDR105C	3	7	21	11.89632	60.54784
	YDL218W	3	7	22	12.10015	62.82533
SPO71	YDR104C	3	7	23	30.74965	8.402971
HIS3	YOR202W	3	7	24	34.49274	#DIV/0!
HIS3	YOR202W	3	8	1	28.46632	#DIV/0!

BTT1	YDR252W	3	8	2	40.38154	47.53969
VPS74	YDR372C	3	8	3	41.67209	53.92004
PAM1	YDR251W	3	8	4	30.67209	42.68788
CTS2	YDR371W	3	8	5	20.49269	#DIV/0!
	YDR250C	3	8	6	28.66761	#DIV/0!
	YDR370C	3	8	7	38.14608	45.931
	YDR249C	3	8	8	44.5957	60.00976
XRS2	YDR369C	3	8	9	21.98543	49.14661
	YDR248C	3	8	10	21.88597	50.6236
YPR1	YDR368W	3	8	11	34.30717	44.61521
VHS1	YDR247W	3	8	12	55.84672	49.51755
	YDR363W-					
SEM1	A	3	8	13	61.96709	-7.3304
MNN10	YDR245W	3	8	14	42.62309	60.53972
ESC2	YDR363W	3	8	15	67.20645	67.89652
PEX5	YDR244W	3	8	16	35.08231	67.73436
	YDR360W	3	8	17	13.16597	59.8904
BUD26	YDR241W	3	8	18	15.38036	51.15623
VID21	YDR359C	3	8	19	86.03116	43.49648
	YDR239C	3	8	20	30.56341	38.95089
GGA1	YDR358W	3	8	21	21.97963	33.12749
LYS4	YDR234W	3	8	22	7.822341	32.61036
	YDR357C	3	8	23	25.70333	42.51662
HIS3	YOR202W	3	8	24	15.64483	#DIV/0!
HIS3	YOR202W	3	9	1	22.38103	#DIV/0!
NTH1	YDR001C	3	9	2	33.87709	53.19736
FIN1	YDR130C	3	9	3	20.59028	28.37531
AAD4	YDL243C	3	9	4	30.96323	53.95016
	YDR128W	3	9	5	35.81638	52.3088
	YDL242W	3	9	6	31.31738	51.05396
ARO1	YDR127W	3	9	7	61.7155	50.9294
	YDL241W	3	9	8	40.49679	47.47541
SWF1	YDR126W	3	9	9	#DIV/0!	49.96709
LRG1	YDL240W	3	9	10	15.68237	34.45309
ECM18	YDR125C	3	9	11	29.14514	38.77601
ADY3	YDL239C	3	9	12	17.83809	36.66303
	YDR124W	3	9	13	-3.23934	65.91323
GUD1	YDL238C	3	9	14	7.038854	45.33443
INO2	YDR123C	3	9	15	44.14504	43.75477
	YDL237W	3	9	16	71.76192	44.52147
KIN1	YDR122W	3	9	17	24.71606	46.59664
PHO13	YDL236W	3	9	18	69.26109	66.19127
DPB4	YDR121W	3	9	19	27.72634	63.89731

GYP7	YDL234C	3	9	20	27.38971	65.24803
TRM1	YDR120C	3	9	21	15.01682	49.92822
	YDL233W	3	9	22	8.027933	52.5285
	YDR119W	3	9	23	30.31339	36.80206
HIS3	YOR202W	3	9	24	13.50496	#DIV/0!
HIS3	YOR202W	3	10	1	3.542973	#DIV/0!
DIN7	YDR263C	3	10	2	24.77834	51.66734
	YDR387C	3	10	3	21.5024	60.06822
	YDR262W	3	10	4	39.91445	51.27846
MUS81	YDR386W	3	10	5	31.2968	61.55749
EXG2	YDR261C	3	10	6	63.62918	48.33578
EFT2	YDR385W	3	10	7	10.43699	43.1677
SWM1	YDR260C	3	10	8	33.86588	52.52711
ATO3	YDR384C	3	10	9	8.016421	58.41571
YAP6	YDR259C	3	10	10	20.47526	40.57477
NKP1	YDR383C	3	10	11	43.61307	60.5914
HSP78	YDR258C	3	10	12	43.96857	57.78874
RPP2B	YDR382W	3	10	13	38.33384	65.69937
SET7	YDR257C	3	10	14	24.50098	55.48248
ARO10	YDR380W	3	10	15	26.01809	45.35058
CTA1	YDR256C	3	10	16	3.722149	62.84159
RGA2	YDR379W	3	10	17	16.5098	52.32028
RMD5	YDR255C	3	10	18	#DIV/0!	44.44848
LSM6	YDR378C	3	10	19	82.76534	83.03797
CHL4	YDR254W	3	10	20	26.53183	62.52408
BCS1	YDR375C	3	10	21	#DIV/0!	36.33882
MET32	YDR253C	3	10	22	23.82007	63.85464
	YDR374C	3	10	23	31.02606	25.1706
HIS3	YOR202W	3	10	24	9.539923	#DIV/0!
HIS3	YOR202W	3	11	1	10.81366	#DIV/0!
	YDR015C	3	11	2	40.74143	42.03404
EKI1	YDR147W	3	11	3	47.82024	50.26738
RAD61	YDR014W	3	11	4	16.93756	52.25766
SWI5	YDR146C	3	11	5	15.6541	41.00834
SNQ2	YDR011W	3	11	6	22.18699	52.26987
MKC7	YDR144C	3	11	7	41.21736	60.96221
	YDR010C	3	11	8	73.62313	74.48038
SAN1	YDR143C	3	11	9	23.31505	45.33738
GAL3	YDR009W	3	11	10	18.10477	40.56334
PEX7	YDR142C	3	11	11	0.77856	54.79971
	YDR008C	3	11	12	11.12943	37.94375
RUB1	YDR139C	3	11	13	25.4871	62.38774
TRP1	YDR007W	3	11	14	24.84341	60.42563

YCF1	YDR135C	3	11	15	25.6055	30.41028
SOK1	YDR006C	3	11	16	61.97476	60.47612
	YDR134C	3	11	17	11.62956	47.73324
MAF1	YDR005C	3	11	18	24.28284	55.3068
	YDR133C	3	11	19	9.426679	-16.4948
RAD57	YDR004W	3	11	20	39.50667	60.44283
	YDR132C	3	11	21	23.67569	61.07637
RCR2	YDR003W	3	11	22	17.88228	61.80492
	YDR131C	3	11	23	61.73303	41.46238
HIS3	YOR202W	3	11	24	50.22415	#DIV/0!
HIS3	YOR202W	3	12	1	5.042267	#DIV/0!
RNH202	YDR279W	3	12	2	41.89186	40.95026
DIT1	YDR403W	3	12	3	45.71934	48.50231
	YDR278C	3	12	4	21.97566	26.19048
DIT2	YDR402C	3	12	5	41.62049	42.84753
MTH1	YDR277C	3	12	6	12.47581	57.21838
	YDR401W	3	12	7	27.32191	57.87476
PMP3	YDR276C	3	12	8	23.52626	51.73225
URH1	YDR400W	3	12	9	12.43781	59.99561
BSC2	YDR275W	3	12	10	4.871824	64.55635
HPT1	YDR399W	3	12	11	26.59633	50.49878
	YDR274C	3	12	12	94.82759	54.86533
SXM1	YDR395W	3	12	13	19.17554	44.04389
DON1	YDR273W	3	12	14	16.89534	59.6131
SHE9	YDR393W	3	12	15	23.86908	58.82707
GLO2	YDR272W	3	12	16	13.91917	56.75559
SPT3	YDR392W	3	12	17	26.97017	34.96886
CCC2	YDR270W	3	12	18	44.63412	51.48148
	YDR391C	3	12	19	20.46042	58.78261
	YDR266C	3	12	20	68.91361	53.49806
SAC7	YDR389W	3	12	21	62.8511	74.30804
PEX10	YDR265W	3	12	22	25.77547	35.1709
RVS167	YDR388W	3	12	23	87.4883	87.80285
HIS3	YOR202W	3	12	24	-14.2129	#DIV/0!
HIS3	YOR202W	3	13	1	8.111555	#DIV/0!
	YDR056C	3	13	2	12.54408	55.01831
HOM2	YDR158W	3	13	3	47.44952	47.93911
PST1	YDR055W	3	13	4	14.99744	47.53904
	YDR157W	3	13	5	16.36508	61.52711
	YDR051C	3	13	6	64.79809	58.5696
RPA14	YDR156W	3	13	7	64.38951	59.93964
	YDR049W	3	13	8	69.42035	75.05184
CPR1	YDR155C	3	13	9	10.1873	40.22905

	YDR048C	3	13	10	14.9545	61.59713
	YDR154C	3	13	11	12.50088	68.16124
RPS11A	YDR025W	3	13	12	66.13534	73.05511
ENT5	YDR153C	3	13	13	22.77674	69.32912
FYV1	YDR024W	3	13	14	23.19325	59.30485
GIR2	YDR152W	3	13	15	15.01849	63.02979
CIS1	YDR022C	3	13	16	18.74589	46.55619
CTH1	YDR151C	3	13	17	20.47756	66.96762
	YDR020C	3	13	18	13.37332	31.91545
NUM1	YDR150W	3	13	19	46.79751	55.15311
GCV1	YDR019C	3	13	20	48.17554	73.57228
	YDR149C	3	13	21	63.3572	73.60735
	YDR018C	3	13	22	19.52796	58.54768
KGD2	YDR148C	3	13	23	29.79481	43.92628
HIS3	YOR202W	3	13	24	32.70699	#DIV/0!
HIS3	YOR202W	3	14	1	1.426333	#DIV/0!
SUR2	YDR297W	3	14	2	51.69177	37.7286
SIP1	YDR422C	3	14	3	31.10041	45.75483
DPL1	YDR294C	3	14	4	23.71585	48.69587
ARO80	YDR421W	3	14	5	21.8067	25.60958
SSD1	YDR293C	3	14	6	36.20755	64.00744
HKR1	YDR420W	3	14	7	21.28528	50.18576
	YDR291W	3	14	8	61.37172	68.32257
RAD30	YDR419W	3	14	9	61.10185	54.97303
RTT103	YDR289C	3	14	10	88.69965	79.95029
	YDR415C	3	14	11	62.56278	63.26389
	YDR287W	3	14	12	46.69506	68.35408
ERD1	YDR414C	3	14	13	25.43062	33.5311
	YDR286C	3	14	14	60.82399	62.51505
DFM1	YDR411C	3	14	15	24.5398	57.3082
ZIP1	YDR285W	3	14	16	21.57855	56.22519
STE14	YDR410C	3	14	17	61.39284	78.1405
DPP1	YDR284C	3	14	18	18.66243	59.15456
SIZ1	YDR409W	3	14	19	28.60431	57.00218
	YDR282C	3	14	20	25.98596	47.9177
ADE8	YDR408C	3	14	21	93.49845	73.32237
PHM6	YDR281C	3	14	22	23.24783	65.69248
PDR15	YDR406W	3	14	23	3.914169	49.56
HIS3	YOR202W	3	14	24	17.73762	#DIV/0!
HIS3	YOR202W	3	15	1	37.83594	#DIV/0!
IPT1	YDR072C	3	15	2	34.44669	31.77171
CSN9	YDR179C	3	15	3	11.96189	47.14132
PAA1	YDR071C	3	15	4	61.0168	52.86219

SDH4	YDR178W	3	15	5	16.5046	41.0199
FMP16	YDR070C	3	15	6	38.40583	49.06776
HMO1	YDR174W	3	15	7	77.38357	55.91312
DOS2	YDR068W	3	15	8	26.04243	61.46056
ARG82	YDR173C	3	15	9	49.63229	37.34648
	YDR067C	3	15	10	12.12848	52.20762
HSP42	YDR171W	3	15	11	11.98983	48.0426
	YDR066C	3	15	12	23.82258	60.05493
STB3	YDR169C	3	15	13	32.99331	62.96812
	YDR063W	3	15	14	65.81048	71.40279
TRM82	YDR165W	3	15	15	46.47736	63.80161
	YDR061W	3	15	16	62.49316	66.15842
CWC15	YDR163W	3	15	17	28.94607	44.29178
UBC5	YDR059C	3	15	18	30.18338	65.12579
NBP2	YDR162C	3	15	19	44.67517	66.7472
TGL2	YDR058C	3	15	20	43.47329	77.40789
TCI1	YDR161W	3	15	21	67.24482	56.69761
YOS9	YDR057W	3	15	22	20.21401	62.65046
SAC3	YDR159W	3	15	23	92.75362	30.39333
HIS3	YOR202W	3	15	24	29.33136	#DIV/0!
HIS3	YOR202W	3	16	1	17.32597	#DIV/0!
HIS3	YOR202W	3	16	2	-18.3273	#DIV/0!
HIS3	YOR202W	3	16	3	35.24306	#DIV/0!
HIS3	YOR202W	3	16	4	45.62677	#DIV/0!
HIS3	YOR202W	3	16	5	23.57691	#DIV/0!
HIS3	YOR202W	3	16	6	-1.34064	#DIV/0!
HIS3	YOR202W	3	16	7	-12.3456	#DIV/0!
HIS3	YOR202W	3	16	8	9.679629	#DIV/0!
HIS3	YOR202W	3	16	9	35.47287	#DIV/0!
HIS3	YOR202W	3	16	10	10.1704	#DIV/0!
HIS3	YOR202W	3	16	11	31.41082	#DIV/0!
HIS3	YOR202W	3	16	12	31.98518	#DIV/0!
HIS3	YOR202W	3	16	13	44.76845	#DIV/0!
HIS3	YOR202W	3	16	14	33.16972	#DIV/0!
HIS3	YOR202W	3	16	15	58.43176	#DIV/0!
HIS3	YOR202W	3	16	16	18.23752	#DIV/0!
HIS3	YOR202W	3	16	17	-6.31583	#DIV/0!
HIS3	YOR202W	3	16	18	80.60995	#DIV/0!
HIS3	YOR202W	3	16	19	13.04756	#DIV/0!
HIS3	YOR202W	3	16	20	-2.45313	#DIV/0!
HIS3	YOR202W	3	16	21	35.43347	#DIV/0!
HIS3	YOR202W	3	16	22	-24.8295	#DIV/0!
HIS3	YOR202W	3	16	23	38.61555	#DIV/0!

HIS3	YOR202W	3	16	24	21.74736	#DIV/0!
HIS3	YOR202W	4	1	1	26.71394	#DIV/0!
HIS3	YOR202W	4	1	2	38.05029	#DIV/0!
HIS3	YOR202W	4	1	3	21.69743	#DIV/0!
HIS3	YOR202W	4	1	4	27.79557	#DIV/0!
HIS3	YOR202W	4	1	5	35.449	#DIV/0!
HIS3	YOR202W	4	1	6	30.2189	#DIV/0!
HIS3	YOR202W	4	1	7	20.04142	#DIV/0!
HIS3	YOR202W	4	1	8	19.46996	#DIV/0!
HIS3	YOR202W	4	1	9	38.9989	#DIV/0!
HIS3	YOR202W	4	1	10	8.234969	#DIV/0!
HIS3	YOR202W	4	1	11	31.80811	#DIV/0!
HIS3	YOR202W	4	1	12	17.46763	#DIV/0!
HIS3	YOR202W	4	1	13	28.32314	#DIV/0!
HIS3	YOR202W	4	1	14	33.8902	#DIV/0!
HIS3	YOR202W	4	1	15	31.06232	#DIV/0!
HIS3	YOR202W	4	1	16	30.57897	#DIV/0!
HIS3	YOR202W	4	1	17	11.80598	#DIV/0!
HIS3	YOR202W	4	1	18	24.18537	#DIV/0!
HIS3	YOR202W	4	1	19	34.81422	#DIV/0!
HIS3	YOR202W	4	1	20	11.43403	#DIV/0!
HIS3	YOR202W	4	1	21	36.6913	#DIV/0!
HIS3	YOR202W	4	1	22	24.63748	#DIV/0!
HIS3	YOR202W	4	1	23	27.16595	#DIV/0!
HIS3	YOR202W	4	1	24	61.88322	#DIV/0!
HIS3	YOR202W	4	2	1	48.02466	#DIV/0!
RPL34A	YER056C-A	4	2	2	57.92346	36.72517
	YER158C	4	2	3	65.13643	46.08094
FCY2	YER056C	4	2	4	36.87703	13.89466
	YER156C	4	2	5	33.6919	34.98097
HIS1	YER055C	4	2	6	23.20418	17.69944
BEM2	YER155C	4	2	7	33.38881	35.459
GIP2	YER054C	4	2	8	37.18053	40.72799
PET122	YER153C	4	2	9	50.52556	13.82617
PIC2	YER053C	4	2	10	15.28273	-0.64863
	YER152C	4	2	11	11.55852	43.27879
HOM3	YER052C	4	2	12	40.23016	17.78372
UBP3	YER151C	4	2	13	30.61427	33.19192
	YER051W	4	2	14	34.6556	35.8881
SPI1	YER150W	4	2	15	34.53783	17.68054
	YER049W	4	2	16	21.28552	21.20626
PEA2	YER149C	4	2	17	18.82474	4.334318
CAJ1	YER048C	4	2	18	48.42395	46.60348

FTR1	YER145C	4	2	19	43.81593	4.561395
SAP1	YER047C	4	2	20	39.61657	17.1524
UBP5	YER144C	4	2	21	-3.75278	31.51027
	YER046W-					
	A	4	2	22	19.88784	27.83366
DDI1	YER143W	4	2	23	-0.32504	22.57942
HIS3	YOR202W	4	2	24	50.27736	#DIV/0!
HIS3	YOR202W	4	3	1	53.71743	#DIV/0!
LRS4	YDR439W	4	3	2	52.70896	35.73329
VAC8	YEL013W	4	3	3	52.70736	33.97069
	YDR438W	4	3	4	14.79923	28.5122
UBC8	YEL012W	4	3	5	12.82155	11.23525
PPZ2	YDR436W	4	3	6	39.74352	14.23968
GLC3	YEL011W	4	3	7	#DIV/0!	32.14607
PPM1	YDR435C	4	3	8	37.51352	36.16354
	YEL010W	4	3	9	17.5982	46.11995
	YDR431W	4	3	10	17.66219	30.68218
	YEL008W	4	3	11	4.4324	35.59565
CYM1	YDR430C	4	3	12	11.90422	34.2393
TOS9	YEL007W	4	3	13	20.01198	28.28532
	YDR428C	4	3	14	14.11485	32.72446
	YEL006W	4	3	15	31.4815	36.5114
	YDR426C	4	3	16	46.58333	39.81286
VAB2	YEL005C	4	3	17	45.73824	13.35043
SNX41	YDR425W	4	3	18	31.58866	27.05667
YEA4	YEL004W	4	3	19	-12.068	-7.58727
DYN2	YDR424C	4	3	20	-8.93784	-15.1625
GIM4	YEL003W	4	3	21	-8.24408	-37.7994
CAD1	YDR423C	4	3	22	41.71461	44.19246
	YEL001C	4	3	23	41.18659	21.23585
HIS3	YOR202W	4	3	24	59.13716	#DIV/0!
HIS3	YOR202W	4	4	1	55.92652	#DIV/0!
	YER066W	4	4	2	36.83123	32.29358
ECM32	YER176W	4	4	3	43.67436	61.88408
	YER066C-A	4	4	4	30.89789	33.43444
TMT1	YER175C	4	4	5	42.88391	35.95639
ICL1	YER065C	4	4	6	14.22685	41.4658
GRX4	YER174C	4	4	7	44.25536	45.64714
	YER064C	4	4	8	15.89871	26.43169
RAD24	YER173W	4	4	9	18.85699	36.73347
THO1	YER063W	4	4	10	41.77527	30.45956
ADK2	YER170W	4	4	11	32.28955	29.81699
HOR2	YER062C	4	4	12	10.73089	43.74032

BCK2	YER167W	4	4	13	16.38059	29.35287
CEM1	YER061C	4	4	14	1.439414	26.92815
DNF1	YER166W	4	4	15	46.465	51.71771
	YER060W-					
FCY22	A	4	4	16	49.77578	34.15376
CHD1	YER164W	4	4	17	10.75281	35.91553
FCY21	YER060W	4	4	18	17.91282	-3.21645
	YER163C	4	4	19	30.63902	39.34958
PCL6	YER059W	4	4	20	34.4131	37.70618
RAD4	YER162C	4	4	21	35.56396	30.6103
HMF1	YER057C	4	4	22	18.36274	25.09394
SPT2	YER161C	4	4	23	21.05052	24.04097
HIS3	YOR202W	4	4	24	35.67369	#DIV/0!
HIS3	YOR202W	4	5	1	79.45923	#DIV/0!
	YDR459C	4	5	2	52.06016	16.95972
SPF1	YEL031W	4	5	3	2.210735	42.48462
	YDR458C	4	5	4	23.72795	37.57549
ECM10	YEL030W	4	5	5	29.62103	49.0986
	YDR455C	4	5	6	18.59272	38.5701
	YEL028W	4	5	7	47.64266	45.47786
TSA2	YDR453C	4	5	8	27.39426	22.10551
SRI1	YEL025C	4	5	9	55.85138	16.18514
PPN1	YDR452W	4	5	10	7.970071	31.27575
	YEL023C	4	5	11	-0.25765	27.72812
YHP1	YDR451C	4	5	12	17.72585	43.49632
	YEL020C	4	5	13	18.33739	19.09829
RPS17B	YDR447C	4	5	14	29.56758	38.17245
GTT3	YEL017W	4	5	15	23.93381	47.66443
ECM11	YDR446W	4	5	16	28.48034	#DIV/0!
PMP2	YEL017C-A	4	5	17	29.99434	40.68575
	YDR445C	4	5	18	11.27469	31.73145
NPP2	YEL016C	4	5	19	18.63024	43.59053
APT2	YDR441C	4	5	20	45.99576	46.37671
EDC3	YEL015W	4	5	21	39.35344	42.12801
DOT1	YDR440W	4	5	22	26.51847	#DIV/0!
	YEL014C	4	5	23	32.34597	#DIV/0!
HIS3	YOR202W	4	5	24	26.35788	#DIV/0!
HIS3	YOR202W	4	6	1	45.01116	#DIV/0!
	YER079W	4	6	2	10.27018	34.71368
	YER187W	4	6	3	1.842414	21.43401
	YER078C	4	6	4	-2.80544	51.07189
	YER186C	4	6	5	12.21965	20.25724
	YER077C	4	6	6	18.14489	-5.18892

	YER185W	4	6	7	3.444033	47.1882
PTP3	YER075C	4	6	8	-0.56187	36.54151
	YER184C	4	6	9	22.16152	30.65127
RPS24A	YER074W	4	6	10	34.66303	31.8277
FAU1	YER183C	4	6	11	18.31689	38.21654
ALD5	YER073W	4	6	12	24.36832	41.66977
FMP10	YER182W	4	6	13	18.51777	40.60577
VTC1	YER072W	4	6	14	43.10749	49.01149
	YER181C	4	6	15	23.04296	46.7135
	YER071C	4	6	16	14.51207	52.19064
ISC10	YER180C	4	6	17	11.20707	32.83722
ARG5,6	YER069W	4	6	18	25.35138	38.36802
DMC1	YER179W	4	6	19	33.41768	20.27268
	YER067W	4	6	20	28.68217	-17.5055
PDA1	YER178W	4	6	21	23.18628	34.51454
	YER067C-A	4	6	22	35.48378	41.43936
BMH1	YER177W	4	6	23	35.65036	44.31135
HIS3	YOR202W	4	6	24	27.86883	#DIV/0!
HIS3	YOR202W	4	7	1	51.24111	#DIV/0!
DIG2	YDR480W	4	7	2	28.3928	17.07463
PAU2	YEL049W	4	7	3	22.18209	37.35887
PEX29	YDR479C	4	7	4	8.506846	37.75768
	YEL048C	4	7	5	26.27757	33.79565
	YDR476C	4	7	6	33.16622	36.82387
	YEL047C	4	7	7	27.84571	36.27628
JIP4	YDR475C	4	7	8	42.21879	52.60183
	YEL043W	4	7	9	24.86401	45.61349
	YDR474C	4	7	10	27.78193	48.86349
GDA1	YEL042W	4	7	11	81.01777	48.60865
RPL27B	YDR471W	4	7	12	#DIV/0!	36.07277
	YEL041W	4	7	13	-0.37173	41.30796
SDC1	YDR469W	4	7	14	-2.49834	8.675214
UTR2	YEL040W	4	7	15	23.48663	45.43253
	YDR467C	4	7	16	26.654	45.13116
CYC7	YEL039C	4	7	17	31.05418	40.52471
PKH3	YDR466W	4	7	18	10.41611	57.48374
UTR4	YEL038W	4	7	19	32.63726	42.10894
RMT2	YDR465C	4	7	20	19.73545	34.75867
RAD23	YEL037C	4	7	21	17.58916	38.51816
STP1	YDR463W	4	7	22	28.88493	36.85169
	YEL033W	4	7	23	27.56575	28.28742
HIS3	YOR202W	4	7	24	39.60656	#DIV/0!
HIS3	YOR202W	4	8	1	50.10285	#DIV/0!

IES5	YER092W	4	8	2	41.20353	36.59021
BUD27	YFL023W	4	8	3	-47.6829	-10.8722
	YER091C-A	4	8	4	28.67782	31.11039
GAT1	YFL021W	4	8	5	26.31884	37.91836
MET6	YER091C	4	8	6	16.39615	28.78962
PAU5	YFL020C	4	8	7	3.660274	42.31933
TRP2	YER090W	4	8	8	12.77538	29.18746
	YFL019C	4	8	9	0.784584	25.55456
DOT6	YER088C	4	8	10	34.55682	30.75927
LPD1	YFL018C	4	8	11	34.64446	32.78986
	YER087C-A	4	8	12	49.27309	47.34092
	YFL015C	4	8	13	18.31898	43.39065
	YER085C	4	8	14	15.24487	44.15674
HSP12	YFL014W	4	8	15	23.03177	27.70504
	YER084W	4	8	16	6.566926	32.72535
	YFL013W-A	4	8	17	19.80392	41.52779
RMD7	YER083C	4	8	18	20.32185	19.23327
HXT10	YFL011W	4	8	19	37.39116	24.8835
SER3	YER081W	4	8	20	14.70056	42.51599
	YFL006W	4	8	21	5.147078	26.23852
FMP29	YER080W	4	8	22	36.96825	11.54891
	YER188W	4	8	23	27.08474	39.41058
HIS3	YOR202W	4	8	24	34.0385	#DIV/0!
HIS3	YOR202W	4	9	1	48.7552	#DIV/0!
PUF6	YDR496C	4	9	2	34.74513	26.22688
SIT1	YEL065W	4	9	3	24.34157	45.39333
RSM28	YDR494W	4	9	4	48.73796	45.08553
AVT2	YEL064C	4	9	5	6.332361	41.52039
IZH1	YDR492W	4	9	6	5.947618	28.83462
CAN1	YEL063C	4	9	7	21.41996	39.28568
	YDR491C	4	9	8	37.08382	23.0098
NPR2	YEL062W	4	9	9	2.804127	47.01176
PKH1	YDR490C	4	9	10	40.15333	42.95113
CIN8	YEL061C	4	9	11	31.72495	69.32193
PAC11	YDR488C	4	9	12	25.37783	29.59734
PRB1	YEL060C	4	9	13	13.4757	45.42592
VPS60	YDR486C	4	9	14	38.55369	24.14404
	YEL059W	4	9	15	5.061494	27.12556
VPS72	YDR485C	4	9	16	31.95953	40.70652
	YEL057C	4	9	17	43.43017	48.51014
KRE2	YDR483W	4	9	18	15.9376	35.94007
HAT2	YEL056W	4	9	19	-7.17565	40.32491

CWC21	YDR482C	4	9	20	18.54619	34.49626
MAK10	YEL053C	4	9	21	26.1426	9.692411
PHO8	YDR481C	4	9	22	14.70318	22.62771
AFG1	YEL052W	4	9	23	22.09269	53.00756
HIS3	YOR202W	4	9	24	37.75155	#DIV/0!
HIS3	YOR202W	4	10	1	51.52634	#DIV/0!
	YER113C	4	10	2	21.44073	40.85416
RPO41	YFL036W	4	10	3	56.03378	33.44121
SWI4	YER111C	4	10	4	20.15728	32.49466
	YFL035C-B	4	10	5	39.51039	28.20513
FLO8	YER109C	4	10	6	16.38865	37.04345
	YFL034W	4	10	7	13.58501	35.01975
	YER108C	4	10	8	17.51303	34.94546
RPL22B	YFL034C-A	4	10	9	3.523138	52.33422
MAM1	YER106W	4	10	10	12.53252	37.64971
	YFL032W	4	10	11	17.71886	34.1683
AST2	YER101C	4	10	12	56.5828	36.31607
HAC1	YFL031W	4	10	13	60.35412	41.69271
UBP9	YER098W	4	10	14	19.44077	38.67725
AGX1	YFL030W	4	10	15	19.889	32.84557
	YER097W	4	10	16	18.10634	44.26634
CAF16	YFL028C	4	10	17	13.58629	37.55162
SHC1	YER096W	4	10	18	45.4073	41.35473
GYP8	YFL027C	4	10	19	50.1175	47.64333
RAD51	YER095W	4	10	20	52.55475	46.25328
STE2	YFL026W	4	10	21	25.49475	34.85762
	YER093C-A	4	10	22	30.87242	22.23499
BST1	YFL025C	4	10	23	30.91638	33.7601
HIS3	YOR202W	4	10	24	25.38388	#DIV/0!
HIS3	YOR202W	4	11	1	39.32684	#DIV/0!
EMI1	YDR512C	4	11	2	58.20043	25.60967
	YER010C	4	11	3	25.88462	47.76924
ACN9	YDR511W	4	11	4	-3.42866	31.88018
PAC2	YER007W	4	11	5	32.54716	37.56187
	YDR509W	4	11	6	46.0711	31.67429
RBF20	YER007C-A	4	11	7	39.41045	42.70148
GNP1	YDR508C	4	11	8	10.109	42.29936
YND1	YER005W	4	11	9	17.23344	29.58484
	YDR506C	4	11	10	18.85778	35.80706
FMP52	YER004W	4	11	11	1.477348	39.00938
PSP1	YDR505C	4	11	12	22.06486	50.5481
NOP16	YER002W	4	11	13	34.0407	25.24782
SPG3	YDR504C	4	11	14	13.53682	35.95308

MNN1	YER001W	4	11	15	2.879572	51.4343
LPP1	YDR503C	4	11	16	20.15953	38.80423
DLD3	YEL071W	4	11	17	7.532888	21.2224
PLM2	YDR501W	4	11	18	-8.58531	32.80727
	YEL068C	4	11	19	21.88146	28.06009
RPL37B	YDR500C	4	11	20	46.0724	25.57866
	YEL067C	4	11	21	49.08145	27.44923
ITR1	YDR497C	4	11	22	45.22216	40.37749
HPA3	YEL066W	4	11	23	23.66906	25.99357
HIS3	YOR202W	4	11	24	29.76106	#DIV/0!
HIS3	YOR202W	4	12	1	46.62803	#DIV/0!
DSE1	YER124C	4	12	2	54.53444	30.38095
	YFL051C	4	12	3	34.00965	36.71032
YCK3	YER123W	4	12	4	50.16016	17.19253
ALR2	YFL050C	4	12	5	-2.63966	#DIV/0!
	YER121W	4	12	6	18.0501	24.80131
	YFL049W	4	12	7	-9.98671	40.59426
SCS2	YER120W	4	12	8	1.956473	32.4229
EMP47	YFL048C	4	12	9	20.18963	44.14568
	YER119C-A	4	12	10	4.956872	36.00618
RGD2	YFL047W	4	12	11	18.98252	34.24417
AVT6	YER119C	4	12	12	3.161688	37.03252
FMP32	YFL046W	4	12	13	19.71639	31.21471
SHO1	YER118C	4	12	14	21.0673	36.78481
YOD1	YFL044C	4	12	15	21.90253	36.77783
RPL23B	YER117W	4	12	16	22.54378	34.22318
	YFL043C	4	12	17	26.964	42.87438
SLX8	YER116C	4	12	18	8.54379	48.36677
	YFL042C	4	12	19	18.21683	38.21753
SPR6	YER115C	4	12	20	15.18329	34.32825
FET5	YFL041W	4	12	21	31.78065	38.5455
BOI2	YER114C	4	12	22	18.53142	29.3143
	YFL040W	4	12	23	26.56309	26.24855
HIS3	YOR202W	4	12	24	16.3727	#DIV/0!
HIS3	YOR202W	4	13	1	40.22051	#DIV/0!
HLR1	YDR528W	4	13	2	27.68492	34.21677
FIR1	YER032W	4	13	3	40.83548	38.25187
	YDR525W-					
SNA2	A	4	13	4	15.23809	41.40943
YPT31	YER031C	4	13	5	58.92794	52.79473
API2	YDR525W	4	13	6	5.114075	29.03909
	YER030W	4	13	7	40.54197	40.93129
AGE1	YDR524C	4	13	8	53.53343	54.95371

MIG3	YER028C	4	13	9	20.61048	35.12214
SPS2	YDR522C	4	13	10	43.81029	46.8308
GAL83	YER027C	4	13	11	39.43287	41.40204
	YDR520C	4	13	12	24.07946	54.36376
YAT2	YER024W	4	13	13	30.59243	22.74709
FPR2	YDR519W	4	13	14	13.20859	50.91899
GPA2	YER020W	4	13	15	35.76468	31.9676
GRH1	YDR517W	4	13	16	50.54381	42.57092
ISC1	YER019W	4	13	17	61.07476	40.94302
EMI2	YDR516C	4	13	18	23.98201	39.88631
SBH2	YER019C-A	4	13	19	14.11355	19.36151
	YDR514C	4	13	20	28.18608	43.95933
BIM1	YER016W	4	13	21	35.25096	49.1388
TTR1	YDR513W	4	13	22	23.28769	53.15175
TIR1	YER011W	4	13	23	27.64999	40.67222
HIS3	YOR202W	4	13	24	30.71963	#DIV/0!
HIS3	YOR202W	4	14	1	30.30968	#DIV/0!
MAG1	YER142C	4	14	2	50.25653	32.3186
	YFR011C	4	14	3	56.26093	49.52826
	YER140W	4	14	4	40.5653	31.1138
UBP6	YFR010W	4	14	5	84.33053	69.65307
	YER139C	4	14	6	12.95625	28.64502
GCN20	YFR009W	4	14	7	30.88558	49.32655
	YER137C	4	14	8	40.59755	49.81554
FAR7	YFR008W	4	14	9	53.26105	37.05289
	YER135C	4	14	10	67.90142	71.85142
	YFR007W	4	14	11	-1.40206	37.82571
	YER134C	4	14	12	30.75611	40.39168
	YFR006W	4	14	13	39.30355	42.1875
PMD1	YER132C	4	14	14	23.09191	44.88391
AAD6	YFL056C	4	14	15	29.57909	40.63152
RPS26B	YER131W	4	14	16	36.73114	57.56286
AGP3	YFL055W	4	14	17	33.05792	44.81036
	YER130C	4	14	18	21.16596	29.10007
	YFL054C	4	14	19	37.36984	56.41848
PAK1	YER129W	4	14	20	30.08624	33.13124
DAK2	YFL053W	4	14	21	5.336589	51.08707
	YER128W	4	14	22	47.59548	31.81704
	YFL052W	4	14	23	33.68224	43.99944
HIS3	YOR202W	4	14	24	-2.86428	#DIV/0!
HIS3	YOR202W	4	15	1	42.64548	#DIV/0!
	YDR541C	4	15	2	54.33592	43.72921
SPO73	YER046W	4	15	3	54.47679	52.04877

	YDR540C	4	15	4	38.1191	46.83808
ACA1	YER045C	4	15	5	36.75878	40.07665
	YDR539W	4	15	6	38.69495	33.19095
MEI4	YER044C-A	4	15	7	48.4437	41.75692
PAD1	YDR538W	4	15	8	61.27497	51.61017
MXR1	YER042W	4	15	9	12.54643	50.65372
	YDR537C	4	15	10	22.11742	40.55002
	YER039C-A	4	15	11	43.36615	36.21269
STL1	YDR536W	4	15	12	54.14377	66.35045
YEN1	YER041W	4	15	13	6.372687	51.18263
	YDR535C	4	15	14	16.43194	54.68052
HVG1	YER039C	4	15	15	61.48248	60.88331
FIT1	YDR534C	4	15	16	51.71144	30.49376
	YER038W-					
FMP49	A	4	15	17	34.56795	44.45636
HSP31	YDR533C	4	15	18	6.107344	54.01281
EDC2	YER035W	4	15	19	41.06713	48.23245
	YDR532C	4	15	20	44.79211	40.00143
	YER034W	4	15	21	62.51711	41.26662
APA2	YDR530C	4	15	22	74.14536	36.3772
ZRG8	YER033C	4	15	23	26.69419	44.74581
HIS3	YOR202W	4	15	24	23.35197	#DIV/0!
HIS3	YOR202W	4	16	1	36.94443	#DIV/0!
HIS3	YOR202W	4	16	2	56.46612	#DIV/0!
HIS3	YOR202W	4	16	3	62.62329	#DIV/0!
HIS3	YOR202W	4	16	4	57.03788	#DIV/0!
HIS3	YOR202W	4	16	5	52.29925	#DIV/0!
HIS3	YOR202W	4	16	6	35.75316	#DIV/0!
HIS3	YOR202W	4	16	7	16.37577	#DIV/0!
HIS3	YOR202W	4	16	8	9.902601	#DIV/0!
HIS3	YOR202W	4	16	9	16.39585	#DIV/0!
HIS3	YOR202W	4	16	10	22.12437	#DIV/0!
HIS3	YOR202W	4	16	11	32.84963	#DIV/0!
HIS3	YOR202W	4	16	12	-0.39265	#DIV/0!
HIS3	YOR202W	4	16	13	24.71307	#DIV/0!
HIS3	YOR202W	4	16	14	25.34782	#DIV/0!
HIS3	YOR202W	4	16	15	27.01296	#DIV/0!
HIS3	YOR202W	4	16	16	22.12932	#DIV/0!
HIS3	YOR202W	4	16	17	41.94099	#DIV/0!
HIS3	YOR202W	4	16	18	48.58485	#DIV/0!
HIS3	YOR202W	4	16	19	10.64602	#DIV/0!
HIS3	YOR202W	4	16	20	18.67441	#DIV/0!
HIS3	YOR202W	4	16	21	22.50149	#DIV/0!

HIS3	YOR202W	4	16	22	30.89583	#DIV/0!
HIS3	YOR202W	4	16	23	44.38233	#DIV/0!
HIS3	YOR202W	4	16	24	32.25595	#DIV/0!
HIS3	YOR202W	5	1	1	38.7242	#DIV/0!
HIS3	YOR202W	5	1	2	31.07417	#DIV/0!
HIS3	YOR202W	5	1	3	53.63393	#DIV/0!
HIS3	YOR202W	5	1	4	7.694015	#DIV/0!
HIS3	YOR202W	5	1	5	29.04501	#DIV/0!
HIS3	YOR202W	5	1	6	18.49333	#DIV/0!
HIS3	YOR202W	5	1	7	37.26281	#DIV/0!
HIS3	YOR202W	5	1	8	23.27115	#DIV/0!
HIS3	YOR202W	5	1	9	37.29075	#DIV/0!
HIS3	YOR202W	5	1	10	21.8441	#DIV/0!
HIS3	YOR202W	5	1	11	36.9186	#DIV/0!
HIS3	YOR202W	5	1	12	-13.8029	#DIV/0!
HIS3	YOR202W	5	1	13	32.97631	#DIV/0!
HIS3	YOR202W	5	1	14	29.44346	#DIV/0!
HIS3	YOR202W	5	1	15	37.73508	#DIV/0!
HIS3	YOR202W	5	1	16	31.14878	#DIV/0!
HIS3	YOR202W	5	1	17	38.0503	#DIV/0!
HIS3	YOR202W	5	1	18	32.96437	#DIV/0!
HIS3	YOR202W	5	1	19	15.6704	#DIV/0!
HIS3	YOR202W	5	1	20	13.04967	#DIV/0!
HIS3	YOR202W	5	1	21	32.32855	#DIV/0!
HIS3	YOR202W	5	1	22	33.26853	#DIV/0!
HIS3	YOR202W	5	1	23	34.17546	#DIV/0!
HIS3	YOR202W	5	1	24	19.67817	#DIV/0!
HIS3	YOR202W	5	2	1	46.88271	#DIV/0!
CLG1	YGL215W	5	2	2	20.81323	51.6293
	YGR051C	5	2	3	48.87479	40.02507
	YGL214W	5	2	4	13.73137	51.76467
	YGR050C	5	2	5	27.00449	53.16308
SKI8	YGL213C	5	2	6	37.57812	39.91028
SCM4	YGR049W	5	2	7	40.26559	39.18162
VAM7	YGL212W	5	2	8	24.0368	55.59801
	YGR045C	5	2	9	10.56278	51.91257
NCS6	YGL211W	5	2	10	23.63995	47.91524
RME1	YGR044C	5	2	11	19.82679	51.21624
YPT32	YGL210W	5	2	12	32.73398	36.81975
	YGR043C	5	2	13	-19.4399	51.58158
MIG2	YGL209W	5	2	14	4.633267	45.87108
	YGR042W	5	2	15	34.01866	34.0813
SIP2	YGL208W	5	2	16	15.15057	47.06885

BUD9	YGR041W	5	2	17	33.60125	58.70131
POX1	YGL205W	5	2	18	11.25598	32.45295
KSS1	YGR040W	5	2	19	4.606378	40.01313
KEX1	YGL203C	5	2	20	32.1499	21.2946
	YGR039W	5	2	21	46.91149	20.56829
ARO8	YGL202W	5	2	22	44.94495	32.93766
ORM1	YGR038W	5	2	23	20.12554	45.14459
HIS3	YOR202W	5	2	24	18.02168	#DIV/0!
HIS3	YOR202W	5	3	1	25.18894	#DIV/0!
	YFR022W	5	3	2	6.651156	49.66424
SCY1	YGL083W	5	3	3	35.57859	38.36928
ATG18	YFR021W	5	3	4	3.774326	43.93215
	YGL082W	5	3	5	18.89395	51.46377
	YFR020W	5	3	6	22.17815	54.75245
	YGL081W	5	3	7	18.96032	31.81649
FAB1	YFR019W	5	3	8	62.28744	47.36256
FMP37	YGL080W	5	3	9	6.234111	48.64319
	YFR018C	5	3	10	17.02243	40.84492
	YGL079W	5	3	11	21.48863	38.74768
	YFR017C	5	3	12	14.07141	41.72608
DBP3	YGL078C	5	3	13	-4.89446	40.81007
	YFR016C	5	3	14	-7.55955	36.83503
HNM1	YGL077C	5	3	15	-14.3367	37.62901
GSY1	YFR015C	5	3	16	12.8001	41.55556
NPY1	YGL067W	5	3	17	17.08311	51.95626
CMK1	YFR014C	5	3	18	24.46471	34.75117
SGF73	YGL066W	5	3	19	40.40307	26.25578
IOC3	YFR013W	5	3	20	43.43531	38.60336
PYC1	YGL062W	5	3	21	14.28705	21.31671
	YFR012W	5	3	22	25.18089	37.41827
YBP2	YGL060W	5	3	23	24.40436	37.32616
HIS3	YOR202W	5	3	24	1.431999	#DIV/0!
HIS3	YOR202W	5	4	1	10.51147	#DIV/0!
SHE10	YGL228W	5	4	2	24.78609	67.49462
PEX8	YGR077C	5	4	3	-1.36527	54.63082
VID30	YGL227W	5	4	4	-1.56811	31.5483
UPF3	YGR072W	5	4	5	55.83078	48.91468
	YGL226W	5	4	6	33.08207	52.25386
	YGR071C	5	4	7	43.14798	55.03419
OST5	YGL226C-A	5	4	8	11.55094	49.05524
ROM1	YGR070W	5	4	9	10.93506	45.70369
SDT1	YGL224C	5	4	10	49.85035	35.32033
	YGR069W	5	4	11	36.42683	36.7136

EDC1	YGL222C	5	4	12	34.90539	35.85105
	YGR066C	5	4	13	41.16303	38.58911
NIF3	YGL221C	5	4	14	4.101544	49.22663
SPR3	YGR059W	5	4	15	8.830716	47.56991
MDM34	YGL219C	5	4	16	34.46662	19.7886
	YGR058W	5	4	17	30.48979	28.47922
	YGL218W	5	4	18	65.05832	-13.2913
	YGR054W	5	4	19	#DIV/0!	42.99804
	YGL217C	5	4	20	25.95482	15.85419
	YGR053C	5	4	21	20.14116	38.65795
KIP3	YGL216W	5	4	22	4.26419	31.76644
FMP48	YGR052W	5	4	23	7.23056	34.0778
HIS3	YOR202W	5	4	24	20.04713	#DIV/0!
HIS3	YOR202W	5	5	1	16.82403	#DIV/0!
PHO4	YFR034C	5	5	2	9.014936	44.30091
	YGL109W	5	5	3	-9.77632	50.05198
QCR6	YFR033C	5	5	4	18.34746	39.50019
	YGL108C	5	5	5	37.39799	45.76262
RPL29	YFR032C-A	5	5	6	25.40063	23.52749
ARC1	YGL105W	5	5	7	35.47864	58.23782
	YFR032C	5	5	8	23.1643	44.30673
VPS73	YGL104C	5	5	9	9.608858	40.05724
RPL2A	YFR031C-A	5	5	10	11.80105	46.02356
	YGL101W	5	5	11	36.65742	41.70841
MET10	YFR030W	5	5	12	13.86982	45.8027
LIF1	YGL090W	5	5	13	#DIV/0!	52.15758
	YFR026C	5	5	14	4.833925	41.20551
MF(ALPHA)2	YGL089C	5	5	15	18.86157	40.32173
HIS2	YFR025C	5	5	16	2.563943	52.56175
MMS2	YGL087C	5	5	17	36.31819	43.89358
LSB3	YFR024C-A	5	5	18	33.51815	28.88149
MAD1	YGL086W	5	5	19	47.49379	41.57163
	YFR024C	5	5	20	52.24918	40.13566
	YGL085W	5	5	21	-11.7685	30.3377
PES4	YFR023W	5	5	22	8.016787	36.83046
GUP1	YGL084C	5	5	23	37.54069	45.41704
HIS3	YOR202W	5	5	24	28.45838	#DIV/0!
HIS3	YOR202W	5	6	1	24.44682	#DIV/0!
TAD1	YGL243W	5	6	2	-0.27536	51.68819
DBF2	YGR092W	5	6	3	44.03851	42.5903
	YGL242C	5	6	4	39.50775	67.57987
NNF2	YGR089W	5	6	5	49.04915	46.34531
KAP114	YGL241W	5	6	6	9.249709	46.90658

CTT1	YGR088W	5	6	7	7.26041	40.66396
HAP2	YGL237C	5	6	8	44.9857	38.7478
PDC6	YGR087C	5	6	9	21.99692	48.95878
MT01	YGL236C	5	6	10	60.98048	28.85244
PIL1	YGR086C	5	6	11	31.65963	48.76825
	YGL235W	5	6	12	56.3267	31.42661
RPL11B	YGR085C	5	6	13	39.39967	39.85605
ADE5,7	YGL234W	5	6	14	68.32791	58.43816
MRP13	YGR084C	5	6	15	38.1766	16.76215
TAN1	YGL232W	5	6	16	20.45183	27.37138
SLX9	YGR081C	5	6	17	36.58072	17.69174
	YGL231C	5	6	18	13.91326	39.06977
TWF1	YGR080W	5	6	19	40.22585	29.76147
	YGL230C	5	6	20	19.45017	38.80326
	YGR079W	5	6	21	23.26675	40.98804
SAP4	YGL229C	5	6	22	33.82221	28.00293
PAC10	YGR078C	5	6	23	-3.46076	25.61174
HIS3	YOR202W	5	6	24	-6.16019	#DIV/0!
HIS3	YOR202W	5	7	1	34.04321	#DIV/0!
RMD8	YFR048W	5	7	2	-10.1556	47.61252
SNT2	YGL131C	5	7	3	21.45428	49.01068
BNA6	YFR047C	5	7	4	11.55953	52.24658
SOH1	YGL127C	5	7	5	49.29621	25.36889
CNN1	YFR046C	5	7	6	25.55539	50.53846
SCS3	YGL126W	5	7	7	-7.42916	39.58979
	YFR045W	5	7	8	19.07123	48.854
MET13	YGL125W	5	7	9	32.81173	43.16734
	YFR044C	5	7	10	-11.6319	40.3152
MON1	YGL124C	5	7	11	40.1798	11.34273
	YFR043C	5	7	12	26.57264	48.5217
GPG1	YGL121C	5	7	13	-0.24478	49.13528
ERJ5	YFR041C	5	7	14	19.18937	68.87598
	YGL118C	5	7	15	7.559597	44.7584
SAP155	YFR040W	5	7	16	26.62449	42.76555
	YGL117W	5	7	17	31.32502	40.39826
	YFR039C	5	7	18	24.13451	48.60051
SNF4	YGL115W	5	7	19	53.77795	17.77857
	YFR038W	5	7	20	29.32051	42.46338
	YGL114W	5	7	21	50.33494	25.35634
	YFR035C	5	7	22	37.86979	35.979
CUE3	YGL110C	5	7	23	11.89394	47.54487
HIS3	YOR202W	5	7	24	31.76075	#DIV/0!
HIS3	YOR202W	5	8	1	40.3497	#DIV/0!

MNT2	YGL257C	5	8	2	36.44233	59.63895
	YGR110W	5	8	3	17.24206	59.96801
ADH4	YGL256W	5	8	4	9.224723	63.33475
CLB6	YGR109C	5	8	5	70.54465	51.01465
ZRT1	YGL255W	5	8	6	34.9435	54.99481
CLB1	YGR108W	5	8	7	30.75596	57.69148
FZF1	YGL254W	5	8	8	13.35593	52.68921
	YGR107W	5	8	9	3.298955	56.59561
HXK2	YGL253W	5	8	10	9.211843	45.2618
	YGR106C	5	8	11	19.15047	57.88176
RTG2	YGL252C	5	8	12	30.01369	42.78575
VMA21	YGR105W	5	8	13	#DIV/0!	36.2608
HFM1	YGL251C	5	8	14	-3.68424	55.14255
PCP1	YGR101W	5	8	15	#DIV/0!	49.70399
	YGL250W	5	8	16	46.71986	49.44512
MDR1	YGR100W	5	8	17	30.33162	56.713
ZIP2	YGL249W	5	8	18	36.68491	36.10003
ASK10	YGR097W	5	8	19	41.96953	64.62403
PDE1	YGL248W	5	8	20	45.43249	34.52565
TPC1	YGR096W	5	8	21	1.523938	40.24844
RTF1	YGL244W	5	8	22	28.54289	3.996555
	YGR093W	5	8	23	29.35205	40.79286
HIS3	YOR202W	5	8	24	22.94946	#DIV/0!
HIS3	YOR202W	5	9	1	59.65734	#DIV/0!
	YGL007W	5	9	2	50.64212	34.98713
ARO2	YGL148W	5	9	3	43.50715	59.61124
PMC1	YGL006W	5	9	4	45.59756	49.41851
RPL9A	YGL147C	5	9	5	37.15267	33.47117
COG7	YGL005C	5	9	6	27.81867	48.72951
	YGL146C	5	9	7	26.02711	52.46429
RPN14	YGL004C	5	9	8	-1.1104	40.1271
ROG1	YGL144C	5	9	9	21.26261	41.91592
ERP6	YGL002W	5	9	10	45.04695	41.34009
HUL5	YGL141W	5	9	11	25.25001	52.38663
	YFR057W	5	9	12	30.57476	42.80182
	YGL140C	5	9	13	45.95875	46.67549
	YFR056C	5	9	14	9.285527	50.17541
	YGL139W	5	9	15	33.41252	32.09511
	YFR055W	5	9	16	32.05671	50.54241
	YGL138C	5	9	17	37.67831	41.04405
	YFR054C	5	9	18	-0.18818	35.79418
MRM2	YGL136C	5	9	19	17.23816	41.25967
HXK1	YFR053C	5	9	20	15.68049	45.84332

ITC1	YGL133W	5	9	21	42.20611	49.1976
YMR31	YFR049W	5	9	22	38.34615	26.04361
	YGL132W	5	9	23	43.40811	40.74744
HIS3	YOR202W	5	9	24	40.48503	#DIV/0!
HIS3	YOR202W	5	10	1	42.18125	#DIV/0!
STF2	YGR008C	5	10	2	35.81112	36.57777
	YGR130C	5	10	3	41.01938	23.54381
MUQ1	YGR007W	5	10	4	20.64533	58.69689
SYF2	YGR129W	5	10	5	42.37855	46.36585
PEX31	YGR004W	5	10	6	16.54416	54.57442
	YGR127W	5	10	7	22.25023	55.62733
CUL3	YGR003W	5	10	8	41.56154	56.77115
	YGR126W	5	10	9	26.3824	39.69996
	YGR001C	5	10	10	20.80361	41.06684
	YGR125W	5	10	11	17.16395	41.71358
COS12	YGL263W	5	10	12	26.26455	31.45695
ASN2	YGR124W	5	10	13	28.59173	31.43706
	YGL262W	5	10	14	62.63813	76.53481
PPT1	YGR123C	5	10	15	16.16338	49.12468
	YGL261C	5	10	16	40.48697	47.2797
MEP1	YGR121C	5	10	17	#DIV/0!	40.16194
	YGL260W	5	10	18	23.84223	32.10322
RPS23A	YGR118W	5	10	19	#DIV/0!	47.53959
YPS5	YGL259W	5	10	20	21.359	35.7439
	YGR117C	5	10	21	16.98881	56.25683
VEL1	YGL258W	5	10	22	9.368101	28.101
	YGR111W	5	10	23	13.32634	53.02986
HIS3	YOR202W	5	10	24	31.69167	#DIV/0!
HIS3	YOR202W	5	11	1	29.42712	#DIV/0!
PIB2	YGL023C	5	11	2	51.38958	55.44075
YIP5	YGL161C	5	11	3	48.37193	51.88847
ALK1	YGL021W	5	11	4	42.93855	45.11814
	YGL160W	5	11	5	50.06017	33.18525
MDM39	YGL020C	5	11	6	24.34202	31.08822
	YGL159W	5	11	7	-0.07514	31.09525
CKB1	YGL019W	5	11	8	23.97843	62.52214
RCK1	YGL158W	5	11	9	18.55562	44.04701
ATE1	YGL017W	5	11	10	35.03785	37.60333
	YGL157W	5	11	11	48.08284	65.77471
KAP122	YGL016W	5	11	12	70.96038	41.46669
AMS1	YGL156W	5	11	13	9.729354	48.46625
	YGL015C	5	11	14	18.07569	49.54029
LYS5	YGL154C	5	11	15	21.05505	36.67463

PUF4	YGL014W	5	11	16	27.97822	28.83269
PEX14	YGL153W	5	11	17	26.41696	36.94136
PDR1	YGL013C	5	11	18	60.69326	56.88967
	YGL152C	5	11	19	14.56558	42.85002
	YGL010W	5	11	20	23.80071	17.21622
NUT1	YGL151W	5	11	21	65.98859	50.93342
LEU1	YGL009C	5	11	22	26.28132	39.00463
	YGL149W	5	11	23	35.20848	56.02981
HIS3	YOR202W	5	11	24	37.32039	#DIV/0!
HIS3	YOR202W	5	12	1	13.41719	#DIV/0!
	YGR022C	5	12	2	19.93755	41.98435
BTN2	YGR142W	5	12	3	46.09586	53.38681
	YGR021W	5	12	4	30.09553	19.53655
VPS62	YGR141W	5	12	5	66.38116	48.973
UGA1	YGR019W	5	12	6	27.23968	54.54446
	YGR139W	5	12	7	0.406378	56.96999
	YGR018C	5	12	8	33.15949	47.66957
TPO2	YGR138C	5	12	9	22.12748	33.45519
	YGR017W	5	12	10	35.65586	49.22754
	YGR137W	5	12	11	41.12107	48.40241
	YGR016W	5	12	12	15.76573	51.52479
LSB1	YGR136W	5	12	13	30.57796	54.18209
	YGR015C	5	12	14	15.55593	49.9283
PRE9	YGR135W	5	12	15	25.56424	30.0895
MSB2	YGR014W	5	12	16	9.633324	44.18993
CAF130	YGR134W	5	12	17	44.88369	57.90344
	YGR012W	5	12	18	23.99419	38.70412
PEX4	YGR133W	5	12	19	4.072959	54.14942
	YGR011W	5	12	20	31.45248	48.66923
PHB1	YGR132C	5	12	21	22.2651	36.20644
NMA2	YGR010W	5	12	22	37.2945	42.87202
	YGR131W	5	12	23	24.6833	53.84169
HIS3	YOR202W	5	12	24	37.06482	#DIV/0!
HIS3	YOR202W	5	13	1	2.855737	#DIV/0!
	YGL041C	5	13	2	27.63797	37.81096
SAE2	YGL175C	5	13	3	36.23059	41.53858
	YGL039W	5	13	4	28.824	52.36343
BUD13	YGL174W	5	13	5	7.327883	24.84531
	YGL036W	5	13	6	55.96879	45.3536
KEM1	YGL173C	5	13	7	90.93231	82.93234
MIG1	YGL035C	5	13	8	60.97222	66.38851
SPO74	YGL170C	5	13	9	21.19815	49.41396
	YGL034C	5	13	10	37.47898	39.95467

HUR1	YGL168W	5	13	11	34.86246	-1.91933
AGA2	YGL032C	5	13	12	49.68201	65.55195
PMR1	YGL167C	5	13	13	51.45259	16.73868
RPL24A	YGL031C	5	13	14	43.05286	32.18977
CUP2	YGL166W	5	13	15	26.02628	38.64701
SCW11	YGL028C	5	13	16	19.31242	34.81853
	YGL165C	5	13	17	37.07985	49.54145
CWH41	YGL027C	5	13	18	33.1946	41.04168
YRB30	YGL164C	5	13	19	26.25939	29.57825
TRP5	YGL026C	5	13	20	41.30613	72.41394
RAD54	YGL163C	5	13	21	#DIV/0!	46.91052
	YGL024W	5	13	22	88.97161	71.03039
SUT1	YGL162W	5	13	23	43.8145	51.147
HIS3	YOR202W	5	13	24	33.85362	#DIV/0!
HIS3	YOR202W	5	14	1	7.400167	#DIV/0!
ACB1	YGR037C	5	14	2	13.35239	44.90217
RTS3	YGR161C	5	14	3	23.16224	51.31695
	YGR035C	5	14	4	41.32242	53.44766
CHO2	YGR157W	5	14	5	72.61742	45.13724
RPL26B	YGR034W	5	14	6	48.40928	58.1908
	YGR154C	5	14	7	62.14598	25.90909
FMP17	YGR033C	5	14	8	46.77966	58.1606
TOS10	YGR153W	5	14	9	52.93708	59.1804
GSC2	YGR032W	5	14	10	48.27302	67.36949
RSR1	YGR152C	5	14	11	36.44667	53.48892
	YGR031W	5	14	12	45.30311	46.71845
	YGR151C	5	14	13	21.26239	41.48229
MSP1	YGR028W	5	14	14	28.07551	53.60531
	YGR149W	5	14	15	29.67173	48.80595
RPS25A	YGR027C	5	14	16	63.17844	73.59317
RPL24B	YGR148C	5	14	17	58.56273	43.46178
	YGR026W	5	14	18	51.50711	48.21942
	YGR146C	5	14	19	59.59547	46.40141
	YGR025W	5	14	20	29.98778	33.12875
THI4	YGR144W	5	14	21	18.29138	47.49086
MTL1	YGR023W	5	14	22	10.12913	46.9907
SKN1	YGR143W	5	14	23	6.970411	32.7551
HIS3	YOR202W	5	14	24	5.952991	#DIV/0!
HIS3	YOR202W	5	15	1	11.51248	#DIV/0!
	YGL059W	5	15	2	33.87478	#DIV/0!
	YGL199C	5	15	3	59.78737	#DIV/0!
RAD6	YGL058W	5	15	4	32.23311	#DIV/0!
YIP4	YGL198W	5	15	5	47.91209	#DIV/0!

	YGL057C	5	15	6	35.54447	#DIV/0!
MDS3	YGL197W	5	15	7	50.17678	#DIV/0!
SDS23	YGL056C	5	15	8	39.64406	#DIV/0!
	YGL196W	5	15	9	48.95521	#DIV/0!
ERV14	YGL054C	5	15	10	58.18701	#DIV/0!
GCN1	YGL195W	5	15	11	44.24714	#DIV/0!
PRM8	YGL053W	5	15	12	65.70195	#DIV/0!
HOS2	YGL194C	5	15	13	20.42526	#DIV/0!
MST27	YGL051W	5	15	14	45.7339	#DIV/0!
GTS1	YGL181W	5	15	15	64.21906	#DIV/0!
	YGL050W	5	15	16	40.50079	#DIV/0!
ATG1	YGL180W	5	15	17	22.24194	#DIV/0!
	YGL046W	5	15	18	63.08408	#DIV/0!
TOS3	YGL179C	5	15	19	21.83325	#DIV/0!
RIM8	YGL045W	5	15	20	73.76697	#DIV/0!
	YGL177W	5	15	21	65.76399	#DIV/0!
DST1	YGL043W	5	15	22	65.63447	#DIV/0!
	YGL176C	5	15	23	15.24525	#DIV/0!
HIS3	YOR202W	5	15	24	7.060082	#DIV/0!
HIS3	YOR202W	5	16	1	31.74008	#DIV/0!
HIS3	YOR202W	5	16	2	37.55392	#DIV/0!
HIS3	YOR202W	5	16	3	31.6662	#DIV/0!
HIS3	YOR202W	5	16	4	19.206	#DIV/0!
HIS3	YOR202W	5	16	5	9.082818	#DIV/0!
HIS3	YOR202W	5	16	6	37.29934	#DIV/0!
HIS3	YOR202W	5	16	7	12.3627	#DIV/0!
HIS3	YOR202W	5	16	8	22.64632	#DIV/0!
HIS3	YOR202W	5	16	9	44.25205	#DIV/0!
HIS3	YOR202W	5	16	10	20.50153	#DIV/0!
HIS3	YOR202W	5	16	11	41.20891	#DIV/0!
HIS3	YOR202W	5	16	12	25.87216	#DIV/0!
HIS3	YOR202W	5	16	13	54.23153	#DIV/0!
HIS3	YOR202W	5	16	14	50.94189	#DIV/0!
HIS3	YOR202W	5	16	15	22.17765	#DIV/0!
HIS3	YOR202W	5	16	16	33.78083	#DIV/0!
HIS3	YOR202W	5	16	17	51.97084	#DIV/0!
HIS3	YOR202W	5	16	18	39.06077	#DIV/0!
HIS3	YOR202W	5	16	19	51.23042	#DIV/0!
HIS3	YOR202W	5	16	20	46.6015	#DIV/0!
HIS3	YOR202W	5	16	21	57.63553	#DIV/0!
HIS3	YOR202W	5	16	22	38.69375	#DIV/0!
HIS3	YOR202W	5	16	23	31.99408	#DIV/0!
HIS3	YOR202W	5	16	24	8.416836	#DIV/0!

HIS3	YOR202W	6	1	1	73.3949	#DIV/0!
HIS3	YOR202W	6	1	2	19.83211	#DIV/0!
HIS3	YOR202W	6	1	3	#DIV/0!	#DIV/0!
HIS3	YOR202W	6	1	4	30.25847	#DIV/0!
HIS3	YOR202W	6	1	5	10.73291	#DIV/0!
HIS3	YOR202W	6	1	6	19.03256	#DIV/0!
HIS3	YOR202W	6	1	7	20.4219	#DIV/0!
HIS3	YOR202W	6	1	8	17.42204	#DIV/0!
HIS3	YOR202W	6	1	9	46.38518	#DIV/0!
HIS3	YOR202W	6	1	10	5.379879	#DIV/0!
HIS3	YOR202W	6	1	11	58.52087	#DIV/0!
HIS3	YOR202W	6	1	12	10.19726	#DIV/0!
HIS3	YOR202W	6	1	13	2.77953	#DIV/0!
HIS3	YOR202W	6	1	14	-6.262	#DIV/0!
HIS3	YOR202W	6	1	15	-8.10935	#DIV/0!
HIS3	YOR202W	6	1	16	26.8343	#DIV/0!
HIS3	YOR202W	6	1	17	21.19987	#DIV/0!
HIS3	YOR202W	6	1	18	25.14743	#DIV/0!
HIS3	YOR202W	6	1	19	8.465489	#DIV/0!
HIS3	YOR202W	6	1	20	40.66212	#DIV/0!
HIS3	YOR202W	6	1	21	22.98051	#DIV/0!
HIS3	YOR202W	6	1	22	30.26043	#DIV/0!
HIS3	YOR202W	6	1	23	13.50734	#DIV/0!
HIS3	YOR202W	6	1	24	5.532187	#DIV/0!
HIS3	YOR202W	6	2	1	54.07631	#DIV/0!
SSF1	YHR066W	6	2	2	36.74109	-1.83794
SVP26	YHR181W	6	2	3	#DIV/0!	21.47876
GIC1	YHR061C	6	2	4	#DIV/0!	24.26471
	YHR180W	6	2	5	26.80505	54.4228
FYV4	YHR059W	6	2	6	26.28295	15.33833
OYE2	YHR179W	6	2	7	32.56714	34.08114
CPR2	YHR057C	6	2	8	12.30024	46.5276
STB5	YHR178W	6	2	9	#DIV/0!	39.61868
SMF2	YHR050W	6	2	10	39.40031	41.26905
FMO1	YHR176W	6	2	11	#DIV/0!	31.14899
FSH1	YHR049W	6	2	12	-2.67765	43.3691
ATG7	YHR171W	6	2	13	26.20935	39.376
	YHR049C-A	6	2	14	16.31251	-2.33844
THP2	YHR167W	6	2	15	13.70792	33.945
	YHR048W	6	2	16	46.80811	38.85257
SOL3	YHR163W	6	2	17	36.53648	39.46488
AAP1'	YHR047C	6	2	18	38.04386	40.55347
	YHR162W	6	2	19	22.78439	50.78123

INM1	YHR046C	6	2	20	48.76383	30.35756
YAP1801	YHR161C	6	2	21	34.30404	44.02599
	YHR045W	6	2	22	19.28223	42.48931
PEX18	YHR160C	6	2	23	-5.53848	38.29496
HIS3	YOR202W	6	2	24	8.163675	#DIV/0!
HIS3	YOR202W	6	3	1	-4.13213	#DIV/0!
PBP1	YGR178C	6	3	2	20.80026	33.31514
SHU1	YHL006C	6	3	3	90.42765	35.97089
ATF2	YGR177C	6	3	4	#DIV/0!	23.9622
	YHL005C	6	3	5	-2.13663	-25.1761
	YGR176W	6	3	6	10.85933	44.31092
LAG1	YHL003C	6	3	7	38.7211	39.44844
CBP4	YGR174C	6	3	8	19.04434	20.28977
HSE1	YHL002W	6	3	9	#DIV/0!	21.73023
RBG2	YGR173W	6	3	10	56.25964	32.2435
COS6	YGR295C	6	3	11	-6.21435	45.19996
PSD2	YGR170W	6	3	12	-10.5031	28.92077
	YGR290W	6	3	13	9.041263	37.39796
PUS6	YGR169C	6	3	14	8.145165	27.75733
MAL13	YGR288W	6	3	15	34.26153	36.66249
	YGR168C	6	3	16	47.52214	28.90426
	YGR287C	6	3	17	42.90298	38.59504
KRE11	YGR166W	6	3	18	52.86029	32.38961
BIO2	YGR286C	6	3	19	50.91913	33.64561
	YGR164W	6	3	20	5.432713	43.25105
ERV29	YGR284C	6	3	21	2.692638	33.8384
GTR2	YGR163W	6	3	22	19.02815	15.31825
	YGR283C	6	3	23	13.32971	33.97036
HIS3	YOR202W	6	3	24	7.124697	#DIV/0!
HIS3	YOR202W	6	4	1	-2.60551	#DIV/0!
KSP1	YHR082C	6	4	2	29.79625	11.55258
RPN10	YHR200W	6	4	3	16.99004	36.93192
LRP1	YHR081W	6	4	4	#DIV/0!	32.06637
FMP34	YHR199C	6	4	5	#DIV/0!	32.18207
	YHR080C	6	4	6	8.579356	47.90373
FMP22	YHR198C	6	4	7	63.9822	29.85755
	YHR079C-B	6	4	8	10.76444	46.93955
NVJ1	YHR195W	6	4	9	#DIV/0!	19.05309
IRE1	YHR079C	6	4	10	20.68609	33.74112
MDM31	YHR194W	6	4	11	14.14983	40.37862
	YHR078W	6	4	12	19.90628	45.1289
EGD2	YHR193C	6	4	13	8.5453	34.47505
NMD2	YHR077C	6	4	14	40.85651	57.85338

CTF8	YHR191C	6	4	15	26.04096	55.01425
PTC7	YHR076W	6	4	16	#DIV/0!	32.89942
PTH1	YHR189W	6	4	17	#DIV/0!	55.31896
PPE1	YHR075C	6	4	18	57.51411	53.54483
PFS1	YHR185C	6	4	19	35.57787	53.1929
OSH3	YHR073W	6	4	20	35.45995	31.48553
SSP1	YHR184W	6	4	21	21.13599	37.84258
HTD2	YHR067W	6	4	22	48.23111	68.13785
	YHR182W	6	4	23	23.62088	54.75124
HIS3	YOR202W	6	4	24	-0.36075	#DIV/0!
HIS3	YOR202W	6	5	1	-4.02915	#DIV/0!
FYV8	YGR196C	6	5	2	6.797389	13.50148
OPI1	YHL020C	6	5	3	64.26779	44.92131
XKS1	YGR194C	6	5	4	31.23337	48.63946
APM2	YHL019C	6	5	5	-8.0247	38.34408
PDX1	YGR193C	6	5	6	48.38136	54.50639
	YHL017W	6	5	7	-15.4426	49.87786
TDH3	YGR192C	6	5	8	23.66955	39.7105
DUR3	YHL016C	6	5	9	18.60103	30.23206
CRH1	YGR189C	6	5	10	0.253246	29.2793
YLF2	YHL014C	6	5	11	-3.99561	49.64768
BUB1	YGR188C	6	5	12	39.66909	55.11214
	YHL013C	6	5	13	9.237949	53.78433
HGH1	YGR187C	6	5	14	78.20812	33.16997
	YHL012W	6	5	15	5.2944	39.14626
UBR1	YGR184C	6	5	16	-12.5323	61.28926
	YHL010C	6	5	17	-1.31212	59.88016
QCR9	YGR183C	6	5	18	1.35159	44.57095
YAP3	YHL009C	6	5	19	81.98368	58.78782
	YGR182C	6	5	20	56.80174	40.63415
	YHL008C	6	5	21	18.00724	58.51234
TIM13	YGR181W	6	5	22	-6.73409	50.35579
STE20	YHL007C	6	5	23	35.12376	56.97918
HIS3	YOR202W	6	5	24	-1.40157	#DIV/0!
HIS3	YOR202W	6	6	1	46.48882	#DIV/0!
YPT35	YHR105W	6	6	2	19.09476	38.65755
	YIL006W	6	6	3	13.15401	38.97505
GRE3	YHR104W	6	6	4	37.81525	51.16817
EPS1	YIL005W	6	6	5	48.69756	50.89635
SBE22	YHR103W	6	6	6	8.57391	58.73651
INP51	YIL002C	6	6	7	46.52677	57.37947
	YHR097C	6	6	8	4.403783	45.72938
	YIL001W	6	6	9	-0.47462	30.60479

HXT5	YHR096C	6	6	10	21.69105	59.54507
	YHR210C	6	6	11	4.198754	52.46112
	YHR095W	6	6	12	46.0061	46.82004
	YHR209W	6	6	13	4.039219	50.2193
HXT1	YHR094C	6	6	14	30.96157	48.09384
SET5	YHR207C	6	6	15	7.337022	49.93622
AHT1	YHR093W	6	6	16	28.39347	42.84283
SKN7	YHR206W	6	6	17	23.16288	45.39877
HXT4	YHR092C	6	6	18	-7.06559	42.44792
MNL1	YHR204W	6	6	19	25.91754	36.67193
	YHR087W	6	6	20	16.2382	53.53263
RPS4B	YHR203C	6	6	21	35.32061	19.17096
NAM8	YHR086W	6	6	22	-16.0443	30.79198
	YHR202W	6	6	23	7.038061	52.72382
HIS3	YOR202W	6	6	24	3.793589	#DIV/0!
HIS3	YOR202W	6	7	1	36.52869	#DIV/0!
TRX2	YGR209C	6	7	2	8.846314	33.7424
GOS1	YHL031C	6	7	3	39.75921	34.44437
SER2	YGR208W	6	7	4	21.8844	46.90931
ECM29	YHL030W	6	7	5	-0.65264	47.43616
	YGR207C	6	7	6	13.2498	56.72458
	YHL029C	6	7	7	21.42274	52.86765
	YGR206W	6	7	8	7.011898	41.84002
WSC4	YHL028W	6	7	9	42.22763	42.88131
	YGR205W	6	7	10	29.84207	47.94338
RIM101	YHL027W	6	7	11	21.48387	43.71369
	YGR203W	6	7	12	20.54645	43.17148
	YHL026C	6	7	13	-1.91241	46.94733
PCT1	YGR202C	6	7	14	5.882906	31.38804
SNF6	YHL025W	6	7	15	-3.76227	62.96745
	YGR201C	6	7	16	-16.3758	42.23144
RIM4	YHL024W	6	7	17	6.621069	38.19606
ELP2	YGR200C	6	7	18	23.01523	22.88381
RMD11	YHL023C	6	7	19	22.12737	23.4551
PMT6	YGR199W	6	7	20	-6.7367	54.06651
SPO11	YHL022C	6	7	21	-10.3326	55.46735
SNG1	YGR197C	6	7	22	-4.41436	43.68343
FMP12	YHL021C	6	7	23	2.341754	57.04357
HIS3	YOR202W	6	7	24	26.77381	#DIV/0!
HIS3	YOR202W	6	8	1	40.45605	#DIV/0!
TOM71	YHR117W	6	8	2	10.4002	38.56085
SNL1	YIL016W	6	8	3	67.80894	44.35638
COX23	YHR116W	6	8	4	61.26612	3.9413

BAR1	YIL015W	6	8	5	10.79429	50.58869
DMA1	YHR115C	6	8	6	15.92164	49.05735
	YIL015C-A	6	8	7	26.42114	55.51675
BZZ1	YHR114W	6	8	8	4.562776	54.258
MNT3	YIL014W	6	8	9	22.62647	41.81424
	YHR113W	6	8	10	17.5121	47.52992
PDR11	YIL013C	6	8	11	16.54904	61.04257
	YHR112C	6	8	12	56.36624	67.58309
	YIL012W	6	8	13	38.24241	20.60984
UBA4	YHR111W	6	8	14	12.04256	51.45807
TIR3	YIL011W	6	8	15	2.818638	54.98996
ERP5	YHR110W	6	8	16	9.759205	40.0812
DOT5	YIL010W	6	8	17	19.16891	44.93235
CTM1	YHR109W	6	8	18	19.82253	46.05038
EST3	YIL009C-A	6	8	19	#DIV/0!	64.19758
GGA2	YHR108W	6	8	20	13.71357	42.48851
URM1	YIL008W	6	8	21	#DIV/0!	16.60341
TRR2	YHR106W	6	8	22	64.49547	57.55936
NAS2	YIL007C	6	8	23	8.699321	54.69772
HIS3	YOR202W	6	8	24	42.36979	#DIV/0!
HIS3	YOR202W	6	9	1	-10.1664	#DIV/0!
DIE2	YGR227W	6	9	2	18.74346	31.04561
ECM34	YHL043W	6	9	3	54.42374	49.61464
	YGR226C	6	9	4	2.764336	43.28515
	YHL042W	6	9	5	-1.12989	43.15011
AMA1	YGR225W	6	9	6	47.13246	51.27082
	YHL041W	6	9	7	23.51528	56.71468
AZR1	YGR224W	6	9	8	28.39399	47.52564
ARN1	YHL040C	6	9	9	33.04112	56.80455
HSV2	YGR223C	6	9	10	5.920883	54.29531
	YHL039W	6	9	11	62.36288	44.73034
TOS2	YGR221C	6	9	12	23.63205	55.39656
	YHL037C	6	9	13	22.43704	55.24008
CCH1	YGR217W	6	9	14	19.00864	39.45109
MUP3	YHL036W	6	9	15	36.85848	31.37255
RPS0A	YGR214W	6	9	16	3.109768	60.37559
VMR1	YHL035C	6	9	17	34.96325	34.66077
RTA1	YGR213C	6	9	18	43.44341	50.60417
SBP1	YHL034C	6	9	19	10.5967	37.0255
SLI1	YGR212W	6	9	20	-4.61158	53.82306
RPL8A	YHL033C	6	9	21	65.6283	53.25847
	YGR210C	6	9	22	32.33825	51.23551
GUT1	YHL032C	6	9	23	16.3625	57.46834

HIS3	YOR202W	6	9	24	5.646233	#DIV/0!
HIS3	YOR202W	6	10	1	5.322136	#DIV/0!
	YHR132W-A	6	10	2	23.73629	39.08763
CAP2	YIL034C	6	10	3	16.19184	47.92753
ECM14	YHR132C	6	10	4	17.38248	46.71543
	YIL032C	6	10	5	-1.2708	38.59025
	YHR131C	6	10	6	2.008186	44.96676
SSM4	YIL030C	6	10	7	35.65949	42.41009
	YHR130C	6	10	8	-4.61972	50.45091
	YIL029C	6	10	9	38.51812	43.19576
ARP1	YHR129C	6	10	10	0.822865	54.99818
	YIL028W	6	10	11	61.25366	41.46689
	YHR127W	6	10	12	#DIV/0!	54.56729
KRE27	YIL027C	6	10	13	48.48402	35.51155
	YHR126C	6	10	14	#DIV/0!	40.87691
	YIL025C	6	10	15	41.57779	43.65176
	YHR125W	6	10	16	22.96377	47.06297
	YIL024C	6	10	17	-0.86689	48.52351
NDT80	YHR124W	6	10	18	-14.9148	48.56527
	YIL023C	6	10	19	22.24251	57.40136
EPT1	YHR123W	6	10	20	26.64352	40.67155
HIS6	YIL020C	6	10	21	12.66771	33.13131
LSM12	YHR121W	6	10	22	53.00535	47.41722
VID28	YIL017C	6	10	23	68.12073	55.71807
HIS3	YOR202W	6	10	24	-15.4298	#DIV/0!
HIS3	YOR202W	6	11	1	-15.2167	#DIV/0!
KEL2	YGR238C	6	11	2	52.54375	56.53123
VPS29	YHR012W	6	11	3	-3.77084	45.18687
	YGR237C	6	11	4	21.60891	63.01971
	YHR009C	6	11	5	11.51512	35.90379
SPG1	YGR236C	6	11	6	40.73465	35.49579
STP2	YHR006W	6	11	7	7.304613	30.68797
	YGR235C	6	11	8	14.23355	49.22652
GPA1	YHR005C	6	11	9	54.65892	51.47884
YHB1	YGR234W	6	11	10	-12.4054	52.10505
NEM1	YHR004C	6	11	11	-7.15758	39.64041
PHO81	YGR233C	6	11	12	#DIV/0!	-5.57269
	YHR003C	6	11	13	1.424723	28.01088
PHB2	YGR231C	6	11	14	23.06235	59.6919
	YHR001W-A	6	11	15	38.21183	41.14345
QCR10	A	6	11	15	38.21183	41.14345
NAS6	YGR232W	6	11	16	3.005224	53.11335

ARN2	YHL047C	6	11	17	-2.76036	59.95523
BNS1	YGR230W	6	11	18	34.67763	44.36996
	YHL046C	6	11	19	13.11824	47.78273
SMI1	YGR229C	6	11	20	15.70328	33.80319
	YHL045W	6	11	21	9.260947	37.50736
	YGR228W	6	11	22	33.3697	41.76368
	YHL044W	6	11	23	13.11395	59.74744
HIS3	YOR202W	6	11	24	22.95399	#DIV/0!
HIS3	YOR202W	6	12	1	31.62364	#DIV/0!
DSE2	YHR143W	6	12	2	46.44512	47.96233
PIG2	YIL045W	6	12	3	4.994499	37.75652
CHS7	YHR142W	6	12	4	15.73843	69.77551
AGE2	YIL044C	6	12	5	#DIV/0!	51.48903
	YHR140W	6	12	6	8.681371	36.86084
CBR1	YIL043C	6	12	7	19.94704	52.26389
	YHR139C-A	6	12	8	12.35022	41.99726
	YIL042C	6	12	9	-13.491	63.90173
SPS100	YHR139C	6	12	10	50.15969	34.32944
GVP36	YIL041W	6	12	11	50.29896	28.83516
	YHR138C	6	12	12	9.173267	57.61614
APQ12	YIL040W	6	12	13	-21.8477	-11.1769
ARO9	YHR137W	6	12	14	70.83291	59.90954
	YIL039W	6	12	15	61.70658	57.73223
SPL2	YHR136C	6	12	16	-4.0555	23.79759
NOT3	YIL038C	6	12	17	4.302396	52.03735
YCK1	YHR135C	6	12	18	3.773629	37.78349
PRM2	YIL037C	6	12	19	3.587086	34.61691
WSS1	YHR134W	6	12	20	36.08261	48.42109
CST6	YIL036W	6	12	21	26.37013	32.80719
NSG1	YHR133C	6	12	22	15.07025	35.79856
CKA1	YIL035C	6	12	23	34.26541	24.75432
HIS3	YOR202W	6	12	24	-18.9281	#DIV/0!
HIS3	YOR202W	6	13	1	-1.40988	#DIV/0!
	YGR259C	6	13	2	3.379462	53.3612
	YHR029C	6	13	3	0.179923	65.51054
GND2	YGR256W	6	13	4	-27.8969	48.40461
DAP2	YHR028C	6	13	5	#DIV/0!	49.69817
	YGR250C	6	13	6	#DIV/0!	39.95297
THR1	YHR025W	6	13	7	55.72831	44.5761
MGA1	YGR249W	6	13	8	45.62198	46.71933
	YHR022C	6	13	9	30.16787	59.45271
SOL4	YGR248W	6	13	10	8.955304	61.01545

	YHR021W-					
ECM12	A	6	13	11	-0.73427	54.19453
CPD1	YGR247W	6	13	12	30.59993	45.8033
RPS27B	YHR021C	6	13	13	38.28588	60.88117
LSC2	YGR244C	6	13	14	16.61137	38.19518
ARG4	YHR018C	6	13	15	58.96735	46.42194
FMP43	YGR243W	6	13	16	#DIV/0!	44.74488
YSC83	YHR017W	6	13	17	42.60289	29.02997
	YGR242W	6	13	18	13.62754	48.75867
YSC84	YHR016C	6	13	19	34.73791	48.43812
YAP1802	YGR241C	6	13	20	55.44365	30.05486
MIP6	YHR015W	6	13	21	9.917365	46.67404
PEX21	YGR239C	6	13	22	19.63842	52.22834
SPO13	YHR014W	6	13	23	44.86853	29.16522
HIS3	YOR202W	6	13	24	18.6096	#DIV/0!
HIS3	YOR202W	6	14	1	31.90227	#DIV/0!
	YHR159W	6	14	2	10.38785	54.39167
	YIL059C	6	14	3	#DIV/0!	47.50563
KEL1	YHR158C	6	14	4	62.09386	48.89304
	YIL058W	6	14	5	4.631028	55.03773
REC104	YHR157W	6	14	6	54.7245	54.77653
	YIL057C	6	14	7	14.77932	33.50371
LIN1	YHR156C	6	14	8	#DIV/0!	41.05929
	YIL056W	6	14	9	69.78774	23.43813
YSP1	YHR155W	6	14	10	63.27751	61.11583
	YIL055C	6	14	11	11.26467	41.37605
RTT107	YHR154W	6	14	12	21.33549	46.79824
	YIL054W	6	14	13	45.36452	57.19279
SPO16	YHR153C	6	14	14	#DIV/0!	38.72151
RHR2	YIL053W	6	14	15	64.91228	72.8951
SPO12	YHR152W	6	14	16	-6.33256	18.80677
RPL34B	YIL052C	6	14	17	53.01256	56.73715
	YHR151C	6	14	18	1.531271	41.61234
PCL7	YIL050W	6	14	19	22.14533	57.56959
PEX28	YHR150W	6	14	20	-2.72875	59.61589
DFG10	YIL049W	6	14	21	35.30317	45.42446
CRP1	YHR146W	6	14	22	#DIV/0!	53.83931
SYG1	YIL047C	6	14	23	#DIV/0!	63.18884
HIS3	YOR202W	6	14	24	17.68689	#DIV/0!
HIS3	YOR202W	6	15	1	17.54641	#DIV/0!
BGL2	YGR282C	6	15	2	25.39247	#DIV/0!
DOG1	YHR044C	6	15	3	76.1745	59.4648
YOR1	YGR281W	6	15	4	66.89152	42.33403

DOG2	YHR043C	6	15	5	53.43661	43.17436
SCW4	YGR279C	6	15	6	52.12102	56.22542
SRB2	YHR041C	6	15	7	60.11349	65.55224
RTT102	YGR275W	6	15	8	#DIV/0!	50.66195
MSC7	YHR039C	6	15	9	23.50293	46.56423
YTA7	YGR270W	6	15	10	24.22931	44.74644
PUT2	YHR037W	6	15	11	54.41916	57.06293
	YGR269W	6	15	12	57.24564	57.9335
	YHR035W	6	15	13	70.04043	46.63168
HUA1	YGR268C	6	15	14	#DIV/0!	54.60571
PIH1	YHR034C	6	15	15	#DIV/0!	60.22199
	YGR266W	6	15	16	50.8638	49.28571
	YHR033W	6	15	17	9.691595	51.93094
	YGR263C	6	15	18	18.71104	47.74111
	YHR032W	6	15	19	44.74774	65.01536
APL6	YGR261C	6	15	20	95.96774	53.08199
RRM3	YHR031C	6	15	21	13.72717	59.48985
TNA1	YGR260W	6	15	22	78.5	53.84576
SLT2	YHR030C	6	15	23	100	94.5223
HIS3	YOR202W	6	15	24	29.39022	#DIV/0!
HIS3	YOR202W	6	16	1	19.86513	#DIV/0!
HIS3	YOR202W	6	16	2	-23.369	#DIV/0!
HIS3	YOR202W	6	16	3	44.38641	#DIV/0!
HIS3	YOR202W	6	16	4	#DIV/0!	#DIV/0!
HIS3	YOR202W	6	16	5	78.94737	#DIV/0!
HIS3	YOR202W	6	16	6	-5.94711	#DIV/0!
HIS3	YOR202W	6	16	7	16.3406	#DIV/0!
HIS3	YOR202W	6	16	8	-10.0312	#DIV/0!
HIS3	YOR202W	6	16	9	-20.6579	#DIV/0!
HIS3	YOR202W	6	16	10	19.9324	#DIV/0!
HIS3	YOR202W	6	16	11	41.62154	#DIV/0!
HIS3	YOR202W	6	16	12	-19.7093	#DIV/0!
HIS3	YOR202W	6	16	13	35.85822	#DIV/0!
HIS3	YOR202W	6	16	14	48.59316	#DIV/0!
HIS3	YOR202W	6	16	15	2.507672	#DIV/0!
HIS3	YOR202W	6	16	16	-27.0098	#DIV/0!
HIS3	YOR202W	6	16	17	-2.05263	#DIV/0!
HIS3	YOR202W	6	16	18	-10.0082	#DIV/0!
HIS3	YOR202W	6	16	19	-12.1956	#DIV/0!
HIS3	YOR202W	6	16	20	-16.1339	#DIV/0!
HIS3	YOR202W	6	16	21	-2.82043	#DIV/0!
HIS3	YOR202W	6	16	22	38.77759	#DIV/0!
HIS3	YOR202W	6	16	23	50.5007	#DIV/0!

HIS3	YOR202W	6	16	24	-2.69978	#DIV/0!
HIS3	YOR202W	7	1	1	47.7708	#DIV/0!
HIS3	YOR202W	7	1	2	40.38395	#DIV/0!
HIS3	YOR202W	7	1	3	13.66037	#DIV/0!
HIS3	YOR202W	7	1	4	22.4272	#DIV/0!
HIS3	YOR202W	7	1	5	49.88736	#DIV/0!
HIS3	YOR202W	7	1	6	-0.41928	#DIV/0!
HIS3	YOR202W	7	1	7	21.46954	#DIV/0!
HIS3	YOR202W	7	1	8	-9.09607	#DIV/0!
HIS3	YOR202W	7	1	9	20.80531	#DIV/0!
HIS3	YOR202W	7	1	10	36.72352	#DIV/0!
HIS3	YOR202W	7	1	11	-8.35666	#DIV/0!
HIS3	YOR202W	7	1	12	10.98883	#DIV/0!
HIS3	YOR202W	7	1	13	-0.95144	#DIV/0!
HIS3	YOR202W	7	1	14	14.50915	#DIV/0!
HIS3	YOR202W	7	1	15	45.39158	#DIV/0!
HIS3	YOR202W	7	1	16	15.10454	#DIV/0!
HIS3	YOR202W	7	1	17	5.7703	#DIV/0!
HIS3	YOR202W	7	1	18	3.998793	#DIV/0!
HIS3	YOR202W	7	1	19	0.519678	#DIV/0!
HIS3	YOR202W	7	1	20	3.590053	#DIV/0!
HIS3	YOR202W	7	1	21	28.59914	#DIV/0!
HIS3	YOR202W	7	1	22	14.12521	#DIV/0!
HIS3	YOR202W	7	1	23	48.54083	#DIV/0!
HIS3	YOR202W	7	1	24	37.97724	#DIV/0!
HIS3	YOR202W	7	2	1	74.82021	#DIV/0!
GZF3	YJL110C	7	2	2	34.25023	47.60832
	YJL215C	7	2	3	35.18566	39.43638
PRM10	YJL108C	7	2	4	29.99452	28.28782
HXT8	YJL214W	7	2	5	33.11709	53.70342
SET4	YJL105W	7	2	6	15.97757	39.60415
	YJL213W	7	2	7	24.66565	-14.1195
GSH1	YJL101C	7	2	8	48.65296	33.98934
OPT1	YJL212C	7	2	9	36.35001	9.671502
LSB6	YJL100W	7	2	10	42.31195	14.57908
	YJL211C	7	2	11	42.74516	31.88341
CHS6	YJL099W	7	2	12	38.98858	57.93083
PEX2	YJL210W	7	2	13	6.038144	42.575
SAP185	YJL098W	7	2	14	#DIV/0!	10.04969
NUC1	YJL208C	7	2	15	13.8681	24.12715
BCK1	YJL095W	7	2	16	1.267879	47.19278
	YJL207C	7	2	17	-0.699	29.77346
KHA1	YJL094C	7	2	18	#DIV/0!	30.54083

	YJL206C-A	7	2	19	11.0038	21.63324
TOK1	YJL093C	7	2	20	23.02256	29.91992
	YJL206C	7	2	21	43.56508	22.76062
SIP4	YJL089W	7	2	22	4.118804	43.64704
RCY1	YJL204C	7	2	23	3.32599	14.24682
HIS3	YOR202W	7	2	24	-9.92165	#DIV/0!
HIS3	YOR202W	7	3	1	#DIV/0!	#DIV/0!
SEC28	YIL076W	7	3	2	36.0773	30.67695
	YIR020C	7	3	3	57.73154	15.77167
SER33	YIL074C	7	3	4	-0.67286	28.01865
MUC1	YIR019C	7	3	5	25.5661	15.1139
SPO22	YIL073C	7	3	6	19.55394	45.1816
YAP5	YIR018W	7	3	7	12.42822	27.11357
HOP1	YIL072W	7	3	8	21.22667	34.25635
MET28	YIR017C	7	3	9	11.70689	31.1778
PCI8	YIL071C	7	3	10	36.86233	37.92357
	YIR016W	7	3	11	0.03742	26.32539
MAM33	YIL070C	7	3	12	27.78934	34.67822
	YIR014W	7	3	13	11.1672	45.27692
	YIL067C	7	3	14	56.06061	18.9896
GAT4	YIR013C	7	3	15	2.037701	29.06442
RNR3	YIL066C	7	3	16	15.21541	22.42597
MSL1	YIR009W	7	3	17	6.390397	41.34706
FIS1	YIL065C	7	3	18	-1.4606	29.76842
	YIR007W	7	3	19	48.43445	54.67993
	YIL064W	7	3	20	34.529	25.26404
IST3	YIR005W	7	3	21	21.83383	16.93578
	YIL060W	7	3	22	37.03603	40.11271
	YIR003W	7	3	23	5.675394	38.178
HIS3	YOR202W	7	3	24	3.925965	#DIV/0!
HIS3	YOR202W	7	4	1	68.1054	#DIV/0!
	YJL131C	7	4	2	40.3791	43.38887
	YJR011C	7	4	3	52.75608	58.26585
URA2	YJL130C	7	4	4	14.92056	17.80874
MET3	YJR010W	7	4	5	31.5081	34.88083
PBS2	YJL128C	7	4	6	21.40439	26.06538
SPC1	YJR010C-A	7	4	7	29.2618	41.95291
NIT2	YJL126W	7	4	8	10.48045	18.67954
TDH2	YJR009C	7	4	9	16.25967	22.19947
LSM1	YJL124C	7	4	10	28.4877	54.69176
	YJR008W	7	4	11	13.84545	42.0345
	YJL123C	7	4	12	14.33814	25.64111
APL1	YJR005W	7	4	13	13.95024	29.59685

	YJL122W	7	4	14	36.62504	39.79278
	YJR003C	7	4	15	62.01693	59.42503
RPE1	YJL121C	7	4	16	18.4159	7.655784
AVT1	YJR001W	7	4	17	18.30617	30.76948
NCA3	YJL116C	7	4	18	61.8551	57.7802
	YJL218W	7	4	19	34.04194	30.59075
ASF1	YJL115W	7	4	20	72.1756	35.30948
	YJL217W	7	4	21	21.70957	24.90913
MDV1	YJL112W	7	4	22	14.58181	38.08756
	YJL216C	7	4	23	41.20267	49.71867
HIS3	YOR202W	7	4	24	11.9288	#DIV/0!
HIS3	YOR202W	7	5	1	77.26236	#DIV/0!
PRK1	YIL095W	7	5	2	43.15202	1.376147
MGA2	YIR033W	7	5	3	30.32771	30.9719
RSM25	YIL093C	7	5	4	43.7838	44.68183
DAL3	YIR032C	7	5	5	39.21682	26.09274
	YIL092W	7	5	6	41.22262	18.63813
DAL7	YIR031C	7	5	7	38.56436	43.47191
ICE2	YIL090W	7	5	8	17.60007	58.74185
DCG1	YIR030C	7	5	9	19.74513	25.28784
	YIL089W	7	5	10	55.25866	57.01375
DAL2	YIR029W	7	5	11	11.1147	32.10751
AVT7	YIL088C	7	5	12	50.00596	57.68641
DAL4	YIR028W	7	5	13	23.69568	42.20516
	YIL087C	7	5	14	7.600052	46.59544
DAL1	YIR027C	7	5	15	6.122696	29.0172
	YIL086C	7	5	16	14.21783	33.35867
MND2	YIR025W	7	5	17	10.14981	47.67732
SDS3	YIL084C	7	5	18	55.66513	37.94379
GIF1	YIR024C	7	5	19	37.10336	11.02279
AIR1	YIL079C	7	5	20	11.51909	43.18105
DAL81	YIR023W	7	5	21	13.64936	23.82281
	YIL077C	7	5	22	29.92361	52.6917
	YIR020W-B	7	5	23	#DIV/0!	25.78851
HIS3	YOR202W	7	5	24	32.22976	#DIV/0!
HIS3	YOR202W	7	6	1	46.63869	#DIV/0!
	YJL144W	7	6	2	38.76463	34.32879
CPR7	YJR032W	7	6	3	39.23194	37.92028
	YJL142C	7	6	4	11.23682	47.02553
GEA1	YJR031C	7	6	5	12.03122	47.02277
YAK1	YJL141C	7	6	6	37.78894	45.8675
	YJR030C	7	6	7	12.23057	39.22956
YUR1	YJL139C	7	6	8	7.653637	39.76197

	YJR026W	7	6	9	16.954	26.63061
TIF2	YJL138C	7	6	10	80.14676	18.4862
BNA1	YJR025C	7	6	11	2.025525	33.0235
GLG2	YJL137C	7	6	12	16.16224	44.19198
	YJR024C	7	6	13	11.10164	38.84404
RPS21B	YJL136C	7	6	14	16.40041	48.41618
REC107	YJR021C	7	6	15	4.527059	40.44028
	YJL135W	7	6	16	31.62676	37.09283
	YJR020W	7	6	17	17.4143	33.74566
LCB3	YJL134W	7	6	18	6.708104	17.16694
TES1	YJR019C	7	6	19	11.7803	36.24025
MRS3	YJL133W	7	6	20	36.19718	27.04331
	YJR015W	7	6	21	-1.34615	31.13314
	YJL132W	7	6	22	40.80967	26.17335
RBF22	YJR014W	7	6	23	12.69657	29.36011
HIS3	YOR202W	7	6	24	6.159689	#DIV/0!
HIS3	YOR202W	7	7	1	85.19313	#DIV/0!
	YIL110W	7	7	2	66.34363	50.97267
	YJL007C	7	7	3	50.29534	47.48114
	YIL108W	7	7	4	38.27625	36.69446
SYS1	YJL004C	7	7	5	34.54136	23.01113
PFK26	YIL107C	7	7	6	26.41688	43.7593
	YIR044C	7	7	7	14.5165	34.50808
LIT2	YIL105C	7	7	8	2.12414	57.01159
	YIR043C	7	7	9	8.725911	26.4186
DPH1	YIL103W	7	7	10	24.85665	27.1053
	YIR042C	7	7	11	38.9013	23.29571
XBP1	YIL101C	7	7	12	48.84476	35.69654
YPS6	YIR039C	7	7	13	24.18227	49.09601
	YIL100W	7	7	14	25.19417	36.29777
GTT1	YIR038C	7	7	15	30.59072	32.33227
SGA1	YIL099W	7	7	16	50.96106	31.66408
HYR1	YIR037W	7	7	17	32.65788	36.58001
FMC1	YIL098C	7	7	18	33.70114	46.15978
	YIR036C	7	7	19	56.92452	54.66792
FYV10	YIL097W	7	7	20	29.93874	49.28528
	YIR035C	7	7	21	24.02002	42.26515
	YIL096C	7	7	22	36.82871	41.18804
LYS1	YIR034C	7	7	23	29.56513	40.96211
HIS3	YOR202W	7	7	24	0.780206	#DIV/0!
HIS3	YOR202W	7	8	1	28.96996	#DIV/0!
FBP26	YJL155C	7	8	2	#DIV/0!	32.21652
ISY1	YJR050W	7	8	3	27.65884	32.80727

VPS35	YJL154C	7	8	4	44.02971	42.30014
UTR1	YJR049C	7	8	5	23.22889	54.6845
INO1	YJL153C	7	8	6	16.39696	34.74576
CYC1	YJR048W	7	8	7	19.02407	22.00413
	YJL152W	7	8	8	25.71535	46.69144
ANB1	YJR047C	7	8	9	11.99567	23.02577
SNA3	YJL151C	7	8	10	29	55.0322
POL32	YJR043C	7	8	11	33.85598	32.65704
	YJL150W	7	8	12	25.99093	36.10518
GEF1	YJR040W	7	8	13	21.39213	35.92995
	YJL149W	7	8	14	15.55399	54.16346
	YJR038C	7	8	15	8.352542	24.98136
RPA34	YJL148W	7	8	16	15.92619	49.16349
	YJR037W	7	8	17	4.436392	31.15211
	YJL147C	7	8	18	12.44308	34.53055
HUL4	YJR036C	7	8	19	9.87231	48.21364
IDS2	YJL146W	7	8	20	41.46973	31.52032
RAD26	YJR035W	7	8	21	31.473	26.51947
SFH5	YJL145W	7	8	22	19.61102	47.58028
RAV1	YJR033C	7	8	23	6.202271	22.70741
HIS3	YOR202W	7	8	24	22.31725	#DIV/0!
HIS3	YOR202W	7	9	1	21.86533	#DIV/0!
GIN1	YIL130W	7	9	2	17.54745	41.84466
	YJL028W	7	9	3	18.52088	51.4514
MET18	YIL128W	7	9	4	18.98921	24.11546
	YJL027C	7	9	5	33.76887	23.46795
AYR1	YIL124W	7	9	6	8.290944	27.10476
APS3	YJL024C	7	9	7	6.3126	21.78292
SIM1	YIL123W	7	9	8	17.66222	22.93743
PET130	YJL023C	7	9	9	#DIV/0!	56.41429
QDR1	YIL120W	7	9	10	7.320674	51.41733
	YJL022W	7	9	11	26.24604	32.22489
RPI1	YIL119C	7	9	12	1.643552	45.72692
	YJL021C	7	9	13	2.354111	25.63522
PRM5	YIL117C	7	9	14	24.77286	47.1285
BBC1	YJL020C	7	9	15	20.58915	28.83333
HIS5	YIL116W	7	9	16	-2.49869	49.7853
	YJL017W	7	9	17	9.245123	42.72347
POR2	YIL114C	7	9	18	18.55456	28.03994
	YJL016W	7	9	19	20.99171	37.69828
SDP1	YIL113W	7	9	20	23.76166	55.53545
MAD3	YJL013C	7	9	21	8.62589	43.41564
HOS4	YIL112W	7	9	22	33.56159	53.60689

VTC4	YJL012C	7	9	23	10.38978	28.2717
HIS3	YOR202W	7	9	24	12.72539	#DIV/0!
HIS3	YOR202W	7	10	1	9.502709	#DIV/0!
	YJL169W	7	10	2	37.5363	46.4637
LIA1	YJR070C	7	10	3	46.30792	26.68464
SET2	YJL168C	7	10	4	24.8652	43.6217
HAM1	YJR069C	7	10	5	15.96246	46.11323
HAL5	YJL165C	7	10	6	10.42696	55.02449
NTA1	YJR062C	7	10	7	25.86247	28.37183
TPK1	YJL164C	7	10	8	34.39236	37.00919
	YJR061W	7	10	9	30.01328	43.32437
	YJL163C	7	10	10	29.78569	43.60755
CBF1	YJR060W	7	10	11	25.24277	27.99504
JJ2	YJL162C	7	10	12	18.55666	39.3183
PTK2	YJR059W	7	10	13	13.67394	32.61599
FMP33	YJL161W	7	10	14	16.46137	35.13065
APS2	YJR058C	7	10	15	9.627057	47.77466
	YJL160C	7	10	16	8.27646	60.89241
	YJR054W	7	10	17	11.75761	39.9122
HSP150	YJL159W	7	10	18	4.89723	51.99213
BFA1	YJR053W	7	10	19	18.87314	52.08657
CIS3	YJL158C	7	10	20	26.86813	45.81961
RAD7	YJR052W	7	10	21	2.710864	49.71958
FAR1	YJL157C	7	10	22	11.69155	48.90309
OSM1	YJR051W	7	10	23	62.41906	31.82731
HIS3	YOR202W	7	10	24	29.84778	#DIV/0!
HIS3	YOR202W	7	11	1	29.41265	#DIV/0!
ECM37	YIL146C	7	11	2	37.53181	54.28964
UBX6	YJL048C	7	11	3	14.68951	42.4453
PAN6	YIL145C	7	11	4	-18.2228	41.49546
RTT101	YJL047C	7	11	5	14.23043	38.74957
	YIL141W	7	11	6	2.776484	41.83087
	YJL046W	7	11	7	29.218	34.31214
AXL2	YIL140W	7	11	8	8.926363	38.67091
	YJL045W	7	11	9	28.20234	44.35154
REV7	YIL139C	7	11	10	20.96499	48.40502
GYP6	YJL044C	7	11	11	13.89994	38.33352
TPM2	YIL138C	7	11	12	15.20215	46.01585
	YJL043W	7	11	13	19.19093	40.29257
RBF108	YIL137C	7	11	14	30.27561	34.1401
MHP1	YJL042W	7	11	15	7.741018	41.70651
VHS2	YIL135C	7	11	16	31.52226	48.83854
	YJL038C	7	11	17	17.53967	#DIV/0!

FLX1	YIL134W	7	11	18	26.6143	#DIV/0!
	YJL037W	7	11	19	27.44518	45.17339
RPL16A	YIL133C	7	11	20	44.5295	42.1796
SNX4	YJL036W	7	11	21	13.77244	50.43154
CSM2	YIL132C	7	11	22	5.549091	57.39135
MAD2	YJL030W	7	11	23	24.50176	45.39838
HIS3	YOR202W	7	11	24	33.93101	#DIV/0!
HIS3	YOR202W	7	12	1	17.4348	#DIV/0!
MNN5	YJL186W	7	12	2	35.02767	44.83443
	YJR087W	7	12	3	23.56348	38.06507
	YJL185C	7	12	4	2.084556	39.16968
CSN12	YJR084W	7	12	5	46.37163	42.48767
MNN11	YJL183W	7	12	6	21.01784	22.09951
ACF4	YJR083C	7	12	7	17.02389	44.94752
	YJL182C	7	12	8	7.222796	50.65747
EAF6	YJR082C	7	12	9	47.00193	22.0017
	YJL181W	7	12	10	26.10835	29.87116
FMP26	YJR080C	7	12	11	28.22178	38.01618
ATG27	YJL178C	7	12	12	0.980593	55.87654
	YJR079W	7	12	13	16.63608	23.78276
SWI3	YJL176C	7	12	14	5.903944	49.98052
BNA2	YJR078W	7	12	15	6.95806	46.88494
	YJL175W	7	12	16	20.21645	55.21114
MIR1	YJR077C	7	12	17	13.14708	#DIV/0!
CPS1	YJL172W	7	12	18	8.407078	#DIV/0!
HOC1	YJR075W	7	12	19	17.04339	27.99978
	YJL171C	7	12	20	5.812764	60.81204
MOG1	YJR074W	7	12	21	59.32203	40.88969
ASG7	YJL170C	7	12	22	18.36038	48.60526
OPI3	YJR073C	7	12	23	19.86079	48.71881
HIS3	YOR202W	7	12	24	23.26724	#DIV/0!
HIS3	YOR202W	7	13	1	25.82758	#DIV/0!
	YIL161W	7	13	2	20.95964	52.39275
DLS1	YJL065C	7	13	3	#DIV/0!	51.75917
POT1	YIL160C	7	13	4	38.39544	38.60646
	YJL064W	7	13	5	16.73449	46.42154
BNR1	YIL159W	7	13	6	3.492189	48.00277
LAS21	YJL062W	7	13	7	17.86973	33.20954
FMP35	YIL157C	7	13	8	23.85519	43.12603
BNA3	YJL060W	7	13	9	2.971384	31.09009
UBP7	YIL156W	7	13	10	12.99898	34.49572
YHC3	YJL059W	7	13	11	0.046589	40.78596
GUT2	YIL155C	7	13	12	14.6658	47.0035

BIT61	YJL058C	7	13	13	9.135552	35.18152
IMP2'	YIL154C	7	13	14	21.90313	52.28834
IKS1	YJL057C	7	13	15	22.38092	50.69174
RRD1	YIL153W	7	13	16	12.71064	58.04691
	YJL055W	7	13	17	28.07245	60.63377
	YIL152W	7	13	18	5.651009	52.39651
PEP8	YJL053W	7	13	19	14.89431	42.11125
MLP2	YIL149C	7	13	20	10.25048	57.8226
	YJL051W	7	13	21	8.112987	12.05836
RPL40A	YIL148W	7	13	22	37.29663	61.12102
	YJL049W	7	13	23	39.67426	46.60176
HIS3	YOR202W	7	13	24	31.49991	#DIV/0!
HIS3	YOR202W	7	14	1	60.67103	#DIV/0!
ECM25	YJL201W	7	14	2	59.35757	#DIV/0!
YUH1	YJR099W	7	14	3	66.80873	63.20703
MBB1	YJL199C	7	14	4	34.41558	42.42251
	YJR098C	7	14	5	33.14241	45.20132
PHO90	YJL198W	7	14	6	31.42791	43.43719
JJJ3	YJR097W	7	14	7	39.54175	50.37772
UBP12	YJL197W	7	14	8	31.99531	44.87288
	YJR096W	7	14	9	33.38163	25.79785
ELO1	YJL196C	7	14	10	27.85523	54.34493
SFC1	YJR095W	7	14	11	37.63941	55.68714
	YJL193W	7	14	12	36.9697	57.32902
	YJR094W-					
RPL43B	A	7	14	13	20.84681	49.24494
SOP4	YJL192C	7	14	14	24.0307	53.03948
IME1	YJR094C	7	14	15	0.50942	42.48374
RPS14B	YJL191W	7	14	16	19.90386	43.82435
BUD4	YJR092W	7	14	17	19.1874	21.41441
RPS22A	YJL190C	7	14	18	39.58363	39.62799
JSN1	YJR091C	7	14	19	6.075602	60.27102
BUD19	YJL188C	7	14	20	36.78122	61.94472
GRR1	YJR090C	7	14	21	10.00576	#DIV/0!
SWE1	YJL187C	7	14	22	22.62172	50.38937
	YJR088C	7	14	23	22.65304	41.21521
HIS3	YOR202W	7	14	24	34.00512	#DIV/0!
HIS3	YOR202W	7	15	1	#DIV/0!	#DIV/0!
MPH1	YIR002C	7	15	2	89.90634	77.28423
ARG3	YJL088W	7	15	3	49.67532	21.67089
SGN1	YIR001C	7	15	4	42.75723	67.50825
	YJL084C	7	15	5	8.298104	61.15546
VTH1	YIL173W	7	15	6	27.17975	35.98238

TAX4	YJL083W	7	15	7	57.22222	37.96676
HXT12	YIL170W	7	15	8	21.13489	47.81903
PRY3	YJL078C	7	15	9	26.42962	50.33725
SDL1	YIL168W	7	15	10	14.84725	56.01235
ICS3	YJL077C	7	15	11	#DIV/0!	45.26854
SDL1	YIL167W	7	15	12	43.38302	40.99666
JEM1	YJL073W	7	15	13	37.00402	56.44613
	YIL166C	7	15	14	18.50204	40.93938
ARG2	YJL071W	7	15	15	33.64304	49.41623
	YIL165C	7	15	16	19.09885	38.3078
	YJL070C	7	15	17	#DIV/0!	55.49415
NIT1	YIL164C	7	15	18	30.04423	43.32638
	YJL068C	7	15	19	20.61348	44.52592
	YIL163C	7	15	20	21.26286	45.27166
	YJL067W	7	15	21	47.9892	51.15364
SUC2	YIL162W	7	15	22	60.24169	63.83548
MPM1	YJL066C	7	15	23	76.19647	38.39804
HIS3	YOR202W	7	15	24	23.05273	#DIV/0!
HIS3	YOR202W	7	16	1	62.18504	#DIV/0!
HIS3	YOR202W	7	16	2	52.76863	#DIV/0!
HIS3	YOR202W	7	16	3	58.32751	#DIV/0!
HIS3	YOR202W	7	16	4	54.15006	#DIV/0!
HIS3	YOR202W	7	16	5	39.00292	#DIV/0!
HIS3	YOR202W	7	16	6	58.07623	#DIV/0!
HIS3	YOR202W	7	16	7	29.51861	#DIV/0!
HIS3	YOR202W	7	16	8	15.16534	#DIV/0!
HIS3	YOR202W	7	16	9	29.68826	#DIV/0!
HIS3	YOR202W	7	16	10	16.34339	#DIV/0!
HIS3	YOR202W	7	16	11	9.368952	#DIV/0!
HIS3	YOR202W	7	16	12	24.54545	#DIV/0!
HIS3	YOR202W	7	16	13	11.53687	#DIV/0!
HIS3	YOR202W	7	16	14	20.82576	#DIV/0!
HIS3	YOR202W	7	16	15	16.19249	#DIV/0!
HIS3	YOR202W	7	16	16	15.44883	#DIV/0!
HIS3	YOR202W	7	16	17	10.37394	#DIV/0!
HIS3	YOR202W	7	16	18	13.14793	#DIV/0!
HIS3	YOR202W	7	16	19	8.999413	#DIV/0!
HIS3	YOR202W	7	16	20	14.67754	#DIV/0!
HIS3	YOR202W	7	16	21	29.07879	#DIV/0!
HIS3	YOR202W	7	16	22	25.99124	#DIV/0!
HIS3	YOR202W	7	16	23	17.14514	#DIV/0!
HIS3	YOR202W	7	16	24	35.68742	#DIV/0!
HIS3	YOR202W	8	1	1	17.5493	#DIV/0!

HIS3	YOR202W	8	1	2	9.803929	#DIV/0!
HIS3	YOR202W	8	1	3	12.21997	#DIV/0!
HIS3	YOR202W	8	1	4	36.18506	#DIV/0!
HIS3	YOR202W	8	1	5	13.22311	#DIV/0!
HIS3	YOR202W	8	1	6	27.81013	#DIV/0!
HIS3	YOR202W	8	1	7	31.17164	#DIV/0!
HIS3	YOR202W	8	1	8	42.71052	#DIV/0!
HIS3	YOR202W	8	1	9	45.46983	#DIV/0!
HIS3	YOR202W	8	1	10	40.72495	#DIV/0!
HIS3	YOR202W	8	1	11	39.43731	#DIV/0!
HIS3	YOR202W	8	1	12	26.11342	#DIV/0!
HIS3	YOR202W	8	1	13	14.70019	#DIV/0!
HIS3	YOR202W	8	1	14	24.98425	#DIV/0!
HIS3	YOR202W	8	1	15	43.90235	#DIV/0!
HIS3	YOR202W	8	1	16	24.28837	#DIV/0!
HIS3	YOR202W	8	1	17	12.23695	#DIV/0!
HIS3	YOR202W	8	1	18	38.93114	#DIV/0!
HIS3	YOR202W	8	1	19	42.50731	#DIV/0!
HIS3	YOR202W	8	1	20	43.25217	#DIV/0!
HIS3	YOR202W	8	1	21	35.01287	#DIV/0!
HIS3	YOR202W	8	1	22	27.93066	#DIV/0!
HIS3	YOR202W	8	1	23	24.46448	#DIV/0!
HIS3	YOR202W	8	1	24	34.39505	#DIV/0!
HIS3	YOR202W	8	2	1	27.06069	#DIV/0!
	YKL187C	8	2	2	44.80023	38.69048
TIF1	YKR059W	8	2	3	33.39682	51.934
ASH1	YKL185W	8	2	4	37.33207	50.45499
GLG1	YKR058W	8	2	5	63.54551	57.54729
SPE1	YKL184W	8	2	6	45.65552	44.55966
RPS21A	YKR057W	8	2	7	12.01287	18.07478
LOT5	YKL183W	8	2	8	6.139764	18.80839
TRM2	YKR056W	8	2	9	9.576642	39.58645
COY1	YKL179C	8	2	10	-3.15785	10.32914
RHO4	YKR055W	8	2	11	46.49162	7.998338
STE3	YKL178C	8	2	12	4.659141	37.17765
DYN1	YKR054C	8	2	13	-18.3893	44.33395
	YKL177W	8	2	14	23.31082	38.38782
YSR3	YKR053C	8	2	15	43.50702	13.37874
LST4	YKL176C	8	2	16	4.678892	32.9692
MRS4	YKR052C	8	2	17	1.917864	-9.99037
ZRT3	YKL175W	8	2	18	4.606115	32.9258
	YKR051W	8	2	19	32.48312	31.09134
TPO5	YKL174C	8	2	20	-12.1163	35.69929

TRK2	YKR050W	8	2	21	0.504922	43.02794
	YKL171W	8	2	22	32.90274	9.903128
FMP46	YKR049C	8	2	23	11.19938	41.70292
HIS3	YOR202W	8	2	24	15.47371	#DIV/0!
HIS3	YOR202W	8	3	1	58.48262	#DIV/0!
STE24	YJR117W	8	3	2	35.35501	39.97353
LHS1	YKL073W	8	3	3	31.02885	56.19504
	YJR116W	8	3	4	41.50739	53.99621
STB6	YKL072W	8	3	5	7.271707	51.96637
	YJR115W	8	3	6	41.1448	38.40165
	YKL071W	8	3	7	9.711443	39.76707
	YJR111C	8	3	8	14.90876	27.57891
	YKL070W	8	3	9	34.23816	42.87751
YMR1	YJR110W	8	3	10	28.80283	38.07746
	YKL069W	8	3	11	62.41039	40.98535
CPA2	YJR109C	8	3	12	36.00004	46.23017
NUP100	YKL068W	8	3	13	10.73049	43.83945
ABM1	YJR108W	8	3	14	-2.41567	28.97809
YNK1	YKL067W	8	3	15	24.15593	33.16869
	YJR107W	8	3	16	29.05552	42.82063
	YKL066W	8	3	17	9.451519	24.00061
ECM27	YJR106W	8	3	18	40.83926	21.61373
YET1	YKL065C	8	3	19	6.681418	42.58634
URA8	YJR103W	8	3	20	19.33631	29.3286
MNR2	YKL064W	8	3	21	50.15137	42.71533
	YJR100C	8	3	22	43.80194	4.510785
	YKL063C	8	3	23	20.916	16.52798
HIS3	YOR202W	8	3	24	15.82525	#DIV/0!
HIS3	YOR202W	8	4	1	58.01545	#DIV/0!
LOS1	YKL205W	8	4	2	15.18435	54.3963
ECM4	YKR076W	8	4	3	42.03848	37.47797
EAP1	YKL204W	8	4	4	65.04054	56.01439
	YKR074W	8	4	5	3.48798	30.11642
	YKL202W	8	4	6	52.65638	52.58892
SIS2	YKR072C	8	4	7	32.79182	35.74238
MNN4	YKL201C	8	4	8	25.33541	47.42525
	YKR070W	8	4	9	48.5029	35.20184
	YKL200C	8	4	10	7.296817	33.87391
MET1	YKR069W	8	4	11	-28.7171	46.52458
YKT9	YKL199C	8	4	12	0.715698	31.74885
GPT2	YKR067W	8	4	13	9.764923	53.90509
PTK1	YKL198C	8	4	14	-26.7023	47.28452
CCP1	YKR066C	8	4	15	10.69788	31.43167

PEX1	YKL197C	8	4	16	21.51412	48.75085
FMP18	YKR065C	8	4	17	-7.41158	40.08432
DPH2	YKL191W	8	4	18	-2.03693	53.45069
	YKR064W	8	4	19	39.51101	38.8486
CNB1	YKL190W	8	4	20	41.64262	43.4917
KTR2	YKR061W	8	4	21	20.73224	41.10056
PXA2	YKL188C	8	4	22	28.71193	46.64995
UTP30	YKR060W	8	4	23	36.89816	29.62069
HIS3	YOR202W	8	4	24	12.28645	#DIV/0!
HIS3	YOR202W	8	5	1	41.36022	#DIV/0!
STR2	YJR130C	8	5	2	20.98488	44.64619
	YKL091C	8	5	3	40.57831	59.93678
	YJR129C	8	5	4	23.16351	54.95599
CUE2	YKL090W	8	5	5	74.06774	59.09029
	YJR128W	8	5	6	10.5056	53.447
SRX1	YKL086W	8	5	7	25.31822	52.11163
ZMS1	YJR127C	8	5	8	20.41505	61.12939
MDH1	YKL085W	8	5	9	14.97506	38.85922
VPS70	YJR126C	8	5	10	37.07156	55.0996
HOT13	YKL084W	8	5	11	12.28254	53.24021
ENT3	YJR125C	8	5	12	13.16175	47.88165
TEF4	YKL081W	8	5	13	16.61617	19.22714
	YJR124C	8	5	14	15.25984	53.37704
SMY1	YKL079W	8	5	15	11.99866	34.65316
ATP2	YJR121W	8	5	16	32.31739	49.29059
	YKL077W	8	5	17	55.48079	33.7728
	YJR120W	8	5	18	22.52277	56.17085
PSY1	YKL076C	8	5	19	60.60439	48.23541
	YJR119C	8	5	20	49.97794	32.54083
	YKL075C	8	5	21	15.8361	26.67297
ILM1	YJR118C	8	5	22	29.99436	27.01267
MUD2	YKL074C	8	5	23	23.82721	28.80818
HIS3	YOR202W	8	5	24	17.45605	#DIV/0!
HIS3	YOR202W	8	6	1	12.21838	#DIV/0!
SRY1	YKL218C	8	6	2	58.13532	72.2091
SRP40	YKR092C	8	6	3	35.2186	43.19257
JEN1	YKL217W	8	6	4	37.35901	56.98801
SRL3	YKR091W	8	6	5	21.39981	33.75375
URA1	YKL216W	8	6	6	27.94189	43.16077
PXL1	YKR090W	8	6	7	66.44437	61.75961
	YKL215C	8	6	8	13.42103	46.2015
STC1	YKR089C	8	6	9	17.29462	60.74014
YRA2	YKL214C	8	6	10	36.27207	41.95893

TVP38	YKR088C	8	6	11	26.45964	55.24143
DOA1	YKL213C	8	6	12	16.07143	59.3898
OMA1	YKR087C	8	6	13	43.17286	61.41623
SAC1	YKL212W	8	6	14	67.47411	45.71429
HBS1	YKR084C	8	6	15	16.85541	25.76425
TRP3	YKL211C	8	6	16	17.75136	56.52971
NUP133	YKR082W	8	6	17	11.54264	41.9055
CBT1	YKL208W	8	6	18	37.40048	45.28856
MTD1	YKR080W	8	6	19	32.64533	47.6044
	YKL207W	8	6	20	46.54925	26.1859
	YKR078W	8	6	21	36.47015	9.472425
	YKL206C	8	6	22	20.86386	40.00565
	YKR077W	8	6	23	24.91326	50.68749
HIS3	YOR202W	8	6	24	11.17041	#DIV/0!
HIS3	YOR202W	8	7	1	54.5192	#DIV/0!
HMS2	YJR147W	8	7	2	35.06179	36.41045
LAP4	YKL103C	8	7	3	58.09913	73.01172
	YJR146W	8	7	4	64.40313	57.13359
	YKL102C	8	7	5	27.51153	62.88606
RPS4A	YJR145C	8	7	6	34.10402	56.64145
HSL1	YKL101W	8	7	7	65.704	70.67797
	YJR142W	8	7	8	40.07888	56.7529
	YKL100C	8	7	9	47.61051	62.46586
HIR3	YJR140C	8	7	10	32.41395	39.42748
	YKL098W	8	7	11	39.09967	43.37058
HOM6	YJR139C	8	7	12	48.39371	71.59785
	YKL097C	8	7	13	39.16982	48.75506
ECM17	YJR137C	8	7	14	23.20416	60.24929
	YKL096W-					
CWP2	A	8	7	15	60.36627	67.22024
MCM22	YJR135C	8	7	16	21.54718	53.82009
CWP1	YKL096W	8	7	17	19.59799	-14.7805
SGM1	YJR134C	8	7	18	20.86781	39.40045
YJU3	YKL094W	8	7	19	41.04393	56.95951
XPT1	YJR133W	8	7	20	21.44805	52.9986
MBR1	YKL093W	8	7	21	80.23075	70.88892
MNS1	YJR131W	8	7	22	29.43809	18.22202
BUD2	YKL092C	8	7	23	46.69888	52.71841
HIS3	YOR202W	8	7	24	12.22443	#DIV/0!
HIS3	YOR202W	8	8	1	35.98409	#DIV/0!
	YKR012C	8	8	2	23.35218	46.02715
NFT1	YKR103W	8	8	3	73.69357	68.30346
TOS5	YKR011C	8	8	4	66.60051	32.04064

FLO10	YKR102W	8	8	5	47.45934	48.70441
TOF2	YKR010C	8	8	6	20.36871	35.11021
SIR1	YKR101W	8	8	7	59.42515	53.21583
FOX2	YKR009C	8	8	8	38.8044	54.71902
SKG1	YKR100C	8	8	9	62.84941	39.78874
MEH1	YKR007W	8	8	10	19.50225	51.86561
BAS1	YKR099W	8	8	11	64.03763	45.79787
	YKR005C	8	8	12	38.49562	48.56412
UBP11	YKR098C	8	8	13	66.27927	26.45737
OSH6	YKR003W	8	8	14	17.22734	48.60406
PCK1	YKR097W	8	8	15	39.54293	57.1345
VPS1	YKR001C	8	8	16	44.6304	41.30762
	YKR096W	8	8	17	19.48571	40.68432
	YKL222C	8	8	18	32.04278	56.41414
MLP1	YKR095W	8	8	19	35.49235	57.34337
MCH2	YKL221W	8	8	20	59.30265	55.31987
RPL40B	YKR094C	8	8	21	27.51609	66.27959
FRE2	YKL220C	8	8	22	33.4927	58.43673
PTR2	YKR093W	8	8	23	34.67556	60.11245
HIS3	YOR202W	8	8	24	21.46271	#DIV/0!
HIS3	YOR202W	8	9	1	41.5443	54.9901
LAC1	YKL008C	8	9	2	46.01186	48.15051
OAC1	YKL120W	8	9	3	63.3558	39.07814
CAP1	YKL007W	8	9	4	49.91356	56.195
SBA1	YKL117W	8	9	5	44.21425	51.53387
RPL14A	YKL006W	8	9	6	39.91347	62.53666
PRR1	YKL116C	8	9	7	39.31096	34.77366
BYE1	YKL005C	8	9	8	#DIV/0!	68.33565
	YKL115C	8	9	9	61.51946	53.97577
MET14	YKL001C	8	9	10	30.24593	64.6638
APN1	YKL114C	8	9	11	41.5931	59.67548
	YJR154W	8	9	12	24.02748	46.38395
RAD27	YKL113C	8	9	13	#DIV/0!	58.07524
PGU1	YJR153W	8	9	14	65.0093	15.62495
KT112	YKL110C	8	9	15	33.15034	30.13872
DAL5	YJR152W	8	9	16	42.02773	56.18517
HAP4	YKL109W	8	9	17	21.49884	50.35819
DAN1	YJR150C	8	9	18	#DIV/0!	60.0053
	YKL107W	8	9	19	50.98345	54.91484
	YJR149W	8	9	20	60.68319	20.3179
AAT1	YKL106W	8	9	21	52.28165	56.95631
BAT2	YJR148W	8	9	22	65.22506	23.57222
	YKL105C	8	9	23	23.12127	#DIV/0!

HIS3	YOR202W	8	9	24	7.677169	#DIV/0!
HIS3	YOR202W	8	10	1	73.2202	#DIV/0!
DBP7	YKR024C	8	10	2	9.910684	59.07529
PUF3	YLL013C	8	10	3	28.8582	45.66679
	YKR023W	8	10	4	19.81218	55.30978
YEH1	YLL012W	8	10	5	64.76177	64.0438
	YKR021W	8	10	6	18.81271	56.7264
PSR1	YLL010C	8	10	7	38.01149	52.02639
VPS51	YKR020W	8	10	8	20.00765	19.4084
COX17	YLL009C	8	10	9	41.73968	36.12639
IRS4	YKR019C	8	10	10	36.06076	12.23058
	YLL007C	8	10	11	12.57232	21.42147
	YKR018C	8	10	12	14.77223	54.60317
MMM1	YLL006W	8	10	13	#DIV/0!	62.68581
	YKR017C	8	10	14	46.72824	48.10719
SPO75	YLL005C	8	10	15	36.31111	23.49786
FMP13	YKR016W	8	10	16	13.05049	46.68803
RTT109	YLL002W	8	10	17	34.27547	36.8503
	YKR015C	8	10	18	51.6051	42.72044
DNM1	YLL001W	8	10	19	31.46234	28.67321
YPT52	YKR014C	8	10	20	14.58661	55.14783
	YKR106W	8	10	21	23.14219	37.35538
PRY2	YKR013W	8	10	22	41.58936	56.21086
	YKR105C	8	10	23	62.26073	68.30252
HIS3	YOR202W	8	10	24	30.75332	#DIV/0!
HIS3	YOR202W	8	11	1	46.99414	#DIV/0!
	YKL030W	8	11	2	57.29328	54.25414
	YKL136W	8	11	3	40.41114	57.84147
MAE1	YKL029C	8	11	4	5.064693	29.25861
	YKL133C	8	11	5	52.09608	37.70979
	YKL027W	8	11	6	28.88158	19.84729
RMA1	YKL132C	8	11	7	41.8919	47.70255
GPX1	YKL026C	8	11	8	28.59168	48.65477
	YKL131W	8	11	9	30.76367	40.70146
PAN3	YKL025C	8	11	10	15.69961	52.46324
SHE2	YKL130C	8	11	11	33.75352	22.2933
	YKL023W	8	11	12	43.21663	49.41376
MYO3	YKL129C	8	11	13	27.88387	40.77814
SPT23	YKL020C	8	11	14	33.1521	22.52339
PMU1	YKL128C	8	11	15	43.07635	18.4172
HCS1	YKL017C	8	11	16	27.94916	37.74467
PGM1	YKL127W	8	11	17	30.81339	16.55403
PUT3	YKL015W	8	11	18	43.79838	21.53202

SSH4	YKL124W	8	11	19	28.77006	28.78379
UFD4	YKL010C	8	11	20	25.81183	38.45213
	YKL123W	8	11	21	43.82545	31.96903
MRT4	YKL009W	8	11	22	59.18743	46.70957
	YKL121W	8	11	23	43.4547	51.27376
HIS3	YOR202W	8	11	24	17.34153	#DIV/0!
HIS3	YOR202W	8	12	1	38.39916	#DIV/0!
	YKR035W-					
DID2	A	8	12	2	48.41211	42.41811
HSP104	YLL026W	8	12	3	41.19829	57.96139
	YKR035C	8	12	4	38.94203	50.99928
	YLL025W	8	12	5	3.860317	21.47085
DAL80	YKR034W	8	12	6	20.06368	58.12416
SSA2	YLL024C	8	12	7	22.61878	59.8349
	YKR033C	8	12	8	22.07382	55.15113
	YLL023C	8	12	9	28.00314	55.75789
	YKR032W	8	12	10	24.12621	49.2093
SPA2	YLL021W	8	12	11	67.33897	56.43288
SPO14	YKR031C	8	12	12	5.556103	45.46263
	YLL020C	8	12	13	23.59085	41.62564
GMH1	YKR030W	8	12	14	39.07987	26.09246
KNS1	YLL019C	8	12	15	38.46416	42.48682
SET3	YKR029C	8	12	16	#DIV/0!	54.44558
SDC25	YLL017W	8	12	17	3.456468	48.62357
SAP190	YKR028W	8	12	18	7.083826	47.52937
SDC25	YLL016W	8	12	19	29.44858	14.84717
FMP50	YKR027W	8	12	20	#DIV/0!	33.19088
BPT1	YLL015W	8	12	21	37.48063	44.8668
GCN3	YKR026C	8	12	22	54.43805	29.59848
	YLL014W	8	12	23	13.80155	46.65173
HIS3	YOR202W	8	12	24	58.31521	#DIV/0!
HIS3	YOR202W	8	13	1	42.26383	#DIV/0!
	YKL044W	8	13	2	26.92172	36.42916
RPS27A	YKL156W	8	13	3	34.84557	34.90997
PHD1	YKL043W	8	13	4	40.67396	43.31621
	YKL151C	8	13	5	34.81576	37.90362
VPS24	YKL041W	8	13	6	32.61428	32.6492
MCR1	YKL150W	8	13	7	3.575527	36.06847
NFU1	YKL040C	8	13	8	14.26766	40.21615
DBR1	YKL149C	8	13	9	14.56414	47.42828
PTM1	YKL039W	8	13	10	15.03643	-8.00171
SDH1	YKL148C	8	13	11	28.46404	24.46757
RGT1	YKL038W	8	13	12	36.59942	60.80059

	YKL147C	8	13	13	24.23858	40.11222
	YKL037W	8	13	14	36.94679	27.06254
AVT3	YKL146W	8	13	15	20.90624	49.26272
TUL1	YKL034W	8	13	16	32.9775	25.22465
MRP8	YKL142W	8	13	17	27.25544	48.58503
	YKL033W-A	8	13	18	37.32703	#DIV/0!
TGL1	YKL140W	8	13	19	43.96667	#DIV/0!
IXR1	YKL032C	8	13	20	46.60468	25.18026
CTK1	YKL139W	8	13	21	49.24731	28.20669
	YKL031W	8	13	22	27.91369	62.48098
	YKL137W	8	13	23	20.62597	43.80408
HIS3	YOR202W	8	13	24	27.86619	#DIV/0!
HIS3	YOR202W	8	14	1	47.85042	#DIV/0!
NAP1	YKR048C	8	14	2	47.7485	34.10388
RPL8B	YLL045C	8	14	3	28.3541	38.87661
	YKR047W	8	14	4	19.2577	61.76193
	YLL044W	8	14	5	24.65326	52.35482
PET10	YKR046C	8	14	6	18.18412	46.54318
FPS1	YLL043W	8	14	7	62.69796	71.08414
	YKR045C	8	14	8	17.45162	36.63431
ATG10	YLL042C	8	14	9	21.5744	33.38676
UIP5	YKR044W	8	14	10	20.23734	39.63379
SDH2	YLL041C	8	14	11	13.80405	18.53318
	YKR043C	8	14	12	24.39807	53.13296
VPS13	YLL040C	8	14	13	27.21735	36.65472
UTH1	YKR042W	8	14	14	21.64672	16.1207
UBI4	YLL039C	8	14	15	36.34193	50.43306
	YKR041W	8	14	16	16.24093	42.08978
ENT4	YLL038C	8	14	17	41.95834	47.17393
	YKR040C	8	14	18	36.58554	#DIV/0!
	YLL032C	8	14	19	42.03059	#DIV/0!
GAP1	YKR039W	8	14	20	17.50182	58.49519
	YLL029W	8	14	21	11.20878	32.77494
CAF4	YKR036C	8	14	22	52.16997	40.72601
TPO1	YLL028W	8	14	23	32.67132	35.29989
HIS3	YOR202W	8	14	24	21.57009	#DIV/0!
HIS3	YOR202W	8	15	1	55.98778	#DIV/0!
MSN4	YKL062W	8	15	2	23.94979	46.56181
KKQ8	YKL168C	8	15	3	44.88888	45.12513
	YKL061W	8	15	4	39.21001	38.85036
MRP49	YKL167C	8	15	5	33.98683	30.26709
RBF18	YKL056C	8	15	6	41.82703	59.40918

TPK3	YKL166C	8	15	7	18.98129	34.04248
OAR1	YKL055C	8	15	8	3.294128	18.87325
PIR1	YKL164C	8	15	9	26.01334	34.24642
	YKL053W	8	15	10	13.8443	47.78543
PIR3	YKL163W	8	15	11	42.09463	34.1986
MDM35	YKL053C-A	8	15	12	49.74792	35.6445
	YKL162C	8	15	13	26.43762	23.99141
SFK1	YKL051W	8	15	14	20.31627	46.20336
	YKL161C	8	15	15	16.71843	56.29259
	YKL050C	8	15	16	24.98655	24.63151
ELF1	YKL160W	8	15	17	48.38003	36.74044
ELM1	YKL048C	8	15	18	21.2063	#DIV/0!
RCN1	YKL159C	8	15	19	44.3412	53.93779
	YKL047W	8	15	20	23.82539	49.05465
	YKL158W	8	15	21	43.10778	51.81369
DCW1	YKL046C	8	15	22	37.18591	60.84743
APE2	YKL157W	8	15	23	62.21741	41.9978
HIS3	YOR202W	8	15	24	25.36618	#DIV/0!
HIS3	YOR202W	8	16	1	61.02496	#DIV/0!
HIS3	YOR202W	8	16	2	32.29209	#DIV/0!
HIS3	YOR202W	8	16	3	31.76842	#DIV/0!
HIS3	YOR202W	8	16	4	10.58327	#DIV/0!
HIS3	YOR202W	8	16	5	10.86124	#DIV/0!
HIS3	YOR202W	8	16	6	5.943188	#DIV/0!
HIS3	YOR202W	8	16	7	42.7996	#DIV/0!
HIS3	YOR202W	8	16	8	-2.53638	#DIV/0!
HIS3	YOR202W	8	16	9	16.99783	#DIV/0!
HIS3	YOR202W	8	16	10	4.720066	#DIV/0!
HIS3	YOR202W	8	16	11	-16.7845	#DIV/0!
HIS3	YOR202W	8	16	12	-9.42851	#DIV/0!
HIS3	YOR202W	8	16	13	2.598335	#DIV/0!
HIS3	YOR202W	8	16	14	-16.1566	#DIV/0!
HIS3	YOR202W	8	16	15	11.2146	#DIV/0!
HIS3	YOR202W	8	16	16	19.53796	#DIV/0!
HIS3	YOR202W	8	16	17	30.04114	#DIV/0!
HIS3	YOR202W	8	16	18	-4.15292	#DIV/0!
HIS3	YOR202W	8	16	19	-2.01225	#DIV/0!
HIS3	YOR202W	8	16	20	12.22334	#DIV/0!
HIS3	YOR202W	8	16	21	18.54077	#DIV/0!
HIS3	YOR202W	8	16	22	22.16803	#DIV/0!
HIS3	YOR202W	8	16	23	0.405442	#DIV/0!
HIS3	YOR202W	8	16	24	40.98711	#DIV/0!
HIS3	YOR202W	9	1	1	57.4588	#DIV/0!

HIS3	YOR202W	9	1	2	21.06133	#DIV/0!
HIS3	YOR202W	9	1	3	33.87916	#DIV/0!
HIS3	YOR202W	9	1	4	40.19131	#DIV/0!
HIS3	YOR202W	9	1	5	18.80476	#DIV/0!
HIS3	YOR202W	9	1	6	23.13825	#DIV/0!
HIS3	YOR202W	9	1	7	15.48585	#DIV/0!
HIS3	YOR202W	9	1	8	28.55271	#DIV/0!
HIS3	YOR202W	9	1	9	32.55455	#DIV/0!
HIS3	YOR202W	9	1	10	29.44078	#DIV/0!
HIS3	YOR202W	9	1	11	21.76699	#DIV/0!
HIS3	YOR202W	9	1	12	30.49095	#DIV/0!
HIS3	YOR202W	9	1	13	32.86522	#DIV/0!
HIS3	YOR202W	9	1	14	35.23409	#DIV/0!
HIS3	YOR202W	9	1	15	24.0837	#DIV/0!
HIS3	YOR202W	9	1	16	38.49592	#DIV/0!
HIS3	YOR202W	9	1	17	17.4438	#DIV/0!
HIS3	YOR202W	9	1	18	34.73702	#DIV/0!
HIS3	YOR202W	9	1	19	26.0232	#DIV/0!
HIS3	YOR202W	9	1	20	29.82263	#DIV/0!
HIS3	YOR202W	9	1	21	23.76549	#DIV/0!
HIS3	YOR202W	9	1	22	17.05332	#DIV/0!
HIS3	YOR202W	9	1	23	-6.06186	#DIV/0!
HIS3	YOR202W	9	1	24	6.857719	#DIV/0!
HIS3	YOR202W	9	2	1	51.62173	#DIV/0!
	YLR217W	9	2	2	24.28484	54.20317
CHS5	YLR330W	9	2	3	18.2842	35.06072
CPR6	YLR216C	9	2	4	-0.50371	15.27709
REC102	YLR329W	9	2	5	18.02571	33.4174
FRE1	YLR214W	9	2	6	31.58928	22.03959
NMA1	YLR328W	9	2	7	52.41103	22.00498
CRR1	YLR213C	9	2	8	34.5981	6.705307
RBF9	YLR327C	9	2	9	28.67189	23.59225
	YLR211C	9	2	10	39.24281	42.51842
	YLR326W	9	2	11	31.84812	13.33761
CLB4	YLR210W	9	2	12	56.72155	54.18872
RPL38	YLR325C	9	2	13	12.00068	20.51268
PNP1	YLR209C	9	2	14	24.4374	36.77583
PEX30	YLR324W	9	2	15	14.15205	25.82338
HRD3	YLR207W	9	2	16	25.79995	-10.8181
MMS22	YLR320W	9	2	17	38.7537	15.88251
ENT2	YLR206W	9	2	18	32.92692	33.77412
BUD6	YLR319C	9	2	19	13.31177	-3.95628
HMX1	YLR205C	9	2	20	15.51728	36.73333

EST2	YLR318W	9	2	21	23.64611	9.353516
YKE2	YLR200W	9	2	22	-1.83324	47.17525
NKP2	YLR315W	9	2	23	34.35208	41.96695
HIS3	YOR202W	9	2	24	7.021468	#DIV/0!
HIS3	YOR202W	9	3	1	36.47171	#DIV/0!
JLP1	YLL057C	9	3	2	29.00624	34.77406
CHA4	YLR098C	9	3	3	25.38852	29.90927
	YLL056C	9	3	4	26.57889	43.72922
HRT3	YLR097C	9	3	5	27.41958	52.66243
	YLL055W	9	3	6	19.07015	17.18608
KIN2	YLR096W	9	3	7	19.99838	42.84284
	YLL054C	9	3	8	#DIV/0!	24.91564
IOC2	YLR095C	9	3	9	13.71259	16.88203
	YLL053C	9	3	10	8.21482	36.36188
GIS3	YLR094C	9	3	11	13.75749	44.28904
AQY2	YLL052C	9	3	12	20.38563	16.04714
NYV1	YLR093C	9	3	13	9.221996	23.06297
FRE6	YLL051C	9	3	14	14.13995	25.71519
SUL2	YLR092W	9	3	15	34.77322	35.0658
	YLL049W	9	3	16	11.25555	53.52057
	YLR091W	9	3	17	36.78284	33.11492
YBT1	YLL048C	9	3	18	34.68371	30.18485
XDJ1	YLR090W	9	3	19	18.96451	32.75741
	YLL047W	9	3	20	27.38438	45.52847
ALT1	YLR089C	9	3	21	23.16048	41.13529
RNP1	YLL046C	9	3	22	24.50838	47.24927
CSF1	YLR087C	9	3	23	27.98698	43.73451
HIS3	YOR202W	9	3	24	13.14721	#DIV/0!
HIS3	YOR202W	9	4	1	26.21897	#DIV/0!
TOP3	YLR234W	9	4	2	7.949497	36.35972
	YLR345W	9	4	3	16.46123	35.12865
EST1	YLR233C	9	4	4	18.32517	7.326188
RPL26A	YLR344W	9	4	5	10.26347	22.94047
	YLR232W	9	4	6	27.96343	26.8306
GAS2	YLR343W	9	4	7	31.7194	40.90475
BNA5	YLR231C	9	4	8	12.87282	14.57353
FKS1	YLR342W	9	4	9	7.962236	27.31577
ECM22	YLR228C	9	4	10	17.88911	36.23011
SPO77	YLR341W	9	4	11	16.35939	29.41391
	YLR225C	9	4	12	7.472478	28.04748
	YLR338W	9	4	13	21.19974	20.53617
	YLR224W	9	4	14	12.43481	42.44284
VRP1	YLR337C	9	4	15	59.19639	72.01804

RSA3	YLR221C	9	4	16	12.26297	37.42757
NUP2	YLR335W	9	4	17	9.203509	35.13287
CCC1	YLR220W	9	4	18	14.30382	47.10008
	YLR334C	9	4	19	41.36733	42.68577
MSC3	YLR219W	9	4	20	28.40173	43.04072
RPS25B	YLR333C	9	4	21	31.95723	43.10231
	YLR218C	9	4	22	35.67863	9.905605
MID2	YLR332W	9	4	23	34.2881	49.71042
HIS3	YOR202W	9	4	24	12.15772	#DIV/0!
HIS3	YOR202W	9	5	1	27.19864	#DIV/0!
LOT6	YLR011W	9	5	2	38.69685	50.8072
	YLR114C	9	5	3	#DIV/0!	27.37295
SSK1	YLR006C	9	5	4	#DIV/0!	38.79042
HOG1	YLR113W	9	5	5	45.8051	#DIV/0!
	YLR004C	9	5	6	21.73942	33.43599
	YLR112W	9	5	7	14.09368	24.36192
	YLR003C	9	5	8	15.7457	50.20118
	YLR111W	9	5	9	15.76018	38.06829
CCW12	YLR001C	9	5	10	10.2667	37.44029
	YLR110C	9	5	11	18.23464	13.06241
AYT1	YLL063C	9	5	12	29.72729	49.96663
AHP1	YLR109W	9	5	13	1.215876	24.81419
MHT1	YLL062C	9	5	14	21.16645	42.11461
	YLR108C	9	5	15	9.3398	12.56679
MMP1	YLL061W	9	5	16	17.70637	30.02664
REX3	YLR107W	9	5	17	25.58412	29.6839
GTT2	YLL060C	9	5	18	19.47093	40.06686
	YLR104W	9	5	19	12.99436	26.06878
	YLL059C	9	5	20	28.92454	30.33433
APC9	YLR102C	9	5	21	22.45823	41.16164
	YLL058W	9	5	22	47.75315	24.19618
ICT1	YLR099C	9	5	23	22.33825	50.80652
HIS3	YOR202W	9	5	24	6.467423	#DIV/0!
HIS3	YOR202W	9	6	1	19.9237	#DIV/0!
SYM1	YLR251W	9	6	2	60.58592	51.64909
VPS38	YLR360W	9	6	3	14.53434	2.620284
SSP120	YLR250W	9	6	4	9.27124	37.65674
RSC2	YLR357W	9	6	5	26.18326	#DIV/0!
RCK2	YLR248W	9	6	6	6.413949	42.04345
	YLR356W	9	6	7	19.38979	32.07385
	YLR247C	9	6	8	12.20736	48.69158
TAL1	YLR354C	9	6	9	12.54291	47.37232
ERF2	YLR246W	9	6	10	8.159586	36.4503

BUD8	YLR353W	9	6	11	8.570019	40.10042
ARV1	YLR242C	9	6	12	16.05537	16.45228
	YLR352W	9	6	13	15.07086	32.22614
	YLR241W	9	6	14	2.965428	54.60254
NIT3	YLR351C	9	6	15	12.27571	28.35251
LIP2	YLR239C	9	6	16	23.99866	23.85063
ORM2	YLR350W	9	6	17	10.3707	46.54145
THI7	YLR237W	9	6	18	46.61102	52.83831
	YLR349W	9	6	19	20.40517	50.4138
	YLR236C	9	6	20	14.06977	40.50663
DIC1	YLR348C	9	6	21	12.87067	34.91547
	YLR235C	9	6	22	23.91159	40.13095
	YLR346C	9	6	23	34.39745	57.74224
HIS3	YOR202W	9	6	24	17.94784	#DIV/0!
HIS3	YOR202W	9	7	1	15.54706	#DIV/0!
IZH3	YLR023C	9	7	2	22.27016	29.06268
ZRT2	YLR130C	9	7	3	21.25171	54.7544
	YLR021W	9	7	4	28.41189	63.62986
DCN1	YLR128W	9	7	5	15.19132	#DIV/0!
YEH3	YLR020C	9	7	6	12.23012	57.37616
	YLR126C	9	7	7	16.71186	42.58199
PSR2	YLR019W	9	7	8	11.2401	38.04569
	YLR125W	9	7	9	21.40033	42.68643
POM34	YLR018C	9	7	10	18.04235	56.34894
	YLR124W	9	7	11	12.74638	54.22192
MEU1	YLR017W	9	7	12	38.46457	46.47184
	YLR123C	9	7	13	18.13253	49.43749
	YLR016C	9	7	14	10.95548	23.44119
	YLR122C	9	7	15	7.48111	28.36842
BRE2	YLR015W	9	7	16	24.42669	26.99895
YPS3	YLR121C	9	7	17	9.739441	31.36483
PPR1	YLR014C	9	7	18	13.52716	45.01079
YPS1	YLR120C	9	7	19	12.52271	33.67799
GAT3	YLR013W	9	7	20	26.81403	34.16857
SRN2	YLR119W	9	7	21	22.94622	46.03929
	YLR012C	9	7	22	-3.36095	27.97738
	YLR118C	9	7	23	8.184407	27.40578
HIS3	YOR202W	9	7	24	18.42223	#DIV/0!
HIS3	YOR202W	9	8	1	8.38169	#DIV/0!
RPS28B	YLR264W	9	8	2	21.15684	43.01855
SUR4	YLR372W	9	8	3	23.47273	45.32339
RED1	YLR263W	9	8	4	25.64473	38.42601
ROM2	YLR371W	9	8	5	21.67489	61.86293

RBF7	YLR262C-A	9	8	6	25.08173	#DIV/0!
ARC18	YLR370C	9	8	7	13.40159	#DIV/0!
YPT6	YLR262C	9	8	8	15.88997	42.44434
MDM30	YLR368W	9	8	9	10.3173	49.26315
	YLR261C	9	8	10	12.03637	53.61925
RPS22B	YLR367W	9	8	11	10.27913	33.92102
GSY2	YLR258W	9	8	12	20.21205	48.00037
	YLR366W	9	8	13	7.226004	29.28614
	YLR257W	9	8	14	5.62164	49.78001
	YLR365W	9	8	15	-1.16177	48.16728
	YLR255C	9	8	16	26.66269	42.27462
	YLR364W	9	8	17	18.17265	36.85024
NDL1	YLR254C	9	8	18	-4.64598	48.97688
NMD4	YLR363C	9	8	19	29.05548	47.62897
	YLR253W	9	8	20	14.78281	-4.94441
STE11	YLR362W	9	8	21	32.05241	27.82112
	YLR252W	9	8	22	21.89143	33.98296
DCR2	YLR361C	9	8	23	38.6787	47.86629
HIS3	YOR202W	9	8	24	13.25918	#DIV/0!
HIS3	YOR202W	9	9	1	11.15296	#DIV/0!
RIC1	YLR039C	9	9	2	21.70528	46.81246
SPE4	YLR146C	9	9	3	26.19962	50.28193
COX12	YLR038C	9	9	4	23.84503	7.526125
ACF2	YLR144C	9	9	5	12.71778	48.28594
DAN2	YLR037C	9	9	6	10.18551	#DIV/0!
	YLR143W	9	9	7	6.211059	#DIV/0!
	YLR036C	9	9	8	-0.91494	44.72643
PUT1	YLR142W	9	9	9	20.17635	71.67942
MLH2	YLR035C	9	9	10	12.94873	46.1349
NHA1	YLR138W	9	9	11	26.43572	28.25912
SMF3	YLR034C	9	9	12	12.89044	58.38577
	YLR137W	9	9	13	7.330812	28.59092
RAD5	YLR032W	9	9	14	7.763307	#DIV/0!
TIS11	YLR136C	9	9	15	13.17275	#DIV/0!
	YLR031W	9	9	16	3.514322	#DIV/0!
SLX4	YLR135W	9	9	17	15.33313	41.33783
	YLR030W	9	9	18	5.75938	50.03109
PDC5	YLR134W	9	9	19	9.659147	40.14805
ADE16	YLR028C	9	9	20	10.67221	27.50777
CKI1	YLR133W	9	9	21	40.99735	17.37017
UBR2	YLR024C	9	9	22	13.84925	33.43983
ACE2	YLR131C	9	9	23	24.98582	24.45374
HIS3	YOR202W	9	9	24	22.56284	#DIV/0!

HIS3	YOR202W	9	10	1	13.59225	#DIV/0!
	YLR281C	9	10	2	19.90757	43.87301
REH1	YLR387C	9	10	3	23.14027	48.00304
	YLR280C	9	10	4	21.29994	49.61606
VAC14	YLR386W	9	10	5	18.07355	38.56775
	YLR279W	9	10	6	12.20376	42.35523
SWC7	YLR385C	9	10	7	8.033941	40.57359
	YLR278C	9	10	8	21.14383	54.41672
IKI3	YLR384C	9	10	9	#DIV/0!	35.91002
PIG1	YLR273C	9	10	10	13.47932	49.8996
CTF3	YLR381W	9	10	11	11.43755	39.60574
	YLR271W	9	10	12	19.21764	49.62946
CSR1	YLR380W	9	10	13	9.164564	43.50813
	YLR269C	9	10	14	40.06456	#DIV/0!
FBP1	YLR377C	9	10	15	19.3288	#DIV/0!
SEC22	YLR268W	9	10	16	5.97097	#DIV/0!
PSY3	YLR376C	9	10	17	15.20983	26.53471
BOP2	YLR267W	9	10	18	16.3522	40.6674
STP3	YLR375W	9	10	19	13.7163	36.87447
PDR8	YLR266C	9	10	20	16.26903	55.00475
	YLR374C	9	10	21	25.14126	29.32174
NEJ1	YLR265C	9	10	22	20.93821	38.18296
VID22	YLR373C	9	10	23	25.64683	18.62684
HIS3	YOR202W	9	10	24	25.1131	#DIV/0!
HIS3	YOR202W	9	11	1	17.68468	#DIV/0!
	YLR053C	9	11	2	13.16469	54.67352
	YLR171W	9	11	3	16.50726	42.11311
	YLR050C	9	11	4	24.48356	56.16099
APS1	YLR170C	9	11	5	21.95846	62.74399
	YLR049C	9	11	6	1.425076	51.6429
	YLR169W	9	11	7	15.20021	40.96086
RPS0B	YLR048W	9	11	8	8.502399	48.2714
	YLR168C	9	11	9	28.68295	37.93193
	YLR047C	9	11	10	18.98984	67.23941
PUS5	YLR165C	9	11	11	37.58324	43.5699
	YLR046C	9	11	12	15.1544	50.95636
	YLR164W	9	11	13	18.6229	18.90828
PDC1	YLR044C	9	11	14	13.23168	21.63024
RNH203	YLR154C	9	11	15	7.319227	52.68026
TRX1	YLR043C	9	11	16	32.56274	43.20506
	YLR152C	9	11	17	9.647659	49.79271
	YLR042C	9	11	18	23.07854	22.7258
PCD1	YLR151C	9	11	19	7.459535	52.35656

	YLR041W	9	11	20	29.95394	25.82522
STM1	YLR150W	9	11	21	50.79612	45.72334
	YLR040C	9	11	22	21.3698	27.34247
	YLR149C	9	11	23	#DIV/0!	32.30488
HIS3	YOR202W	9	11	24	27.49363	#DIV/0!
HIS3	YOR202W	9	12	1	28.9271	#DIV/0!
	YLR294C	9	12	2	19.67454	33.12894
	YLR400W	9	12	3	11.17699	60.97124
SEC72	YLR292C	9	12	4	39.08692	19.57194
SKI2	YLR398C	9	12	5	25.93874	64.57228
	YLR290C	9	12	6	20.3525	45.80337
COX8	YLR395C	9	12	7	12.74347	34.02099
GUF1	YLR289W	9	12	8	13.93784	59.44568
CST9	YLR394W	9	12	9	34.95569	66.30208
RPS30A	YLR287C-A	9	12	10	14.31204	51.92666
ATP10	YLR393W	9	12	11	25.25122	53.7375
	YLR287C	9	12	12	13.59991	49.62238
	YLR392C	9	12	13	3.39831	44.65204
CTS1	YLR286C	9	12	14	12.74237	36.43116
	YLR391W	9	12	15	18.75309	53.21799
NNT1	YLR285W	9	12	16	5.171418	37.80426
	YLR390W-					
CCW14	A	9	12	17	26.63438	41.95779
ECI1	YLR284C	9	12	18	11.12631	24.46235
ECM19	YLR390W	9	12	19	13.18487	31.03507
	YLR283W	9	12	20	15.73644	49.79479
STE23	YLR389C	9	12	21	12.27309	57.53841
	YLR282C	9	12	22	33.86503	25.9182
RPS29A	YLR388W	9	12	23	34.15602	14.01361
HIS3	YOR202W	9	12	24	28.93935	#DIV/0!
HIS3	YOR202W	9	13	1	13.73954	#DIV/0!
	YLR065C	9	13	2	26.4261	36.17528
TOS4	YLR183C	9	13	3	29.11363	56.99825
	YLR064W	9	13	4	14.3893	46.55285
SWI6	YLR182W	9	13	5	11.14101	44.56581
	YLR063W	9	13	6	27.47341	57.19301
VTA1	YLR181C	9	13	7	33.79293	43.19844
BUD28	YLR062C	9	13	8	12.34874	33.77452
SAM1	YLR180W	9	13	9	7.074368	38.78251
RPL22A	YLR061W	9	13	10	66.61653	45.75298
	YLR179C	9	13	11	8.939119	43.23798
REX2	YLR059C	9	13	12	27.20798	53.42429
TFS1	YLR178C	9	13	13	12.64207	63.2085

SHM2	YLR058C	9	13	14	38.68336	41.5388
	YLR177W	9	13	15	24.18414	3.728792
	YLR057W	9	13	16	15.9283	46.71022
RFX1	YLR176C	9	13	17	19.86232	40.80696
ERG3	YLR056W	9	13	18	52.85093	34.44502
IDP2	YLR174W	9	13	19	42.09533	31.9445
SPT8	YLR055C	9	13	20	24.97102	15.21089
	YLR173W	9	13	21	22.39431	9.665599
OSW2	YLR054C	9	13	22	29.7062	47.9119
DPH5	YLR172C	9	13	23	10.83048	52.54937
HIS3	YOR202W	9	13	24	37.20939	#DIV/0!
HIS3	YOR202W	9	14	1	20.35963	#DIV/0!
SPH1	YLR313C	9	14	2	20.09138	43.92666
	YLR414C	9	14	3	40.21754	45.93644
	YLR312C	9	14	4	6.148006	44.19748
	YLR413W	9	14	5	10.0715	41.02044
	YLR311C	9	14	6	10.5258	50.26737
	YLR412W	9	14	7	10.02368	34.40593
IMH1	YLR309C	9	14	8	19.10201	40.45108
VIP1	YLR410W	9	14	9	19.17144	65.77981
CDA1	YLR307W	9	14	10	10.54871	49.70736
	YLR408C	9	14	11	12.90867	40.872
UBC12	YLR306W	9	14	12	14.34426	47.09116
	YLR407W	9	14	13	16.90226	31.76445
MET17	YLR303W	9	14	14	21.01435	50.32109
RPL31B	YLR406C	9	14	15	22.857	47.22158
EXG1	YLR300W	9	14	16	27.36286	59.29023
DUS4	YLR405W	9	14	17	10.72571	52.36443
ECM38	YLR299W	9	14	18	15.88126	41.31315
	YLR404W	9	14	19	12.64175	48.3288
	YLR297W	9	14	20	42.2164	44.5928
	YLR402W	9	14	21	42.82446	51.00729
	YLR296W	9	14	22	22.10605	46.95362
DUS3	YLR401C	9	14	23	21.65621	56.86983
HIS3	YOR202W	9	14	24	27.15776	#DIV/0!
HIS3	YOR202W	9	15	1	8.824707	#DIV/0!
ARP6	YLR085C	9	15	2	32.74709	#DIV/0!
	YLR199C	9	15	3	27.90944	#DIV/0!
RAX2	YLR084C	9	15	4	26.5277	#DIV/0!
	YLR194C	9	15	5	23.84319	#DIV/0!
EMP70	YLR083C	9	15	6	5.546369	#DIV/0!
	YLR193C	9	15	7	28.55225	#DIV/0!
SRL2	YLR082C	9	15	8	34.7526	#DIV/0!

HCR1	YLR192C	9	15	9	43.69923	#DIV/0!
GAL2	YLR081W	9	15	10	57.50428	#DIV/0!
PEX13	YLR191W	9	15	11	39.2223	#DIV/0!
EMP46	YLR080W	9	15	12	36.74596	#DIV/0!
MMR1	YLR190W	9	15	13	26.05289	#DIV/0!
SIC1	YLR079W	9	15	14	71.79241	#DIV/0!
ATG26	YLR189C	9	15	15	13.39387	#DIV/0!
FMP25	YLR077W	9	15	16	24.618	#DIV/0!
MDL1	YLR188W	9	15	17	12.3767	#DIV/0!
	YLR073C	9	15	18	4.481861	#DIV/0!
SKG3	YLR187W	9	15	19	14.64193	#DIV/0!
	YLR072W	9	15	20	6.208911	#DIV/0!
RPL37A	YLR185W	9	15	21	32.17185	#DIV/0!
XYL2	YLR070C	9	15	22	27.64432	#DIV/0!
	YLR184W	9	15	23	23.809	#DIV/0!
HIS3	YOR202W	9	15	24	17.71322	#DIV/0!
HIS3	YOR202W	9	16	1	12.88204	#DIV/0!
HIS3	YOR202W	9	16	2	34.58404	#DIV/0!
HIS3	YOR202W	9	16	3	26.57541	#DIV/0!
HIS3	YOR202W	9	16	4	25.39819	#DIV/0!
HIS3	YOR202W	9	16	5	24.12751	#DIV/0!
HIS3	YOR202W	9	16	6	13.01909	#DIV/0!
HIS3	YOR202W	9	16	7	40.00141	#DIV/0!
HIS3	YOR202W	9	16	8	21.38016	#DIV/0!
HIS3	YOR202W	9	16	9	21.11744	#DIV/0!
HIS3	YOR202W	9	16	10	31.44188	#DIV/0!
HIS3	YOR202W	9	16	11	8.762099	#DIV/0!
HIS3	YOR202W	9	16	12	23.1112	#DIV/0!
HIS3	YOR202W	9	16	13	39.77691	#DIV/0!
HIS3	YOR202W	9	16	14	53.52176	#DIV/0!
HIS3	YOR202W	9	16	15	9.92095	#DIV/0!
HIS3	YOR202W	9	16	16	4.993088	#DIV/0!
HIS3	YOR202W	9	16	17	15.61876	#DIV/0!
HIS3	YOR202W	9	16	18	23.86705	#DIV/0!
HIS3	YOR202W	9	16	19	11.97678	#DIV/0!
HIS3	YOR202W	9	16	20	14.98133	#DIV/0!
HIS3	YOR202W	9	16	21	22.67893	#DIV/0!
HIS3	YOR202W	9	16	22	29.58635	#DIV/0!
HIS3	YOR202W	9	16	23	35.90419	#DIV/0!
HIS3	YOR202W	9	16	24	28.7844	#DIV/0!
HIS3	YOR202W	10	1	1	42.83692	#DIV/0!
HIS3	YOR202W	10	1	2	47.37918	#DIV/0!
HIS3	YOR202W	10	1	3	44.84734	#DIV/0!

HIS3	YOR202W	10	1	4	59.67131	#DIV/0!
HIS3	YOR202W	10	1	5	22.94658	#DIV/0!
HIS3	YOR202W	10	1	6	15.40138	#DIV/0!
HIS3	YOR202W	10	1	7	42.37552	#DIV/0!
HIS3	YOR202W	10	1	8	27.68248	#DIV/0!
HIS3	YOR202W	10	1	9	35.10265	#DIV/0!
HIS3	YOR202W	10	1	10	31.37277	#DIV/0!
HIS3	YOR202W	10	1	11	32.89158	#DIV/0!
HIS3	YOR202W	10	1	12	39.87012	#DIV/0!
HIS3	YOR202W	10	1	13	42.50867	#DIV/0!
HIS3	YOR202W	10	1	14	41.861	#DIV/0!
HIS3	YOR202W	10	1	15	31.29113	#DIV/0!
HIS3	YOR202W	10	1	16	28.92011	#DIV/0!
HIS3	YOR202W	10	1	17	43.53138	#DIV/0!
HIS3	YOR202W	10	1	18	40.54111	#DIV/0!
HIS3	YOR202W	10	1	19	29.30738	#DIV/0!
HIS3	YOR202W	10	1	20	39.80368	#DIV/0!
HIS3	YOR202W	10	1	21	36.51184	#DIV/0!
HIS3	YOR202W	10	1	22	36.86686	#DIV/0!
HIS3	YOR202W	10	1	23	30.95992	#DIV/0!
HIS3	YOR202W	10	1	24	67.3542	#DIV/0!
HIS3	YOR202W	10	2	1	51.85391	#DIV/0!
IOC4	YMR044W	10	2	2	19.62205	#DIV/0!
	YMR158C-					
	B	10	2	3	33.76683	25.87769
ARG80	YMR042W	10	2	4	4.461939	43.37793
FMP39	YMR157C	10	2	5	35.7757	23.18062
	YMR041C	10	2	6	18.81145	23.22011
TPP1	YMR156C	10	2	7	10.3221	29.72243
YET2	YMR040W	10	2	8	37.52813	32.57914
	YMR155W	10	2	9	32.04908	36.31248
SUB1	YMR039C	10	2	10	46.6141	53.34728
RIM13	YMR154C	10	2	11	61.4488	36.21783
LYS7	YMR038C	10	2	12	45.78316	43.60375
NUP53	YMR153W	10	2	13	64.37822	25.19609
MSN2	YMR037C	10	2	14	46.286	33.57876
	YMR153C-					
	A	10	2	15	50.65327	8.282622
MIH1	YMR036C	10	2	16	51.94236	35.36471
YIM1	YMR152W	10	2	17	31.37148	42.07084
IMP2	YMR035W	10	2	18	35.98238	32.77185
	YMR148W	10	2	19	37.30093	-5.45509
	YMR034C	10	2	20	25.99778	2.619433

	YMR147W	10	2	21	31.71453	44.29612
	YMR031W-					
	A	10	2	22	37.65184	35.40054
NDE1	YMR145C	10	2	23	44.02175	34.10759
HIS3	YOR202W	10	2	24	37.16792	#DIV/0!
HIS3	YOR202W	10	3	1	22.47596	#DIV/0!
	YLR428C	10	3	2	19.89408	41.45776
MFT1	YML062C	10	3	3	14.35653	32.92234
MAG2	YLR427W	10	3	4	45.90081	23.78161
OGG1	YML060W	10	3	5	8.500963	27.75762
	YLR426W	10	3	6	34.8185	28.86728
NTE1	YML059C	10	3	7	45.88462	34.04762
TUS1	YLR425W	10	3	8	47.96236	51.85508
SML1	YML058W	10	3	9	34.47516	31.86247
ATG17	YLR423C	10	3	10	44.27646	36.69104
	YML058C-					
	A	10	3	11	44.56181	45.86919
	YLR422W	10	3	12	49.44849	23.78121
CMP2	YML057W	10	3	13	33.96131	46.77024
RPN13	YLR421C	10	3	14	54.74088	15.23856
IMD4	YML056C	10	3	15	52.1605	32.84677
URA4	YLR420W	10	3	16	44.56451	29.59977
SPC2	YML055W	10	3	17	40.37445	40.43695
CDC73	YLR418C	10	3	18	25.69524	38.14866
CYB2	YML054C	10	3	19	40.17466	40.09504
	YLR416C	10	3	20	62.64544	38.5469
	YML053C	10	3	21	42.86295	34.52165
	YLR415C	10	3	22	43.0511	23.08201
SUR7	YML052W	10	3	23	35.40427	36.27961
HIS3	YOR202W	10	3	24	37.48315	#DIV/0!
HIS3	YOR202W	10	4	1	14.53572	#DIV/0!
RIM9	YMR063W	10	4	2	17.22911	37.46069
ALD2	YMR170C	10	4	3	32.92344	46.08745
TOM37	YMR060C	10	4	4	39.91537	-0.30311
ALD3	YMR169c	10	4	5	43.58917	37.86968
FET3	YMR058W	10	4	6	18.1209	27.55076
MLH1	YMR167W	10	4	7	42.95986	61.68934
	YMR057C	10	4	8	23.67593	43.30435
	YMR166C	10	4	9	34.58905	32.94301
AAC1	YMR056C	10	4	10	38.72093	#DIV/0!
MSS11	YMR164C	10	4	11	7.77248	#DIV/0!
BUB2	YMR055C	10	4	12	31.21082	#DIV/0!
	YMR163C	10	4	13	19.22055	46.49972

STV1	YMR054W	10	4	14	63.66297	8.744118
DNF3	YMR162C	10	4	15	32.62389	38.03604
STB2	YMR053C	10	4	16	40.25194	32.89143
HLJ1	YMR161W	10	4	17	1.734034	43.42847
FAR3	YMR052W	10	4	18	55.14408	34.86046
	YMR160W	10	4	19	39.69482	51.53752
	YMR052C-					
	A	10	4	20	43.09807	40.0014
ATG16	YMR159C	10	4	21	18.83383	29.38159
CSM3	YMR048W	10	4	22	36.25886	45.14026
	YMR158W-					
	A	10	4	23	44.55246	46.06105
HIS3	YOR202W	10	4	24	28.43698	#DIV/0!
HIS3	YOR202W	10	5	1	41.17391	#DIV/0!
SIR3	YLR442C	10	5	2	41.0349	49.12301
	YML081C-					
ATP18	A	10	5	3	33.15152	43.48984
RPS1A	YLR441C	10	5	4	29.68867	52.58135
WAR1	YML076C	10	5	5	43.77797	42.93686
CAR2	YLR438W	10	5	6	45.17389	39.05721
HMG1	YML075C	10	5	7	42.70892	34.24315
	YLR437C	10	5	8	42.10912	44.25698
FPR3	YML074C	10	5	9	20.3926	8.394899
ECM30	YLR436C	10	5	10	44.00875	32.0284
TCB3	YML072C	10	5	11	39.92547	#DIV/0!
TSR2	YLR435W	10	5	12	61.90498	#DIV/0!
COG8	YML071C	10	5	13	44.09919	37.04697
	YLR434C	10	5	14	35.13685	29.23896
DAK1	YML070W	10	5	15	52.639	37.37604
CNA1	YLR433C	10	5	16	48.20085	37.20052
ITT1	YML068W	10	5	17	50.59747	37.18823
IMD3	YLR432W	10	5	18	34.23555	49.60204
ERV41	YML067C	10	5	19	48.0802	-16.617
ATG23	YLR431C	10	5	20	25.18312	39.74376
SMA2	YML066C	10	5	21	65.91018	40.25173
CRN1	YLR429W	10	5	22	29.45322	41.6476
RPS1B	YML063W	10	5	23	22.02794	43.5854
HIS3	YOR202W	10	5	24	37.5919	#DIV/0!
HIS3	YOR202W	10	6	1	62.4695	#DIV/0!
	YMR086C-					
	A	10	6	2	33.31046	38.38625
SPT21	YMR179W	10	6	3	40.87323	42.55197
	YMR085W	10	6	4	29.91071	48.9622
	YMR178W	10	6	5	48.75165	27.2942

NAM7	YMR080C	10	6	6	33.07646	34.16703
MMT1	YMR177W	10	6	7	24.87124	28.96175
CTF18	YMR078C	10	6	8	16.079	41.08631
ECM5	YMR176W	10	6	9	39.96824	40.18369
RCO1	YMR075W	10	6	10	23.27044	32.40886
SIP18	YMR175w	10	6	11	47.30776	32.88135
	YMR075C-					
	A	10	6	12	29.17759	23.86399
PAI3	YMR174C	10	6	13	29.39376	50.05007
	YMR073C	10	6	14	51.30639	31.20654
	YMR173W-					
	A	10	6	15	47.91861	38.30462
MOT3	YMR070W	10	6	16	28.85407	31.15184
DDR48	YMR173W	10	6	17	21.79731	50.21438
AVO2	YMR068W	10	6	18	30.30263	48.5452
HOT1	YMR172W	10	6	19	16.38225	43.15949
UBX4	YMR067C	10	6	20	50.25854	36.02125
	YMR172C-					
	A	10	6	21	47.39698	43.19516
KAR5	YMR065W	10	6	22	54.56715	46.91869
	YMR171C	10	6	23	53.10995	44.40972
HIS3	YOR202W	10	6	24	23.28118	#DIV/0!
HIS3	YOR202W	10	7	1	49.86355	#DIV/0!
FMP27	YLR454W	10	7	2	33.64727	50.86202
CAC2	YML102W	10	7	3	28.74535	8.195734
RIF2	YLR453C	10	7	4	37.94774	39.98193
	YML012C-					
	A	10	7	5	20.11507	39.21296
SST2	YLR452C	10	7	6	41.819	37.61189
CUE4	YML101C	10	7	7	49.59298	47.58055
LEU3	YLR451W	10	7	8	37.54734	52.18735
	YML100W-					
	A	10	7	9	45.71486	52.83488
HMG2	YLR450W	10	7	10	52.49184	54.73915
TSL1	YML100W	10	7	11	49.56582	51.27559
FPR4	YLR449W	10	7	12	17.91861	44.94001
ARG81	YML099C	10	7	13	19.70803	-0.19184
RPL6B	YLR448W	10	7	14	56.30563	71.19333
VPS9	YML097C	10	7	15	#DIV/0!	41.45493
	YLR446W	10	7	16	39.7285	46.71795
	YML096W	10	7	17	33.49805	43.56084
	YLR445W	10	7	18	42.39467	47.92783
RAD10	YML095C	10	7	19	26.95007	40.08259
	YLR444C	10	7	20	55.165	42.10937

GIM5	YML094W	10	7	21	42.94996	18.84007
ECM7	YLR443W	10	7	22	32.92887	23.4274
	YML090W	10	7	23	45.08734	51.81971
HIS3	YOR202W	10	7	24	39.06123	#DIV/0!
HIS3	YOR202W	10	8	1	43.08294	#DIV/0!
	YMR103C	10	8	2	39.83626	44.0917
APP2	YMR192W	10	8	3	18.91997	54.35747
	YMR102C	10	8	4	35.00096	34.03046
SPG5	YMR191W	10	8	5	39.81429	42.69927
SRT1	YMR101C	10	8	6	59.30717	44.46869
SGS1	YMR190C	10	8	7	36.71046	45.8671
MUB1	YMR100W	10	8	8	37.36545	32.48612
GCV2	YMR189W	10	8	9	30.69909	47.34901
	YMR099C	10	8	10	41.00529	50.93952
MRPS17	YMR188C	10	8	11	46.77837	47.41754
SNZ1	YMR096W	10	8	12	39.37673	40.55242
	YMR187C	10	8	13	23.46428	45.20043
SNO1	YMR095C	10	8	14	38.95093	48.48277
HSC82	YMR186W	10	8	15	25.30971	51.33275
AIP1	YMR092C	10	8	16	37.67272	35.09223
SSO2	YMR183C	10	8	17	28.79886	53.45902
VBA1	YMR088C	10	8	18	43.06068	18.45389
RGM1	YMR182C	10	8	19	51.96875	59.74972
	YMR087W	10	8	20	26.43127	46.03719
	YMR181C	10	8	21	44.39211	43.66667
	YMR086W	10	8	22	1.585109	47.64351
CTL1	YMR180C	10	8	23	23.13925	66.66353
HIS3	YOR202W	10	8	24	35.21756	#DIV/0!
HIS3	YOR202W	10	9	1	50.13336	#DIV/0!
YAP1	YML007W	10	9	2	44.69664	45.48843
NGL3	YML118W	10	9	3	11.32398	22.58416
GIS4	YML006C	10	9	4	49.55349	51.99593
	YML117W-					
	A	10	9	5	43.08082	44.43005
TRM12	YML005W	10	9	6	45.98129	42.29207
NAB6	YML117W	10	9	7	19.6445	47.58761
GLO1	YML004C	10	9	8	15.28488	36.71902
ATR1	YML116W	10	9	9	46.99253	46.11695
	YML003W	10	9	10	47.49211	50.96916
DAT1	YML113W	10	9	11	46.02012	53.55188
	YML002W	10	9	12	62.05433	51.63136
ZDS2	YML109W	10	9	13	43.15182	46.15799
YPT7	YML001W	10	9	14	33.03031	40.6731

	YML108W	10	9	15	42.10616	18.13827
PAU4	YLR461W	10	9	16	41.76278	52.62261
	YML107C	10	9	17	28.7263	30.23131
	YLR460C	10	9	18	36.45194	51.00495
URA5	YML106W	10	9	19	29.14571	12.89778
	YLR456W	10	9	20	40.70325	61.76637
MDM1	YML104C	10	9	21	24.0675	53.44529
	YLR455W	10	9	22	50.31233	56.66897
NUP188	YML103C	10	9	23	44.67255	48.46815
HIS3	YOR202W	10	9	24	31.69569	#DIV/0!
HIS3	YOR202W	10	10	1	72.82102	#DIV/0!
ASI1	YMR119W	10	10	2	60.05813	49.57577
	YMR206W	10	10	3	38.36739	44.31629
ASC1	YMR116C	10	10	4	55.94638	60.16973
PFK2	YMR205C	10	10	5	44.43329	55.44016
FMP24	YMR115W	10	10	6	36.23991	43.30834
	YMR204C	10	10	7	17.25624	45.37436
	YMR114C	10	10	8	35.11714	51.67294
ERG2	YMR202W	10	10	9	34.58207	50.25723
	YMR111C	10	10	10	42.40131	49.62356
RAD14	YMR201C	10	10	11	48.33168	39.91632
	YMR110C	10	10	12	63.3272	82.90472
CLN1	YMR199W	10	10	13	41.00594	28.18727
MYO5	YMR109W	10	10	14	32.13448	31.57326
CIK1	YMR198W	10	10	15	30.11586	27.43779
SPG4	YMR107W	10	10	16	39.4967	57.27494
	YMR196W	10	10	17	31.23518	49.9035
YKU80	YMR106C	10	10	18	21.60926	47.87205
ICY1	YMR195W	10	10	19	26.60571	51.2178
PGM2	YMR105C	10	10	20	38.54733	62.39635
RPL36A	YMR194W	10	10	21	28.69618	14.58726
YPK2	YMR104C	10	10	22	37.94158	56.14931
	YMR193C-					
	A	10	10	23	49.15547	52.52572
HIS3	YOR202W	10	10	24	47.9408	#DIV/0!
HIS3	YOR202W	10	11	1	46.71083	#DIV/0!
OST6	YML019W	10	11	2	52.20222	49.32054
MVP1	YMR004W	10	11	3	36.92672	26.09414
	YML018C	10	11	4	47.38899	46.55529
	YMR003W	10	11	5	34.61502	49.84607
PSP2	YML017W	10	11	6	17.72905	42.30721
	YMR002W	10	11	7	36.18506	51.97445
PPZ1	YML016C	10	11	8	37.42941	34.26025

	YML131W	10	11	9	25.98265	40.90061
SEL1	YML013W	10	11	10	30.97271	28.07683
MSC1	YML128C	10	11	11	29.83011	46.9141
	YML013C-A	10	11	12	62.00125	71.19694
TUB3	YML124C	10	11	13	37.40553	32.05409
ERV25	YML012W	10	11	14	16.39793	53.5316
PHO84	YML123C	10	11	15	31.32531	48.42337
	YML011C	10	11	16	25.10534	23.12948
	YML122C	10	11	17	19.47918	58.84891
	YML010C-B	10	11	18	13.16588	38.25317
GTR1	YML121W	10	11	19	27.17506	62.28457
MRPL39	YML009c	10	11	20	32.07289	44.10299
NDI1	YML120C	10	11	21	61.44918	65.41203
ERG6	YML008C	10	11	22	71.13887	78.36417
	YML119W	10	11	23	38.57475	60.97833
HIS3	YOR202W	10	11	24	21.38989	#DIV/0!
HIS3	YOR202W	10	12	1	48.84739	#DIV/0!
JLP2	YMR132C	10	12	2	55.36284	45.33644
MRE11	YMR224C	10	12	3	56.99218	55.06446
	YMR130W	10	12	4	52.21438	27.13201
UBP8	YMR223W	10	12	5	45.96679	21.45267
POM152	YMR129W	10	12	6	44.52728	70.08557
FSH2	YMR222C	10	12	7	30.29218	36.82635
SAS2	YMR127C	10	12	8	60.63106	58.85974
FMP42	YMR221C	10	12	9	25.88106	49.59077
DLT1	YMR126C	10	12	10	26.79884	41.88615
ESC1	YMR219W	10	12	11	24.10217	50.50505
	YMR124W	10	12	12	32.42428	50.28394
SKY1	YMR216C	10	12	13	18.62292	13.52525
PKR1	YMR123W	10	12	14	25.46609	41.73691
GAS3	YMR215W	10	12	15	16.84488	31.15804
	YMR122C	10	12	16	19.39603	30.94717
SCJ1	YMR214W	10	12	17	15.05493	45.08635
RPL15B	YMR121C	10	12	18	21.94175	21.29433
	YMR210W	10	12	19	14.16009	45.29084
ADE17	YMR120C	10	12	20	7.125982	21.44969
	YMR209C	10	12	21	19.82431	58.48706
	YMR119W-A	10	12	22	38.69477	41.61339
HFA1	YMR207C	10	12	23	61.45638	41.77326
HIS3	YOR202W	10	12	24	38.74459	#DIV/0!

HIS3	YOR202W	10	13	1	51.61618	#DIV/0!
SRC1	YML034W	10	13	2	53.04516	45.00496
	YMR018W	10	13	3	51.18015	52.05848
	YML033W	10	13	4	47.96325	45.39874
SPO20	YMR017W	10	13	5	39.84983	43.13776
RAD52	YML032C	10	13	6	43.87832	56.85873
SOK2	YMR016C	10	13	7	44.04365	43.5048
	YML030W	10	13	8	15.21545	43.97872
ERG5	YMR015C	10	13	9	25.2159	53.88258
USA1	YML029W	10	13	10	33.20137	23.83178
CLU1	YMR012W	10	13	11	26.59264	54.25746
TSA1	YML028W	10	13	12	25.9331	56.37859
HXT2	YMR011W	10	13	13	28.25489	44.11168
YOX1	YML027W	10	13	14	23.74187	58.40084
	YMR010W	10	13	15	55.03556	58.56277
RPS18B	YML026C	10	13	16	23.24748	47.24338
	YMR009W	10	13	17	40.72833	49.5274
APT1	YML022W	10	13	18	74.99206	56.38013
PLB1	YMR008C	10	13	19	20.77399	45.77874
UNG1	YML021C	10	13	20	56.66352	64.5017
	YMR007W	10	13	21	29.00392	34.14148
	YML020W	10	13	22	34.93444	55.13476
PLB2	YMR006C	10	13	23	36.91767	68.65396
HIS3	YOR202W	10	13	24	57.92475	#DIV/0!
HIS3	YOR202W	10	14	1	45.54301	#DIV/0!
	YMR144W	10	14	2	33.13478	41.6434
	YMR244C-					
	A	10	14	3	57.83555	29.38205
RPS16A	YMR143W	10	14	4	54.69684	43.05833
ZRC1	YMR243C	10	14	5	44.32454	44.88808
	YMR141C	10	14	6	49.15282	59.84376
YHM2	YMR241W	10	14	7	50.8438	49.33867
SIP5	YMR140W	10	14	8	24.46352	#DIV/0!
DFG5	YMR238W	10	14	9	16.91844	36.14006
RIM11	YMR139W	10	14	10	20.15475	51.96982
BCH1	YMR237W	10	14	11	15.17903	51.95479
CIN4	YMR138W	10	14	12	16.39222	65.53207
RNH1	YMR234W	10	14	13	28.97362	34.26048
PSO2	YMR137C	10	14	14	21.19568	55.10079
TRI1	YMR233W	10	14	15	31.09353	49.92905
GAT2	YMR136W	10	14	16	28.67078	55.37523
FUS2	YMR232W	10	14	17	41.94933	59.01515

	YMR135W-					
	A	10	14	18	29.36135	52.79024
RPS10B	YMR230W	10	14	19	39.10826	51.94784
GID8	YMR135C	10	14	20	12.27728	40.61005
	YMR226C	10	14	21	36.19107	62.69036
REC114	YMR133W	10	14	22	36.80576	3.891695
MRPL44	YMR225C	10	14	23	-13.3826	23.87129
HIS3	YOR202W	10	14	24	37.62052	#DIV/0!
HIS3	YOR202W	10	15	1	35.61098	#DIV/0!
GAL80	YML051W	10	15	2	30.80971	#DIV/0!
	YMR031C	10	15	3	52.84744	#DIV/0!
	YML048W-					
	A	10	15	4	56.85786	#DIV/0!
RSF1	YMR030W	10	15	5	66.69633	#DIV/0!
GSF2	YML048W	10	15	6	55.76128	#DIV/0!
FAR8	YMR029C	10	15	7	48.21185	#DIV/0!
PRM6	YML047C	10	15	8	25.37687	#DIV/0!
HRT2	YMR027W	10	15	9	37.10681	#DIV/0!
CAT2	YML042W	10	15	10	39.32599	#DIV/0!
PEX12	YMR026C	10	15	11	17.64948	#DIV/0!
VPS71	YML041C	10	15	12	8.211322	#DIV/0!
CSI1	YMR025W	10	15	13	29.3661	#DIV/0!
YMD8	YML038C	10	15	14	67.73658	#DIV/0!
MSS1	YMR023C	10	15	15	29.16556	#DIV/0!
	YML037C	10	15	16	35.46512	#DIV/0!
QRI8	YMR022W	10	15	17	35.84895	#DIV/0!
	YML036W	10	15	18	34.13301	#DIV/0!
MAC1	YMR021C	10	15	19	17.60826	#DIV/0!
	YML035C-					
	A	10	15	20	16.89893	#DIV/0!
FMS1	YMR020W	10	15	21	10.91939	#DIV/0!
AMD1	YML035C	10	15	22	#DIV/0!	#DIV/0!
STB4	YMR019W	10	15	23	-43.7811	#DIV/0!
HIS3	YOR202W	10	15	24	47.76503	#DIV/0!
HIS3	YOR202W	10	16	1	16.49406	#DIV/0!
HIS3	YOR202W	10	16	2	19.86982	#DIV/0!
HIS3	YOR202W	10	16	3	16.92307	#DIV/0!
HIS3	YOR202W	10	16	4	34.11274	#DIV/0!
HIS3	YOR202W	10	16	5	24.04141	#DIV/0!
HIS3	YOR202W	10	16	6	32.83653	#DIV/0!
HIS3	YOR202W	10	16	7	20.83658	#DIV/0!
HIS3	YOR202W	10	16	8	35.77074	#DIV/0!
HIS3	YOR202W	10	16	9	19.718	#DIV/0!

HIS3	YOR202W	10	16	10	27.46834	#DIV/0!
HIS3	YOR202W	10	16	11	24.10146	#DIV/0!
HIS3	YOR202W	10	16	12	15.10989	#DIV/0!
HIS3	YOR202W	10	16	13	18.9169	#DIV/0!
HIS3	YOR202W	10	16	14	12.4369	#DIV/0!
HIS3	YOR202W	10	16	15	8.960068	#DIV/0!
HIS3	YOR202W	10	16	16	15.37525	#DIV/0!
HIS3	YOR202W	10	16	17	41.26015	#DIV/0!
HIS3	YOR202W	10	16	18	18.18132	#DIV/0!
HIS3	YOR202W	10	16	19	21.51746	#DIV/0!
HIS3	YOR202W	10	16	20	31.44673	#DIV/0!
HIS3	YOR202W	10	16	21	18.54005	#DIV/0!
HIS3	YOR202W	10	16	22	47.87815	#DIV/0!
HIS3	YOR202W	10	16	23	41.57034	#DIV/0!
HIS3	YOR202W	10	16	24	53.31812	#DIV/0!
HIS3	YOR202W	11	1	1	47.05002	#DIV/0!
HIS3	YOR202W	11	1	2	50.61361	#DIV/0!
HIS3	YOR202W	11	1	3	38.82689	#DIV/0!
HIS3	YOR202W	11	1	4	24.09088	#DIV/0!
HIS3	YOR202W	11	1	5	31.90076	#DIV/0!
HIS3	YOR202W	11	1	6	40.23765	#DIV/0!
HIS3	YOR202W	11	1	7	35.34005	#DIV/0!
HIS3	YOR202W	11	1	8	31.26728	#DIV/0!
HIS3	YOR202W	11	1	9	41.50851	#DIV/0!
HIS3	YOR202W	11	1	10	37.8965	#DIV/0!
HIS3	YOR202W	11	1	11	40.80782	#DIV/0!
HIS3	YOR202W	11	1	12	39.2816	#DIV/0!
HIS3	YOR202W	11	1	13	37.12522	#DIV/0!
HIS3	YOR202W	11	1	14	57.80357	#DIV/0!
HIS3	YOR202W	11	1	15	49.52545	#DIV/0!
HIS3	YOR202W	11	1	16	39.89658	#DIV/0!
HIS3	YOR202W	11	1	17	49.59167	#DIV/0!
HIS3	YOR202W	11	1	18	33.70418	#DIV/0!
HIS3	YOR202W	11	1	19	48.36607	#DIV/0!
HIS3	YOR202W	11	1	20	36.6659	#DIV/0!
HIS3	YOR202W	11	1	21	35.40305	#DIV/0!
HIS3	YOR202W	11	1	22	52.29425	#DIV/0!
HIS3	YOR202W	11	1	23	40.31789	#DIV/0!
HIS3	YOR202W	11	1	24	16.59295	#DIV/0!
HIS3	YOR202W	11	2	1	19.86898	#DIV/0!
	YNL146W	11	2	2	22.77202	#DIV/0!
	YNL274C	11	2	3	12.86557	41.05757
MFA2	YNL145W	11	2	4	32.51365	31.80745

TOF1	YNL273W	11	2	5	18.99374	25.65067
	YNL144C	11	2	6	34.81898	22.8549
BNI1	YNL271C	11	2	7	70.37637	51.76872
	YNL143C	11	2	8	32.84621	34.54444
ALP1	YNL270C	11	2	9	38.96485	32.54836
MEP2	YNL142W	11	2	10	29.71909	33.94034
LYP1	YNL268W	11	2	11	41.63662	31.75512
AAH1	YNL141W	11	2	12	32.9243	51.01424
	YNL266W	11	2	13	15.56051	19.06756
	YNL140C	11	2	14	32.13826	9.242201
IST1	YNL265C	11	2	15	11.04636	48.42385
EAF7	YNL136W	11	2	16	8.628366	13.66343
ATX1	YNL259C	11	2	17	55.17258	40.14859
FPR1	YNL135C	11	2	18	1.448238	-8.71387
SIP3	YNL257C	11	2	19	23.9862	36.15718
	YNL134C	11	2	20	14.61596	37.44923
GIS2	YNL255C	11	2	21	4.719154	14.35482
CPT1	YNL130C	11	2	22	59.64443	24.39308
	YNL254C	11	2	23	41.16029	30.88205
HIS3	YOR202W	11	2	24	35.43427	#DIV/0!
HIS3	YOR202W	11	3	1	15.74138	#DIV/0!
GFD1	YMR255W	11	3	2	32.33758	42.59079
	YNL035C	11	3	3	41.38834	35.08918
	YMR254C	11	3	4	30.60926	47.78897
	YNL034W	11	3	5	55.28451	35.4187
	YMR253C	11	3	6	35.61367	31.24256
SIW14	YNL032W	11	3	7	18.28923	40.61866
	YMR252C	11	3	8	22.30482	31.78609
HHT2	YNL031C	11	3	9	13.62992	7.012749
	YMR251W-					
HOR7	A	11	3	10	50.48938	50.05315
HHF2	YNL030W	11	3	11	34.99024	31.53969
	YMR251W	11	3	12	44.5634	27.49591
KTR5	YNL029C	11	3	13	#DIV/0!	38.0148
GAD1	YMR250W	11	3	14	45.51224	24.61509
	YNL028W	11	3	15	28.36485	38.74555
	YMR247C	11	3	16	37.88382	57.7939
CRZ1	YNL027W	11	3	17	43.4517	24.70737
FAA4	YMR246W	11	3	18	28.6715	-0.25532
	YNL024C	11	3	19	25.3947	24.92048
	YMR245W	11	3	20	26.44046	-0.26441
FAP1	YNL023C	11	3	21	17.70223	52.84654
	YMR244W	11	3	22	28.83058	24.45031

	YNL022C	11	3	23	45.17065	-28.6228
HIS3	YOR202W	11	3	24	-7.26855	#DIV/0!
HIS3	YOR202W	11	4	1	42.66225	#DIV/0!
SKO1	YNL167C	11	4	2	35.68476	39.59622
PCL1	YNL289W	11	4	3	36.80518	42.13213
BNI5	YNL166C	11	4	4	50.07369	36.0176
CAF40	YNL288W	11	4	5	46.00534	52.29337
	YNL165W	11	4	6	14.98734	19.18844
CUS2	YNL286W	11	4	7	46.58645	43.07277
IBD2	YNL164C	11	4	8	44.7373	5.600804
	YNL285W	11	4	9	36.27148	31.41418
RPL42A	YNL162W	11	4	10	-17.8609	-13.5947
WSC2	YNL283C	11	4	11	38.26279	34.4033
ASI2	YNL159C	11	4	12	38.32415	26.29054
HCH1	YNL281W	11	4	13	37.36512	28.01063
	YNL157W	11	4	14	51.11166	-11.4979
ERG24	YNL280C	11	4	15	26.02196	34.06181
NSG2	YNL156C	11	4	16	15.35081	14.71327
PRM1	YNL279W	11	4	17	-0.38379	31.34716
	YNL155W	11	4	18	32.96605	37.26981
CAF120	YNL278W	11	4	19	18.31616	27.01286
YCK2	YNL154C	11	4	20	32.01308	44.89681
MET2	YNL277W	11	4	21	26.2037	29.16896
GIM3	YNL153C	11	4	22	-14.0281	26.83718
BOR1	YNL275W	11	4	23	6.393079	48.95873
HIS3	YOR202W	11	4	24	7.098064	#DIV/0!
HIS3	YOR202W	11	5	1	45.33801	#DIV/0!
URA10	YMR271C	11	5	2	41.31021	35.69065
COX5A	YNL052W	11	5	3	13.72513	-8.15312
	YMR269W	11	5	4	50.07586	3.180257
COG5	YNL051W	11	5	5	51.37831	-3.32965
RSN1	YMR266W	11	5	6	47.38616	36.66436
	YNL050C	11	5	7	32.91287	22.81826
	YMR265C	11	5	8	16.09077	21.57347
SFB2	YNL049C	11	5	9	44.99685	29.97835
CUE1	YMR264W	11	5	10	34.79694	21.33467
	YNL046W	11	5	11	60.43616	30.55558
SAP30	YMR263W	11	5	12	35.29995	18.54587
	YNL045W	11	5	13	49.35731	20.20691
	YMR262W	11	5	14	35.97618	34.64912
YIP3	YNL044W	11	5	15	53.20912	8.769673
TPS3	YMR261C	11	5	16	32.66436	33.08824
	YNL043C	11	5	17	34.61152	28.19632

	YMR259C	11	5	18	41.45047	28.83995
COG6	YNL041C	11	5	19	35.9968	19.7705
	YMR258C	11	5	20	55.68243	42.89617
	YNL040W	11	5	21	64.54696	37.79575
COX7	YMR256C	11	5	22	22.20705	-24.156
IDH1	YNL037C	11	5	23	-6.91257	4.545455
HIS3	YOR202W	11	5	24	19.40125	#DIV/0!
HIS3	YOR202W	11	6	1	35.29024	#DIV/0!
	YNL190W	11	6	2	36.05828	48.20049
RPL18B	YNL301C	11	6	3	10.46819	23.6057
	YNL187W	11	6	4	21.28792	24.32651
TOS6	YNL300W	11	6	5	23.64327	11.71546
NPR1	YNL183C	11	6	6	48.47898	20.5127
TRF5	YNL299W	11	6	7	45.72095	50.74511
SRF6	YNL179C	11	6	8	55.20473	20.7479
CLA4	YNL298W	11	6	9	34.58032	48.80952
	YNL176C	11	6	10	38.97107	40.26918
MON2	YNL297C	11	6	11	40.89677	25.80071
NOP13	YNL175C	11	6	12	48.55905	-10.3131
	YNL296W	11	6	13	20.10255	4.540522
MDG1	YNL173C	11	6	14	30.62251	32.02819
	YNL295W	11	6	15	17.09324	5.520276
	YNL171C	11	6	16	18.94726	29.91858
RIM21	YNL294C	11	6	17	22.43935	11.78186
	YNL170W	11	6	18	46.14255	7.6765
MSB3	YNL293W	11	6	19	38.49225	14.13664
PSD1	YNL169C	11	6	20	32.1948	16.23724
PUS4	YNL292W	11	6	21	25.05523	37.01669
FMP41	YNL168C	11	6	22	-5.76435	8.139432
MID1	YNL291C	11	6	23	44.30572	54.48926
HIS3	YOR202W	11	6	24	26.54081	#DIV/0!
HIS3	YOR202W	11	7	1	61.67211	#DIV/0!
YKU70	YMR284W	11	7	2	39.2096	43.26395
FKH2	YNL068C	11	7	3	32.82811	31.82268
RIT1	YMR283C	11	7	4	42.45662	38.21608
RPL9B	YNL067W	11	7	5	53.88762	52.1602
AEP2	YMR282C	11	7	6	39.90056	25.41633
SUN4	YNL066W	11	7	7	52.80967	32.39136
CAT8	YMR280C	11	7	8	41.11553	13.03943
AQR1	YNL065W	11	7	9	53.33813	46.0363
	YMR279C	11	7	10	36.39972	30.17738
CPA2	YJR109C	11	7	11	44.4764	37.78027
	YMR278W	11	7	12	31.5912	41.49348

YDJ1	YNL064C	11	7	13	49.48386	21.91702
DSK2	YMR276W	11	7	14	54.97322	10.60437
MTQ1	YNL063W	11	7	15	33.94396	22.6696
BUL1	YMR275C	11	7	16	48.50412	41.38537
	YNL058C	11	7	17	27.55593	30.8302
RCE1	YMR274C	11	7	18	55.05199	40.70226
	YNL057W	11	7	19	27.3175	2.544348
ZDS1	YMR273C	11	7	20	18.47485	43.52533
	YNL056W	11	7	21	22.70562	22.05429
SCS7	YMR272C	11	7	22	2.672379	28.48883
VAC7	YNL054W	11	7	23	39.31963	25.02949
HIS3	YOR202W	11	7	24	29.9473	#DIV/0!
HIS3	YOR202W	11	8	1	33.9766	#DIV/0!
PSY2	YNL201C	11	8	2	51.50773	57.77526
HXT14	YNL318C	11	8	3	41.50541	44.2029
	YNL200C	11	8	4	20.4817	35.91278
PHA2	YNL316C	11	8	5	41.89949	18.33815
GCR2	YNL199C	11	8	6	45.35318	2.586246
ATP11	YNL315C	11	8	7	56.08646	31.38145
	YNL198C	11	8	8	44.83457	42.86922
DAL82	YNL314W	11	8	9	49.94704	-1.69645
WHI3	YNL197C	11	8	10	30.01074	46.8702
	YNL311C	11	8	11	38.96084	24.31098
SLZ1	YNL196C	11	8	12	21.12869	21.18499
STB1	YNL309W	11	8	13	27.15001	20.89732
	YNL195C	11	8	14	35.78059	39.73262
MCK1	YNL307C	11	8	15	54.02928	40.92607
	YNL194C	11	8	16	60.09012	24.94064
	YNL305C	11	8	17	49.23865	13.54532
	YNL193W	11	8	18	56.52429	29.4053
YPT11	YNL304W	11	8	19	52.50595	12.77101
CHS1	YNL192W	11	8	20	55.18534	40.86474
	YNL303W	11	8	21	19.11871	24.54331
	YNL191W	11	8	22	43.64679	32.02666
RPS19B	YNL302C	11	8	23	43.16856	6.613085
HIS3	YOR202W	11	8	24	38.69966	#DIV/0!
HIS3	YOR202W	11	9	1	28.26382	#DIV/0!
PRP12	YMR302C	11	9	2	29.80202	61.81536
SWS2	YNL081C	11	9	3	-8.61981	-51.2021
ADE4	YMR300C	11	9	4	42.99534	38.6669
	YNL080C	11	9	5	47.53295	19.80184
DYN3	YMR299C	11	9	6	26.31941	35.05552
TPM1	YNL079C	11	9	7	#DIV/0!	15.64317

PRC1	YMR297W	11	9	8	47.58926	40.49066
NIS1	YNL078W	11	9	9	#DIV/0!	25.17973
	YMR295C	11	9	10	8.418171	30.2504
APJ1	YNL077W	11	9	11	34.75359	45.78863
	YMR294W-					
	A	11	9	12	36.74219	43.76747
MKS1	YNL076W	11	9	13	35.28502	13.15452
JNM1	YMR294W	11	9	14	28.43116	4.981266
MLF3	YNL074C	11	9	15	38.35654	36.59127
GOT1	YMR292W	11	9	16	37.93696	31.02633
RNH201	YNL072W	11	9	17	26.7073	30.52747
	YMR291W	11	9	18	60.84444	35.53111
LAT1	YNL071W	11	9	19	52.22069	41.20081
ABZ2	YMR289W	11	9	20	47.32203	14.30584
TOM7	YNL070W	11	9	21	32.01339	33.54452
NGL2	YMR285C	11	9	22	-7.37524	32.24432
RPL16B	YNL069C	11	9	23	27.91664	58.92983
HIS3	YOR202W	11	9	24	57.65116	#DIV/0!
HIS3	YOR202W	11	10	1	3.51597	#DIV/0!
	YNL217W	11	10	2	25.69728	43.95874
PEX6	YNL329C	11	10	3	31.36578	41.88479
IES2	YNL215W	11	10	4	31.72154	38.01748
MDJ2	YNL328C	11	10	5	42.88339	37.29869
PEX17	YNL214W	11	10	6	43.74246	19.25229
EGT2	YNL327W	11	10	7	45.69738	6.271998
VID27	YNL212W	11	10	8	58.51749	27.23999
PFA3	YNL326C	11	10	9	34.19378	28.65021
	YNL211C	11	10	10	41.93323	28.27891
FIG4	YNL325C	11	10	11	37.18384	35.16536
	YNL208W	11	10	12	41.88646	15.40818
	YNL324W	11	10	13	52.76545	48.04543
RTT106	YNL206C	11	10	14	12.87434	19.204
LEM3	YNL323W	11	10	15	40.8984	-4.77871
	YNL205C	11	10	16	37.93291	34.91985
KRE1	YNL322C	11	10	17	51.58964	27.45596
SPS18	YNL204C	11	10	18	32.21396	37.76139
	YNL321W	11	10	19	41.02368	21.1019
	YNL203C	11	10	20	-9.08032	-18.492
	YNL320W	11	10	21	42.9721	40.58571
SPS19	YNL202W	11	10	22	25.49391	35.29693
	YNL319W	11	10	23	28.76224	41.06266
HIS3	YOR202W	11	10	24	14.34759	#DIV/0!
HIS3	YOR202W	11	11	1	5.864888	#DIV/0!

TGL3	YMR313C	11	11	2	52.12183	39.84053
	YNL095C	11	11	3	36.20045	35.85986
ELP6	YMR312W	11	11	4	31.48184	40.42717
APP1	YNL094W	11	11	5	32.3237	39.78097
GLC8	YMR311C	11	11	6	36.8115	33.71686
YPT53	YNL093W	11	11	7	54.34151	26.80556
	YMR310C	11	11	8	19.54888	23.79806
	YNL092W	11	11	9	30.05856	-2.85532
GAS1	YMR307W	11	11	10	-0.63937	-33.1065
NST1	YNL091W	11	11	11	52.13016	-3.27717
FKS3	YMR306W	11	11	12	49.67428	18.15191
RHO2	YNL090W	11	11	13	#DIV/0!	12.55656
	YMR306C-					
	A	11	11	14	32.78392	33.14229
	YNL089C	11	11	15	52.88165	33.12693
SCW10	YMR305C	11	11	16	55.60281	11.54276
TCB2	YNL087W	11	11	17	49.31341	11.07424
UBP15	YMR304W	11	11	18	21.30071	13.3072
MKT1	YNL085W	11	11	19	62.33775	55.22989
	YMR304C-					
	A	11	11	20	52.75314	14.17663
SAL1	YNL083W	11	11	21	34.84422	29.54623
ADH2	YMR303C	11	11	22	1.4531	5.414776
PMS1	YNL082W	11	11	23	34.01342	45.91533
HIS3	YOR202W	11	11	24	44.16498	#DIV/0!
HIS3	YOR202W	11	12	1	15.41704	#DIV/0!
BNI4	YNL233W	11	12	2	47.14462	39.25252
	YNR004W	11	12	3	17.43005	36.23091
PDR16	YNL231C	11	12	4	29.83534	26.77586
FUN34	YNR002C	11	12	5	52.82657	36.29045
ELA1	YNL230C	11	12	6	47.44133	4.970881
CIT1	YNR001C	11	12	7	34.18935	32.08533
URE2	YNL229C	11	12	8	58.33464	24.6534
DOM34	YNL001W	11	12	9	55.32864	60.15394
	YNL228W	11	12	10	54.66491	21.59519
	YNL338W	11	12	11	37.33138	39.83123
JJJ1	YNL227C	11	12	12	25.99126	40.38005
COS1	YNL336W	11	12	13	2.825836	47.61325
	YNL226W	11	12	14	32.74206	37.15806
	YNL335W	11	12	15	45.92822	38.11497
	YNL224C	11	12	16	51.13873	37.31284
SNO2	YNL334C	11	12	17	35.04156	22.63575
ATG4	YNL223W	11	12	18	24.36752	28.74894

SNZ2	YNL333W	11	12	19	29.51346	33.60588
ALG9	YNL219C	11	12	20	36.81706	47.96176
THI12	YNL332W	11	12	21	2.173852	33.19421
MGS1	YNL218W	11	12	22	21.28492	48.83924
RPD3	YNL330C	11	12	23	13.56397	44.0002
HIS3	YOR202W	11	12	24	34.25592	#DIV/0!
HIS3	YOR202W	11	13	1	16.24325	#DIV/0!
YRF1-6	YNL339C	11	13	2	36.849	28.8783
	YNL115C	11	13	3	38.30806	36.73298
	YMR326C	11	13	4	45.27586	34.89034
	YNL108C	11	13	5	33.70421	34.33211
SNO4	YMR322C	11	13	6	31.42478	35.95795
YAF9	YNL107W	11	13	7	22.18617	51.06317
	YMR320W	11	13	8	41.1778	24.02331
INP52	YNL106C	11	13	9	35.75317	7.711807
FET4	YMR319C	11	13	10	3.966112	43.41802
	YNL105W	11	13	11	20.14064	44.132
ADH6	YMR318C	11	13	12	2.153335	13.5398
LEU4	YNL104C	11	13	13	#DIV/0!	34.30332
	YMR317W	11	13	14	-0.1549	36.31417
AVT4	YNL101W	11	13	15	3.582122	33.0767
DIA1	YMR316W	11	13	16	8.365394	46.87645
	YNL100W	11	13	17	-50.7086	41.44628
	YMR316C-					
	B	11	13	18	1.536586	-2.08313
OCA1	YNL099C	11	13	19	10.64327	31.7158
	YMR316C-					
	A	11	13	20	42.65323	25.24242
RAS2	YNL098C	11	13	21	0.974713	29.90602
	YMR315W	11	13	22	71.11069	48.74031
PHO23	YNL097C	11	13	23	23.41954	23.22181
HIS3	YOR202W	11	13	24	42.08586	#DIV/0!
HIS3	YOR202W	11	14	1	53.59091	#DIV/0!
TEX1	YNL253W	11	14	2	40.40294	29.96186
	YNR018W	11	14	3	74.69588	8.722441
MPA43	YNL249C	11	14	4	33.53246	40.63349
SMM1	YNR015W	11	14	5	33.33968	30.76196
VPS75	YNL246W	11	14	6	7.183186	16.39592
	YNR014W	11	14	7	7.098796	21.98738
ATG2	YNL242W	11	14	8	11.85528	39.55428
PHO91	YNR013C	11	14	9	7.656081	34.80948
ZWF1	YNL241C	11	14	10	-3.17204	47.76625
URK1	YNR012W	11	14	11	4.400397	26.50181

LAP3	YNL239W	11	14	12	11.2575	34.17242
CSE2	YNR010W	11	14	13	30.04309	36.39344
KEX2	YNL238W	11	14	14	#DIV/0!	-12.5906
	YNR009W	11	14	15	24.21393	29.8203
YTP1	YNL237W	11	14	16	10.74394	42.26702
LRO1	YNR008W	11	14	17	#DIV/0!	47.52066
SIN4	YNL236W	11	14	18	24.89849	-115.292
ATG3	YNR007C	11	14	19	21.05815	39.80279
	YNL235C	11	14	20	44.16084	29.30238
VPS27	YNR006W	11	14	21	#DIV/0!	-73.7665
	YNL234W	11	14	22	56.38045	31.8248
	YNR005C	11	14	23	24.90444	44.7221
HIS3	YOR202W	11	14	24	41.76653	#DIV/0!
HIS3	YOR202W	11	15	1	48.52391	#DIV/0!
HDA1	YNL021W	11	15	2	34.35247	#DIV/0!
NRK1	YNL129W	11	15	3	30.4297	#DIV/0!
ARK1	YNL020C	11	15	4	36.92154	#DIV/0!
TEP1	YNL128W	11	15	5	22.34507	#DIV/0!
PUB1	YNL016W	11	15	6	-2.8824	#DIV/0!
FAR11	YNL127W	11	15	7	34.05664	#DIV/0!
PBI2	YNL015W	11	15	8	41.4451	#DIV/0!
ESBP6	YNL125C	11	15	9	31.91567	#DIV/0!
	YNL013C	11	15	10	68.52332	#DIV/0!
	YNL123W	11	15	11	11.02966	#DIV/0!
SPO1	YNL012W	11	15	12	18.50788	#DIV/0!
	YNL122C	11	15	13	15.94729	#DIV/0!
	YNL010W	11	15	14	7.325814	#DIV/0!
TOM70	YNL121C	11	15	15	33.48038	#DIV/0!
IDP3	YNL009W	11	15	16	23.00396	#DIV/0!
	YNL120C	11	15	17	#DIV/0!	#DIV/0!
ASI3	YNL008C	11	15	18	6.895028	#DIV/0!
NCS2	YNL119W	11	15	19	19.17785	#DIV/0!
HRB1	YNL004W	11	15	20	26.36385	#DIV/0!
MLS1	YNL117W	11	15	21	13.42689	#DIV/0!
PET8	YNL003C	11	15	22	19.04632	#DIV/0!
DMA2	YNL116W	11	15	23	50.26272	#DIV/0!
HIS3	YOR202W	11	15	24	43.74358	#DIV/0!
HIS3	YOR202W	11	16	1	43.56546	#DIV/0!
HIS3	YOR202W	11	16	2	37.99158	#DIV/0!
HIS3	YOR202W	11	16	3	61.87696	#DIV/0!
HIS3	YOR202W	11	16	4	50.25403	#DIV/0!
HIS3	YOR202W	11	16	5	35.5956	#DIV/0!
HIS3	YOR202W	11	16	6	54.19124	#DIV/0!

HIS3	YOR202W	11	16	7	51.45738	#DIV/0!
HIS3	YOR202W	11	16	8	46.57367	#DIV/0!
HIS3	YOR202W	11	16	9	24.59967	#DIV/0!
HIS3	YOR202W	11	16	10	49.04934	#DIV/0!
HIS3	YOR202W	11	16	11	52.64747	#DIV/0!
HIS3	YOR202W	11	16	12	41.74596	#DIV/0!
HIS3	YOR202W	11	16	13	54.15284	#DIV/0!
HIS3	YOR202W	11	16	14	16.90088	#DIV/0!
HIS3	YOR202W	11	16	15	34.78684	#DIV/0!
HIS3	YOR202W	11	16	16	35.81055	#DIV/0!
HIS3	YOR202W	11	16	17	39.76732	#DIV/0!
HIS3	YOR202W	11	16	18	35.36041	#DIV/0!
HIS3	YOR202W	11	16	19	46.66222	#DIV/0!
HIS3	YOR202W	11	16	20	39.77161	#DIV/0!
HIS3	YOR202W	11	16	21	32.78236	#DIV/0!
HIS3	YOR202W	11	16	22	21.06155	#DIV/0!
HIS3	YOR202W	11	16	23	10.15666	#DIV/0!
HIS3	YOR202W	11	16	24	30.96307	#DIV/0!
HIS3	YOR202W	12	1	1	59.05506	#DIV/0!
HIS3	YOR202W	12	1	2	73.8777	#DIV/0!
HIS3	YOR202W	12	1	3	#DIV/0!	#DIV/0!
HIS3	YOR202W	12	1	4	66.72356	#DIV/0!
HIS3	YOR202W	12	1	5	59.37463	#DIV/0!
HIS3	YOR202W	12	1	6	42.96792	#DIV/0!
HIS3	YOR202W	12	1	7	-630.555	#DIV/0!
HIS3	YOR202W	12	1	8	10.08454	#DIV/0!
HIS3	YOR202W	12	1	9	35.15212	#DIV/0!
HIS3	YOR202W	12	1	10	45.96248	#DIV/0!
HIS3	YOR202W	12	1	11	56.00762	#DIV/0!
HIS3	YOR202W	12	1	12	37.84614	#DIV/0!
HIS3	YOR202W	12	1	13	35.89856	#DIV/0!
HIS3	YOR202W	12	1	14	20.29281	#DIV/0!
HIS3	YOR202W	12	1	15	5.24626	#DIV/0!
HIS3	YOR202W	12	1	16	45.05218	#DIV/0!
HIS3	YOR202W	12	1	17	18.93795	#DIV/0!
HIS3	YOR202W	12	1	18	62.53694	#DIV/0!
HIS3	YOR202W	12	1	19	66.1896	#DIV/0!
HIS3	YOR202W	12	1	20	64.89771	#DIV/0!
HIS3	YOR202W	12	1	21	27.52129	#DIV/0!
HIS3	YOR202W	12	1	22	21.08344	#DIV/0!
HIS3	YOR202W	12	1	23	21.20578	#DIV/0!
HIS3	YOR202W	12	1	24	30.08974	#DIV/0!
HIS3	YOR202W	12	2	1	27.19689	#DIV/0!

	YOR006C	12	2	2	#DIV/0!	45.30245
	YOR097C	12	2	3	28.83863	45.68673
DNL4	YOR005C	12	2	4	47.45427	31.45697
ARF3	YOR094W	12	2	5	71.76614	53.91496
YSP3	YOR003W	12	2	6	49.16645	14.95244
	YOR093C	12	2	7	52.05772	29.65953
ALG6	YOR002W	12	2	8	24.7419	42.86287
ECM3	YOR092W	12	2	9	33.1057	40.23949
RRP6	YOR001W	12	2	10	18.6868	35.73128
RBF46	YOR091W	12	2	11	-5.89055	48.38473
	YOL163W	12	2	12	10.15931	53.13296
PTC5	YOR090C	12	2	13	18.30564	23.34393
	YOL162W	12	2	14	21.3553	47.15779
VPS21	YOR089C	12	2	15	43.98181	6.495862
	YOL160W	12	2	16	2.147012	36.90284
	YOR088W	12	2	17	14.29592	39.90367
	YOL159C	12	2	18	76.08216	37.85006
YVC1	YOR087W	12	2	19	46.40752	20.13863
ENB1	YOL158C	12	2	20	27.43497	50.11864
TCB1	YOR086C	12	2	21	19.55999	47.35352
	YOL155C	12	2	22	32.87246	49.80738
OST3	YOR085W	12	2	23	25.12704	43.30412
HIS3	YOR202W	12	2	24	52.45116	#DIV/0!
HIS3	YOR202W	12	3	1	48.10789	#DIV/0!
SSK2	YNR031C	12	3	2	53.6241	31.30436
THI20	YOL055C	12	3	3	11.08454	46.46183
ECM39	YNR030W	12	3	4	79.15971	26.43378
PSH1	YOL054W	12	3	5	52.16477	39.61024
	YNR029C	12	3	6	73.45123	43.56432
	YOL053W	12	3	7	53.15629	33.72891
CPR8	YNR028W	12	3	8	18.74201	40.98567
	YOL053C-A	12	3	9	5.400658	66.3469
BUD17	YNR027W	12	3	10	-3.47935	39.4306
SPE2	YOL052C	12	3	11	7.148223	31.44672
	YNR025C	12	3	12	42.00884	47.44809
	YOL050C	12	3	13	38.56741	47.19102
	YNR024W	12	3	14	14.44825	44.45213
GSH2	YOL049W	12	3	15	-4.87361	45.58239
MRPL50	YNR022C	12	3	16	69.62641	51.85673
	YOL048C	12	3	17	30.30467	30.11696
	YNR021W	12	3	18	60.64757	51.84155
	YOL047C	12	3	19	27.50339	36.64155
	YNR020C	12	3	20	27.32383	30.43237

	YOL046C	12	3	21	30.12501	43.64227
ARE2	YNR019W	12	3	22	41.28821	57.32938
PSK2	YOL045W	12	3	23	-6.73865	39.78197
HIS3	YOR202W	12	3	24	5.747023	#DIV/0!
HIS3	YOR202W	12	4	1	37.33495	#DIV/0!
ERP4	YOR016C	12	4	2	32.64618	50.38318
	YOR112W	12	4	3	10.83705	37.75412
	YOR015W	12	4	4	19.23282	47.87356
	YOR111W	12	4	5	36.60453	46.69252
RTS1	YOR014W	12	4	6	44.35618	36.00604
INP53	YOR109W	12	4	7	#DIV/0!	53.63486
	YOR013W	12	4	8	6.652516	46.57848
LEU9	YOR108W	12	4	9	12.07387	51.86263
	YOR012W	12	4	10	-25.4154	41.59675
RGS2	YOR107W	12	4	11	3.125698	33.18773
AUS1	YOR011W	12	4	12	20.94453	40.47655
VAM3	YOR106W	12	4	13	37.7524	57.10414
TIR2	YOR010C	12	4	14	41.34811	29.18712
	YOR105W	12	4	15	39.10108	54.26694
TIR4	YOR009W	12	4	16	25.49241	52.30538
PIN2	YOR104W	12	4	17	46.60947	51.12734
	YOR008C-					
	A	12	4	18	55.00119	47.30772
RAS1	YOR101W	12	4	19	17.02136	46.36101
SLG1	YOR008C	12	4	20	35.61463	49.39412
CRC1	YOR100C	12	4	21	30.28609	58.68362
SGT2	YOR007C	12	4	22	20.95397	52.3775
KTR1	YOR099W	12	4	23	34.02672	48.0434
HIS3	YOR202W	12	4	24	11.52013	#DIV/0!
HIS3	YOR202W	12	5	1	34.84626	#DIV/0!
LYS9	YNR050C	12	5	2	44.35163	39.87005
RTG1	YOL067C	12	5	3	25.00334	#DIV/0!
MSO1	YNR049C	12	5	4	22.40021	51.46745
INP54	YOL065C	12	5	5	15.93211	47.21833
	YNR048W	12	5	6	51.36123	40.10506
MET22	YOL064C	12	5	7	-8.85155	31.658
	YNR047W	12	5	8	75.62477	28.90851
MOR1	YOL063C	12	5	9	6.95732	40.5793
PET494	YNR045W	12	5	10	15.72001	39.29487
APM4	YOL062C	12	5	11	25.65131	54.45282
	YNR042W	12	5	12	-19.4244	53.7155
PRS5	YOL061W	12	5	13	19.85529	46.53653
	YNR040W	12	5	14	6.04726	49.98711

MAM3	YOL060C	12	5	15	4.854753	43.58196
ZRG17	YNR039C	12	5	16	23.55812	58.1794
GPD2	YOL059W	12	5	17	36.815	60.6192
SOL1	YNR034W	12	5	18	38.38569	51.89076
ARG1	YOL058W	12	5	19	32.97086	45.36397
PPG1	YNR032W	12	5	20	26.4079	38.80765
	YOL057W	12	5	21	9.728931	59.39254
	YNR032C-					
HUB1	A	12	5	22	44.69804	34.70767
GPM3	YOL056W	12	5	23	39.44863	58.30064
HIS3	YOR202W	12	5	24	31.19525	#DIV/0!
HIS3	YOR202W	12	6	1	31.7783	#DIV/0!
CIN5	YOR028C	12	6	2	26.0455	49.4844
	YOR129C	12	6	3	3.686846	49.07653
STI1	YOR027W	12	6	4	24.28425	43.39146
RGA1	YOR127W	12	6	5	52.51077	33.23561
BUB3	YOR026W	12	6	6	-1.77093	33.42119
IAH1	YOR126C	12	6	7	-1.73885	50.34705
HST3	YOR025W	12	6	8	-6.79658	34.11372
UBP2	YOR124C	12	6	9	39.16574	38.18236
	YOR024W	12	6	10	-0.57676	49.12236
LEO1	YOR123C	12	6	11	43.87783	#DIV/0!
AHC1	YOR023C	12	6	12	-24.404	58.33448
	YOR121C	12	6	13	24.90914	50.4969
	YOR022C	12	6	14	8.425616	41.5006
GCY1	YOR120W	12	6	15	59.80719	63.69215
	YOR021C	12	6	16	44.59856	36.80404
	YOR118W	12	6	17	-11.3735	50.0445
	YOR019W	12	6	18	24.56291	37.57308
TRS33	YOR115C	12	6	19	55.67802	43.34535
ROD1	YOR018W	12	6	20	10.77435	54.97793
	YOR114W	12	6	21	31.79202	51.31432
PET127	YOR017W	12	6	22	10.10244	35.19115
AZF1	YOR113W	12	6	23	49.51126	39.0534
HIS3	YOR202W	12	6	24	11.14311	#DIV/0!
HIS3	YOR202W	12	7	1	27.79019	#DIV/0!
	YNR064C	12	7	2	18.0952	47.66089
	YOL085C	12	7	3	16.98329	35.58706
	YNR063W	12	7	4	11.74034	43.17334
PHM7	YOL084W	12	7	5	67.79686	43.21577
	YNR062C	12	7	6	26.22882	42.03878
	YOL083W	12	7	7	3.562095	28.44439
	YNR061C	12	7	8	6.69805	51.92144

ATG19	YOL082W	12	7	9	7.968603	29.18872
FRE4	YNR060W	12	7	10	-3.13358	61.17711
IRA2	YOL081W	12	7	11	86.74397	36.49578
MNT4	YNR059W	12	7	12	6.43366	52.90072
REX4	YOL080C	12	7	13	18.04609	64.14892
BIO3	YNR058W	12	7	14	15.28059	36.5895
	YOL079W	12	7	15	38.40802	59.97025
BIO4	YNR057C	12	7	16	29.4363	52.19399
	YOL075C	12	7	17	32.95621	61.28985
BIO5	YNR056C	12	7	18	-5.09623	50.8378
EMI5	YOL071W	12	7	19	34.77414	35.55215
HOL1	YNR055C	12	7	20	48.21362	58.22729
	YOL070C	12	7	21	26.51386	48.83792
BRE5	YNR051C	12	7	22	40.91359	54.58322
HST1	YOL068C	12	7	23	29.22751	57.89098
HIS3	YOR202W	12	7	24	6.083993	#DIV/0!
HIS3	YOR202W	12	8	1	9.63796	#DIV/0!
GLO4	YOR040W	12	8	2	16.79038	45.34088
ARP8	YOR141C	12	8	3	13.89616	14.7444
CKB2	YOR039W	12	8	4	37.94614	31.80394
SFL1	YOR140W	12	8	5	4.332155	42.19401
HIR2	YOR038C	12	8	6	-8.07808	38.92201
	YOR139C	12	8	7	46.86243	61.68946
CYC2	YOR037W	12	8	8	-3.38074	33.2785
RUP1	YOR138C	12	8	9	15.77622	53.49122
SHE4	YOR035C	12	8	10	44.18073	29.26997
SIA1	YOR137C	12	8	11	37.94773	47.48077
AKR2	YOR034C	12	8	12	18.76902	48.79475
IDH2	YOR136W	12	8	13	16.43912	52.10876
EXO1	YOR033C	12	8	14	#DIV/0!	45.0224
	YOR135C	12	8	15	#DIV/0!	30.86152
HMS1	YOR032C	12	8	16	28.87404	63.59373
BAG7	YOR134W	12	8	17	33.07355	48.40224
CRS5	YOR031W	12	8	18	6.519734	50.15573
EFT1	YOR133W	12	8	19	36.05131	57.07172
DFG16	YOR030W	12	8	20	25.95354	53.89394
VPS17	YOR132W	12	8	21	0.214961	50.84403
	YOR029W	12	8	22	52.48624	48.70971
	YOR131C	12	8	23	#DIV/0!	62.70625
HIS3	YOR202W	12	8	24	-12.6848	#DIV/0!
HIS3	YOR202W	12	9	1	28.83223	#DIV/0!
IZH2	YOL002C	12	9	2	19.00737	39.10256
IZH4	YOL101C	12	9	3	-8.84542	31.18715

PHO80	YOL001W	12	9	4	28.41792	27.24701
	YOL099C	12	9	5	1.714299	23.99409
COS10	YNR075W	12	9	6	14.50792	43.48354
	YOL098C	12	9	7	20.7067	27.05056
AIF1	YNR074C	12	9	8	12.81338	38.57994
HMI1	YOL095C	12	9	9	49.55823	35.09033
	YNR073C	12	9	10	#DIV/0!	25.87519
TRM10	YOL093W	12	9	11	30.52344	48.09287
HXT17	YNR072W	12	9	12	15.93087	47.81503
	YOL092W	12	9	13	48.08711	52.98055
	YNR071C	12	9	14	-12.4249	50.8068
SPO21	YOL091W	12	9	15	#DIV/0!	54.75201
BSC5	YNR069C	12	9	16	43.65913	61.05716
MSH2	YOL090W	12	9	17	72.19658	74.03499
DSE4	YNR067C	12	9	18	57.66449	51.07058
HAL9	YOL089C	12	9	19	10.77279	44.66505
	YNR066C	12	9	20	62.81694	56.99024
MPD2	YOL088C	12	9	21	65.20108	58.13544
YSN1	YNR065C	12	9	22	18.75797	59.77144
	YOL087C	12	9	23	44.23981	55.67125
HIS3	YOR202W	12	9	24	11.08721	#DIV/0!
HIS3	YOR202W	12	10	1	13.40805	#DIV/0!
	YOR053W	12	10	2	3.494515	46.16802
SEY1	YOR165W	12	10	3	23.24063	38.7562
	YOR052C	12	10	4	50.24452	18.67487
	YOR164C	12	10	5	54.26328	21.50439
	YOR051C	12	10	6	14.93555	41.34478
DDP1	YOR163W	12	10	7	25.67749	50.35738
	YOR050C	12	10	8	-8.77734	46.13582
YRR1	YOR162C	12	10	9	18.63003	51.32484
RSB1	YOR049C	12	10	10	55.39414	39.56626
PNS1	YOR161C	12	10	11	0.464133	48.35714
STD1	YOR047C	12	10	12	26.73917	40.70618
NFI1	YOR156C	12	10	13	40.8437	39.36121
TOM6	YOR045W	12	10	14	33.59042	56.38352
	YOR154W	12	10	15	68.2435	54.664
	YOR044W	12	10	16	-17.2947	51.47447
PDR5	YOR153W	12	10	17	84.15179	80.97113
WHI2	YOR043W	12	10	18	13.13846	49.51164
	YOR152C	12	10	19	-1.37837	41.84184
CUE5	YOR042W	12	10	20	17.4806	42.57691
ELG1	YOR144C	12	10	21	16.63032	40.69861
SRF5	YOR041C	12	10	22	30.62079	55.59227

LSC1	YOR142W	12	10	23	#DIV/0!	50.73571
HIS3	YOR202W	12	10	24	#DIV/0!	#DIV/0!
HIS3	YOR202W	12	11	1	17.28151	#DIV/0!
	YOL014W	12	11	2	-0.6305	40.17094
SKM1	YOL113W	12	11	3	41.17515	28.97602
	YOL013W-					
	A	12	11	4	35.59361	23.33881
MSB4	YOL112W	12	11	5	74.73786	65.51127
HRD1	YOL013C	12	11	6	10.89824	-7.6817
	YOL111C	12	11	7	20.75372	34.97746
HTZ1	YOL012C	12	11	8	15.53715	19.23048
SHR5	YOL110W	12	11	9	30.15825	53.32537
PLB3	YOL011W	12	11	10	5.690752	58.25724
ZEO1	YOL109W	12	11	11	73.00362	44.8346
MDM12	YOL009C	12	11	12	17.31953	30.70224
INO4	YOL108C	12	11	13	61.79355	52.45919
	YOL008W	12	11	14	7.580758	36.5165
	YOL107W	12	11	15	1.701754	50.55631
	YOL007C	12	11	16	-6.3741	42.64835
	YOL106W	12	11	17	18.98849	40.12194
TOP1	YOL006C	12	11	18	85.17077	18.49187
WSC3	YOL105C	12	11	19	#DIV/0!	51.86027
SIN3	YOL004W	12	11	20	74.68676	29.30042
NDJ1	YOL104C	12	11	21	42.08959	39.98203
	YOL003C	12	11	22	66.54929	72.92097
ITR2	YOL103W	12	11	23	28.2056	53.11376
HIS3	YOR202W	12	11	24	23.12288	#DIV/0!
HIS3	YOR202W	12	12	1	47.93419	#DIV/0!
VPS5	YOR069W	12	12	2	-7.4738	-0.22918
FYV12	YOR183W	12	12	3	-3.99645	22.34631
VAM10	YOR068C	12	12	4	37.4131	15.26104
RPS30B	YOR182C	12	12	5	41.53892	29.73458
ALG8	YOR067C	12	12	6	15.03258	32.58599
GAC1	YOR178C	12	12	7	28.92907	40.66628
	YOR066W	12	12	8	15.74584	33.43437
MPC54	YOR177C	12	12	9	3.910849	39.40359
CYT1	YOR065W	12	12	10	82.82353	46.71472
	YOR175C	12	12	11	#DIV/0!	42.1328
YNG1	YOR064C	12	12	12	-13.871	57.76414
DCS2	YOR173W	12	12	13	18.71677	46.51987
	YOR062C	12	12	14	11.74016	49.27545
YRM1	YOR172W	12	12	15	19.39001	44.05622
CKA2	YOR061W	12	12	16	34.47744	50.38983

LCB4	YOR171C	12	12	17	33.80887	52.1311
	YOR059C	12	12	18	-14.43	35.71462
	YOR170W	12	12	19	34.1074	49.44762
ASE1	YOR058C	12	12	20	-5.41453	51.99043
RPS28A	YOR167C	12	12	21	25.18235	47.89479
	YOR055W	12	12	22	11.42567	29.98557
	YOR166C	12	12	23	29.08707	43.09608
HIS3	YOR202W	12	12	24	10.08184	#DIV/0!
HIS3	YOR202W	12	13	1	19.49311	#DIV/0!
	YOL029C	12	13	2	71.99381	35.37308
YGK3	YOL128C	12	13	3	29.54809	27.89417
YAP7	YOL028C	12	13	4	-1.91625	16.89632
MDH2	YOL126C	12	13	5	25.88394	35.6698
MDM38	YOL027C	12	13	6	41.34758	13.74963
	YOL124C	12	13	7	46.37332	36.39592
LAG2	YOL025W	12	13	8	31.72969	47.30089
SMF1	YOL122C	12	13	9	8.434252	39.78737
	YOL024W	12	13	10	28.00135	34.76471
RPS19A	YOL121C	12	13	11	-9.24024	46.86314
TAT2	YOL020W	12	13	12	39.75433	50.69408
MCH4	YOL119C	12	13	13	50.47549	56.5142
TOS7	YOL019W	12	13	14	35.86178	49.17203
	YOL118C	12	13	15	59.74044	44.82456
TLG2	YOL018C	12	13	16	63.35441	18.18585
RRI2	YOL117W	12	13	17	59.20508	57.49999
ESC8	YOL017W	12	13	18	8.869514	47.7859
MSN1	YOL116W	12	13	19	67.82326	43.31011
CMK2	YOL016C	12	13	20	#DIV/0!	34.82749
TRF4	YOL115W	12	13	21	32.94251	37.69211
	YOL015W	12	13	22	51.84287	33.68144
	YOL114C	12	13	23	73.77634	45.34664
HIS3	YOR202W	12	13	24	50.16304	#DIV/0!
HIS3	YOR202W	12	14	1	51.47034	#DIV/0!
	YOR084W	12	14	2	-0.65438	19.1463
LIP5	YOR196C	12	14	3	24.556	16.5288
WHI5	YOR083W	12	14	4	34.54242	29.49829
SLK19	YOR195W	12	14	5	-8.94693	35.32147
	YOR082C	12	14	6	22.43611	30.53356
PEX27	YOR193W	12	14	7	19.55065	29.85572
STC2	YOR081C	12	14	8	19.79907	33.58435
	YOR192C	12	14	9	38.73476	36.01512
DIA2	YOR080W	12	14	10	37.06303	7.215736
RIS1	YOR191W	12	14	11	47.04891	34.03433

ATX2	YOR079C	12	14	12	27.26062	43.98316
SPR1	YOR190W	12	14	13	25.46476	40.16963
BUD21	YOR078W	12	14	14	53.86314	25.55587
IES4	YOR189W	12	14	15	26.14977	37.76234
SKI7	YOR076C	12	14	16	19.28126	59.38672
MSB1	YOR188W	12	14	17	63.36141	58.73553
	YOR072W	12	14	18	52.92247	44.43561
	YOR186W	12	14	19	60.42398	45.91152
	YOR071C	12	14	20	16.81216	52.01767
GSP2	YOR185C	12	14	21	#DIV/0!	48.94606
GYP1	YOR070C	12	14	22	44.29226	40.03741
SER1	YOR184W	12	14	23	55.5212	48.63587
HIS3	YOR202W	12	14	24	24.47955	#DIV/0!
HIS3	YOR202W	12	15	1	43.73148	#DIV/0!
PEX15	YOL044W	12	15	2	#DIV/0!	#DIV/0!
FRE7	YOL152W	12	15	3	48.28455	#DIV/0!
NTG2	YOL043C	12	15	4	12.64696	#DIV/0!
GRE2	YOL151W	12	15	5	26.57182	#DIV/0!
NGL1	YOL042W	12	15	6	2.038401	#DIV/0!
	YOL150C	12	15	7	5.978108	#DIV/0!
NOP12	YOL041C	12	15	8	24.67559	#DIV/0!
PEX11	YOL147C	12	15	9	71.01944	#DIV/0!
RPP2A	YOL039W	12	15	10	51.42985	#DIV/0!
PPM2	YOL141W	12	15	11	2.985544	#DIV/0!
	YOL037C	12	15	12	24.84656	#DIV/0!
	YOL138C	12	15	13	56.09297	#DIV/0!
	YOL036W	12	15	14	45.23761	#DIV/0!
BSC6	YOL137W	12	15	15	87.65182	#DIV/0!
	YOL035C	12	15	16	8.569473	#DIV/0!
PFK27	YOL136C	12	15	17	52.08888	#DIV/0!
	YOL032W	12	15	18	22.64267	#DIV/0!
GAS4	YOL132W	12	15	19	74.08064	#DIV/0!
SIL1	YOL031C	12	15	20	57.21357	#DIV/0!
	YOL131W	12	15	21	20.49665	#DIV/0!
GAS5	YOL030W	12	15	22	30.09148	#DIV/0!
VPS68	YOL129W	12	15	23	16.01597	#DIV/0!
HIS3	YOR202W	12	15	24	36.11111	#DIV/0!
HIS3	YOR202W	12	16	1	12.72851	#DIV/0!
HIS3	YOR202W	12	16	2	5.776963	#DIV/0!
HIS3	YOR202W	12	16	3	20.53695	#DIV/0!
HIS3	YOR202W	12	16	4	3.302157	#DIV/0!
HIS3	YOR202W	12	16	5	19.98847	#DIV/0!
HIS3	YOR202W	12	16	6	22.36989	#DIV/0!

HIS3	YOR202W	12	16	7	22.07676	#DIV/0!
HIS3	YOR202W	12	16	8	66.37569	#DIV/0!
HIS3	YOR202W	12	16	9	31.88491	#DIV/0!
HIS3	YOR202W	12	16	10	22.78739	#DIV/0!
HIS3	YOR202W	12	16	11	10.1768	#DIV/0!
HIS3	YOR202W	12	16	12	39.65703	#DIV/0!
HIS3	YOR202W	12	16	13	21.92362	#DIV/0!
HIS3	YOR202W	12	16	14	53.51541	#DIV/0!
HIS3	YOR202W	12	16	15	15.79857	#DIV/0!
HIS3	YOR202W	12	16	16	63.42269	#DIV/0!
HIS3	YOR202W	12	16	17	33.24134	#DIV/0!
HIS3	YOR202W	12	16	18	-2.06823	#DIV/0!
HIS3	YOR202W	12	16	19	-5.27042	#DIV/0!
HIS3	YOR202W	12	16	20	-7.6381	#DIV/0!
HIS3	YOR202W	12	16	21	33.60059	#DIV/0!
HIS3	YOR202W	12	16	22	28.2771	#DIV/0!
HIS3	YOR202W	12	16	23	33.31545	#DIV/0!
HIS3	YOR202W	12	16	24	52.09193	#DIV/0!
HIS3	YOR202W	13	1	1	26.48651	#DIV/0!
HIS3	YOR202W	13	1	2	7.567002	#DIV/0!
HIS3	YOR202W	13	1	3	34.79204	#DIV/0!
HIS3	YOR202W	13	1	4	36.46083	#DIV/0!
HIS3	YOR202W	13	1	5	24.30101	#DIV/0!
HIS3	YOR202W	13	1	6	24.41042	#DIV/0!
HIS3	YOR202W	13	1	7	-15.7761	#DIV/0!
HIS3	YOR202W	13	1	8	12.01751	#DIV/0!
HIS3	YOR202W	13	1	9	3.738786	#DIV/0!
HIS3	YOR202W	13	1	10	6.597691	#DIV/0!
HIS3	YOR202W	13	1	11	-12.4023	#DIV/0!
HIS3	YOR202W	13	1	12	3.549697	#DIV/0!
HIS3	YOR202W	13	1	13	-6.07998	#DIV/0!
HIS3	YOR202W	13	1	14	12.62234	#DIV/0!
HIS3	YOR202W	13	1	15	17.48829	#DIV/0!
HIS3	YOR202W	13	1	16	13.1487	#DIV/0!
HIS3	YOR202W	13	1	17	8.627123	#DIV/0!
HIS3	YOR202W	13	1	18	25.32106	#DIV/0!
HIS3	YOR202W	13	1	19	6.214244	#DIV/0!
HIS3	YOR202W	13	1	20	1.732775	#DIV/0!
HIS3	YOR202W	13	1	21	-8.4059	#DIV/0!
HIS3	YOR202W	13	1	22	5.731819	#DIV/0!
HIS3	YOR202W	13	1	23	8.363402	#DIV/0!
HIS3	YOR202W	13	1	24	3.477516	#DIV/0!
HIS3	YOR202W	13	2	1	44.93664	#DIV/0!

LPE10	YPL060W	13	2	2	43.27845	53.87349
DAP1	YPL170W	13	2	3	42.82676	41.89538
PDR12	YPL058C	13	2	4	35.31309	45.2065
	YPL168W	13	2	5	22.77019	32.68096
SUR1	YPL057C	13	2	6	9.18222	30.23397
REV3	YPL167C	13	2	7	13.2605	18.75104
	YPL056C	13	2	8	26.71441	58.01756
	YPL166W	13	2	9	26.30217	48.12111
LGE1	YPL055C	13	2	10	27.44745	37.69977
SET6	YPL165C	13	2	11	32.97721	36.6692
LEE1	YPL054W	13	2	12	20.85593	61.91951
MLH3	YPL164C	13	2	13	21.48191	41.48757
KTR6	YPL053C	13	2	14	21.39473	32.73076
SVS1	YPL163C	13	2	15	14.72583	9.610195
OAZ1	YPL052W	13	2	16	13.26925	21.01441
	YPL162C	13	2	17	26.58671	29.13288
ARL3	YPL051W	13	2	18	10.37126	17.52546
BEM4	YPL161C	13	2	19	16.52705	37.25219
CAM1	YPL048W	13	2	20	17.39374	35.50439
PET20	YPL159C	13	2	21	7.31714	32.71341
SGF11	YPL047W	13	2	22	10.39173	50.27529
TGS1	YPL157W	13	2	23	0.623043	24.80338
HIS3	YOR202W	13	2	24	8.488304	#DIV/0!
HIS3	YOR202W	13	3	1	26.21684	#DIV/0!
MCT1	YOR221C	13	3	2	18.18963	34.76712
SNC2	YOR327C	13	3	3	15.9037	32.71838
STE13	YOR219C	13	3	4	8.320822	34.07279
FRT1	YOR324C	13	3	5	23.73864	33.24328
RUD3	YOR216C	13	3	6	28.2275	34.72099
	YOR322C	13	3	7	7.793734	33.85678
	YOR215C	13	3	8	18.73797	33.19606
PMT3	YOR321W	13	3	9	17.58031	42.04063
	YOR214C	13	3	10	23.18174	47.49283
GNT1	YOR320C	13	3	11	16.1179	54.59783
SAS5	YOR213C	13	3	12	33.64988	55.24479
	YOR318C	13	3	13	17.03782	20.74511
STE4	YOR212W	13	3	14	11.32604	36.76742
FAA1	YOR317W	13	3	15	12.9403	20.08849
NPT1	YOR209C	13	3	16	18.07	28.39161
COT1	YOR316C	13	3	17	12.63064	27.95944
PTP2	YOR208W	13	3	18	11.97105	17.36736
	YOR315W	13	3	19	5.145808	20.89372
HIS3	YOR202W	13	3	20	9.669208	27.14927

	YOR314W	13	3	21	11.19972	38.94093
MCA1	YOR197W	13	3	22	4.626047	40.00946
SPS4	YOR313C	13	3	23	8.359761	42.10775
HIS3	YOR202W	13	3	24	4.790994	27.41379
HIS3	YOR202W	13	4	1	#DIV/0!	#DIV/0!
YTA6	YPL074W	13	4	2	-3.02105	57.37533
	YPL183C	13	4	3	35.50573	22.56809
	YPL073C	13	4	4	20.27575	56.13431
	YPL182C	13	4	5	1.802536	40.30345
	YPL071C	13	4	6	11.33996	46.04347
CTI6	YPL181W	13	4	7	17.11745	48.1721
MUK1	YPL070W	13	4	8	10.43905	39.41947
TCO89	YPL180W	13	4	9	4.826412	16.71923
BTS1	YPL069C	13	4	10	-7.52238	47.03172
PPQ1	YPL179W	13	4	11	20.36488	28.60503
	YPL068C	13	4	12	18.91949	27.66985
CBC2	YPL178W	13	4	13	55.55947	58.39973
	YPL067C	13	4	14	19.23304	31.12305
CUP9	YPL177C	13	4	15	11.59303	39
	YPL066W	13	4	16	8.344433	45.39515
	YPL176C	13	4	17	5.489418	43.02742
CWC27	YPL064C	13	4	18	15.83611	56.51344
NIP100	YPL174C	13	4	19	18.84409	65.37755
	YPL062W	13	4	20	27.14442	33.04572
COX10	YPL172C	13	4	21	41.07143	-14.7929
ALD6	YPL061W	13	4	22	8.322948	17.30424
OYE3	YPL171C	13	4	23	13.3108	26.30644
HIS3	YOR202W	13	4	24	12.87879	#DIV/0!
HIS3	YOR202W	13	5	1	29.38362	#DIV/0!
RPL33B	YOR234C	13	5	2	13.30796	49.38771
PUT4	YOR348C	13	5	3	9.967207	25.92284
KIN4	YOR233W	13	5	4	13.20861	41.26393
PYK2	YOR347C	13	5	5	21.76719	56.18849
MKK1	YOR231W	13	5	6	24.65145	65.52137
REV1	YOR346W	13	5	7	3.245663	56.52287
WTM1	YOR230W	13	5	8	4.26899	25.90327
TYE7	YOR344C	13	5	9	1.898007	27.07127
WTM2	YOR229W	13	5	10	48.43217	48.22134
	YOR343C	13	5	11	-1.77633	46.08629
	YOR228C	13	5	12	0.866271	31.9452
	YOR342C	13	5	13	7.968097	28.86676
	YOR227W	13	5	14	16.65342	53.43349
UBC11	YOR339C	13	5	15	11.97739	15.70816

ISU2	YOR226C	13	5	16	1.254022	62.58065
	YOR338W	13	5	17	22.50189	46.2488
	YOR225W	13	5	18	17.21509	61.06718
TEA1	YOR337W	13	5	19	10.77169	23.15802
	YOR223W	13	5	20	22.23592	33.50209
MRS2	YOR334W	13	5	21	7.816414	6.475407
ODC2	YOR222W	13	5	22	13.49906	18.19142
PDR10	YOR328W	13	5	23	13.34007	56.20201
HIS3	YOR202W	13	5	24	9.147731	#DIV/0!
HIS3	YOR202W	13	6	1	18.55294	#DIV/0!
	YPL095C	13	6	2	17.24041	54.83548
OXR1	YPL196W	13	6	3	-17.4303	47.84894
SSU1	YPL092W	13	6	4	13.5437	44.28544
APL5	YPL195W	13	6	5	-4.4933	37.91982
GLR1	YPL091W	13	6	6	6.839922	63.03966
DDC1	YPL194W	13	6	7	7.256897	55.20084
RPS6A	YPL090C	13	6	8	17.57009	56.19703
PRM3	YPL192C	13	6	9	1.118788	39.64249
RLM1	YPL089C	13	6	10	14.42437	37.87591
	YPL191C	13	6	11	1.195055	45.21355
	YPL088W	13	6	12	13.58901	42.13589
GUP2	YPL189W	13	6	13	22.38931	52.57818
YDC1	YPL087W	13	6	14	63.38503	57.3288
MF(ALPHA)1	YPL187W	13	6	15	17.19954	38.72827
ELP3	YPL086C	13	6	16	13.28702	13.34145
UIP4	YPL186C	13	6	17	10.33092	35.82134
RPS9A	YPL081W	13	6	18	33.97188	41.4941
	YPL185W	13	6	19	12.63113	30.6464
	YPL080C	13	6	20	5.600541	63.60517
	YPL184C	13	6	21	12.91742	32.34472
RPL21B	YPL079W	13	6	22	5.876098	43.47777
	YPL183W-					
GON5	A	13	6	23	4.133176	20.17318
HIS3	YOR202W	13	6	24	10.07687	#DIV/0!
HIS3	YOR202W	13	7	1	1.327511	#DIV/0!
RBF17	YOR252W	13	7	2	11.33511	54.21369
PDE2	YOR360C	13	7	3	10.15553	44.04339
	YOR251C	13	7	4	9.892244	35.66798
VTs1	YOR359W	13	7	5	3.151633	19.13434
SRL1	YOR247W	13	7	6	4.33125	19.00794
HAP5	YOR358W	13	7	7	-10.52	43.72692
	YOR246C	13	7	8	4.838647	45.49047
GRD19	YOR357C	13	7	9	12.06619	44.8512

DGA1	YOR245C	13	7	10	6.875811	40.54853
	YOR356W	13	7	11	-6.80748	60.17722
PUS7	YOR243C	13	7	12	61.35222	71.84002
GDS1	YOR355W	13	7	13	57.01281	52.63913
SSP2	YOR242C	13	7	14	4.239038	43.26962
MSC6	YOR354C	13	7	15	10.66802	22.28484
ABP140	YOR239W	13	7	16	6.929402	29.04958
	YOR352W	13	7	17	2.841112	37.12747
	YOR238W	13	7	18	11.35318	35.58422
MEK1	YOR351C	13	7	19	13.86913	66.58175
HES1	YOR237W	13	7	20	19.04404	59.21221
MNE1	YOR350C	13	7	21	-0.18005	38.32795
	YOR235W	13	7	22	33.64018	37.3442
CIN1	YOR349W	13	7	23	5.241885	47.04394
HIS3	YOR202W	13	7	24	20.26504	#DIV/0!
HIS3	YOR202W	13	8	1	27.74774	#DIV/0!
	YPL108W	13	8	2	-10.8593	#DIV/0!
	YPL208W	13	8	3	10.08959	48.38399
	YPL107W	13	8	4	6.9498	28.62738
	YPL207W	13	8	5	6.224401	24.53613
SSE1	YPL106C	13	8	6	-15.1986	44.14459
	YPL206C	13	8	7	10.60793	40.95935
	YPL105C	13	8	8	3.3558	25.57114
	YPL205C	13	8	9	-1.58779	35.27833
FMP30	YPL103C	13	8	10	-6.21546	39.58741
TPK2	YPL203W	13	8	11	4.765294	44.07395
	YPL102C	13	8	12	#DIV/0!	56.04698
AFT2	YPL202C	13	8	13	3.921506	39.4206
ELP4	YPL101W	13	8	14	#DIV/0!	58.87411
	YPL201C	13	8	15	11.42558	31.33877
ATG21	YPL100W	13	8	16	17.17072	38.13038
CSM4	YPL200W	13	8	17	1.96283	18.51859
FMP14	YPL099C	13	8	18	12.04619	48.01733
	YPL199C	13	8	19	12.29067	22.68216
	YPL098C	13	8	20	-11.5475	56.90008
RPL7B	YPL198W	13	8	21	22.2517	48.19471
PNG1	YPL096W	13	8	22	3.963599	58.68603
	YPL197C	13	8	23	15.33766	50.30943
HIS3	YOR202W	13	8	24	5.939799	29.13711
HIS3	YOR202W	13	9	1	-8.59339	#DIV/0!
	YOR271C	13	9	2	-3.01685	63.41628
	YOR378W	13	9	3	-3.37342	52.90315
VPH1	YOR270C	13	9	4	-18.5948	39.90392

ATF1	YOR377W	13	9	5	-3.21496	33.57883
PAC1	YOR269W	13	9	6	24.94948	41.42137
	YOR376W	13	9	7	-13.7963	43.55956
	YOR268C	13	9	8	-3.76435	31.5356
GDH1	YOR375C	13	9	9	4.352764	22.34591
HRK1	YOR267C	13	9	10	16.55416	48.58092
ALD4	YOR374W	13	9	11	7.467144	30.77183
PNT1	YOR266W	13	9	12	25.57935	62.18334
GPB1	YOR371C	13	9	13	17.34563	20.84698
RBL2	YOR265W	13	9	14	12.17045	19.72205
RAD17	YOR368W	13	9	15	12.91476	42.23974
DSE3	YOR264W	13	9	16	26.28447	59.42569
SCP1	YOR367W	13	9	17	50.97749	60.98282
	YOR263C	13	9	18	9.125758	53.71068
	YOR365C	13	9	19	-4.30871	22.15446
OSW1	YOR255W	13	9	20	14.50907	45.10174
	YOR364W	13	9	21	20.23792	58.87541
NAT5	YOR253W	13	9	22	10.99406	44.75705
PIP2	YOR363C	13	9	23	5.46627	2.482355
HIS3	YOR202W	13	9	24	12.80642	#DIV/0!
HIS3	YOR202W	13	10	1	3.799552	#DIV/0!
MEI5	YPL121C	13	10	2	25.09452	35.47414
	YPL225W	13	10	3	-3.37591	53.2037
VPS30	YPL120W	13	10	4	5.645617	15.36178
MMT2	YPL224C	13	10	5	25.48254	34.41037
DBP1	YPL119C	13	10	6	9.734077	63.84199
GRE1	YPL223C	13	10	7	9.456266	19.47616
HOS3	YPL116W	13	10	8	37.34871	64.90368
FMP40	YPL222W	13	10	9	6.934025	34.4864
BEM3	YPL115C	13	10	10	2.680672	38.89486
BOP1	YPL221W	13	10	11	0.789962	41.1953
	YPL114W	13	10	12	18.62356	56.46593
RPL1A	YPL220W	13	10	13	-2.46612	52.20307
	YPL113C	13	10	14	22.78101	65.41427
PCL8	YPL219W	13	10	15	1.253743	22.78673
PEX25	YPL112C	13	10	16	6.940848	43.68543
	YPL216W	13	10	17	6.433192	58.7486
CAR1	YPL111W	13	10	18	26.29519	51.74399
THI6	YPL214C	13	10	19	-1.8903	55.33706
	YPL110C	13	10	20	51.11274	11.92484
LEA1	YPL213W	13	10	21	36.31885	41.99392
	YPL109C	13	10	22	11.78253	63.21638
PUS1	YPL212C	13	10	23	9.436722	35.97154

HIS3	YOR202W	13	10	24	13.79025	#DIV/0!
HIS3	YOR202W	13	11	1	51.72291	#DIV/0!
FMP31	YOR286W	13	11	2	-3.22699	44.52213
CHL1	YPL008W	13	11	3	3.434461	45.76439
	YOR285W	13	11	4	12.78429	57.63085
LSP1	YPL004C	13	11	5	-0.72016	44.27935
HUA2	YOR284W	13	11	6	-1.88992	50.08333
ULA1	YPL003W	13	11	7	3.281849	32.35495
	YOR283W	13	11	8	13.37351	51.55985
HAT1	YPL001W	13	11	9	11.31575	47.76029
FSH3	YOR280C	13	11	10	-6.95818	39.73215
PHR1	YOR386W	13	11	11	8.619864	63.26452
RFM1	YOR279C	13	11	12	25.65914	30.95032
	YOR385W	13	11	13	1.09375	56.95044
	YOR277C	13	11	14	16.98902	46.59463
FRE5	YOR384W	13	11	15	14.60088	59.53161
CAF20	YOR276W	13	11	16	12.43078	55.59503
FIT3	YOR383C	13	11	17	-6.96966	51.23374
RIM20	YOR275C	13	11	18	15.83133	45.99336
FIT2	YOR382W	13	11	19	-8.74171	60.28813
MOD5	YOR274W	13	11	20	-2.7036	28.93279
FRE3	YOR381W	13	11	21	5.456357	48.35225
TPO4	YOR273C	13	11	22	9.982008	58.76219
RDR1	YOR380W	13	11	23	11.372	51.63814
HIS3	YOR202W	13	11	24	14.75215	#DIV/0!
HIS3	YOR202W	13	12	1	3.172624	#DIV/0!
UME1	YPL139C	13	12	2	5.633361	42.12283
	YPL245W	13	12	3	7.92239	51.01848
SPP1	YPL138C	13	12	4	-7.70211	24.98963
HUT1	YPL244C	13	12	5	3.320543	43.91975
	YPL137C	13	12	6	27.0903	16.04938
CIN2	YPL241C	13	12	7	-0.21111	26.26431
	YPL136W	13	12	8	4.342906	29.24835
HSP82	YPL240C	13	12	9	9.075937	64.29329
ISU1	YPL135W	13	12	10	9.420622	47.62927
YAR1	YPL239W	13	12	11	26.65507	25.21934
ODC1	YPL134C	13	12	12	-6.65365	56.04052
	YPL236C	13	12	13	-10.718	49.09387
RDS2	YPL133C	13	12	14	6.304185	15.20035
SSO1	YPL232W	13	12	15	-4.9225	62.45755
SPO19	YPL130W	13	12	16	-1.3206	26.74555
	YPL230W	13	12	17	18.97553	50.94427
HHO1	YPL127C	13	12	18	14.41688	63.366

	YPL229W	13	12	19	10.26759	60.86922
KAP120	YPL125W	13	12	20	#DIV/0!	44.66234
ALG5	YPL227C	13	12	21	#DIV/0!	32.68851
RNY1	YPL123C	13	12	22	18.92084	56.50819
NEW1	YPL226W	13	12	23	11.42989	49.25031
HIS3	YOR202W	13	12	24	11.64213	#DIV/0!
HIS3	YOR202W	13	13	1	2.786197	#DIV/0!
	YOR300W	13	13	2	7.214014	15.39855
SKS1	YPL026C	13	13	3	14.88008	42.61963
BUD7	YOR299W	13	13	4	-1.19467	59.67418
	YPL025C	13	13	5	2.536612	53.22075
MUM3	YOR298W	13	13	6	40.03629	47.58018
NCE4	YPL024W	13	13	7	-4.54115	58.4352
	YOR298C-					
MBF1	A	13	13	8	0.821239	59.5917
MET12	YPL023C	13	13	9	2.011628	44.55692
TIM18	YOR297C	13	13	10	10.19585	26.32541
RAD1	YPL022W	13	13	11	61.39616	58.78807
	YOR296W	13	13	12	17.98068	61.80411
ECM23	YPL021W	13	13	13	13.43386	66.13863
RPS10A	YOR293W	13	13	14	-4.12163	-4.0265
VTC3	YPL019C	13	13	15	-5.3031	67.05953
	YOR292C	13	13	16	-7.3898	47.02764
CTF19	YPL018W	13	13	17	4.785806	48.18655
	YOR291W	13	13	18	-3.65449	44.40559
	YPL017C	13	13	19	8.58608	62.0926
	YOR289W	13	13	20	#DIV/0!	49.76574
	YPL014W	13	13	21	#DIV/0!	57.83046
MPD1	YOR288C	13	13	22	16.65285	68.94425
	YPL009C	13	13	23	12.95891	65.92749
HIS3	YOR202W	13	13	24	21.21653	#DIV/0!
HIS3	YOR202W	13	14	1	8.495273	#DIV/0!
PRM4	YPL156C	13	14	2	-8.3403	37.85346
	YPL260W	13	14	3	36.18473	32.64944
KIP2	YPL155C	13	14	4	2.349984	47.84316
APM1	YPL259C	13	14	5	5.704885	31.51613
PEP4	YPL154C	13	14	6	39.56565	24.22827
THI21	YPL258C	13	14	7	-16.2078	28.77167
RRD2	YPL152W	13	14	8	-7.03701	63.41857
	YPL257W	13	14	9	-5.27623	36.42442
	YPL150W	13	14	10	34.87955	49.09274
CLN2	YPL256C	13	14	11	-5.94133	52.53962
ATG5	YPL149W	13	14	12	36.37576	3.915663

VIK1	YPL253C	13	14	13	-15.1911	49.65946
PXA1	YPL147W	13	14	14	-2.53806	68.93301
ICY2	YPL250C	13	14	15	-0.35697	57.57706
KES1	YPL145C	13	14	16	20.12471	73.93441
GYP5	YPL249C	13	14	17	-16.2598	12.8499
	YPL144W	13	14	18	-18.7159	38.65712
GAL4	YPL248C	13	14	19	-4.72488	31.85515
	YPL141C	13	14	20	7.744162	39.61789
	YPL247C	13	14	21	1.899713	53.54656
MKK2	YPL140C	13	14	22	-2.39174	19.46063
RBD2	YPL246C	13	14	23	22.32735	42.19589
HIS3	YOR202W	13	14	24	26.66952	#DIV/0!
HIS3	YOR202W	13	15	1	7.667055	#DIV/0!
RPL20B	YOR312C	13	15	2	3.054414	#DIV/0!
ELC1	YPL046C	13	15	3	4.677939	#DIV/0!
HSD1	YOR311C	13	15	4	14.30203	#DIV/0!
	YPL041C	13	15	5	4.692303	#DIV/0!
	YOR309C	13	15	6	30.7537	#DIV/0!
	YPL039W	13	15	7	-5.9285	#DIV/0!
SNU66	YOR308C	13	15	8	-6.33686	#DIV/0!
MET31	YPL038W	13	15	9	-1.90283	#DIV/0!
SLY41	YOR307C	13	15	10	32.43384	#DIV/0!
EGD1	YPL037C	13	15	11	48.09497	#DIV/0!
MCH5	YOR306C	13	15	12	-2.02842	#DIV/0!
PMA2	YPL036W	13	15	13	2.423817	#DIV/0!
CPA1	YOR303W	13	15	14	5.458608	#DIV/0!
	YPL034W	13	15	15	-1.90285	#DIV/0!
ISW2	YOR304W	13	15	16	32.0483	#DIV/0!
	YPL033C	13	15	17	8.277786	#DIV/0!
	YOR304C-					
	A	13	15	18	16.41092	#DIV/0!
SVL3	YPL032C	13	15	19	23.61824	#DIV/0!
	YOR302W	13	15	20	8.803137	#DIV/0!
	YPL030W	13	15	21	15.8532	#DIV/0!
RAX1	YOR301W	13	15	22	19.06449	#DIV/0!
SMA1	YPL027W	13	15	23	3.392494	#DIV/0!
HIS3	YOR202W	13	15	24	20.1597	#DIV/0!
HIS3	YOR202W	13	16	1	7.482381	#DIV/0!
HIS3	YOR202W	13	16	2	43.42992	#DIV/0!
HIS3	YOR202W	13	16	3	19.15464	#DIV/0!
HIS3	YOR202W	13	16	4	5.386399	#DIV/0!
HIS3	YOR202W	13	16	5	-2.82388	#DIV/0!
HIS3	YOR202W	13	16	6	2.458364	#DIV/0!

HIS3	YOR202W	13	16	7	15.13037	#DIV/0!
HIS3	YOR202W	13	16	8	42.46498	#DIV/0!
HIS3	YOR202W	13	16	9	45.98928	#DIV/0!
HIS3	YOR202W	13	16	10	36.99565	#DIV/0!
HIS3	YOR202W	13	16	11	24.84398	#DIV/0!
HIS3	YOR202W	13	16	12	12.95646	#DIV/0!
HIS3	YOR202W	13	16	13	29.69318	#DIV/0!
HIS3	YOR202W	13	16	14	14.25848	#DIV/0!
HIS3	YOR202W	13	16	15	6.626262	#DIV/0!
HIS3	YOR202W	13	16	16	16.60429	#DIV/0!
HIS3	YOR202W	13	16	17	30.5991	#DIV/0!
HIS3	YOR202W	13	16	18	7.704671	#DIV/0!
HIS3	YOR202W	13	16	19	25.14203	#DIV/0!
HIS3	YOR202W	13	16	20	37.3418	#DIV/0!
HIS3	YOR202W	13	16	21	0.960095	#DIV/0!
HIS3	YOR202W	13	16	22	16.01894	#DIV/0!
HIS3	YOR202W	13	16	23	22.17879	#DIV/0!
HIS3	YOR202W	13	16	24	12.45932	#DIV/0!
HIS3	YOR202W	14	1	1	36.9123	#DIV/0!
HIS3	YOR202W	14	1	2	30.17381	#DIV/0!
HIS3	YOR202W	14	1	3	51.31128	#DIV/0!
HIS3	YOR202W	14	1	4	47.64855	#DIV/0!
HIS3	YOR202W	14	1	5	38.87168	#DIV/0!
HIS3	YOR202W	14	1	6	20.26431	#DIV/0!
HIS3	YOR202W	14	1	7	28.17501	#DIV/0!
HIS3	YOR202W	14	1	8	35.13335	#DIV/0!
HIS3	YOR202W	14	1	9	36.55488	#DIV/0!
HIS3	YOR202W	14	1	10	23.13213	#DIV/0!
HIS3	YOR202W	14	1	11	9.987056	#DIV/0!
HIS3	YOR202W	14	1	12	48.78536	#DIV/0!
HIS3	YOR202W	14	1	13	40.33163	#DIV/0!
HIS3	YOR202W	14	1	14	18.44553	#DIV/0!
HIS3	YOR202W	14	1	15	20.06743	#DIV/0!
HIS3	YOR202W	14	1	16	21.80289	#DIV/0!
HIS3	YOR202W	14	1	17	36.82287	#DIV/0!
HIS3	YOR202W	14	1	18	41.62371	#DIV/0!
HIS3	YOR202W	14	1	19	56.83251	#DIV/0!
HIS3	YOR202W	14	1	20	24.21582	#DIV/0!
HIS3	YOR202W	14	1	21	27.88606	#DIV/0!
HIS3	YOR202W	14	1	22	37.72962	#DIV/0!
HIS3	YOR202W	14	1	23	50.99197	#DIV/0!
HIS3	YOR202W	14	1	24	10.30617	#DIV/0!
HIS3	YOR202W	14	2	1	-0.24582	#DIV/0!

TIF4632	YGL049C	14	2	2	9.175269	47.1482
IES1	YFL013C	14	2	3	51.29803	35.25106
	YGL042C	14	2	4	52.63001	59.35638
	YFL012W	14	2	5	36.98917	36.93473
ECM33	YBR078W	14	2	6	37.16767	19.58333
	YFL010W-					
AUA1	A	14	2	7	30.21452	58.23759
RPL17B	YJL177W	14	2	8	17.89634	47.8923
WWM1	YFL010C	14	2	9	38.7262	37.54123
	YGR122W	14	2	10	33.57033	63.78099
BLM3	YFL007W	14	2	11	27.52645	49.6306
	YGR068C	14	2	12	31.14079	48.64191
VTC2	YFL004W	14	2	13	11.47903	52.61385
	YGR067C	14	2	14	30.83006	54.23209
MSH4	YFL003C	14	2	15	18.27466	23.37584
ADE6	YGR061C	14	2	16	54.17608	44.97899
DEG1	YFL001W	14	2	17	20.5572	33.59734
MUP1	YGR055W	14	2	18	-28.2415	34.47668
	YGR255C	14	2	19	40.26664	26.77398
RCS1	YGL071W	14	2	20	31.68991	50.70086
ENO1	YGR254W	14	2	21	24.66568	57.28808
PUS2	YGL063W	14	2	22	42.66607	57.18485
	YGR122C-A	14	2	23	16.82134	54.00141
HIS3	YOR202W	14	2	24	33.67302	#DIV/0!
HIS3	YOR202W	14	3	1	14.75154	#DIV/0!
SAM3	YPL274W	14	3	2	26.65243	43.3881
CLB5	YPR120C	14	3	3	11.36125	43.91619
SAM4	YPL273W	14	3	4	62.48474	45.88346
CLB2	YPR119W	14	3	5	9.551946	35.89797
	YPL272C	14	3	6	32.29511	40.24122
	YPR117W	14	3	7	31.02245	32.19985
MDL2	YPL270W	14	3	8	20.14971	42.6864
	YPR115W	14	3	9	20.03621	65.01865
KAR9	YPL269W	14	3	10	25.66154	46.74567
	YPR114W	14	3	11	41.48374	65.14593
ACM1	YPL267W	14	3	12	43.58078	52.39362
DBF20	YPR111W	14	3	13	44.68415	30.19796
DIP5	YPL265W	14	3	14	24.63126	41.30724
	YPR109W	14	3	15	21.76947	53.03326
	YPL264C	14	3	16	25.65969	62.54313
ISR1	YPR106W	14	3	17	23.39891	31.13715
KEL3	YPL263C	14	3	18	33.01156	34.23488
	YPR098C	14	3	19	25.25678	45.62034

FUM1	YPL262W	14	3	20	25.15115	36.11414
	YPR097W	14	3	21	22.54006	41.89159
	YPL261C	14	3	22	22.71806	59.49301
	YPR096C	14	3	23	58.72555	45.0293
HIS3	YOR202W	14	3	24	4.364608	#DIV/0!
HIS3	YOR202W	14	4	1	19.95259	#DIV/0!
ISN1	YOR155C	14	4	2	24.36795	56.48372
TOS8	YGL096W	14	4	3	66.72396	42.65192
VHS3	YOR054C	14	4	4	33.74682	64.94036
PAN2	YGL094C	14	4	5	34.61835	58.22077
RHO5	YNL180C	14	4	6	22.02672	37.92157
PNC1	YGL037C	14	4	7	1.106934	50.27628
BOP3	YNL042W	14	4	8	62.38898	75.74514
CGR1	YGL029W	14	4	9	45.80465	64.65836
CYT2	YKL087C	14	4	10	37.96628	35.26776
MAL12	YGR292W	14	4	11	24.16069	64.92447
KGD1	YIL125W	14	4	12	24.32599	57.17621
	YGR291C	14	4	13	13.78617	62.90754
GEM1	YAL048C	14	4	14	67.08061	25.64838
MAL11	YGR289C	14	4	15	47.88408	63.68337
	YOR248W	14	4	16	47.28661	61.04137
RNH70	YGR276C	14	4	17	29.72851	35.8495
	YOR220W	14	4	18	43.18683	55.40045
	YGR273C	14	4	19	31.84794	32.99826
DCI1	YOR180C	14	4	20	-1.57994	56.86802
	YGR272C	14	4	21	31.57331	32.34949
SYC1	YOR179C	14	4	22	38.73419	41.90193
SLH1	YGR271W	14	4	23	50.08236	57.46694
HIS3	YOR202W	14	4	24	-0.10098	#DIV/0!
HIS3	YOR202W	14	5	1	-25.0985	#DIV/0!
	YPR013C	14	5	2	30.23701	43.40659
MSS18	YPR134W	14	5	3	30.36805	33.82374
	YPR012W	14	5	4	6.052784	51.94795
RPS23B	YPR132W	14	5	5	45.06805	42.57849
SUT2	YPR009W	14	5	6	17.53349	36.02797
	YPR130C	14	5	7	21.65121	65.19562
HAA1	YPR008W	14	5	8	26.15146	60.13794
SCD6	YPR129W	14	5	9	41.25945	58.17348
REC8	YPR007C	14	5	10	35.83653	66.25
ANT1	YPR128C	14	5	11	20.0211	42.87109
ICL2	YPR006C	14	5	12	22.03011	58.69804
	YPR127W	14	5	13	32.65711	42.38019
HAL1	YPR005C	14	5	14	46.68607	60.31869

	YPR126C	14	5	15	34.09957	42.18577
	YPR004C	14	5	16	26.60249	46.90194
	YPR125W	14	5	17	30.38805	24.03065
	YPR003C	14	5	18	31.44864	59.35849
	YPR123C	14	5	19	20.66703	24.88191
PDH1	YPR002W	14	5	20	23.71422	60.60449
AXL1	YPR122W	14	5	21	25.12225	45.6655
CIT3	YPR001W	14	5	22	12.29696	44.34647
THI22	YPR121W	14	5	23	74.14697	57.15607
HIS3	YOR202W	14	5	24	34.83442	#DIV/0!
HIS3	YOR202W	14	6	1	38.43516	#DIV/0!
PET123	YOR158W	14	6	2	31.27475	45.44268
DJP1	YIR004W	14	6	3	33.03172	54.30876
MRH1	YDR033W	14	6	4	38.38665	52.91588
	YIL158W	14	6	5	10.48999	45.86525
PST2	YDR032C	14	6	6	32.79789	59.35487
	YIL151C	14	6	7	36.71371	51.37636
	YDR031W	14	6	8	34.74043	47.49331
OM45	YIL136W	14	6	9	30.27547	35.90337
RAD28	YDR030C	14	6	10	32.73048	59.94224
FKH1	YIL131C	14	6	11	22.87317	43.87018
	YDR029W	14	6	12	19.99708	42.79532
POG1	YIL122W	14	6	13	31.29263	53.12658
	YDR026C	14	6	14	36.71973	39.03289
COX5B	YIL111W	14	6	15	22.2235	48.46723
	YAL046C	14	6	16	33.03802	44.47241
	YIL102C	14	6	17	44.88971	38.62872
ADY4	YLR227C	14	6	18	20.87361	44.71597
LYS12	YIL094C	14	6	19	21.02152	46.81013
	YKR104W	14	6	20	46.96468	53.35331
KTR7	YIL085C	14	6	21	35.34197	31.39796
BAP3	YDR046C	14	6	22	25.53804	41.1511
	YMR074C	14	6	23	32.45595	37.56219
HIS3	YOR202W	14	6	24	22.07312	#DIV/0!
HIS3	YOR202W	14	7	1	21.78612	#DIV/0!
YOP1	YPR028W	14	7	2	17.3147	55.82864
	YPR152C	14	7	3	27.59945	46.68271
	YPR027C	14	7	4	19.77778	62.00788
	YPR150W	14	7	5	63.28498	30.78527
ATH1	YPR026W	14	7	6	20.72234	37.23369
NCE102	YPR149W	14	7	7	25.5564	53.70207
YME1	YPR024W	14	7	8	26.44156	35.96407
	YPR148C	14	7	9	23.45209	55.19923

EAF3	YPR023C	14	7	10	58.09895	56.33217
	YPR147C	14	7	11	32.87236	42.82588
	YPR022C	14	7	12	34.99849	51.40907
	YPR146C	14	7	13	32.22457	36.59591
ATP20	YPR020W	14	7	14	38.10846	46.7931
ASN1	YPR145W	14	7	15	43.17968	55.19337
RLF2	YPR018W	14	7	16	25.57815	-4.19197
KAR3	YPR141C	14	7	17	34.76452	39.08668
DSS4	YPR017C	14	7	18	42.67345	32.55741
TAZ1	YPR140W	14	7	19	32.99187	34.05517
	YPR015C	14	7	20	75.14317	67.10334
	YPR138C	14	7	21	48.15978	64.41692
MEP3	YPR014C	14	7	22	35.17831	48.45927
	YPR135W	14	7	23	64.53407	65.09615
HIS3	YOR202W	14	7	24	39.8533	#DIV/0!
HIS3	YOR202W	14	8	1	34.7847	#DIV/0!
NRG1	YDR043C	14	8	2	41.48491	35.25078
	YLR455W	14	8	3	25.14191	44.77473
	YDR042C	14	8	4	40.33586	54.87964
	YJR066W	14	8	5	34.67845	59.71698
EHD3	YDR036C	14	8	6	67.5549	46.65374
VPS55	YJR044C	14	8	7	58.17531	27.86623
ARO3	YDR035W	14	8	8	34.51484	42.8537
	YJR039W	14	8	9	44.77662	46.22969
	YDR034C	14	8	10	37.15414	48.29126
LYS14	YJL103C	14	8	11	40.78657	49.25414
	YPR039W	14	8	12	41.38988	61.44297
	YJL029C	14	8	13	50.87142	0.360247
UBP16	YPL072W	14	8	14	21.53251	44.0338
	YNL086W	14	8	15	27.74299	51.02879
	YPL035C	14	8	16	26.7222	22.97723
MSG5	YNL053W	14	8	17	43.63031	55.65954
HST2	YPL015C	14	8	18	34.23316	56.0049
SLM2	YNL047C	14	8	19	37.87131	50.62743
	YOR240W	14	8	20	35.06235	36.43839
	YNL014W	14	8	21	26.74271	44.69616
HEF3	YMR194C-					
	A	14	8	22	39.37916	33.21293
	YNL011C	14	8	23	27.45827	62.17892
HIS3	YOR202W	14	8	24	26.38023	#DIV/0!
HIS3	YOR202W	14	9	1	23.2681	#DIV/0!
	YPR045C	14	9	2	28.2889	46.44829
BSP1	YPR171W	14	9	3	17.79319	46.89837

	YPR044C	14	9	4	48.01421	52.11733
	YPR170C	14	9	5	22.26347	52.23784
RPL43A	YPR043W	14	9	6	#DIV/0!	14.33291
MET16	YPR167C	14	9	7	32.30415	58.97182
PUF2	YPR042C	14	9	8	27.76225	50.51724
MMS1	YPR164W	14	9	9	40.00805	54.23815
TIP41	YPR040W	14	9	10	51.39483	48.54258
GPH1	YPR160W	14	9	11	79.20228	47.30421
	YPR038W	14	9	12	38.38622	57.12455
	YPR158W	14	9	13	-24.3016	55.64792
ERV2	YPR037C	14	9	14	49.33835	62.30311
	YPR157W	14	9	15	27.29459	58.31235
SRO7	YPR032W	14	9	16	35.30963	47.10817
TPO3	YPR156C	14	9	17	26.39376	34.67613
NT01	YPR031W	14	9	18	22.95624	46.29037
NCA2	YPR155C	14	9	19	26.55688	55.92887
CSR2	YPR030W	14	9	20	49.17672	51.77203
PIN3	YPR154W	14	9	21	70.31432	80.93666
APL4	YPR029C	14	9	22	24.56038	69.33031
	YPR153W	14	9	23	37.22873	39.95045
HIS3	YOR202W	14	9	24	-0.63452	#DIV/0!
HIS3	YOR202W	14	10	1	-15.8962	#DIV/0!
COX14	YML129C	14	10	2	-13.8966	43.19189
SMP2	YMR165C	14	10	3	-7.60684	35.59829
CTK3	YML112W	14	10	4	-23.5928	25.52721
ASI1	YMR119W	14	10	5	17.47908	52.60641
BUL2	YML111W	14	10	6	46.98543	57.90986
	YMR118C	14	10	7	27.848	38.84515
FAR10	YLR238W	14	10	8	48.02423	49.28893
CAT5	YOR125C	14	10	9	-5.90278	-1.54412
RXT2	YBR095C	14	10	10	31.34378	47.64674
	YOL153C	14	10	11	43.2906	49.23729
IST2	YBR086C	14	10	12	39.62199	48.90412
	YOL073C	14	10	13	42.43317	36.88024
AAC3	YBR085W	14	10	14	47.70183	54.48066
AGA1	YNR044W	14	10	15	48.60125	50.60496
UBC4	YBR082C	14	10	16	34.78079	40.64386
ABZ1	YNR033W	14	10	17	39.04537	47.04075
	YBR075W	14	10	18	25.28513	57.15515
MRPL10	YNL284C	14	10	19	16.66629	43.61827
TRM7	YBR061C	14	10	20	38.28754	50.82697
LSM7	YNL147W	14	10	21	35.47679	17.67361
	YBR020W	14	10	22	6.597607	51.10853

CYB5	YNL111C	14	10	23	16.92972	44.88087
HIS3	YOR202W	14	10	24	32.57082	#DIV/0!
HIS3	YOR202W	14	11	1	30.94469	#DIV/0!
JID1	YPR061C	14	11	2	33.40403	20.20732
HPA2	YPR193C	14	11	3	7.674817	54.28111
ARO7	YPR060C	14	11	4	19.3729	50.20162
AQY1	YPR192W	14	11	5	4.533001	41.65709
	YPR059C	14	11	6	36.62577	49.96794
QCR2	YPR191W	14	11	7	33.87627	10.82911
YMC1	YPR058W	14	11	8	27.01964	41.81911
SKI3	YPR189W	14	11	9	18.39825	61.20176
BRR1	YPR057W	14	11	10	8.354038	40.56433
MLC2	YPR188C	14	11	11	27.14054	67.036
SMK1	YPR054W	14	11	12	39.37352	46.21621
ATG13	YPR185W	14	11	13	41.93104	43.41288
	YPR053C	14	11	14	41.12037	25.07576
GDB1	YPR184W	14	11	15	49.8882	46.52589
NHP6A	YPR052C	14	11	16	-4.99718	56.1146
HDA3	YPR179C	14	11	17	30.0469	39.42996
MAK3	YPR051W	14	11	18	24.14708	26.83727
	YPR174C	14	11	19	18.39542	54.81973
	YPR050C	14	11	20	39.01818	54.38486
VPS4	YPR173C	14	11	21	59.98335	6.775261
MCM16	YPR046W	14	11	22	30.01575	26.84883
	YPR172W	14	11	23	37.42431	66.7794
HIS3	YOR202W	14	11	24	13.91879	#DIV/0!
HIS3	YOR202W	14	12	1	36.4248	#DIV/0!
RTG3	YBL103C	14	12	2	27.67589	60.20508
	YNL109W	14	12	3	27.11051	45.10841
LTE1	YAL024C	14	12	4	12.19901	55.67812
RPS7B	YNL096C	14	12	5	8.925583	50.97693
	YDR271C	14	12	6	-34.5787	43.3314
	YOR379C	14	12	7	37.33399	58.22556
	YDR269C	14	12	8	28.41993	54.3213
	YOR366W	14	12	9	22.62218	50.07873
AMD2	YDR242W	14	12	10	29.00369	54.19055
	YOR345C	14	12	11	3.984635	48.79554
BRE1	YDL074C	14	12	12	50.85971	0.766912
	YOR333C	14	12	13	44.10885	55.63587
AAD3	YCR107W	14	12	14	30.31278	57.85478
	YOR325W	14	12	15	48.43762	57.08831
MAL32	YBR299W	14	12	16	#DIV/0!	27.82051
	YOR309C	14	12	17	56.91358	47.7607

UBS1	YBR165W	14	12	18	33.33491	53.89066
MCH5	YOR306C	14	12	19	28.97901	46.2361
TEF2	YBR118W	14	12	20	#DIV/0!	50.04773
	YOR300W	14	12	21	5.145261	42.16263
LYS2	YBR115C	14	12	22	36.47682	60.79117
ADE2	YOR128C	14	12	23	#DIV/0!	63.79496
HIS3	YOR202W	14	12	24	23.01606	#DIV/0!
HIS3	YOR202W	14	13	1	35.80267	#DIV/0!
TKL1	YPR074C	14	13	2	1.884189	69.57948
IML2	YJL082W	14	13	3	31.10358	54.35896
LTP1	YPR073C	14	13	4	16.78388	59.08782
PRY1	YJL079C	14	13	5	2.155161	52.16648
	YPR071W	14	13	6	18.72289	50.40832
SOD2	YHR008C	14	13	7	28.84296	51.17503
MED1		14	13	8	27.67522	36.08147
ARR3	YPR201W	14	13	9	20.09814	54.64771
SPE3	YPR069C	14	13	10	28.56871	54.84337
ARR2	YPR200C	14	13	11	4.661511	51.41336
HOS1	YPR068C	14	13	12	40.96512	68.64962
ARR1	YPR199C	14	13	13	40.27588	51.66543
UBA3	YPR066W	14	13	14	55.89217	27.30935
SGE1	YPR198W	14	13	15	40.01937	66.01481
ROX1	YPR065W	14	13	16	57.11147	64.48811
	YPR197C	14	13	17	48.49779	55.85687
	YPR064W	14	13	18	18.41102	59.90669
	YPR196W	14	13	19	38.86124	46.62309
	YPR063C	14	13	20	36.35333	61.71418
	YPR195C	14	13	21	55.91398	53.71382
FCY1	YPR062W	14	13	22	33.47104	64.31953
OPT2	YPR194C	14	13	23	58.14428	60.87059
HIS3	YOR202W	14	13	24	4.328984	#DIV/0!
HIS3	YOR202W	14	14	1	37.53197	#DIV/0!
PTC2	YER089C	14	14	2	-4.29774	19.43301
SUE1	YPR151C	14	14	3	#DIV/0!	30.88046
SLF1	YDR515W	14	14	4	12.62117	46.20061
	YPR118W	14	14	5	44.79179	55.03647
SAM2	YDR502C	14	14	6	20.08167	51.45536
	YPR091C	14	14	7	52.15675	29.58153
FMP36	YDR493W	14	14	8	43.97126	51.14857
MDM36	YPR083W	14	14	9	17.6392	55.42928
KRE2	YDR483W	14	14	10	20.79443	51.33903
AGC1	YPR021C	14	14	11	13.60032	50.15837
SNF1	YDR477W	14	14	12	27.84063	19.963

	YPR011C	14	14	13	51.59299	51.39028
	YDR444W	14	14	14	59.23022	48.529
	YPL158C	14	14	15	32.12267	51.79539
	YDR326C	14	14	16	39.72869	49.23142
	YML050W	14	14	17	34.86551	67.55763
	YDR290W	14	14	18	57.38112	41.97144
CDA2	YLR308W	14	14	19	32.74689	52.82208
	YFL063W	14	14	20	16.02492	14.47832
ADH1	YOL086C	14	14	21	61.6466	49.5082
RIM15	YFL033C	14	14	22	#DIV/0!	37.55266
MFA1	YDR461W	14	14	23	63.92335	68.09504
HIS3	YOR202W	14	14	24	21.76186	
HIS3	YOR202W	14	15	1	37.19737	
SYT1	YPR095C	14	15	2	46.98365	
HIS3	YOR202W	14	15	3	35.81453	
ASR1	YPR093C	14	15	4	29.72524	
HIS3	YOR202W	14	15	5	63.22978	
	YPR092W	14	15	6	33.71853	
HIS3	YOR202W	14	15	7	25.79166	
	YPR090W	14	15	8	47.92528	
COQ2	YNR041C	14	15	9	#DIV/0!	
	YPR089W	14	15	10	30.19352	
PET191	YJR034W	14	15	11	19.60908	
	YPR084W	14	15	12	30.11371	
	YJL120W	14	15	13	90.25615	
MRL1	YPR079W	14	15	14	28.26513	
	YJL119C	14	15	15	43.15724	
	YPR078C	14	15	16	71.74778	
PHO86	YJL117W	14	15	17	46.51102	
	YPR077C	14	15	18	36.80181	
	YJL107C	14	15	19	37.52155	
	YPR076W	14	15	20	32.22154	
IME2	YJL106W	14	15	21	57.22116	
OPY2	YPR075C	14	15	22	63.6919	
HPR5	YJL092W	14	15	23	-3.30731	
HIS3	YOR202W	14	15	24	27.65349	
HIS3	YOR202W	14	16	1	39.78851	
HIS3	YOR202W	14	16	2	27.25099	
HIS3	YOR202W	14	16	3	13.90402	
HIS3	YOR202W	14	16	4	-0.73595	
HIS3	YOR202W	14	16	5	-8.25802	
HIS3	YOR202W	14	16	6	13.57024	
HIS3	YOR202W	14	16	7	34.08325	

HIS3	YOR202W	14	16	8	39.91194
HIS3	YOR202W	14	16	9	41.11782
HIS3	YOR202W	14	16	10	52.64714
HIS3	YOR202W	14	16	11	37.24949
HIS3	YOR202W	14	16	12	66.00481
HIS3	YOR202W	14	16	13	56.14281
HIS3	YOR202W	14	16	14	#DIV/0!
HIS3	YOR202W	14	16	15	45.71553
HIS3	YOR202W	14	16	16	#DIV/0!
HIS3	YOR202W	14	16	17	#DIV/0!
HIS3	YOR202W	14	16	18	#DIV/0!
HIS3	YOR202W	14	16	19	#DIV/0!
HIS3	YOR202W	14	16	20	36.09822
HIS3	YOR202W	14	16	21	8.739212
HIS3	YOR202W	14	16	22	22.82663
HIS3	YOR202W	14	16	23	17.22006
HIS3	YOR202W	14	16	24	35.54909

Appendix 2	ORF	plate	row	column	GHYDA x3 times			Fatimax 2 times	
					#1	#2	#3	#1	#2
HIS3	YOR202W	1	1	1	0	-42.9812	0.28885		
HIS3	YOR202W	1	1	2	50.35247	21.83099	-28.1646		
HIS3	YOR202W	1	1	3	64.36782	-31.411	-7.16487		
HIS3	YOR202W	1	1	4	32.75017	-5.69358	-2.84615		
HIS3	YOR202W	1	1	5	28.31784	24.38356	-12.1008		
HIS3	YOR202W	1	1	6	29.48473	-27.1516	-28.9193		
HIS3	YOR202W	1	1	7	28.35145	-38.255	-38.7413		
HIS3	YOR202W	1	1	8	-7.1618	19.61326	-10.9049		
HIS3	YOR202W	1	1	9	-10.1833	30.44164	-148.235		
HIS3	YOR202W	1	1	10	32.98805	17.60228	-1.15546		
HIS3	YOR202W	1	1	11	40.57725	-6.74646	-17.1206		
HIS3	YOR202W	1	1	12	40.59322	-3.01075	-8.5595		
HIS3	YOR202W	1	1	13	32.66376	12.35839	-2.74295		
HIS3	YOR202W	1	1	14	43.05924	8.006536	-17.0787		
HIS3	YOR202W	1	1	15	34.43548	23.79936	-28.0245		
HIS3	YOR202W	1	1	16	-6.54912	-3.16456	-9.54907		
HIS3	YOR202W	1	1	17	49.53001	-16.9913	-10.1218		
HIS3	YOR202W	1	1	18	42.89963	-3.56394	-13.0156		
HIS3	YOR202W	1	1	19	30.97913	23.86207	-24.0741		
HIS3	YOR202W	1	1	20	29.02939	12.45937	-47.4471		
HIS3	YOR202W	1	1	21	-6.54545	26.20791	-50.8671		
HIS3	YOR202W	1	1	22	29.27461	-12.1116	-8.23643		
HIS3	YOR202W	1	1	23	36.96275	-33.5714	49.83333		
HIS3	YOR202W	1	1	24	37.93353	5.042436	-15.4618		
HIS3	YOR202W	1	2	1	9.566517	4.477612	-25.5734		
HDR1	YBR030W	1	2	2	64.26914	51.34021	13.51351	63.26531	36.36364
	YBR138C	1	2	3	54.7817	15.98174	22.83105	19.6	23.97959
	YBR028C	1	2	4	23.63014	1.980198	-0.81301	44.60695	27.32095
	YBR137W	1	2	5	15.68895	23.62924	19.78528	47.64595	37.63158
	YBR027C	1	2	6	36.69634	25.28147	65.14215	32.17726	35.48387
ETR1	YBR134W	1	2	7	57.96371	44.53782	47.02381	31.28713	61.62791
	YBR026C	1	2	8	34.43354	31.67982	78.91986	50.23847	39.67611
	YBR132C	1	2	9	26.77858	-8.50394	3.673469	-0.21459	-19.4139
	YBR025C	1	2	10	12.35955	100	#DIV/0!	55.07246	42.81984
	YBR131W	1	2	11	21.0806	2.418208	13.02083	42.88538	35.23035
SCO2	YBR024W	1	2	12	25.14507	38.45127	67.72908	52.589	29.4964
SHE3	YBR130C	1	2	13	28.33545	11.57742	-11.8721	41.59593	22.42744
CHS3	YBR023C	1	2	14	52.80326	74.34312	63.41991	74.49568	67.81327
OPY1	YBR129C	1	2	15	26.92308	0.896057	19.55782	33.07544	36.9863
POA1	YBR022W	1	2	16	37.59162	14.94253	23.71681	49.67532	34.77218
ATG14	YBR128C	1	2	17	50.25316	1.260504	-10.2778	53.149	36.11111

GAL1	YBR020W	1	2	18	55.52194	45.60669	65.72238	66.95122	60.12397
TPS1	YBR126C	1	2	19	22.01258	3.165468	-0.9396	missing colony	missing colony
GAL10	YBR019C	1	2	20	-7.80347	21.49362	46.98413	57.75281	44.76386
PTC4	YBR125C	1	2	21	37.67535	20.57292	31.1412	68.79536	38.86256
GAL7	YBR018C	1	2	22	17.53555	37.98077	-2.67857	18.34532	25.17321
MRPL36	YBR122C	1	2	23	10.31308	7.663782	53.57143	17.01783	27.60181
HIS3	YOR202W	1	2	24	36.72966	4.829545	-2.20653		
HIS3	YOR202W	1	3	1	59.43285	-25	-26.7925		
PSK1	YAL017W	1	3	2	58.32549	38.94325	24.25595	39.56386	42.18415
HEK2	YBL032W	1	3	3	41.56545	56.08035	#DIV/0!	46.79803	30.69544
NTG1	YAL015C	1	3	4	26.24878	-21.1509	28.6	46.29948	26.59574
SHE1	YBL031W	1	3	5	10.55901	-3.07918	56.08309	11.18143	40.40921
SYN8	YAL014C	1	3	6	25.6182	24.19006	26.65862	53.47432	42.10526
	YBL029W	1	3	7	17.48879	29.5	8.814815	33.39161	26.99229
DEP1	YAL013W	1	3	8	28.867	21.99662	-6.1157	46.69261	14.14791
0	YBL028C	1	3	9	26.08696	60.73298	28.07018	47.28171	31.86813
SWC3	YAL011W	1	3	10	36.5353	-10.6545	19.53563	58.29528	-4.05063
RPL19B	YBL027W	1	3	11	-3.89294	23.41463	25.43554	62.80702	43.24324
MDM10	YAL010C	1	3	12	34.01786	5.426357	13.78621	56.88351	34.77157
RRN10	YBL025W	1	3	13	30.28624	14.14286	-20.1242	30.45872	30.56235
FUN14	YAL008W	1	3	14	34.19958	15.5096	-26.4637	3.361345	23.9899
NCL1	YBL024W	1	3	15	30.5102	13.9738	-21.4008	64.09861	34.94898
ERP2	YAL007C	1	3	16	43.21839	29.26491	-7.75681	27.31092	47.8836
HAP3	YBL021C	1	3	17	30.38982	4.447268	7.751196	34.91461	6.764706
SSA1	YAL005C	1	3	18	37.86008	95.82043	66.31579	40.34091	56.30252
APN2	YBL019W	1	3	19	45.38922	19.55882	-8.16641	24.08293	24.04092
	YAL004W	1	3	20	46.42857	-25.7143	2.419355	-34.3008	30.47337
PEP1	YBL017C	1	3	21	43.72367	1.775148	19.66637	-10.8642	36.49425
VPS8	YAL002W	1	3	22	8.660131	-1.77353	65.90909	33.85049	10.14493
FUS3	YBL016W	1	3	23	14.19753	6.985294	34.57944	-1.52905	37.0614
HIS3	YOR202W	1	3	24	33.7386	-2.29226	9.201213		
HIS3	YOR202W	1	4	1	66.83969	0.969163	53.54239		
GIP1	YBR045C	1	4	2	13.89925	6.559264	16.77187	34.22371	35.73265
SLI15	YBR156C	1	4	3	28.77698	11.32404	29.30403	47.50403	38.81402
TCM62	YBR044C	1	4	4	5.910165	90.87523	18.53933	39.70944	41.81818
APD1	YBR151W	1	4	5	27.99642	22.26667	12.75456	48.75	38.52691
QDR3	YBR043C	1	4	6	40.03466	43.27177	29.29134	48.25784	38.96458
TBS1	YBR150C	1	4	7	21.15732	8.710801	2.931596	29.47559	40.10695
	YBR042C	1	4	8	44.04762	38.32061	74.04844	26.56827	35.87571
ARA1	YBR149W	1	4	9	27.35043	100	#DIV/0!	12.73063	81.12798
FAT1	YBR041W	1	4	10	23.05581	8.025682	7.883817	30.22222	25.69444
YSW1	YBR148W	1	4	11	50.68664	-4.06404	52.66272	41.28167	29.23497

FIG1	YBR040W	1	4	12	38.79159	53.20057	-23.1419	3.232759	28
	YBR147W	1	4	13	31.31407	12.66667	3.076923	34.80663	17.02786
CSG2	YBR036C	1	4	14	58.36431	68.34016	65.82278	64.89362	77.37705
MRPS9	YBR146W	1	4	15	18.85776	28.44037	28.3293	36.48425	11.89189
HMT1	YBR034C	1	4	16	21.53316	19.07152	16.81901	49.1018	35.06849
ADH5	YBR145W	1	4	17	24.8366	26.71429	10.95596	40.45872	54.94297
EDS1	YBR033W	1	4	18	68.19013	32.73026	59.74026	62.21889	26.0101
	YBR144C	1	4	19	48.78049	24.5283	60	47.16007	49.88506
	YBR032W	1	4	20	34.07672	17.98365	5.651672	44.58204	24.32432
	YBR141C	1	4	21	43.92523	27.52881	15.85233	40.70513	29.21053
RPL4A	YBR031W	1	4	22	39.8892	47.93233	-14.6707	-1.17647	4.643963
	YBR139W	1	4	23	-16.0194	7.52551	3.312629	51.73745	42.51101
HIS3	YOR202W	1	4	24	30.1826	-4.37117	-11.0915		
HIS3	YOR202W	1	5	1	45.15195	-2.56223	-126.95		
FUN21	YAL031C	1	5	2	22.07547	-22.4234	43.35512	63.54319	46.875
SAS3	YBL052C	1	5	3	50.83426	-10.6349	13.85135	62.22597	38.95028
SNC1	YAL030W	1	5	4	29.89691	-0.96618	29.38671	27.77778	37.7907
PIN4	YBL051C	1	5	5	59.71944	59.00305	62.7566	75.04303	61.34969
MYO4	YAL029C	1	5	6	39.73384	17.58794	13.40726	45.66372	43.94366
MOH1	YBL049W	1	5	7	38.41962	61.97836	55.12367	52.75459	62.30366
FRT2	YAL028W	1	5	8	33.63095	29.57958	15.61181	46.92308	46.0452
	YBL048W	1	5	9	25.19347	-13.0368	18.44741	47.28546	33.241
	YAL027W	1	5	10	18.94439	24.97149	13.36493	57.31523	47.22955
EDE1	YBL047C	1	5	11	15.60748	10.15038	8.446298	2.843602	38.94472
DRS2	YAL026C	1	5	12	17.22054	6.312769	-14.1002	43.27087	-40.0593
	YBL046W	1	5	13	20.65574	19.41176	9.74026	39.37008	23.60743
PMT2	YAL023C	1	5	14	26.90058	6.758833	84.50704	33.33333	30.69307
ECM13	YBL043W	1	5	15	31.87441	17.78976	3.078983	-1.47368	40.45802
FUN26	YAL022C	1	5	16	-38.4211	11.3307	8.380952	29.71619	40.66496
FUI1	YBL042C	1	5	17	-22.9947	19.279	12.78375	38.61004	13.58885
ATS1	YAL020C	1	5	18	23.24723	20.02725	16.07306	58.13559	39.60674
URA7	YBL039C	1	5	19	26.33552	12.53561	28.32765	15.78947	28.44037
FUN30	YAL019W	1	5	20	30.33135	13.13131	-1.5544	27.98054	20.48611
APL3	YBL037W	1	5	21	35.44776	55.92388	49.36709	55.38462	21.20419
	YAL018C	1	5	22	-27.6316	11.75573	-1.25	52.88326	25
	YBL036C	1	5	23	32.71318	9.27673	0.462428	50.46729	18.79518
HIS3	YOR202W	1	5	24	26.32479	-8.22622	1.134021		
HIS3	YOR202W	1	6	1	31.07235	-11.3614	27.04987		
UBP14	YBR058C	1	6	2	2.505695	-16.6856	50.76297	44.40735	38.40749
SSE2	YBR169C	1	6	3	24.18699	-31.1667	5.148206	-26.555	27.7628
MUM2	YBR057C	1	6	4	18.09623	-43.0493	-5.3913	46.26087	16.90544
PEX32	YBR168W	1	6	5	11.69355	0	11.22449	51.98728	30.76923
	YBR056W	1	6	6	32.85714	-23.5197	-61.1111	51.93966	38.16568

TYR1	YBR166C	1	6	7	9.89011	-19.5122	21.52778	43.76947	36.95015
YRO2	YBR054W	1	6	8	28.22142	13.63636	38.62069	60.9589	33.33333
UBS1	YBR165W	1	6	9	21.35562	-33.7625	-5.93407	7.053942	21.77914
	YBR053C	1	6	10	59.76139	16.32928	12.10898	62.12766	52.94118
ARL1	YBR164C	1	6	11	33.0131	12.56983	19.81982	25.4833	19.65318
	YBR052C	1	6	12	36.50794	47.91386	28.63002	49.78541	22.44898
	YBR162W-								
YSY6	A	1	6	13	24.52999	-46.003	3.562341	21.74629	27.72021
	YBR051W	1	6	14	23.16765	35.92552	16.9627	30.5835	20.82111
TOS1	YBR162C	1	6	15	18.06358	12.85956	82.67327	28.4264	35.14986
REG2	YBR050C	1	6	16	-1.00376	29.17251	16.18357	51.34281	38.34197
CSH1	YBR161W	1	6	17	37.11968	1.981707	-5.04673	50.37936	34.65347
RPS11B	YBR048W	1	6	18	-30.2108	-2.69058	25.56391	43.78378	34.67049
	YBR159W	1	6	19	-17.6556	19.48925	-2.93478	46.09495	27.86458
FMP23	YBR047W	1	6	20	16.27907	33.24324	24.60401	52.31481	31.1054
AMN1	YBR158W	1	6	21	39.13956	46.22642	10.16667	56.19946	39.48052
ZTA1	YBR046C	1	6	22	32.57677	65.52306	50.93633	39.68254	40.14085
ICS2	YBR157C	1	6	23	38.1295	23.35845	-3.42298	57.95918	46.1039
HIS3	YOR202W	1	6	24	-2.71941	-17.9598	14.01869		
HIS3	YOR202W	1	7	1	7.854251	-37.9167	10.47542		
ACS1	YAL054C	1	7	2	17.6525	35.97884	-15.2174	49.20914	35.6974
PRX1	YBL064C	1	7	3	24.71452	10.94148	5.154639	32.69962	30.03003
	YAL053W	1	7	4	44.57364	100	23.27586	55.7947	16.86391
KIP1	YBL063W	1	7	5	36.82771	-21.8134	21.13971	16.09907	36.4486
OAF1	YAL051W	1	7	6	40.39548	31.79825	62.5	37.76978	28.35821
	YBL062W	1	7	7	36.97674	40	51.22807	65.23888	49.71264
	YAL049C	1	7	8	34.58236	-4.51436	7.443683	47.08819	25.50725
SKT5	YBL061C	1	7	9	13.39387	45.77114	9.820486	38.63216	28.82353
	YAL045C	1	7	10	14.92281	32.24299	48.18653	56.54854	33.14917
	YBL060W	1	7	11	34.65909	11.94581	3.864734	57.02875	38.52459
	YAL043C-A	1	7	12	35.64728	66.57825	36.36364	48.57571	18.54839
	YBL059W	1	7	13	27.23005	17.50973	-2.44898	25.39964	33.16327
ERV46	YAL042W	1	7	14	24.58159	28.98936	-6.28834	54.84728	41.85464
PTH2	YBL057C	1	7	15	11.69772	17.88512	10.96311	36.89482	31.70103
CLN3	YAL040C	1	7	16	35.72744	24.91389	23.26784	66.93227	36.84211
PTC3	YBL056W	1	7	17	8.294931	48.83721	40.31008	16.80261	11.02151
	YAL037W	1	7	18	28.29132	21.26514	9.013398	62.94278	46.07046
	YBL055C	1	7	19	-4.02299	20.53973	11.38889	60.13865	45.25316
RBG1	YAL036C	1	7	20	-9.46502	26.47482	30.53348	45.93023	45.88235
	YBL054W	1	7	21	32.41973	28.60539	12.2429	13.88286	17.51412
FUN19	YAL034C	1	7	22	20.08368	24.02023	-35.6968	55.02717	32.22506
	YBL053W	1	7	23	7.972028	14.05564	47.16157	46.89826	28.10304
HIS3	YOR202W	1	7	24	-30.8908	15.8701	2.224576		

HIS3	YOR202W	1	8	1	-13.6364	-21.709	64.58877		
	YBR071W	1	8	2	11.11111	16.47635	14.25662	50.62305	44.72477
SMP1	YBR182C	1	8	3	-1.7982	13.93939	20.82879	50.07564	39.16849
TAT1	YBR069C	1	8	4	18.07349	-23.5632	10.0271	31.67331	-0.90361
RPS6B	YBR181C	1	8	5	28.61416	-20.623	17.5836	23.60248	24.67532
BAP2	YBR068C	1	8	6	26.85714	-2.86494	-53.4091	46.96707	28.72928
DTR1	YBR180W	1	8	7	38.60511	12.53298	-7.71812	57.32899	34.51087
TIP1	YBR067C	1	8	8	28.01932	58.16876	59.67742	46.74457	23.71968
	YBR178W	1	8	9	27.62022	-0.96774	27.10526	30.65539	43.54839
NRG2	YBR066C	1	8	10	17.28516	11.0424	22.60536	52.61438	39.15493
EHT1	YBR177C	1	8	11	29.55975	8.15822	8.14664	56.31825	45.02762
ECM2	YBR065C	1	8	12	34.19741	9.184994	-15.3439	55.65217	31.94805
ECM31	YBR176W	1	8	13	17.92015	2.255639	18.45161	20.49689	44.87179
	YBR064W	1	8	14	23.34884	14.2487	21.75	62.51656	35.07463
SWD3	YBR175W	1	8	15	20.88608	2.42915	21.62809	-3.73832	16.73387
	YBR063C	1	8	16	18.73479	34.4358	42.74194	36.1204	44.13965
	YBR174C	1	8	17	16.64671	29.30556	17.56979	4.8	-2.73973
	YBR062C	1	8	18	40.90909	18.04511	14.83871	0	44.89247
SMY2	YBR172C	1	8	19	38.23916	15.65657	24.2497	57.3913	34.35115
TRM7	YBR061C	1	8	20	33.45622	20.54422	28.9358	54.33855	40.21739
SEC66	YBR171W	1	8	21	22.85068	47.51678	-29.9639	24.84076	14.5
AKL1	YBR059C	1	8	22	35.15249	-3.40219	14.72393	52.82392	21.6763
NPL4	YBR170C	1	8	23	-1.64609	89.95633	-96.875	34.57944	20.76923
HIS3	YOR202W	1	8	24	-80.9612	7.613636	19.93534		
HIS3	YOR202W	1	9	1	1.693405	-61.4137	-11.279		
	YAL066W	1	9	2	29.84389	38.87588	-16.5457	36.74589	43.58974
NUP170	YBL079W	1	9	3	6.607495	-13.6667	4.628633	54.08805	33.98058
	YAL065C	1	9	4	20.23692	-24.7706	16.01098	43.14815	19.9422
ATG8	YBL078C	1	9	5	61.40684	67.78976	55.91532	47.7327	60.91205
	YAL064C-A	1	9	6	39.12232	41.36546	-24.8714	41.7931	30.38961
SSA3	YBL075C	1	9	7	29.86301	100	-30.9524	53.14534	37.01068
GDH3	YAL062W	1	9	8	28.57143	29.47067	5.742297	14.70588	32.24044
RPS8A	YBL072C	1	9	9	41.02823	21.5625	-44.0722	19.14498	8.01105
	YAL061W	1	9	10	24.97897	-21.179	24.77718	55.38721	46.28571
	YBL071C	1	9	11	26.21277	26.66667	-20.2869	35.65891	44.27245
BDH1	YAL060W	1	9	12	43.11558	13.29715	-5.83333	43.65904	36.55589
	YBL070C	1	9	13	19.02801	47.86151	17.68953	60.375	38.59223
ECM1	YAL059W	1	9	14	15.02183	22.96748	19.02792	missing colony	missing colony
AST1	YBL069W	1	9	15	12.95681	6.690562	-16.875	missing colony	missing colony
CNE1	YAL058W	1	9	16	25.07599	41.95046	-75.625	missing colony	missing colony

PRS4	YBL068W	1	9	17	31.94313	40.11494	55.11727	65.4321	52.34899
	YAL058C-A	1	9	18	28.38542	38.46928	16.51143	56.02941	44.73684
UBP13	YBL067C	1	9	19	43.74121	48.63582	-23.0159	56.19469	45.47945
GPB2	YAL056W	1	9	20	54.89978	27.43628	-18.125	63.65031	29.83871
SEF1	YBL066C	1	9	21	13.80671	36.81241	42.76923	30.56604	57.89474
PEX22	YAL055W	1	9	22	11.34632	13.10345	-9.43683	39.26471	15.06173
	YBL065W	1	9	23	#DIV/0!	100	31.52174	43.72414	20
HIS3	YOR202W	1	9	24	-37.8824	-26.1421	16.30537		
HIS3	YOR202W	1	10	1	7.85381	10.7565	-28.3037		
	YBR090C	1	10	2	31.0219	42.72623	40.99804	56.19835	40.04329
KTR4	YBR199W	1	10	3	19.05679	10.43478	-15.0977	29.81818	28.64583
MIS1	YBR084W	1	10	4	5.382436	-20.3412	12.77683	41.63569	-2.69231
	YBR197C	1	10	5	-10.9215	-2.01005	-6.44105	35.56405	21.89189
RPL19A	YBR084C-A	1	10	6	22.33251	19.73568	15.0165	52.13523	48.18182
MSI1	YBR195C	1	10	7	26.20632	18.01075	-3.94922	24.70785	25.84856
TEC1	YBR083W	1	10	8	25.31447	49.89035	-138.961	37.80069	37.94038
SOY1	YBR194W	1	10	9	20.76649	21.95846	8.437856	49.02724	46.48318
UBC4	YBR082C	1	10	10	22.73902	26.00806	13.96588	45.81818	40.93567
RPS9B	YBR189W	1	10	11	34.13304	31.32328	49.63768	52.02073	37.7451
SLM4	YBR077C	1	10	12	33.85417	71.8232	#DIV/0!	29.72259	29.20354
NTC20	YBR188C	1	10	13	41.10813	38.08256	41.10825	61.5894	40.68966
ECM8	YBR076W	1	10	14	19.31429	30.76233	-24.3243	missing colony	missing colony
	YBR187W	1	10	15	22.40829	44.05772	25.40084	missing colony	missing colony
	YBR075W	1	10	16	13.68421	100	62.26994	missing colony	missing colony
PCH2	YBR186W	1	10	17	16.93345	52.72727	30.29772	65.90909	41.82243
	YBR074W	1	10	18	-29.303	21.38518	39.05622	35.01094	40.33149
MBA1	YBR185C	1	10	19	21.841	28.33969	21.35266	56.69643	32.77778
RDH54	YBR073W	1	10	20	27.35962	18.54015	-10.3448	23.44689	35.42234
	YBR184W	1	10	21	17.54967	41.12512	-6.55271	65.23605	39.66942
HSP26	YBR072W	1	10	22	41.76829	61.05691	44.51939	75.7716	43.76812
YPC1	YBR183W	1	10	23	63.24222	14.85232	30.05618	61.02757	39.86784
HIS3	YOR202W	1	10	24	9.16442	11.02941	45.81498		
HIS3	YOR202W	1	11	1	7.439311	14.11458	-13.9171		
UIP3	YAR027W	1	11	2	24.24242	14.71861	23.25915	36.15917	45.79832
	YBL094C	1	11	3	58.29876	74.44988	55.6213	58.03982	66.27219
	YAR023C	1	11	4	11.56602	-4.37756	23.82155	44.79718	29.52128
SCS22	YBL091C-A	1	11	5	1.350135	-8.43373	16.48241	25.41966	36.59218
PAU7	YAR020C	1	11	6	19.35194	23.08892	-45.5301	16.96607	22.8022
MAP2	YBL091C	1	11	7	51.29151	17.74436	2.116402	51.35135	36.54971
KIN3	YAR018C	1	11	8	18.01386	5.982906	15.46296	32.76451	28

AVT5	YBL089W	1	11	9	27.64561	0.956938	20.59113	42.18456	47.23032
ADE1	YAR015W	1	11	10	36.10063	20.57026	10.58122	missing colony	missing colony
TEL1	YBL088C	1	11	11	22.31183	19.03553	10.85714	22.35529	40.45226
BUD14	YAR014C	1	11	12	10.25641	15.44172	38.52535	31.41762	24.67866
RPL23A	YBL087C	1	11	13	20.92338	3.419973	11.16071	16.39344	26.93498
SWD1	YAR003W	1	11	14	32.29614	40.47323	-14.2105	27.90015	23.09368
	YBL086C	1	11	15	30.81264	28.47854	13.22581	53.47299	36.24454
NUP60	YAR002W	1	11	16	23.04385	65.87537	-2.81481	26.50177	29.41176
BOI1	YBL085W	1	11	17	-33.9073	44.82339	-3.36927	60.37483	43.10777
ERP1	YAR002C-A	1	11	18	-26.2248	20.28136	27.4744	44.75043	40.20356
	YBL083C	1	11	19	15.67982	34.55621	5.032823	32.85124	32.51366
	YAL068C	1	11	20	19.14683	36.51344	-26.2931	57.10306	36.36364
RHK1	YBL082C	1	11	21	23.24195	59.61661	-86.3071	31.79191	32.97872
SEO1	YAL067C	1	11	22	21.87845	72.08122	52.61044	34.93282	12.92135
	YBL081W	1	11	23	37.10451	7.267222	20	55.38058	45.41752
HIS3	YOR202W	1	11	24	29.0267	28.59155	-11.2426		
HIS3	YOR202W	1	12	1	22.72025	-38.0423	-13.4807		
YMC2	YBR104W	1	12	2	26.99436	1.623816	-7.29783	46.66667	40.51383
NGR1	YBR212W	1	12	3	19.36508	-43.4916	0	40.84249	29.17847
SIF2	YBR103W	1	12	4	40.38462	62.0332	#DIV/0!	36.30705	29.78142
ERV15	YBR210W	1	12	5	21.24352	16.51652	-22.5389	30.03597	24.4382
FES1	YBR101C	1	12	6	39.72746	-35.7435	-2.92398	59.22509	43.125
	YBR209W	1	12	7	24.5614	12.08633	-3.02376	32.05829	20.73171
	YBR100W	1	12	8	31.58879	42.14876	33.70288	41.2	55
DUR1,2	YBR208C	1	12	9	#DIV/0!	#DIV/0!	#DIV/0!	53.8003	37.5
	YBR099C	1	12	10	19.59799	27.02952	0.21645	55.5	40
FTH1	YBR207W	1	12	11	23.04394	20.19584	9.935897	47.24919	38.46154
MMS4	YBR098W	1	12	12	13.30357	44.66546	19.67779	42.63094	32.1267
	YBR206W	1	12	13	2.409639	24.3871	33.64888	63.84181	45.19481
RXT2	YBR095C	1	12	14	15.35714	52.51799	13.60078	23.2493	33.39041
KTR3	YBR205W	1	12	15	2.954755	21.9883	5.297297	45.87629	53.8695
	YBR094W	1	12	16	53.50318	100	#DIV/0!	46.41148	38.23529
	YBR204C	1	12	17	-50.2256	52.4836	20.88536	48.5	37.36559
PHO5	YBR093C	1	12	18	-30.5847	-2.45023	8.912037	36.01399	33.93782
COS111	YBR203W	1	12	19	33.81166	9.111111	-26.6833	49.78723	42.6087
PHO3	YBR092C	1	12	20	53.10174	64.49843	0.522648	72.96137	41.94444
DER1	YBR201W	1	12	21	18.21862	21.68022	63.38983	63.68876	35.87786
	YBR090C-A	1	12	22	-5.01253	7.649513	24.20814	60.27027	34.68835
BEM1	YBR200W	1	12	23	28.60041	13.10345	-5.67613	12.33244	31.63636
HIS3	YOR202W	1	12	24	25.14507	30.11583	-1.16448		
HIS3	YOR202W	1	13	1	0.817236	35.6094	-8.7236		
	YAR047C	1	13	2	1.106771	-8.49134	-10.5128	32.53012	28.43823

NTH2	YBR001C	1	13	3	32.62712	-30.777	3.333333	42.80374	39.40887
OSH1	YAR044W	1	13	4	16.28995	-4.64602	-14.1694	49.52741	43.84236
	YBL107C	1	13	5	61.20527	89.20635	#DIV/0!	47.98535	40.16393
	YAR043C	1	13	6	34.41467	30.28391	-8.66808	40.42934	33.52436
SRO77	YBL106C	1	13	7	37.95455	34.5679	#DIV/0!	42.51825	54.8105
SWH1	YAR042W	1	13	8	8.745583	32.29665	20.73684	52.20588	49.85163
	YBL104C	1	13	9	40.21871	22.39221	-11.413	29.86248	47.32394
	YAR040C	1	13	10	24.75685	7.063712	14.96674	47.90698	39.13043
RTG3	YBL103C	1	13	11	14.31111	18.35106	13.34895	48	-9.09091
	YAR037W	1	13	12	7.571802	16.84211	21.30872	23.6	22.44898
SFT2	YBL102W	1	13	13	3.443878	-3.02521	17.56757	36.82171	45.96774
YAT1	YAR035W	1	13	14	29.31894	60.88154	-26.9517	20.93496	24.19825
ECM21	YBL101C	1	13	15	19.48052	35.30259	47.39336	49.77974	34.10256
PRM9	YAR031W	1	13	16	51.10132	73.63344	#DIV/0!	59.3343	42.82178
	YBL100C	1	13	17	3.658537	49.89154	#DIV/0!	44.74097	32.40223
	YAR030C	1	13	18	8.899297	14.25517	31.76972	51.42857	43.05177
BNA4	YBL098W	1	13	19	30.83538	42.85714	-38.835	60.77886	43.92765
	YAR029W	1	13	20	26.27346	30.41667	-4.89362	51.62524	41.37931
	YBL096C	1	13	21	61.16959	32.27571	-28.9694	64.30636	42.44792
	YAR028W	1	13	22	32.97721	17.96157	-0.69606	60.19152	30.09709
	YBL095W	1	13	23	9.562212	14.03727	39.39394	36.95271	50.62657
HIS3	YOR202W	1	13	24	1.898188	-16.3828	29.79592		
HIS3	YOR202W	1	14	1	47.0852	37.691	16.09195		
GRS1	YBR121C	1	14	2	11.96755	18.70504	-31.3099	29.38144	18.54685
TDP1	YBR223C	1	14	3	73.36815	-3.04569	36.68639	39.01961	43.00518
MUD1	YBR119W	1	14	4	62.78447	1.090909	29.21348	32.74162	35.50136
PCS60	YBR222C	1	14	5	16.55438	14.36314	6.828704	22.04611	28.04124
	YBR116C	1	14	6	53.28185	46.25375	-2.89331	47.77397	32.03343
PDB1	YBR221C	1	14	7	31.11639	34.77493	23.89381	59.87261	47.60705
LYS2	YBR115C	1	14	8	5.973025	33.52941	22.93987	35.50725	36.31124
	YBR220C	1	14	9	-3.91753	6.811989	9.147609	32.91405	45.52846
RAD16	YBR114W	1	14	10	0.302725	40.07989	4.526749	52.93132	42.24138
	YBR219C	1	14	11	6.754772	7.120743	16.59919	46.67832	29.34132
	YBR113W	1	14	12	19.35807	-36.7331	9.416196	20.08457	19.17404
PYC2	YBR218C	1	14	13	20.71228	26.16202	12.30769	53.53383	30.8311
YSA1	YBR111C	1	14	14	12.40741	26.57658	10.31042	47.53788	41.6
ATG12	YBR217W	1	14	15	12.65509	8.476395	15.98131	48.13084	26.5252
	YBR108W	1	14	16	-74.5856	30.67485	#DIV/0!	60.11004	35.73201
YBP1	YBR216C	1	14	17	17.64706	91.06529	#DIV/0!	51.03093	44.52736
IML3	YBR107C	1	14	18	31.61765	10.79622	29.56204	-11.1276	39.65142
HPC2	YBR215W	1	14	19	23.03665	11.37586	13.88235	56.58363	37.77174
PHO88	YBR106W	1	14	20	27.46536	7.756024	9.111617	13.36516	36.79245
SDS24	YBR214W	1	14	21	4.666667	27.95181	10.38961	61.60584	39.52255

VID24	YBR105C	1	14	22	16.1346	24.16268	-41.9149	47.33333	26.73267
MET8	YBR213W	1	14	23	43.92804	44.43603	37.78626	61.71735	52.37154
HIS3	YOR202W	1	14	24	-8.09477	-1.11111	-7.79944		
HIS3	YOR202W	1	15	1	6.776316	5.237809	-0.47664		
ACH1	YBL015W	1	15	2	29.4699	-1.93906	22.30624	30.45455	47.41379
	YBR016W	1	15	3	41.50718	-3.7962	34.13333	39.12176	53.57143
FMT1	YBL013W	1	15	4	34.71284	-8.75274	-16.8932	8.8	15.68627
MNN2	YBR015C	1	15	5	22.72727	100	#DIV/0!	34.14179	53.04878
SCT1	YBL011W	1	15	6	24.22259	1.71184	-0.94787	missing colony	missing colony
	YBR014C	1	15	7	43.62745	10.44944	26.15385	missing colony	missing colony
	YBL010C	1	15	8	46.87208	13.7224	-7.25624	46.77686	53.75587
	YBR013C	1	15	9	1.049475	19.26514	16.71309	37.26496	29.97118
	YBL009W	1	15	10	21.20536	63.46005	10.56662	38.03089	46.21027
	YBR012C	1	15	11	30.5712	-1.39958	20.94763	40.26403	42.36842
HIR1	YBL008W	1	15	12	18.94273	16.37795	12.92985	53.53038	47.08861
HHT1	YBR010W	1	15	13	22.73171	64.14698	33.20755	38.98917	38.96458
SLA1	YBL007C	1	15	14	90.29703	90.1178	85.11111	54.66448	89.87654
HHF1	YBR009C	1	15	15	-4.50902	-24.9622	8.018868	44.88304	24.69136
PDR3	YBL005W	1	15	16	14.92933	14.0553	6.797235	34.84574	25.41436
FLR1	YBR008C	1	15	17	38.0123	41.79756	-10.2725	38.33333	31.98992
HTA2	YBL003C	1	15	18	20.23217	14.36135	5.067064	55.15239	28.43137
DSF2	YBR007C	1	15	19	52.67559	60.44444	36.80982	64.1791	45.16807
ECM15	YBL001C	1	15	20	40.15826	3.717827	61.18012	59.82143	45.59585
UGA2	YBR006W	1	15	21	35.68406	24.79893	33.33333	47.57576	47.35683
FLO1	YAR050W	1	15	22	17.2043	19.15052	-4.60358	55.76923	45.5157
RCR1	YBR005W	1	15	23	23.24159	2.020202	16.82135	54.83405	30.25751
HIS3	YOR202W	1	15	24	15.63786	-13.961	-9.9187		
HIS3	YOR202W	1	16	1	52.41568	13.53919	-12.922		
HIS3	YOR202W	1	16	2	51.28631	3.326544	7.18232		
HIS3	YOR202W	1	16	3	51.16697	-9.94109	1.538462		
HIS3	YOR202W	1	16	4	8.333333	-24.3536	-26.5086		
HIS3	YOR202W	1	16	5	22.44898	86.22754	#DIV/0!		
HIS3	YOR202W	1	16	6	25.23745	-17.7845	13.69606		
HIS3	YOR202W	1	16	7	7.429963	1.936872	-25.5014		
HIS3	YOR202W	1	16	8	32.81133	13.64591	-7.62332		
HIS3	YOR202W	1	16	9	31.37956	7.321131	39.69072		
HIS3	YOR202W	1	16	10	54.19546	20.04381	15.96639		
HIS3	YOR202W	1	16	11	33.06392	-4.11227	-0.88063		
HIS3	YOR202W	1	16	12	38.05668	43.21503	-43.8356		
HIS3	YOR202W	1	16	13	36.1	31.69691	-21		
HIS3	YOR202W	1	16	14	26.96897	25.91823	41.81818		

HIS3	YOR202W	1	16	15	38.96424	45.74468	#DIV/0!		
HIS3	YOR202W	1	16	16	38.80952	30.12367	-8.98618		
HIS3	YOR202W	1	16	17	22.62411	12.44387	25.58594		
HIS3	YOR202W	1	16	18	33.63119	15.89347	-4.25926		
HIS3	YOR202W	1	16	19	20.1895	1.971609	14.70588		
HIS3	YOR202W	1	16	20	-27.339	30.46927	-9.79021		
HIS3	YOR202W	1	16	21	20.13311	31.60205	-42		
HIS3	YOR202W	1	16	22	-8.36614	3.581461	18.62745		
HIS3	YOR202W	1	16	23	-15.7676	-28.852	16.7364		
HIS3	YOR202W	1	16	24	41.78874	9.51547	9.776833		
HIS3	YOR202W	3	1	1	83.7464	24.79951	79.22794		
HIS3	YOR202W	3	1	2	29.91851	-88.3241	67.65957		
HIS3	YOR202W	3	1	3	17.73547	-53.1973	70.88256		
HIS3	YOR202W	3	1	4	44.71469	-86.7052	63.78738		
HIS3	YOR202W	3	1	5	-3.1941	-46.0674	55.89569		
HIS3	YOR202W	3	1	6	13.67061	-89.7249	53.60531		
HIS3	YOR202W	3	1	7	-2.01005	-36.6587	93.09623		
HIS3	YOR202W	3	1	8	26.28399	-28.8756	41.45078		
HIS3	YOR202W	3	1	9	14.28571	-21.2639	64.11111		
HIS3	YOR202W	3	1	10	19.79045	-30.4564	49.5814		
HIS3	YOR202W	3	1	11	23.81477	-31	71.2627		
HIS3	YOR202W	3	1	12	18.48152	-0.47885	67.67372		
HIS3	YOR202W	3	1	13	19.8123	-94.2669	83.30827		
HIS3	YOR202W	3	1	14	20.72491	2.5417	47.87823		
HIS3	YOR202W	3	1	15	22.73603	-41.5288	50.45719		
HIS3	YOR202W	3	1	16	30.62569	6.372935	65.9751		
HIS3	YOR202W	3	1	17	24.55775	-58.551	52.76273		
HIS3	YOR202W	3	1	18	33.8091	-48.933	36.36364		
HIS3	YOR202W	3	1	19	36.98011	-41.331	38.69892		
HIS3	YOR202W	3	1	20	33.48375	-46.9914	26.17622		
HIS3	YOR202W	3	1	21	34.50947	-55.2374	32.7853		
HIS3	YOR202W	3	1	22	-12.1127	-36.9534	42.79902		
HIS3	YOR202W	3	1	23	-35.6269	-15.1035	32.2093		
HIS3	YOR202W	3	1	24	-69.0323	-4.50051	19.56364		
HIS3	YOR202W	3	2	1	74.52229	-10.5556	47.34694		
	YDR199W	3	2	2	28.08783	-17.2314	57.70142	9.369369	52.02156
OMS1	YDR316W	3	2	3	-13.4314	18.95161	34.62069	29.8419	41.66667
	YDR198C	3	2	4	24.74804	-0.41929	38.42975	37.33333	42.69972
IPK1	YDR315C	3	2	5	30.08226	17.08785	44	24.15094	45.42773
	YDR193W	3	2	6	21.07482	8.113036	42.09968	3.687636	37.31778
	YDR314C	3	2	7	23.19128	25.77475	37.90524	33.14176	67.04545
NUP42	YDR192C	3	2	8	25.80645	25.91025	25.15263	13.98176	44.33249
PIB1	YDR313C	3	2	9	2.631579	100	78.7037	14.09266	39.06706

HST4	YDR191W	3	2	10	26.87313	12.63158	57.80998	-15	38.69347
SSF2	YDR312W	3	2	11	36.93271	44.60501	63.25301	33.22581	52.36908
	YDR186C	3	2	12	17.08595	10.91703	22.13656	62.37037	41.62011
SUM1	YDR310C	3	2	13	25.46973	8.268482	53.90728	58.99865	27.20588
	YDR185C	3	2	14	21.2963	1.604938	12.6294	46.53465	52.33918
GIC2	YDR309C	3	2	15	12.33906	-12.5316	28.98696	63.15789	31.2336
ATC1	YDR184C	3	2	16	27.97619	16.15181	27.27273	49.36248	48.21002
	YDR307W	3	2	17	17.62918	1.785714	1.877934	74.24658	46.83841
PLP1	YDR183W	3	2	18	16.02151	22.54791	56.86567	54.02685	45.71429
	YDR306C	3	2	19	18.55874	4.181185	11.8665	55.35714	42.94294
SAS4	YDR181C	3	2	20	18.61862	42.59056	40.35674	45.47244	55.30726
HNT2	YDR305C	3	2	21	-48.5114	52.72915	62.14405	8.163265	54.48578
	YDR179W-A	3	2	22	27.36842	15.54054	35.07463	-2.91595	64.49275
CPR5	YDR304C	3	2	23	64.40678	100	100	64.682	51.65394
HIS3	YOR202W	3	2	24	#DIV/0!	#DIV/0!	100		
HIS3	YOR202W	3	3	1	78.60765	-49.7263	67.46371		
	YDL199C	3	3	2	29.1423	33.78092	72.39354	54.39056	52.18447
	YDR090C	3	3	3	-11.0599	16.97793	50.92251	-11.5888	50.41783
ASF2	YDL197C	3	3	4	26.10526	36.12262	49.78102	44.46786	55.82524
	YDR089W	3	3	5	23.36066	-8.47222	42.83668	23.54369	49.20635
SNF3	YDL194W	3	3	6	20.92486	8.704253	68.53147	63.19896	57.10456
AFR1	YDR085C	3	3	7	43.9577	47.15219	60.34483	22.2973	32.62195
ARF1	YDL192W	3	3	8	12.38739	-18.0778	41.79567	33.45865	50
TVP23	YDR084C	3	3	9	14.8265	8.300395	27.42317	34.41358	44.73684
RPL35A	YDL191W	3	3	10	10.71429	20.15855	39.79136	73.39181	50.45872
RRP8	YDR083W	3	3	11	9.555855	-1.54278	57.67635	64.52991	46.98413
UFD2	YDL190C	3	3	12	22.87048	-9.6603	34.80243	66.02659	40.75067
VPS41	YDR080W	3	3	13	18.57765	0.682927	82.69231	71.07969	64.23174
RBS1	YDL189W	3	3	14	13.86243	-3.96996	30.93023	-13.215	36.15819
SED1	YDR077W	3	3	15	16.60859	-6.0307	36.7801	70.01522	51.89504
PPH22	YDL188C	3	3	16	28.11861	12.13018	32.22683	72.71505	51.11111
RAD55	YDR076W	3	3	17	13.06991	72.64516	100	66.0312	51.5493
	YDL187C	3	3	18	16.27635	-10.4612	58.72576	78.85714	50.97493
PPH3	YDR075W	3	3	19	13.20166	6.840391	27.45902	62.68657	47.52747
	YDL186W	3	3	20	15.71429	-5.76923	49.77169	70.04539	51.01523
TPS2	YDR074W	3	3	21	#DIV/0!	100	94.47853	11.16625	79.74359
TFP1	YDL185W	3	3	22	25.12438	19.10774	27.94918	52.22405	58.15085
SNF11	YDR073W	3	3	23	-47.9076	28.85772	45.03043	23.89525	59.1002
HIS3	YOR202W	3	3	24	-76.4124	4.887984	43.74226		
HIS3	YOR202W	3	4	1	45.52048	1.278409	84.50363		
ADR1	YDR216W	3	4	2	-14.6701	25.56333	54.88166	-0.5	44.67005
MSN5	YDR335W	3	4	3	71.99721	89.86829	73.59882	45.98214	86.95652

	YDR215C	3	4	4	23.46263	16.08154	56.81558	5.642023	57.74648
SWR1	YDR334W	3	4	5	21.05263	-31.934	62.00345	45.3831	49.5549
AHA1	YDR214W	3	4	6	23.73689	-23.1293	35.00678	10.6383	40.87838
	YDR333C	3	4	7	34.07022	13.46999	75.81699	12.45353	48.5119
UPC2	YDR213W	3	4	8	11.37856	-11.9048	48.38275	51.89107	50.88235
	YDR332W	3	4	9	24.91429	-42.1801	50.85271	23.49823	49.23547
	YDR210W	3	4	10	65.13089	67.06667	29.09091	-2.07852	66.01671
UBX5	YDR330W	3	4	11	10.16043	14.97396	71.61905	66.94796	41.86747
	YDR209C	3	4	12	20.89888	-1.25945	47.69231	50.46584	65.28926
PEX3	YDR329C	3	4	13	10.74468	-12.439	22.67038	52.98399	31.17284
UME6	YDR207C	3	4	14	36.19529	20.8981	63.29412	23.95023	65.43909
ASP1	YDR321W	3	4	15	58.88052	60.14286	40.52813	60.6264	60.19108
EBS1	YDR206W	3	4	16	60.39387	45.10067	61.7284	74.96183	52.89256
SWA2	YDR320C	3	4	17	29.93131	4.435058	45.81673	59.15721	53.35277
MSC2	YDR205W	3	4	18	32.51462	48.30189	58.34971	73.93484	50.12285
	YDR319C	3	4	19	14.57663	14.24555	39.33518	47.64398	37.53666
	YDR203W	3	4	20	18.8755	13.51607	9.9631	38.14433	51.88406
MCM21	YDR318W	3	4	21	14.27184	6.287683	26.79245	58.01187	50.98684
RAV2	YDR202C	3	4	22	13.95349	100	-38.3178	45.06627	51.71429
	YDR317W	3	4	23	42.42424	62.23565	82.01058	70.01195	50.76923
HIS3	YOR202W	3	4	24	#DIV/0!	#DIV/0!	100		
HIS3	YOR202W	3	5	1	48.54607	-38.1305	75.53406		
RRI1	YDL216C	3	5	2	34.22131	-12.9244	46.69261	46.97218	53.7037
	YDR102C	3	5	3	-7.29927	29.36047	47.2028	34.62838	55.11364
GDH2	YDL215C	3	5	4	18.0061	-22.7632	65.06639	2.868852	46.96486
ARX1	YDR101C	3	5	5	3.581662	-40.6934	86.73835	4.805492	58.25243
PRR2	YDL214C	3	5	6	17.71255	18.7251	42.42094	23.44045	46.98413
TVP15	YDR100W	3	5	7	11.73709	2.040816	32.26572	54.79452	48.19277
NOP6	YDL213C	3	5	8	14.30108	23.01255	21.59244	28.3054	57.53012
BMH2	YDR099W	3	5	9	20.24291	42.55608	49.28401	5.869074	56.89655
	YDL211C	3	5	10	4.785276	32.76027	58.375	84.39532	53.33333
GRX3	YDR098C	3	5	11	10.98655	0.113766	45.1497	28.17204	52.10843
UGA4	YDL210W	3	5	12	10.79958	-10.8597	27.60473	67.48092	44.96855
MSH6	YDR097C	3	5	13	16.25616	-2.96192	57.2238	15.625	50.81522
	YDL206W	3	5	14	16.7019	-2.40175	41.40508	83.33333	55.95568
GIS1	YDR096W	3	5	15	19.63714	-9.48537	34.43627	-10.1617	37.03704
RTN2	YDL204W	3	5	16	12.14058	-17.7215	44.9235	72.82322	51.84211
	YDR095C	3	5	17	17.89038	27.77778	48.7882	50.76687	65.63467
	YDL203C	3	5	18	13.63636	22.48858	38.2442	39.93453	44.74474
	YDR094W	3	5	19	19.80932	17.9402	47.77595	66.15169	66.12466
TRM8	YDL201W	3	5	20	17.29469	18.4265	14.87779	59.43396	53.35366
DNF2	YDR093W	3	5	21	12.22329	6.82968	22.63099	18.52552	59.94318
MGT1	YDL200C	3	5	22	50.49505	63.64692	68.37607	58.84354	64.80263

UBC13	YDR092W	3	5	23	18.61648	27.80749	85.15152	63.22115	58.56833
HIS3	YOR202W	3	5	24	15.96899	-14.4525	22.46094		
HIS3	YOR202W	3	6	1	17.36478	-18.9146	61.4192		
RTN1	YDR233C	3	6	2	25.38531	7.008289	70.38328	28.4153	59.72603
TRP4	YDR354W	3	6	3	33.33333	30.30303	79.56044	-5.53191	59.26966
IVY1	YDR229W	3	6	4	34.8513	28.30803	62.75395	25.76985	64.98674
	YDR352W	3	6	5	33.57364	38.01874	44.83926	25	65.91549
SIR4	YDR227W	3	6	6	18.40088	35.18519	53.57562	59.45513	52.88754
SBE2	YDR351W	3	6	7	17.9669	48.3871	52.03915	65.35552	47.64706
HTA1	YDR225W	3	6	8	17.68018	3.020134	20.71331	6.654344	57.14286
YPS7	YDR349C	3	6	9	10.06289	-19.3627	46.13124	25.85895	51.07527
CRF1	YDR223W	3	6	10	12.10256	-27.1605	52.14385	17.11111	58.58586
	YDR348C	3	6	11	15.43624	-8.57143	60.80247	55.53571	60.17699
	YDR222W	3	6	12	20.18927	23.04493	56.05381	69.02778	48.73239
SVF1	YDR346C	3	6	13	9.945946	0	36.43512	46.45161	46.58385
	YDR221W	3	6	14	28.71287	39.83402	32.27633	74.30684	63.39869
HXT3	YDR345C	3	6	15	19.57619	19.70021	42.51012	60.25878	49.83607
	YDR220C	3	6	16	22.67932	-6.69344	29.45026	71.02362	64.34783
	YDR344C	3	6	17	49.17492	100	100	45.49419	45.15235
	YDR219C	3	6	18	22.14452	-13.4181	46.6948	-0.61983	47.2561
	YDR340W	3	6	19	16.96607	13.75117	14.81132	56.44917	46.97802
SPR28	YDR218C	3	6	20	18.62643	-4.79115	29.70414	44.39655	22.85714
	YDR338C	3	6	21	6.962664	18.22079	32.78272	49.53271	59.30233
RAD9	YDR217C	3	6	22	17.51894	29.07762	42.83037	7.677543	43.64641
	YDR336W	3	6	23	-61.9512	100	59.30807	-11.1336	50.49261
HIS3	YOR202W	3	6	24	27.70324	-14.6753	48.36528		
HIS3	YOR202W	3	7	1	55.76748	-42.7083	57.15236		
OST4	YDL232W	3	7	2	30.81155	23.26241	70.1087	-30.5185	23.3945
RBF64	YDR117C	3	7	3	11.62362	-5.00642	53.26504	61.63982	51.47059
BRE4	YDL231C	3	7	4	28.05836	-22.2222	82.26221	0.759013	58.42697
MRPL1	YDR116C	3	7	5	16.51685	47.0073	50.18382	39.61268	57.00326
PTP1	YDL230W	3	7	6	14.62168	8.115183	43.2304	28.25342	58.09524
	YDR112W	3	7	7	13.51661	1.544799	57.38725	67.86207	53.60231
SSB1	YDL229W	3	7	8	5.804111	33.54655	48.76616	16.80961	49.85507
ALT2	YDR111C	3	7	9	33.0656	28.05195	44.54343	30.2521	64.62585
HO	YDL227C	3	7	10	15.14778	42.51358	56.33803	69.34097	41.31148
FOB1	YDR110W	3	7	11	11.28364	-23.5294	27.82369	40.31496	55.82822
GCS1	YDL226C	3	7	12	83.81713	89.13428	73.644	87.53943	90.97222
STE5	YDR103W	3	7	13	12.7551	8.974359	40.42289	84.07461	55.17241
WHI4	YDL224C	3	7	14	20.71713	11.95652	19.68974	71.6763	48.87006
	YDR109C	3	7	15	12.98969	16.95138	11.14865	75.52553	56.97674
HBT1	YDL223C	3	7	16	39.30693	26.17383	40.10417	88.67925	61.67147
GSG1	YDR108W	3	7	17	20.22472	-2.40642	11.8984	70.66451	47.61905

FMP45	YDL222C	3	7	18	16.70282	19.26298	40.2439	63.12399	58.02469
	YDR107C	3	7	19	15.89267	-19.1667	-5.73248	61.50307	54.10765
DTD1	YDL219W	3	7	20	20.11494	17.24453	40.92166	63.88889	46.53179
TMS1	YDR105C	3	7	21	10.30246	10.46788	14.91863	67.20827	53.8874
	YDL218W	3	7	22	17.99629	-6.17284	24.47699	64.84375	60.80692
SPO71	YDR104C	3	7	23	0.104275	55.14834	36.99634	-33.3333	50.13928
HIS3	YOR202W	3	7	24	-11.7984	48.75	66.52661		
HIS3	YOR202W	3	8	1	46.3512	-9.43513	48.48289		
BTT1	YDR252W	3	8	2	17.84753	49.39911	53.89798	41.76373	53.31565
VPS74	YDR372C	3	8	3	21.24863	31.99195	71.7757	42.97521	64.86486
PAM1	YDR251W	3	8	4	20.39409	8.268156	63.35404	21.94719	63.42857
CTS2	YDR371W	3	8	5	19.92188	-21.7995	63.3557	missing colony	missing colony
	YDR250C	3	8	6	4.089219	36.87544	45.03817	missing colony	missing colony
	YDR370C	3	8	7	24.32778	3.268349	86.84211	26.45503	65.40698
	YDR249C	3	8	8	20.4005	41.73307	71.65354	66.12903	53.89049
XRS2	YDR369C	3	8	9	0.806452	35.73807	29.41176	37.0892	61.20401
	YDR248C	3	8	10	11.11111	5.340454	49.20635	46.52406	54.72313
YPR1	YDR368W	3	8	11	-2.19058	54.79361	50.31847	49.92224	39.30818
VHS1	YDR247W	3	8	12	30.97643	43.49442	93.06931	38.57759	60.45752
	YDR363W-								
SEM1	A	3	8	13	71.98986	47.48804	66.42336	-52.7273	38.06647
MNN10	YDR245W	3	8	14	32.56545	24.57213	70.73171	50.84444	70.23499
ESC2	YDR363W	3	8	15	60.59908	63.67089	77.3494	62.31061	73.48243
PEX5	YDR244W	3	8	16	13.56467	27.62605	64.05622	78.32586	57.14286
	YDR360W	3	8	17	13.75126	-7.67442	33.42105	69.50147	50.27933
BUD26	YDR241W	3	8	18	16.83968	17.31161	11.9898	57.86802	44.44444
VID21	YDR359C	3	8	19	60.9319	97.16157	100	18.4	68.59296
	YDR239C	3	8	20	35.27815	45.46436	10.94771	40.71429	37.1875
GGA1	YDR358W	3	8	21	26.2218	-0.13532	39.8524	30.96085	35.29412
LYS4	YDR234W	3	8	22	0.589971	-0.10977	22.98682	16.57941	48.6413
	YDR357C	3	8	23	14.07104	26.91415	36.12479	22.40437	62.62887
HIS3	YOR202W	3	8	24	30.48889	-14.6958	31.14144		
HIS3	YOR202W	3	9	1	-3.50224	-6.77083	77.41617		
NTH1	YDR001C	3	9	2	18.76988	-6.72646	89.58785	46.86469	59.53003
FIN1	YDR130C	3	9	3	20.86614	-28.852	69.75666	2.028398	54.72222
AAD4	YDL243C	3	9	4	6.417112	35.37582	51.09677	58.19793	49.70238
	YDR128W	3	9	5	11.71459	37.0447	58.68984	42.53968	62.07792
	YDL242W	3	9	6	22.59488	6.451613	64.90566	42.27886	59.82906
ARO1	YDR127W	3	9	7	51.14943	64.5664	69.43069	33.89474	67.96407
	YDL241W	3	9	8	1.459035	40.45521	79.57611	35.23654	59.71429
SWF1	YDR126W	3	9	9	#DIV/0!	#DIV/0!	#DIV/0!	36.06557	63.86861

LRG1	YDL240W	3	9	10	10.78611	-8.71413	44.97512	31.83453	37.07165
ECM18	YDR125C	3	9	11	16.72355	7.047279	63.6646	18.39286	59.15916
ADY3	YDL239C	3	9	12	2.763018	12.41791	38.33333	27.56849	45.75758
	YDR124W	3	9	13	9.207921	-19.8519	0.925926	73.78049	58.04598
GUD1	YDL238C	3	9	14	1.646091	-17.6667	37.13714	41.46758	49.20128
INO2	YDR123C	3	9	15	19.69388	24.91309	87.82816	36.25954	51.25
	YDL237W	3	9	16	23.52941	96.23397	95.52239	46.98997	42.05298
KIN1	YDR122W	3	9	17	17.29679	22.11302	34.73837	43.19328	50
PHO13	YDL236W	3	9	18	39.12176	71.25891	97.4026	76.72779	55.65476
DPB4	YDR121W	3	9	19	21.71123	15.42923	46.03854	67.01031	60.78431
GYP7	YDL234C	3	9	20	13.0352	17.16621	51.96771	67.46575	63.0303
TRM1	YDR120C	3	9	21	14.40501	-5.78313	36.42857	52.32558	47.53086
	YDL233W	3	9	22	5.665468	-6.56013	24.97847	65.73117	39.32584
	YDR119W	3	9	23	36.12975	42.57939	12.23103	14.13043	59.47368
HIS3	YOR202W	3	9	24	25.03817	-18.2981	33.77483		
HIS3	YOR202W	3	10	1	24.01264	-52.6154	39.23166		
DIN7	YDR263C	3	10	2	25.28363	-32.1101	81.16147	40.76923	62.56545
	YDR387C	3	10	3	17.66784	-25.179	72.01835	62.10826	58.02817
	YDR262W	3	10	4	36.59466	10.21635	72.93233	49.90792	52.64901
MUS81	YDR386W	3	10	5	21.50982	-2.10396	74.48454	62.43386	60.68111
EXG2	YDR261C	3	10	6	46.12546	57.11501	87.64706	30.38585	66.28571
EFT2	YDR385W	3	10	7	1.793722	-22.7586	52.27586	29.19255	57.14286
SWM1	YDR260C	3	10	8	7.432432	44.00373	50.16146	48.95666	56.09756
ATO3	YDR384C	3	10	9	8.531317	-12.5598	28.07775	72.83142	44
YAP6	YDR259C	3	10	10	15.82524	-0.95408	46.55462	21.92623	59.2233
NKP1	YDR383C	3	10	11	17.98299	24.13442	88.7218	57.08885	64.09396
HSP78	YDR258C	3	10	12	31.96061	49.19436	50.75075	48.35526	67.22222
RPP2B	YDR382W	3	10	13	23.5687	49.55556	41.87726	68.68687	62.71186
SET7	YDR257C	3	10	14	38.23065	-14.8038	50.0761	61.23235	49.73262
ARO10	YDR380W	3	10	15	13.4715	-4.45183	69.03461	37.90614	52.79503
CTA1	YDR256C	3	10	16	-25.2446	19.94048	16.47059	73.79913	51.88406
RGA2	YDR379W	3	10	17	25.1821	-17.0213	41.36858	54.92958	49.71098
RMD5	YDR255C	3	10	18	#DIV/0!	100	100	44.23676	44.66019
LSM6	YDR378C	3	10	19	83.10153	76.75765	88.43683	83.79747	82.27848
CHL4	YDR254W	3	10	20	9.778598	18.40844	51.40845	66.66667	58.3815
BCS1	YDR375C	3	10	21	#DIV/0!	#DIV/0!	100	46.25624	26.4214
MET32	YDR253C	3	10	22	11.36974	2.369338	57.72114	72.54623	55.16304
	YDR374C	3	10	23	56.6443	0.414938	36.01896	1.321586	49.01961
HIS3	YOR202W	3	10	24	-0.26954	-5.52995	34.41926		
HIS3	YOR202W	3	11	1	9.435552	-15.2979	38.30334		
	YDR015C	3	11	2	20.58024	48.60853	53.03551	43.90244	40.16563
EKI1	YDR147W	3	11	3	25.13369	54.16991	64.15712	41.72794	58.80682
RAD61	YDR014W	3	11	4	1.849568	-28.655	77.61807	45.79439	58.72093

SWI5	YDR146C	3	11	5	-2.83019	-8.17455	57.96703	34.7079	47.30878
SNQ2	YDR011W	3	11	6	3.444181	9.210526	53.90625	44.42413	60.11561
MKC7	YDR144C	3	11	7	53.97653	19.12	50.55556	55.57522	66.34921
	YDR010C	3	11	8	67.97872	85.84906	67.04162	66.77686	82.18391
SAN1	YDR143C	3	11	9	7.596254	41.94348	20.40541	33.39921	57.27554
GAL3	YDR009W	3	11	10	8.548708	23.47762	22.28797	30.22847	50.8982
PEX7	YDR142C	3	11	11	12.04819	-32.1144	22.40185	61.07872	48.52071
	YDR008C	3	11	12	-15.6676	17.50306	31.5528	23.01741	52.87009
RUB1	YDR139C	3	11	13	7.454017	21.09905	47.90823	75.77548	49
TRP1	YDR007W	3	11	14	45.99628	-18.4597	46.99367	63.7084	57.14286
YCF1	YDR135C	3	11	15	43.25452	-16.0592	49.62121	17.79026	43.0303
SOK1	YDR006C	3	11	16	57.15746	71.83521	56.93161	48.47162	72.48062
	YDR134C	3	11	17	1.004304	-48.0433	81.92771	37.81942	57.64706
MAF1	YDR005C	3	11	18	4.065041	37.81575	30.96774	68.0916	42.52199
	YDR133C	3	11	19	20.34358	-24.4681	32.40454	-75.1724	42.18289
RAD57	YDR004W	3	11	20	15.23688	46.70051	56.58263	65.53398	55.35168
	YDR132C	3	11	21	11.51079	24.58874	34.92754	72.61146	49.54128
RCR2	YDR003W	3	11	22	3.919781	25.32228	24.40476	67.89555	55.71429
	YDR131C	3	11	23	67.80156	64.48692	52.9106	26.27451	56.65025
HIS3	YOR202W	3	11	24	-37.9104	94.16667	94.41624		
HIS3	YOR202W	3	12	1	8.801697	-36.4562	42.78132		
RNH202	YDR279W	3	12	2	8.256881	44.35437	73.06434	35.18519	46.71533
DIT1	YDR403W	3	12	3	30.05025	54.22409	52.88368	31.19266	65.81197
	YDR278C	3	12	4	8.756757	-1.60321	58.77342	16.66667	35.71429
DIT2	YDR402C	3	12	5	12.15881	21.23348	91.46919	23.73541	61.95965
MTH1	YDR277C	3	12	6	-8.25545	-28.5849	74.26778	59.21288	55.22388
	YDR401W	3	12	7	-1.14286	37.96296	45.14563	51.2334	64.51613
PMP3	YDR276C	3	12	8	19.94135	-14.2193	64.85671	38.95833	64.50617
URH1	YDR400W	3	12	9	8.856849	-9.25291	37.7095	66.22074	53.77049
BSC2	YDR275W	3	12	10	3.498542	-22.2594	33.37629	76.09682	53.01587
HPT1	YDR399W	3	12	11	-5.86667	28.31439	57.34127	48.6014	52.39617
	YDR274C	3	12	12	100	100	84.48276	42.52199	67.20867
SXM1	YDR395W	3	12	13	-5.91085	28.39216	35.04532	36.36364	51.72414
DON1	YDR273W	3	12	14	15.1277	-8.76601	44.32432	64.7619	54.46429
SHE9	YDR393W	3	12	15	-1.89702	9.073359	64.43089	54.3514	63.30275
GLO2	YDR272W	3	12	16	11.84573	-18.3178	48.22955	56.28227	57.22892
SPT3	YDR392W	3	12	17	22.14212	15.28354	43.48485	21.27303	48.66469
CCC2	YDR270W	3	12	18	8.214286	25.68807	100	54.81481	48.14815
	YDR391C	3	12	19	15.40516	17.64092	28.33517	68	49.56522
	YDR266C	3	12	20	63.47107	75.09934	68.17043	59.80861	47.1875
SAC7	YDR389W	3	12	21	60.36585	63.48155	64.70588	81.46912	67.14697
PEX10	YDR265W	3	12	22	-3.17893	45.04249	35.46284	19.02985	51.31195
RVS167	YDR388W	3	12	23	84.375	87.24761	90.84229	82.93769	92.66802

HIS3	YOR202W	3	12	24	64.49045	-126.417	19.28783		
HIS3	YOR202W	3	13	1	3.402062	-11.2557	32.1883		
	YDR056C	3	13	2	-8.87967	-5.74034	52.25225	58.16024	51.87638
HOM2	YDR158W	3	13	3	14.375	48.01247	79.96109	53.30396	42.57426
PST1	YDR055W	3	13	4	-12.1387	-5.99051	63.12155	44.79718	50.2809
	YDR157W	3	13	5	-8.27225	-9.42308	66.79058	63.50365	59.55056
	YDR051C	3	13	6	54.51542	63.41935	76.45951	45.96273	71.17647
RPA14	YDR156W	3	13	7	65.27149	65.23469	62.66234	49.48454	70.39474
	YDR049W	3	13	8	62.14286	67.10875	79.00943	74.49393	75.60976
CPR1	YDR155C	3	13	9	2.003817	-14.3817	42.93981	44.40367	36.05442
	YDR048C	3	13	10	-21.9488	20.24117	46.57114	70.87227	52.32198
	YDR154C	3	13	11	4	4.72973	28.77292	76.57807	59.74441
RPS11A	YDR025W	3	13	12	78.63591	59.57728	60.19284	76.41326	69.69697
ENT5	YDR153C	3	13	13	-16.6154	36.56286	48.38275	73.54196	65.11628
FYV1	YDR024W	3	13	14	4.049494	-8.49571	74.02597	50.5176	68.09211
GIR2	YDR152W	3	13	15	14.32836	14.32927	16.39785	65.65495	60.40462
CIS1	YDR022C	3	13	16	11.60377	-4.31803	48.95191	42.14286	50.96953
CTH1	YDR151C	3	13	17	36.82664	14.50243	10.10363	73.24159	60.69364
	YDR020C	3	13	18	15.50947	-8.63981	33.25031	23.25581	40.57508
NUM1	YDR150W	3	13	19	41.66667	43.026	55.69986	58.07692	52.2293
GCV1	YDR019C	3	13	20	46.88027	32.00389	65.64246	78.01527	69.12929
	YDR149C	3	13	21	74.58034	67.37805	48.11321	79.74482	67.46988
	YDR018C	3	13	22	3.030303	16.80585	38.74773	61.80124	55.29412
KGD2	YDR148C	3	13	23	57.3991	-4.5292	36.51452	38.25043	49.60212
HIS3	YOR202W	3	13	24	63.66972	-14.6435	49.09478		
HIS3	YOR202W	3	14	1	5.623243	-56.6908	55.34653		
SUR2	YDR297W	3	14	2	23.78855	45.36082	85.92593	29.57746	45.87973
SIP1	YDR422C	3	14	3	59.90396	-48.9879	82.38512	46.08031	45.42936
DPL1	YDR294C	3	14	4	-11.2125	3.600655	78.7594	36.66667	60.72508
ARO80	YDR421W	3	14	5	7.172131	1.287303	56.96068	12.89063	38.32853
SSD1	YDR293C	3	14	6	19.66605	9.112855	79.84375	68.83562	59.17927
HKR1	YDR420W	3	14	7	0.567537	-11.0236	74.31193	40	60.37152
	YDR291W	3	14	8	59.13591	65.06986	59.9094	70.08264	66.5625
RAD30	YDR419W	3	14	9	63.27103	54.32024	65.71429	43.79699	66.14907
RTT103	YDR289C	3	14	10	90.06494	87.04503	88.98899	73.55372	86.34686
	YDR415C	3	14	11	60.74219	61.39592	65.55024	48.61368	77.91411
	YDR287W	3	14	12	43.4739	33.51605	63.09524	75.99388	60.71429
ERD1	YDR414C	3	14	13	13.07385	-15.5924	78.81041	15.30782	51.75439
	YDR286C	3	14	14	56.47558	58.31081	67.68559	56.80581	68.2243
DFM1	YDR411C	3	14	15	16	15.21036	42.40903	54.56204	60.05435
ZIP1	YDR285W	3	14	16	-0.47304	32.18605	33.02264	52.94118	59.5092
STE14	YDR410C	3	14	17	59.65966	67.20613	57.31272	79.27565	77.00535
DPP1	YDR284C	3	14	18	14.50313	-4.23012	45.71429	60.62718	57.68194

SIZ1	YDR409W	3	14	19	-0.55741	26.82927	59.54106	61.97183	52.03252
	YDR282C	3	14	20	8.22838	24.50728	45.22222	42.17687	53.65854
ADE8	YDR408C	3	14	21	80.49536	100	100	74.01316	72.63158
PHM6	YDR281C	3	14	22	7.039864	25.01961	37.684	72.40437	58.98058
PDR15	YDR406W	3	14	23	28.01418	-68.5273	52.25564	48.24281	50.87719
HIS3	YOR202W	3	14	24	26.20482	-31.5446	58.55263		
HIS3	YOR202W	3	15	1	-8.76804	50.12175	72.15412		
IPT1	YDR072C	3	15	2	36.4539	14.57525	52.31092	16.04938	47.49403
CSN9	YDR179C	3	15	3	-19.5426	-26.1702	81.59851	48.49057	45.79208
PAA1	YDR071C	3	15	4	42.0904	40.96	100	43.28657	62.43781
SDH4	YDR178W	3	15	5	3.919694	-9.84806	55.44218	36.66667	45.37313
FMP16	YDR070C	3	15	6	15.49784	52.61745	47.10221	34.85194	63.28358
HMO1	YDR174W	3	15	7	70.08475	77.34375	84.72222	37.75216	74.07407
DOS2	YDR068W	3	15	8	6.531049	7.54717	64.04908	62.98422	59.93691
ARG82	YDR173C	3	15	9	-4.38596	53.28283	100	41.17647	33.51648
	YDR067C	3	15	10	-0.59701	-14.4658	51.44828	42.81525	61.6
HSP42	YDR171W	3	15	11	1.548887	-10.3862	44.80676	41.37931	54.70588
	YDR066C	3	15	12	10.33569	9.109731	52.02232	64.03509	56.07477
STB3	YDR169C	3	15	13	17.46765	27.87698	53.63528	57.83972	68.09651
	YDR063W	3	15	14	62.88933	59.19674	75.34538	81.14754	61.65803
TRM82	YDR165W	3	15	15	17.61724	21.81485	100	70.26627	57.33696
	YDR061W	3	15	16	53.62938	63.13657	70.71353	63.19115	69.12568
CWC15	YDR163W	3	15	17	20.66728	33.13407	33.03685	31.32328	57.26027
UBC5	YDR059C	3	15	18	16.09799	34.68606	39.76608	75.65698	54.59459
NBP2	YDR162C	3	15	19	34.94898	-0.92348	100	72.55689	60.9375
TGL2	YDR058C	3	15	20	5.996473	50.25018	74.17323	80.96591	73.84988
TCI1	YDR161W	3	15	21	63.33955	75	63.39492	35.09545	78.29978
YOS9	YDR057W	3	15	22	3.938907	25.25151	31.45161	67.93249	57.36842
SAC3	YDR159W	3	15	23	78.26087	100	100	-8.01034	68.79699
HIS3	YOR202W	3	15	24	36.55914	5.575066	45.85987		
HIS3	YOR202W	3	16	1	-28.8398	11.937	68.88069		
HIS3	YOR202W	3	16	2	99.07236	-241.509	87.4552		
HIS3	YOR202W	3	16	3	97.39583	-91.6667	100		
HIS3	YOR202W	3	16	4	53.44673	10.38062	73.05296		
HIS3	YOR202W	3	16	5	2.475685	-1.78311	70.03817		
HIS3	YOR202W	3	16	6	12.19512	-73.0132	56.79612		
HIS3	YOR202W	3	16	7	13.52041	-110.2	59.64286		
HIS3	YOR202W	3	16	8	-8.63821	-3.15623	40.83333		
HIS3	YOR202W	3	16	9	15.82979	36.89684	53.69198		
HIS3	YOR202W	3	16	10	17.81451	-26.3838	39.08046		
HIS3	YOR202W	3	16	11	21.11111	17.93103	55.19031		
HIS3	YOR202W	3	16	12	15.81818	-1.48515	81.62252		
HIS3	YOR202W	3	16	13	16.15385	19.47162	98.67987		

HIS3	YOR202W	3	16	14	-2.5227	10.42471	91.60714		
HIS3	YOR202W	3	16	15	28.7187	46.57658	100		
HIS3	YOR202W	3	16	16	2.581262	-37.7968	89.92806		
HIS3	YOR202W	3	16	17	9.003497	-88.7192	60.76818		
HIS3	YOR202W	3	16	18	81.69935	63.70192	96.42857		
HIS3	YOR202W	3	16	19	24.16107	-48.8698	63.85135		
HIS3	YOR202W	3	16	20	15.66976	-89.3269	66.29779		
HIS3	YOR202W	3	16	21	20	-4.23117	90.53156		
HIS3	YOR202W	3	16	22	18.61371	-126.435	33.33333		
HIS3	YOR202W	3	16	23	-17.2589	37.04819	96.05735		
HIS3	YOR202W	3	16	24	31.37996	-6.39078	40.2529		
HIS3	YOR202W	4	1	1	47.00389	-18.6188	51.75676		
HIS3	YOR202W	4	1	2	75.84241	4.704876	33.6036		
HIS3	YOR202W	4	1	3	42.92657	16.23506	5.930657		
HIS3	YOR202W	4	1	4	72.7624	16.99883	-6.3745		
HIS3	YOR202W	4	1	5	32.69962	31.87043	41.77694		
HIS3	YOR202W	4	1	6	9.779482	28.35979	52.51743		
HIS3	YOR202W	4	1	7	-2.12121	32.99799	29.24748		
HIS3	YOR202W	4	1	8	18.85813	22.54005	17.0117		
HIS3	YOR202W	4	1	9	25.76957	38.6562	52.57092		
HIS3	YOR202W	4	1	10	3.668862	34.29571	-13.2597		
HIS3	YOR202W	4	1	11	11.80451	33.2211	50.39872		
HIS3	YOR202W	4	1	12	-18.3876	25.06938	45.72108		
HIS3	YOR202W	4	1	13	1.442308	24.17582	59.35128		
HIS3	YOR202W	4	1	14	-16.3412	41.82789	76.18394		
HIS3	YOR202W	4	1	15	14.73595	24.55404	53.89696		
HIS3	YOR202W	4	1	16	15.74344	32.13645	43.85704		
HIS3	YOR202W	4	1	17	9.325397	37.14556	-11.053		
HIS3	YOR202W	4	1	18	13.20755	25.05133	34.29724		
HIS3	YOR202W	4	1	19	18.64126	28.06172	57.73969		
HIS3	YOR202W	4	1	20	2.083333	20.57654	11.64221		
HIS3	YOR202W	4	1	21	27.37255	59.19158	23.50978		
HIS3	YOR202W	4	1	22	9.057301	50.73012	14.125		
HIS3	YOR202W	4	1	23	18.90304	48.27255	14.32225		
HIS3	YOR202W	4	1	24	48.021	48.72274	88.90593		
HIS3	YOR202W	4	2	1	62.21353	-5.10471	86.96517		
RPL34A	YER056C-A	4	2	2	58.00664	33.22185	82.5419	42.21825	31.23209
	YER158C	4	2	3	54.08593	79.83539	61.48796	9.375	82.78689
FCY2	YER056C	4	2	4	48.84837	18.54839	43.23432	-0.96386	28.75318
	YER156C	4	2	5	12.55411	44.07713	44.44444	25.05176	44.91018
HIS1	YER055C	4	2	6	-6.68724	46.80338	29.4964	3.623188	31.7757
BEM2	YER155C	4	2	7	-3.68239	43.13454	60.71429	31.17117	39.74684
GIP2	YER054C	4	2	8	-17.3436	31.87919	97.00599	41.35447	40.10152

PET122	YER153C	4	2	9	23.61111	33.46008	94.50549	-12.2078	39.86014
PIC2	YER053C	4	2	10	28.33333	30.51044	-12.9956	-12.9252	11.62791
	YER152C	4	2	11	17.7137	28.60104	-11.6392	34.51677	52.04082
HOM3	YER052C	4	2	12	28.87651	16.98881	74.82517	-6.86499	42.43243
UBP3	YER151C	4	2	13	28.38284	53.40659	10.05338	34.55285	31.83099
	YER051W	4	2	14	-11.9612	74.73583	41.19217	22.29885	49.47735
SPI1	YER150W	4	2	15	26.65953	69.61451	7.33945	1.851852	33.50923
	YER049W	4	2	16	-13.7584	40.49296	37.122	1.702128	40.71038
PEA2	YER149C	4	2	17	10.28684	25.55911	20.62827	-15.367	24.03561
CAJ1	YER048C	4	2	18	45.73947	35.96491	63.56746	31.26253	61.94444
FTR1	YER145C	4	2	19	61.28457	44.79737	25.36585	-37.9195	47.04225
SAP1	YER047C	4	2	20	24.11693	38.95985	55.77292	-8.25472	42.55952
UBP5	YER144C	4	2	21	-8.52713	-0.46838	-2.26284	39.52484	23.4957
	YER046W-A	4	2	22	7.700205	37.84666	14.11665	15.81769	39.84962
DDI1	YER143W	4	2	23	-22.2395	20.28302	0.981354	4.914934	40.2439
HIS3	YOR202W	4	2	24	18.25168	42.73595	89.84446		
HIS3	YOR202W	4	3	1	47.62138	87.44395	26.08696		
LRS4	YDR439W	4	3	2	58.9781	31.23288	67.9159	27.12477	44.3418
VAC8	YEL013W	4	3	3	33.26039	68.04065	56.82103	19.02834	48.91304
	YDR438W	4	3	4	11.30346	14.05868	19.03553	28.24742	28.77698
UBC8	YEL012W	4	3	5	-29.7461	24.41701	43.79371	-3.65854	26.12903
PPZ2	YDR436W	4	3	6	2.356268	16.87429	100	-4.94382	33.42318
GLC3	YEL011W	4	3	7	42.08754	21.23077	#DIV/0!	27.38739	36.90476
PPM1	YDR435C	4	3	8	31.07477	30.85317	50.61263	13.86555	58.46154
	YEL010W	4	3	9	-7.46835	22.24797	38.01498	39.69298	52.54692
	YDR431W	4	3	10	-5.46512	20.90452	37.54717	13.99594	47.36842
	YEL008W	4	3	11	-12.8205	31.84031	-5.7226	20.15504	51.03627
CYM1	YDR430C	4	3	12	-18.9044	30.14218	24.47489	22.97297	45.50562
TOS9	YEL007W	4	3	13	39.26129	33.12183	-12.3472	19.4211	37.14953
	YDR428C	4	3	14	7.74578	29.6861	4.912664	22.90749	42.54144
	YEL006W	4	3	15	26.31579	26.16339	41.96532	29.48718	43.53562
	YDR426C	4	3	16	3.741153	46.7433	89.26554	40.67086	38.95487
VAB2	YEL005C	4	3	17	10.72961	50.52356	75.96154	-10.7991	37.5
SNX41	YDR425W	4	3	18	7.469342	28.82096	58.47569	18.88298	35.23035
YEA4	YEL004W	4	3	19	-47.1204	-36.3636	47.27992	-50.1511	34.97653
DYN2	YDR424C	4	3	20	2.122347	33.36414	-62.3	-59.8706	29.54545
GIM4	YEL003W	4	3	21	0.931099	5.660377	-31.3237	-98.0989	22.5
CAD1	YDR423C	4	3	22	19.39328	53.00752	52.74302	39.55224	48.83268
	YEL001C	4	3	23	10.10309	45.51341	67.94326	2.857143	39.61456
HIS3	YOR202W	4	3	24	44.10256	55.06653	78.24238		
HIS3	YOR202W	4	4	1	66.40954	25.72707	75.64297		
	YER066W	4	4	2	30.20408	66.18304	14.10658	19.09449	45.49266

ECM32	YER176W	4	4	3	29.07376	29.66507	72.28426	62.1345	61.63366
	YER066C-A	4	4	4	-16.0296	21.86495	86.85832	25.95978	40.90909
TMT1	YER175C	4	4	5	17.87026	26.40264	84.37884	20.65491	51.25786
ICL1	YER065C	4	4	6	-9.55665	24.47307	27.76413	21.41328	61.51832
GRX4	YER174C	4	4	7	59.7449	34.80129	38.2199	27.21382	64.08046
	YER064C	4	4	8	-15.0171	49.21947	13.49372	16.08527	36.77812
RAD24	YER173W	4	4	9	-4.26639	37.5	23.33736	18.5336	54.93333
THO1	YER063W	4	4	10	29.33962	67.43064	28.55556	20.625	40.29412
ADK2	YER170W	4	4	11	56.95306	12.9668	26.94878	19.76471	39.86928
HOR2	YER062C	4	4	12	-21.7338	30.98592	22.94056	37.72455	49.7561
BCK2	YER167W	4	4	13	40.74749	33.82937	-25.4351	34.19593	24.5098
CEM1	YER061C	4	4	14	-9.50413	29.56705	-15.7447	25.11013	28.74618
DNF1	YER166W	4	4	15	23.73626	31.8872	83.77153	41.17647	62.25895
	YER060W-								
FCY22	A	4	4	16	18.25095	41.37192	89.70448	25.80071	42.50681
CHD1	YER164W	4	4	17	-9.50226	39.28215	2.478551	20.4797	51.35135
FCY21	YER060W	4	4	18	30.57176	30.39443	-7.22772	-33.0601	26.62722
	YER163C	4	4	19	32.7451	49.5155	9.656453	34.67742	44.02174
PCL6	YER059W	4	4	20	24.80106	18.29405	60.14418	32.89037	42.52199
RAD4	YER162C	4	4	21	6.067678	39.54635	61.07784	7.802875	53.41772
HMF1	YER057C	4	4	22	26.63399	36.78756	-8.33333	13.03191	37.15596
SPT2	YER161C	4	4	23	-1.83099	40	24.98255	3.529412	44.55253
HIS3	YOR202W	4	4	24	7.042254	52.71238	47.26644		
HIS3	YOR202W	4	5	1	70.61533	76.36917	91.39319		
	YDR459C	4	5	2	25.4689	49.10714	81.60443	5.010893	28.90855
SPF1	YEL031W	4	5	3	-1.02669	33.56926	-25.9104	26.86869	58.10056
	YDR458C	4	5	4	14.48468	19.33775	37.36142	24.74227	50.40872
ECM10	YEL030W	4	5	5	20.8007	20.57522	47.48718	32.83262	65.36458
	YDR455C	4	5	6	26.79466	32.92806	-3.94456	31.73077	45.40943
	YEL028W	4	5	7	61.17021	28.61668	53.14109	24.48513	66.47059
TSA2	YDR453C	4	5	8	-15.7388	21.15183	76.76969	19.04762	25.1634
SRI1	YEL025C	4	5	9	58.37629	31.8593	77.31855	3.125	29.24528
PPN1	YDR452W	4	5	10	-16.9897	32.55814	8.341811	24.26036	38.29114
	YEL023C	4	5	11	-9.3361	12.11477	-3.55161	15.45624	40
YHP1	YDR451C	4	5	12	51.98556	16.27219	-15.0802	26.74419	60.24845
	YEL020C	4	5	13	-0.35757	34.32203	21.04771	14.02439	24.17219
RPS17B	YDR447C	4	5	14	35.34768	10.41389	42.94118	12.68293	63.66197
GTT3	YEL017W	4	5	15	-12.1315	55.86797	28.06499	39.4913	55.83756
							missing		
ECM11	YDR446W	4	5	16	-8.34236	57.36016	36.42322	colony	missing colony
PMP2	YEL017C-A	4	5	17	-13.5897	63.30128	40.27149	21.82952	59.54198
	YDR445C	4	5	18	39.51613	-31.8182	26.12613	8.707124	54.75578
NPP2	YEL016C	4	5	19	64.9494	6.837607	-15.8963	32.10084	55.08021

APT2	YDR441C	4	5	20	3.333333	64.84076	69.81318	42.07221	50.6812
EDC3	YEL015W	4	5	21	6.302021	40.44834	71.30996	43.96825	40.28777
DOT1	YDR440W	4	5	22	12.73957	39.8892	26.92665	missing colony	missing colony
	YEL014C	4	5	23	12.02783	43.83803	41.17205	missing colony	missing colony
HIS3	YOR202W	4	5	24	10.62147	62.23709	6.215084		
HIS3	YOR202W	4	6	1	67.37912	13.74853	53.90585		
	YER079W	4	6	2	30.97983	14.068	-14.2373	15.80042	53.62694
	YER187W	4	6	3	-12.5992	2.138365	15.98808	-4.57516	47.44318
	YER078C	4	6	4	-20.6385	24.26901	-12.0468	48.18898	53.9548
	YER186C	4	6	5	-19.4805	36.70374	19.43574	7.272727	33.24176
	YER077C	4	6	6	-33.3691	57.11785	30.68592	-13.6891	3.311258
	YER185W	4	6	7	-25.4296	10.42105	25.3406	34.92366	59.45274
PTP3	YER075C	4	6	8	-3.77541	27.12032	-25.0305	21.07356	52.00946
	YER184C	4	6	9	46.93069	-4.65872	24.2126	33.56282	27.73973
RPS24A	YER074W	4	6	10	67.79661	70.05076	-33.8583	19.83914	43.81625
FAU1	YER183C	4	6	11	52.94651	-1.34228	3.346457	24.44444	51.98864
ALD5	YER073W	4	6	12	18.51041	23.88831	30.70624	35.2	48.13953
FMP10	YER182W	4	6	13	2.250804	78.81874	-25.5162	28.48948	52.72206
VTC1	YER072W	4	6	14	32.64971	77.2348	19.43794	39.01515	59.00783
	YER181C	4	6	15	-6.07662	62.2449	12.96061	27.54159	65.88542
	YER071C	4	6	16	0	36.4073	7.128906	37.12687	67.25441
ISC10	YER180C	4	6	17	4.11985	5.863539	23.63782	18.18182	47.49263
ARG5,6	YER069W	4	6	18	36.97318	2.196382	36.88458	16.06765	60.66838
DMC1	YER179W	4	6	19	-14.2526	80.41475	34.09091	-17.7419	58.28729
	YER067W	4	6	20	1.604938	18.41808	66.02349	-78.1145	43.10345
PDA1	YER178W	4	6	21	-10.7558	33.81783	46.49682	35.52124	33.50785
	YER067C-A	4	6	22	17.69088	40.49793	48.26255	23.57895	59.29978
BMH1	YER177W	4	6	23	0.75188	41.47287	64.72632	34.77654	53.84615
HIS3	YOR202W	4	6	24	3.456221	46.08939	34.06088		
HIS3	YOR202W	4	7	1	80.89021	32.92181	39.91131		
DIG2	YDR480W	4	7	2	17.85174	27.62078	39.70588	8.458647	25.69061
PAU2	YEL049W	4	7	3	29.76	24.48378	12.30248	20.11834	54.59941
PEX29	YDR479C	4	7	4	15.69468	15.0289	-5.20305	19.375	56.14035
	YEL048C	4	7	5	16.03943	17.22973	45.56355	16.02434	51.56695
	YDR476C	4	7	6	17.29921	28.1893	54.01015	19.07631	54.57143
	YEL047C	4	7	7	-16.8186	34.84556	65.5102	31.11111	41.44144
JIP4	YDR475C	4	7	8	13.03441	45	68.62197	39.35599	65.84767
	YEL043W	4	7	9	46.26866	25.51963	2.803738	38.87097	52.35602
	YDR474C	4	7	10	29.59685	34.64674	19.1022	35.96987	61.75711
GDA1	YEL042W	4	7	11	71.89752	71.15578	100	35.35912	61.85819
RPL27B	YDR471W	4	7	12	7.18232	40.1662	#DIV/0!	23.35766	48.78788

	YEL041W	4	7	13	-17.2973	1.234568	14.94755	33.55932	49.0566
SDC1	YDR469W	4	7	14	-6.05565	3.759398	-5.19878	0.683761	16.66667
UTR2	YEL040W	4	7	15	35.30633	28.6115	6.542056	25.7732	65.09186
	YDR467C	4	7	16	43.04348	1.096224	35.82231	38.06452	52.1978
CYC7	YEL039C	4	7	17	3.3241	52.01794	37.82051	28.86364	52.18579
PKH3	YDR466W	4	7	18	-21.4195	20.04111	32.62673	57.69746	57.27003
UTR4	YEL038W	4	7	19	36.83333	28.66593	32.41252	25	59.21788
RMT2	YDR465C	4	7	20	29.45129	27.08963	2.665441	24.00835	45.50898
RAD23	YEL037C	4	7	21	24.53855	25.38803	2.840909	16.46489	60.57143
STP1	YDR463W	4	7	22	20.99502	45.85586	19.80392	16.39344	57.30994
	YEL033W	4	7	23	21.20867	16.88574	44.60285	12.29839	44.27646
HIS3	YOR202W	4	7	24	25.50053	52.38829	40.93087		
HIS3	YOR202W	4	8	1	78.31764	25.22167	46.76923		
IES5	YER092W	4	8	2	23.96761	33.48018	66.16279	25.8	47.38041
BUD27	YFL023W	4	8	3	-141.896	35.21127	-36.3636	-47.4201	25.67568
	YER091C-A	4	8	4	-9.93184	65.19608	30.76923	13.7931	48.42767
GAT1	YFL021W	4	8	5	-12.013	29.6861	61.28342	31.06061	44.77612
MET6	YER091C	4	8	6	-16.4309	26.29162	39.32773	13.50211	44.07713
PAU5	YFL020C	4	8	7	9.519321	39.26219	-37.8007	30.11811	54.52055
TRP2	YER090W	4	8	8	-11.4815	29.43495	20.37267	10.88889	47.48603
	YFL019C	4	8	9	-21.7848	50.19157	-26.053	18.08732	33.02181
DOT6	YER088C	4	8	10	-5.08772	71.46341	37.29476	14.64355	46.875
LPD1	YFL018C	4	8	11	34.0535	-16.9643	86.84417	16.66667	48.91304
	YER087C-A	4	8	12	40.56848	24.65753	82.59325	32.14953	62.5323
	YFL015C	4	8	13	56.17761	-17.0951	15.87444	36.25498	50.52632
	YER085C	4	8	14	54.08271	-18.9189	10.57082	33.57664	54.73684
HSP12	YFL014W	4	8	15	5.263158	52.74725	11.08491	7.114625	48.29545
	YER084W	4	8	16	-14.7465	13.10345	21.34387	16.91649	48.5342
	YFL013W-A	4	8	17	22.125	32.92434	4.362416	32.77467	50.2809
RMD7	YER083C	4	8	18	-11.9178	51.36612	21.51724	-7.173	45.63953
HXT10	YFL011W	4	8	19	14.67136	54.63415	42.86798	-5.7554	55.52239
SER3	YER081W	4	8	20	13.52718	5.176471	25.39803	31.3912	53.64078
	YFL006W	4	8	21	2.888087	31.41724	-18.8641	-4.23529	56.71233
FMP29	YER080W	4	8	22	33.75796	33.49802	43.64876	-26.9022	50
	YER188W	4	8	23	2.078775	31.18173	47.99371	36	42.82116
HIS3	YOR202W	4	8	24	-4.82063	40.66047	66.27566		
HIS3	YOR202W	4	9	1	60.13913	35.18687	50.9396		
PUF6	YDR496C	4	9	2	49.05231	26.38623	28.79684	-1.72414	54.1779
SIT1	YEL065W	4	9	3	-19.196	28.34275	63.87795	34.29119	56.49547
RSM28	YDR494W	4	9	4	19.10569	63.70614	63.40206	27.63419	62.53687
AVT2	YEL064C	4	9	5	-10.9312	24.08088	5.847374	25.28217	57.75862
IZH1	YDR492W	4	9	6	-2.17177	12.51462	7.5	11.63265	46.03659

CAN1	YEL063C	4	9	7	-23.0203	2.378593	84.90153	21.01167	57.55968
	YDR491C	4	9	8	-10.3093	43.85475	77.70598	3.27553	42.74406
NPR2	YEL062W	4	9	9	-6.17284	26.90289	-12.3177	34.20479	59.81873
PKH1	YDR490C	4	9	10	48.89217	38.04124	33.52657	35.90226	50
CIN8	YEL061C	4	9	11	59.91837	-2.13483	37.3913	71.67139	66.97248
PAC11	YDR488C	4	9	12	0	46.02273	30.11078	18.82771	40.36697
PRB1	YEL060C	4	9	13	5.247525	40.4321	-5.25253	27.16763	63.68421
VPS60	YDR486C	4	9	14	68.68178	36.08247	10.89682	21.31439	26.97368
	YEL059W	4	9	15	-3.79363	21.12403	-2.14592	5.13347	49.11765
VPS72	YDR485C	4	9	16	1.090909	27.77086	67.01681	29.35421	52.05882
	YEL057C	4	9	17	3.214286	58.5335	68.54271	40.9919	56.02837
KRE2	YDR483W	4	9	18	11.85567	32.26453	3.692615	20.68966	51.19048
HAT2	YEL056W	4	9	19	-28.9256	28.21918	-20.8205	28.39757	52.25225
CWC21	YDR482C	4	9	20	17.91831	13.50614	24.2141	22.98025	46.01227
MAK10	YEL053C	4	9	21	9.42883	53.35917	15.63981	-13.5266	32.91139
PHO8	YDR481C	4	9	22	40.16736	28.34862	-24.4065	-3.08483	48.34025
AFG1	YEL052W	4	9	23	34.25414	13.91129	18.11263	50.05767	55.95745
HIS3	YOR202W	4	9	24	25.2193	31.54185	56.49351		
HIS3	YOR202W	4	10	1	50.86745	42.17311	61.53846		
	YER113C	4	10	2	-19.285	17.72031	65.88694	23.29247	58.41584
RPO41	YFL036W	4	10	3	41.08216	51.77305	75.24613	11.25541	55.62701
SWI4	YER111C	4	10	4	22.25806	47.74436	-9.53058	12.98932	52
	YFL035C-B	4	10	5	-13.8756	66.73511	65.67164	19.04762	37.36264
FLO8	YER109C	4	10	6	-4.64015	33.70661	20.0995	16.38298	57.70393
	YFL034W	4	10	7	-5.96095	30.30973	16.40625	17.99591	52.0436
	YER108C	4	10	8	-14.4309	52.68426	14.28571	15.20343	54.6875
RPL22B	YFL034C-A	4	10	9	2.898551	17.9635	-10.2926	43.36973	61.2987
MAM1	YER106W	4	10	10	3.739316	27.29026	6.567993	17.71429	57.58514
	YFL032W	4	10	11	4.536489	37.22268	11.39742	23.67906	44.65753
AST2	YER101C	4	10	12	13.47785	61.91388	94.35666	17.87709	54.75504
HAC1	YFL031W	4	10	13	12.28758	76.26208	92.51269	30	53.38542
UBP9	YER098W	4	10	14	26.95167	37.43891	-6.06827	22.04724	55.30726
AGX1	YFL030W	4	10	15	12.76371	39.38815	7.515152	13.35953	52.33161
	YER097W	4	10	16	16.04343	5.030675	33.24492	29.30403	59.22865
CAF16	YFL028C	4	10	17	27.03349	18.85813	-5.13274	24.81752	50.28571
SHC1	YER096W	4	10	18	61.43451	50.10438	24.68301	31.41264	51.29683
GYP8	YFL027C	4	10	19	43.12115	34.59621	72.63514	33.55482	61.73184
RAD51	YER095W	4	10	20	31.98483	58.17942	67.5	30.73286	61.7737
STE2	YFL026W	4	10	21	37.48309	25.52764	13.47352	17.8634	51.85185
	YER093C-A	4	10	22	13.54467	30.4753	48.59729	1.096491	43.37349
BST1	YFL025C	4	10	23	30.3932	18.46154	43.89439	-1.59091	69.11111
HIS3	YOR202W	4	10	24	14.81769	19.10891	42.22503		
HIS3	YOR202W	4	11	1	50.67265	33.09735	34.21053		

EMI1	YDR512C	4	11	2	49.3653	68.83886	56.39713	10.12346	41.09589
	YER010C	4	11	3	17.89849	25.71711	34.03827	39.02878	56.5097
ACN9	YDR511W	4	11	4	-18.4341	19.97608	-11.828	4.852321	58.90805
PAC2	YER007W	4	11	5	-11.6183	32.16783	77.09191	24.40945	50.71429
	YDR509W	4	11	6	33.68321	25.12563	79.40447	18.03607	45.3125
RBF20	YER007C-A	4	11	7	23.79836	59.06563	35.36737	22.68519	62.71777
GNP1	YDR508C	4	11	8	-8.07985	30.98592	7.420925	28.51563	56.08309
YND1	YER005W	4	11	9	4.424779	40.29268	6.982872	16.06119	43.1085
	YDR506C	4	11	10	-17.7802	61.45952	12.89398	16.17934	55.43478
FMP52	YER004W	4	11	11	0.992063	20.64777	-17.2078	20.75848	57.26027
PSP1	YDR505C	4	11	12	15.54252	26.97517	23.67688	40.625	60.4712
NOP16	YER002W	4	11	13	13.74607	42.11618	46.25984	-1.2285	51.72414
SPG3	YDR504C	4	11	14	11.33909	23.33664	5.934718	19.88304	52.02312
MNN1	YER001W	4	11	15	-24.0994	60.78431	-28.0462	39.46281	63.4058
LPP1	YDR503C	4	11	16	12.90323	32.46862	15.10673	16.2	61.40845
DLD3	YEL071W	4	11	17	15.10791	34.27992	-26.7892	10.23622	32.20859
PLM2	YDR501W	4	11	18	-6.07735	-19.9074	0.228833	10.02132	55.59322
	YEL068C	4	11	19	-27.9762	30.13699	63.48358	12.5	43.62018
RPL37B	YDR500C	4	11	20	34.70375	42.34592	61.16751	14.58774	36.56958
	YEL067C	4	11	21	46.23172	27.64538	73.36726	17.46988	37.42857
ITR1	YDR497C	4	11	22	18.54584	45.10638	72.01426	27.89784	52.85714
HPA3	YEL066W	4	11	23	31.41684	38.11252	1.477833	4.283054	47.70408
HIS3	YOR202W	4	11	24	-24.7059	43.82239	70.16667		
HIS3	YOR202W	4	12	1	51.58255	31.79396	56.50759		
DSE1	YER124C	4	12	2	25.93134	58.42199	79.25	13.33333	47.42857
	YFL051C	4	12	3	42.3913	28.09917	31.53846	16.7002	56.72043
YCK3	YER123W	4	12	4	24.91349	42.9703	82.59669	2.886598	31.49847
							missing colony		
ALR2	YFL050C	4	12	5	-13.6232	25.34949	-19.6453	missing colony	missing colony
	YER121W	4	12	6	-15.493	25.45455	44.18872	-3.4	53.00261
	YFL049W	4	12	7	-17.2483	44.0678	-56.7797	27.1719	54.01662
SCS2	YER120W	4	12	8	-4.02235	46.47713	-36.5854	18.59956	46.24625
EMP47	YFL048C	4	12	9	-9.11885	35.29412	34.39364	30.76923	57.52212
	YER119C-A	4	12	10	-25.93	38.8309	1.969697	24.06716	47.94521
RGD2	YFL047W	4	12	11	13.28273	42.12638	1.538462	16.46341	52.02492
AVT6	YER119C	4	12	12	14.14822	45.41485	-50.078	23.02026	51.04478
FMP32	YFL046W	4	12	13	7.755102	56.70103	-5.30697	15.32417	47.10526
SHO1	YER118C	4	12	14	7.723577	63.59712	-8.11881	22.20183	51.36778
YOD1	YFL044C	4	12	15	12.89662	31.8018	21.00917	24.36647	49.18919
RPL23B	YER117W	4	12	16	11.61357	35.50792	20.50985	24.49355	43.9528
	YFL043C	4	12	17	15.13859	31.15488	34.59854	31.05263	54.69613
SLX8	YER116C	4	12	18	17.05336	64.57801	-56	41.73355	55
	YFL042C	4	12	19	20.74264	-7.02782	40.93567	23.64991	52.78515

SPR6	YER115C	4	12	20	31.68539	18.20866	-4.34419	22.06897	46.58754
FET5	YFL041W	4	12	21	45.83772	33.03835	16.46586	23.81786	53.27314
BOI2	YER114C	4	12	22	37.89238	31.919	-14.2171	14.80144	43.82716
	YFL040W	4	12	23	35.06944	33.04264	11.57718	9.407666	43.08943
HIS3	YOR202W	4	12	24	-25.9115	5.995475	69.03409		
HIS3	YOR202W	4	13	1	63.89481	35.22415	21.54255		
HLR1	YDR528W	4	13	2	12.35741	1.853659	68.84368	13.75	54.68354
FIR1	YER032W	4	13	3	50.67751	22.63451	49.19441	21.20658	55.29716
	YDR525W-								
SNA2	A	4	13	4	-25.5396	29.44497	41.80887	27.01149	55.80737
YPT31	YER031C	4	13	5	46.59091	68.56095	61.63194	32.61649	72.97297
API2	YDR525W	4	13	6	-34.189	31.15942	18.37184	19.03915	39.03904
	YER030W	4	13	7	11.60799	23.99173	86.0262	40.22556	41.63701
AGE1	YDR524C	4	13	8	38.58425	41.95223	80.0638	47.23618	62.67123
MIG3	YER028C	4	13	9	-2.81442	19.33842	45.30744	19.23077	51.01351
SPS2	YDR522C	4	13	10	13.18052	31.66144	86.58892	26.80608	66.85552
GAL83	YER027C	4	13	11	29.88166	32.57143	55.84551	35.65217	47.1519
	YDR520C	4	13	12	9.210526	35.81267	27.21519	51.65945	57.06806
YAT2	YER024W	4	13	13	15.34604	40.89636	35.53488	0.458716	45.03546
FPR2	YDR519W	4	13	14	8.070866	3.9783	27.5766	51.0917	50.74627
GPA2	YER020W	4	13	15	17.67442	58.83669	30.78292	4.960836	58.97436
GRH1	YDR517W	4	13	16	13.70656	51.43113	86.49374	27.7972	57.34463
ISC1	YER019W	4	13	17	35.96392	58.93588	88.32449	19.34827	62.53776
EMI2	YDR516C	4	13	18	17.95918	30.75221	23.23462	17.81609	61.95652
SBH2	YER019C-A	4	13	19	-17.1983	45.92902	13.60996	-0.97847	39.70149
	YDR514C	4	13	20	28.87113	34.55357	21.13353	37.16338	50.75529
BIM1	YER016W	4	13	21	49.38272	19.60094	36.76923	51.53846	46.73913
TTR1	YDR513W	4	13	22	27.8534	35.89512	6.114551	53.82309	52.48042
TIR1	YER011W	4	13	23	26.25251	39.33464	17.36282	24.8227	56.52174
HIS3	YOR202W	4	13	24	15.7377	24.97551	51.44566		
HIS3	YOR202W	4	14	1	72.54545	34.72851	-16.3449		
MAG1	YER142C	4	14	2	43.36043	22.66527	84.74388	15.93928	48.69792
	YFR011C	4	14	3	80.51146	14.38596	73.88535	33.05085	66.00567
	YER140W	4	14	4	33.06808	26.12782	62.5	15.47085	46.75676
UBP6	YFR010W	4	14	5	79.61433	87.11712	86.26016	48.12968	91.17647
	YER139C	4	14	6	-9.33192	19.67213	28.52853	-0.47393	57.76398
GCN20	YFR009W	4	14	7	-3.85701	61.78571	34.72803	32.08333	66.56977
	YER137C	4	14	8	7.785642	35.97884	78.02817	46.81208	52.81899
FAR7	YFR008W	4	14	9	7.692308	71.98748	80.10336	16.92015	57.18563
	YER135C	4	14	10	71.10266	59.23345	73.36815	70.11129	73.59155
	YFR007W	4	14	11	5.079962	55.01406	-64.3002	24.73118	50.92025
	YER134C	4	14	12	19.08326	26.64418	46.54088	19.8895	60.89385
	YFR006W	4	14	13	14.44653	44.20485	59.25926	31.25	53.125

PMD1	YER132C	4	14	14	18.64245	45.26219	5.371094	25.4	64.36782
AAD6	YFL056C	4	14	15	12.67327	33.05989	43.00412	33.72681	47.53623
RPS26B	YER131W	4	14	16	12.61352	40.26095	57.31895	55.40741	59.71831
AGP3	YFL055W	4	14	17	21.40733	71.09458	6.671839	56.81818	32.80255
	YER130C	4	14	18	12.82932	47.59036	3.078203	6.438632	51.76152
	YFL054C	4	14	19	-1.57593	51.66994	62.0155	61.10363	51.73333
PAK1	YER129W	4	14	20	28.85246	17.49436	43.91192	16.89861	49.36387
DAK2	YFL053W	4	14	21	14.06571	31.56398	-29.6199	48.8408	53.33333
	YER128W	4	14	22	39.42505	38.08219	65.27919	13.38028	50.25381
	YFL052W	4	14	23	25.07375	37.88634	38.08664	27.5641	60.43478
HIS3	YOR202W	4	14	24	10.07634	19.41748	-38.0866		
HIS3	YOR202W	4	15	1	78.71377	41.06176	8.16092		
	YDR541C	4	15	2	49.51644	29.07735	84.41397	30.41958	57.03883
SPO73	YER046W	4	15	3	76.44444	28.29028	58.69565	44.21053	59.88701
	YDR540C	4	15	4	23.7037	33.98169	56.6719	29.10663	64.56954
ACA1	YER045C	4	15	5	46.62111	-31.3758	95.03106	17.03854	63.11475
	YDR539W	4	15	6	-26.6892	47.57282	95.20124	14.31579	52.06612
MEI4	YER044C-A	4	15	7	16.65229	44.20677	84.47205	35.04587	48.46797
PAD1	YDR538W	4	15	8	50.13699	44.56825	89.11968	41.52542	61.69492
MXR1	YER042W	4	15	9	23.30468	3.521127	10.81349	43.07958	58.22785
	YDR537C	4	15	10	25.13089	28.90335	12.31803	24.23729	56.86275
	YER039C-A	4	15	11	22.12149	28.68852	79.28844	24.16667	48.25871
STL1	YDR536W	4	15	12	39.25104	62.41331	60.76696	61.48556	71.21535
YEN1	YER041W	4	15	13	16.0043	5.677868	-2.5641	33.76623	68.59903
	YDR535C	4	15	14	16.23762	-2.27577	35.33398	49.22118	60.13986
HVG1	YER039C	4	15	15	44.26692	59.88201	80.29851	54.17867	67.58794
FIT1	YDR534C	4	15	16	32.50729	53.49345	69.13357	5.032468	55.95506
	YER038W-								
FMP49	A	4	15	17	16.8254	55.86957	31.0089	25.09363	63.8191
HSP31	YDR533C	4	15	18	23.22457	36.4564	-41.3589	51.72932	56.2963
EDC2	YER035W	4	15	19	35.38306	23.33916	64.47917	48.49354	47.97136
	YDR532C	4	15	20	11.95219	56.43225	65.9919	50.35461	29.64824
	YER034W	4	15	21	61.36842	28.22581	97.9571	25.6651	56.86813
APA2	YDR530C	4	15	22	64.83051	61.5917	96.01386	25.89577	46.85864
ZRG8	YER033C	4	15	23	25.33557	11.86017	42.88681	26.64577	62.84585
HIS3	YOR202W	4	15	24	-28.5068	38.68678	59.8759		
HIS3	YOR202W	4	16	1	76.24882	43.31088	-8.72642		
HIS3	YOR202W	4	16	2	73.40191	35.43307	60.56338		
HIS3	YOR202W	4	16	3	85.46017	37.27811	65.13158		
HIS3	YOR202W	4	16	4	54.89007	32.95255	83.27103		
HIS3	YOR202W	4	16	5	49.09311	25.84071	81.96393		
HIS3	YOR202W	4	16	6	39.18495	35.70402	32.37052		
HIS3	YOR202W	4	16	7	41.14114	18.72146	-10.7353		

HIS3	YOR202W	4	16	8	39.29619	24.97626	-34.5646		
HIS3	YOR202W	4	16	9	-6.45905	-4.31472	59.96132		
HIS3	YOR202W	4	16	10	-9.69305	13.75	62.31618		
HIS3	YOR202W	4	16	11	25.3886	30.40936	42.75093		
HIS3	YOR202W	4	16	12	14.62113	14.037	-29.8361		
HIS3	YOR202W	4	16	13	5.700713	37.63608	30.80242		
HIS3	YOR202W	4	16	14	5.369928	22.62931	48.04422		
HIS3	YOR202W	4	16	15	3.250975	22.93497	54.85294		
HIS3	YOR202W	4	16	16	-5.28967	19.06542	52.61221		
HIS3	YOR202W	4	16	17	9.248555	27.83985	88.73457		
HIS3	YOR202W	4	16	18	23.27311	28.67036	93.81107		
HIS3	YOR202W	4	16	19	6.28866	31.51261	-5.86319		
HIS3	YOR202W	4	16	20	16.94915	40	-0.92593		
HIS3	YOR202W	4	16	21	7.619048	38.63636	21.24905		
HIS3	YOR202W	4	16	22	18.32979	42.84428	31.51341		
HIS3	YOR202W	4	16	23	41.41274	37.24023	54.49403		
HIS3	YOR202W	4	16	24	-11.8782	47.06912	61.57697		
HIS3	YOR202W	5	1	1	63.5383	37.87086	14.76346		
HIS3	YOR202W	5	1	2	30.96903	63.42466	-1.17117		
HIS3	YOR202W	5	1	3	71.5075	99.22481	-9.83051		
HIS3	YOR202W	5	1	4	29.24071	-10.1073	3.948667		
HIS3	YOR202W	5	1	5	41.39591	48.73164	-2.99252		
HIS3	YOR202W	5	1	6	31.73554	6.067678	17.67677		
HIS3	YOR202W	5	1	7	30.75031	58.28571	22.75242		
HIS3	YOR202W	5	1	8	38.42869	4.672897	26.71186		
HIS3	YOR202W	5	1	9	36.40777	67.40331	8.061154		
HIS3	YOR202W	5	1	10	-7.43155	54.81481	18.14904		
HIS3	YOR202W	5	1	11	23.65064	43.66544	43.43972		
HIS3	YOR202W	5	1	12	-11.1702	-38.7352	8.496732		
HIS3	YOR202W	5	1	13	4.104903	58.14978	36.67426		
HIS3	YOR202W	5	1	14	12.19239	57.59494	18.54305		
HIS3	YOR202W	5	1	15	25.40984	54.79876	32.99663		
HIS3	YOR202W	5	1	16	1.948052	66.08	25.41828		
HIS3	YOR202W	5	1	17	12.68293	70	31.46796		
HIS3	YOR202W	5	1	18	21.34039	49.29972	28.25301		
HIS3	YOR202W	5	1	19	37.85211	-26.6667	35.82575		
HIS3	YOR202W	5	1	20	30.919	27.25173	-19.0217		
HIS3	YOR202W	5	1	21	6.137866	63.08806	27.75974		
HIS3	YOR202W	5	1	22	29.62588	53.29114	16.88858		
HIS3	YOR202W	5	1	23	28.09717	48.80503	25.62418		
HIS3	YOR202W	5	1	24	36.11394	-35.3073	58.22785		
HIS3	YOR202W	5	2	1	74.37326	59.13201	7.142857		
CLG1	YGL215W	5	2	2	-19.1702	98.7152	-17.1053	57.91962	45.33898

	YGR051C	5	2	3	47.05144	67.33524	32.23767	44.94118	35.10896
	YGL214W	5	2	4	9.803922	50.95541	-19.5652	65.87112	37.65823
	YGR050C	5	2	5	-5.22152	7.427056	78.80795	63.21839	43.10777
SKI8	YGL213C	5	2	6	38.37838	70.25761	4.098361	57.31343	22.50712
SCM4	YGR049W	5	2	7	54.02456	64.04494	2.727273	51.35593	27.0073
VAM7	YGL212W	5	2	8	10.18711	33.41584	28.50746	58.7156	52.48042
	YGR045C	5	2	9	26.67364	-15.6863	20.70099	70.4918	33.33333
NCS6	YGL211W	5	2	10	42.35437	21.72414	6.841339	71.42857	24.40191
RME1	YGR044C	5	2	11	19.11221	21.34831	19.01984	54.31655	48.11594
YPT32	YGL210W	5	2	12	-0.65147	28.30189	70.55151	38.25137	35.38813
	YGR043C	5	2	13	-11.1502	-43.2099	-3.95968	80.44554	22.71762
MIG2	YGL209W	5	2	14	-5.82011	23.13167	-3.41176	62.35828	29.38389
	YGR042W	5	2	15	50.95541	42.27188	8.828671	51.33333	16.82927
SIP2	YGL208W	5	2	16	-46.3576	48.85057	42.95875	70.71429	23.42342
BUD9	YGR041W	5	2	17	46.14537	37.5	17.15839	83.78378	33.61884
POX1	YGL205W	5	2	18	27.68421	0.923077	5.160662	40.42553	24.48037
KSS1	YGR040W	5	2	19	37.53609	-20.8333	-2.88363	51.42315	28.6031
KEX1	YGL203C	5	2	20	58.83392	49.17492	-11.5591	21.01617	21.57303
	YGR039W	5	2	21	57.90458	44.03846	38.79142	20.53571	20.60086
ARO8	YGL202W	5	2	22	48.73354	57.48663	28.61469	41.2	24.67532
ORM1	YGR038W	5	2	23	54.45205	-11	16.92456	54.06872	36.22047
HIS3	YOR202W	5	2	24	27.91552	2.063492	24.08602		
HIS3	YOR202W	5	3	1	45.4955	31.28713	-1.21581		
	YFR022W	5	3	2	-17.8445	57.22656	-19.4286	61.48492	37.84355
SCY1	YGL083W	5	3	3	-19.6881	51.21951	75.20436	48.125	28.61357
ATG18	YFR021W	5	3	4	-4.7619	41.84028	-25.7554	49.3865	38.4778
	YGL082W	5	3	5	-27.6451	58.04067	26.28625	64.48598	38.44156
	YFR020W	5	3	6	14.04494	48.11828	4.371217	78.60465	30.90024
	YGL081W	5	3	7	-0.48	56.28415	1.076813	46.83908	16.79389
FAB1	YFR019W	5	3	8	77.16535	100	9.69697	59.95423	34.77089
FMP37	YGL080W	5	3	9	13.38583	13.99177	-8.67526	65.70743	31.57895
	YFR018C	5	3	10	6.439854	17.0068	27.62063	58.50144	23.18841
	YGL079W	5	3	11	27.82037	-37.1795	73.82502	48.8189	28.67647
	YFR017C	5	3	12	21.2932	32.85458	-11.9335	61.22995	22.22222
DBP3	YGL078C	5	3	13	48.9301	-30.0781	-33.5354	59.63061	21.98953
	YFR016C	5	3	14	19.14894	-34.6154	-7.21221	62.39554	11.27451
HNM1	YGL077C	5	3	15	4.074074	-35.1682	-11.9159	44.63158	30.62645
GSY1	YFR015C	5	3	16	55.29906	-26.1745	9.275731	50	33.11111
NPY1	YGL067W	5	3	17	59.96113	7.317073	-16.0289	78.4	25.51253
CMK1	YFR014C	5	3	18	54.28571	40.04283	-20.9344	50.14749	19.35484
SGF73	YGL066W	5	3	19	62.38274	55.21472	3.611738	25.78125	26.73031
IOC3	YFR013W	5	3	20	61.65865	64.77273	3.874539	48.76033	28.44639
PYC1	YGL062W	5	3	21	37.74704	20.42553	-15.3114	17.63341	25

	YFR012W	5	3	22	49.07787	15.96639	10.49841	49.11591	25.72062
YBP2	YGL060W	5	3	23	40.1005	33.11258	0	41.39651	33.25581
HIS3	YOR202W	5	3	24	1.66113	-6.69371	9.32858		
HIS3	YOR202W	5	4	1	-23.3645	-0.17986	55.07874		
SHE10	YGL228W	5	4	2	41.01911	4.144144	29.19501	58.61183	76.37741
PEX8	YGR077C	5	4	3	8.431703	-4.05797	-8.46954	72.37852	36.88312
VID30	YGL227W	5	4	4	6.605223	17.27642	-28.586	42.1875	20.90909
UPF3	YGR072W	5	4	5	30.8	41.54818	95.14416	67.46725	30.36212
	YGL226W	5	4	6	31.74274	28.05755	39.44591	77.07182	27.4359
	YGR071C	5	4	7	52.2673	41.47982	35.69682	80.22222	29.84615
OST5	YGL226C-A	5	4	8	8.97909	28.48101	-2.80728	71.49758	26.6129
ROM1	YGR070W	5	4	9	15.27027	28.90365	-11.3687	75.72614	15.68123
SDT1	YGL224C	5	4	10	21.76471	47.73519	80.05115	59.71429	10.92637
	YGR069W	5	4	11	-15.6812	61.24314	63.71859	55.07614	18.35106
EDC1	YGL222C	5	4	12	34.43396	-19	89.2822	50.5176	21.18451
	YGR066C	5	4	13	4.376368	50.25126	68.86145	47.27626	29.90196
NIF3	YGL221C	5	4	14	34.65909	-27.6762	5.321782	80.45326	18
SPR3	YGR059W	5	4	15	12.74175	-5.82707	19.57746	74.32763	20.81218
MDM34	YGL219C	5	4	16	47.97927	43.41253	12.00807	20.64516	18.93204
	YGR058W	5	4	17	56.46512	30.18868	4.815574	37.88151	19.07692
	YGL218W	5	4	18	65.83333	64.65517	64.68647	-21.1905	-5.39216
	YGR054W	5	4	19	69.89796	69.5122	#DIV/0!	61.32075	24.67532
	YGL217C	5	4	20	-4.3578	56.45695	25.76531	12.62626	19.08213
	YGR053C	5	4	21	27.25118	28.03532	5.136986	50.23256	27.08333
KIP3	YGL216W	5	4	22	39.38992	-8.67052	-17.9268	39.10891	24.42396
FMP48	YGR052W	5	4	23	54.86348	-33.9726	0.800801	36.34686	31.80873
HIS3	YOR202W	5	4	24	14.16185	50	-4.02047		
HIS3	YOR202W	5	5	1	41.21115	-36.3014	45.5623		
PHO4	YFR034C	5	5	2	-6.79612	-10.199	44.03993	55.34442	33.2574
	YGL109W	5	5	3	19.77401	-35.9551	-13.1479	73.07692	27.02703
QCR6	YFR033C	5	5	4	-21.5267	32.24138	44.32773	67.76119	11.23919
	YGL108C	5	5	5	32.31084	23.8477	56.03544	72.94118	18.58407
RPL29	YFR032C-A	5	5	6	38.01843	25.8547	12.32877	34.55497	12.5
ARC1	YGL105W	5	5	7	49.4382	44.25887	12.73885	72.4359	44.03974
	YFR032C	5	5	8	-8.62275	50	28.11565	60.86957	27.7439
VPS73	YGL104C	5	5	9	32.01285	-14.7727	11.58645	66.2531	13.86139
RPL2A	YFR031C-A	5	5	10	19.79167	20.23256	-4.62107	70.61856	21.42857
	YGL101W	5	5	11	14.58094	31.44105	63.95028	62.61682	20.8
MET10	YFR030W	5	5	12	41.75506	7.317073	-7.46269	73.95833	17.64706
LIF1	YGL090W	5	5	13	17.99163	61.17647	#DIV/0!	78.08564	26.22951
	YFR026C	5	5	14	10.97285	5.596107	-2.06718	65.68627	16.72474
MF(ALPHA)2	YGL089C	5	5	15	21.24352	50	-14.6588	66.43026	14.2132
HIS2	YFR025C	5	5	16	39.86014	-38.4393	6.270997	79.8005	25.323

MMS2	YGL087C	5	5	17	52.83401	-18.3673	74.4879	62.02186	25.76531
LSB3	YFR024C-A	5	5	18	54.82728	-18.4343	64.16153	47.35202	10.41096
MAD1	YGL086W	5	5	19	54.33476	40.65282	0	52.59434	30.54893
	YFR024C	5	5	20	58.37321	50.50847	47.86585	44.65812	35.61321
	YGL085W	5	5	21	-14.1531	-17.1141	-4.03826	33.09693	27.57848
PES4	YFR023W	5	5	22	35.98938	-0.53476	-11.4043	40.71429	32.94664
GUP1	YGL084C	5	5	23	62.51172	20.70588	29.40447	47.14038	43.69369
HIS3	YOR202W	5	5	24	49.76303	58.41584	-22.8037		
HIS3	YOR202W	5	6	1	32.24461	65.95745	-24.8616		
TAD1	YGL243W	5	6	2	19.09722	-8.13008	-11.7932	60.86957	42.50681
DBF2	YGR092W	5	6	3	22.86689	39.20973	70.03891	46.03774	39.14286
	YGL242C	5	6	4	26.2069	42.9078	49.40855	79.08497	56.07477
NNF2	YGR089W	5	6	5	46.51584	25.93703	74.69459	71.9917	20.69892
KAP114	YGL241W	5	6	6	15.68627	-19.6667	31.72952	74.73958	19.07357
CTT1	YGR088W	5	6	7	40.73276	3.178484	-22.13	68.30467	13.02326
HAP2	YGL237C	5	6	8	26.87704	35.33569	72.74436	72.09877	5.396825
PDC6	YGR087C	5	6	9	31.4258	4.205607	30.35936	74.52575	23.39181
MT01	YGL236C	5	6	10	31.89474	51.0467	100	49.59677	8.108108
PIL1	YGR086C	5	6	11	19.1766	-14.0171	89.81938	73.25905	24.27746
	YGL235W	5	6	12	32.50774	36.47235	100	39.87342	22.9798
RPL11B	YGR085C	5	6	13	23.26622	68.88489	26.0479	67.47967	12.23242
ADE5,7	YGL234W	5	6	14	89.53975	85.07463	30.36936	74.80315	42.07317
MRP13	YGR084C	5	6	15	47.60449	37.77403	29.15129	16.39723	17.12707
TAN1	YGL232W	5	6	16	37.17277	28.57143	-4.38871	32.80543	21.93732
SLX9	YGR081C	5	6	17	45.31616	41.07486	23.35116	13.40206	21.98142
	YGL231C	5	6	18	40.03813	-7.3107	9.012346	53.33333	24.8062
TWF1	YGR080W	5	6	19	37.08415	5.645161	77.94823	30.26634	29.25659
	YGL230C	5	6	20	41.75824	22.32143	-5.72917	47.36842	30.2381
	YGR079W	5	6	21	51.20733	14.65893	3.93401	51.0582	30.91787
SAP4	YGL229C	5	6	22	33.90171	59.02439	8.540541	34.21687	21.78899
PAC10	YGR078C	5	6	23	0.234742	-20.8211	10.20408	26.79426	24.42922
HIS3	YOR202W	5	6	24	11.37488	11.8797	-41.7352		
HIS3	YOR202W	5	7	1	46.54481	55.02392	0.560897		
RMD8	YFR048W	5	7	2	-11.0985	9.166667	-28.5349	67.35219	27.87286
SNT2	YGL131C	5	7	3	40.15826	26.69173	-2.48714	64.78873	33.23263
BNA6	YFR047C	5	7	4	12.93996	47.44646	-25.7078	76	28.49315
SOH1	YGL127C	5	7	5	33.10105	38.02817	76.75941	43.46505	7.272727
CNN1	YFR046C	5	7	6	36.35417	23.48703	16.82497	78	23.07692
SCS3	YGL126W	5	7	7	12.53792	-16.2393	-18.5861	64.94118	14.23841
	YFR045W	5	7	8	28.6631	32.28621	-3.73563	66.17647	31.53153
MET13	YGL125W	5	7	9	11.40025	29.74052	57.29443	61.89024	24.44444
	YFR044C	5	7	10	1.35468	-14.135	-22.1154	56.77419	23.85621
MON1	YGL124C	5	7	11	33.33333	6.032483	81.17359	12.20159	10.48387

	YFR043C	5	7	12	0.431499	47.30047	31.98594	70.41801	26.62539
GPG1	YGL121C	5	7	13	38.82236	-25.8312	-13.7255	69.11392	29.15663
ERJ5	YFR041C	5	7	14	13.7817	61.11975	-17.3333	93.55932	44.19263
	YGL118C	5	7	15	34.01222	12.8692	-24.2026	62.60388	26.91293
SAP155	YFR040W	5	7	16	66.53061	37.81095	-24.4681	49.87893	35.65217
	YGL117W	5	7	17	53.58527	-30.7927	71.18246	46.71202	34.08451
	YFR039C	5	7	18	46.89716	-7.21868	32.72506	59.02439	38.17664
SNF4	YGL115W	5	7	19	43.26087	31.37996	86.69302	18.67816	16.87898
	YFR038W	5	7	20	28.119	57.87172	1.970803	46.13583	38.79093
	YGL114W	5	7	21	40.62947	37.64259	72.73277	24.42159	26.29108
	YFR035C	5	7	22	65.28792	-28.8235	77.14497	34.05276	37.90524
CUE3	YGL110C	5	7	23	64.77941	-29.0976	0	49.3014	45.78834
HIS3	YOR202W	5	7	24	28.28185	50.14327	16.85714		
HIS3	YOR202W	5	8	1	23.73042	50.96899	46.34968		
MNT2	YGL257C	5	8	2	43.10954	51.94553	14.27194	82.09302	37.18487
	YGR110W	5	8	3	17.05499	6.774194	27.897	86.88047	33.05556
ADH4	YGL256W	5	8	4	45.02203	-19.8157	2.467811	78.93617	47.73333
CLB6	YGR109C	5	8	5	77.86458	94.18605	39.58333	71.07692	30.95238
ZRT1	YGL255W	5	8	6	48.04104	4.841402	51.94805	84.86647	25.12315
CLB1	YGR108W	5	8	7	40.50633	63.76812	-12.0066	84.96042	30.42254
FZF1	YGL254W	5	8	8	49.17749	-96.7033	87.59358	78.65169	26.72673
	YGR107W	5	8	9	48.33492	-16.2706	-22.1675	83.5	29.69121
HXK2	YGL253W	5	8	10	37.48474	-25.6962	15.84699	65.29563	25.22796
	YGR106C	5	8	11	36.36364	-31.4763	52.5641	77.94118	37.82235
RTG2	YGL252C	5	8	12	52.55941	8.528428	28.95323	45.51845	40.05305
VMA21	YGR105W	5	8	13	100	#DIV/0!	87.14286	39.06706	33.45455
HFM1	YGL251C	5	8	14	27.47475	-34.9174	-3.61011	73.18436	37.10074
PCP1	YGR101W	5	8	15	100	#DIV/0!	100	74.77745	24.63054
	YGL250W	5	8	16	39.38144	33.48315	67.295	52.08791	46.80233
MDR1	YGR100W	5	8	17	28.15846	59.23393	3.602484	75.5814	37.84461
ZIP2	YGL249W	5	8	18	48.54651	22.91667	38.59155	35.6962	36.50386
ASK10	YGR097W	5	8	19	53.5685	10.47431	61.86579	74.27293	54.97512
PDE1	YGL248W	5	8	20	5.319149	77.26737	53.71094	30.32581	38.72549
TPC1	YGR096W	5	8	21	43.09252	-19.9195	-18.6012	38.31325	42.18362
RTF1	YGL244W	5	8	22	53.9823	16.49485	15.15152	-22.4265	30.41958
	YGR093W	5	8	23	57.95364	29.79003	0.3125	40.12739	41.45833
HIS3	YOR202W	5	8	24	43.55644	7.676768	17.61518		
HIS3	YOR202W	5	9	1	46.54545	95.99271	36.43385		
	YGL007W	5	9	2	45.93114	97.52747	8.467742	57.40741	12.56684
ARO2	YGL148W	5	9	3	48.81266	67.91569	13.7931	90.61489	28.60759
PMC1	YGL006W	5	9	4	41.66667	61.12601	34	67.17557	31.66144
RPL9A	YGL147C	5	9	5	50.37675	-20.2643	81.34557	45.21531	21.72702
COG7	YGL005C	5	9	6	51.78408	-18.6709	50.3428	75.36946	22.08955

	YGL146C	5	9	7	22.53521	53.6	1.946108	71	33.92857
RPN14	YGL004C	5	9	8	-1.55587	34.95935	-36.7347	53.06122	27.19298
ROG1	YGL144C	5	9	9	39.23611	-9.2511	33.80282	49.74093	34.09091
ERP6	YGL002W	5	9	10	41.7124	51.10701	42.32143	46.84685	35.83333
HUL5	YGL141W	5	9	11	43.19654	20.22472	12.32877	70.7989	33.97436
	YFR057W	5	9	12	39.51012	64.56808	-12.3539	43.0622	42.54144
	YGL140C	5	9	13	36.95421	28.96175	71.9603	51.49051	41.86047
	YFR056C	5	9	14	39.54858	11.27451	-22.9665	49.02808	51.32275
	YGL139W	5	9	15	51.6525	-12.7193	61.30435	28.60125	35.58897
	YFR055W	5	9	16	31.78295	61.44144	2.945736	50.67385	50.41096
	YGL138C	5	9	17	48.99522	6.456954	57.58276	37.67123	44.41687
	YFR054C	5	9	18	24.10314	-37.4194	12.75168	39.82869	31.75966
MRM2	YGL136C	5	9	19	41.07744	-24.2623	34.89933	43.88298	38.63636
HXK1	YFR053C	5	9	20	27.66631	14.46078	4.914371	39.46731	52.21932
ITC1	YGL133W	5	9	21	50.21277	61.90476	14.50079	48.26733	50.12788
YMR31	YFR049W	5	9	22	35.6701	64.94192	14.42642	15.42056	36.66667
	YGL132W	5	9	23	60.9375	49.51456	19.77226	35.71429	45.78059
HIS3	YOR202W	5	9	24	62.27273	63.69427	-4.51189		
HIS3	YOR202W	5	10	1	51.79718	72.01087	2.735711		
STF2	YGR008C	5	10	2	32.89474	86.13281	-11.5942	44.3609	28.79464
	YGR130C	5	10	3	10.41445	100	12.64368	34.09669	12.99094
MUQ1	YGR007W	5	10	4	38.59649	-8.58586	31.92534	82.20859	35.18519
SYF2	YGR129W	5	10	5	26.90802	83.92226	16.30537	69.83696	22.89474
PEX31	YGR004W	5	10	6	28.35113	20.83333	0.448029	75.70621	33.44262
	YGR127W	5	10	7	44.45813	44.52975	-22.2372	81.52493	29.72973
CUL3	YGR003W	5	10	8	23.2859	56.35179	45.04692	78.00512	35.53719
	YGR126W	5	10	9	36.92308	13.13321	29.09091	47.41144	31.98847
	YGR001C	5	10	10	47.14785	41.69742	-26.4344	38.99083	43.14286
	YGR125W	5	10	11	44.80519	-12.4161	19.10275	46.17225	37.2549
COS12	YGL263W	5	10	12	39.14849	-10.6904	50.33557	31.12583	31.78808
ASN2	YGR124W	5	10	13	48.3871	10.05587	27.33224	27.59494	35.27919
	YGL262W	5	10	14	53.04762	68.65672	66.21005	87.5	65.56962
PPT1	YGR123C	5	10	15	32.2449	1.832994	14.41224	49.19786	49.05149
	YGL261C	5	10	16	44.28008	-2.71429	79.8951	40.46512	54.09429
MEP1	YGR121C	5	10	17	33.65385	-33.0864	#DIV/0!	33.69176	46.63212
	YGL260W	5	10	18	36.2254	-25.2669	60.56818	17.0088	47.19764
RPS23A	YGR118W	5	10	19	29.54545	13.35807	#DIV/0!	46.13181	48.94737
YPS5	YGL259W	5	10	20	38.4778	-25.7336	51.33283	29.28349	42.2043
	YGR117C	5	10	21	37.3	-21.9638	35.63025	55.29716	57.21649
VEL1	YGL258W	5	10	22	44.82759	-2.33281	-14.3905	11.26374	44.93827
	YGR111W	5	10	23	45.71704	-4.72279	-1.01523	53.79147	52.26824
HIS3	YOR202W	5	10	24	53.48837	38.24604	3.340595		
HIS3	YOR202W	5	11	1	19.6648	69.06615	-0.44958		

PIB2	YGL023C	5	11	2	28.19672	100	25.97201	35.82996	75.05155
YIP5	YGL161C	5	11	3	42.73504	99.25	3.130755	67.90123	35.87571
ALK1	YGL021W	5	11	4	26.74419	99.03846	3.033006	57.29167	32.94461
	YGL160W	5	11	5	33.55336	95.72954	20.89762	35.43956	30.93093
MDM39	YGL020C	5	11	6	17.43243	48.3209	7.272727	44.93506	17.24138
	YGL159W	5	11	7	21.84532	-37.3673	15.29657	35.94378	26.24672
CKB1	YGL019W	5	11	8	22.96196	14.86928	34.10405	87.22045	37.82383
RCK1	YGL158W	5	11	9	41.96078	18.57585	-4.86976	57.72152	30.37249
ATE1	YGL017W	5	11	10	38.90187	40	26.21167	40.09217	35.1145
	YGL157W	5	11	11	47.03344	39.68872	57.52637	70.2011	61.34831
KAP122	YGL016W	5	11	12	64.91228	78.53881	69.43005	35.01094	47.92244
AMS1	YGL156W	5	11	13	40.64865	-45.8248	34.36426	48.37758	48.55491
	YGL015C	5	11	14	44.04517	-7.14286	17.32474	58.62832	40.45226
LYS5	YGL154C	5	11	15	35.91294	-8.68687	35.93909	29.50311	43.84615
PUF4	YGL014W	5	11	16	34.71933	-3.46154	52.67686	23.93617	33.72922
PEX14	YGL153W	5	11	17	42.8997	14.47619	21.875	24.24242	49.64029
PDR1	YGL013C	5	11	18	62.88557	56.59341	62.60081	48.23529	65.54404
	YGL152C	5	11	19	38.76698	22.79693	-17.8672	34.78261	50.91743
	YGL010W	5	11	20	28.0837	-7.89474	51.21317	2.432432	32
NUT1	YGL151W	5	11	21	62.0614	58.19975	77.70461	34.57711	67.28972
LEU1	YGL009C	5	11	22	46.1165	47.411	-14.6835	37.82235	40.18692
	YGL149W	5	11	23	54.3662	-8.57143	59.83067	55.55556	56.50407
HIS3	YOR202W	5	11	24	64.8398	39.50057	7.620818		
HIS3	YOR202W	5	12	1	-8.81671	44.68085	4.387417		
	YGR022C	5	12	2	-22.5725	52.82714	29.55801	47.69231	36.27639
BTN2	YGR142W	5	12	3	21.02804	96.01677	21.24277	66.66667	40.10695
	YGR021W	5	12	4	28.48752	70.4501	-8.65103	24.08602	14.98708
VPS62	YGR141W	5	12	5	19.91643	100	79.22705	71.90722	26.03878
UGA1	YGR019W	5	12	6	18.56925	53.90071	9.249084	73.91304	35.17588
	YGR139W	5	12	7	15.55233	-8.47953	-5.85366	72.74827	41.19171
	YGR018C	5	12	8	32.1519	28.37209	38.95447	68.96552	26.37363
TPO2	YGR138C	5	12	9	48.99103	24.72222	-7.33083	31.60173	35.30864
	YGR017W	5	12	10	41.90178	-0.39604	65.46185	52.64228	45.81281
	YGR137W	5	12	11	42.01681	73.54497	7.801418	47.52252	49.2823
	YGR016W	5	12	12	48.39045	12.5	-13.5933	61.58038	41.46919
LSB1	YGR136W	5	12	13	34.19913	13.80417	43.73057	64.80447	43.55972
	YGR015C	5	12	14	43.09955	-17.094	20.66225	44.22111	55.63549
PRE9	YGR135W	5	12	15	40.24691	22.56214	13.88368	27.35849	32.82051
MSB2	YGR014W	5	12	16	40.29703	-8.27206	-3.125	41.50485	46.875
CAF130	YGR134W	5	12	17	40.8998	49.06015	44.69112	54.16667	61.64021
	YGR012W	5	12	18	28.37259	19.73333	23.87665	31.31068	46.09756
PEX4	YGR133W	5	12	19	26.54691	-2.99625	-11.3318	53.26371	55.03513
	YGR011W	5	12	20	44.7944	45.82593	3.737113	41.40625	55.9322

PHB1	YGR132C	5	12	21	42.07709	16.60777	8.11044	31.78082	40.63205
NMA2	YGR010W	5	12	22	63.83588	25.2149	22.83272	38.2263	47.51773
	YGR131W	5	12	23	62.41007	-13.0435		44.1989	63.48449
HIS3	YOR202W	5	12	24	64.4898	39.26097	7.443683		
HIS3	YOR202W	5	13	1	33.38997	-35.8491	11.02629		
	YGL041C	5	13	2	58.04848	-20.3165	45.18188	35.22013	40.40179
SAE2	YGL175C	5	13	3	0.583658	100	8.108108	40.43011	42.64706
	YGL039W	5	13	4	-18.6944	100	5.166375	69.38202	35.34483
BUD13	YGL174W	5	13	5	-3.73692	-9.79667	35.51724	34.19355	15.49708
	YGL036W	5	13	6	24.25107	100	43.6553	56.38767	34.31953
KEM1	YGL173C	5	13	7	72.79693	100	100	85.03401	80.83067
MIG1	YGL035C	5	13	8	45.2381	100	37.67857	74.93917	57.83784
SPO74	YGL170C	5	13	9	51.29803	-14.8241	27.12054	53.28084	45.54707
	YGL034C	5	13	10	50	63.09795	-0.661	32.31441	47.59494
HUR1	YGL168W	5	13	11	43.43029	47.06868	14.0884	-21.2202	17.38149
AGA2	YGL032C	5	13	12	51.01833	93.61233	4.415372	76.1039	55
PMR1	YGL167C	5	13	13	37.5	73.5786	43.27917	9.904153	23.5732
RPL24A	YGL031C	5	13	14	47.82609	44.08759	37.2449	23.83901	40.54054
CUP2	YGL166W	5	13	15	27.68763	63.70023	-13.309	22.72727	54.56674
SCW11	YGL028C	5	13	16	43.05949	38.91798	-24.0402	19.87179	49.76526
	YGL165C	5	13	17	41.69041	77.27273	-7.72358	40.98765	58.09524
CWH41	YGL027C	5	13	18	42.85714	17.66562	39.06103	27.88671	54.19664
YRB30	YGL164C	5	13	19	38.15385	60.27875	-19.6544	17.64706	41.50943
TRP5	YGL026C	5	13	20	33.12565	35.2071	55.58565	65.57789	79.25
RAD54	YGL163C	5	13	21	40.71856	95.91281	#DIV/0!	36.5651	57.25594
	YGL024W	5	13	22	90.02876	91.06628	85.81979	58.39243	83.66834
SUT1	YGL162W	5	13	23	66.58692	35.59322	29.26337	40.84821	61.44578
HIS3	YOR202W	5	13	24	18.18182	74.34679	9.032258		
HIS3	YOR202W	5	14	1	-1.35593	17.06587	6.490566		
ACB1	YGR037C	5	14	2	-16.6911	29.29936	27.44887	47.43875	42.36559
RTS3	YGR161C	5	14	3	-47.4874	100	16.97417	54.29553	48.33837
	YGR035C	5	14	4	-1.61054	100	25.57781	57.277	49.61832
CHO2	YGR157W	5	14	5	45.125	100	72.72727	51.47929	38.79518
RPL26B	YGR034W	5	14	6	28.58617	100	16.64168	61.95122	54.43038
	YGR154C	5	14	7	40.74505	100	45.69288	31.81818	20
FMP17	YGR033C	5	14	8	46.90832	100	-6.56934	62.35294	53.96825
TOS10	YGR153W	5	14	9	49.45598	100	9.355247	72.52747	45.83333
GSC2	YGR032W	5	14	10	53.41556	100	-8.59649	72.90323	61.83575
RSR1	YGR152C	5	14	11	46.04605	51.92308	11.37088	47.50542	59.47242
	YGR031W	5	14	12	54.31034	72.9783	8.62069	50.45249	42.98441
	YGR151C	5	14	13	41.92186	25.62396	-3.75865	37.87529	45.08929
MSP1	YGR028W	5	14	14	35.30895	26.0101	22.90749	47.25537	59.95526
	YGR149W	5	14	15	54.35185	29.53737	5.125977	42.23433	55.37757

RPS25A	YGR027C	5	14	16	61.53846	68.08036	59.91649	74.27885	72.90749
RPL24B	YGR148C	5	14	17	44.12331	73.40426	58.16062	28.91892	58.00464
	YGR026W	5	14	18	52.06136	79.59641	22.86357	34.69388	61.74497
	YGR146C	5	14	19	52.14133	66.56977	60.07533	28.44639	64.35644
	YGR025W	5	14	20	40.05525	-1.88679	51.79487	20.73864	45.51887
THI4	YGR144W	5	14	21	41.39265	25.97087	-12.4894	33.95722	61.0245
MTL1	YGR023W	5	14	22	58.28516	-20.4724	-7.42534	33.42105	60.56034
SKN1	YGR143W	5	14	23	45.10121	-28.25	4.060018	-9.93228	75.44248
HIS3	YOR202W	5	14	24	44.54638	-29.0484	2.361005		
HIS3	YOR202W	5	15	1	58.97436	-9.74265	-14.6943		
	YGL059W	5	15	2	54.10628	22.49489	25.02317		
	YGL199C	5	15	3	62.32508	100	17.03704		
RAD6	YGL058W	5	15	4	46.8948	25.37313	24.4314		
YIP4	YGL198W	5	15	5	24.31259	100	19.42369		
	YGL057C	5	15	6	26.54746	100	-19.914		
MDS3	YGL197W	5	15	7	33.65517	98.5119	18.36327		
SDS23	YGL056C	5	15	8	41.04046	70.94474	6.946984		
	YGL196W	5	15	9	59.03285	73.29377	14.53901		
ERV14	YGL054C	5	15	10	49.57447	72.1374	52.84916		
GCN1	YGL195W	5	15	11	47.60614	67.61062	17.52464		
PRM8	YGL053W	5	15	12	56.61626	68.96552	71.52406		
HOS2	YGL194C	5	15	13	51.4947	-19.0099	28.79098		
MST27	YGL051W	5	15	14	46.7425	72.85714	17.60204		
GTS1	YGL181W	5	15	15	60.43643	73.61702	58.60374		
	YGL050W	5	15	16	43.35206	33.26531	44.88501		
ATG1	YGL180W	5	15	17	40.97087	44.16404	-18.4091		
	YGL046W	5	15	18	47.88214	65.20376	76.16633		
TOS3	YGL179C	5	15	19	52.62636	9.160305	3.71308		
RIM8	YGL045W	5	15	20	77.09924	75.13043	69.07124		
	YGL177W	5	15	21	61.68133	74.4836	61.12703		
DST1	YGL043W	5	15	22	62.36162	65.60976	68.93204		
	YGL176C	5	15	23	37.08738	5.21327	3.435115		
HIS3	YOR202W	5	15	24	-28.7356	17.46231	32.45357		
HIS3	YOR202W	5	16	1	44.44444	8.67052	42.10526		
HIS3	YOR202W	5	16	2	30.75769	41.79266	40.11142		
HIS3	YOR202W	5	16	3	11.3089	30.08739	53.60231		
HIS3	YOR202W	5	16	4	-17.5627	53.74532	21.43541		
HIS3	YOR202W	5	16	5	-1.6	15.43274	13.41571		
HIS3	YOR202W	5	16	6	-1.80624	41.29721	72.40705		
HIS3	YOR202W	5	16	7	12.82468	-0.26212	24.52555		
HIS3	YOR202W	5	16	8	15.41916	26.48352	26.03627		
HIS3	YOR202W	5	16	9	56.31529	37.91946	38.5214		
HIS3	YOR202W	5	16	10	22.60749	9.810875	29.08623		

HIS3	YOR202W	5	16	11	43.20594	20.57522	59.84556		
HIS3	YOR202W	5	16	12	36.84677	39.77798	0.991736		
HIS3	YOR202W	5	16	13	60.77547	60.77441	41.14471		
HIS3	YOR202W	5	16	14	54.96922	56.61047	41.24597		
HIS3	YOR202W	5	16	15	34.22877	21.75141	10.55276		
HIS3	YOR202W	5	16	16	42.06081	60.46512	-1.18343		
HIS3	YOR202W	5	16	17	58.82908	62.5947	34.48873		
HIS3	YOR202W	5	16	18	30.41988	48.4767	38.28571		
HIS3	YOR202W	5	16	19	36.21399	61.92171	55.55556		
HIS3	YOR202W	5	16	20	49.16388	69.87296	20.76765		
HIS3	YOR202W	5	16	21	54.4757	67.08438	51.3465		
HIS3	YOR202W	5	16	22	60.84071	19.79638	35.44415		
HIS3	YOR202W	5	16	23	47.14612	42.73084	6.105263		
HIS3	YOR202W	5	16	24	-11.3797	20.47325	16.15691		
HIS3	YOR202W	6	1	1	69.05291	77.73689			
HIS3	YOR202W	6	1	2	48.08044	-8.41622			
HIS3	YOR202W	6	1	3	#DIV/0!	15.70319			
HIS3	YOR202W	6	1	4	25.19824	35.3187			
HIS3	YOR202W	6	1	5	7.403315	14.0625			
HIS3	YOR202W	6	1	6	11.9403	26.12482			
HIS3	YOR202W	6	1	7	39.91597	0.927835			
HIS3	YOR202W	6	1	8	12.69841	22.14567			
HIS3	YOR202W	6	1	9	82.72251	10.04785			
HIS3	YOR202W	6	1	10	8.759757	2			
HIS3	YOR202W	6	1	11	92.74673	24.29501			
HIS3	YOR202W	6	1	12	40.86511	-20.4706			
HIS3	YOR202W	6	1	13	3.618421	1.940639			
HIS3	YOR202W	6	1	14	7.508834	-20.0328			
HIS3	YOR202W	6	1	15	-16.4397	0.220994			
HIS3	YOR202W	6	1	16	45.65702	8.011583			
HIS3	YOR202W	6	1	17	26.36684	16.03289			
HIS3	YOR202W	6	1	18	30.39486	19.9			
HIS3	YOR202W	6	1	19	4.193548	12.73743			
HIS3	YOR202W	6	1	20	55.07777	26.24647			
HIS3	YOR202W	6	1	21	32.39203	13.56899			
HIS3	YOR202W	6	1	22	49.70356	10.81731			
HIS3	YOR202W	6	1	23	13.64929	13.36538			
HIS3	YOR202W	6	1	24	-11.1836	22.24797			
HIS3	YOR202W	6	2	1	41.95545	66.19718			
SSF1	YHR066W	6	2	2	57.93991	15.54227		-16.9412	13.26531
SVP26	YHR181W	6	2	3	89.3617	#DIV/0!		16.27358	26.68394
GIC1	YHR061C	6	2	4	#DIV/0!	24.88038		25	23.52941
	YHR180W	6	2	5	36.46724	17.14286		45.75835	63.08725

FYV4	YHR059W	6	2	6	44.40497	8.16092	31.97115	-1.2945
OYE2	YHR179W	6	2	7	48.69029	16.44399	49.22737	18.93491
CPR2	YHR057C	6	2	8	17.23108	7.369403	67.37213	25.68306
STB5	YHR178W	6	2	9	98.17008	#DIV/0!	50.10571	29.13165
SMF2	YHR050W	6	2	10	59.75774	19.04287	58.97921	23.5589
FMO1	YHR176W	6	2	11	100	#DIV/0!	55.35354	6.944444
FSH1	YHR049W	6	2	12	8.547889	-13.9032	67.52768	19.21053
ATG7	YHR171W	6	2	13	31.19171	21.22699	64.01515	14.73684
	YHR049C-A	6	2	14	23.7911	8.833922	2.01005	-6.68693
THP2	YHR167W	6	2	15	25.74917	1.666667	64.40972	3.480278
	YHR048W	6	2	16	65.6644	27.95181	57.65306	20.05208
SOL3	YHR163W	6	2	17	42.23035	30.84261	69.52381	9.405941
AAP1'	YHR047C	6	2	18	41	35.08772	66.22889	14.87805
	YHR162W	6	2	19	45.86729	-0.29851	56.27451	45.28796
INM1	YHR046C	6	2	20	61.2069	36.32075	37.84278	22.87234
YAP1801	YHR161C	6	2	21	47.02653	21.58155	59.28854	28.76344
	YHR045W	6	2	22	34.31517	4.249292	71.92225	13.05638
PEX18	YHR160C	6	2	23	-16.1602	5.08326	58.83534	17.75457
HIS3	YOR202W	6	2	24	26.75159	-10.4242		
HIS3	YOR202W	6	3	1	-31.906	23.6417		
PBP1	YGR178C	6	3	2	29.64492	11.95559	43.3584	23.27189
SHU1	YHL006C	6	3	3	87.19677	93.65854	45.4955	26.44628
ATF2	YGR177C	6	3	4	#DIV/0!	#DIV/0!	33.19756	14.72684
	YHL005C	6	3	5	-5.6338	1.360544	-52.9412	2.588997
	YGR176W	6	3	6	42.46285	-20.7442	61.76471	26.85714
LAG1	YHL003C	6	3	7	70.51836	6.923838	47.7396	31.15727
CBP4	YGR174C	6	3	8	16.14679	21.9419	24.27184	16.30769
HSE1	YHL002W	6	3	9	#DIV/0!	-0.71795	32.00795	11.45251
RBG2	YGR173W	6	3	10	79.38144	33.13783	46.39175	18.09524
COS6	YGR295C	6	3	11	-18.8906	6.461864	69.5122	20.88773
PSD2	YGR170W	6	3	12	-26.6881	5.681818	30.93023	26.91131
	YGR290W	6	3	13	14.42516	3.657363	64.79592	10
PUS6	YGR169C	6	3	14	15.07538	1.214953	54.67197	0.842697
MAL13	YGR288W	6	3	15	45.14388	23.37917	54.36893	18.95604
	YGR168C	6	3	16	94.77521	0.269058	46.55532	11.2532
	YGR287C	6	3	17	91.54286	-5.73689	68.9013	8.28877
KRE11	YGR166W	6	3	18	62.3431	43.37748	56.31769	8.461538
BIO2	YGR286C	6	3	19	65.88889	35.94937	44.71058	22.58065
	YGR164W	6	3	20	13.47737	-2.61194	32.67327	53.82883
ERV29	YGR284C	6	3	21	3.496503	1.888772	54.56204	13.11475
GTR2	YGR163W	6	3	22	45.91837	-7.86207	35.141	-4.5045
	YGR283C	6	3	23	30.90316	-4.24374	29.69072	38.25
HIS3	YOR202W	6	3	24	21.07574	-6.82635		

HIS3	YOR202W	6	4	1	-19.7389	14.52785		
KSP1	YHR082C	6	4	2	21.62791	37.9646	-1.62602	24.73118
RPN10	YHR200W	6	4	3	44.13462	-10.1545	45.12821	28.73563
LRP1	YHR081W	6	4	4	92.48705	#DIV/0!	26.88442	37.24832
FMP34	YHR199C	6	4	5	100	#DIV/0!	32.61339	31.75074
	YHR080C	6	4	6	15.70681	1.451906	61.28364	34.52381
FMP22	YHR198C	6	4	7	84.18757	43.77682	8.130081	51.58501
	YHR079C-B	6	4	8	21.26126	0.267618	60.18735	33.69176
NVJ1	YHR195W	6	4	9	100	#DIV/0!	17.1831	20.92308
IRE1	YHR079C	6	4	10	18.03885	23.33333	41.68514	25.7971
MDM31	YHR194W	6	4	11	40.15152	-11.8519	56.68317	24.07407
	YHR078W	6	4	12	31.52174	8.290816	70.88608	19.37173
EGD2	YHR193C	6	4	13	19.67681	-2.58621	48.59611	20.35398
NMD2	YHR077C	6	4	14	80.64919	1.06383	81.02041	34.68635
CTF8	YHR191C	6	4	15	79.90148	-27.8195	72.26415	37.76435
PTC7	YHR076W	6	4	16	100	#DIV/0!	31.67421	34.12463
PTH1	YHR189W	6	4	17	100	#DIV/0!	77.02448	33.61345
PPE1	YHR075C	6	4	18	90.02822	25	59.95976	47.12991
PFS1	YHR185C	6	4	19	47.50378	23.65196	64.22893	42.15686
OSH3	YHR073W	6	4	20	71.91393	-0.99404	23.92344	39.04762
SSP1	YHR184W	6	4	21	71.0076	-28.7356	33.56481	42.12034
HTD2	YHR067W	6	4	22	40.14156	56.32066	79.72973	56.54596
	YHR182W	6	4	23	45.1497	2.09205	60	49.50249
HIS3	YOR202W	6	4	24	10.92657	-11.6481		
HIS3	YOR202W	6	5	1	-23.1638	15.10554		
FYV8	YGR196C	6	5	2	-10.5263	24.12109	0	27.00297
OPI1	YHL020C	6	5	3	68.10229	60.4333	16.43836	73.40426
XKS1	YGR194C	6	5	4	62.88515	-0.41841	66.66667	30.61224
APM2	YHL019C	6	5	5	-11.8943	-4.15512	46.08879	30.59937
PDX1	YGR193C	6	5	6	86.79962	9.9631	70.72165	38.29114
	YHL017W	6	5	7	-5.98291	-24.9022	48.49785	51.25786
TDH3	YGR192C	6	5	8	38.80478	8.534323	45.06726	34.35374
DUR3	YHL016C	6	5	9	38.40206	-1.2	24.94172	35.52239
CRH1	YGR189C	6	5	10	14.64531	-14.1388	17.85064	40.70796
YLF2	YHL014C	6	5	11	14.75054	-22.7418	52.55624	46.73913
BUB1	YGR188C	6	5	12	51.89137	27.44681	66.7992	43.42508
	YHL013C	6	5	13	17.74976	0.726141	64.02027	43.54839
HGH1	YGR187C	6	5	14	82.50319	73.91304	25.10917	41.23077
	YHL012W	6	5	15	15.55334	-4.96454	43.31984	34.97268
UBR1	YGR184C	6	5	16	-25.7396	0.675024	67.65625	54.92228
	YHL010C	6	5	17	0.775194	-3.39943	74.43869	45.32164
QCR9	YGR183C	6	5	18	3.901437	-1.19826	54.04255	35.09934
YAP3	YHL009C	6	5	19	82.12121	81.84615	71.90635	45.66929

	YGR182C	6	5	20	89.11368	24.4898	37.0892	44.1791
	YHL008C	6	5	21	41.74136	-5.72687	63.98601	53.03867
TIM13	YGR181W	6	5	22	-15.4126	1.944444	58.7473	41.96429
STE20	YHL007C	6	5	23	74.44238	-4.19486	54.34298	59.61538
HIS3	YOR202W	6	5	24	15.5642	-18.3673		
HIS3	YOR202W	6	6	1	64.8824	28.09524		
YPT35	YHR105W	6	6	2	45.37037	-7.18085	40.11194	37.20317
	YIL006W	6	6	3	22.057	4.251012	22.86325	55.08685
GRE3	YHR104W	6	6	4	62.27545	13.35505	60.72144	41.61491
EPS1	YIL005W	6	6	5	74.25101	23.1441	55.37525	46.41745
SBE22	YHR103W	6	6	6	31.97625	-14.8284	74.53184	42.94118
INP51	YIL002C	6	6	7	63.02521	30.02833	67.51969	47.23926
	YHR097C	6	6	8	-4.14129	12.94886	49.71963	41.73913
	YIL001W	6	6	9	25.69948	-26.6487	20.76372	40.44586
HXT5	YHR096C	6	6	10	35.16854	8.213552	74.14966	44.94048
	YHR210C	6	6	11	10.26667	-1.86916	64.67066	40.25157
	YHR095W	6	6	12	63.15789	28.85431	58.37838	35.26171
	YHR209W	6	6	13	22.43902	-14.3606	58.33333	42.10526
HXT1	YHR094C	6	6	14	38.96761	22.95552	51.6129	44.57478
SET5	YHR207C	6	6	15	13.14103	1.533019	65.64626	34.22619
AHT1	YHR093W	6	6	16	44.3609	12.42604	38.94009	46.74556
SKN7	YHR206W	6	6	17	38.18182	8.143939	48.4787	42.31884
HXT4	YHR092C	6	6	18	-4.3956	-9.73558	30.20833	54.6875
MNL1	YHR204W	6	6	19	50.27563	1.559454	24.81928	48.52459
	YHR087W	6	6	20	25.83784	6.638567	49.87775	57.1875
RPS4B	YHR203C	6	6	21	57.74648	12.89474	-8.75706	47.09898
NAM8	YHR086W	6	6	22	-16.3842	-15.7044	14.52514	47.05882
	YHR202W	6	6	23	9.463415	4.612707	54.18502	51.26263
HIS3	YOR202W	6	6	24	15.70482	-8.11765		
HIS3	YOR202W	6	7	1	48.34846	24.70893		
TRX2	YGR209C	6	7	2	12.10191	5.590717	29.87013	37.61468
GOS1	YHL031C	6	7	3	69.85075	9.667674	37.91946	30.96927
SER2	YGR208W	6	7	4	19.68504	24.08377	40.96774	52.85088
ECM29	YHL030W	6	7	5	-16.2762	14.97093	53.79747	41.07486
	YGR207C	6	7	6	24.63519	1.864407	49.70414	63.74502
	YHL029C	6	7	7	46.06227	-3.21678	43.23529	62.5
	YGR206W	6	7	8	28.53567	-14.5119	41.74455	41.93548
WSC4	YHL028W	6	7	9	48.46491	35.99034	38.58521	47.17742
	YGR205W	6	7	10	54.29122	5.392912	36.21262	59.67413
RIM101	YHL027W	6	7	11	52.64516	-9.67742	36.07038	51.35699
	YGR203W	6	7	12	34.42623	6.666667	40.52478	45.81818
	YHL026C	6	7	13	1.802885	-5.62771	42.02899	51.86567
PCT1	YGR202C	6	7	14	9.600863	2.164948	35.62092	27.15517

SNF6	YHL025W	6	7	15	-3.51563	-4.00891	55.88235	70.05254
	YGR201C	6	7	16	-28.3862	-4.36548	58.7766	25.68627
RIM4	YHL024W	6	7	17	15.67308	-2.43094	38.4	37.99213
ELP2	YGR200C	6	7	18	36.12418	9.906292	25.66038	20.10724
RMD11	YHL023C	6	7	19	81.81818	-37.5635	26.08696	20.82324
PMT6	YGR199W	6	7	20	-11.5337	-1.93966	52.78592	55.34709
SPO11	YHL022C	6	7	21	-10.9091	-9.7561	52	58.93471
SNG1	YGR197C	6	7	22	-0.33557	-8.49315	58.85714	28.50972
FMP12	YHL021C	6	7	23	4.873803	-0.19029	59.18919	54.89796
HIS3	YOR202W	6	7	24	72.30624	-18.7586		
HIS3	YOR202W	6	8	1	47.11286	33.79924		
TOM71	YHR117W	6	8	2	25.02575	-4.22535	31.61905	45.50265
SNL1	YIL016W	6	8	3	78.89273	56.72515	51.05042	37.66234
COX23	YHR116W	6	8	4	51.89003	70.6422	2.222222	5.660377
BAR1	YIL015W	6	8	5	47.64919	-26.0606	56.41548	44.7619
DMA1	YHR115C	6	8	6	53.32569	-21.4824	56.71343	41.40127
	YIL015C-A	6	8	7	36.13527	16.70702	58.14889	52.88462
BZZ1	YHR114W	6	8	8	-13.2208	22.34637	62.92776	45.58824
MNT3	YIL014W	6	8	9	38.12677	7.126168	37.63441	45.99407
	YHR113W	6	8	10	29.53092	5.493274	53.24165	41.81818
PDR11	YIL013C	6	8	11	43.71585	-10.6178	71.11111	50.97403
	YHR112C	6	8	12	84.97738	27.7551	76.37655	58.78963
	YIL012W	6	8	13	40.45207	36.03276	12.55924	28.66044
UBA4	YHR111W	6	8	14	20.48872	3.596404	63.12741	39.78873
TIR3	YIL011W	6	8	15	-0.29028	5.927552	69.85646	40.12346
ERP5	YHR110W	6	8	16	22.62846	-3.11005	38.5439	41.6185
DOT5	YIL010W	6	8	17	48.8172	-10.4794	60.66116	29.20354
CTM1	YHR109W	6	8	18	49.77578	-10.1307	49.60784	42.49292
EST3	YIL009C-A	6	8	19	100	#DIV/0!	72.43948	55.95568
GGA2	YHR108W	6	8	20	24.4	3.02714	43.85027	41.12676
URM1	YIL008W	6	8	21	#DIV/0!	3.157895	-0.23474	33.44156
TRR2	YHR106W	6	8	22	93.01533	35.97561	68.75	46.36872
NAS2	YIL007C	6	8	23	9.613657	7.784986	60.30928	49.08616
HIS3	YOR202W	6	8	24	56.48352	28.25607		
HIS3	YOR202W	6	9	1	-31.8363	11.50362		
DIE2	YGR227W	6	9	2	28.32661	9.160305	9.677419	52.41379
ECM34	YHL043W	6	9	3	78.88493	29.96255	50.73529	48.49398
	YGR226C	6	9	4	-30.312	35.84071	47.58221	38.9881
	YHL042W	6	9	5	-12.5691	10.30928	46.04462	40.25559
AMA1	YGR225W	6	9	6	69.80256	24.46237	57.14286	45.39877
	YHL041W	6	9	7	27.17241	19.85816	66.60156	46.82779
AZR1	YGR224W	6	9	8	45.54538	11.2426	51.66667	43.38462
ARN1	YHL040C	6	9	9	59.47631	6.605923	67.55647	46.05263

HSV2	YGR223C	6	9	10	4.749568	7.092199	63.90977	44.68085
	YHL039W	6	9	11	60.54827	64.17749	24.47552	64.98516
TOS2	YGR221C	6	9	12	44.88	2.384106	51.17773	59.61538
	YHL037C	6	9	13	42.55319	2.320888	68.09211	42.38806
CCH1	YGR217W	6	9	14	37.33234	0.684932	20.59497	58.30721
MUP3	YHL036W	6	9	15	48.92704	24.78992	0	62.7451
RPS0A	YGR214W	6	9	16	20.17893	-13.9594	64.98195	55.76923
VMR1	YHL035C	6	9	17	51.08593	18.84058	28.31858	41.00295
RTA1	YGR213C	6	9	18	68.09701	18.78981	55.20833	46
SBP1	YHL034C	6	9	19	25.49203	-4.29864	29.32166	44.72934
SLI1	YGR212W	6	9	20	-6.62577	-2.5974	63.3218	44.32432
RPL8A	YHL033C	6	9	21	100	31.2566	44.25887	62.25806
	YGR210C	6	9	22	73.52342	-8.84692	66.10738	36.36364
GUT1	YHL032C	6	9	23	40.12876	-7.40375	64.80263	50.13405
HIS3	YOR202W	6	9	24	15.83333	-4.54087		
HIS3	YOR202W	6	10	1	3.56212	7.082153		
	YHR132W-A	6	10	2	72.89314	-25.4206	37.01431	41.16095
CAP2	YIL034C	6	10	3	36.9936	-4.60993	49.01961	46.83544
ECM14	YHR132C	6	10	4	38.8422	-4.07725	51.69173	41.73913
	YIL032C	6	10	5	10.16393	-12.7055	41.98312	35.19737
	YHR131C	6	10	6	10.83455	-6.81818	52.23881	37.6947
SSM4	YIL030C	6	10	7	67.30955	4.009434	43.36449	41.4557
	YHR130C	6	10	8	-2.28013	-6.95931	57.17092	43.73089
	YIL029C	6	10	9	57.79335	19.2429	43.96728	42.42424
ARP1	YHR129C	6	10	10	5.849269	-4.20354	53.70705	56.28931
	YIL028W	6	10	11	78.00183	44.50549	42.64392	40.28986
	YHR127W	6	10	12	#DIV/0!	-13.2248	64.07285	45.06173
KRE27	YIL027C	6	10	13	69.6347	27.33333	38.88025	32.14286
	YHR126C	6	10	14	#DIV/0!	3.663793	40.81633	40.9375
	YIL025C	6	10	15	86.02151	-2.86592	35.36804	51.93548
	YHR125W	6	10	16	44.26087	1.666667	55.96026	38.16568
	YIL024C	6	10	17	7.49543	-9.22921	63.81818	33.22884
NDT80	YHR124W	6	10	18	-22.5441	-7.28543	58.669	38.46154
	YIL023C	6	10	19	23.66149	20.82353	52.72408	62.07865
EPT1	YHR123W	6	10	20	39.07721	14.20983	35.9408	45.4023
HIS6	YIL020C	6	10	21	19.97828	5.357143	11.71717	54.54545
LSM12	YHR121W	6	10	22	74.03101	31.9797	40.26217	54.57227
VID28	YIL017C	6	10	23	86.88525	49.35622	58.46457	52.97158
HIS3	YOR202W	6	10	24	2.325581	-33.1852		
HIS3	YOR202W	6	11	1	-27.1	-3.33333		
KEL2	YGR238C	6	11	2	64.15981	40.92769	50.41186	62.6506
VPS29	YHR012W	6	11	3	-11.4311	3.889458	40.625	49.74874

	YGR237C	6	11	4	33.87097	9.346847	66.19385	59.84556
	YHR009C	6	11	5	32.1883	-9.15805	48.94068	22.86689
SPG1	YGR236C	6	11	6	55.39335	26.07595	32.021	38.97059
STP2	YHR006W	6	11	7	16.49602	-1.88679	15.31915	46.05678
	YGR235C	6	11	8	42.68657	-14.2195	51.55039	46.90265
GPA1	YHR005C	6	11	9	71.01449	38.30334	64.41948	38.53821
YHB1	YGR234W	6	11	10	0	-24.8109	49.6124	54.5977
NEM1	YHR004C	6	11	11	-9.85507	-4.46009	46.84838	32.43243
PHO81	YGR233C	6	11	12	27.5405	#DIV/0!	-42.4157	31.27036
	YHR003C	6	11	13	9.025916	-6.17647	22.28682	33.73494
PHB2	YGR231C	6	11	14	10.41041	35.71429	67.87879	51.50502
	YHR001W-							
QCR10	A	6	11	15	27.30085	49.12281	48.55196	33.73494
NAS6	YGR232W	6	11	16	7.897241	-1.88679	62.81834	43.40836
ARN2	YHL047C	6	11	17	12.10677	-17.6275	69.61806	50.2924
BNS1	YGR230W	6	11	18	57.24346	12.1118	52.77778	35.96215
	YHL046C	6	11	19	32.46445	-6.22797	47.25086	48.31461
SMI1	YGR229C	6	11	20	42.53028	-11.1237	21.97531	45.63107
	YHL045W	6	11	21	32.03215	-13.5103	36.14232	38.8724
	YGR228W	6	11	22	79.96255	-13.2231	39.81308	43.71429
	YHL044W	6	11	23	30.03831	-3.81041	66.56805	52.92683
HIS3	YOR202W	6	11	24	55.14365	-9.23567		
HIS3	YOR202W	6	12	1	60.13687	3.11042		
DSE2	YHR143W	6	12	2	85.13514	7.755102	42.7027	53.22196
PIG2	YIL045W	6	12	3	15.54455	-5.55556	30.49793	45.01511
CHS7	YHR142W	6	12	4	41.09712	-9.62025	63.47032	76.08069
AGE2	YIL044C	6	12	5	#DIV/0!	55.38462	49.38525	53.59281
	YHR140W	6	12	6	11.4053	5.957447	40.38835	33.33333
CBR1	YIL043C	6	12	7	55.75365	-15.8596	56.06362	48.46416
	YHR139C-A	6	12	8	32.13078	-7.43034	31.56733	52.42718
	YIL042C	6	12	9	-20	-6.98198	69.65649	58.14696
SPS100	YHR139C	6	12	10	62.81938	37.5	24.28198	44.3769
GVP36	YIL041W	6	12	11	76.82171	23.77622	12.64108	45.02924
	YHR138C	6	12	12	14.49407	3.852459	62.37942	52.85285
APQ12	YIL040W	6	12	13	-74.4361	30.74074	-53.6232	31.26935
ARO9	YHR137W	6	12	14	79.83725	61.82857	69.51788	50.3012
	YIL039W	6	12	15	62.1988	61.21437	44.66801	70.79646
SPL2	YHR136C	6	12	16	7.6	-15.711	3.023758	44.57143
NOT3	YIL038C	6	12	17	13.76518	-5.16039	53.79061	50.28409
YCK1	YHR135C	6	12	18	31.96315	-24.4159	30.16949	45.39749
PRM2	YIL037C	6	12	19	-0.51813	7.692308	30.67961	38.55422
WSS1	YHR134W	6	12	20	65.53819	6.627018	55.99251	40.84967
CST6	YIL036W	6	12	21	67.29249	-14.5522	26.89487	38.71951

NSG1	YHR133C	6	12	22	37.52809	-7.38758	29.6146	41.98251
CKA1	YIL035C	6	12	23	70.33986	-1.80905	0.316957	49.19169
HIS3	YOR202W	6	12	24	-22.0798	-15.7764		
HIS3	YOR202W	6	13	1	-11.167	8.347245		
	YGR259C	6	13	2	-12.5804	19.33934	51.55807	55.16432
	YHR029C	6	13	3	-3.10078	3.460621	65.14806	65.87302
GND2	YGR256W	6	13	4	-57.8415	2.047782	49.27835	47.53086
DAP2	YHR028C	6	13	5	100	#DIV/0!	51.52749	47.86885
	YGR250C	6	13	6	#DIV/0!	-9.63665	44.03292	35.87302
THR1	YHR025W	6	13	7	80.90999	30.54662	48.36272	40.78947
MGA1	YGR249W	6	13	8	65.26994	25.97403	54.37616	39.0625
	YHR022C	6	13	9	57.69882	2.636917	67.55408	51.35135
SOL4	YGR248W	6	13	10	24.65347	-6.74286	72.6297	49.4012
	YHR021W-							
ECM12	A	6	13	11	15.301	-16.7695	64.62094	43.76812
CPD1	YGR247W	6	13	12	37.35726	23.84259	57.38832	34.21829
RPS27B	YHR021C	6	13	13	23.219	53.35277	58.78525	62.9771
LSC2	YGR244C	6	13	14	31.88291	1.339829	32.29814	44.09222
ARG4	YHR018C	6	13	15	94.6213	23.31341	35.95238	56.8915
FMP43	YGR243W	6	13	16	100	#DIV/0!	38.22394	51.26582
YSC83	YHR017W	6	13	17	58.06452	27.14127	14.11531	43.94464
	YGR242W	6	13	18	13.57702	13.67807	47.67025	49.84709
YSC84	YHR016C	6	13	19	63.7644	5.711423	56.50685	40.36939
YAP1802	YGR241C	6	13	20	75.33742	35.54987	21.55172	38.55799
MIP6	YHR015W	6	13	21	32.36575	-12.531	51.65794	41.69014
PEX21	YGR239C	6	13	22	52.7551	-13.4783	48.93617	55.5205
SPO13	YHR014W	6	13	23	93.62055	-3.8835	13.42685	44.90358
HIS3	YOR202W	6	13	24	62.41921	-25.2		
HIS3	YOR202W	6	14	1	57.57813	6.226415		
	YHR159W	6	14	2	6.633166	14.14254	52.53333	56.25
	YIL059C	6	14	3	#DIV/0!	48.74851	48.27586	46.7354
KEL1	YHR158C	6	14	4	77.95656	46.23116	48.57143	49.21466
	YIL058W	6	14	5	4.505814	4.756243	52.41779	57.65766
REC104	YHR157W	6	14	6	71.949	37.5	62.42661	47.12644
	YIL057C	6	14	7	43.27765	-13.719	21.9457	45.06173
LIN1	YHR156C	6	14	8	#DIV/0!	1.85567	43.75	38.36858
	YIL056W	6	14	9	96.53751	43.03797	7.758621	39.11765
YSP1	YHR155W	6	14	10	66.16541	60.38961	53.22581	69.00585
	YIL055C	6	14	11	42.30263	-19.7733	24.46809	58.28402
RTT107	YHR154W	6	14	12	29.38596	13.28502	61.46435	32.13213
	YIL054W	6	14	13	76.92308	13.80597	57.87671	56.50888
SPO16	YHR153C	6	14	14	#DIV/0!	-0.42052	19.36937	58.07365
RHR2	YIL053W	6	14	15	100	29.82456	78.25397	67.53623

SPO12	YHR152W	6	14	16	-24.97	12.30487	-3.28283	40.89636
RPL34B	YIL052C	6	14	17	80.47445	25.55066	65.35836	48.11594
	YHR151C	6	14	18	5.98389	-2.92135	37.17949	46.0452
PCL7	YIL050W	6	14	19	22.37762	21.91304	66.77852	48.36066
PEX28	YHR150W	6	14	20	4.141104	-9.5986	67.58621	51.64557
DFG10	YIL049W	6	14	21	90.14658	-19.5402	38.84892	52
CRP1	YHR146W	6	14	22	#DIV/0!	20	60.81871	46.8599
SYG1	YIL047C	6	14	23	#DIV/0!	-12.0213	72.02473	54.35294
HIS3	YOR202W	6	14	24	52.14881	-16.775		
HIS3	YOR202W	6	15	1	17.64081	17.45201		
							missing colony	missing colony
BGL2	YGR282C	6	15	2	61.8202	-11.0353		
DOG1	YHR044C	6	15	3	100	52.34899	57.47126	61.45833
YOR1	YGR281W	6	15	4	78.36134	55.42169	35.16068	49.50739
DOG2	YHR043C	6	15	5	72.25	34.62322	26.28866	60.06006
SCW4	YGR279C	6	15	6	81.51476	22.72727	52.80172	59.64912
SRB2	YHR041C	6	15	7	44.45554	75.77143	63.87283	67.23164
RTT102	YGR275W	6	15	8	100	#DIV/0!	47.66537	53.65854
MSC7	YHR039C	6	15	9	54.98812	-7.98226	33.19058	59.93789
YTA7	YGR270W	6	15	10	46.26209	2.196532	39.9061	49.58678
PUT2	YHR037W	6	15	11	61.00094	47.83737	51.69811	62.42775
	YGR269W	6	15	12	86.69468	27.79661	60.77058	55.09642
	YHR035W	6	15	13	85.7248	54.35606	34.43983	58.82353
HUA1	YGR268C	6	15	14	100	#DIV/0!	56.90789	52.30352
PIH1	YHR034C	6	15	15	100	#DIV/0!	71.10187	49.34211
	YGR266W	6	15	16	59.30851	42.41908	50	48.57143
	YHR033W	6	15	17	13.0674	6.315789	47.62846	56.23342
	YGR263C	6	15	18	9.134615	28.28746	54.80944	40.67278
	YHR032W	6	15	19	60.0551	29.44039	75.07788	54.95283
APL6	YGR261C	6	15	20	100	91.93548	61.1479	45.01608
RRM3	YHR031C	6	15	21	-19.5046	46.95898	68.18182	50.79787
TNA1	YGR260W	6	15	22	100	57	45.37572	62.31579
SLT2	YHR030C	6	15	23	100	100	96	93.0446
HIS3	YOR202W	6	15	24	27.96781	30.81264		
HIS3	YOR202W	6	16	1	-5.54124	45.27151		
HIS3	YOR202W	6	16	2	-31.9066	-14.8315		
HIS3	YOR202W	6	16	3	98.8792	-10.1064		
HIS3	YOR202W	6	16	4	100	#DIV/0!		
HIS3	YOR202W	6	16	5	100	57.89474		
HIS3	YOR202W	6	16	6	-16.9649	5.070657		
HIS3	YOR202W	6	16	7	-5.51181	38.19302		
HIS3	YOR202W	6	16	8	-42.6065	22.54408		
HIS3	YOR202W	6	16	9	-30.5215	-10.7943		

HIS3	YOR202W	6	16	10	-10.3371	50.20188		
HIS3	YOR202W	6	16	11	1.058201	82.18487		
HIS3	YOR202W	6	16	12	-26.8437	-12.5749		
HIS3	YOR202W	6	16	13	76.1079	-4.39147		
HIS3	YOR202W	6	16	14	67.21854	29.96778		
HIS3	YOR202W	6	16	15	40.94755	-35.9322		
HIS3	YOR202W	6	16	16	-6.23946	-47.7801		
HIS3	YOR202W	6	16	17	-25.7895	21.68421		
HIS3	YOR202W	6	16	18	-62.5	42.48366		
HIS3	YOR202W	6	16	19	-28.6232	4.231975		
HIS3	YOR202W	6	16	20	-16.6052	-15.6627		
HIS3	YOR202W	6	16	21	-14	8.359133		
HIS3	YOR202W	6	16	22	73.93526	3.61991		
HIS3	YOR202W	6	16	23	81.84855	19.15285		
HIS3	YOR202W	6	16	24	-17.1533	11.75373		
HIS3	YOR202W	7	1	1	67.21992	28.32168		
HIS3	YOR202W	7	1	2	86.4392	-5.6713		
HIS3	YOR202W	7	1	3	23.47458	3.846154		
HIS3	YOR202W	7	1	4	48.44961	-3.59521		
HIS3	YOR202W	7	1	5	42.67327	57.10145		
HIS3	YOR202W	7	1	6	-17.0441	16.20553		
HIS3	YOR202W	7	1	7	28.16635	14.77273		
HIS3	YOR202W	7	1	8	-27.2727	9.08059		
HIS3	YOR202W	7	1	9	-12.5561	54.16667		
HIS3	YOR202W	7	1	10	39.39064	34.0564		
HIS3	YOR202W	7	1	11	-30.599	13.88565		
HIS3	YOR202W	7	1	12	20.63679	1.340861		
HIS3	YOR202W	7	1	13	-8.43882	6.535948		
HIS3	YOR202W	7	1	14	24.51759	4.500703		
HIS3	YOR202W	7	1	15	6.367583	84.41558		
HIS3	YOR202W	7	1	16	19.00826	11.20081		
HIS3	YOR202W	7	1	17	-3.27422	14.81481		
HIS3	YOR202W	7	1	18	1.708279	6.289308		
HIS3	YOR202W	7	1	19	8.425721	-7.38636		
HIS3	YOR202W	7	1	20	-6.74847	13.92857		
HIS3	YOR202W	7	1	21	31.10285	26.09542		
HIS3	YOR202W	7	1	22	13.66006	14.59035		
HIS3	YOR202W	7	1	23	45.5665	51.51515		
HIS3	YOR202W	7	1	24	9.128205	66.82627		
HIS3	YOR202W	7	2	1	96.8254	52.81501		
GZF3	YJL110C	7	2	2	56.41256	12.08791	50.7722	44.44444
	YJL215C	7	2	3	40.04044	30.33088	48.50746	30.3653
PRM10	YJL108C	7	2	4	46.50699	13.48206	27.04918	29.52646

HXT8	YJL214W	7	2	5	53.22425	13.00992	58.88031	48.52652
SET4	YJL105W	7	2	6	28.25651	3.69863	57.94393	21.26437
	YJL213W	7	2	7	27.58242	21.74888	-49.7908	21.55172
GSH1	YJL101C	7	2	8	85.38539	11.92053	42.89277	25.08591
OPT1	YJL212C	7	2	9	12.80992	59.89011	-2.5	21.843
LSB6	YJL100W	7	2	10	62.1978	22.4261	3.921569	25.23659
	YJL211C	7	2	11	23.29193	62.19839	44.03893	19.72789
CHS6	YJL099W	7	2	12	-22.0228	100	64.02116	51.84049
PEX2	YJL210W	7	2	13	-8.76963	20.84592	64.09736	21.05263
SAP185	YJL098W	7	2	14	#DIV/0!	9.722222	6.546275	13.55311
NUC1	YJL208C	7	2	15	14.57831	13.15789	4.450262	43.80403
BCK1	YJL095W	7	2	16	14.63845	-12.1027	42.93629	51.44928
	YJL207C	7	2	17	4.887715	-6.28571	48.54369	11.00324
KHA1	YJL094C	7	2	18	#DIV/0!	52.30769	23.42733	37.65432
	YJL206C-A	7	2	19	1.081081	20.92652	7.673267	35.59322
TOK1	YJL093C	7	2	20	14.37309	31.67203	33.66337	26.17647
	YJL206C	7	2	21	77.19101	9.939148	25.85366	19.66759
SIP4	YJL089W	7	2	22	2.115159	6.122449	45.26112	42.03297
RCY1	YJL204C	7	2	23	-3.40237	10.05435	45.05208	-16.5584
HIS3	YOR202W	7	2	24	-20.7024	0.859107		
HIS3	YOR202W	7	3	1	#DIV/0!	41.46341		
SEC28	YIL076W	7	3	2	46.1	26.05459	28.02057	33.33333
	YIR020C	7	3	3	76	39.46309	8.540925	23.00242
SER33	YIL074C	7	3	4	-1.98675	0.641026	38.24885	17.78846
MUC1	YIR019C	7	3	5	54.36433	-3.23213	24.37673	5.851064
SPO22	YIL073C	7	3	6	25.62241	13.48548	66.88034	23.48285
YAP5	YIR018W	7	3	7	9.766926	15.08951	31.81818	22.40896
HOP1	YIL072W	7	3	8	23.60319	18.85014	45.57692	22.93578
MET28	YIR017C	7	3	9	23.65591	-0.24213	56.71296	5.642633
PCI8	YIL071C	7	3	10	81.13208	-7.40741	55.72519	20.12195
	YIR016W	7	3	11	9.009009	-8.93417	19.90741	32.74336
MAM33	YIL070C	7	3	12	18.93096	36.64773	36.34361	33.01282
	YIR014W	7	3	13	0.743494	21.59091	67.2619	23.29193
	YIL067C	7	3	14	72.12121	40	5.263158	32.71605
GAT4	YIR013C	7	3	15	-2.31405	6.389452	20.9607	37.16814
RNR3	YIL066C	7	3	16	12.11656	18.31426	21.84874	23.00319
MSL1	YIR009W	7	3	17	10.98131	1.799486	70.96774	11.72638
FIS1	YIL065C	7	3	18	-9.37913	6.457926	30.50459	29.03226
	YIR007W	7	3	19	35.72241	61.1465	75.49909	33.86076
	YIL064W	7	3	20	56.47059	12.58741	13.26781	37.26027
IST3	YIR005W	7	3	21	21.17962	22.48804	21.91142	11.96013
	YIL060W	7	3	22	61.57205	12.5	53.22245	27.00297
	YIR003W	7	3	23	2.461899	8.888889	18.23417	58.12183

HIS3	YOR202W	7	3	24	10.28249	-2.43056		
HIS3	YOR202W	7	4	1	91.22894	44.98186		
	YJL131C	7	4	2	40.34582	40.41237	55.23013	31.54762
	YJR011C	7	4	3	63.83363	41.67852	65.8	50.73171
URA2	YJL130C	7	4	4	34.96933	-5.12821	24.34988	11.26761
MET3	YJR010W	7	4	5	30.52738	32.48882	38.75862	31.00304
PBS2	YJL128C	7	4	6	16.52893	26.27986	38.57143	13.55932
SPC1	YJR010C-A	7	4	7	36.55324	21.97036	53.99645	29.90937
NIT2	YJL126W	7	4	8	5.477032	15.48387	3.916449	33.44262
TDH2	YJR009C	7	4	9	28.49741	4.021938	21.05263	23.3463
LSM1	YJL124C	7	4	10	24.08066	32.89474	56.33188	53.05164
	YJR008W	7	4	11	17.26619	10.42471	38.8309	45.2381
	YJL123C	7	4	12	22.93465	5.741627	52.69565	-1.41343
APL1	YJR005W	7	4	13	12.9751	14.92537	15.29126	43.90244
	YJL122W	7	4	14	50.07299	23.17708	57.99087	21.59468
	YJR003C	7	4	15	63.1728	60.86106	66.95502	51.89504
RPE1	YJL121C	7	4	16	18.78669	18.04511	-18.4049	33.71648
AVT1	YJR001W	7	4	17	10.99476	25.61757	33.57843	27.96053
NCA3	YJL116C	7	4	18	59.79381	63.91639	45.80234	69.75806
	YJL218W	7	4	19	47.35849	20.72539	43.57143	17.61006
ASF1	YJL115W	7	4	20	98.2906	46.06061	32.02247	38.59649
	YJL217W	7	4	21	27.66571	15.75342	2.933985	46.88427
MDV1	YJL112W	7	4	22	26.49573	2.667893	36.17512	40
	YJL216C	7	4	23	60.93294	21.47239	62.83019	36.60714
HIS3	YOR202W	7	4	24	10.53985	13.31776		
HIS3	YOR202W	7	5	1	94.75728	59.76744		
PRK1	YIL095W	7	5	2	78.75116	7.55287	-25	27.75229
MGA2	YIR033W	7	5	3	36.9287	23.72671	35.71429	26.22951
RSM25	YIL093C	7	5	4	32.08661	55.48098	51.53374	37.82991
DAL3	YIR032C	7	5	5	35.91481	42.51884	16.15854	36.02694
	YIL092W	7	5	6	29.00609	53.43915	7.537688	29.73856
DAL7	YIR031C	7	5	7	20.44855	56.68016	54.48113	32.46269
ICE2	YIL090W	7	5	8	34.70874	0.4914	58.01527	59.46844
DCG1	YIR030C	7	5	9	19.6986	19.79167	23.52941	27.04626
	YIL089W	7	5	10	63.23988	47.27744	76.43885	37.58865
DAL2	YIR029W	7	5	11	14.18919	8.040201	13.59773	50.61728
AVT7	YIL088C	7	5	12	62.25681	37.7551	63.12057	52.25225
DAL4	YIR028W	7	5	13	16.35688	31.03448	50.73684	33.67347
	YIL087C	7	5	14	-5.01393	20.21403	46.15385	47.03704
DAL1	YIR027C	7	5	15	-5.39629	17.64168	27.89256	30.14184
	YIL086C	7	5	16	-7.90155	36.33721	28.18792	38.52941
MND2	YIR025W	7	5	17	10	10.29963	54.19708	41.15756
SDS3	YIL084C	7	5	18	52.07101	59.25926	25.54745	50.34014

GIF1	YIR024C	7	5	19	50.1827	24.02402	-16.9935	39.03904
AIR1	YIL079C	7	5	20	13.18807	9.850107	43.81551	42.54658
DAL81	YIR023W	7	5	21	19.95104	7.34767	3.669725	43.9759
	YIL077C	7	5	22	51.28866	8.558559	57.16912	48.21429
	YIR020W-B	7	5	23	#DIV/0!	9.756098	19.23077	32.34624
HIS3	YOR202W	7	5	24	41.2037	23.25581		
HIS3	YOR202W	7	6	1	78.79836	14.47903		
	YJL144W	7	6	2	61.86441	15.66485	43.37349	25.28409
CPR7	YJR032W	7	6	3	50.3937	28.07018	20.25316	55.58739
	YJL142C	7	6	4	28.24287	-5.76923	46.52632	47.52475
GEA1	YJR031C	7	6	5	24.57879	-0.51635	45.20833	48.83721
YAK1	YJL141C	7	6	6	26.79739	48.78049	56.35593	35.37906
	YJR030C	7	6	7	10.24793	14.2132	53.45912	25
YUR1	YJL139C	7	6	8	23.71245	-8.40517	50.5137	29.01024
	YJR026W	7	6	9	24.07045	9.837545	8.277405	44.98382
TIF2	YJL138C	7	6	10	69.2221	91.07143	10.84337	26.12903
BNA1	YJR025C	7	6	11	-3.47107	7.522124	38.26923	27.77778
GLG2	YJL137C	7	6	12	14.7644	17.56007	53.01418	35.36977
	YJR024C	7	6	13	4.563233	17.64005	25.30713	52.38095
RPS21B	YJL136C	7	6	14	15.54054	17.26027	39.82301	57.00935
REC107	YJR021C	7	6	15	-3.98352	13.03763	35.57312	45.30744
	YJL135W	7	6	16	21	42.25352	31.82898	42.35669
	YJR020W	7	6	17	8.734177	26.09442	25.79853	41.69279
LCB3	YJL134W	7	6	18	2.214022	11.20219	-3.60825	37.94212
TES1	YJR019C	7	6	19	17.50292	6.057692	40.20202	32.27848
MRS3	YJL133W	7	6	20	40	32.39437	22.22222	31.86441
	YJR015W	7	6	21	3.021978	-5.71429	22.76786	39.49843
	YJL132W	7	6	22	84.32203	-2.7027	11.95122	40.39548
RBF22	YJR014W	7	6	23	28.60169	-3.20856	22.42991	36.29032
HIS3	YOR202W	7	6	24	-1.16686	13.48624		
HIS3	YOR202W	7	7	1	70.38627	100		
	YIL110W	7	7	2	71.19658	61.49068	55.59772	46.34761
	YJL007C	7	7	3	93.60465	6.986028	44.80151	50.16077
	YIL108W	7	7	4	41.16251	35.38999	32.42507	40.96386
SYS1	YJL004C	7	7	5	38.02682	31.0559	12.1447	33.87755
PFK26	YIL107C	7	7	6	25.89499	26.93878	36.96099	50.55762
	YIR044C	7	7	7	15.69966	13.33333	40.49904	28.51711
LIT2	YIL105C	7	7	8	-19.9382	24.18646	61.99616	52.02703
	YIR043C	7	7	9	16.64753	0.80429	16.44144	36.39576
DPH1	YIL103W	7	7	10	45.90495	3.808354	20.75472	33.45588
	YIR042C	7	7	11	40.05305	37.74955	19.16667	27.42475
XBP1	YIL101C	7	7	12	45.02427	52.66525	29.51807	41.875
YPS6	YIR039C	7	7	13	47.30159	1.06296	52.513	45.67901

	YIL100W	7	7	14	9.791332	40.59701	27.0073	45.58824
GTT1	YIR038C	7	7	15	33.33333	27.8481	19.34732	45.31722
SGA1	YIL099W	7	7	16	58.51064	43.41148	21.0084	42.31975
HYR1	YIR037W	7	7	17	58.72443	6.591337	33.09693	40.06309
FMC1	YIL098C	7	7	18	40.58524	26.81704	44.05458	48.26498
	YIR036C	7	7	19	59.33962	54.50942	52.19298	57.14286
FYV10	YIL097W	7	7	20	39.49704	20.38043	44.54756	54.02299
	YIR035C	7	7	21	35.95506	12.08499	34.39024	50.14006
	YIL096C	7	7	22	72.13303	1.52439	31.73913	50.63694
LYS1	YIR034C	7	7	23	44.08602	15.04425	30.27027	51.65394
HIS3	YOR202W	7	7	24	7.416268	-5.85586		
HIS3	YOR202W	7	8	1	18.69723	39.24269		
FBP26	YJL155C	7	8	2	#DIV/0!	15.38462	38.06228	26.37076
ISY1	YJR050W	7	8	3	36.39876	18.91892	39.03226	26.58228
VPS35	YJL154C	7	8	4	74.57627	13.48315	46.95122	37.64906
UTR1	YJR049C	7	8	5	39.43503	7.02275	56.20915	53.15985
INO1	YJL153C	7	8	6	25.37764	7.416268	33.89831	35.59322
CYC1	YJR048W	7	8	7	18.87006	19.17808	43.2526	0.755668
	YJL152W	7	8	8	36.88525	14.54545	39.54984	53.83305
ANB1	YJR047C	7	8	9	6.464646	17.52669	33.33333	12.7182
SNA3	YJL151C	7	8	10	25.24138	32.75862	54.54545	55.51895
POL32	YJR043C	7	8	11	21.93732	45.77465	35.04823	30.26585
	YJL150W	7	8	12	4.289544	47.69231	44.27245	27.93792
GEF1	YJR040W	7	8	13	29.36963	13.41463	32.97101	38.88889
	YJL149W	7	8	14	11.68289	19.42509	44.55446	63.77246
	YJR038C	7	8	15	4.30839	12.39669	38.36478	11.59794
RPA34	YJL148W	7	8	16	7.035928	24.81645	54.07166	44.25532
	YJR037W	7	8	17	3.609626	5.263158	42.43243	19.87179
	YJL147C	7	8	18	1.108374	23.77778	37.93103	31.13006
HUL4	YJR036C	7	8	19	4.098361	15.64626	52.90698	43.52031
IDS2	YJL146W	7	8	20	74.18033	8.759124	39.75904	23.2816
RAD26	YJR035W	7	8	21	46.36943	16.57658	37.65432	15.38462
SFH5	YJL145W	7	8	22	37.78111	1.440922	42.5	52.66055
RAV1	YJR033C	7	8	23	4.76731	7.637232	40.95745	4.457364
HIS3	YOR202W	7	8	24	25.1087	19.5258		
HIS3	YOR202W	7	9	1	18.58887	25.14178		
GIN1	YIL130W	7	9	2	37.02943	-1.93452	43.68932	40
	YJL028W	7	9	3	30.58712	6.45463	48.1409	54.7619
MET18	YIL128W	7	9	4	32.09607	5.882353	17.40088	30.83004
	YJL027C	7	9	5	25.81281	41.72494	15.18987	31.74603
AYR1	YIL124W	7	9	6	-3.74332	20.3252	23.16258	31.04693
APS3	YJL024C	7	9	7	20.49037	-7.86517	19.01709	24.54874
SIM1	YIL123W	7	9	8	16.05839	19.26606	8.333333	37.54153

PET130	YJL023C	7	9	9	#DIV/0!	9.89011	58.95652	53.87205
QDR1	YIL120W	7	9	10	-4.57604	19.21739	56.73077	46.1039
	YJL022W	7	9	11	28.85572	23.63636	26.81913	37.63066
RPI1	YIL119C	7	9	12	-3.10559	6.392694	41.45383	50
	YJL021C	7	9	13	-8.75332	13.46154	14.35768	36.91275
PRM5	YIL117C	7	9	14	28.86836	20.67736	54.32526	39.93174
BBC1	YJL020C	7	9	15	3.195739	37.98257	20.66667	37
HIS5	YIL116W	7	9	16	2.056555	-7.05394	43.33959	56.231
	YJL017W	7	9	17	0.550964	17.93928	32.37251	53.07443
POR2	YIL114C	7	9	18	-6.98856	44.09769	9.375	46.70487
	YJL016W	7	9	19	18.33856	23.64486	26.18026	49.2163
SDP1	YIL113W	7	9	20	26.1157	21.40762	61.51079	49.56012
MAD3	YJL013C	7	9	21	11.37539	5.876393	36.83128	50
HOS4	YIL112W	7	9	22	13.04348	54.0797	63.40426	43.80952
VTC4	YJL012C	7	9	23	3.567447	17.21212	11.90053	44.64286
HIS3	YOR202W	7	9	24	7.015458	18.43532		
HIS3	YOR202W	7	10	1	2.817824	16.18759		
	YJL169W	7	10	2	50	25.0726	40	52.9274
LIA1	YJR070C	7	10	3	45.42484	47.19101	24.79784	28.57143
SET2	YJL168C	7	10	4	10.79235	38.93805	50	37.2434
HAM1	YJR069C	7	10	5	23.88202	8.042895	46.12476	46.10169
HAL5	YJL165C	7	10	6	4.98615	15.86777	56.02968	54.01929
NTA1	YJR062C	7	10	7	38.91892	12.80603	16.15925	40.58442
TPK1	YJL164C	7	10	8	59.27505	9.509658	30.52632	43.49206
	YJR061W	7	10	9	6.242775	53.78378	51.68142	34.96732
	YJL163C	7	10	10	17.86284	41.70854	40.88176	46.33333
CBF1	YJR060W	7	10	11	6.970509	43.51504	24.22907	31.76101
JJJ2	YJL162C	7	10	12	35.06787	2.045455	44.72656	33.91003
PTK2	YJR059W	7	10	13	3.985056	23.36283	44.27609	20.95588
FMP33	YJL161W	7	10	14	10.46512	22.45763	25.29274	44.96855
APS2	YJR058C	7	10	15	0.796813	18.4573	42.7957	52.75362
	YJL160C	7	10	16	14.71653	1.836394	66.99029	54.79452
	YJR054W	7	10	17	2.008032	21.5072	29.17505	50.64935
HSP150	YJL159W	7	10	18	6.367041	3.427419	46.54378	57.44048
BFA1	YJR053W	7	10	19	25.34884	12.39745	44.87395	59.29919
CIS3	YJL158C	7	10	20	34.88	18.85626	54.72062	36.9186
RAD7	YJR052W	7	10	21	1.3269	4.094828	48.61407	50.82508
FAR1	YJL157C	7	10	22	7.888889	15.49421	53.23475	44.57143
OSM1	YJR051W	7	10	23	60.32609	64.51204	15.12915	48.52547
HIS3	YOR202W	7	10	24	49.94325	9.752322		
HIS3	YOR202W	7	11	1	30.50847	28.31683		
ECM37	YIL146C	7	11	2	66.66667	8.396947	56.37664	52.20264
UBX6	YJL048C	7	11	3	43.94213	-14.5631	39.87342	45.01718

PAN6	YIL145C	7	11	4	-52.9321	16.48649	42.85714	40.13378
RTT101	YJL047C	7	11	5	8.873239	19.58763	31.97674	45.52239
	YIL141W	7	11	6	29.06611	-23.5131	40.18349	43.47826
	YJL046W	7	11	7	20.70646	37.72955	37.27506	31.34921
AXL2	YIL140W	7	11	8	22.20828	-4.35556	38.35878	38.98305
	YJL045W	7	11	9	16.02339	40.38128	49.57265	39.13043
REV7	YIL139C	7	11	10	13.7931	28.13688	56.81004	40
GYP6	YJL044C	7	11	11	14.2268	13.57309	40.33264	36.33441
TPM2	YIL138C	7	11	12	2.329193	28.07512	51.57116	40.46053
	YJL043W	7	11	13	9.243697	29.13817	26.94878	53.63636
RBF108	YIL137C	7	11	14	23.73114	36.82008	25.22936	43.05085
MHP1	YJL042W	7	11	15	10.98765	4.494382	32.22958	51.18343
VHS2	YIL135C	7	11	16	28.66407	34.38045	36.13861	61.53846
	YJL038C	7	11	17	8.75	26.32933	missing colony	missing colony
FLX1	YIL134W	7	11	18	-2.87443	56.10302	missing colony	missing colony
	YJL037W	7	11	19	-1.25	56.14035	36.6	53.74677
RPL16A	YIL133C	7	11	20	53.61596	35.44304	33.75315	50.60606
SNX4	YJL036W	7	11	21	7.957245	19.58763	45.62842	55.23466
CSM2	YIL132C	7	11	22	2.603037	8.495146	60.04016	54.74255
MAD2	YJL030W	7	11	23	40.09547	8.908046	41.54676	49.25
HIS3	YOR202W	7	11	24	50.7772	17.08483		
HIS3	YOR202W	7	12	1	29.54866	5.320946		
MNN5	YJL186W	7	12	2	42.78261	27.27273	34.19811	55.47074
	YJR087W	7	12	3	42.30769	4.819277	27.76413	48.36601
	YJL185C	7	12	4	2.597403	1.571709	22.64706	55.69231
CSN12	YJR084W	7	12	5	30.37037	62.37288	39.34426	45.63107
MNN11	YJL183W	7	12	6	30.12232	11.91336	16.53944	27.65957
ACF4	YJR083C	7	12	7	7.162534	26.88525	45.48944	44.40559
	YJL182C	7	12	8	11.82654	2.619048	54.37616	46.93878
EAF6	YJR082C	7	12	9	72.72727	21.2766	17.76765	26.23574
	YJL181W	7	12	10	11.87739	40.3393	24.62527	35.11706
FMP26	YJR080C	7	12	11	14.0118	42.43176	47.46094	28.57143
ATG27	YJL178C	7	12	12	-4.06291	6.024096	64.56559	47.1875
	YJR079W	7	12	13	17.31669	15.95547	8.796296	38.76923
SWI3	YJL176C	7	12	14	-2.23152	14.03941	47.60994	52.3511
BNA2	YJR078W	7	12	15	6.06488	7.85124	43.61314	50.15674
	YJL175W	7	12	16	24.26128	16.17162	55.66038	54.7619
MIR1	YJR077C	7	12	17	15.14243	11.15174	missing colony	missing colony
CPS1	YJL172W	7	12	18	9.447674	7.366483	missing colony	missing colony
HOC1	YJR075W	7	12	19	20.68966	13.39713	37.16667	18.83289

	YJL171C	7	12	20	10.09296	1.532567	66.06852	55.55556
MOG1	YJR074W	7	12	21	100	18.64407	45.03817	36.74121
ASG7	YJL170C	7	12	22	24.42334	12.29743	46.24277	50.96774
OPI3	YJR073C	7	12	23	11.94379	27.77778	45.43762	52
HIS3	YOR202W	7	12	24	41.21532	5.319149		
HIS3	YOR202W	7	13	1	40.48494	11.17021		
	YIL161W	7	13	2	15.14286	26.77643	52.83019	51.95531
DLS1	YJL065C	7	13	3	#DIV/0!	29.6875	45.93407	57.58427
POT1	YIL160C	7	13	4	45.6872	31.10368	36.60377	40.60914
	YJL064W	7	13	5	28.26667	5.202312	47.57282	45.27027
BNR1	YIL159W	7	13	6	-1.84843	8.832808	42.05817	53.94737
LAS21	YJL062W	7	13	7	23.75519	11.98428	33.81038	32.6087
FMP35	YIL157C	7	13	8	14.28571	33.42466	47.92453	38.32753
BNA3	YJL060W	7	13	9	-24.032	29.97481	22.64529	39.53488
UBP7	YIL156W	7	13	10	-11.6386	37.63654	23.79913	45.19231
YHC3	YJL059W	7	13	11	-17.4221	17.51527	38.55721	43.01471
GUT2	YIL155C	7	13	12	17.3913	11.9403	44.33594	49.67105
BIT61	YJL058C	7	13	13	-11.0795	29.35065	28.27443	42.08861
IMP2'	YIL154C	7	13	14	4.047218	39.75904	54.08163	50.49505
IKS1	YJL057C	7	13	15	18.25581	26.50602	50.18587	51.1976
RRD1	YIL153W	7	13	16	0.729927	24.69136	60.57143	55.52239
	YJL055W	7	13	17	14.20205	41.94286	68.68538	52.58216
	YIL152W	7	13	18	2.796272	8.505747	54.38871	50.40431
PEP8	YJL053W	7	13	19	18.78863	11	34.35374	49.86877
MLP2	YIL149C	7	13	20	12.11031	8.390646	61.02564	54.61957
	YJL051W	7	13	21	1.589103	14.63687	-9.74155	33.85827
RPL40A	YIL148W	7	13	22	53.26877	21.3245	64.02878	58.21326
	YJL049W	7	13	23	50.18821	29.16031	35.88342	57.3201
HIS3	YOR202W	7	13	24	58.17061	4.829211		
HIS3	YOR202W	7	14	1	63.00872	58.33333		
							missing colony	missing colony
ECM25	YJL201W	7	14	2	61.20219	57.51295		
YUH1	YJR099W	7	14	3	87.64045	45.97701	47.90528	78.50877
MBB1	YJL199C	7	14	4	54.54545	14.28571	41.07143	43.77358
	YJR098C	7	14	5	35.07463	31.21019	42.96675	47.4359
PHO90	YJL198W	7	14	6	39.6	23.25581	36.54971	50.32468
JJJ3	YJR097W	7	14	7	46.01367	33.06983	46.85714	53.89831
UBP12	YJL197W	7	14	8	28.5881	35.40252	52.11864	37.62712
	YJR096W	7	14	9	48.27586	18.48739	11.38952	40.20619
ELO1	YJL196C	7	14	10	40.72165	14.98881	52.9623	55.72755
SFC1	YJR095W	7	14	11	30.42105	44.85777	55.57491	55.79937
	YJL193W	7	14	12	15.91187	58.02752	63.87435	50.7837

	YJR094W-							
RPL43B	A	7	14	13	24.39024	17.30337	41.0148	57.47508
SOP4	YJL192C	7	14	14	19.07969	28.98172	58.31776	47.76119
IME1	YJR094C	7	14	15	20.5157	-19.4969	40.23904	44.72843
RPS14B	YJL191W	7	14	16	17.88991	21.91781	44.6184	43.0303
BUD4	YJR092W	7	14	17	0.566572	37.80822	2.941176	39.88764
RPS22A	YJL190C	7	14	18	16.21074	62.95652	34.81153	44.44444
JSN1	YJR091C	7	14	19	2.93772	9.213483	68.98396	51.55807
BUD19	YJL188C	7	14	20	25.9434	47.61905	61.65541	62.23404
							missing colony	missing colony
GRR1	YJR090C	7	14	21	2.5	17.51152		
SWE1	YJL187C	7	14	22	9.116809	36.12663	43.20298	57.57576
	YJR088C	7	14	23	24.08759	21.21849	24.59677	57.83366
HIS3	YOR202W	7	14	24	41.84615	26.16408		
HIS3	YOR202W	7	15	1	#DIV/0!	59.25926		
MPH1	YIR002C	7	15	2	87.13137	92.6813	67.81768	86.75079
ARG3	YJL088W	7	15	3	85.71429	13.63636	-4.4843	47.82609
SGN1	YIR001C	7	15	4	67.16004	18.35443	78.38384	56.63265
	YJL084C	7	15	5	15.33835	1.257862	71.42857	50.88235
VTH1	YIL173W	7	15	6	50.81967	3.539823	27.95181	44.01294
TAX4	YJL083W	7	15	7	100	14.44444	30.42453	45.50898
HXT12	YIL170W	7	15	8	3.655914	38.61386	46.43678	49.20128
PRY3	YJL078C	7	15	9	43.82434	9.034908	48.85932	51.81518
SDL1	YIL168W	7	15	10	27.82783	1.866667	56.79214	55.23256
ICS3	YJL077C	7	15	11	50	#DIV/0!	43.47826	47.05882
SDL1	YIL167W	7	15	12	49.10979	37.65625	44.86957	37.12375
JEM1	YJL073W	7	15	13	39.58944	34.4186	61.26984	51.62242
	YIL166C	7	15	14	26.89655	10.10753	30.5668	51.31195
ARG2	YJL071W	7	15	15	46.58019	20.70588	43.57639	55.25606
	YIL165C	7	15	16	8.586526	29.61117	42.25806	34.35754
	YJL070C	7	15	17	#DIV/0!	#DIV/0!	58.60735	52.38095
NIT1	YIL164C	7	15	18	16.57382	43.51464	43.79562	42.85714
	YJL068C	7	15	19	15.83893	25.38803	36.57143	52.48042
	YIL163C	7	15	20	29.8005	12.72523	50.97276	39.57055
	YJL067W	7	15	21	83.15789	12.82051	51.06762	51.23967
SUC2	YIL162W	7	15	22	62.38938	58.09399	56.30081	71.37014
MPM1	YJL066C	7	15	23	100	52.39295	24.70817	52.08791
HIS3	YOR202W	7	15	24	26.41682	19.68864		
HIS3	YOR202W	7	16	1	64.19375	60.17634		
HIS3	YOR202W	7	16	2	53.26223	52.27503		
HIS3	YOR202W	7	16	3	66.0177	50.63731		
HIS3	YOR202W	7	16	4	79.47598	28.82414		
HIS3	YOR202W	7	16	5	64.34464	13.6612		

HIS3	YOR202W	7	16	6	47.18693	68.96552	
HIS3	YOR202W	7	16	7	45.80645	13.23077	
HIS3	YOR202W	7	16	8	18.11847	12.21221	
HIS3	YOR202W	7	16	9	18.42697	40.94955	
HIS3	YOR202W	7	16	10	28.69565	3.991131	
HIS3	YOR202W	7	16	11	7.125	11.6129	
HIS3	YOR202W	7	16	12	14.28571	34.80519	
HIS3	YOR202W	7	16	13	18.98017	4.093567	
HIS3	YOR202W	7	16	14	34.59119	7.060334	
HIS3	YOR202W	7	16	15	28.6732	3.71179	
HIS3	YOR202W	7	16	16	14.25577	16.6419	
HIS3	YOR202W	7	16	17	13.66525	7.082631	
HIS3	YOR202W	7	16	18	13.37793	12.91793	
HIS3	YOR202W	7	16	19	10.91549	7.083333	
HIS3	YOR202W	7	16	20	18.45765	10.89744	
HIS3	YOR202W	7	16	21	45.99542	12.16216	
HIS3	YOR202W	7	16	22	10.17544	41.80704	
HIS3	YOR202W	7	16	23	27.27273	7.017544	
HIS3	YOR202W	7	16	24	45.1782	26.19664	
HIS3	YOR202W	8	1	1	45.05229	-6.91106	14.50665
HIS3	YOR202W	8	1	2	44.46154	-9.84916	-5.20059
HIS3	YOR202W	8	1	3	43.85867	-39.9306	32.7318
HIS3	YOR202W	8	1	4	53.1339	3.206997	52.21429
HIS3	YOR202W	8	1	5	12.36147	2.769231	24.53862
HIS3	YOR202W	8	1	6	-5.35714	55.84	32.94753
HIS3	YOR202W	8	1	7	15.19126	36.60856	41.71512
HIS3	YOR202W	8	1	8	42.17604	56.35088	29.60463
HIS3	YOR202W	8	1	9	67.53247	56.43777	12.43926
HIS3	YOR202W	8	1	10	67.56757	18.77667	35.83062
HIS3	YOR202W	8	1	11	53.53818	37.39946	27.3743
HIS3	YOR202W	8	1	12	15.06631	34.0035	29.27046
HIS3	YOR202W	8	1	13	3.79494	26.90355	13.40206
HIS3	YOR202W	8	1	14	40.56818	11.87335	22.51121
HIS3	YOR202W	8	1	15	57.78894	38.27655	35.64155
HIS3	YOR202W	8	1	16	27.92422	35.07326	9.867629
HIS3	YOR202W	8	1	17	20.88452	22.66895	-6.84262
HIS3	YOR202W	8	1	18	54.81728	81.04089	-19.0647
HIS3	YOR202W	8	1	19	34.74903	39.80848	52.96443
HIS3	YOR202W	8	1	20	71.2963	42.34496	16.11526
HIS3	YOR202W	8	1	21	59.15493	26.96477	18.91892
HIS3	YOR202W	8	1	22	40.06999	28.73167	14.99033
HIS3	YOR202W	8	1	23	34.61538	34.23729	4.540764
HIS3	YOR202W	8	1	24	65.3211	-3.96104	41.8251

HIS3	YOR202W	8	2	1	81.83242	-2.57681	1.926445		
	YKL187C	8	2	2	50.58078	44.42029	39.39962	32.48299	44.89796
TIF1	YKR059W	8	2	3	51.63934	26.20087	22.35023	58.14607	45.72193
ASH1	YKL185W	8	2	4	56.95652	20.05676	34.98294	32.81787	68.09211
GLG1	YKR058W	8	2	5	73.33333	39.39394	77.90927	51.82927	63.26531
SPE1	YKL184W	8	2	6	64.65781	44.07039	28.23834	40.97117	48.14815
RPS21A	YKR057W	8	2	7	-16.8397	33.8756	19.0027	-5.33981	41.48936
LOT5	YKL183W	8	2	8	3.497758	25.78829	-10.8668	8.490566	29.12621
TRM2	YKR056W	8	2	9	2.605571	42.49783	-16.3735	54.75819	24.41472
COY1	YKL179C	8	2	10	-6.31164	24.84277	-28.0047	9.145129	11.51316
RHO4	YKR055W	8	2	11	12.2	92.5641	34.71074	19.84283	-3.84615
STE3	YKL178C	8	2	12	-17.9798	39.556	-7.59878	50	24.3553
DYN1	YKR054C	8	2	13	-6.94215	-23.7864	-24.4395	57.23077	31.43713
	YKL177W	8	2	14	24.5977	51.96687	-6.63212	55.64356	21.13208
YSR3	YKR053C	8	2	15	51.58879	59.70149	19.23077	18.08696	8.67052
LST4	YKL176C	8	2	16	-17.1159	8.982036	22.17054	53.5545	12.3839
MRS4	YKR052C	8	2	17	-4.2654	32.95347	-22.9345	-26.1391	6.158358
ZRT3	YKL175W	8	2	18	-11.8896	41.41791	-15.71	44.09836	21.75325
	YKR051W	8	2	19	53.87205	52.01794	-8.44063	31.91057	30.27211
TPO5	YKL174C	8	2	20	11.27168	-26.4085	-21.2121	42.27769	29.12088
TRK2	YKR050W	8	2	21	52.22635	-52.6316	1.92	66.35514	19.70075
	YKL171W	8	2	22	55.52268	18.6863	24.49923	-14.0873	33.89356
FMP46	YKR049C	8	2	23	23.45013	17.15439	-7.00637	53.99408	29.41176
HIS3	YOR202W	8	2	24	-4.61394	45.74257	5.292479		
HIS3	YOR202W	8	3	1	77.77053	43.18026	54.49707		
STE24	YJR117W	8	3	2	37.9737	52.46964	15.62168	31.94707	48
LHS1	YKL073W	8	3	3	41.35338	14.43299	37.30018	45.63107	66.759
	YJR116W	8	3	4	67.26519	43.68231	13.57466	48.85621	59.13621
STB6	YKL072W	8	3	5	17.01932	-3.53753	8.333333	48.22804	55.7047
	YJR115W	8	3	6	40.6015	47.41306	35.41985	27.12177	49.68153
	YKL071W	8	3	7	-17.4377	27.1831	19.38895	32.08191	47.45223
	YJR111C	8	3	8	-1.29983	34.45378	11.57233	21.37405	33.78378
YMR1	YKL070W	8	3	9	53.76	34.73227	14.22222	41.41252	44.34251
	YJR110W	8	3	10	24.3	51.57438	10.53412	45.55556	30.59937
	YKL069W	8	3	11	29.15129	73.34184	84.73804	47.43833	34.53237
	YJR109C	8	3	12	50.0998	46.16322	11.73709	39.9287	52.53165
NUP100	YKL068W	8	3	13	-13.8372	49.23201	-3.20334	45.6964	41.98251
ABM1	YJR108W	8	3	14	21.16402	-8.8359	-19.5751	11.97917	45.97701
YNK1	YKL067W	8	3	15	18.12401	13.67713	40.66667	29.72536	36.61202
	YJR107W	8	3	16	53.07856	13.24111	20.84691	51.36364	34.27762
	YKL066W	8	3	17	14.43609	33.36291	-19.4444	22.62357	25.37764
ECM27	YJR106W	8	3	18	46.16588	32.03704	44.31487	38.4252	4.80226
YET1	YKL065C	8	3	19	18.92523	16.64932	-15.5303	63.85135	21.32132

URA8	YJR103W	8	3	20	44.63337	16.42764	-3.05206	30.64516	28.01205
MNR2	YKL064W	8	3	21	53.80282	72.75748	23.89381	55.33662	30.09404
	YJR100C	8	3	22	86.74242	82.75862	-38.0952	-12.1519	21.17347
	YKL063C	8	3	23	29.91612	34.69388	-1.86199	10.93474	22.12121
HIS3	YOR202W	8	3	24	-1.27157	30.16241	18.58491		
HIS3	YOR202W	8	4	1	55.04152	26.84022	92.16462		
LOS1	YKL205W	8	4	2	20.96944	10.60743	13.97616	58.05947	50.73314
ECM4	YKR076W	8	4	3	40.02134	-3.88802	89.98211	35.02538	39.93056
EAP1	YKL204W	8	4	4	63.63636	63.32046	68.16479	50.5423	61.48649
	YKR074W	8	4	5	18.34711	13.78866	-21.6718	21.55689	38.67596
	YKL202W	8	4	6	68.52497	39.60703	49.83713	44.55285	60.625
SIS2	YKR072C	8	4	7	49.41374	43.75	5.211726	17.44966	54.03509
MNN4	YKL201C	8	4	8	31.61094	33.33333	11.06195	50	44.8505
	YKR070W	8	4	9	36.0799	56.79724	52.63158	43.44123	26.96246
	YKL200C	8	4	10	12.30159	-29.5259	39.11472	13.78556	53.96226
MET1	YKR069W	8	4	11	-8.92308	-60.4683	-16.7598	53.52113	39.52802
YKT9	YKL199C	8	4	12	-8.76993	19.39759	-8.48057	33.27172	30.22599
GPT2	YKR067W	8	4	13	8.901099	25.97403	-5.58036	62.43981	45.37037
PTK1	YKL198C	8	4	14	7.765957	-104.685	16.81196	53.44	41.12903
CCP1	YKR066C	8	4	15	11.76471	-33.9876	54.31655	14.14538	48.71795
PEX1	YKL197C	8	4	16	39.92322	9.364909	15.25424	51.05008	46.45161
FMP18	YKR065C	8	4	17	7.863696	-19.9422	-10.1563	48.40764	31.76101
DPH2	YKL191W	8	4	18	10.31866	-41.8564	25.42694	62.98246	43.91892
	YKR064W	8	4	19	60.96257	43.52792	14.04255	40.76539	36.93182
CNB1	YKL190W	8	4	20	62.97094	36.52393	25.433	44.5993	42.38411
KTR2	YKR061W	8	4	21	58.00712	13.30561	-9.11602	54.01929	28.18182
PXA2	YKL188C	8	4	22	35.51968	28.81773	21.79837	60.33287	32.96703
UTP30	YKR060W	8	4	23	27.14552	64.75196	18.79699	17.24138	42
HIS3	YOR202W	8	4	24	3.157895	41.8738	-8.17236		
HIS3	YOR202W	8	5	1	40.67914	10.03135	73.37017		
STR2	YJR130C	8	5	2	-18.018	11.35242	69.62025	36.64688	52.6455
	YKL091C	8	5	3	17.26354	33.45227	71.01911	51.24611	68.62745
	YJR129C	8	5	4	17.38516	45.05777	7.047619	43.04267	66.8693
CUE2	YKL090W	8	5	5	68.21429	76.63043	77.35849	53.01205	65.16854
	YJR128W	8	5	6	9.198813	-4.51128	26.82927	51.52488	55.36913
SRX1	YKL086W	8	5	7	36.52778	28.06324	11.36364	37.33583	66.88742
ZMS1	YJR127C	8	5	8	45.99057	-13.6364	28.89096	64.297	57.96178
MDH1	YKL085W	8	5	9	1.984127	21.48481	21.45624	47.61092	30.10753
VPS70	YJR126C	8	5	10	21.26068	53.43008	36.52393	56.27063	53.92857
HOT13	YKL084W	8	5	11	3.282532	28.00954	5.555556	64.61295	41.86747
ENT3	YJR125C	8	5	12	24.79339	44.0625	-29.3706	58.13953	37.62376
TEF4	YKL081W	8	5	13	16.76587	38.96499	-5.88235	-9.69388	48.14815
	YJR124C	8	5	14	-9.36073	22.56236	32.5779	60.5	46.25407

SMY1	YKL079W	8	5	15	12.48721	36.84211	-13.3333	20.33272	48.97361
ATP2	YJR121W	8	5	16	14.69501	36.41364	45.84352	50.83682	47.74436
	YKL077W	8	5	17	44.24084	62.60237	59.59916	33.92857	33.61702
	YJR120W	8	5	18	18.13677	48.06867	1.362862	55.64388	56.69782
PSY1	YKL076C	8	5	19	34.68586	91.72662	55.4007	51.14504	45.32578
	YJR119C	8	5	20	66.50485	76.90722	6.521739	37.4	27.68166
	YKL075C	8	5	21	6.634499	47.14687	-6.27306	13.46499	39.88095
ILM1	YJR118C	8	5	22	29.50237	38.79121	21.6895	8.163265	45.86207
MUD2	YKL074C	8	5	23	21.60714	62.55792	-12.6834	12.33333	45.28302
HIS3	YOR202W	8	5	24	2.07502	28.04995	22.24317		
HIS3	YOR202W	8	6	1	-5.01529	-39.916	81.5864		
SRY1	YKL218C	8	6	2	67.26384	35.19313	71.949	64.22018	80.19802
SRP40	YKR092C	8	6	3	40.38005	18.73199	46.54378	26.21564	60.16949
JEN1	YKL217W	8	6	4	24.26966	24.91429	62.89308	45.46952	68.50649
SRL3	YKR091W	8	6	5	41.68337	6.400966	16.11511	4.195804	63.31169
URA1	YKL216W	8	6	6	26.48026	2.755454	54.58996	39.28013	47.04142
PXL1	YKR090W	8	6	7	62.13275	61.05611	76.14424	58.96226	64.55696
	YKL215C	8	6	8	16.93811	14.74978	8.575198	15.7563	76.64671
STC1	YKR089C	8	6	9	-7.02055	50.63898	8.265425	61.85065	59.62963
YRA2	YKL214C	8	6	10	16.96721	34.81196	57.03704	27.94118	55.97668
TVP38	YKR088C	8	6	11	16.7263	39.44444	23.20819	55.99369	54.48916
DOA1	YKL213C	8	6	12	0	53.57143	-5.35714	69.8	48.97959
OMA1	YKR087C	8	6	13	39.05429	19.10966	71.35462	56.73077	66.10169
SAC1	YKL212W	8	6	14	44.57143	98.8345	59.01639	41.42857	50
HBS1	YKR084C	8	6	15	14.92674	39.17647	-3.53698	-4.97835	56.50685
TRP3	YKL211C	8	6	16	7.715431	33.20988	12.32877	57.84469	55.21472
NUP133	YKR082W	8	6	17	6.404494	18.87227	9.351145	25.97968	57.83133
CBT1	YKL208W	8	6	18	-1.7257	35.41667	78.51047	62.54682	28.0303
MTD1	YKR080W	8	6	19	15.69921	23.91094	58.32583	59.96785	35.24096
	YKL207W	8	6	20	65.61372	5.24109	68.79293	11.53846	40.83333
	YKR078W	8	6	21	2.983139	39.43355	66.99376	-17.6	36.54485
	YKL206C	8	6	22	17.5814	31.81395	13.19623	18.13285	61.87845
	YKR077W	8	6	23	12.41643	38.921	23.40234	55.35957	46.01542
HIS3	YOR202W	8	6	24	-3.86304	23.60122	13.77304		
HIS3	YOR202W	8	7	1	12.87247	56.2568	94.42834		
HMS2	YJR147W	8	7	2	20.21277	24.54175	60.43084	10.54545	62.27545
LAP4	YKL103C	8	7	3	61.24352	78.57848	34.47537	60.55046	85.47297
	YJR146W	8	7	4	66.29213	61.9403	64.97696	43.17343	71.09375
	YKL102C	8	7	5	11.17764	50.39474	20.9622	56.43879	69.33333
RPS4A	YJR145C	8	7	6	46.36234	-3.73027	59.68	50.16234	63.12057
HSL1	YKL101W	8	7	7	78.71287	57.43175	60.96738	61.5894	79.76654
	YJR142W	8	7	8	23.73596	55.44676	41.05392	43.73089	69.77492
	YKL100C	8	7	9	45.78488	30	67.04663	62.7095	62.22222

HIR3	YJR140C	8	7	10	22.78978	9.049774	65.4023	33.26226	45.59271
	YKL098W	8	7	11	19.78764	49.6904	47.82097	27.93834	58.80282
HOM6	YJR139C	8	7	12	28.65672	54.16316	62.36125	71.9457	71.25
	YKL097C	8	7	13	15.85366	27.77778	73.87802	50.91514	46.59498
ECM17	YJR137C	8	7	14	10.3664	44.67178	14.57431	63.68794	56.81063
	YKL096W-								
CWP2	A	8	7	15	37.02703	74.50658	69.56522	68.42105	66.01942
MCM22	YJR135C	8	7	16	-3.44186	7.191448	60.89194	49.92413	57.71605
CWP1	YKL096W	8	7	17	21.97962	20.54507	16.26928	-58.3535	28.79257
SGM1	YJR134C	8	7	18	9.090909	30.58608	22.92645	36.08903	42.71186
YJU3	YKL094W	8	7	19	11.46667	44.23841	67.42671	54.48505	59.43396
XPT1	YJR133W	8	7	20	-4.63918	46.21212	22.77121	52.26586	53.73134
MBR1	YKL093W	8	7	21	76.68213	84.30657	79.70353	58.80682	82.97101
MNS1	YJR131W	8	7	22	30.15707	33.90805	24.24917	-16.4179	52.86195
BUD2	YKL092C	8	7	23	45.51724	53.22751	41.35189	43.31984	62.11699
HIS3	YOR202W	8	7	24	7.840532	38.31672	-9.48396		
HIS3	YOR202W	8	8	1	22.15909	40.68413	45.10903		
	YKR012C	8	8	2	37.81513	16.13162	16.10979	24.37137	67.68293
NFT1	YKR103W	8	8	3	81.69717	75.99068	63.39286	63.7037	72.90323
TOS5	YKR011C	8	8	4	75.07163	58.78788	65.94203	-3.98323	68.06452
FLO10	YKR102W	8	8	5	46.72775	19.86628	75.78397	32.76596	64.64286
TOF2	YKR010C	8	8	6	44.27673	10.68323	6.146179	3.448276	66.77215
SIR1	YKR101W	8	8	7	52.87234	63.83285	61.57025	36.36364	70.06803
FOX2	YKR009C	8	8	8	31.85185	54.43841	30.12295	40.92593	68.51211
SKG1	YKR100C	8	8	9	62.80255	59.45355	66.29213	5.62249	73.95498
MEH1	YKR007W	8	8	10	15.98712	16.37487	26.14476	36.93878	66.79245
BAS1	YKR099W	8	8	11	55.18717	62.5	74.42573	22.01646	69.57929
	YKR005C	8	8	12	17.87565	31.8612	65.75	45.56575	51.5625
UBP11	YKR098C	8	8	13	62.35078	70.13783	66.34921	-13.5468	66.46154
OSH6	YKR003W	8	8	14	15.38462	32.19557	4.101839	49.03537	48.17276
PCK1	YKR097W	8	8	15	17.34961	32.02545	69.25373	50.79595	63.47305
VPS1	YKR001C	8	8	16	33.55049	48.22804	52.11268	28.71452	53.90071
	YKR096W	8	8	17	13.30604	22.02797	23.12312	25.78125	55.58739
	YKL222C	8	8	18	21.88217	43.18182	31.06436	55.55556	57.27273
MLP1	YKR095W	8	8	19	21.23162	31.95777	53.28767	50.08	64.60674
MCH2	YKL221W	8	8	20	39.75535	83.41121	54.74138	56.39731	54.24242
RPL40B	YKR094C	8	8	21	20.71636	46.46878	15.36313	66.76971	65.78947
FRE2	YKL220C	8	8	22	61.89918	20.39711	18.18182	53.59661	63.27684
PTR2	YKR093W	8	8	23	42.91667	43.89562	17.2144	57.12329	63.1016
HIS3	YOR202W	8	8	24	29.00763	13.87407	21.50644		
HIS3	YOR202W	8	9	1	22.96374	18.66567	83.00349	42.37013	67.61006
LAC1	YKL008C	8	9	2	25.13312	80.61674	32.28571	18.75	77.55102
OAC1	YKL120W	8	9	3	51.17878	72.31638	66.57224	5.934066	72.22222

CAP1	YKL007W	8	9	4	49.40476	62.62815	37.70779	46.47239	65.9176
SBA1	YKL117W	8	9	5	21.65109	78.23303	32.75862	46.68008	56.38767
RPL14A	YKL006W	8	9	6	56.65829	52.41546	10.66667	48.70968	76.36364
PRR1	YKL116C	8	9	7	41.51309	34.42164	41.99815	19.54733	50
BYE1	YKL005C	8	9	8	27.27273	33.12883	#DIV/0!	62.7907	73.8806
	YKL115C	8	9	9	57.11086	61.65803	65.78947	59.81595	48.13559
MET14	YKL001C	8	9	10	13.7163	0.755668	76.26582	62.01991	67.30769
APN1	YKL114C	8	9	11	27.07182	44.09302	53.61446	57.3913	61.95965
	YJR154W	8	9	12	33.55394	22.34469	16.18382	34.79125	57.97665
RAD27	YKL113C	8	9	13	58.82353	#DIV/0!	49.0566	53.61272	62.53776
PGU1	YJR153W	8	9	14	75.08772	50.94017	69	-33.9483	65.19824
KT112	YKL110C	8	9	15	35.35354	56.16798	7.929515	6.535948	53.7415
DAL5	YJR152W	8	9	16	24.821	32.23481	69.02738	65.2439	47.12644
HAP4	YKL109W	8	9	17	15.74864	20.74789	28	50.40388	50.3125
DAN1	YJR150C	8	9	18	18.15642	#DIV/0!	19.25926	61.7284	58.28221
	YKL107W	8	9	19	39.68254	72.72727	40.54054	42.65176	67.17791
	YJR149W	8	9	20	59.1	60.99585	61.95373	-18.9796	59.61538
AAT1	YKL106W	8	9	21	33.16541	52.63158	71.04796	46.2203	67.69231
BAT2	YJR148W	8	9	22	46.19883	52.10793	97.36842	-8.8015	55.94595
	YKL105C	8	9	23	12.64957	58.07478	-1.36054		
HIS3	YOR202W	8	9	24	-2.65423	9.518717	16.16702		
HIS3	YOR202W	8	10	1	64.07821	60.78886	94.79354		
DBP7	YKR024C	8	10	2	17.55319	2.845528	9.333333	62.39837	55.75221
PUF3	YLL013C	8	10	3	51.65563	1.671891	33.24709	34.14179	57.19178
	YKR023W	8	10	4	6.068163	21.55689	31.81149	36.55706	74.0625
YEH1	YLL012W	8	10	5	58.11856	72.35294	63.81381	54.31711	73.77049
	YKR021W	8	10	6	0.256191	3.963012	52.21893	46.89542	66.55738
PSR1	YLL010C	8	10	7	5.284016	32.61164	76.13883	38.48987	65.56291
VPS51	YKR020W	8	10	8	24.0865	23.64934	12.2871	-4.9763	43.7931
COX17	YLL009C	8	10	9	17.6	7.619048	100	53.09568	19.15709
IRS4	YKR019C	8	10	10	8.589512	28.85246	70.74031	-15.5388	40
	YLL007C	8	10	11	14.66049	8.584687	14.47178	0.520833	42.3221
	YKR018C	8	10	12	15.02976	7.430998	21.85592	53.33333	55.87302
MMM1	YLL006W	8	10	13	63.53093	#DIV/0!	60.69364	59.77528	65.59633
	YKR017C	8	10	14	36.34185	28.90792	74.93495	41.43731	54.77707
SPO75	YLL005C	8	10	15	20.35623	20.81218	67.76492	-2.1322	49.12791
FMP13	YKR016W	8	10	16	16.2465	18.39827	4.506699	44.70939	48.66667
RTT109	YLL002W	8	10	17	27.93988	41.41104	33.47548	16.55773	57.14286
	YKR015C	8	10	18	54.24354	34.03042	66.54135	49.46728	35.9736
DNM1	YLL001W	8	10	19	13.02083	17.19128	64.17489	11.97605	45.37037
YPT52	YKR014C	8	10	20	-28.658	32.7654	39.65245	59.65463	50.64103
	YKR106W	8	10	21	6.701807	30.16043	32.56433	29.37743	45.33333
PRY2	YKR013W	8	10	22	42.1466	35.3229	47.29858	53.69596	58.72576

	YKR105C	8	10	23	61.39241	66.56627	58.82353	63.10078	73.50427
HIS3	YOR202W	8	10	24	27.15947	61.05769	4.042806		
HIS3	YOR202W	8	11	1	51.20773	19.88389	69.8908		
	YKL030W	8	11	2	68.35222	41.9181	61.6095	32.37925	76.12903
	YKL136W	8	11	3	50.17341	19.45744	51.60256	53.22339	62.45955
MAE1	YKL029C	8	11	4	7.721519	-4.102	11.57456	19.84127	38.67596
	YKL133C	8	11	5	23.67788	77.57437	55.03597	30.97514	44.44444
	YKL027W	8	11	6	11.52263	0.915751	74.20635	4.117647	35.57692
RMA1	YKL132C	8	11	7	13.80186	60.61121	51.26263	34.12564	61.27946
GPX1	YKL026C	8	11	8	21.96796	37.91209	25.89499	52.39726	44.91228
	YKL131W	8	11	9	9.896324	32.30922	50.08547	39.29766	42.10526
PAN3	YKL025C	8	11	10	-9.2668	17.42331	38.94231	53.2925	51.63399
SHE2	YKL130C	8	11	11	-5.12273	18.95262	87.43068	-3.46535	48.05195
	YKL023W	8	11	12	38.80464	35.77465	55.0706	34.42623	64.40129
MYO3	YKL129C	8	11	13	6.48824	31.78893	45.37445	37.14734	44.40895
SPT23	YKL020C	8	11	14	21.73547	24.28571	53.43511	0.456621	44.59016
PMU1	YKL128C	8	11	15	37.94466	87.86232	3.422053	-10.9504	47.78481
HCS1	YKL017C	8	11	16	16.66667	0	67.18081	14.16122	61.32813
PGM1	YKL127W	8	11	17	0.817996	52.03883	39.58333	-7.44921	40.55728
PUT3	YKL015W	8	11	18	28.40195	28.40671	74.58647	-0.38835	43.45238
SSH4	YKL124W	8	11	19	14.40443	17.54933	54.35644	-3.80313	61.37072
UFD4	YKL010C	8	11	20	14.90978	41.25874	21.26697	13.2948	63.60947
	YKL123W	8	11	21	15.05824	41.90141	74.5167	3.761062	60.17699
MRT4	YKL009W	8	11	22	66.15385	52.85714	58.55131	23.64641	69.77273
	YKL121W	8	11	23	12.00397	64.52991	53.83023	39.40256	63.14496
HIS3	YOR202W	8	11	24	-8.97833	19.43867	41.56425		
HIS3	YOR202W	8	12	1	12.67829	43.69565	58.82353		
	YKR035W-								
DID2	A	8	12	2	8.690745	66.77815	69.76744	32.38866	52.44755
HSP104	YLL026W	8	12	3	45.36391	23.30435	54.92662	54.73856	61.18421
	YKR035C	8	12	4	32.60542	44.92754	39.29314	39.67972	62.31884
	YLL025W	8	12	5	-2.6943	0.736377	13.53887	25.83643	17.10526
DAL80	YKR034W	8	12	6	16.06392	25.04817	19.07895	54.2811	61.96721
SSA2	YLL024C	8	12	7	16.68138	56.66667	-5.4917	54.62555	65.04425
	YKR033C	8	12	8	15.625	7.756813	42.83966	54.43038	55.87189
	YLL023C	8	12	9	16.92047	9.742441	57.34649	55.13595	56.37982
	YKR032W	8	12	10	15.92115	21.05832	35.39916	43.20388	55.21472
SPA2	YLL021W	8	12	11	58.92587	84.46727	58.62377	50.84485	62.02091
SPO14	YKR031C	8	12	12	18.13765	-14.2259	12.7566	50	40.92527
	YLL020C	8	12	13	29.04564	34.92063	6.806283	40.25765	42.99363
GMH1	YKR030W	8	12	14	10.4717	24.65409	82.11382	4.918033	47.26688
KNS1	YLL019C	8	12	15	10.92801	42.69231	61.77215	44.83986	40.13378
SET3	YKR029C	8	12	16	3.11245	42.72727	#DIV/0!	43.87569	65.01548

SDC25	YLL017W	8	12	17	-13.0435	14.02062	9.392265	44.12214	53.125
SAP190	YKR028W	8	12	18	-1.02516	30.2521	-7.97546	27.12871	67.93003
SDC25	YLL016W	8	12	19	17.94311	40.42781	29.97481	-10.2473	39.94169
FMP50	YKR027W	8	12	20	23.05296	#DIV/0!	19.26606	19.2389	47.14286
BPT1	YLL015W	8	12	21	20.8221	35.69231	55.92748	33.05785	56.67575
GCN3	YKR026C	8	12	22	56.52681	39.14027	67.64706	-2.63736	61.83432
	YLL014W	8	12	23	12.40524	-5.55556	34.55497	36.41457	56.88889
HIS3	YOR202W	8	12	24	48.48485	83.06998	43.3908		
HIS3	YOR202W	8	13	1	28.53448	17.30463	80.95238		
	YKL044W	8	13	2	66.37272	-1.59027	15.98272	35.39519	37.46313
RPS27A	YKL156W	8	13	3	25.85421	18.41621	60.26629	39.96383	29.85612
PHD1	YKL043W	8	13	4	27.0453	43.28358	51.693	50.08757	36.54485
	YKL151C	8	13	5	41.28257	23.40094	39.76378	35.55957	40.24768
VPS24	YKL041W	8	13	6	15.81798	39.65844	42.36641	32.78956	32.50883
MCR1	YKL150W	8	13	7	12.90555	-19.6931	17.51412	43.66472	28.47222
NFU1	YKL040C	8	13	8	11.51079	17.60797	13.68421	47.09898	33.33333
DBR1	YKL149C	8	13	9	0.958773	10.82411	31.90955	48.16667	46.6899
PTM1	YKL039W	8	13	10	20.59748	10.99415	13.51767	-45.4338	29.43038
SDH1	YKL148C	8	13	11	11.36364	23.43049	50.59798	21.63355	27.30159
RGT1	YKL038W	8	13	12	28.33158	16.66667	64.8	53.24675	68.35443
	YKL147C	8	13	13	19.9284	31.19266	21.59468	34.70948	45.51495
	YKL037W	8	13	14	-7.2619	30.48576	87.61651	26.34731	27.77778
AVT3	YKL146W	8	13	15	-9.33707	29.51945	42.53633	37.51914	61.00629
TUL1	YKL034W	8	13	16	44.42127	18.89671	35.61453	7.415254	43.03406
MRP8	YKL142W	8	13	17	20.80972	42.57426	18.38235	41.64306	55.52699
	YKL033W-A	8	13	18	16.54902	16.30435	79.12773	missing colony	missing colony
TGL1	YKL140W	8	13	19	20.4953	29.12621	82.27848	missing colony	missing colony
IXR1	YKL032C	8	13	20	17.02722	53.45774	69.32907	-2.6	52.96053
CTK1	YKL139W	8	13	21	52.40328	41.70543	53.63322	14.69741	41.71598
	YKL031W	8	13	22	19.79695	50.42644	13.51767	58.41393	66.54804
	YKL137W	8	13	23	-8.05176	25.58635	44.3433	49.49928	38.10888
HIS3	YOR202W	8	13	24	52.82093	6.829897	23.94775		
HIS3	YOR202W	8	14	1	52	9.857904	81.69336		
NAP1	YKR048C	8	14	2	51.26728	54.73684	37.24138	30.05391	38.15385
RPL8B	YLL045C	8	14	3	20.24867	50.05501	14.75862	37.75322	40
	YKR047W	8	14	4	36.86088	18.95735	1.954887	58.74126	64.78261
	YLL044W	8	14	5	33.43284	57.69868	-17.1717	53.58423	51.1254
PET10	YKR046C	8	14	6	9.416196	16.47059	28.66557	49.74271	43.34365
FPS1	YLL043W	8	14	7	64.14141	61.42857	62.5239	65.2452	76.92308
	YKR045C	8	14	8	19.76654	4.297329	28.29099	39.30636	33.96226
ATG10	YLL042C	8	14	9	23.65057	14.45498	26.61765	26.36054	40.41298

UIP5	YKR044W	8	14	10	19.31649	10.84337	30.55215	41.23077	38.03681
SDH2	YLL041C	8	14	11	7.266436	36.71971	-2.574	17.94872	19.11765
	YKR043C	8	14	12	26.51633	32.51121	14.16667	48.80113	57.46479
VPS13	YLL040C	8	14	13	12.5	49.12281	20.02924	31.07511	42.23433
UTH1	YKR042W	8	14	14	14.6383	37.86848	12.43339	1.351351	30.89005
UBI4	YLL039C	8	14	15	48.98785	40.43993	19.59799	43.30986	57.55627
	YKR041W	8	14	16	26.78063	5.964215	15.97796	30	54.17957
ENT4	YLL038C	8	14	17	12.26321	46.75877	66.85304	34.26471	60.08316
								missing colony	
	YKR040C	8	14	18	9.708738	40.27778	59.77011	missing colony	missing colony
GAP1								missing colony	
	YLL032C	8	14	19	24.94817	28.31858	72.82502	colony	missing colony
	YKR039W	8	14	20	18.9166	14.89104	18.69783	55.7072	61.28319
CAF4	YLL029W	8	14	21	-4.59393	25.92975	12.2905	14.67269	50.87719
	YKR036C	8	14	22	36.72161	34.40367	85.38462	18.48907	62.96296
TPO1	YLL028W	8	14	23	18.67058	43.93305	35.41033	12.32639	58.27338
HIS3	YOR202W	8	14	24	30.40238	24.50787	9.8		
HIS3	YOR202W	8	15	1	47.48441	34.76466	85.71429		
MSN4	YKL062W	8	15	2	25.62066	16.93841	29.29032	37.68595	55.43767
KKQ8	YKL168C	8	15	3	31.51198	23.55769	79.59698	49.52077	40.72948
	YKL061W	8	15	4	60.5939	38.93376	18.10237	37.32639	40.37433
MRP49	YKL167C	8	15	5	22.23543	36.85259	42.87245	49.42308	11.11111
RBF18	YKL056C	8	15	6	4.56503	60.6524	60.26365	64.20582	54.61255
TPK3	YKL166C	8	15	7	14.16208	23.02569	19.7561	33.83838	34.24658
OAR1	YKL055C	8	15	8	15.89896	-19.6375	13.62089	11.01695	26.72956
PIR1	YKL164C	8	15	9	13.52814	58.1058	6.40608	39.60396	28.88889
	YKL053W	8	15	10	-2.9035	16.4794	27.95699	44.81328	50.75758
PIR3	YKL163W	8	15	11	27.88226	40.98837	57.41325	23.00885	45.38835
MDM35	YKL053C-A	8	15	12	92.00195	34.87179	22.37001	28.60125	42.68775
	YKL162C	8	15	13	9.753788	31.19891	38.36018	0.642398	47.34043
SFK1	YKL051W	8	15	14	10.47463	-19.3591	69.83333	36.65224	55.75448
	YKL161C	8	15	15	24.3079	18.44758	7.399794	57.20461	55.38058
ELF1	YKL050C	8	15	16	3.189793	38.58115	33.18872	-7.43802	56.70103
	YKL160W	8	15	17	29.24694	42.01313	73.88003	9.587379	63.89351
ELM1								missing colony	
	YKL048C	8	15	18	4.98155	46.4752	12.16216	colony	missing colony
RCN1	YKL159C	8	15	19	21.98002	52.8914	58.15217	37.76882	70.10676
	YKL047W	8	15	20	0.920598	19.50207	51.05348	32.80757	65.30172
	YKL158W	8	15	21	24.3299	34.94737	70.04608	43.19728	60.43011
DCW1	YKL046C	8	15	22	7.771536	40.6953	63.09091	62.03822	59.65665
APE2	YKL157W	8	15	23	76.8559	49.13151	60.66482	18.21782	65.77778
HIS3	YOR202W	8	15	24	26.00596	37.01357	13.07902		
HIS3	YOR202W	8	16	1	70.11086	34.34629	78.61771		

HIS3	YOR202W	8	16	2	62.36374	26.64736	7.865169
HIS3	YOR202W	8	16	3	69.35791	0.207039	25.74032
HIS3	YOR202W	8	16	4	41.49346	-13.8856	4.142012
HIS3	YOR202W	8	16	5	-10.084	25.10823	17.55952
HIS3	YOR202W	8	16	6	-23.8252	33.48924	8.165548
HIS3	YOR202W	8	16	7	48.23732	45.58522	34.57627
HIS3	YOR202W	8	16	8	6.210466	-24.7536	10.93394
HIS3	YOR202W	8	16	9	16.10942	-13.8095	48.69359
HIS3	YOR202W	8	16	10	-31.1013	19.63071	25.63081
HIS3	YOR202W	8	16	11	-43.3993	-14.133	7.178841
HIS3	YOR202W	8	16	12	-28.4436	-6.27753	6.435644
HIS3	YOR202W	8	16	13	33.77097	-24.2877	-1.68831
HIS3	YOR202W	8	16	14	-31.8773	-29.8851	13.29268
HIS3	YOR202W	8	16	15	-2.38322	45.42553	-9.3985
HIS3	YOR202W	8	16	16	36.34497	22.26891	0
HIS3	YOR202W	8	16	17	26.81818	26.34352	36.96172
HIS3	YOR202W	8	16	18	-12.0879	-8.71287	8.342023
HIS3	YOR202W	8	16	19	-9.67742	-22.1461	25.7868
HIS3	YOR202W	8	16	20	16.74107	51.71103	-31.7821
HIS3	YOR202W	8	16	21	24.63585	-1.36437	32.35083
HIS3	YOR202W	8	16	22	38.73659	41.72099	-13.9535
HIS3	YOR202W	8	16	23	14.06366	-15.4463	2.59901
HIS3	YOR202W	8	16	24	33.02064	52.20484	37.73585
HIS3	YOR202W	9	1	1	52.38817	64.99367	54.99455
HIS3	YOR202W	9	1	2	23.30097	22.46234	17.42066
HIS3	YOR202W	9	1	3	22.16288	19.57576	59.89884
HIS3	YOR202W	9	1	4	51.87713	18.16901	50.5278
HIS3	YOR202W	9	1	5	10.06061	-9.49477	55.84843
HIS3	YOR202W	9	1	6	10.06897	23.3087	36.03708
HIS3	YOR202W	9	1	7	-16.315	6.64	56.1326
HIS3	YOR202W	9	1	8	10.14686	23.15922	52.35205
HIS3	YOR202W	9	1	9	18.83803	26.30174	52.52387
HIS3	YOR202W	9	1	10	14.92329	13.67054	59.72851
HIS3	YOR202W	9	1	11	4.882813	11.66667	48.75149
HIS3	YOR202W	9	1	12	9.558824	30.15964	51.75439
HIS3	YOR202W	9	1	13	23.59249	14.45405	60.54913
HIS3	YOR202W	9	1	14	29.16667	9.160305	67.37531
HIS3	YOR202W	9	1	15	14.13238	12.85386	45.26485
HIS3	YOR202W	9	1	16	73.29412	13.33333	28.86029
HIS3	YOR202W	9	1	17	11.08462	11.36364	29.88314
HIS3	YOR202W	9	1	18	22.08238	23.14887	58.97981
HIS3	YOR202W	9	1	19	23.90572	12.73292	41.43095
HIS3	YOR202W	9	1	20	17.7305	15.12859	56.60881

HIS3	YOR202W	9	1	21	4.980843	9.070295	57.24534		
HIS3	YOR202W	9	1	22	1.29199	5.584129	44.28384		
HIS3	YOR202W	9	1	23	16.56977	-48.6364	13.88102		
HIS3	YOR202W	9	1	24	1.325758	-16.0957	35.3431		
HIS3	YOR202W	9	2	1	47.79412	31.81395	75.25711		
	YLR217W	9	2	2	12.85714	19.14305	40.85433	66.44205	41.96429
CHS5	YLR330W	9	2	3	6.165414	8.132045	40.55513	31.50074	38.62069
CPR6	YLR216C	9	2	4	-26.2609	3.042434	21.70732	-5.28541	35.8396
REC102	YLR329W	9	2	5	18.93939	22.92994	12.20779	39.0411	27.7937
FRE1	YLR214W	9	2	6	4.251386	29.61072	60.90573	12.99304	31.08614
NMA1	YLR328W	9	2	7	11.46384	87.01754	58.7517	15.03268	28.97727
CRR1	YLR213C	9	2	8	25.92105	15.37324	62.5	-8.86918	22.27979
RBF9	YLR327C	9	2	9	8.501119	10.38168	67.13287	28.13688	19.04762
	YLR211C	9	2	10	19.07984	21.36401	77.2846	58.76133	26.27551
	YLR326W	9	2	11	15.46961	13.06576	67.00899	7.905983	18.76923
CLB4	YLR210W	9	2	12	86.41371	10.72531	73.02564	77.80749	30.56995
RPL38	YLR325C	9	2	13	19.58569	14.54948	1.866883	17.72152	23.30383
PNP1	YLR209C	9	2	14	36.56481	19.33086	17.41655	51.03858	22.51309
PEX30	YLR324W	9	2	15	29.87198	8.287293	4.296875	30.49793	21.14883
HRD3	YLR207W	9	2	16	29.97712	34.90054	12.5222	-41.0112	19.375
MMS22	YLR320W	9	2	17	16.20172	8.013937	92.04545	18.12865	13.63636
ENT2	YLR206W	9	2	18	37.51387	27.99043	33.27645	32.98033	34.5679
BUD6	YLR319C	9	2	19	33.06727	0.6639	6.204136	-22.1983	14.28571
HMX1	YLR205C	9	2	20	8.530806	3.291536	34.72949	58.51064	14.95601
EST2	YLR318W	9	2	21	7.894737	31.32716	31.71642	12.06497	6.642066
YKE2	YLR200W	9	2	22	7.64526	-20.0803	6.935333	59.51904	34.83146
NKP2	YLR315W	9	2	23	31.74603	7.627765	63.68243	51.40962	32.52427
HIS3	YOR202W	9	2	24	2.202643	17.25626	1.605505		
HIS3	YOR202W	9	3	1	18.66667	19.76967	70.97878		
JLP1	YLL057C	9	3	2	19.31818	26.42694	41.27358	36.71875	32.82937
CHA4	YLR098C	9	3	3	29.11534	9.577677	37.47253	26.94497	32.87356
	YLL056C	9	3	4	17.01571	16.55431	46.16667	48.93993	38.51852
HRT3	YLR097C	9	3	5	36.07595	12.65337	33.52941	74.49585	30.82902
	YLL055W	9	3	6	12.53776	18.19699	26.47569	1.118568	33.25359
KIN2	YLR096W	9	3	7	21.41176	9.553641	29.02973	54.81833	30.86735
	YLL054C	9	3	8	#DIV/0!	13.43168	9.895833	19.80583	30.02545
IOC2	YLR095C	9	3	9	20.05731	22.49657	-1.41612	6.418219	27.34584
	YLL053C	9	3	10	14.88372	15.33695	-5.57621	59.74441	12.97935
GIS3	YLR094C	9	3	11	2.359882	34.93078	3.981797	59.77809	28.8
AQY2	YLL052C	9	3	12	36.46532	15.20062	9.49094	14.22594	17.86834
NYV1	YLR093C	9	3	13	15.26163	7.986689	4.417671	18.20041	27.92553
FRE6	YLL051C	9	3	14	35.49696	15.77008	-8.84718	30.76923	20.66116
SUL2	YLR092W	9	3	15	51.23711	37.29309	15.78947	49.62687	20.50473

	YLL049W	9	3	16	-0.35336	5.877342	28.24268	77.95527	29.08587
	YLR091W	9	3	17	43.30855	26.65765	40.38232	49.10277	17.12707
YBT1	YLL048C	9	3	18	26.23377	25.79505	52.02232	33.21234	27.15736
XDJ1	YLR090W	9	3	19	32.20974	8.78553	15.89825	40.68966	24.82517
	YLL047W	9	3	20	11.31448	22.11139	48.72727	63.51351	27.54342
ALT1	YLR089C	9	3	21	6.614786	22.53743	40.32922	40.31936	41.95122
RNP1	YLL046C	9	3	22	15.60062	1.28	56.64452	51.36876	43.12977
CSF1	YLR087C	9	3	23	42.18062	19.58302	22.19731	45.36377	42.10526
HIS3	YOR202W	9	3	24	19.48658	11.79856	8.156499		
HIS3	YOR202W	9	4	1	4.658385	2.736842	71.26168		
TOP3	YLR234W	9	4	2	-2.94906	16.10032	10.69723	32.90043	39.819
	YLR345W	9	4	3	22.22222	14.24125	12.92024	34.4942	35.7631
EST1	YLR233C	9	4	4	34.78261	5.907173	14.28571	-1.76991	16.42229
RPL26A	YLR344W	9	4	5	6.027397	4.483283	20.27972	22.64151	23.23944
	YLR232W	9	4	6	7.929515	14.80111	61.15965	26.69492	26.96629
GAS2	YLR343W	9	4	7	31.49284	42.57261	21.09276	47.36842	34.44109
BNA5	YLR231C	9	4	8	18.01802	15.86314	4.737295	13.25301	15.89404
FKS1	YLR342W	9	4	9	23.71134	10.42312	-10.2477	34.05276	20.57878
ECM22	YLR228C	9	4	10	25.11521	13.29787	15.25424	57.50422	14.95601
SPO77	YLR341W	9	4	11	27.68879	10.83782	10.55156	34.55882	24.26901
	YLR225C	9	4	12	21.0101	11.11111	-9.70378	30.75435	25.3406
	YLR338W	9	4	13	34.44816	6.547619	22.60343	10.82024	30.2521
	YLR224W	9	4	14	57.14286	-15.2659	-4.57256	63.97415	20.91153
VRP1	YLR337C	9	4	15	44.61046	32.97872	100	73.70968	70.32641
RSA3	YLR221C	9	4	16	31.45161	5.245902	0.091408	64.70588	10.14925
NUP2	YLR335W	9	4	17	18.53211	12.06349	-2.98507	52.58765	17.6781
CCC1	YLR220W	9	4	18	31.29371	11.43594	0.181818	69.05222	25.14793
	YLR334C	9	4	19	25.63238	32.87327	65.59633	58.28221	27.08934
MSC3	YLR219W	9	4	20	21.53846	17.17842	46.48829	63.20755	22.8739
RPS25B	YLR333C	9	4	21	26.08696	29.86301	39.92172	61.49533	24.7093
	YLR218C	9	4	22	11.30952	25.58747	70.13889	9.144543	10.66667
MID2	YLR332W	9	4	23	38.37072	3.72093	60.77266	62.62626	36.79458
HIS3	YOR202W	9	4	24	2.706767	-14.1357	47.9021		
HIS3	YOR202W	9	5	1	27.87751	6.520247	47.19815		
LOT6	YLR011W	9	5	2	42.71845	19.85612	53.51598	65.34392	36.27049
	YLR114C	9	5	3	8.130081	#DIV/0!	#DIV/0!	45.58559	9.160305
SSK1	YLR006C	9	5	4	#DIV/0!	14.73523	7.258065	29.59698	47.98387
								missing	
HOG1	YLR113W	9	5	5	41.17647	62.82974	33.40909	colony	missing colony
	YLR004C	9	5	6	0.611621	17.92319	46.68346	15.76087	51.11111
	YLR112W	9	5	7	16.13833	17.88756	8.255159	14.12067	34.60317
	YLR003C	9	5	8	9.605489	9.32971	28.30189	74.45483	25.94752
	YLR111W	9	5	9	17.51269	17.25626	12.51158	53.46216	22.67442

	YLR001C	9	5	10	14.64435	18.66667	-2.51092	41.09312	33.78747
CCW12	YLR110C	9	5	11	31.71558	13.40206	9.586276	-5.10441	31.22924
AYT1	YLL063C	9	5	12	73.08161	17.79359	-1.69332	77.5837	22.34957
AHP1	YLR109W	9	5	13	-3.57143	10.16548	-2.94643	29.41176	20.21661
MHT1	YLL062C	9	5	14	35.04983	19.17326	9.276249	63.76812	20.4611
	YLR108C	9	5	15	13.18052	12.75338	2.085506	14.59227	10.54131
MMP1	YLL061W	9	5	16	31.48426	5.494505	16.14035	54.69613	5.357143
REX3	YLR107W	9	5	17	15.88089	43.06473	17.80673	31.76044	27.60736
GTT2	YLL060C	9	5	18	27.34375	25.50282	5.566219	56.68359	23.45013
	YLR104W	9	5	19	-0.96774	15.54404	24.40678	37.24395	14.89362
	YLL059C	9	5	20	23.68421	21.38728	41.70213	41.15646	19.5122
APC9	YLR102C	9	5	21	9.090909	16.7847	41.49909	55.9792	26.34409
	YLL058W	9	5	22	29.92611	100	13.33333	20.68966	27.7027
ICT1	YLR099C	9	5	23	16.23489	34.76563	16.01423	74.45255	27.16049
HIS3	YOR202W	9	5	24	5.490849	12.09677	1.814647		
HIS3	YOR202W	9	6	1	44.31818	13.92663	1.526286		
SYM1	YLR251W	9	6	2	29.73621	100	52.02156	60.74499	42.55319
VPS38	YLR360W	9	6	3	-3.65297	15.45584	31.80016	-1.68067	6.921241
SSP120	YLR250W	9	6	4	14.98471	6.70304	6.125971	53.29513	22.01835
							missing		
RSC2	YLR357W	9	6	5	25.55831	47.4359	5.555556	colony	missing colony
RCK2	YLR248W	9	6	6	11.89591	10.37376	-3.02782	48.13754	35.94937
	YLR356W	9	6	7	18.59558	19.07216	20.50164	41.71779	22.42991
	YLR247C	9	6	8	23.2288	9.053156	4.340124	67.46627	29.9169
TAL1	YLR354C	9	6	9	20.41522	7.794362	9.419152	75.03876	19.70588
ERF2	YLR246W	9	6	10	13.30472	6.260032	4.914005	54.92958	17.97101
BUD8	YLR353W	9	6	11	27.39018	-4.26439	2.58427	43.86282	36.33803
ARV1	YLR242C	9	6	12	28.99329	8.285714	10.8871	15.67291	17.23164
	YLR352W	9	6	13	27.98595	8.092486	9.134158	51.09612	13.35616
	YLR241W	9	6	14	13.49036	-6.12423	1.530153	77.64165	31.56342
NIT3	YLR351C	9	6	15	34.11079	6.660666	-3.94432	44.92255	11.78248
LIP2	YLR239C	9	6	16	34.67656	16.87631	20.4431	38.11659	9.584665
ORM2	YLR350W	9	6	17	23.07692	5.981595	2.053571	68.57585	24.50704
THI7	YLR237W	9	6	18	37.64581	88.79552	13.39174	74.60317	31.07345
	YLR349W	9	6	19	38.82353	9.318378	13.07359	77.79553	23.03207
	YLR236C	9	6	20	31.80662	10.40268	0	51.44804	29.56522
DIC1	YLR348C	9	6	21	14.73214	-33.3692	57.24907	41.47727	28.35366
	YLR235C	9	6	22	29.27928	15.31612	27.13936	49.46921	30.79268
	YLR346C	9	6	23	34.07821	5.970149	63.14399	78.8712	36.61327
HIS3	YOR202W	9	6	24	5.639615	9.81241	38.3915		
HIS3	YOR202W	9	7	1	17.31025	15.58785	13.74309		
IZH3	YLR023C	9	7	2	11.28049	10.53795	44.99205	22.67081	35.45455
ZRT2	YLR130C	9	7	3	25.45455	11.52959	26.771	72.79006	36.71875

	YLR021W	9	7	4	27.37643	27.82194	30.03731	77.67988	49.57983
								missing	
DCN1	YLR128W	9	7	5	19.25466	16.27146	10.04785	colony	missing colony
YEH3	YLR020C	9	7	6	30.4878	2.33564	3.866906	75.02945	39.72286
	YLR126C	9	7	7	25.30488	14.65969	10.17102	55.75221	29.41176
PSR2	YLR019W	9	7	8	29.38719	4.888152	-0.55504	47.65101	28.44037
	YLR125W	9	7	9	39.10733	7.620818	17.47285	62.47723	22.89562
POM34	YLR018C	9	7	10	43.02214	6.267806	4.837117	80.63439	32.06349
	YLR124W	9	7	11	25.98425	11.80077	0.454133	77.33918	31.10465
MEU1	YLR017W	9	7	12	74.86188	26.0355	14.49631	66.23134	26.71233
	YLR123C	9	7	13	30.37037	15.75203	8.275174	73.32293	25.55205
	YLR016C	9	7	14	35.0365	0.831025	-3.00107	27.62951	19.25287
	YLR122C	9	7	15	4.201681	6.573276	11.66837	33.97028	22.76657
BRE2	YLR015W	9	7	16	39.60827	29.15567	4.516129	42.78846	11.20944
YPS3	YLR121C	9	7	17	11.91919	14.17134	3.127793	33.33333	29.39633
PPR1	YLR014C	9	7	18	27.657	7.610475	5.31401	67.79935	22.22222
YPS1	YLR120C	9	7	19	24.03382	5.663567	7.870754	44.4	22.95597
GAT3	YLR013W	9	7	20	22.69129	11.35802	46.39279	43.7037	24.63343
SRN2	YLR119W	9	7	21	17.55618	18.47826	32.80423	69.48905	22.58953
	YLR012C	9	7	22	3.472222	-51.5015	37.94643	38.88889	17.06587
	YLR118C	9	7	23	2.578797	9.974425	12	26.46104	28.35052
HIS3	YOR202W	9	7	24	4.411765	26.77761	24.07733		
HIS3	YOR202W	9	8	1	19.31624	0.073099	5.755732		
RPS28B	YLR264W	9	8	2	-13.0841	36.99907	39.55556	49.19499	36.84211
SUR4	YLR372W	9	8	3	20.11905	22.8739	27.42524	53.64372	37.00306
RED1	YLR263W	9	8	4	60.51136	13.14414	3.278689	39.31777	37.53425
ROM2	YLR371W	9	8	5	30.83333	16.20746	17.98387	62.2973	61.42857
								missing	
RBF7	YLR262C-A	9	8	6	31.19266	18.39465	25.65789	colony	missing colony
								missing	
ARC18	YLR370C	9	8	7	32.21321	7.077856	0.913706	colony	missing colony
YPT6	YLR262C	9	8	8	22.63158	9.770115	15.26823	48.97959	35.90909
MDM30	YLR368W	9	8	9	27.88586	-3.00752	6.073567	65.48536	33.04094
	YLR261C	9	8	10	8.179959	13.51792	14.41125	69.69697	37.54153
RPS22B	YLR367W	9	8	11	17.40088	2.539683	10.89682	42.18415	25.65789
GSY2	YLR258W	9	8	12	35.16854	11.59901	13.86861	64.54006	31.46067
	YLR366W	9	8	13	5.652174	10.4503	5.57554	42.83154	15.74074
	YLR257W	9	8	14	11.2069	5.762082	-0.10406	67.1916	32.36842
	YLR365W	9	8	15	7.589286	-2.40856	-8.66602	69.96381	26.37076
	YLR255C	9	8	16	30.82353	24.84663	24.31791	55.13748	29.41176
	YLR364W	9	8	17	27.94293	22.59721	3.977798	63.38798	10.3125
NDL1	YLR254C	9	8	18	0	-5.93014	-8.00781	75.16556	22.7882
NMD4	YLR363C	9	8	19	30.91309	27.10472	29.14863	65.89506	29.36288

	YLR253W	9	8	20	-9.44351	8.706468	45.08547	-34.3902	24.50142
STE11	YLR362W	9	8	21	33.19328	14.30868	48.65526	49.03846	6.603774
	YLR252W	9	8	22	15.35948	30.06834	20.24648	35.14938	32.81654
DCR2	YLR361C	9	8	23	33.73626	14.97396	67.32588	63.30014	32.43243
HIS3	YOR202W	9	8	24	7.972028	2.7146	29.09091		
HIS3	YOR202W	9	9	1	16.66667	14.69799	2.094241		
RIC1	YLR039C	9	9	2	10.59603	24.25665	30.26316	43.87001	49.7549
SPE4	YLR146C	9	9	3	0	28.59885	50	63.03237	37.53149
COX12	YLR038C	9	9	4	13.42857	27.50716	30.59937	9.897611	5.154639
ACF2	YLR144C	9	9	5	14.42308	8.624535	15.10574	44.29224	52.27964
DAN2	YLR037C	9	9	6	11.72249	-2.7439	21.57795	missing colony	missing colony
	YLR143W	9	9	7	22.68657	1.571092	-5.62448	missing colony	missing colony
	YLR036C	9	9	8	-3.65854	-0.59423	1.507937	47.61905	41.83381
PUT1	YLR142W	9	9	9	24.69775	-4.004	39.83531	85.31469	58.04416
MLH2	YLR035C	9	9	10	16.03053	20.79439	2.021277	46.34146	45.92834
NHA1	YLR138W	9	9	11	59.61538	13.15519	6.536585	36.09272	20.42553
SMF3	YLR034C	9	9	12	24.27822	7.347876	7.045216	79.23729	37.53425
	YLR137W	9	9	13	13.85768	-4.94728	13.08204	34.23567	22.94618
RAD5	YLR032W	9	9	14	2.728227	18.89503	1.666667	missing colony	missing colony
TIS11	YLR136C	9	9	15	28.45395	10.56388	0.500417	missing colony	missing colony
	YLR031W	9	9	16	-4.36508	6.523765	8.384279	missing colony	missing colony
SLX4	YLR135W	9	9	17	33.53151	10.0894	2.37849	57.54339	25.13228
	YLR030W	9	9	18	9.809264	-2.41187	9.88075	67.44186	32.62032
PDC5	YLR134W	9	9	19	24.45255	0	4.524887	53.55191	26.74419
ADE16	YLR028C	9	9	20	27.63006	-2.92842	7.314974	19.79167	35.22388
CKI1	YLR133W	9	9	21	100	-0.18553	23.17757	19.96047	14.77987
UBR2	YLR024C	9	9	22	26.04712	-0.39761	15.89825	27.25118	39.62848
ACE2	YLR131C	9	9	23	49.57746	9.903792	15.47619	-1.68634	50.59382
HIS3	YOR202W	9	9	24	9.036145	18.32179	40.33058		
HIS3	YOR202W	9	10	1	5.718954	11.88811	23.16968		
	YLR281C	9	10	2	12.90323	7.878315	38.94118	53.60624	34.13978
REH1	YLR387C	9	10	3	12.8169	14.17966	42.42424	57.56522	38.44086
	YLR280C	9	10	4	15.51095	16.61238	31.77648	57.19008	42.04204
VAC14	YLR386W	9	10	5	13.60544	22.17742	18.43778	55.07246	22.06304
	YLR279W	9	10	6	21.9917	7.723036	6.896552	38.92734	45.78313
SWC7	YLR385C	9	10	7	15.47779	8.333333	0.290698	49.08836	32.05882
	YLR278C	9	10	8	52.08333	0.905797	10.44235	68.08199	40.75145
IKI3	YLR384C	9	10	9	12.32227	100	#DIV/0!	49.79839	22.02166
PIG1	YLR273C	9	10	10	19.2	14.49735	6.740614	66.46586	33.33333

CTF3	YLR381W	9	10	11	25.82524	2.777778	5.709625	49	30.21148
	YLR271W	9	10	12	40.73252	13.6255	3.294893	58.26514	40.99379
CSR1	YLR380W	9	10	13	18.75	4.894578	3.849115	42.90598	44.11028
	YLR269C	9	10	14	28.14238	48.92086	43.13043	missing colony	missing colony
FBP1	YLR377C	9	10	15	33.08176	9.561129	15.34351	missing colony	missing colony
SEC22	YLR268W	9	10	16	5.555556	0.901713	11.45564	missing colony	missing colony
PSY3	YLR376C	9	10	17	33.96825	2.684564	8.976661	27.65957	25.40984
BOP2	YLR267W	9	10	18	33.11258	15.4519	0.492126	51.52979	29.80501
STP3	YLR375W	9	10	19	32.86385	4.780564	3.504482	52.52708	21.22186
PDR8	YLR266C	9	10	20	34.50882	7.517084	6.781193	76.50696	33.50254
	YLR374C	9	10	21	20.11834	14.00438	41.30106	45.6	13.04348
NEJ1	YLR265C	9	10	22	18.09816	31.11511	13.60137	56.19048	20.17544
VID22	YLR373C	9	10	23	26.42487	31.63265	18.88298	8.838384	28.4153
HIS3	YOR202W	9	10	24	15.52419	18.22064	41.59445		
HIS3	YOR202W	9	11	1	29.95595	3.761062	19.33702		
	YLR053C	9	11	2	10.51753	22.67574	6.300813	58.46599	50.88106
	YLR171W	9	11	3	33.20755	12.79492	3.519313	47.65478	36.57143
	YLR050C	9	11	4	31.23167	20.20997	22.00903	61.14551	51.17647
APS1	YLR170C	9	11	5	27.11111	21.80952	16.95473	69.93243	55.55556
	YLR049C	9	11	6	0.718133	2.742616	0.81448	68.37456	34.91124
	YLR169W	9	11	7	17.44966	13.05326	15.09769	34.02256	47.89916
RPS0B	YLR048W	9	11	8	15.27778	1.18505	9.044369	60.39823	36.14458
	YLR168C	9	11	9	20.91503	40.66074	24.47307	53.71622	22.14765
	YLR047C	9	11	10	50	5.482815	1.486698	94.31818	40.16064
PUS5	YLR165C	9	11	11	44.98747	29.77941	37.98283	50.16502	36.97479
	YLR046C	9	11	12	31.98324	1.426025	12.05393	64.84375	37.06897
	YLR164W	9	11	13	36.50075	7.916182	11.45176	17.87521	19.94135
PDC1	YLR044C	9	11	14	0	20.23692	19.45813	7.738095	35.52239
RNH203	YLR154C	9	11	15	6.578947	8.316832	7.061901	71.59763	33.76289
TRX1	YLR043C	9	11	16	27.23147	42.36311	28.09365	45.78512	40.625
	YLR152C	9	11	17	18.13187	4.377432	6.433678	73.35165	26.23377
	YLR042C	9	11	18	43.29787	14.21421	11.72353	13.58025	31.87135
PCD1	YLR151C	9	11	19	8.561644	2.129719	11.68724	70.83333	33.87978
	YLR041W	9	11	20	69.48424	13.04348	7.334109	39.61606	12.03438
STM1	YLR150W	9	11	21	98.39357	13.52236	40.47244	58.9198	32.52688
	YLR040C	9	11	22	16.43836	14.43662	33.23442	29.18919	25.49575
	YLR149C	9	11	23	#DIV/0!	18.02326	5.547337	29.69984	34.90991
HIS3	YOR202W	9	11	24	4.957265	47.59259	29.93103		
HIS3	YOR202W	9	12	1	31.26551	12.19681	43.31897		
	YLR294C	9	12	2	12.47863	20.28436	26.26064	23.43434	42.82353

	YLR400W	9	12	3	-3.07692	14.23948	22.36842	67.29131	54.65116
SEC72	YLR292C	9	12	4	58.52783	31.42857	27.30435	13.51889	25.625
SKI2	YLR398C	9	12	5	52.65018	3.423237	21.74281	66.73077	62.41379
	YLR290C	9	12	6	21.98492	31.74274	7.329843	50.61296	40.99379
COX8	YLR395C	9	12	7	33.33333	-4.82823	9.725316	23.19149	44.8505
GUF1	YLR289W	9	12	8	4.580153	29.11796	8.115419	64.54352	54.34783
CST9	YLR394W	9	12	9	41.27907	35.2861	28.30189	75.9375	56.66667
RPS30A	YLR287C-A	9	12	10	23.61111	13.95706	5.367965	63.7149	40.13841
ATP10	YLR393W	9	12	11	22.43976	39.50233	13.81156	64.99133	42.48366
	YLR287C	9	12	12	30.22636	4.90566	5.667702	48.82459	50.42017
	YLR392C	9	12	13	5.604203	4.147465	0.443262	58.85714	30.44693
CTS1	YLR286C	9	12	14	19.8324	12.6447	5.75	40.78212	32.0802
	YLR391W	9	12	15	35.41018	7.149404	13.69969	60.43046	46.00551
NNT1	YLR285W	9	12	16	7.5	10.88546	-2.87121	47.42424	28.18428
	YLR390W-								
CCW14	A	9	12	17	33.02217	15.55352	31.32743	48.39319	35.52239
ECI1	YLR284C	9	12	18	33.11432	7.592593	-7.32797	27.91878	21.00592
ECM19	YLR390W	9	12	19	35.06494	9.082969	-4.5933	34.52915	27.54098
	YLR283W	9	12	20	26.93997	17.52848	2.740864	65.99379	33.5958
STE23	YLR389C	9	12	21	30.18373	1.574803	5.060729	76.24521	38.83162
	YLR282C	9	12	22	83.66935	12.21374	5.711987	-0.89087	52.72727
RPS29A	YLR388W	9	12	23	38.81335	40.25045	23.40426	-1.2474	29.27461
HIS3	YOR202W	9	12	24	34.16667	15.44901	37.20238		
HIS3	YOR202W	9	13	1	21.42857	12.97641	6.813627		
	YLR065C	9	13	2	27.33447	3.516174	48.42767	29.25532	43.09524
TOS4	YLR183C	9	13	3	43.69973	27.67296	15.96821	59.17722	54.81928
	YLR064W	9	13	4	14.28571	10.13728	18.74491	41.58215	51.52355
SWI6	YLR182W	9	13	5	10.6383	8.298755	14.48598	49.01186	40.11976
	YLR063W	9	13	6	47.10145	32.66055	2.658228	50.58005	63.80597
VTA1	YLR181C	9	13	7	9.51586	49.5122	42.35075	40.38462	46.01227
BUD28	YLR062C	9	13	8	19.91215	17.81377	-0.67969	34.57031	32.97872
SAM1	YLR180W	9	13	9	2.857143	26.94805	-8.58209	30.9434	46.62162
RPL22A	YLR061W	9	13	10	10.80196	100	89.04762	52.66667	38.83929
	YLR179C	9	13	11	28.37838	-1.00853	-0.55249	55.16605	31.3099
REX2	YLR059C	9	13	12	28.65412	42.68943	10.28037	63	43.84858
TFS1	YLR178C	9	13	13	35.05155	10.19173	-7.31707	77.44946	48.96755
SHM2	YLR058C	9	13	14	68.38535	52.99807	-5.33333	40.30837	42.76923
	YLR177W	9	13	15	24.86911	17.02128	30.66202	-0.33058	7.788162
	YLR057W	9	13	16	22.14286	28.27586	-2.63381	65.4321	27.98834
RFX1	YLR176C	9	13	17	38.46154	11.71171	9.413708	57.19921	24.41472
ERG3	YLR056W	9	13	18	27.6131	92.73743	38.20225	32.76836	36.12167
IDP2	YLR174W	9	13	19	35.8047	91.15308	-0.67179	28.157	35.73201
SPT8	YLR055C	9	13	20	24.53988	46.17737	4.195804	11.07872	19.34307

	YLR173W	9	13	21	42.59472	23.91858	0.669643	-3.21782	22.54902
OSW2	YLR054C	9	13	22	53.16239	42.3676	-6.4114	58.22981	37.59398
DPH5	YLR172C	9	13	23	39.7878	4.316547	-11.6129	66.0626	39.03614
HIS3	YOR202W	9	13	24	44.26752	26.37704	40.98361		
HIS3	YOR202W	9	14	1	44.0367	13.81818	3.224013		
SPH1	YLR313C	9	14	2	2.222222	10.62335	47.42857	44.64945	43.20388
	YLR414C	9	14	3	11.05263	100	9.6	47.67932	44.19355
	YLR312C	9	14	4	16.37931	5.602241	-3.53753	37.2549	51.14007
	YLR413W	9	14	5	17.77509	7.831901	4.607509	45.11278	36.9281
	YLR311C	9	14	6	6.263499	16.54198	8.77193	48.00664	52.52809
	YLR412W	9	14	7	19.32773	8.779443	1.963865	40.37736	28.4345
IMH1	YLR309C	9	14	8	10	17.82946	29.47658	45.25547	35.64669
VIP1	YLR410W	9	14	9	-10.846	12.77778	55.58252	74.29467	57.26496
CDA1	YLR307W	9	14	10	2.712477	26.04651	2.887139	57.11864	42.29607
	YLR408C	9	14	11	7.092199	18.15154	13.48228	43.19328	38.55072
UBC12	YLR306W	9	14	12	27.33119	6.004619	9.69697	46.12676	48.05556
	YLR407W	9	14	13	23.09859	9.63481	17.97337	30.81285	32.71605
MET17	YLR303W	9	14	14	31.37255	16.80851	14.862	47.23618	53.40599
RPL31B	YLR406C	9	14	15	21.90942	12.65823	34.00335	51.22549	43.21767
EXG1	YLR300W	9	14	16	55.80229	23.17518	3.111111	71.32018	47.26027
DUS4	YLR405W	9	14	17	15.61997	13.95349	2.603664	68.43854	36.29032
ECM38	YLR299W	9	14	18	26.25954	16.7397	4.64455	47.15719	35.46911
	YLR404W	9	14	19	3.231598	20.31008	14.38356	60.60127	36.05634
	YLR297W	9	14	20	100	17.66862	8.980583	57.64526	31.54034
	YLR402W	9	14	21	73.36198	14.28571	40.82569	67.71037	34.30421
	YLR296W	9	14	22	32.31441	22.27378	11.72996	60.06885	33.83838
DUS3	YLR401C	9	14	23	16.66667	15.13218	33.16977	58.62944	55.11022
HIS3	YOR202W	9	14	24	35.93429	19.27512	26.26387		
HIS3	YOR202W	9	15	1	38.13869	22.95082	-34.6154		
ARP6	YLR085C	9	15	2	24.91166	15.48077	57.84884		
	YLR199C	9	15	3	24.91803	36.56148	22.2488		
RAX2	YLR084C	9	15	4	58.49923	8.98138	12.10247		
	YLR194C	9	15	5	64.44444	10.55227	-3.46715		
EMP70	YLR083C	9	15	6	5.604203	22.79349	-11.7586		
	YLR193C	9	15	7	41.75824	23.48485	20.41367		
SRL2	YLR082C	9	15	8	73.78641	40.67548	-10.2041		
HCR1	YLR192C	9	15	9	38.76812	43.24895	49.08062		
GAL2	YLR081W	9	15	10	94.23868	54.4086	23.86555		
PEX13	YLR191W	9	15	11	51.75439	21.79487	44.11765		
EMP46	YLR080W	9	15	12	12.57606	54.15385	43.50797		
MMR1	YLR190W	9	15	13	27.77778	13.18052	37.20038		
SIC1	YLR079W	9	15	14	17.0579	100	98.31933		
ATG26	YLR189C	9	15	15	5.882353	22.41546	11.8838		

FMP25	YLR077W	9	15	16	6.477733	37.86408	29.5122
MDL1	YLR188W	9	15	17	10.71429	21.45305	4.962779
	YLR073C	9	15	18	-3.64372	10.99612	6.09319
SKG3	YLR187W	9	15	19	28.35249	8.436725	7.136564
	YLR072W	9	15	20	-7.61421	19.33116	6.909789
RPL37A	YLR185W	9	15	21	65.08475	16.16509	15.2657
XYL2	YLR070C	9	15	22	63.80368	4.856895	14.27239
	YLR184W	9	15	23	17.78169	24.45141	29.1939
HIS3	YOR202W	9	15	24	-4.67572	26.41509	31.40028
HIS3	YOR202W	9	16	1	2.507837	35.19553	0.942761
HIS3	YOR202W	9	16	2	3.235294	41.22353	59.29329
HIS3	YOR202W	9	16	3	-8.16993	36.90531	50.99085
HIS3	YOR202W	9	16	4	6.169297	46.63114	23.39413
HIS3	YOR202W	9	16	5	12.39936	14.96599	45.01718
HIS3	YOR202W	9	16	6	27.49676	0.616808	10.9437
HIS3	YOR202W	9	16	7	64.41006	25.29343	30.30075
HIS3	YOR202W	9	16	8	47.76632	-0.60377	16.97793
HIS3	YOR202W	9	16	9	23.65931	3.276836	36.41618
HIS3	YOR202W	9	16	10	76.13365	8.87522	9.31677
HIS3	YOR202W	9	16	11	10.41456	28.12339	-12.2517
HIS3	YOR202W	9	16	12	53.63735	13.49845	2.197802
HIS3	YOR202W	9	16	13	72.34043	48.56512	-1.5748
HIS3	YOR202W	9	16	14	73.95349	66.30435	20.30744
HIS3	YOR202W	9	16	15	18.591	9.005376	2.166477
HIS3	YOR202W	9	16	16	16.0221	1.888489	-2.93132
HIS3	YOR202W	9	16	17	63.15789	-12.2823	-4.01929
HIS3	YOR202W	9	16	18	33.5084	25.51471	12.57806
HIS3	YOR202W	9	16	19	40.26187	1.450231	-5.78176
HIS3	YOR202W	9	16	20	40.54054	11.11987	-6.71642
HIS3	YOR202W	9	16	21	52.27273	-3.60679	19.37086
HIS3	YOR202W	9	16	22	61.35266	8	19.40639
HIS3	YOR202W	9	16	23	49.53271	16.12466	42.05519
HIS3	YOR202W	9	16	24			28.7844
HIS3	YOR202W	10	1	1	46.5587	57.56771	24.38434
HIS3	YOR202W	10	1	2	48.1896	35.79109	58.15684
HIS3	YOR202W	10	1	3	69.50355	-4.3257	69.36416
HIS3	YOR202W	10	1	4	72.12766	54.9126	51.97368
HIS3	YOR202W	10	1	5	19.0061	-14.0909	63.92456
HIS3	YOR202W	10	1	6	27.69517	-51.5517	70.06069
HIS3	YOR202W	10	1	7	45.77703	10.12793	71.2216
HIS3	YOR202W	10	1	8	15.73546	10.2402	57.07178
HIS3	YOR202W	10	1	9	8.604651	32.19107	64.51224
HIS3	YOR202W	10	1	10	38.70968	3.656821	51.75182

HIS3	YOR202W	10	1	11	48.69993	-14.4578	64.43265		
HIS3	YOR202W	10	1	12	40.99585	10.76582	67.8487		
HIS3	YOR202W	10	1	13	38.3378	14.58128	74.60692		
HIS3	YOR202W	10	1	14	39.35811	21.06244	65.16245		
HIS3	YOR202W	10	1	15	35.9204	-11.3235	69.27651		
HIS3	YOR202W	10	1	16	35.46638	-13.2275	64.52145		
HIS3	YOR202W	10	1	17	38.8303	19.15789	72.60594		
HIS3	YOR202W	10	1	18	43.88985	17.09402	60.63947		
HIS3	YOR202W	10	1	19	29.39481	-4.86726	63.39458		
HIS3	YOR202W	10	1	20	44.43626	9.263658	65.71114		
HIS3	YOR202W	10	1	21	35.79952	1.242236	72.49376		
HIS3	YOR202W	10	1	22	33.1	13.34149	64.15908		
HIS3	YOR202W	10	1	23	29.02564	2.186589	61.66754		
HIS3	YOR202W	10	1	24	62.7323	69.46265	69.86766		
HIS3	YOR202W	10	2	1	61.68421	38.75339	55.12412		
								missing colony	missing colony
IOC4	YMR044W	10	2	2	25.80645	-16.5877	49.64739		
	YMR158C-B	10	2	3	13.60691	28.00609	59.6875	20.28986	31.46552
ARG80	YMR042W	10	2	4	14.86611	-59.2437	57.7634	57.71605	29.03981
FMP39	YMR157C	10	2	5	19.24399	25.52011	62.56299	18.91026	27.45098
	YMR041C	10	2	6	21.11984	-18.543	53.85757	34.36293	12.07729
TPP1	YMR156C	10	2	7	11.3164	-20.4082	40.05806	47.00704	12.43781
YET2	YMR040W	10	2	8	18.71768	32.41955	61.44715	44.96124	20.19704
	YMR155W	10	2	9	18.01802	18.77193	59.35728	55.83483	16.79012
SUB1	YMR039C	10	2	10	19.46309	61.79245	58.58676	71.4795	35.21505
RIM13	YMR154C	10	2	11	66.18986	55.49669	62.65985	52.64957	19.7861
LYS7	YMR038C	10	2	12	30.96085	36.88312	69.50549	52.24417	34.96333
NUP53	YMR153W	10	2	13	58.45697	70	64.67768	50.9839	-0.59172
MSN2	YMR037C	10	2	14	2.557201	71.09635	65.20446	55.60821	11.5493
	YMR153C-A	10	2	15	56.06796	32.22836	63.66348	3.038674	13.52657
MIH1	YMR036C	10	2	16	26.85083	67.04197	61.93428	60.51437	10.21505
YIM1	YMR152W	10	2	17	13.74745	17.1875	63.17949	68.24926	15.89242
IMP2	YMR035W	10	2	18	13.19444	28.80143	65.95128	56.32582	9.217877
	YMR148W	10	2	19	13.31237	34.48276	64.10768	-11.9826	1.072386
	YMR034C	10	2	20	11.58798	6.788512	59.61686	-1.99005	7.228916
	YMR147W	10	2	21	15.58855	21.981	57.57403	63.92857	24.66368
	YMR031W-A	10	2	22	26.28931	17.81377	68.85246	46.47676	24.32432
NDE1	YMR145C	10	2	23	41.32139	31.46552	59.27835	40.64626	27.56892
HIS3	YOR202W	10	2	24	34.29158	17.1875	60.02468		
HIS3	YOR202W	10	3	1	-24.165	33.84956	57.74336		
	YLR428C	10	3	2	24.87844	-15.852	50.65584	41.97349	40.94203

MFT1	YML062C	10	3	3	6.392199	-23.2432	59.92063	41.89406	23.95062
MAG2	YLR427W	10	3	4	31.39653	55.06466	51.24125	14.31925	33.24397
OGG1	YML060W	10	3	5	36.20885	-54.4118	43.7058	38.58521	16.93002
	YLR426W	10	3	6	15.76087	28.55228	60.14235	37.84355	19.89101
NTE1	YML059C	10	3	7	26.30597	55.19077	56.15711	47.54386	20.55138
TUS1	YLR425W	10	3	8	29.02299	48.13478	66.72932	58.21138	45.49878
SML1	YML058W	10	3	9	14.50578	26.49842	62.42127	50.79618	12.92876
ATG17	YLR423C	10	3	10	27.9661	43.9781	60.88517	50.44444	22.93763
	YML058C-A	10	3	11	14.7651	55.42986	63.49047	68.50829	23.23009
	YLR422W	10	3	12	24.31243	63.22778	60.80526	36.25806	11.30435
CMP2	YML057W	10	3	13	24.45415	5.300353	72.12944	72.39165	21.14883
RPN13	YLR421C	10	3	14	27.52497	76.84918	59.84848	13.7218	16.75532
IMD4	YML056C	10	3	15	33.91204	63.10345	59.46602	50.83207	14.86146
URA4	YLR420W	10	3	16	22.03742	52.58824	59.06788	45.88235	13.31719
SPC2	YML055W	10	3	17	36.39706	18.28794	66.43836	50.26643	30.60748
CDC73	YLR418C	10	3	18	18.65772	-9.11765	67.54564	64.20582	12.0915
CYB2	YML054C	10	3	19	15.96916	45.89878	58.65604	63.48123	16.70886
	YLR416C	10	3	20	59.1029	59.60265	69.23077	55.5938	21.5
	YML053C	10	3	21	73.16103	-9.84127	65.26909	46.65523	22.38806
	YLR415C	10	3	22	23.81413	37.27634	68.06283	16.59292	29.57111
SUR7	YML052W	10	3	23	19.6984	19.13978	67.37463	40.53156	32.02765
HIS3	YOR202W	10	3	24	46.64603	-0.45317	66.25659		
HIS3	YOR202W	10	4	1	-12.3457	-1.24014	57.19298		
RIM9	YMR063W	10	4	2	-13.7755	27.41935	38.04348	42.20532	32.71605
ALD2	YMR170C	10	4	3	15.17691	32.32759	51.26582	55.4295	36.74541
TOM37	YMR060C	10	4	4	-5.54855	68.47947	56.8152	-7.78443	7.178218
ALD3	YMR169c	10	4	5	15.78354	47.70115	67.28281	59.02778	16.71159
FET3	YMR058W	10	4	6	28.24176	-43.5083	69.62923	41.30841	13.7931
MLH1	YMR167W	10	4	7	41.84149	23.05825	63.97985	87.76224	35.61644
	YMR057C	10	4	8	12.82609	-11.0092	69.21087	60.52174	26.08696
	YMR166C	10	4	9	5.731707	35.55195	62.48349	54.12131	11.76471
AAC1	YMR056C	10	4	10	20.02488	34.80826	61.32964	missing colony	missing colony
MSS11	YMR164C	10	4	11	16.55556	-49.7717	56.53358	missing colony	missing colony
BUB2	YMR055C	10	4	12	24.4186	2.702703	66.51115	missing colony	missing colony
	YMR163C	10	4	13	19.97875	-29.0429	66.72582	61.91136	31.08808
STV1	YMR054W	10	4	14	55.61497	66.14786	69.22608	16.94915	0.539084
DNF3	YMR162C	10	4	15	35.36896	-3.52941	66.03212	61.3963	14.67577
STB2	YMR053C	10	4	16	43.34601	13.97059	63.43923	46.80851	18.97436
HLJ1	YMR161W	10	4	17	10.40975	-67.462	62.2544	58.63309	28.22384
FAR3	YMR052W	10	4	18	29.24312	64.3401	71.84901	52.45902	17.2619

	YMR160W	10	4	19	23.37079	37.72242	57.99127	73.17073	29.90431
	YMR052C-								
	A	10	4	20	22.63798	46.68335	59.97286	57.37123	22.63158
ATG16	YMR159C	10	4	21	-13.3436	6.701571	63.14348	45.50669	13.25648
CSM3	YMR048W	10	4	22	-9.60699	61.959	56.42458	63.49481	26.78571
	YMR158W-								
	A	10	4	23	19.31106	47.71372	66.6326	63.19648	28.92562
HIS3	YOR202W	10	4	24	23.82705	-11.2434	72.72727		
HIS3	YOR202W	10	5	1	36.51877	11.03753	75.96542		
SIR3	YLR442C	10	5	2	22.3092	45.01953	55.77596	60.36415	37.88187
	YML081C-								
ATP18	A	10	5	3	2.520046	50.12438	46.81015	55.86081	31.11888
RPS1A	YLR441C	10	5	4	13.00505	35.84475	40.21622	66.32479	38.83792
WAR1	YML076C	10	5	5	20.80808	50.35714	60.1687	58.87372	27
CAR2	YLR438W	10	5	6	16.40798	54.01015	65.10353	49.12892	28.98551
HMG1	YML075C	10	5	7	9.961686	36.84211	81.32296	54.35203	14.13428
	YLR437C	10	5	8	17.66784	47.61905	61.04046	63.32117	25.1928
FPR3	YML074C	10	5	9	13.2336	-9.53678	57.48098	13.45646	3.333333
ECM30	YLR436C	10	5	10	18.21472	54.11298	59.69856	47.28261	16.77419
								missing	
TCB3	YML072C	10	5	11	16.24424	28.47222	75.05995	colony	missing colony
								missing	
TSR2	YLR435W	10	5	12	66.81223	64.85714	54.04556	colony	missing colony
COG8	YML071C	10	5	13	3.071672	64.48311	64.74279	48.64865	25.44529
	YLR434C	10	5	14	36.10755	2.572347	66.73065	48.54202	9.935897
DAK1	YML070W	10	5	15	30.67633	63.56757	63.6731	52.85235	21.89974
CNA1	YLR433C	10	5	16	28.98904	60.34173	55.27177	53.45133	20.94972
ITT1	YML068W	10	5	17	17.51553	60.07853	74.19836	55.40541	18.97106
IMD3	YLR432W	10	5	18	33.78378	0	68.92285	72.44733	26.75676
ERV41	YML067C	10	5	19	17.74554	63.57553	62.91955	-60.6952	27.46114
ATG23	YLR431C	10	5	20	17.76251	-4.52962	62.31648	51.03448	28.45304
SMA2	YML066C	10	5	21	66.49746	68.12749	63.10559	54.36364	26.13982
CRN1	YLR429W	10	5	22	27.84689	-9.29705	69.80983	47.36842	35.92677
RPS1B	YML063W	10	5	23	25.22388	-21.3087	62.16867	56.78119	30.38961
HIS3	YOR202W	10	5	24	21.83794	31.37255	59.56522		
HIS3	YOR202W	10	6	1	84.3413	21.5625	81.5047		
	YMR086C-								
	A	10	6	2	22.47191	41.05691	36.40257	43.66438	33.10811
SPT21	YMR179W	10	6	3	28.0303	39.1494	55.44	39.15094	45.953
	YMR085W	10	6	4	11.3369	26.72751	51.66772	64.9635	32.96089
	YMR178W	10	6	5	34.53725	54.06137	57.65633	26.51822	28.07018
NAM7	YMR080C	10	6	6	47.6	-22.708	74.33743	52.63158	15.70248
MMT1	YMR177W	10	6	7	25.12195	-15.6934	65.18519	35.70128	22.22222
CTF18	YMR078C	10	6	8	29.05983	-39.5631	58.74027	65.24954	16.92308

ECM5	YMR176W	10	6	9	13.10734	43.85321	62.94416	58.2038	22.16359
RCO1	YMR075W	10	6	10	13.34094	-9.27357	65.74394	15.38462	49.43311
SIP18	YMR175w	10	6	11	26.18758	48.1665	67.56919	35.45966	30.30303
PAI3	YMR075C-A	10	6	12	13.37209	0.917431	73.24324	2.931596	44.79638
	YMR174C	10	6	13	-4.90308	15.70732	77.37705	51.89655	48.20359
	YMR073C	10	6	14	41.60401	48.88124	63.43391	37.31656	25.09653
MOT3	YMR173W-A	10	6	15	36.65835	37.38019	69.7173	50.84746	25.76177
	YMR070W	10	6	16	-3.5309	23.1068	66.9863	40.28777	22.01592
	DDR48	10	6	17	21.13636	-18.1818	62.4374	71.96721	28.46154
AVO2	YMR068W	10	6	18	30.99548	-11.2285	71.14094	65.4321	31.65829
HOT1	YMR172W	10	6	19	3.068182	-14.9451	61.02362	58.19398	28.125
UBX4	YMR067C	10	6	20	19.33702	63.64594	67.79266	50.08403	21.95846
KAR5	YMR172C-A	10	6	21	21.87803	56.87569	63.43724	51.60772	34.78261
	YMR065W	10	6	22	55.07766	39.87654	68.74725	69.07776	24.75962
	YMR171C	10	6	23	22.83885	65.06899	71.422	44.9635	43.85593
HIS3	YOR202W	10	6	24	17.08428	-38.5214	91.28065		
HIS3	YOR202W	10	7	1	78.07167	21.51899	50		
FMP27	YLR454W	10	7	2	37.77778	19.2582	43.90582	41.94313	59.78091
CAC2	YML102W	10	7	3	14.12935	8.983957	63.12275	41.22807	-24.8366
RIF2	YLR453C	10	7	4	39.37888	17.27159	57.19274	28.61736	51.3465
SST2	YML012C-A	10	7	5	2.44898	-15.9091	73.80531	31.94444	46.48148
	YLR452C	10	7	6	15.96548	40	69.49153	21.17904	54.04475
	CUE4	10	7	7	31.01415	56.41646	61.34831	32.14286	63.01824
LEU3	YLR451W	10	7	8	23.28431	27.96093	61.3968	36.9906	67.38411
HMG2	YML100W-A	10	7	9	13.19797	59.09091	64.85569	35.79235	69.87741
	YLR450W	10	7	10	20.8238	62.83784	73.81387	35.64955	73.82876
	TSL1	10	7	11	14.78953	60.30612	73.60179	37.59791	64.95327
FPR4	YLR449W	10	7	12	14.41441	-35.9155	75.25692	29.62963	60.25039
ARG81	YML099C	10	7	13	5.231144	-13.9752	67.8681	32.66476	-33.0484
RPL6B	YLR448W	10	7	14	40.33149	65.34653	63.23887	63.60759	78.77907
VPS9	YML097C	10	7	15	#DIV/0!	95.16129	65.11628	28.88889	54.02098
RAD10	YLR446W	10	7	16	18.2598	26.95214	73.97356	36	57.4359
	YML096W	10	7	17	41.30982	-3.93701	63.12133	26.4631	60.65858
	YLR445W	10	7	18	8.691099	51.79426	66.69866	35.32934	60.52632
GIM5	YML095C	10	7	19	11.72333	2.460203	66.66667	39.41176	40.75342
	YLR444C	10	7	20	25.44554	73.77919	66.27027	34.55657	49.66216
ECM7	YML094W	10	7	21	40.05935	29.24528	59.54524	38.65337	-0.97324
ECM7	YLR443W	10	7	22	40.79422	-10.4027	68.39506	44.66501	2.189781
	YML090W	10	7	23	11.58537	53.90374	69.77291	34.94505	68.69436

HIS3	YOR202W	10	7	24	20.49808	26.04938	70.63622		
HIS3	YOR202W	10	8	1	83.26026	3.703704	42.28487		
	YMR103C	10	8	2	48.5936	8.495822	62.41935	39.0925	49.09091
APP2	YMR192W	10	8	3	14.2255	-20.7951	63.32952	67.72277	40.99217
	YMR102C	10	8	4	-25.0663	69.88485	60.18433	32.26415	35.79677
SPG5	YMR191W	10	8	5	22.4158	41.91344	55.11364	56.13718	29.26136
SRT1	YMR101C	10	8	6	44.74053	69.85699	63.32398	65.10319	23.8342
SGS1	YMR190C	10	8	7	13.1934	30.73529	66.20267	55.2017	36.53251
MUB1	YMR100W	10	8	8	4.851158	40.60606	66.63914	23.01038	41.96185
GCV2	YMR189W	10	8	9	22.22222	-7.93651	77.81155	62.54613	32.1519
	YMR099C	10	8	10	20.1995	37.0945	65.72188	64.63415	37.2449
MRPS17	YMR188C	10	8	11	19.95104	49.15254	71.23153	56.82968	38.00539
SNZ1	YMR096W	10	8	12	26.6756	27.55418	63.90041	53.7037	27.40113
	YMR187C	10	8	13	-29.0625	34.96732	64.48802	54.79876	35.60209
SNO1	YMR095C	10	8	14	14.34426	35.90604	66.6025	59.80707	37.15847
HSC82	YMR186W	10	8	15	13.17568	3.918495	58.83495	65.0655	37.6
AIP1	YMR092C	10	8	16	9.513274	27.67154	75.83333	37.15415	33.0303
SSO2	YMR183C	10	8	17	0.813008	15.95442	69.62916	72.08955	34.8285
VBA1	YMR088C	10	8	18	20.48458	49.8452	58.85226	9.88075	27.02703
RGM1	YMR182C	10	8	19	20.89844	59.57711	75.43071	75.47771	44.02174
	YMR087W	10	8	20	10.63158	6.332139	62.3301	53.24459	38.82979
	YMR181C	10	8	21	11.11111	59.79899	62.26623	50	37.33333
	YMR086W	10	8	22	-29.4425	-35.8885	70.08634	50.31348	44.97354
CTL1	YMR180C	10	8	23	9.962049	-20.078	79.53368	80.70652	52.62055
HIS3	YOR202W	10	8	24	28.69641	5.625	71.33127		
HIS3	YOR202W	10	9	1	83.43531	-15.1329	82.09769		
YAP1	YML007W	10	9	2	55.03792	16	63.05201	57.81759	33.15927
NGL3	YML118W	10	9	3	-10.8374	-15.5354	60.34483	15.98985	29.17847
GIS4	YML006C	10	9	4	28.04171	55.91286	64.70588	62.60297	41.38889
	YML117W-A	10	9	5	5.839416	59.51417	63.88889	55.42636	33.43373
TRM12	YML005W	10	9	6	10.34078	63.10573	64.49735	46.09929	38.48485
NAB6	YML117W	10	9	7	1.234568	6.843575	50.85537	61.12116	34.05405
GLO1	YML004C	10	9	8	19.88304	-46.7391	72.71073	33.09222	40.34582
ATR1	YML116W	10	9	9	22.02462	55.70971	63.24324	55.79323	36.44068
	YML003W	10	9	10	23.58491	55.39499	63.49643	60.27165	41.66667
DAT1	YML113W	10	9	11	28.15249	61.06195	48.84591	62.81407	44.28969
	YML002W	10	9	12	49.27152	69.207	67.68448	65.7277	37.53501
ZDS2	YML109W	10	9	13	18.06283	44.18367	67.20895	55.14019	37.17579
YPT7	YML001W	10	9	14	4.479283	38.7931	55.81854	41.08216	40.26403
	YML108W	10	9	15	2.587322	50.4451	73.28605	3.183024	33.09353
PAU4	YLR461W	10	9	16	5.350318	62.70677	57.23125	59.93691	45.30831
	YML107C	10	9	17	4.055944	17.59379	64.52917	11.27168	49.19094

	YLR460C	10	9	18	15.2381	28.72996	65.38776	56.2599	45.75
URA5	YML106W	10	9	19	2.145411	9.04325	76.24848	-14.5503	40.34582
	YLR456W	10	9	20	41.54653	16.37108	64.19214	70.50243	53.0303
MDM1	YML104C	10	9	21	0.923077	6.855792	64.42364	59.27152	47.61905
	YLR455W	10	9	22	35.08772	46.7344	69.11488	61.70886	51.62907
NUP188	YML103C	10	9	23	72.25806	-1.26126	63.02083	47.38676	49.54955
HIS3	YOR202W	10	9	24	11.54381	6.16622	77.37705		
HIS3	YOR202W	10	10	1	94.35897	45.3125	78.79158		
ASI1	YMR119W	10	10	2	66.84073	54.09253	59.24113	54.43609	44.71545
	YMR206W	10	10	3	32.21851	25.06329	57.82038	52.91829	35.71429
ASC1	YMR116C	10	10	4	63.21467	20.47414	84.15033	68.91089	51.42857
PFK2	YMR205C	10	10	5	52.25806	15.9204	65.12141	66.66667	44.21365
FMP24	YMR115W	10	10	6	-6.78851	62.05788	53.45036	47.33096	39.28571
	YMR204C	10	10	7	9.485714	-13.0797	55.36268	52.9511	37.79762
	YMR114C	10	10	8	8.826816	33.67347	62.85112	59.18699	44.15888
ERG2	YMR202W	10	10	9	13.92904	14.24658	75.57058	60	40.51447
	YMR111C	10	10	10	11.75694	50.93085	64.51613	53.7415	45.50562
RAD14	YMR201C	10	10	11	32.42134	51.14155	61.43216	33.4471	46.38554
	YMR110C	10	10	12	60.0243	64.65116	65.30612	91.19171	74.61774
CLN1	YMR199W	10	10	13	18.83657	35.59322	68.58805	13.24786	43.12668
MYO5	YMR109W	10	10	14	12.4487	24.59499	59.35974	25.12998	38.01653
CIK1	YMR198W	10	10	15	11.05193	11.06501	68.23064	10.91954	43.95604
SPG4	YMR107W	10	10	16	22.48603	34.57627	61.42778	69.95885	44.59103
	YMR196W	10	10	17	6.849315	10.42524	76.43098	57.57098	42.23602
YKU80	YMR106C	10	10	18	-1.68472	-8.37989	74.8924	47.08819	48.65591
ICY1	YMR195W	10	10	19	4.265403	16.75063	58.80109	61.59052	40.84507
PGM2	YMR105C	10	10	20	16.61891	17.24138	81.7817	76.78275	48.00995
RPL36A	YMR194W	10	10	21	2.756892	4.72103	78.6106	-9.5672	38.74172
YPK2	YMR104C	10	10	22	53.5503	18.20128	42.07317	64.5768	47.72182
	YMR193C-A	10	10	23	43.47357	37.9668	66.02604	51.01721	54.03423
HIS3	YOR202W	10	10	24	40.47393	35.04274	68.30572		
HIS3	YOR202W	10	11	1	73.84732	-9.20044	75.4856		
OST6	YML019W	10	11	2	71.89409	15.86476	68.8478	50.66667	47.97441
MVP1	YMR004W	10	11	3	43.89189	10.55684	56.33142	27.05314	25.13514
	YML018C	10	11	4	38.98305	50.52879	52.65511	58.08383	35.02674
	YMR003W	10	11	5	28.125	20.04154	55.67851	53.02548	46.66667
PSP2	YML017W	10	11	6	1.692866	-3.16456	54.65884	46.72269	37.89174
	YMR002W	10	11	7	27.42616	20.95808	60.17094	56.31659	47.63231
PPZ1	YML016C	10	11	8	2.371542	47.27273	62.64397	26.54867	41.97183
	YML131W	10	11	9	0.127065	19.46472	58.35616	39.96448	41.83673
SEL1	YML013W	10	11	10	6.134094	19.85816	66.92587	32.6087	23.54497
MSC1	YML128C	10	11	11	8.059024	16.45367	64.97765	49.59742	44.23077

	YML013C-A	10	11	12	62.67696	55.63549	67.6913	76.91002	65.48387
TUB3	YML124C	10	11	13	16.86747	26.15658	69.19255	25.45788	38.65031
ERV25	YML012W	10	11	14	-13.6525	3.571429	59.27483	58.05471	49.0085
PHO84	YML123C	10	11	15	6.268222	29.44785	58.25985	55.68513	41.16162
	YML011C	10	11	16	5.30504	-3.04878	73.05977	4.030227	42.22874
	YML122C	10	11	17	-12.8726	11.57347	59.7367	69.6	48.09783
	YML010C-B	10	11	18	-24.8457	2.328767	62.01456	39.30958	37.19677
GTR1	YML121W	10	11	19	4.755784	10.60606	66.16335	73.79032	50.77882
MRPL39	YML009c	10	11	20	0.550661	41.03967	54.62833	53.98671	34.21927
NDI1	YML120C	10	11	21	62.87313	53.56164	67.91277	74.16546	56.6586
ERG6	YML008C	10	11	22	77.19298	71.58273	64.64088	78.61386	78.11448
	YML119W	10	11	23	8.551069	16.50794	90.66524	68.75	53.20665
HIS3	YOR202W	10	11	24	-42.8571	33.69697	73.32985		
HIS3	YOR202W	10	12	1	56.26186	35.90244	54.37788		
JLP2	YMR132C	10	12	2	83.64718	24.39024	58.0511	55.43478	35.2381
MRE11	YMR224C	10	12	3	59.86486	60.94276	50.16892	58.15324	51.97568
	YMR130W	10	12	4	52.22073	53.12955	51.29288	24.16452	30.0995
UBP8	YMR223W	10	12	5	34.81928	17.87995	85.20115	7.29927	35.60606
POM152	YMR129W	10	12	6	35.73487	34.33071	63.51626	61.13074	79.0404
FSH2	YMR222C	10	12	7	9.476662	16.31579	65.08408	37.36462	36.28809
SAS2	YMR127C	10	12	8	44.01198	67.10875	70.77244	64.51613	53.20334
FMP42	YMR221C	10	12	9	2.060606	15.07177	60.51081	53.38208	45.79946
DLT1	YMR126C	10	12	10	-1.76101	12.15753	70	35.20833	48.56397
ESC1	YMR219W	10	12	11	-7.7455	17.35537	62.69663	55.55556	45.45455
	YMR124W	10	12	12	5.707196	21.91781	69.64785	52.29202	48.27586
SKY1	YMR216C	10	12	13	-3.16056	2.033037	56.99627	6.387226	20.66327
PKR1	YMR123W	10	12	14	9.042553	-0.92593	68.28165	48.26255	35.21127
GAS3	YMR215W	10	12	15	5.086705	-5.78662	51.23457	20.50817	41.80791
	YMR122C	10	12	16	7.570621	-4.22125	54.83871	12.94821	48.94614
SCJ1	YMR214W	10	12	17	6.919946	-18.7692	57.01408	47.66506	42.50765
RPL15B	YMR121C	10	12	18	4.819277	-1.20482	62.2108	-10.0304	52.61905
	YMR210W	10	12	19	-15.2956	-3.26705	61.04294	44.29012	46.29156
ADE17	YMR120C	10	12	20	-12.2525	-26.2626	59.89305	-1.15207	44.05145
	YMR209C	10	12	21	-6.2982	-0.15576	65.92689	64.63768	52.33645
	YMR119W-A	10	12	22	2.378256	34.31818	79.38788	31.69014	51.53664
HFA1	YMR207C	10	12	23	46.01399	63.40206	74.9531	29.274	54.27252
HIS3	YOR202W	10	12	24	20.79022	24.82168	70.62187		
HIS3	YOR202W	10	13	1	52.09924	23.71706	79.03226		
SRC1	YML034W	10	13	2	78.15722	27.01987	53.95841	53.60825	36.40167
	YMR018W	10	13	3	70.01621	29.19075	54.3335	61.15214	42.96482

	YML033W	10	13	4	58.7156	32.66833	52.50583	50.89723	39.90025
SPO20	YMR017W	10	13	5	49.31846	20.46005	49.77099	52.26537	34.01015
RAD52	YML032C	10	13	6	53.66162	4.868914	73.10443	56.18321	57.53425
SOK2	YMR016C	10	13	7	39.64706	12.78539	79.69849	43.97163	43.03797
	YML030W	10	13	8	-10.2144	2.38379	53.47692	47.25664	40.70081
ERG5	YMR015C	10	13	9	-5.9126	16.66667	64.89362	58.33333	49.43182
USA1	YML029W	10	13	10	-3.42936	33.50318	69.53028	-2.33645	50
CLU1	YMR012W	10	13	11	4.680365	10.45296	64.64461	59.87362	48.6413
TSA1	YML028W	10	13	12	-3.39367	13.1291	68.06387	60.67961	52.07756
HXT2	YMR011W	10	13	13	5.794948	12.14689	66.82283	46.86998	41.35338
YOX1	YML027W	10	13	14	5.675369	12.51799	53.03226	69.21899	47.5827
	YMR010W	10	13	15	36.57351	57.32861	71.20456	68.20988	48.91566
RPS18B	YML026C	10	13	16	2.673147	16.06426	51.00503	44.21053	50.27624
	YMR009W	10	13	17	17.17922	35.8209	69.18489	48.04469	51.0101
APT1	YML022W	10	13	18	95.33333	67.5	62.14286	58.74016	54.0201
PLB1	YMR008C	10	13	19	-14.3054	21.41901	55.20833	47.74306	43.81443
UNG1	YML021C	10	13	20	41.63043	54.37853	73.9816	68.17391	60.82949
	YMR007W	10	13	21	-29.0715	58.58931	57.494	29.82143	38.46154
	YML020W	10	13	22	16.54762	36.99732	51.25839	62.8866	47.38292
PLB2	YMR006C	10	13	23	35.89212	16.93548	57.92541	81.65761	55.65032
HIS3	YOR202W	10	13	24	69.47464	33.28632	71.01329		
HIS3	YOR202W	10	14	1	46.97674	28.17734	61.47496		
	YMR144W	10	14	2	17.25616	13.55748	68.5907	42.98507	40.30172
	YMR244C-A	10	14	3	99.27361	0.32	73.91304	31.69643	27.06767
RPS16A	YMR143W	10	14	4	69.69274	25.68966	68.70813	43.50797	42.6087
ZRC1	YMR243C	10	14	5	69.0205	5.735661	58.21745	43.69115	46.08501
	YMR141C	10	14	6	60.54591	27.15895	59.75359	64.81224	54.87528
YHM2	YMR241W	10	14	7	36.01583	56.86275	59.65281	51.88834	46.78899
							missing colony	missing colony	
SIP5	YMR140W	10	14	8	26.6756	-12.6806	59.39553		
DFG5	YMR238W	10	14	9	-1.5873	-7.09135	59.43396	23.80952	48.47059
RIM11	YMR139W	10	14	10	8.738938	-11.9342	63.65947	59.46372	44.47592
BCH1	YMR237W	10	14	11	1.990632	-20.1309	63.67738	58.69219	45.21739
CIN4	YMR138W	10	14	12	6.455399	4.347826	38.37342	76.2406	54.82353
RNH1	YMR234W	10	14	13	2.393617	26.93333	57.5939	28.62595	39.89501
PSO2	YMR137C	10	14	14	6.823028	6.625	50.13902	58.85023	51.35135
TRI1	YMR233W	10	14	15	7.255139	34.19619	51.82927	41.72414	58.13397
GAT2	YMR136W	10	14	16	6.666667	15.13514	64.21053	66.56442	44.18605
FUS2	YMR232W	10	14	17	10.69182	54.75862	60.39755	65.07463	52.95567
	YMR135W-A	10	14	18	9.662921	17.60243	60.81871	56.28141	49.29907
RPS10B	YMR230W	10	14	19	-16.7862	67.44433	66.66667	51.13788	52.75779

GID8	YMR135C	10	14	20	-14.157	-6.56566	57.55452	36.62551	44.59459
	YMR226C	10	14	21	3.870162	51.97452	52.72851	69.78967	55.59105
REC114	YMR133W	10	14	22	-2.91508	51.51515	61.8172	-38.5802	46.36364
MRPL44	YMR225C	10	14	23	-112.15	14.11531	57.88656	4.057279	43.6853
HIS3	YOR202W	10	14	24	-6.80804	27.22949	92.44012		
HIS3	YOR202W	10	15	1	12.75328	5.315615	88.76404		
GAL80	YML051W	10	15	2	41.86603	-14.1141	64.67722		
	YMR031C	10	15	3	78.7796	9.585799	70.17692		
	YML048W-A	10	15	4	85.05155	24.91228	60.60976		
RSF1	YMR030W	10	15	5	68.35443	74.26901	57.46556		
GSF2	YML048W	10	15	6	76.5445	12.20196	78.53736		
FAR8	YMR029C	10	15	7	45.27607	37.97619	61.38329		
PRM6	YML047C	10	15	8	44.90482	-15.2203	46.44608		
HRT2	YMR027W	10	15	9	4.885993	40.58537	65.84906		
CAT2	YML042W	10	15	10	8.422175	50.55165	59.00415		
PEX12	YMR026C	10	15	11	-1.65877	-8.59873	63.20593		
VPS71	YML041C	10	15	12	2.714932	-31.8182	53.73721		
CSI1	YMR025W	10	15	13	15.5351	21.57773	50.98548		
YMD8	YML038C	10	15	14	63.56707	76.0139	63.62876		
MSS1	YMR023C	10	15	15	4.079498	18.83746	64.57971		
	YML037C	10	15	16	6.73516	55.29595	44.36424		
QRI8	YMR022W	10	15	17	2.576112	52.34234	52.6284		
	YML036W	10	15	18	4.892966	45.57235	51.9337		
MAC1	YMR021C	10	15	19	7.403315	-9.57854	55		
	YML035C-A	10	15	20	1.287554	-2.8169	52.22615		
FMS1	YMR020W	10	15	21	-3.27684	-17.6634	53.69844		
AMD1	YML035C	10	15	22	#DIV/0!	#DIV/0!	3.896104		
STB4	YMR019W	10	15	23	50.27747	-235.211	53.59043		
HIS3	YOR202W	10	15	24	30.66955	12.62554	100		
HIS3	YOR202W	10	16	1	1.420455	-8.3739	56.43564		
HIS3	YOR202W	10	16	2	51.26582	-34.1748	42.5184		
HIS3	YOR202W	10	16	3	45.39249	-54.6233	60		
HIS3	YOR202W	10	16	4	75.8034	-32.7797	59.31454		
HIS3	YOR202W	10	16	5	84.53782	-63.6986	51.28505		
HIS3	YOR202W	10	16	6	78.27076	-20.591	40.82988		
HIS3	YOR202W	10	16	7	58.28313	-38.9552	43.18182		
HIS3	YOR202W	10	16	8	66.95652	-19.4305	59.78618		
HIS3	YOR202W	10	16	9	42.96296	-41.3965	57.58755		
HIS3	YOR202W	10	16	10	48.03695	-28.0172	62.38532		
HIS3	YOR202W	10	16	11	30.45455	-3.02572	44.87555		
HIS3	YOR202W	10	16	12	12.97108	-43.433	75.79162		

HIS3	YOR202W	10	16	13	15.24202	-24.0521	65.56082		
HIS3	YOR202W	10	16	14	4.952381	-45.6349	77.99325		
HIS3	YOR202W	10	16	15	1.168969	-42.4552	68.16648		
HIS3	YOR202W	10	16	16	2.544769	-24.533	68.11398		
HIS3	YOR202W	10	16	17	12.7182	57.70283	53.35943		
HIS3	YOR202W	10	16	18	4.855372	-14.3739	64.0625		
HIS3	YOR202W	10	16	19	7.777778	-9.91736	66.69196		
HIS3	YOR202W	10	16	20	8.333333	31.35135	54.65549		
HIS3	YOR202W	10	16	21	5.933118	-2.30179	51.98883		
HIS3	YOR202W	10	16	22	51.6129	24.4511	67.57044		
HIS3	YOR202W	10	16	23	77.40964	-24.2079	71.50924		
HIS3	YOR202W	10	16	24	43.6478	48.49921	67.80735		
HIS3	YOR202W	11	1	1	53.38983	26.13883	61.62141		
HIS3	YOR202W	11	1	2	19.08284	66.09131	66.66667		
HIS3	YOR202W	11	1	3	9.42029	48.36472	58.69565		
HIS3	YOR202W	11	1	4	13.12057	48.8266	10.32548		
HIS3	YOR202W	11	1	5	-16.8157	54.05157	58.46645		
HIS3	YOR202W	11	1	6	-7.85714	62.00632	66.56379		
HIS3	YOR202W	11	1	7	6.515152	61.65011	37.85489		
HIS3	YOR202W	11	1	8	-20.2756	60.90604	53.17139		
HIS3	YOR202W	11	1	9	-4.56942	37.94212	91.15282		
HIS3	YOR202W	11	1	10	-1.4652	50.80559	64.34911		
HIS3	YOR202W	11	1	11	3.065693	31.26615	88.0916		
HIS3	YOR202W	11	1	12	5.331179	44.06605	68.44758		
HIS3	YOR202W	11	1	13	-12.2288	30.87719	92.72727		
HIS3	YOR202W	11	1	14	30.44248	64.67277	78.29545		
HIS3	YOR202W	11	1	15	29.09408	53.66242	65.81986		
HIS3	YOR202W	11	1	16	28.54641	42.79428	48.34906		
HIS3	YOR202W	11	1	17	32.89474	46.63992	69.24035		
HIS3	YOR202W	11	1	18	11.30064	37.14286	52.66904		
HIS3	YOR202W	11	1	19	40.0545	51.35952	53.68421		
HIS3	YOR202W	11	1	20	26.51007	28.97297	54.51467		
HIS3	YOR202W	11	1	21	25.96899	45.69055	34.5496		
HIS3	YOR202W	11	1	22	64.43662	37.61658	54.82955		
HIS3	YOR202W	11	1	23	44.86957	41.46341	34.62069		
HIS3	YOR202W	11	1	24	-22.2543	59.84252	12.19065		
HIS3	YOR202W	11	2	1	84.88278	-19.086	-6.18982		
	YNL146W	11	2	2	-33.1288	25.16129	76.28362	missing colony	missing colony
	YNL274C	11	2	3	-44.6991	3.580563	79.7153	45.81749	36.29764
MFA2	YNL145W	11	2	4	-20.0883	41.37353	76.25571	50.9165	12.69841
TOF1	YNL273W	11	2	5	-13.8107	1.111111	69.68085	23.63636	27.66497
	YNL144C	11	2	6	-15.6863	33.57934	86.56388	30.4878	15.22199

BN11	YNL271C	11	2	7	62.26708	73.77432	75.08772	38.43844	65.09901
	YNL143C	11	2	8	37.0915	16.41949	45.02762	38.35294	30.73593
ALP1	YNL270C	11	2	9	51.76909	-23.7192	88.84462	29.73761	35.35912
MEP2	YNL142W	11	2	10	17.94872	23.5514	47.65714	32.1513	35.72939
LYP1	YNL268W	11	2	11	36.42987	36.80297	51.67702	30.0885	33.42175
AAH1	YNL141W	11	2	12	33.50785	-23.0143	88.2793	63.65639	38.37209
	YNL266W	11	2	13	34.38045	-29.0323	41.33333	11.16883	26.96629
	YNL140C	11	2	14	32.54438	6.582278	57.28814	14.76923	3.71517
IST1	YNL265C	11	2	15	32.98969	-46.7167	46.8661	56.40449	40.44321
EAF7	YNL136W	11	2	16	33.90411	-56.5947	48.57571	16	11.32686
ATX1	YNL259C	11	2	17	26.95652	51.89456	86.66667	42.92343	37.37374
FPR1	YNL135C	11	2	18	-39.0023	-19.7895	63.13646	-28.5714	11.1437
SIP3	YNL257C	11	2	19	29.93421	-25.3863	67.41071	36	36.31436
	YNL134C	11	2	20	14.18685	-24.1584	53.81944	32.47423	42.42424
GIS2	YNL255C	11	2	21	-36.2934	-27.9597	78.4106	-2.80899	31.51862
CPT1	YNL130C	11	2	22	55.50661	38.96552	84.46115	29.75207	19.03409
	YNL254C	11	2	23	49.56522	36.89567	37.01997	25.86667	35.89744
HIS3	YOR202W	11	2	24	11.04762	24.07615	71.17904		
HIS3	YOR202W	11	3	1	62.81157	-31.5668	15.97938		
GFD1	YMR255W	11	3	2	9.268293	78.65353	9.090909	53.65449	31.52709
	YNL035C	11	3	3	-2.41546	54.48343	72.09705	45.81395	24.36441
	YMR254C	11	3	4	-22.2707	63.47483	50.6237	57.31707	38.26087
	YNL034W	11	3	5	37.42138	48.2238	80.20833	39.8374	31
	YMR253C	11	3	6	-16.8582	43.02508	80.67416	24.67192	37.81321
SIW14	YNL032W	11	3	7	-26.9488	0.415512	81.40097	50	31.23732
	YMR252C	11	3	8	7.692308	19.26606	39.95609	29.42584	34.14634
HHT2	YNL031C	11	3	9	-24.0437	-10.7422	75.67568	-25.6484	39.67391
	YMR251W-								
HOR7	A	11	3	10	1.858736	62.8447	86.76471	58.53081	41.57549
HHF2	YNL030W	11	3	11	35.80645	3.111111	66.05317	25.05855	38.02083
	YMR251W	11	3	12	35.60477	30.56769	67.51773	21.8593	33.13253
KTR5	YNL029C	11	3	13	25	#DIV/0!	75.61983	37.38095	38.64865
GAD1	YMR250W	11	3	14	38.06452	18.01242	80.45977	21.48148	27.74869
	YNL028W	11	3	15	-42.5791	46.78077	80.89286	43.40659	34.08451
	YMR247C	11	3	16	39.9654	-3.71567	77.40175	61.95652	53.63128
CRZ1	YNL027W	11	3	17	35.19856	64.59627	30.56027	17.16621	32.24852
FAA4	YMR246W	11	3	18	31.52709	6.060606	48.42681	-23.8235	23.31288
	YNL024C	11	3	19	29.43633	-1.6055	48.35329	23.92473	25.91623
	YMR245W	11	3	20	19.17808	-32.4675	92.61084	-30.5921	30.06329
FAP1	YNL023C	11	3	21	7.296137	-41.8655	87.67606	51.35135	54.34174
	YMR244W	11	3	22	56.66667	-22.9675	52.79255	12.7027	36.19792
	YNL022C	11	3	23	26.34855	30.91483	78.24859	-89.8263	32.58065
HIS3	YOR202W	11	3	24	-22.3427	27.29384	-26.7568		

HIS3	YOR202W	11	4	1	41.22658	39.80154	46.95864		
SKO1	YNL167C	11	4	2	-6.08519	64.33628	48.80319	49.375	29.81744
PCL1	YNL289W	11	4	3	-24.356	71.66667	63.10484	51.43488	32.82937
BNI5	YNL166C	11	4	4	8.136483	60.61606	81.46853	31.11111	40.92409
CAF40	YNL288W	11	4	5	30.41237	39.3578	68.24584	58.62832	45.95843
	YNL165W	11	4	6	-29.8013	23.94366	50.81967	9.917355	28.45953
CUS2	YNL286W	11	4	7	33.77386	37.21973	68.76574	36.65835	49.48718
IBD2	YNL164C	11	4	8	81.96721	6.301824	45.94286	-6.89655	18.09816
	YNL285W	11	4	9	43.11688	22.11155	43.58601	34.25693	28.57143
RPL42A	YNL162W	11	4	10	-8.5758	5.976676	-50.9836	-45.9649	18.77551
WSC2	YNL283C	11	4	11	40.71661	19.41924	54.65253	32.90155	35.90504
ASI2	YNL159C	11	4	12	3.345725	28.49916	83.12757	15.54404	37.03704
HCH1	YNL281W	11	4	13	22.81879	9.966216	79.31034	16.71309	39.30818
	YNL157W	11	4	14	14.03509	54.62555	84.67433	-42.2619	19.26606
ERG24	YNL280C	11	4	15	45.48552	-23.2906	55.87097	28.72063	39.40299
NSG2	YNL156C	11	4	16	-53.5519	20.6089	78.99543	4.497354	24.92918
PRM1	YNL279W	11	4	17	-62.6703	32.23322	29.28571	24.92997	37.76435
	YNL155W	11	4	18	-45.1039	53.63372	90.36827	33.79888	40.74074
CAF120	YNL278W	11	4	19	-49.6386	28.40779	76.17925	10.89385	43.13187
YCK2	YNL154C	11	4	20	-2.42718	27.72074	70.7457	34.49275	55.30086
MET2	YNL277W	11	4	21	59.72461	-62.954	81.84049	18.39378	39.94413
GIM3	YNL153C	11	4	22	-25.8486	20.75055	-36.9863	19.35484	34.31953
BOR1	YNL275W	11	4	23	18.51852	-27.1676	27.82835	45.59471	52.32274
HIS3	YOR202W	11	4	24	-39.3023	20.04479	40.55172		
HIS3	YOR202W	11	5	1	37.88546	31.91721	66.21136		
URA10	YMR271C	11	5	2	3.658537	43.01887	77.25322	44.68547	26.69584
COX5A	YNL052W	11	5	3	-11.7647	-7.51566	60.45576	-40.8571	24.5509
	YMR269W	11	5	4	29.98028	36.20474	84.04255	-15.8249	22.18543
COG5	YNL051W	11	5	5	63.46801	24.23581	66.4311	-21.2366	14.57726
RSN1	YMR266W	11	5	6	37.22045	46.64926	58.28877	37.23404	36.09467
	YNL050C	11	5	7	34.43918	33.6688	30.63063	10.25641	35.38012
	YMR265C	11	5	8	-6.59898	-7.35632	62.2276	18.62464	24.52229
SFB2	YNL049C	11	5	9	43.63636	44.06355	47.29064	25.12821	34.8285
CUE1	YMR264W	11	5	10	54.2029	42.90822	7.279693	21.28205	21.38728
	YNL046W	11	5	11	40.39146	54.96536	85.95166	26.84932	34.26184
SAP30	YMR263W	11	5	12	39.74152	9.572301	56.58602	17.15818	19.93355
	YNL045W	11	5	13	41.91063	26.39029	79.77099	0.892857	39.52096
	YMR262W	11	5	14	35.76052	-7.90861	80.07663	35.67251	33.62573
YIP3	YNL044W	11	5	15	32.07547	54.45545	73.09645	-10.7345	28.27381
TPS3	YMR261C	11	5	16	14.08228	15.86957	68.04124	25	41.17647
	YNL043C	11	5	17	-10.4816	37.77293	76.54321	14.24149	42.15116
	YMR259C	11	5	18	-17.5711	62.1447	79.77778	12.29947	45.38043
COG6	YNL041C	11	5	19	-22.4719	51.53374	78.92857	-0.83333	40.37433

	YMR258C	11	5	20	54.17476	22.29437	90.57816	35.79235	50
	YNL040W	11	5	21	55.19231	38.44857	100	24.27184	51.31965
COX7	YMR256C	11	5	22	57.11462	-43.346	52.85253	-65.2542	16.94215
IDH1	YNL037C	11	5	23	-31.6017	-23.7154	34.57944	-12.9032	21.99413
HIS3	YOR202W	11	5	24	-6.60377	23.3809	41.42661		
HIS3	YOR202W	11	6	1	46.25796	36.6055	23.00725		
	YNL190W	11	6	2	-18.4416	54.25868	72.35772	61.21212	35.18887
RPL18B	YNL301C	11	6	3	-10.7759	-36.3636	78.54406	16.12091	31.09049
	YNL187W	11	6	4	-35.446	36.79612	62.51366	16.89815	31.75487
TOS6	YNL300W	11	6	5	-37.7528	49.44882	59.23379	2.105263	21.32565
NPR1	YNL183C	11	6	6	20.16349	54.2811	70.99237	-3.53982	44.56522
TRF5	YNL299W	11	6	7	9.708738	37.53815	89.91597	61.18252	40.30769
SRF6	YNL179C	11	6	8	46.00326	55.21886	64.39206	9.142857	32.35294
CLA4	YNL298W	11	6	9	25.57545	-6.03448	84.2	48.80952	missing colony
	YNL176C	11	6	10	39.41842	0.964187	76.53061	39.39394	41.14441
MON2	YNL297C	11	6	11	35.16874	8.513932	79.00763	11.74377	39.85765
NOP13	YNL175C	11	6	12	41.45078	52.26131	51.96507	-18.5714	-2.05479
	YNL296W	11	6	13	-60	52.40642	67.90123	-9.36556	18.4466
MDG1	YNL173C	11	6	14	-48.0198	47.88732	92	22.73902	41.31737
	YNL295W	11	6	15	31.05802	-44.469	64.69072	-14.3382	25.37879
	YNL171C	11	6	16	30.67332	-6.95652	33.125	22.02797	37.80919
RIM21	YNL294C	11	6	17	30.37975	-20.4	57.33831	-3.97727	27.54098
	YNL170W	11	6	18	-9.17874	47.60638	100	-9.34579	24.6988
MSB3	YNL293W	11	6	19	-10.3659	49.52681	76.31579	-3.69393	31.96721
PSD1	YNL169C	11	6	20	-2.50896	38.69732	60.39604	-11.5385	44.01294
PUS4	YNL292W	11	6	21	-39.5652	30.74581	83.9851	24.17582	49.85755
FMP41	YNL168C	11	6	22	-12.5806	-38.0457	33.33333	-21.148	37.4269
MID1	YNL291C	11	6	23	35.22013	36.48208	61.21495	51.97368	57.00483
HIS3	YOR202W	11	6	24	-9.25508	27.84399	61.03352		
HIS3	YOR202W	11	7	1	46.08379	66.42468	72.50787		
YKU70	YMR284W	11	7	2	25.81169	34.03933	57.77778	53.45912	33.06878
FKH2	YNL068C	11	7	3	-9.58409	37.6914	70.37702	25.8794	37.76596
RIT1	YMR283C	11	7	4	38.48739	37.21925	51.6632	36.43216	40
RPL9B	YNL067W	11	7	5	37.89649	42.38833	81.37803	38.22844	66.09195
AEP2	YMR282C	11	7	6	34.14211	21.88139	63.67816	9.677419	41.15523
SUN4	YNL066W	11	7	7	37.57862	41.77632	79.07407	27.73537	37.04735
CAT8	YMR280C	11	7	8	40.99822	19.36759	62.98077	7.03125	19.04762
AQR1	YNL065W	11	7	9	44.82759	33.8843	81.30252	37.27034	54.80226
	YMR279C	11	7	10	44.79167	49.35733	15.05017	23.8806	36.47416
CPA2	YJR109C	11	7	11	41.99346	25.83065	65.6051	31.28342	44.27711
	YMR278W	11	7	12	37.33333	26.13122	31.30904	33.42175	49.56522
YDJ1	YNL064C	11	7	13	38.00384	46.38783	64.0599	2.826855	41.00719
DSK2	YMR276W	11	7	14	25.27233	64.41281	75.23452	-10.3064	31.51515

MTQ1	YNL063W	11	7	15	38.35404	28.89138	34.58647	9.477124	35.86207
BUL1	YMR275C	11	7	16	22.03065	45.36465	78.11705	35.08287	47.68786
	YNL058C	11	7	17	-24.5431	48.24281	58.96806	19.87768	41.78273
RCE1	YMR274C	11	7	18	55.26316	36.06103	73.83178	33.79888	47.60563
	YNL057W	11	7	19	0.911854	34.76298	46.27767	-38.2184	43.30709
ZDS1	YMR273C	11	7	20	30.20408	-6.34921	31.56966	39.94083	47.10983
	YNL056W	11	7	21	9.621993	3.099174	55.39568	-9.45513	53.56371
SCS7	YMR272C	11	7	22	-14.4105	-13.9037	36.33136	7.594937	49.38272
VAC7	YNL054W	11	7	23	-6.4588	51.29108	73.12661	7.904412	42.15457
HIS3	YOR202W	11	7	24	-4.60177	30.98434	63.45934		
HIS3	YOR202W	11	8	1	-5.19126	27.13615	79.98489		
PSY2	YNL201C	11	8	2	36.9637	59.86717	57.69231	69.87952	45.671
HXT14	YNL318C	11	8	3	10.76642	60.33058	53.41923	45.65217	42.75362
	YNL200C	11	8	4	-25.8824	24.08759	63.23988	35.7513	36.07427
PHA2	YNL316C	11	8	5	37.71626	48.29396	39.68825	6.284153	30.39216
GCR2	YNL199C	11	8	6	27.03704	40.74941	68.27309	-8.94855	14.12104
ATP11	YNL315C	11	8	7	40.25045	37.18861	90.82031	30.71161	32.05128
	YNL198C	11	8	8	26.0274	54.9763	53.5	37.81513	47.92332
DAL82	YNL314W	11	8	9	34.62158	41.37339	73.84615	-27.6353	24.24242
WHI3	YNL197C	11	8	10	38.80866	-21.5889	72.8125	43.10345	50.63694
	YNL311C	11	8	11	40.63604	16.13793	60.10855	10.03135	38.5906
SLZ1	YNL196C	11	8	12	62.43496	34.53318	-33.5821	1.944444	40.42553
STB1	YNL309W	11	8	13	48.11881	-2.1028	35.43401	8.059701	33.73494
	YNL195C	11	8	14	34.07643	15.33333	57.93201	34.75936	44.70588
MCK1	YNL307C	11	8	15	33.11828	44.02332	84.94624	45.09202	36.76012
	YNL194C	11	8	16	56.63475	43.68771	79.94792	8.139535	41.74174
	YNL305C	11	8	17	30.26706	33.01775	84.43114	-14.7222	41.81287
	YNL193W	11	8	18	24.34457	49.77376	95.45455	12.53731	46.27329
YPT11	YNL304W	11	8	19	18.71227	64.48864	74.31694	-5.59006	31.13208
CHS1	YNL192W	11	8	20	54.4164	34.86842	76.27119	23.3677	58.36177
	YNL303W	11	8	21	44.86301	-30.2428	42.73595	6.845238	42.24138
	YNL191W	11	8	22	-8.49858	39.43894	100	21.06825	42.98507
RPS19B	YNL302C	11	8	23	11.29032	45.56962	72.64574	-31.2183	44.44444
HIS3	YOR202W	11	8	24	44.31599	32.86788	38.91509		
HIS3	YOR202W	11	9	1	-11.68	43.23432	53.23713		
PRP12	YMR302C	11	9	2	-17.5824	31.11814	75.87035	51.66994	71.96078
SWS2	YNL081C	11	9	3	18.18182	28.08989	-72.1311	-101.567	-0.83682
ADE4	YMR300C	11	9	4	35.48387	31.63507	61.86709	23.76238	53.57143
	YNL080C	11	9	5	21.07728	64.99417	56.52742	10.9215	28.68217
DYN3	YMR299C	11	9	6	-22.1719	48.37728	52.75288	33.42466	36.68639
TPM1	YNL079C	11	9	7	40	#DIV/0!	50	12.26994	19.01639
PRC1	YMR297W	11	9	8	46.86347	49.14934	46.75497	48.70466	32.27666
NIS1	YNL078W	11	9	9	-54.6559	33.44828	#DIV/0!	9.363296	40.99617

	YMR295C	11	9	10	-57.7465	35.58824	47.41276	16.20112	44.29967
APJ1	YNL077W	11	9	11	39.38356	8.154506	56.72269	32.68156	58.89571
	YMR294W-A	11	9	12	35.23622	-8.13772	83.12808	35.77023	51.76471
MKS1	YNL076W	11	9	13	35.9375	36.11473	33.80282	-14.956	41.26506
JNM1	YMR294W	11	9	14	-6.08466	26.27551	65.10264	-14.1509	24.11348
MLF3	YNL074C	11	9	15	18.7067	34.13015	62.23278	21.15942	52.02312
GOT1	YMR292W	11	9	16	-0.98765	30.16086	84.63768	13.71429	48.33837
RNH201	YNL072W	11	9	17	-28.3154	38.38384	70.05348	9.818182	51.23675
	YMR291W	11	9	18	56.38507	55.74913	70.39911	18.31832	52.7439
LAT1	YNL071W	11	9	19	16.15385	40.50822	100	29.78723	52.61438
ABZ2	YMR289W	11	9	20	52.05811	34.48276	55.42522	-16.1058	44.71744
TOM7	YNL070W	11	9	21	-15.2091	42.13483	69.11447	15.32847	51.76056
NGL2	YMR285C	11	9	22	-42.0824	-16.8739	36.8306	17.04545	47.44318
RPL16B	YNL069C	11	9	23	35.8156	34.96503	12.96928	54.56853	63.29114
HIS3	YOR202W	11	9	24	69.28675	30.89888	72.76786		
HIS3	YOR202W	11	10	1	-7.11921	44.85356	-27.1864		
	YNL217W	11	10	2	-39.2578	55.24412	61.10553	37.41497	50.50251
PEX6	YNL329C	11	10	3	-28.178	58.1265	64.14882	53.30739	30.46218
IES2	YNL215W	11	10	4	-17.2043	57.66807	54.70085	37.45928	38.57567
MDJ2	YNL328C	11	10	5	34.07155	26.44135	68.13725	37.2796	37.31778
PEX17	YNL214W	11	10	6	56.85096	1.557632	72.81879	8.136483	30.3681
EGT2	YNL327W	11	10	7	39.89362	26.10294	71.09557	-19.837	32.38095
VID27	YNL212W	11	10	8	35.71429	60.91743	78.92074	20.50562	33.97436
PFA3	YNL326C	11	10	9	32.55361	15.6682	54.35953	16.52661	40.77381
	YNL211C	11	10	10	40.73427	20.06543	65	13.61111	42.94671
FIG4	YNL325C	11	10	11	40.23179	-5.09383	76.41357	37.20379	33.12693
	YNL208W	11	10	12	43.69085	0.632911	81.33562	-16.0763	46.89266
	YNL324W	11	10	13	43.01242	44.23963	71.0443	47.17445	48.91641
RTT106	YNL206C	11	10	14	-53.8251	13.11953	79.32862	-0.28249	38.69048
LEM3	YNL323W	11	10	15	48.23695	-10.3011	84.75936	-21.8023	12.2449
	YNL205C	11	10	16	12.65823	36.25954	64.88095	18.9415	50.8982
KRE1	YNL322C	11	10	17	22.85251	43.47826	88.43813	18.05556	36.85637
SPS18	YNL204C	11	10	18	-1.77936	27.833	70.58824	25.83333	49.68944
	YNL321W	11	10	19	-8.79828	53.08642	78.78289	-4.89297	47.09677
	YNL203C	11	10	20	-5.85106	-38.7368	17.34694	-75.2119	38.22785
	YNL320W	11	10	21	33.125	46.54255	49.24875	33.52436	47.64706
SPS19	YNL202W	11	10	22	30	13.71191	32.76983	22.92264	47.67123
	YNL319W	11	10	23	24.71591	22.38164	39.18919	36.59218	45.53314
HIS3	YOR202W	11	10	24	-18.3486	32.01804	29.37337		
HIS3	YOR202W	11	11	1	-17.1076	10.69519	24.00706		
TGL3	YMR313C	11	11	2	26.22642	60.57386	69.56522	43.94904	35.73201
	YNL095C	11	11	3	-19.6464	63.71681	64.53089	31.56627	40.15345

ELP6	YMR312W	11	11	4	-30.3226	36.83036	87.93774	28.52459	52.32975
APP1	YNL094W	11	11	5	35.05155	-3.28467	65.20424	44.93506	34.62687
GLC8	YMR311C	11	11	6	38.55856	38.72378	33.15217	29.35323	38.0805
YPT53	YNL093W	11	11	7	39.03654	43.98798	80	10.27778	43.33333
	YMR310C	11	11	8	31.01045	-9.2869	36.92308	20.82192	26.77419
	YNL092W	11	11	9	-15.6089	48.09228	57.69231	-40.8719	35.16129
GAS1	YMR307W	11	11	10	-31.9489	-23.1465	53.17726	-121.184	54.97076
NST1	YNL091W	11	11	11	35.20833	42.13075	79.05138	-25.2252	18.67089
FKS3	YMR306W	11	11	12	34.88806	51.16279	62.97199	-5.9322	42.23602
RHO2	YNL090W	11	11	13	#DIV/0!	#DIV/0!	68.78307	4.398827	20.71429
	YMR306C-A	11	11	14	27.25599	29.56927	41.52652	21.73913	44.54545
	YNL089C	11	11	15	37.02213	51.00671	70.61611	17.79449	48.45938
SCW10	YMR305C	11	11	16	43.65079	37.17827	85.97938	-18.2825	41.36808
TCB2	YNL087W	11	11	17	34.01254	39.61772	74.30998	-7.44337	29.59184
UBP15	YMR304W	11	11	18	-32.2251	25.02744	71.09974	-11.1782	37.79264
MKT1	YNL085W	11	11	19	56.30027	64.22947	66.48352	47.12644	63.33333
	YMR304C-A	11	11	20	59.40054	41.20763	57.65125	-7.12074	35.47401
SAL1	YNL083W	11	11	21	25.61576	9.445277	69.47162	15.34247	43.75
ADH2	YMR303C	11	11	22	-30.3297	-3.28571	37.97468	-21.3622	32.19178
PMS1	YNL082W	11	11	23	8.045977	35.90604	58.08824	30.86681	60.96386
HIS3	YOR202W	11	11	24	27.91461	31.59645	72.98387		
HIS3	YOR202W	11	12	1	15.26104	14.06699	16.92308		
BNI4	YNL233W	11	12	2	23.47505	59.30851	58.65031	32.25806	46.24697
	YNR004W	11	12	3	-23.5421	13.71528	62.11699	41.50943	30.95238
PDR16	YNL231C	11	12	4	39.49731	13.99177	36.01695	21.69576	31.85596
FUN34	YNR002C	11	12	5	36.72727	43.62745	78.125	29.31442	43.26648
ELA1	YNL230C	11	12	6	34.47684	43.52283	64.32432	-6.30372	16.24549
CIT1	YNR001C	11	12	7	35.10638	36.64596	30.81571	24.47368	39.69697
URE2	YNL229C	11	12	8	38.00738	49.33206	87.66447	19.34426	29.96255
DOM34	YNL001W	11	12	9	38.81188	50.92402	76.25	59.72696	60.58091
	YNL228W	11	12	10	34.65784	49.53464	79.80226	1.271186	41.91919
	YNL338W	11	12	11	36.39775	32.93333	42.66304	31.05134	48.61111
JJJ1	YNL227C	11	12	12	36.36364	-25.817	67.42712	33.44828	47.31183
COS1	YNL336W	11	12	13	-53.9773	18.13953	44.31525	42.25352	52.97297
	YNL226W	11	12	14	26.65441	18.05825	53.51351	27.42616	46.88995
	YNL335W	11	12	15	38.85918	42.13007	56.79542	21.81818	54.41176
	YNL224C	11	12	16	31.45455	42.38603	79.5756	27.58621	47.03947
SNO2	YNL334C	11	12	17	36.08059	31.95548	37.08861	-0.88235	46.15385
ATG4	YNL223W	11	12	18	42.38683	-35.2941	66.00985	17.05202	40.44586
SNZ2	YNL333W	11	12	19	-29.3963	43.69427	74.24242	18.80597	48.4058
ALG9	YNL219C	11	12	20	23.52941	18.98527	67.93651	40.33613	55.58739

THI12	YNL332W	11	12	21	24.91166	31.82266	-50.2128	14.86486	51.52355
MGS1	YNL218W	11	12	22	-20	30.79961	53.05514	44.94624	52.73224
RPD3	YNL330C	11	12	23	-11.245	41.60942	10.32746	32.66332	55.33708
HIS3	YOR202W	11	12	24	65.37217	27.15376	10.24182		
HIS3	YOR202W	11	13	1	-8.80649	34.38914	23.14709		
YRF1-6	YNL339C	11	13	2	28.44639	33.92769	48.17293	26.71395	31.04265
	YNL115C	11	13	3	26.08696	20	68.83721	39.39394	34.07202
	YMR326C	11	13	4	42.53247	33.17536	60.11976	25.92593	43.85475
	YNL108C	11	13	5	45.7478	11.26761	44.09722	25.06667	43.59756
SNO4	YMR322C	11	13	6	-41.1184	50.34602	85.04673	25.1269	46.78899
YAF9	YNL107W	11	13	7	35.90664	30.65187	0	45.76271	56.36364
	YMR320W	11	13	8	30.10563	38.94501	54.48276	15.81769	32.22892
INP52	YNL106C	11	13	9	31.07143	2.296451	73.89163	2.216066	13.20755
FET4	YMR319C	11	13	10	-51.1173	7.522698	55.49296	46.72304	40.11299
	YNL105W	11	13	11	-49.1525	49.03934	60.53512	37.53086	50.73314
ADH6	YMR318C	11	13	12	-57.8125	41.60584	22.66667	7.848837	19.23077
LEU4	YNL104C	11	13	13	-50	60.96866	#DIV/0!	21.5847	47.02194
	YMR317W	11	13	14	-54.6835	2.118003	52.10084	31.50685	41.1215
AVT4	YNL101W	11	13	15	-35.1899	47.91252	-1.97628	16.84211	49.31129
DIA1	YMR316W	11	13	16	-39.5939	30.71749	33.9726	38.70968	55.04323
	YNL100W	11	13	17	-49.1228	45.07389	-148.077	25.61983	57.27273
	YMR316C-B	11	13	18	-43.8692	20.74689	27.73208	-34.2029	30.03663
OCA1	YNL099C	11	13	19	-46.2006	9.965636	68.16479	20.68966	42.74194
	YMR316C-A	11	13	20	40.18349	44.46721	43.309	6.818182	43.66667
RAS2	YNL098C	11	13	21	-22.7273	10.46154	15.18987	27.07182	32.74021
	YMR315W	11	13	22	58.48303	77.12177	77.72727	25	72.48062
PHO23	YNL097C	11	13	23	-27.8689	39.1844	58.94309	17.79497	28.64865
HIS3	YOR202W	11	13	24	65.06747	27.58242	33.60768		
HIS3	YOR202W	11	14	1	34	59.14684	67.6259		
TEX1	YNL253W	11	14	2	42.35727	24.31641	54.53515	43.06723	16.85649
	YNR018W	11	14	3	81.05437	78.27298	64.7603	-12.0253	29.4702
MPA43	YNL249C	11	14	4	-13.4831	48.3871	65.69343	37.35763	43.90935
SMM1	YNR015W	11	14	5	32.9331	3.601695	63.48425	18.03279	43.49112
VPS75	YNL246W	11	14	6	31.11546	3.826955	-13.3929	12.5964	20.19544
	YNR014W	11	14	7	-50.9695	24.7093	47.55662	20	23.97476
ATG2	YNL242W	11	14	8	-45.8221	12.75441	68.63354	30.60109	48.50746
PHO91	YNR013C	11	14	9	-30.6569	5.30303	48.32215	24.0099	45.60907
ZWF1	YNL241C	11	14	10	-42.6316	-20.6439	53.7594	40.82126	54.71125
URK1	YNR012W	11	14	11	-59.1304	46.21479	26.11684	27.3399	25.66372
LAP3	YNL239W	11	14	12	-38.3632	35.58394	36.55172	34.38257	33.96226
CSE2	YNR010W	11	14	13	-29.0155	39.62264	79.52218	24.59016	48.19672

KEX2	YNL238W	11	14	14	#DIV/0!	#DIV/0!	#DIV/0!	-33.452	8.270677
	YNR009W	11	14	15	-36.7397	64.7452	44.63625	32.5779	27.06271
YTP1	YNL237W	11	14	16	-32.3607	46.96545	17.62712	37.68473	46.84932
LRO1	YNR008W	11	14	17	-36.5591	42.71938	#DIV/0!	39.66942	55.3719
SIN4	YNL236W	11	14	18	35.61873	-23.3333	62.41007	-245.968	15.38462
ATG3	YNR007C	11	14	19	63.9313	36.64773	-37.4046	22.72727	56.87831
	YNL235C	11	14	20	12.39669	55.96026	64.12556	25.13369	33.47107
VPS27	YNR006W	11	14	21	#DIV/0!	#DIV/0!	63.93443	-185	37.46702
	YNL234W	11	14	22	60.18519	48.20144	60.75472	-1.1925	64.84211
	YNR005C	11	14	23	11.2532	43.19149	20.26862	37.09677	52.34742
HIS3	YOR202W	11	14	24	47.52475	33.65269	44.12214		
HIS3	YOR202W	11	15	1	61.19403	37.99472	46.38298		
HDA1	YNL021W	11	15	2	82.39203	-39.2799	59.94526		
NRK1	YNL129W	11	15	3	62.21837	-31.3253	60.39604		
ARK1	YNL020C	11	15	4	27.70898	25.87917	57.17647		
TEP1	YNL128W	11	15	5	-36.5957	29.84456	73.78641		
PUB1	YNL016W	11	15	6	-36.8557	-30.6818	58.89029		
FAR11	YNL127W	11	15	7	-31.5315	62.96975	70.73171		
PBI2	YNL015W	11	15	8	74.02235	-11.2853	61.59822		
ESBP6	YNL125C	11	15	9	25.29711	-9.04685	79.49674		
	YNL013C	11	15	10	64.40678	62.26115	78.90205		
	YNL123W	11	15	11	-18.8406	-23.4837	75.41322		
SPO1	YNL012W	11	15	12	-1.69492	0	57.21854		
	YNL122C	11	15	13	-30.9973	55.66038	23.17881		
	YNL010W	11	15	14	-12.6338	-25.5853	60.19656		
TOM70	YNL121C	11	15	15	-18.6047	46.1165	72.92929		
IDP3	YNL009W	11	15	16	-31.9809	24.2126	76.78019		
	YNL120C	11	15	17	-17.3729	35.46911	#DIV/0!		
ASI3	YNL008C	11	15	18	-17.6871	33.9981	4.374057		
NCS2	YNL119W	11	15	19	-35.3801	35.59871	57.31497		
HRB1	YNL004W	11	15	20	34.84252	24.73684	19.5122		
MLS1	YNL117W	11	15	21	-24.0964	36.74367	27.63338		
PET8	YNL003C	11	15	22	-30	28.30882	58.83015		
DMA2	YNL116W	11	15	23	28.98936	71.02086	50.77793		
HIS3	YOR202W	11	15	24	61.15326	25.52301	44.55446		
HIS3	YOR202W	11	16	1	55.41126	24.7191	50.56604		
HIS3	YOR202W	11	16	2	39.24915	30.99328	43.73233		
HIS3	YOR202W	11	16	3	82.99156	50.77658	51.86275		
HIS3	YOR202W	11	16	4	73.98844	20.0495	56.72414		
HIS3	YOR202W	11	16	5	43.4629	-7.75047	71.07438		
HIS3	YOR202W	11	16	6	77.24868	22.0339	63.29114		
HIS3	YOR202W	11	16	7	81.71021	6.74264	65.91928		
HIS3	YOR202W	11	16	8	76.86567	-17.3623	80.21761		

HIS3	YOR202W	11	16	9	-43.7647	33.45656	84.10714		
HIS3	YOR202W	11	16	10	58.81326	21.6681	66.66667		
HIS3	YOR202W	11	16	11	63.7931	25.6162	68.53312		
HIS3	YOR202W	11	16	12	-13.6095	49.12959	89.7177		
HIS3	YOR202W	11	16	13	40.68182	30.7767	91		
HIS3	YOR202W	11	16	14	-16.9192	-9.98632	77.60814		
HIS3	YOR202W	11	16	15	-7.93201	33.89356	78.39898		
HIS3	YOR202W	11	16	16	39.1369	10.76512	57.52961		
HIS3	YOR202W	11	16	17	31.2253	20.61856	67.4581		
HIS3	YOR202W	11	16	18	25.65543	19.59248	60.8333		
HIS3	YOR202W	11	16	19	25.87992	28.91566	85.19108		
HIS3	YOR202W	11	16	20	39.70588	11.15772	68.45124		
HIS3	YOR202W	11	16	21	41.34165	10.40856	46.59686		
HIS3	YOR202W	11	16	22	-7.91209	21.39831	49.69843		
HIS3	YOR202W	11	16	23	-13.7079	11.73959	32.43824		
HIS3	YOR202W	11	16	24	35.07042	10.46065	47.35812		
HIS3	YOR202W	12	1	1	83.7464	23.68301	69.73579		
HIS3	YOR202W	12	1	2	90.10601	31.52709	100		
HIS3	YOR202W	12	1	3	#DIV/0!	67.83784	86.51163		
HIS3	YOR202W	12	1	4	58.30153	67.82609	74.04306		
HIS3	YOR202W	12	1	5	73.92405	36.03925	68.1606		
HIS3	YOR202W	12	1	6	1.291513	50.09747	77.51479		
HIS3	YOR202W	12	1	7	-2034.78	45.54759	97.56944		
HIS3	YOR202W	12	1	8	-58.3333	-11.413	100		
HIS3	YOR202W	12	1	9	-20.9979	26.45429	100		
HIS3	YOR202W	12	1	10	8.522727	38.77791	90.5868		
HIS3	YOR202W	12	1	11	20.70064	47.32221	100		
HIS3	YOR202W	12	1	12	8.401977	5.136437	100		
HIS3	YOR202W	12	1	13	5.769231	38.61284	63.31361		
HIS3	YOR202W	12	1	14	2.03125	30.96976	27.87743		
HIS3	YOR202W	12	1	15	-24.812	-2.70677	43.25758		
HIS3	YOR202W	12	1	16	-0.18182	35.33835	100		
HIS3	YOR202W	12	1	17	-23.3471	31.36095	48.8		
HIS3	YOR202W	12	1	18	43.43303	44.17778	100		
HIS3	YOR202W	12	1	19	50.40323	48.16557	100		
HIS3	YOR202W	12	1	20	73.39181	28.9172	92.38411		
HIS3	YOR202W	12	1	21	40.78431	24.75369	17.02586		
HIS3	YOR202W	12	1	22	42.06897	20.93301	0.248344		
HIS3	YOR202W	12	1	23	59.05849	1.634877	2.923977		
HIS3	YOR202W	12	1	24	77.66032	14.96681	-2.35792		
HIS3	YOR202W	12	2	1	-18.8679	66.38452	34.07407		
	YOR006C	12	2	2	#DIV/0!	38.94602	-8.78505	52.50965	38.09524
	YOR097C	12	2	3	80.66528	-23.3333	29.18396	60.33898	31.03448

DNL4	YOR005C	12	2	4	69.44444	28.24427	44.67409	37.8119	25.10204
ARF3	YOR094W	12	2	5	74.68354	40.61489	100	74.19355	33.63636
YSP3	YOR003W	12	2	6	72.47863	1.513241	73.50746	8.615819	21.28906
	YOR093C	12	2	7	7.495741	52.56757	96.10984	38.50688	20.81218
ALG6	YOR002W	12	2	8	57.95587	-8.33333	24.60317	50.47393	35.2518
ECM3	YOR092W	12	2	9	47.10253	32.2963	19.91828	48.14815	32.33083
RRP6	YOR001W	12	2	10	-3.94089	39.60217	20.39911	36.88312	34.57944
RBF46	YOR091W	12	2	11	-49.7512	35.6623	-3.58272	61.08871	35.68075
	YOL163W	12	2	12	-9.44559	38.46154	1.461988	64.28571	41.9802
PTC5	YOR090C	12	2	13	10.43339	19.17404	25.30949	35.53922	11.14865
	YOL162W	12	2	14	4.940375	37.39237	21.73315	62.89308	31.42251
VPS21	YOR089C	12	2	15	32.68072	-0.73529	100	6.6313	6.360424
	YOL160W	12	2	16	-38.9831	37.24227	8.181818	18.13285	55.67282
	YOR088W	12	2	17	13.36336	27.62284	1.901566	48.40637	31.40097
	YOL159C	12	2	18	98.39572	29.85075	100	59.96241	15.7377
YVC1	YOR087W	12	2	19	64	4.372355	70.8502	11.47541	28.80184
ENB1	YOL158C	12	2	20	14.63415	34.41467	33.25608	64.55446	35.68282
TCB1	YOR086C	12	2	21	32.39609	-23.1263	49.41022	55.30612	39.40092
	YOL155C	12	2	22	31.63265	-33.0153	100	63.18786	36.42691
OST3	YOR085W	12	2	23	0.58651	2.932551	71.86207	48.54518	38.06306
HIS3	YOR202W	12	2	24	57.1965	0.156986	100		
HIS3	YOR202W	12	3	1	74.17453	20.91837	49.23077		
SSK2	YNR031C	12	3	2	83.87372	39.93435	37.06422	42.9477	19.66102
THI20	YOL055C	12	3	3	85.57951	-38.1395	-14.1864	63.30827	29.61538
ECM39	YNR030W	12	3	4	75.18797	62.29117	100	26.87225	25.99532
PSH1	YOL054W	12	3	5	85.33773	-8.25083	79.40741	53.37302	25.84746
	YNR029C	12	3	6	63.65546	56.69824	100	54.35203	32.77662
	YOL053W	12	3	7	65.37102	30.03534	64.0625	38.70246	28.75536
CPR8	YNR028W	12	3	8	-23.7245	16.35135	63.59918	47.38155	34.5898
	YOL053C-A	12	3	9	-46.1347	35.26971	27.06693	69.17178	63.52201
BUD17	YNR027W	12	3	10	-47.2779	26.92998	9.90991	39.74082	39.12037
SPE2	YOL052C	12	3	11	11.14865	19.96269	-9.66667	45.59387	17.29958
	YNR025C	12	3	12	-14.8883	40.91487	100	62.21805	32.67813
	YOL050C	12	3	13	30.66202	28.7902	56.25	59.22921	35.15284
	YNR024W	12	3	14	-21.1397	40.02404	24.46043	58.99772	29.90654
GSH2	YOL049W	12	3	15	-7.00637	-40.458	32.84356	60.91954	30.24523
MRPL50	YNR022C	12	3	16	72.47475	36.40449	100	74.27184	29.44162
	YOL048C	12	3	17	50.24077	11.75337	28.91986	33.91813	26.31579
	YNR021W	12	3	18	38.88889	43.05382	100	69.11519	34.5679
	YOL047C	12	3	19	10.4918	26.14379	45.87459	39.09287	34.19023
	YNR020C	12	3	20	38.66667	10.34483	32.96	38.05104	22.81369
	YOL046C	12	3	21	44.11215	-6.38298	52.64586	56.47059	30.81395
ARE2	YNR019W	12	3	22	60.53748	-34.413	97.74011	66.12319	48.53556

PSK2	YOL045W	12	3	23	-15.3986	-38.3838	33.56643	39.30754	40.25641
HIS3	YOR202W	12	3	24	9.831824	-12.3794	19.78866		
HIS3	YOR202W	12	4	1	6.716418	73.17732	32.11111		
ERP4	YOR016C	12	4	2	92.76423	3.338392	1.835915	69.34307	31.42329
	YOR112W	12	4	3	26.43678	-46.8447	52.91902	50.89286	24.61538
	YOR015W	12	4	4	-24.8744	43.08943	39.48339	62.41379	33.33333
	YOR111W	12	4	5	-1.19225	46.42857	64.57726	63.55311	29.83193
RTS1	YOR014W	12	4	6	20	61.66667	51.40187	29.15493	42.85714
INP53	YOR109W	12	4	7	#DIV/0!	37.5	43.94184	65.87436	41.39535
	YOR013W	12	4	8	-50	32.29706	37.66049	63.78987	29.36709
LEU9	YOR108W	12	4	9	-0.40241	12.42604	24.19798	67.88991	35.83535
	YOR012W	12	4	10	-26.0304	-31.7073	-18.5087	52.09302	31.10048
RGS2	YOR107W	12	4	11	-29.6218	42.62295	-3.62401	45.89615	20.4793
AUS1	YOR011W	12	4	12	16.26248	37.01754	9.553571	57.54885	23.40426
VAM3	YOR106W	12	4	13	41.8956	-28.1008	99.46237	71.31783	42.89044
TIR2	YOR010C	12	4	14	14.55399	9.490334	100	34.61538	23.75887
	YOR105W	12	4	15	12.93532	5.175983	99.19192	76.49254	32.04134
TIR4	YOR009W	12	4	16	14.28571	-1.04167	63.23319	73.86364	30.74713
PIN2	YOR104W	12	4	17	22.94807	16.88034	100	67.90353	34.35115
	YOR008C-A	12	4	18	49.77238	23.26333	91.96787	66.9627	27.65273
RAS1	YOR101W	12	4	19	-3.62473	9.389671	45.29915	57.05128	35.67073
SLG1	YOR008C	12	4	20	48.52151	-31.6397	89.96212	52.31388	46.47436
CRC1	YOR100C	12	4	21	-1.34454	1.091703	91.11111	71.28028	46.08696
SGT2	YOR007C	12	4	22	14.11765	-26.5625	75.30675	59.60265	45.15235
KTR1	YOR099W	12	4	23	19.97455	30.38147	51.72414	46.78819	49.2986
HIS3	YOR202W	12	4	24	-1.39276	2.503682	33.44948		
HIS3	YOR202W	12	5	1	88.27773	20.14303	-3.88199		
LYS9	YNR050C	12	5	2	63.57827	32.59587	36.88073	47.53289	32.20721
								missing colony	missing colony
RTG1	YOL067C	12	5	3	77.12177	-18.5501	16.43836		
MSO1	YNR049C	12	5	4	-16.9231	-15.8763	100	68.76122	34.17367
INP54	YOL065C	12	5	5	-36.0825	36.59004	47.28878	53.08151	41.35514
	YNR048W	12	5	6	85.73333	21.5971	46.75325	53.09568	27.11443
MET22	YOL064C	12	5	7	-34.6626	9.237875	-1.12994	37.16216	26.15385
	YNR047W	12	5	8	72.64151	54.2328	100	32.56785	25.24917
MOR1	YOL063C	12	5	9	21.31902	-32.8	32.35294	52.35602	28.80259
PET494	YNR045W	12	5	10	-9.45455	22.08333	34.53125	56.66667	21.92308
APM4	YOL062C	12	5	11	11.54499	17.26079	48.14815	69.21606	39.68958
	YNR042W	12	5	12	-23.8462	-21.3198	-13.1073	74.53626	32.89474
PRS5	YOL061W	12	5	13	32.00549	-22.7166	50.27701	59.84043	33.23263
	YNR040W	12	5	14	10.47957	-22.4837	30.14587	64.25993	35.71429
MAM3	YOL060C	12	5	15	-2.46046	-7.32026	24.34498	47.26891	39.89501

ZRG17	YNR039C	12	5	16	14.26593	-9.02367	65.4321	72.56318	43.79562
GPD2	YOL059W	12	5	17	25.14881	23.21792	62.07827	74.51923	46.71916
SOL1	YNR034W	12	5	18	21.35177	-6.19469	100	65.68627	38.09524
ARG1	YOL058W	12	5	19	35.72543	39.40594	23.78121	54.14258	36.58537
PPG1	YNR032W	12	5	20	-6.45756	17.75362	67.92763	43.46895	34.14634
	YOL057W	12	5	21	35.90734	-41.0628	34.34226	69.89619	48.88889
	YNR032C-								
HUB1	A	12	5	22	-4.49251	51.57068	87.01595	40.5959	28.81944
GPM3	YOL056W	12	5	23	46.55556	-10.4015	82.19178	63.43154	53.16973
HIS3	YOR202W	12	5	24	-20.3704	30.25568	83.70044		
HIS3	YOR202W	12	6	1	84.375	-21.9048	32.86467		
CIN5	YOR028C	12	6	2	23.66288	53.62903	0.844595	58.85023	40.11858
	YOR129C	12	6	3	-40.5594	-29.3011	80.92105	60.47486	37.67821
STI1	YOR027W	12	6	4	-6.76157	23.29247	56.32184	52.81553	33.96739
RGA1	YOR127W	12	6	5	65.89862	45.0899	46.54378	38.07615	28.39506
BUB3	YOR026W	12	6	6	-7.63158	11.83295	-9.51417	25.05133	41.79104
IAH1	YOR126C	12	6	7	-44.4444	-1.55709	40.78498	60.56106	40.13304
HST3	YOR025W	12	6	8	-54	6.6787	26.93157	37.27506	30.95238
UBP2	YOR124C	12	6	9	11.65414	5.843072	100	36.82984	39.53488
	YOR024W	12	6	10	-34.3137	17.65957	14.92386	59.10494	39.13978
								missing colony	missing colony
LEO1	YOR123C	12	6	11	36.27845	35.35503	60		
AHC1	YOR023C	12	6	12	-42.8854	1.778656	-32.1053	74.35159	42.31738
	YOR121C	12	6	13	19.02778	-20.1695	75.86912	55.13393	45.85987
	YOR022C	12	6	14	-0.2907	11.53846	14.02908	49.30556	33.69565
GCY1	YOR120W	12	6	15	45.9926	33.42898	100	74.12587	53.25843
	YOR021C	12	6	16	34.09836	28.71287	70.98446	48.78049	24.82759
	YOR118W	12	6	17	-59.7561	-16.849	42.48447	49.12281	50.96618
	YOR019W	12	6	18	17.61658	3.342618	52.72953	38.42975	36.71642
TRS33	YOR115C	12	6	19	18.98212	48.05195	100	53.45455	33.23615
ROD1	YOR018W	12	6	20	19.02098	3.183024	10.11905	64.40329	45.55256
	YOR114W	12	6	21	40.08208	37.06294	18.23105	63.81462	38.81402
PET127	YOR017W	12	6	22	-1.96429	43.97245	-11.7008	30.38229	40
AZF1	YOR113W	12	6	23	48.91304	42.47788	57.14286	36.76732	41.33949
HIS3	YOR202W	12	6	24	12.42079	-3.76068	24.76923		
HIS3	YOR202W	12	7	1	60.72874	-17.2161	39.85793		
	YNR064C	12	7	2	32.14936	15.0165	7.119741	62.15722	33.16456
	YOL085C	12	7	3	21.40381	-31.1015	60.64757	37.3673	33.80682
	YNR063W	12	7	4	4.12844	-7.40741	38.5	58.53211	27.81457
PHM7	YOL084W	12	7	5	68.18182	72.70876	62.5	47.83505	38.59649
	YNR062C	12	7	6	-18.4143	55.75658	41.3442	52.4109	31.66667
	YOL083W	12	7	7	-13.8739	7.76699	16.79317	30.71429	26.1745
	YNR061C	12	7	8	-15.9794	3.949731	32.1238	60.78067	43.0622

ATG19	YOL082W	12	7	9	-22.5434	31.86583	14.58333	26.65331	31.72414
FRE4	YNR060W	12	7	10	-45.2539	-37.4245	73.27766	72.86184	49.49239
IRA2	YOL081W	12	7	11	99.60317	60.62874	100	44.42013	28.57143
MNT4	YNR059W	12	7	12	-13.4948	-47.7798	80.57554	62.5	43.30144
REX4	YOL080C	12	7	13	22.78646	-16.6951	48.04688	75.78947	52.50836
BIO3	YNR058W	12	7	14	0.475436	-14.6018	59.9681	48.99598	24.18301
	YOL079W	12	7	15	14.1844	24.71655	76.32312	75.46875	44.47174
BIO4	YNR057C	12	7	16	16.75824	47.1555	24.39516	64.1791	40.20888
	YOL075C	12	7	17	29.84869	51.68662	17.33333	71.79024	50.78947
BIO5	YNR056C	12	7	18	10.24793	-57.1942	31.65761	65.49912	36.17647
EMI5	YOL071W	12	7	19	29.95595	44.5977	29.76879	41.10429	30
HOL1	YNR055C	12	7	20	36	26.73611	81.90476	69.01141	47.44318
	YOL070C	12	7	21	10.24465	35.8349	33.46203	44.41805	53.25779
BRE5	YNR051C	12	7	22	58.66667	-2.49169	66.56581	49.36061	59.80583
HST1	YOL068C	12	7	23	29.43548	27.95858	30.28846	64.9919	50.79007
HIS3	YOR202W	12	7	24	10.99021	-11.8971	19.15888		
HIS3	YOR202W	12	8	1	78.23409	-30.8017	-18.5185		
GLO4	YOR040W	12	8	2	-8.64917	28.89984	30.12048	57.1912	33.49057
ARP8	YOR141C	12	8	3	-20.5052	32.52336	29.67033	5.864198	23.6246
CKB2	YOR039W	12	8	4	29.3772	36.96858	47.49263	39.13978	24.46809
SFL1	YOR140W	12	8	5	6.394316	6.832298	-0.23015	46.50924	37.87879
HIR2	YOR038C	12	8	6	-25.5034	-27.1462	28.4153	29.04884	48.79518
	YOR139C	12	8	7	26.40523	44.28795	69.8941	70.55336	52.82555
CYC2	YOR037W	12	8	8	10.21021	-12.9032	-7.44921	40.97561	25.5814
RUP1	YOR138C	12	8	9	-19.5364	-33.1349	100	63.18681	43.79562
SHE4	YOR035C	12	8	10	28.44639	22.17899	81.91682	24.80499	33.73494
SIA1	YOR137C	12	8	11	25.57252	-11.7293	100	59.89209	35.06944
AKR2	YOR034C	12	8	12	-11.9601	18.41004	49.85714	57.14286	40.44665
IDH2	YOR136W	12	8	13	20.45455	-15.368	44.23077	58.69121	45.52632
EXO1	YOR033C	12	8	14	100	#DIV/0!	100	48.60335	41.44144
	YOR135C	12	8	15	#DIV/0!	3.143418	56.75676	46.72304	15
HMS1	YOR032C	12	8	16	16.52661	31.27341	38.82212	71.26806	55.9194
BAG7	YOR134W	12	8	17	13.07471	21.02497	65.12097	65.61181	31.19266
CRS5	YOR031W	12	8	18	22.28047	-18.6441	15.9228	67.45027	32.86119
EFT1	YOR133W	12	8	19	29.7568	-3.85542	82.25256	65.61798	48.52547
DFG16	YOR030W	12	8	20	42.25166	-9.95146	45.56041	55.86481	51.92308
VPS17	YOR132W	12	8	21	12.22057	-25.8065	14.23077	55.07559	46.61247
	YOR029W	12	8	22	95.83893	34.11978	27.5	57.91667	39.50276
	YOR131C	12	8	23	#DIV/0!	34.32155	64.53674	70.27027	55.14223
HIS3	YOR202W	12	8	24	-57.5198	6.595365	12.87016		
HIS3	YOR202W	12	9	1	76.7209	20.48193	-10.7062		
IZH2	YOL002C	12	9	2	42.44444	-42.3611	56.93878	44.46429	33.74083
IZH4	YOL101C	12	9	3	-39.6624	-21.0843	34.21053	46.86275	15.51155

PHO80	YOL001W	12	9	4	-15.3361	4.972376	95.61753	16.09195	38.40206
	YOL099C	12	9	5	3.927492	-39.375	40.59041	28.95833	19.02985
COS10	YNR075W	12	9	6	-3.35097	-14.3095	61.18421	53.20911	33.75796
	YOL098C	12	9	7	-29.3785	19.34673	72.1519	28.93983	25.16129
AIF1	YNR074C	12	9	8	-60.8295	9.833024	89.43662	44.12417	33.03571
HMI1	YOL095C	12	9	9	21.73913	56.84211	70.09346	39.13043	31.05023
	YNR073C	12	9	10	#DIV/0!	-18.8034	31.45009	27.77778	23.9726
TRM10	YOL093W	12	9	11	-19.0583	33.75	76.87861	54.92701	41.25874
HXT17	YNR072W	12	9	12	-22.807	-29.4004	100	59.29204	36.33803
	YOL092W	12	9	13	10.58315	44.95413	88.72404	71.7803	34.18079
	YNR071C	12	9	14	-29.202	2.505219	-10.5778	54.89443	46.71916
SPO21	YOL091W	12	9	15	41.21532	41.32104	#DIV/0!	59.61538	49.88864
BSC5	YNR069C	12	9	16	-4.78723	43.79786	91.96676	62.58352	59.53079
MSH2	YOL090W	12	9	17	70.12195	48.0303	98.4375	82.79221	65.27778
DSE4	YNR067C	12	9	18	36.08871	36.90476	100	55.6719	46.46925
HAL9	YOL089C	12	9	19	28.37573	-3.31126	7.253886	60.03717	29.29293
	YNR066C	12	9	20	79.40741	44.7191	64.32432	70.93236	43.04813
MPD2	YOL088C	12	9	21	59.0625	52.20339	84.33735	66.66667	49.60422
YSN1	YNR065C	12	9	22	21.33152	30.71895	4.223433	62.92373	56.61914
	YOL087C	12	9	23	20.10114	42.34801	70.27027	54.74777	56.59472
HIS3	YOR202W	12	9	24	29.1411	13.20182	-9.08131		
HIS3	YOR202W	12	10	1	-13.2107	28.29582	25.13904		
	YOR053W	12	10	2	-4.91667	32.31198	-16.9118	33.63533	58.7007
SEY1	YOR165W	12	10	3	-53.9583	46.71053	76.9697	50.38911	27.12329
	YOR052C	12	10	4	89.47368	-20.5011	81.76101	14.31452	23.03523
	YOR164C	12	10	5	42.92453	19.86532	100	32.86385	10.14493
	YOR051C	12	10	6	27.95699	-3.22034	20.07001	45.80645	36.88312
DDP1	YOR163W	12	10	7	8.598726	-7.81955	76.2533	59.88142	40.83333
	YOR050C	12	10	8	-18.5273	-0.21786	-7.58684	55.97723	36.29442
YRR1	YOR162C	12	10	9	-32.8267	4.364326	84.35252	58.28877	44.3609
RSB1	YOR049C	12	10	10	30.74141	51.5625	83.8785	49.06716	30.06536
PNS1	YOR161C	12	10	11	-31.016	15.86998	16.53846	62.61023	34.10405
STD1	YOR047C	12	10	12	-12.8302	37.17421	55.87349	53.63458	27.77778
NFI1	YOR156C	12	10	13	27.45536	0	95.07576	43.32724	35.39519
TOM6	YOR045W	12	10	14	16.62338	39.4314	44.71649	69.98224	42.78481
	YOR154W	12	10	15	57.43855	47.29194	100	61.45833	47.86967
	YOR044W	12	10	16	-19.1489	-28.6082	-4.12698	65.08227	37.86667
PDR5	YOR153W	12	10	17	100	52.45536	100	100	61.94226
WHI2	YOR043W	12	10	18	-31.3636	-17.0259	87.80488	66.22074	32.80255
	YOR152C	12	10	19	-36.9369	33.82353	-1.02171	46.9112	36.77249
CUE5	YOR042W	12	10	20	19.37984	39.63211	-6.57016	52.89575	32.25806
ELG1	YOR144C	12	10	21	56.76606	-11.9433	5.068226	39.20973	42.1875
SRF5	YOR041C	12	10	22	28.31858	-36.4562	100	55.33088	55.85366

LSC1	YOR142W	12	10	23	83.23782	41.85083	#DIV/0!	57.43671	44.03471
HIS3	YOR202W	12	10	24	#DIV/0!	11.40496	-30.4976		
HIS3	YOR202W	12	11	1	28.23649	18.09955	5.508475		
	YOL014W	12	11	2	12.24961	-21.6458	7.50469	47.00855	33.33333
SKM1	YOL113W	12	11	3	24.86388	-1.33843	100	39.93174	18.0203
	YOL013W-A	12	11	4	10.62699	-3.84615	100	30.8046	15.87302
MSB4	YOL112W	12	11	5	86.32813	37.88546	100	67.2093	63.81323
HRD1	YOL013C	12	11	6	27	10.13917	-4.44444	-3.57995	-11.7834
	YOL111C	12	11	7	-1.95313	11.4053	52.80899	46.64032	23.31461
HTZ1	YOL012C	12	11	8	-21.8855	11.65049	56.84647	34.90364	3.557312
SHR5	YOL110W	12	11	9	26.0771	-18.0617	82.45931	65.25424	41.39651
PLB3	YOL011W	12	11	10	8.992806	-35.31	43.38942	70.02096	46.49351
ZEO1	YOL109W	12	11	11	69.57447	49.43639	100	56.6474	33.02181
MDM12	YOL009C	12	11	12	-59.3373	13.26531	98.03063	33.89356	27.51092
INO4	YOL108C	12	11	13	43.28657	47.84946	94.2446	53.73913	51.17925
	YOL008W	12	11	14	-12.9436	8.536585	27.14932	49.16468	23.86831
	YOL107W	12	11	15	-8.48375	-18.2292	31.81818	60.55846	40.55416
	YOL007C	12	11	16	-32.6121	12.3348	1.154957	58.79828	26.49842
	YOL106W	12	11	17	24.32432	27.98165	4.659498	50.73996	29.50392
TOP1	YOL006C	12	11	18	100	55.51232	100	18.46523	18.51852
WSC3	YOL105C	12	11	19	#DIV/0!	25.24005	76.49573	57.02128	46.69927
SIN3	YOL004W	12	11	20	100	53.59395	70.46632	55.7971	2.803738
NDJ1	YOL104C	12	11	21	49.37107	-2.12014	79.01786	31.09756	48.8665
	YOL003C	12	11	22	57.44681	62.96296	79.2381	71.56309	74.27885
ITR2	YOL103W	12	11	23	43.50282	-18.4366	59.55056	59.34579	46.88172
HIS3	YOR202W	12	11	24	28.37573	-19.0071	60		
HIS3	YOR202W	12	12	1	77.63401	-13.8032	79.97179		
VPS5	YOR069W	12	12	2	23.68728	-25.2232	-20.8855	-7.14286	6.684492
FYV12	YOR183W	12	12	3	72.88136	18.01948	-102.89	40.91904	3.773585
VAM10	YOR068C	12	12	4	34.53237	12.56932	65.13761	33.33333	-2.81124
RPS30B	YOR182C	12	12	5	23.23232	63.42525	37.95918	41.17647	18.29268
ALG8	YOR067C	12	12	6	-27.4953	36.33136	36.26168	49.4577	15.71429
GAC1	YOR178C	12	12	7	-1.2	3.802281	84.18491	58.62069	22.71186
	YOR066W	12	12	8	-7.35786	43.58621	11.00917	52.06612	14.80263
MPC54	YOR177C	12	12	9	-33.8496	3.752039	41.83007	49.69325	29.11392
CYT1	YOR065W	12	12	10	100	48.47059	100	58.87446	34.55497
	YOR175C	12	12	11	#DIV/0!	-23.6196	94.01709	52.7163	31.5493
YNG1	YOR064C	12	12	12	-30.6288	-23.2484	12.26415	70.73955	44.78873
DCS2	YOR173W	12	12	13	12.89782	29.51542	13.73708	55.09761	37.94212
	YOR062C	12	12	14	4.690432	24.19929	6.330749	49.59016	48.96074
YRM1	YOR172W	12	12	15	19.7724	39.90461	-1.507	42.57028	45.54217
CKA2	YOR061W	12	12	16	32	34.45513	36.97719	50.52192	50.25773

LCB4	YOR171C	12	12	17	32.44382	14.16667	54.81611	60.24306	44.01914
	YOR059C	12	12	18	-25.9003	-17.7215	0.331858	39.44954	31.9797
	YOR170W	12	12	19	58.4507	24.72826	19.14324	53.41959	45.47564
ASE1	YOR058C	12	12	20	-37.2038	2.966102	17.9941	54.32099	49.65986
RPS28A	YOR167C	12	12	21	47.79661	34.40678	-6.65635	53.97924	41.81034
	YOR055W	12	12	22	13.02876	34.13258	-12.8843	21.62162	38.34951
	YOR166C	12	12	23	30.02257	29.87377	27.36486	37.38739	48.80478
HIS3	YOR202W	12	12	24	13.95062	12.17257	4.12234		
HIS3	YOR202W	12	13	1	61.59306	4.718693	-7.83242		
	YOL029C	12	13	2	73.25	74.56873	68.16269	41.66667	29.0795
YGK3	YOL128C	12	13	3	57.53968	5.34188	25.76271	41.36292	14.42543
YAP7	YOL028C	12	13	4	-29.1822	13.48315	9.950249	24.81061	8.982036
MDH2	YOL126C	12	13	5	60.28369	-26.9581	44.32624	43.00626	28.33333
MDM38	YOL027C	12	13	6	20.18244	3.860294	100	13.26316	14.23611
	YOL124C	12	13	7	41.71705	33.94683	63.45609	49.59184	23.2
LAG2	YOL025W	12	13	8	21.70088	-10.9445	84.43272	51.94444	42.65734
SMF1	YOL122C	12	13	9	39.16914	-39.2157	25.3493	50.82781	28.74693
	YOL024W	12	13	10	20.67449	22.64463	40.68493	46	23.52941
RPS19A	YOL121C	12	13	11	-29.698	-26.1084	28.08564	60.73394	32.99233
TAT2	YOL020W	12	13	12	23.9531	-4.69012	100	59.04366	42.3445
MCH4	YOL119C	12	13	13	27.43802	23.98844	100	73.02839	40
TOS7	YOL019W	12	13	14	-5.69106	33.92857	79.34783	54.6789	43.66516
	YOL118C	12	13	15	41.63265	37.58865	100	55.4386	34.21053
TLG2	YOL018C	12	13	16	45.77465	44.28858	100	26.76471	9.606987
RRI2	YOL117W	12	13	17	32.63757	44.97768	100	64.88812	50.11186
ESC8	YOL017W	12	13	18	-48.8599	-15.5629	91.03139	48.30339	47.26841
MSN1	YOL116W	12	13	19	100	64.19214	39.27765	40.06849	46.55172
CMK2	YOL016C	12	13	20	#DIV/0!	-5.88235	100	35.55094	34.10405
TRF4	YOL115W	12	13	21	42.10526	44.82249	11.89979	40.81633	34.5679
	YOL015W	12	13	22	76.38436	25.48571	53.65854	35.1711	32.19178
	YOL114C	12	13	23	64.73988	56.58915	100	44.26471	46.42857
HIS3	YOR202W	12	13	24	71.10553	33.49693	45.88665		
HIS3	YOR202W	12	14	1	64.41441	50.7109	39.28571		
	YOR084W	12	14	2	-24.2669	38.08438	-15.7806	23.08917	15.20343
LIP5	YOR196C	12	14	3	56.41361	-23.2014	40.45584	14.61101	18.4466
WHI5	YOR083W	12	14	4	4	58.83777	40.78947	31.11455	27.88204
SLK19	YOR195W	12	14	5	23.54772	-12.585	-37.8035	42.13938	28.50356
	YOR082C	12	14	6	42.63364	16.61017	8.064516	36.33028	24.73684
PEX27	YOR193W	12	14	7	-1.77515	35.90078	24.52632	38.90063	20.81081
STC2	YOR081C	12	14	8	18.27815	30.88803	10.23102	42.4812	24.6875
	YOR192C	12	14	9	18.85246	48.6653	48.68651	56.00815	16.0221
DIA2	YOR080W	12	14	10	12.12121	3.784861	95.28302	-19.5035	33.93502
RIS1	YOR191W	12	14	11	4.869565	36.27717	100	36.91684	31.15183

ATX2	YOR079C	12	14	12	7.33945	20.74074	53.70166	58.15603	29.8103
SPR1	YOR190W	12	14	13	12.66491	13.47709	50.25227	46.80451	33.53474
BUD21	YOR078W	12	14	14	35.19062	38.58785	87.81095	44.89164	6.220096
IES4	YOR189W	12	14	15	10.30928	66.57754	1.5625	32.99595	42.52874
SKI7	YOR076C	12	14	16	22.79635	32.94798	2.099448	69.58175	49.19169
MSB1	YOR188W	12	14	17	2.790698	87.29352	100	66.46884	51.00223
	YOR072W	12	14	18	39.48171	19.28571	100	51.75781	37.1134
	YOR186W	12	14	19	11.49228	85.89342	83.88626	44.86874	46.95431
	YOR071C	12	14	20	1.422475	52.25653	-3.24254	60.15779	43.87755
GSP2	YOR185C	12	14	21	75.60664	0	#DIV/0!	54.34783	43.5443
GYP1	YOR070C	12	14	22	-20.6349	53.51171	100	32.41525	47.65957
SER1	YOR184W	12	14	23	43.25301	41.51786	81.79272	44.05286	53.21888
HIS3	YOR202W	12	14	24	30.74468	20.30848	22.38548		
HIS3	YOR202W	12	15	1	39.03177	42.09591	50.06676		
PEX15	YOL044W	12	15	2	#DIV/0!	100	-11.3043		
FRE7	YOL152W	12	15	3	20.85366	24	100		
NTG2	YOL043C	12	15	4	6.666667	24.75248	6.521739		
GRE2	YOL151W	12	15	5	-21.2714	6.25	94.73684		
NGL1	YOL042W	12	15	6	-10.2655	-27.8431	44.22383		
	YOL150C	12	15	7	-31.9298	34.97053	14.89362		
NOP12	YOL041C	12	15	8	-48.9899	48.17391	74.84277		
PEX11	YOL147C	12	15	9	100	58.32148	54.73684		
RPP2A	YOL039W	12	15	10	34.06897	40.80882	79.41176		
PPM2	YOL141W	12	15	11	-25.1685	29.88048	4.244694		
	YOL037C	12	15	12	-5.86466	60.30534	20.09901		
	YOL138C	12	15	13	29.83725	47.96547	90.47619		
	YOL036W	12	15	14	28.33333	44.29224	63.08725		
BSC6	YOL137W	12	15	15	100	62.95547	100		
	YOL035C	12	15	16	-53.528	34.56973	44.66667		
PFK27	YOL136C	12	15	17	11.20448	45.50562	99.55654		
	YOL032W	12	15	18	13.8482	43.08094	10.99888		
GAS4	YOL132W	12	15	19	91.25152	30.99042	100		
SIL1	YOL031C	12	15	20	49.81818	21.82254	100		
	YOL131W	12	15	21	-23.2558	-15.2542	100		
GAS5	YOL030W	12	15	22	-31.5789	21.85339	100		
VPS68	YOL129W	12	15	23	-29.4355	26.57431	50.90909		
HIS3	YOR202W	12	15	24	9.52381	16.66667	82.14286		
HIS3	YOR202W	12	16	1	-28.8462	2.009274	65.02242		
HIS3	YOR202W	12	16	2	-22.3629	0.894188	38.79957		
HIS3	YOR202W	12	16	3	17.31669	28.8785	15.41566		
HIS3	YOR202W	12	16	4	-2.62626	-20.1893	32.72201		
HIS3	YOR202W	12	16	5	-30.625	-2.08817	92.67857		
HIS3	YOR202W	12	16	6	10.15228	10.5548	46.40259		

HIS3	YOR202W	12	16	7	-55.8577	22.70341	99.38462
HIS3	YOR202W	12	16	8	81.65007	17.477	100
HIS3	YOR202W	12	16	9	-27.9528	31.88776	91.7197
HIS3	YOR202W	12	16	10	2.850877	10.1473	55.36398
HIS3	YOR202W	12	16	11	-16.9054	10.32078	37.11507
HIS3	YOR202W	12	16	12	16.08833	29.98713	72.89562
HIS3	YOR202W	12	16	13	-16.7568	16.22807	66.29956
HIS3	YOR202W	12	16	14	36.41536	42.02561	82.10526
HIS3	YOR202W	12	16	15	-7.16667	16.07516	38.48721
HIS3	YOR202W	12	16	16	99.7365	13.10212	77.42947
HIS3	YOR202W	12	16	17	-19.9623	35.38051	84.30584
HIS3	YOR202W	12	16	18	33.39921	-101.716	62.1118
HIS3	YOR202W	12	16	19	-30.8176	-34.275	49.28131
HIS3	YOR202W	12	16	20	-30.9633	-16.4134	24.46237
HIS3	YOR202W	12	16	21	52.7897	34.78894	13.22314
HIS3	YOR202W	12	16	22	55.57351	-2.87278	32.13058
HIS3	YOR202W	12	16	23	68.20175	-0.1297	31.8743
HIS3	YOR202W	12	16	24	82.36246	8.280255	65.63307
HIS3	YOR202W	13	1	1	22.89294	30.08008	
HIS3	YOR202W	13	1	2	23.02158	-7.88758	
HIS3	YOR202W	13	1	3	36.18234	33.40174	
HIS3	YOR202W	13	1	4	40.715	32.20666	
HIS3	YOR202W	13	1	5	40.84507	7.756949	
HIS3	YOR202W	13	1	6	37.85714	10.96369	
HIS3	YOR202W	13	1	7	-20.7526	-10.7997	
HIS3	YOR202W	13	1	8	5.052632	18.98239	
HIS3	YOR202W	13	1	9	-4.93562	12.41319	
HIS3	YOR202W	13	1	10	0.274474	12.92091	
HIS3	YOR202W	13	1	11	-41.8577	17.05298	
HIS3	YOR202W	13	1	12	2.23072	4.868674	
HIS3	YOR202W	13	1	13	-1.68067	-10.4793	
HIS3	YOR202W	13	1	14	12.66846	12.57622	
HIS3	YOR202W	13	1	15	15.84906	19.12752	
HIS3	YOR202W	13	1	16	8.76494	17.53247	
HIS3	YOR202W	13	1	17	2.35546	14.89879	
HIS3	YOR202W	13	1	18	21.68285	28.95928	
HIS3	YOR202W	13	1	19	10.55495	1.873536	
HIS3	YOR202W	13	1	20	12.55646	-9.09091	
HIS3	YOR202W	13	1	21	12.03791	-28.8497	
HIS3	YOR202W	13	1	22	10.02921	1.434426	
HIS3	YOR202W	13	1	23	7.981221	8.745583	
HIS3	YOR202W	13	1	24	-6.91358	13.86861	
HIS3	YOR202W	13	2	1	22.92818	66.94511	

LPE10	YPL060W	13	2	2	41.20172	45.35519	68.4435	39.30348
DAP1	YPL170W	13	2	3	36.97219	48.68132	50.08787	33.70288
PDR12	YPL058C	13	2	4	46.7354	23.89078	53.663	36.75
	YPL168W	13	2	5	32.93839	12.60199	35.48387	29.87805
SUR1	YPL057C	13	2	6	-2.60664	20.97107	30.6391	29.82885
REV3	YPL167C	13	2	7	6.271777	20.24922	19.71067	17.79141
	YPL056C	13	2	8	9.052183	44.37663	74.74048	41.29464
	YPL166W	13	2	9	12.52874	40.07561	59.92509	36.31714
LGE1	YPL055C	13	2	10	14.91935	39.97555	40.64171	34.75783
SET6	YPL165C	13	2	11	35.18519	30.76923	44.32432	29.01408
LEE1	YPL054W	13	2	12	15.77825	25.93361	90.15919	33.67983
MLH3	YPL164C	13	2	13	7.475317	35.48851	45.8256	37.14953
KTR6	YPL053C	13	2	14	14.31793	28.47153	30.98859	34.47293
SVS1	YPL163C	13	2	15	12.99127	16.4604	-10.3448	29.56522
OAZ1	YPL052W	13	2	16	8.222222	18.31627	20.8589	21.16992
	YPL162C	13	2	17	10.74919	42.42424	16.62269	41.64306
ARL3	YPL051W	13	2	18	11.48325	9.259259	6.479482	28.57143
BEM4	YPL161C	13	2	19	24.5098	8.544304	37.38318	37.12121
CAM1	YPL048W	13	2	20	23.35404	11.43345	25.6262	45.38259
PET20	YPL159C	13	2	21	16.23109	-1.59681	36.99789	28.42893
SGF11	YPL047W	13	2	22	16.86616	3.917301	66.51917	34.03141
TGS1	YPL157W	13	2	23	-0.35885	1.604938	20.30568	29.30108
HIS3	YOR202W	13	2	24	9.269663	7.706946		
HIS3	YOR202W	13	3	1	14.84099	37.5927		
MCT1	YOR221C	13	3	2	7.084785	29.29448	39.30754	30.2267
SNC2	YOR327C	13	3	3	-1.22358	33.03099	22.41681	43.01994
STE13	YOR219C	13	3	4	2.696366	13.94528	33.05785	35.08772
FRT1	YOR324C	13	3	5	8.809524	38.66775	24.54212	41.94444
RUD3	YOR216C	13	3	6	18.6019	37.85311	50.98468	18.4573
	YOR322C	13	3	7	16.13995	-0.55249	39.24915	28.46442
	YOR215C	13	3	8	13.48066	23.99527	42.79661	23.59551
PMT3	YOR321W	13	3	9	7.866508	27.29412	35.75221	48.32905
	YOR214C	13	3	10	11.88811	34.47537	65.98837	28.99729
GNT1	YOR320C	13	3	11	8.748616	23.48718	69.09414	40.10152
SAS5	YOR213C	13	3	12	21.37143	45.92834	75.53517	34.95441
	YOR318C	13	3	13	12.36203	21.71362	17.12474	24.36548
STE4	YOR212W	13	3	14	6.588735	16.06335	43.94904	29.5858
FAA1	YOR317W	13	3	15	11.28668	14.59391	4.70297	35.47401
NPT1	YOR209C	13	3	16	18.0602	18.0798	24.61538	32.16783
COT1	YOR316C	13	3	17	15.27237	9.988901	20.6089	35.30997
PTP2	YOR208W	13	3	18	14.72709	9.215017	2.97619	31.75853
	YOR315W	13	3	19	11.70732	-1.4157	35.44304	6.344411
HIS3	YOR202W	13	3	20	15.91376	3.424658	27.52688	26.77165

	YOR314W	13	3	21	10.30177	12.09767	36.50255	41.37931
MCA1	YOR197W	13	3	22	20.80402	-11.5519	27.21519	52.80374
SPS4	YOR313C	13	3	23	14.44444	2.275078	42.03187	42.18362
HIS3	YOR202W	13	3	24	7.265774	2.316213	27.41379	
HIS3	YOR202W	13	4	1	40	#DIV/0!		
YTA6	YPL074W	13	4	2	1.16129	-7.20339	60.79027	53.9604
	YPL183C	13	4	3	40.61931	30.39216	10.15385	34.98233
	YPL073C	13	4	4	13.14103	27.41047	58.36237	53.90625
	YPL182C	13	4	5	9.583333	-5.97826	37.00935	43.59756
	YPL071C	13	4	6	-0.22624	22.90616	41.24424	50.8427
CTI6	YPL181W	13	4	7	-11.7878	46.02273	48.43424	47.90997
MUK1	YPL070W	13	4	8	13.11111	7.76699	23.37917	55.45977
TCO89	YPL180W	13	4	9	11.00917	-1.35635	-1.03359	34.47205
BTS1	YPL069C	13	4	10	0.440044	-15.4848	47.2103	46.85315
PPQ1	YPL179W	13	4	11	15.97826	24.75149	6.625259	50.5848
	YPL068C	13	4	12	12.6506	25.18837	23.69792	31.64179
CBC2	YPL178W	13	4	13	68.10673	43.01221	50.54945	66.25
	YPL067C	13	4	14	16.1435	22.32258	25.15337	37.09273
CUP9	YPL177C	13	4	15	13.64583	9.54023	41.66667	36.33333
	YPL066W	13	4	16	9.90676	6.782107	55.4007	35.38961
	YPL176C	13	4	17	0	10.97884	50.07924	35.97561
CWC27	YPL064C	13	4	18	14.42623	17.24599	67.96875	45.05814
NIP100	YPL174C	13	4	19	18.38317	19.30502	71.08844	59.66667
	YPL062W	13	4	20	30	24.28884	21.79177	44.29967
COX10	YPL172C	13	4	21	-17.8571	100	-36.7542	7.168459
ALD6	YPL061W	13	4	22	14.25641	2.389486	-8.03859	42.64706
OYE3	YPL171C	13	4	23	20.82139	5.800215	22.80992	29.80296
HIS3	YOR202W	13	4	24	16.66667	9.090909		
HIS3	YOR202W	13	5	1	33.30349	25.46374		
RPL33B	YOR234C	13	5	2	-23.9892	50.60514	56.68359	42.09184
PUT4	YOR348C	13	5	3	-0.33186	20.26627	28.29828	23.5474
KIN4	YOR233W	13	5	4	3.09633	23.3209	26.41084	56.11702
PYK2	YOR347C	13	5	5	19.14414	24.39024	51.04364	61.33333
MKK1	YOR231W	13	5	6	10.01054	39.29236	69.27803	61.76471
REV1	YOR346W	13	5	7	10.79365	-4.30233	60.06768	52.97806
WTM1	YOR230W	13	5	8	12.19512	-3.65714	14.38515	37.42138
TYE7	YOR344C	13	5	9	2.844639	0.951374	2.428256	51.71429
WTM2	YOR229W	13	5	10	48.84454	48.0198	33.39921	63.04348
	YOR343C	13	5	11	1.843818	-5.39648	47.62712	44.54545
	YOR228C	13	5	12	14.25314	-12.5206	28.82096	35.06944
	YOR342C	13	5	13	6.008584	9.927611	17.96407	39.76945
	YOR227W	13	5	14	3.347732	29.9591	56.23003	50.63694
UBC11	YOR339C	13	5	15	11.78414	12.17064	-22.5519	53.96825

ISU2	YOR226C	13	5	16	1.612903	0.895141	70	55.16129
	YOR338W	13	5	17	14.61287	30.39092	45.02924	47.46835
	YOR225W	13	5	18	17.86075	16.56943	71.15942	50.97493
TEA1	YOR337W	13	5	19	7.526882	14.01649	4.80167	41.51436
	YOR223W	13	5	20	32.5	11.97183	24.09639	42.9078
MRS2	YOR334W	13	5	21	9.052183	6.580645	-15.4028	28.35366
ODC2	YOR222W	13	5	22	21.81604	5.182073	9.894737	26.4881
PDR10	YOR328W	13	5	23	21.24884	5.43131	61.01083	51.39319
HIS3	YOR202W	13	5	24	9.027169	9.268293		
HIS3	YOR202W	13	6	1	8.810069	28.29582		
	YPL095C	13	6	2	2.494577	31.98624	53.90625	55.76471
OXR1	YPL196W	13	6	3	-4.14053	-30.72	52.7027	42.99517
SSU1	YPL092W	13	6	4	2.024747	25.06266	45.07772	43.49315
APL5	YPL195W	13	6	5	7.367281	-16.3539	31.00189	44.83776
GLR1	YPL091W	13	6	6	12.22571	1.454139	67.50789	58.57143
DDC1	YPL194W	13	6	7	-4.86188	19.37567	61.74497	48.65672
RPS6A	YPL090C	13	6	8	5.570292	29.56989	58.57143	53.82263
PRM3	YPL192C	13	6	9	17.70285	-15.4653	40.75286	38.53211
RLM1	YPL089C	13	6	10	-6.74449	35.59322	15.4661	60.28571
	YPL191C	13	6	11	7.049608	-4.6595	51.36986	39.05724
	YPL088W	13	6	12	9.384776	17.79324	23.61111	60.66066
GUP2	YPL189W	13	6	13	12.96892	31.8097	51.60796	53.54839
YDC1	YPL087W	13	6	14	60.82803	65.94203	41.26016	73.39744
MF(ALPHA)1	YPL187W	13	6	15	14.42663	19.97245	39.30269	38.15385
ELP3	YPL086C	13	6	16	10.9589	15.61514	-17.0418	43.7247
UIP4	YPL186C	13	6	17	12.33886	8.322981	20.31524	51.32743
RPS9A	YPL081W	13	6	18	38.57868	29.36508	38.07018	44.91803
	YPL185W	13	6	19	14.52111	10.74114	12.99559	48.29721
	YPL080C	13	6	20	10.64553	0.555556	68.73857	58.47176
	YPL184C	13	6	21	17.75026	8.084577	7.341772	57.34767
RPL21B	YPL079W	13	6	22	11.61369	0.138504	31.03448	55.92105
	YPL183W-							
GON5	A	13	6	23	12.23709	-3.97074	-0.20243	40.54878
HIS3	YOR202W	13	6	24	9.171076	10.98266		
HIS3	YOR202W	13	7	1	7.220823	-4.5658		
RBF17	YOR252W	13	7	2	-3.1556	25.82583	65.53398	42.8934
PDE2	YOR360C	13	7	3	-13.8122	34.12322	41.76776	46.31902
	YOR251C	13	7	4	-1.52838	21.31287	31.20438	40.13158
VTS1	YOR359W	13	7	5	11.38614	-5.08287	-2.71493	40.98361
SRL1	YOR247W	13	7	6	4.0625	4.6	-11.1905	49.20635
HAP5	YOR358W	13	7	7	10.36789	-31.4079	57.99649	29.45736
	YOR246C	13	7	8	6.165099	3.512195	44.09449	46.88645
GRD19	YOR357C	13	7	9	1.482326	22.65006	41.65436	48.04805

DGA1	YOR245C	13	7	10	0.524109	13.22751	22.78719	58.30986
	YOR356W	13	7	11	10.96838	-24.5833	73.82876	46.52568
PUS7	YOR243C	13	7	12	64.87907	57.82537	76.42857	67.25146
GDS1	YOR355W	13	7	13	53.02083	61.00478	42.96482	62.31343
SSP2	YOR242C	13	7	14	9.657321	-1.17925	42.43986	44.09938
MSC6	YOR354C	13	7	15	10.91476	10.42129	29.60152	14.96815
ABP140	YOR239W	13	7	16	6.166495	7.692308	14.66165	43.4375
	YOR352W	13	7	17	4.980469	0.701754	19.44444	54.8105
	YOR238W	13	7	18	14.27115	8.435208	26.50177	44.66667
MEK1	YOR351C	13	7	19	22.87893	4.859335	73.48609	59.67742
HES1	YOR237W	13	7	20	26.44788	11.64021	60.73211	57.69231
MNE1	YOR350C	13	7	21	-1.7758	1.415701	20.98214	55.67376
	YOR235W	13	7	22	41.50943	25.77093	12.06544	62.62295
CIN1	YOR349W	13	7	23	13.72351	-3.23974	42.83439	51.25348
HIS3	YOR202W	13	7	24	21.22862	19.30147		
HIS3	YOR202W	13	8	1	10.34696	45.14851		
	YPL108W	13	8	2	1.590909	-23.3096		
	YPL208W	13	8	3	-23.7323	43.91144	53.71622	43.05177
	YPL107W	13	8	4	1.92926	11.97034	22.3491	34.90566
	YPL207W	13	8	5	2.159091	10.28971	-5.59441	54.66667
SSE1	YPL106C	13	8	6	3.342618	-33.7398	27.29211	60.99707
	YPL206C	13	8	7	13.60825	7.607608	30.98237	50.93633
	YPL105C	13	8	8	11.67464	-4.96304	-2.09302	53.23529
	YPL205C	13	8	9	-1.1236	-2.05198	21.71946	48.83721
FMP30	YPL103C	13	8	10	9.070796	-21.5017	37.05263	42.12219
TPK2	YPL203W	13	8	11	8.626974	0.903614	44.33164	43.81625
	YPL102C	13	8	12	#DIV/0!	#DIV/0!	61.92893	50.16502
AFT2	YPL202C	13	8	13	6.404959	1.438053	38.8412	40
ELP4	YPL101W	13	8	14	#DIV/0!	#DIV/0!	59.92509	57.82313
	YPL201C	13	8	15	15.93291	6.918239	26.26728	36.41026
ATG21	YPL100W	13	8	16	7.281001	27.06044	27.68031	48.58044
CSM4	YPL200W	13	8	17	4.612159	-0.6865	-10.8939	47.93103
FMP14	YPL099C	13	8	18	7.531866	16.56051	47.55906	48.47561
	YPL199C	13	8	19	19.31818	5.263158	-6.86499	52.2293
	YPL098C	13	8	20	15.73705	-38.8321	55.0813	58.71886
RPL7B	YPL198W	13	8	21	19.00109	25.50232	46.03482	50.35461
PNG1	YPL096W	13	8	22	5.504587	2.422611	60.06547	57.30659
	YPL197C	13	8	23	4.220779	26.45455	56.71642	43.90244
HIS3	YOR202W	13	8	24	3.497758	8.381839	8.033827	50.24038
HIS3	YOR202W	13	9	1	-27.5199	10.33311		
	YOR271C	13	9	2	-9.57447	3.540773	57.18157	69.65099
	YOR378W	13	9	3	-11.0112	4.264392	53.0504	52.75591
VPH1	YOR270C	13	9	4	2.320442	-39.51	43.04636	36.76149

ATF1	YOR377W	13	9	5	-4.94624	-1.48368	37.2093	29.94836
PAC1	YOR269W	13	9	6	22.77657	27.12238	61.875	20.96774
	YOR376W	13	9	7	4.725898	-32.3185	48.8746	38.24451
	YOR268C	13	9	8	-2.41758	-5.11111	41.6185	21.4527
GDH1	YOR375C	13	9	9	2.33298	6.372549	41.54412	3.1477
HRK1	YOR267C	13	9	10	11.89024	21.21807	53.87324	43.28859
ALD4	YOR374W	13	9	11	8.64745	6.286837	45.45455	16.08911
PNT1	YOR266W	13	9	12	15.11018	36.04853	53.89049	70.47619
GPB1	YOR371C	13	9	13	6.609808	28.08146	52.32198	-10.628
RBL2	YOR265W	13	9	14	6.788247	17.55266	47.01987	-7.57576
RAD17	YOR368W	13	9	15	8.248473	17.58105	56.81063	27.66885
DSE3	YOR264W	13	9	16	41.37931	11.18963	62.17949	56.6719
SCP1	YOR367W	13	9	17	48.0916	53.86338	63.5514	58.41424
	YOR263C	13	9	18	3.379722	14.87179	47.61905	59.80231
	YOR365C	13	9	19	16.01602	-24.6334	53.99361	-9.68468
OSW1	YOR255W	13	9	20	17.67578	11.34235	48.4472	41.75627
	YOR364W	13	9	21	14.01274	26.4631	52.80236	64.94845
NAT5	YOR253W	13	9	22	19.9806	2.007528	52.27273	37.24138
PIP2	YOR363C	13	9	23	6.666667	4.265873	31.95266	-26.988
HIS3	YOR202W	13	9	24	5.752212	19.86063		
HIS3	YOR202W	13	10	1	-10.6963	18.29537		
MEI5	YPL121C	13	10	2	20.11385	30.07519	50.74627	20.20202
	YPL225W	13	10	3	-13.4845	6.732673	62.14511	44.2623
VPS30	YPL120W	13	10	4	-20	31.29123	-23.6318	54.3554
MMT2	YPL224C	13	10	5	2.542373	48.42271	12.4183	56.40244
DBP1	YPL119C	13	10	6	7.488987	11.97917	68.63354	59.05045
GRE1	YPL223C	13	10	7	5.280899	13.63163	-12.5731	51.52542
HOS3	YPL116W	13	10	8	36.56793	38.1295	67.38132	62.42604
FMP40	YPL222W	13	10	9	3.811659	10.05639	28.48837	40.48443
BEM3	YPL115C	13	10	10	14.25462	-8.89328	18.6551	59.13462
BOP1	YPL221W	13	10	11	6.820567	-5.24064	29.98267	52.40793
	YPL114W	13	10	12	18.02444	19.22269	57.58017	55.35168
RPL1A	YPL220W	13	10	13	9.737418	-14.6697	43.29502	61.11111
	YPL113C	13	10	14	18.95206	26.60996	68.76972	62.05882
PCL8	YPL219W	13	10	15	-5.72641	8.23389	-11.5288	57.10227
PEX25	YPL112C	13	10	16	8.025343	5.856354	45.67474	41.69611
	YPL216W	13	10	17	0.323625	12.54276	61.17851	56.31868
CAR1	YPL111W	13	10	18	23.02158	29.56879	47.58735	55.90062
THI6	YPL214C	13	10	19	8.872458	-12.6531	55.79196	54.88215
	YPL110C	13	10	20	80.13245	22.09302	-17.217	41.06667
LEA1	YPL213W	13	10	21	21.9917	50.64599	28.63071	55.35714
	YPL109C	13	10	22	12.67748	10.88757	72.56372	53.86905
PUS1	YPL212C	13	10	23	3.915663	14.95778	13.97206	57.97101

HIS3	YOR202W	13	10	24	14.29706	13.28344		
HIS3	YOR202W	13	11	1	82.96164	20.48417		
FMP31	YOR286W	13	11	2	-12.294	5.840072	40.45936	48.58491
CHL1	YPL008W	13	11	3	-13.2653	20.13423	38.25243	53.27635
	YOR285W	13	11	4	3.383897	22.18468	59.30931	55.95238
LSP1	YPL004C	13	11	5	-5.55556	4.115226	41.31944	47.23926
HUA2	YOR284W	13	11	6	-11.9256	8.145766	48.16667	52
ULA1	YPL003W	13	11	7	-1.49083	8.054523	27.41617	37.29373
	YOR283W	13	11	8	12.55144	14.19558	43.18182	59.93789
HAT1	YPL001W	13	11	9	-1.85387	24.48537	52.47934	43.04124
FSH3	YOR280C	13	11	10	13.99776	-27.9141	37.45247	42.01183
PHR1	YOR386W	13	11	11	8.158765	9.080963	70.35256	56.17647
RFM1	YOR279C	13	11	12	11.21076	40.10753	11.1588	50.74184
	YOR385W	13	11	13	10	-7.8125	63.59223	50.30864
	YOR277C	13	11	14	19.97805	14	42.68078	50.50847
FRE5	YOR384W	13	11	15	6.5075922	22.69417	66.50641	52.55682
CAF20	YOR276W	13	11	16	-4.02174	28.88329	73.3234	37.86667
FIT3	YOR383C	13	11	17	0.608519	-14.5478	53.83361	48.63388
RIM20	YOR275C	13	11	18	10.82474	20.83793	40.93567	51.05105
FIT2	YOR382W	13	11	19	6.635514	-24.1189	66.79035	53.7859
MOD5	YOR274W	13	11	20	13.86593	-19.2731	28.82448	29.0411
FRE3	YOR381W	13	11	21	14.93333	-4.02062	38.02395	58.68056
TPO4	YOR273C	13	11	22	7.900208	12.06381	72.5832	44.94118
RDR1	YOR380W	13	11	23	10.2981	12.44589	59.62733	43.64896
HIS3	YOR202W	13	11	24	7.105719	22.39859		
HIS3	YOR202W	13	12	1	-13.0319	19.37716		
UME1	YPL139C	13	12	2	-6.00601	17.27273	50.83333	33.41232
	YPL245W	13	12	3	-3.62637	19.47115	54.36573	47.67123
SPP1	YPL138C	13	12	4	-27.3418	11.93756	3.459119	46.52015
HUT1	YPL244C	13	12	5	-13.9111	20.55215	34.68635	53.15315
	YPL137C	13	12	6	0	54.1806	-12.3457	44.44444
CIN2	YPL241C	13	12	7	-16.198	15.77575	11.37339	41.15523
	YPL136W	13	12	8	-14.1615	22.8473	3.301887	55.19481
HSP82	YPL240C	13	12	9	-4.15335	22.30523	72.66553	55.92105
ISU1	YPL135W	13	12	10	-0.10741	18.94866	59.96441	35.29412
YAR1	YPL239W	13	12	11	13.04348	40.26667	40.30354	10.13514
ODC1	YPL134C	13	12	12	-2.59301	-10.7143	59.03226	53.04878
	YPL236C	13	12	13	-2.45902	-18.9769	48.03002	50.15773
RDS2	YPL133C	13	12	14	-8.83028	21.43865	-9.53437	39.93506
SSO1	YPL232W	13	12	15	-7.47253	-2.37248	65.95745	58.95765
SPO19	YPL130W	13	12	16	-3.51648	0.875274	11.3082	42.18289
	YPL230W	13	12	17	11.87699	26.07407	45.99628	55.89226
HHO1	YPL127C	13	12	18	7.475728	21.35802	74.44089	52.29111

	YPL229W	13	12	19	3.433476	17.10171	69.00685	52.73159
KAP120	YPL125W	13	12	20	#DIV/0!	#DIV/0!	44.18182	45.14286
ALG5	YPL227C	13	12	21	#DIV/0!	#DIV/0!	27.59924	37.77778
RNY1	YPL123C	13	12	22	14.31227	23.52941	72.27564	40.74074
NEW1	YPL226W	13	12	23	14.30193	8.557845	49.43396	49.06667
HIS3	YOR202W	13	12	24	5.676856	17.60741		
HIS3	YOR202W	13	13	1	-8.62069	14.19308		
	YOR300W	13	13	2	-3.24939	17.67742	-3.04569	33.84279
SKS1	YPL026C	13	13	3	0.607903	29.15225	43.0605	42.17877
BUD7	YOR299W	13	13	4	-11.971	9.581646	63.02652	56.32184
	YPL025C	13	13	5	-7.33728	12.4105	55.64784	50.79365
MUM3	YOR298W	13	13	6	39.84064	40.23194	32.6226	62.53776
NCE4	YPL024W	13	13	7	-10.5834	1.501155	63.51351	53.35689
	YOR298C-							
MBF1	A	13	13	8	-16.568	18.21053	60.82474	58.35866
MET12	YPL023C	13	13	9	-13.8856	17.9089	48.09689	41.01695
TIM18	YOR297C	13	13	10	-8.53392	28.92562	14.35294	38.29787
RAD1	YPL022W	13	13	11	62.5	60.29233	54.59272	62.98343
	YOR296W	13	13	12	6.732673	29.22869	71.84943	51.75879
ECM23	YPL021W	13	13	13	-2.98913	29.85685	75.72965	56.54762
RPS10A	YOR293W	13	13	14	-21.2257	12.98246	-44.4444	36.39144
VTC3	YPL019C	13	13	15	-15.8798	5.273632	74.33071	59.78836
	YOR292C	13	13	16	-3.65726	-11.1223	54.97835	39.07692
CTF19	YPL018W	13	13	17	-4.79303	14.36464	53.2646	43.1085
	YOR291W	13	13	18	-14.2857	6.976744	50	38.81119
	YPL017C	13	13	19	-2.12766	19.29982	75.21968	48.96552
	YOR289W	13	13	20	#DIV/0!	#DIV/0!	58.99814	40.53333
	YPL014W	13	13	21	#DIV/0!	#DIV/0!	78.16092	37.5
MPD1	YOR288C	13	13	22	13.57649	19.72921	82.45083	55.43767
	YPL009C	13	13	23	13.55276	12.36506	77.50716	54.34783
HIS3	YOR202W	13	13	24	14.58733	27.84572		
HIS3	YOR202W	13	14	1	-11.4754	28.46596		
PRM4	YPL156C	13	14	2	-26.9565	10.27593	29.86513	45.84178
	YPL260W	13	14	3	33.46457	38.9049	22.52964	42.76923
KIP2	YPL155C	13	14	4	1.090343	3.609626	45.97701	49.7093
APM1	YPL259C	13	14	5	-4.82955	16.23932	29.77867	33.25359
PEP4	YPL154C	13	14	6	26.23457	52.89673	15.68627	32.77027
THI21	YPL258C	13	14	7	-31.8182	-0.59737	9.82906	47.71429
RRD2	YPL152W	13	14	8	-10.2343	-3.83973	70.3154	56.52174
	YPL257W	13	14	9	-23.6782	13.1257	13.25581	59.59302
	YPL150W	13	14	10	40.12158	29.63753	56.25	41.93548
CLN2	YPL256C	13	14	11	-24.4104	12.52772	61.79966	43.27957
ATG5	YPL149W	13	14	12	31.72589	41.02564	-29.2169	37.04819

VIK1	YPL253C	13	14	13	-11.1864	-19.1958	43.58974	55.72917
PXA1	YPL147W	13	14	14	-15.5074	10.43129	80.56872	57.2973
ICY2	YPL250C	13	14	15	-12.5561	11.84211	71.02941	44.1247
KES1	YPL145C	13	14	16	30.60029	9.649123	99.80119	48.06763
GYP5	YPL249C	13	14	17	-7.09147	-25.4282	-13.9013	39.60114
	YPL144W	13	14	18	-2.63736	-34.7945	32.78689	44.52736
GAL4	YPL248C	13	14	19	-8.61345	-0.83632	10.64426	53.06604
	YPL141C	13	14	20	-6.16216	21.65049	32.69639	46.53938
	YPL247C	13	14	21	-5.64263	9.44206	48.20717	58.88594
MKK2	YPL140C	13	14	22	9.90099	-14.6845	-5.06912	43.99038
RBD2	YPL246C	13	14	23	24.33555	20.31915	41.25874	43.13305
HIS3	YOR202W	13	14	24	26.4412	26.89784		
HIS3	YOR202W	13	15	1	-3.94191	19.27602		
RPL20B	YOR312C	13	15	2	-18.0723	24.18112		
ELC1	YPL046C	13	15	3	-9.90338	19.25926		
HSD1	YOR311C	13	15	4	4.074074	24.52999		
	YPL041C	13	15	5	-9.10596	18.49057		
	YOR309C	13	15	6	16.20469	45.30271		
	YPL039W	13	15	7	-15.0229	3.165939		
SNU66	YOR308C	13	15	8	-7.16332	-5.51039		
MET31	YPL038W	13	15	9	-18.6592	14.85356		
SLY41	YOR307C	13	15	10	34.55189	30.31579		
EGD1	YPL037C	13	15	11	64.2132	31.97674		
MCH5	YOR306C	13	15	12	-15.0628	11.00592		
PMA2	YPL036W	13	15	13	-21.6931	26.54076		
CPA1	YOR303W	13	15	14	-18.5799	29.4971		
	YPL034W	13	15	15	-12.5527	8.747045		
ISW2	YOR304W	13	15	16	54.41595	9.680639		
	YPL033C	13	15	17	9.788654	6.766917		
	YOR304C-A	13	15	18	31.48576	1.336074		
SVL3	YPL032C	13	15	19	-1.26459	48.50107		
	YOR302W	13	15	20	2.45821	15.14806		
	YPL030W	13	15	21	6.733668	24.97274		
RAX1	YOR301W	13	15	22	24.79564	13.33333		
SMA1	YPL027W	13	15	23	-11.2886	18.07359		
HIS3	YOR202W	13	15	24	28.03514	12.28426		
HIS3	YOR202W	13	16	1	-0.39139	15.35615		
HIS3	YOR202W	13	16	2	61.93772	24.92212		
HIS3	YOR202W	13	16	3	16.76647	21.5428		
HIS3	YOR202W	13	16	4	-15.407	26.17978		
HIS3	YOR202W	13	16	5	1.237113	-6.88488		
HIS3	YOR202W	13	16	6	-24.1007	29.01745		

HIS3	YOR202W	13	16	7	1.134522	29.12621	
HIS3	YOR202W	13	16	8	63.12	21.80995	
HIS3	YOR202W	13	16	9	63.09148	28.88707	
HIS3	YOR202W	13	16	10	42.27941	31.71188	
HIS3	YOR202W	13	16	11	32.109	17.57895	
HIS3	YOR202W	13	16	12	-11.9588	37.87167	
HIS3	YOR202W	13	16	13	33.06452	26.32184	
HIS3	YOR202W	13	16	14	19.03114	9.485816	
HIS3	YOR202W	13	16	15	-1.69651	14.94904	
HIS3	YOR202W	13	16	16	0.221566	32.98701	
HIS3	YOR202W	13	16	17	47.1875	14.0107	
HIS3	YOR202W	13	16	18	5.71066	9.698682	
HIS3	YOR202W	13	16	19	43.47826	6.805808	
HIS3	YOR202W	13	16	20	65.84383	8.839779	
HIS3	YOR202W	13	16	21	-3.15361	5.073801	
HIS3	YOR202W	13	16	22	20.40998	11.62791	
HIS3	YOR202W	13	16	23	28.35005	16.00753	
HIS3	YOR202W	13	16	24	14.6771	10.24155	
HIS3	YOR202W	14	1	1	27.388	30.91257	52.43634
HIS3	YOR202W	14	1	2	60.90604	9.272997	20.3424
HIS3	YOR202W	14	1	3	80.68077	42.49548	30.75758
HIS3	YOR202W	14	1	4	88.37209	60.54545	-5.9719
HIS3	YOR202W	14	1	5	51.65829	40.625	24.33173
HIS3	YOR202W	14	1	6	77.66393	4.587156	-21.4582
HIS3	YOR202W	14	1	7	43.42105	38.41991	2.684049
HIS3	YOR202W	14	1	8	58.88889	39.79475	6.716418
HIS3	YOR202W	14	1	9	43.26087	38.78282	27.62097
HIS3	YOR202W	14	1	10	52.83798	43.7247	-27.1663
HIS3	YOR202W	14	1	11	84.97653	-29.434	-25.5814
HIS3	YOR202W	14	1	12	64.65563	54.14488	27.55556
HIS3	YOR202W	14	1	13	75.3631	35.40373	10.22806
HIS3	YOR202W	14	1	14	60.08969	12.54181	-17.2949
HIS3	YOR202W	14	1	15	56.71785	13.8535	-10.3691
HIS3	YOR202W	14	1	16	60.28846	11.84433	-6.72414
HIS3	YOR202W	14	1	17	52.29885	18.94563	39.22414
HIS3	YOR202W	14	1	18	58.78453	41.08659	25
HIS3	YOR202W	14	1	19	72.26891	63.77079	34.45783
HIS3	YOR202W	14	1	20	53.77517	45.60261	-26.7303
HIS3	YOR202W	14	1	21	68.51026	31.25778	-16.1099
HIS3	YOR202W	14	1	22	54.22222	31.59066	27.37597
HIS3	YOR202W	14	1	23	83.20091	37.38192	32.39308
HIS3	YOR202W	14	1	24	40.09336	8.792924	-17.9678
HIS3	YOR202W	14	2	1	25.18968	-20.57	-5.35714

TIF4632	YGL049C	14	2	2	48.56361	-36.514	15.47619	48.08126	46.21514
IES1	YFL013C	14	2	3	95.35398	-10.101	68.64111	30.5483	39.95381
	YGL042C	14	2	4	87.3065	25.77833	44.80519	58.95372	59.75904
	YFL012W	14	2	5	56.62949	26.23986	28.09816	31.81818	42.05128
ECM33	YBR078W	14	2	6	81.20133	23.22404	7.077626	12.5	26.66667
	YFL010W-								
AUA1	A	14	2	7	43.90244	21.95946	24.78166	61.48796	54.98721
RPL17B	YJL177W	14	2	8	51.11896	0.497512	2.072539	54.77583	41.00877
WWM1	YFL010C	14	2	9	90.61033	26.78186	-1.21359	39.74592	35.33654
	YGR122W	14	2	10	48.28061	17.90123	34.52915	76.21622	51.34576
BLM3	YFL007W	14	2	11	55.13158	25.35354	2.094241	58.38926	40.87193
	YGR068C	14	2	12	51.85644	17.11823	24.44772	62.9981	34.28571
VTC2	YFL004W	14	2	13	46.0719	12.46684	-24.1017	65.11628	40.11142
	YGR067C	14	2	14	40.21305	22.62693	29.65019	67.81377	40.65041
MSH4	YFL003C	14	2	15	60.80283	2.237762	-8.21662	15.96517	30.78652
ADE6	YGR061C	14	2	16	62.2807	0.247525	100	30.39514	59.56284
DEG1	YFL001W	14	2	17	41.44893	37.90123	-17.6786	51.07527	16.1194
MUP1	YGR055W	14	2	18	70.38674	-143.522	-11.5897	44.73684	24.21652
	YGR255C	14	2	19	61.89427	53.85514	5.050505	25.98039	27.56757
RCS1	YGL071W	14	2	20	39.17004	58.69297	-2.7933	57.94769	43.45404
ENO1	YGR254W	14	2	21	32.82675	31.11111	10.05917	73.21814	41.35802
PUS2	YGL063W	14	2	22	45.08566	29.60373	53.30882	72.50923	41.86047
	YGR122C-A	14	2	23	27.31893	14.54294	8.602151	69.54128	38.46154
HIS3	YOR202W	14	2	24	95.15306	28.33583	-22.4698		
HIS3	YOR202W	14	3	1	34.48276	18.99907	-9.22722		
SAM3	YPL274W	14	3	2	63.91892	28.73563	-12.6973	41.61491	45.16129
CLB5	YPR120C	14	3	3	60.58302	-35.7143	9.215017	51.63934	36.19303
SAM4	YPL273W	14	3	4	100	41.02564	46.42857	46.05263	45.71429
CLB2	YPR119W	14	3	5	45.49296	3.787879	-20.625	29.09931	42.69663
	YPL272C	14	3	6	63.8985	34.83557	-1.84874	35.27697	45.20548
	YPR117W	14	3	7	65.82598	26.87861	0.362757	25.20661	39.19308
MDL2	YPL270W	14	3	8	51.18203	32.69231	-23.4252	38.52814	46.84466
	YPR115W	14	3	9	46.09005	-23.7721	37.7907	77.32794	52.70936
KAR9	YPL269W	14	3	10	48.90411	54.99182	-26.9113	48.33006	45.16129
	YPR114W	14	3	11	64	54.56885	5.882353	76.14679	54.14508
ACM1	YPL267W	14	3	12	54.94881	45.72193	30.0716	50	54.78723
DBF20	YPR111W	14	3	13	60.16355	43.88889	30	16.96429	43.43164
DIP5	YPL265W	14	3	14	50.67485	51.6129	-28.394	55.18591	27.42857
	YPR109W	14	3	15	51.39949	32.96854	-19.0596	59.38144	46.68508
	YPL264C	14	3	16	58.63991	40.36939	-22.0302	76.04167	49.04459
ISR1	YPR106W	14	3	17	59.1133	43.67347	-32.5901	23.01255	39.26174
KEL3	YPL263C	14	3	18	47.33475	65.36965	-13.6697	40.49774	27.97203
	YPR098C	14	3	19	44.42771	29.72973	1.612903	44.8	46.44068

FUM1	YPL262W	14	3	20	50.82569	-26.5918	51.21951	28.08765	44.14063
	YPR097W	14	3	21	36.73709	39.12363	-8.24053	31.43418	52.34899
	YPL261C	14	3	22	63.08806	-22.089	27.15517	68.11321	50.87282
	YPR096C	14	3	23	100	88.29787	-12.1212	49.40577	40.65282
HIS3	YOR202W	14	3	24	71.12118	-30.2817	-27.7457		
HIS3	YOR202W	14	4	1	6.262042	-10.6045	64.20017		
ISN1	YOR155C	14	4	2	50	-35.8071	58.91089	69.89051	43.07692
TOS8	YGL096W	14	4	3	95.70815	57.57576	46.88797	43.49593	41.80791
VHS3	YOR054C	14	4	4	71.42857	28.69458	1.117318	70.85106	59.02965
PAN2	YGL094C	14	4	5	49.03382	45.62584	9.195402	63.65639	52.78515
RHO5	YNL180C	14	4	6	83.94277	-7.06714	-10.7955	34.66667	41.17647
PNC1	YGL037C	14	4	7	54.64824	-26.5774	-24.75	52.66525	47.88732
BOP3	YNL042W	14	4	8	54.37262	66.48352	66.31079	77.40492	74.08537
CGR1	YGL029W	14	4	9	52.05479	57.65766	27.70149	75.16199	54.15473
CYT2	YKL087C	14	4	10	27.08601	61.29754	25.51528	28.84615	41.68937
MAL12	YGR292W	14	4	11	53.48525	34.16537	-15.1685	72.74368	57.10526
KGD1	YIL125W	14	4	12	23.8255	37.32504	11.82744	61.13208	53.22034
	YGR291C	14	4	13	60.11494	33.53116	-52.2876	65.99634	59.81873
GEM1	YAL048C	14	4	14	100	72.35294	28.88889	26.78063	24.51613
MAL11	YGR289C	14	4	15	63.33333	53.53846	26.78046	70.60998	56.75676
	YOR248W	14	4	16	61.62528	67.09585	13.13869	58.90909	63.17365
RNH70	YGR276C	14	4	17	52.85118	57.1644	-20.8301	23.71365	47.98535
	YOR220W	14	4	18	56.33958	59.62441	13.59649	57.72647	53.07443
	YGR273C	14	4	19	56.17834	55.53797	-16.1725	29.10891	36.88761
DCI1	YOR180C	14	4	20	51.89456	-37.1429	-19.4915	56.06936	57.66667
	YGR272C	14	4	21	100	-14.3969	9.116809	9.825328	54.87365
SYC1	YOR179C	14	4	22	49.56971	43.10345	23.52941	40.39301	43.41085
SLH1	YGR271W	14	4	23	78.54711	51.63728	20.0627	59.5122	55.42169
HIS3	YOR202W	14	4	24	29.22318	-26.9978	-2.52828		
HIS3	YOR202W	14	5	1	-8.23077	27.02479	-94.0895		
	YPR013C	14	5	2	50.13699	52.24072	-11.6667	50.76923	36.04396
	YPR134W	14	5	3	46.85573	18.99441	25.25399	24.06639	43.58108
MSS18	YPR012W	14	5	4	49.71942	-6.33947	-25.2216	55	48.8959
	YPR132W	14	5	5	49.06323	54.48954	31.65138	41.7795	43.37748
SUT2	YPR009W	14	5	6	51.50376	27.99378	-26.8971	33.40564	38.65031
	YPR130C	14	5	7	53.19149	33.71901	-21.9569	65.30249	65.08876
HAA1	YPR008W	14	5	8	55.13017	24.22803	-0.90381	62.749	57.52688
SCD6	YPR129W	14	5	9	59.13155	55.12996	9.516837	58.16514	58.18182
REC8	YPR007C	14	5	10	39.47037	70	-1.96078	75	57.5
ANT1	YPR128C	14	5	11	32.85303	53.58306	-26.3728	35.74219	50
ICL2	YPR006C	14	5	12	33.37969	62.95754	-30.2469	66.15385	51.24224
	YPR127W	14	5	13	48.93333	64.24419	-15.2062	38.24228	46.51811
HAL1	YPR005C	14	5	14	55.55556	59.92509	24.57757	66.24549	54.39189

	YPR126C	14	5	15	64.56422	30.56604	7.168459	30.76923	53.60231
	YPR004C	14	5	16	53.75723	54.10095	-28.0507	58.34933	35.45455
	YPR125W	14	5	17	61.3198	60.92715	-31.0828	4.241071	43.82022
	YPR003C	14	5	18	55.05747	62.44784	-23.1594	68.11092	50.60606
	YPR123C	14	5	19	41.57509	51.10594	-30.6799	27.79661	21.96721
PDH1	YPR002W	14	5	20	38.91951	43.12057	-10.8974	60.38095	60.82803
AXL1	YPR122W	14	5	21	49.94524	42.69006	-17.2685	59.49821	31.8328
CIT3	YPR001W	14	5	22	45.09346	-19.678	11.47541	47.15447	41.53846
THI22	YPR121W	14	5	23	87.0187	64.97175	70.45045	44.9115	69.40063
HIS3	YOR202W	14	5	24	42.85714	38.20862	23.4375		
HIS3	YOR202W	14	6	1	44.61679	2.787879	67.90083		
PET123	YOR158W	14	6	2	53.875	14.16465	25.78462	47.20721	43.67816
DJP1	YIR004W	14	6	3	36.06755	43.61949	19.40812	60	48.61751
MRH1	YDR033W	14	6	4	54.00485	35.57858	25.57652	50.78125	55.05051
	YIL158W	14	6	5	55.81683	-10.1523	-14.1946	46.13779	45.59271
PST2	YDR032C	14	6	6	56.37019	50.30864	-8.28516	61.03647	57.67327
	YIL151C	14	6	7	53.7594	24.4373	31.94444	48.90656	53.84615
	YDR031W	14	6	8	44.50262	33.96524	25.75342	46.4455	48.54111
OM45	YIL136W	14	6	9	45.96577	64.39483	-19.5342	37.8	34.00673
RAD28	YDR030C	14	6	10	49.74026	59.53608	-11.0849	66.66667	53.21782
FKH1	YIL131C	14	6	11	35.7453	46.80135	-13.9271	39.63039	48.10997
	YDR029W	14	6	12	28.34758	53.39506	-21.7514	51.41343	34.17722
POG1	YIL122W	14	6	13	50.58518	23.39744	19.89529	45.5914	60.66176
	YDR026C	14	6	14	54.59184	54.0636	1.503759	27.71855	50.34722
COX5B	YIL111W	14	6	15	47.03608	46.18056	-26.5461	58.56237	38.37209
	YAL046C	14	6	16	63.08725	57.8869	-21.8601	32.47423	56.47059
	YIL102C	14	6	17	51.97674	59.65834	23.03406	33.98821	43.26923
ADY4	YLR227C	14	6	18	28.38371	62.55572	-28.3186	43.14815	46.28378
LYS12	YIL094C	14	6	19	53.02491	-8.68545	18.7251	32.57732	61.04294
	YKR104W	14	6	20	65.31792	48.40849	27.16763	60.60071	46.10592
KTR7	YIL085C	14	6	21	43.90963	57.88668	4.229607	13.49036	49.30556
BAP3	YDR046C	14	6	22	63.85542	5.657709	7.100977	34.5	47.8022
	YMR074C	14	6	23	28.62275	8.408797	60.3363	33.96584	41.15854
HIS3	YOR202W	14	6	24	100	-13.6126	-20.1681		
HIS3	YOR202W	14	7	1	0.712831	26.98864	37.6569		
YOP1	YPR028W	14	7	2	48.56802	27.69819	-24.3221	62.96992	48.68735
	YPR152C	14	7	3	53.82883	46.90265	-17.9331	49.7076	43.65782
	YPR027C	14	7	4	34.37908	-5.41958	30.37383	63.53383	60.48193
	YPR150W	14	7	5	100	62.72727	27.12766	19.36275	42.20779
ATH1	YPR026W	14	7	6	47.24221	37.16535	-22.2405	25.98253	48.48485
NCE102	YPR149W	14	7	7	56.17716	35.98862	-15.4966	51.41612	55.98802
YME1	YPR024W	14	7	8	58.59473	44.41417	-23.6842	31.58915	40.33898
	YPR148C	14	7	9	53.73333	41.96141	-25.3385	58.11088	52.28758

EAF3	YPR023C	14	7	10	47.12644	57.70654	69.46387	31.35593	81.30841
	YPR147C	14	7	11	51.84211	60.30989	-13.5349	44.35484	41.29693
	YPR022C	14	7	12	50.7371	63.9881	-9.72973	54.01575	48.8024
	YPR146C	14	7	13	48.77384	62.84722	-14.9474	42.03455	31.15727
ATP20	YPR020W	14	7	14	69.33842	46.12188	-1.13493	46	47.58621
ASN1	YPR145W	14	7	15	55.07246	69.05072	5.415861	38.60759	71.77914
RLF2	YPR018W	14	7	16	39.92147	64.7619	-27.9489	-35.9701	27.58621
KAR3	YPR141C	14	7	17	63.30532	-9.6	50.58824	27.46914	50.70423
DSS4	YPR017C	14	7	18	85.12241	59.67213	-16.7742	12.19512	52.91971
TAZ1	YPR140W	14	7	19	59.07473	66.66667	-26.7658	14.3469	53.76344
	YPR015C	14	7	20	65.98837	77.14581	82.29531	52.71318	81.49351
	YPR138C	14	7	21	53.29787	46.20155	44.97992	68.89693	59.93691
MEP3	YPR014C	14	7	22	43.37812	46.95035	15.20645	42.31537	54.60317
	YPR135W	14	7	23	72	68.86447	52.73775	53.19549	76.99681
HIS3	YOR202W	14	7	24	62.87215	31.71355	24.9742		
HIS3	YOR202W	14	8	1	48.16248	5.201699	50.98991		
NRG1	YDR043C	14	8	2	57.93103	27.45665	39.06706	39.9568	30.54475
	YLR455W	14	8	3	48.81101	41.33504	-14.7203	49.74747	39.80198
	YDR042C	14	8	4	60.1741	52.0202	8.813264	46.80307	62.9562
TOR1	YJR066W	14	8	5	56.84848	41.48061	5.706268	58.25545	61.17851
EHD3	YDR036C	14	8	6	100	77.52809	25.13661	47.89082	45.41667
VPS55	YJR044C	14	8	7	100	48.37209	26.15385	23.90572	31.82674
ARO3	YDR035W	14	8	8	90.39735	9.543568	3.603604	57.18391	28.52349
	YJR039W	14	8	9	58.30303	49.85423	26.17261	62.22222	30.23715
LYS14	YDR034C	14	8	10	60.43956	51.02286	0	57.55814	39.02439
	YJL103C	14	8	11	54.73684	59.54488	8.077994	47.75641	50.75188
	YPR039W	14	8	12	56.15697	59.61332	8.399366	58.88594	64
VPS53	YJL029C	14	8	13	43.48387	57.28571	51.84466	13.7457	-13.0252
UBP16	YPL072W	14	8	14	43.00126	11.32438	10.2719	47.58621	40.4814
	YNL086W	14	8	15	32.56131	72.07944	-21.4118	45.48387	56.57371
	YPL035C	14	8	16	80.9322	-5.02092	4.255319	30.50193	15.45254
MSG5	YNL053W	14	8	17	40.65934	70.37975	19.85185	43.18182	68.13725
HST2	YPL015C	14	8	18	53.13609	58.71688	-9.15348	53.92157	58.08824
SLM2	YNL047C	14	8	19	44.4564	43.35106	25.80645	53.19149	48.06338
	YOR240W	14	8	20	48.82629	54.60123	1.759531	53.29154	19.58525
HEF3	YNL014W	14	8	21	43.60087	19.71631	16.91094	60.91549	28.47682
	YMR194C-A	14	8	22	61.86047	53.5443	2.732707	52.27273	14.15313
	YNL011C	14	8	23	60.19971	32.70142	-10.5263	58.44875	65.90909
HIS3	YOR202W	14	8	24	55.24345	41.19048	-17.2932		
HIS3	YOR202W	14	9	1	44.15855	21.30841	4.337349		
	YPR045C	14	9	2	61.54971	40.91904	-17.602	59.33014	33.56643
BSP1	YPR171W	14	9	3	41.65637	53.75494	-42.0317	42.34043	51.45631

	YPR044C	14	9	4	64.72303	24.66844	54.65116	44.44444	59.79021
	YPR170C	14	9	5	63.65385	45.39007	-42.2535	44.21252	60.26316
RPL43A	YPR043W	14	9	6	100	-4.59016	#DIV/0!	3.395062	25.27076
MET16	YPR167C	14	9	7	63.61923	47.1066	-13.8134	58.80077	59.14286
PUF2	YPR042C	14	9	8	54.98866	41.1415	-12.8434	34.28571	66.74877
MMS1	YPR164W	14	9	9	65.62054	54.24929	0.154321	50.81206	57.66423
TIP41	YPR040W	14	9	10	100	75.26882	-21.0843	48.99598	48.08917
GPH1	YPR160W	14	9	11	100	100	37.60684	31.40496	63.20346
	YPR038W	14	9	12	40.56338	54.79951	19.79576	52.91577	61.33333
	YPR158W	14	9	13	-45.0626	-4.60922	-23.233	58.66426	52.63158
ERV2	YPR037C	14	9	14	47.33258	56.65914	44.02332	64.27289	60.33333
	YPR157W	14	9	15	17.01534	75.14079	-10.2724	69.34579	47.27891
SRO7	YPR032W	14	9	16	58.82353	37.93103	9.174312	36.13054	58.08581
TPO3	YPR156C	14	9	17	27.65957	16.49175	35.02994	26.69492	42.65734
NT01	YPR031W	14	9	18	18.637	17.46575	32.76596	43.31066	49.27007
NCA2	YPR155C	14	9	19	43.65854	12.14848	23.86364	44.75248	67.10526
CSR2	YPR030W	14	9	20	52.42291	70.06726	25.04	38.88889	64.65517
PIN3	YPR154W	14	9	21	63.41256	76.23762	71.29278	79.8374	82.03593
APL4	YPR029C	14	9	22	58.876	8.458864	6.346272	72.91667	65.74394
	YPR153W	14	9	23	44.25163	65.47619	1.958384	24.66281	55.2381
HIS3	YOR202W	14	9	24	8.152174	-1.1984	-8.85734		
HIS3	YOR202W	14	10	1	22.44202	6.593407	-76.7241		
COX14	YML129C	14	10	2	-33.3333	18	-26.3566	51.36268	35.0211
SMP2	YMR165C	14	10	3	7.246377	3.846154	-33.913	23.76068	47.4359
CTK3	YML112W	14	10	4	50.16797	-122.399	1.452282	4.347826	46.70659
ASI1	YMR119W	14	10	5	60.16598	3.320562	-11.0493	44.36494	60.84788
BUL2	YML111W	14	10	6	55.69918	61.87683	23.38028	47.90528	67.91444
	YMR118C	14	10	7	58.15348	40.02294	-14.6324	32.41252	45.27778
FAR10	YLR238W	14	10	8	61.2542	72.14612	10.67236	58.95522	39.62264
CAT5	YOR125C	14	10	9	0	0	-17.7083	-19.6759	16.58768
RXT2	YBR095C	14	10	10	51.48148	44.96644	-2.41657	53.56415	41.72932
	YOL153C	14	10	11	57.70701	57.87909	14.28571	40	58.47458
IST2	YBR086C	14	10	12	35.58673	46.59091	36.68831	50.08787	47.72036
	YOL073C	14	10	13	49.43182	69.87847	7.989228	24.63768	49.12281
AAC3	YBR085W	14	10	14	53.29032	55.56858	34.24658	61.42035	47.54098
AGA1	YNR044W	14	10	15	34.98871	59.09091	51.72414	46.47619	54.73373
UBC4	YBR082C	14	10	16	32.4967	25.13514	46.71053	21.42857	59.85915
ABZ1	YNR033W	14	10	17	35.64356	32.27207	49.22049	43.17789	50.90361
	YBR075W	14	10	18	21.69014	52.80778	1.357466	56.05787	58.25243
MRPL10	YNL284C	14	10	19	22.25859	28.11621	-0.37594	39.11368	48.12287
TRM7	YBR061C	14	10	20	35.2075	69.75037	9.904762	50.49116	51.16279
LSM7	YNL147W	14	10	21	45.13158	29.64119	31.65761	-7.75623	43.10345
	YBR020W	14	10	22	38.20225	-18.4094	0	45.55985	56.65722

CYB5	YNL111C	14	10	23	31.42857	42.92379	-23.5632	36.57025	53.19149
HIS3	YOR202W	14	10	24	63.46783	35.54502	-1.30039		
HIS3	YOR202W	14	11	1	47.11637	4.889299	40.8284		
JID1	YPR061C	14	11	2	62.89753	35.95506	1.359517	16.17934	24.23529
HPA2	YPR193C	14	11	3	52.89532	1.825558	-31.6964	52.97398	55.58824
ARO7	YPR060C	14	11	4	44.10828	35.13514	-21.1247	45.4343	54.96894
AQY1	YPR192W	14	11	5	43.24918	-35.8712	6.220984	36.57505	46.73913
	YPR059C	14	11	6	45.26167	53.55505	11.06061	53.62319	46.31268
QCR2	YPR191W	14	11	7	45.07227	29.25278	27.30375	-17.4877	39.14591
YMC1	YPR058W	14	11	8	55.38642	27.77778	-2.10526	33.33333	50.30488
SKI3	YPR189W	14	11	9	58.23129	-16.2413	13.20475	62.80088	59.60265
BRR1	YPR057W	14	11	10	40.10767	-6.40569	-8.63986	41.56479	39.56386
MLC2	YPR188C	14	11	11	50.27933	43.44176	-12.2995	76.65441	57.41758
SMK1	YPR054W	14	11	12	49.13218	52.41379	16.57459	38.15514	54.27729
ATG13	YPR185W	14	11	13	43.01075	32.78237	50	35.02935	51.79641
	YPR053C	14	11	14	58.02469	72.87582	-7.53941	15.55076	34.60076
GDB1	YPR184W	14	11	15	55.35714	47.72277	46.5847	49.91453	43.13725
NHP6A	YPR052C	14	11	16	1.344086	-19.3133	2.977667	43.77682	68.45238
HDA3	YPR179C	14	11	17	32.72981	38.46154	18.94934	34.89209	43.96783
MAK3	YPR051W	14	11	18	6.284658	78.80539	-12.6488	3.674541	50
	YPR174C	14	11	19	-11.9107	69.82846	-2.73151	59.50096	50.1385
	YPR050C	14	11	20	13.43826	64.54653	39.06977	47.80876	60.96096
VPS4	YPR173C	14	11	21	86.42534	-1.21212	94.73684	-5.69476	19.24528
MCM16	YPR046W	14	11	22	49.07025	13.0621	27.91489	12.98969	40.70796
	YPR172W	14	11	23	38.08463	24.63606	49.55224	69.33116	64.22764
HIS3	YOR202W	14	11	24	28.64583	-16.2571	29.36763		
HIS3	YOR202W	14	12	1	87.28956	18.0068	3.978052		
RTG3	YBL103C	14	12	2	100	19.71831	-36.6906	59.27273	61.13744
	YNL109W	14	12	3	53.11751	-27.1752	55.38922	46.63573	43.58108
LTE1	YAL024C	14	12	4	40.24226	-32.3442	28.69898	51.58287	59.77337
RPS7B	YNL096C	14	12	5	34.28944	-24.8355	17.32283	46.39831	55.55556
	YDR271C	14	12	6	38.84198	-187.5	44.92188	35.71429	50.94851
	YOR379C	14	12	7	41.47813	56.40745	14.11638	56.16943	60.28169
	YDR269C	14	12	8	55.39972	24.44134	5.418719	47.30539	61.33721
	YOR366W	14	12	9	55.87393	-4.33884	16.33146	49.25926	50.8982
AMD2	YDR242W	14	12	10	46.22426	38.00905	2.777778	44.89796	63.48315
	YOR345C	14	12	11	43.05556	23.28431	-54.386	53.45528	44.1358
BRE1	YDL074C	14	12	12	50.91743	60.44864	41.21306	-25.5578	27.09163
	YOR333C	14	12	13	46.21969	71.13734	14.96954	56.00858	55.26316
AAD3	YCR107W	14	12	14	72.08413	9.060403	9.793814	60.94033	54.76923
	YOR325W	14	12	15	62.23338	72.19512	10.88435	58.93186	55.24476
MAL32	YBR299W	14	12	16	49.81862	33.15603	#DIV/0!	8.974359	46.66667
	YOR309C	14	12	17	100	7.407407	63.33333	43.62745	51.89394

UBS1	YBR165W	14	12	18	23.60515	38.64447	37.7551	50.75885	57.02247
MCH5	YOR306C	14	12	19	16.75192	24.94305	45.24207	49.53271	42.93948
TEF2	YBR118W	14	12	20	91.59664	75	#DIV/0!	50.43103	49.66443
	YOR300W	14	12	21	18.60465	-21.6162	18.44729	30	54.32526
LYS2	YBR115C	14	12	22	21.05927	65.14286	23.22835	63.7457	57.83664
ADE2	YOR128C	14	12	23	100	100	#DIV/0!	62.58993	65
HIS3	YOR202W	14	12	24	10.03717	36.76248	22.24852		
HIS3	YOR202W	14	13	1	62.28611	25.80372	19.31818		
TKL1	YPR074C	14	13	2	20.62893	-3.44619	-11.5302	71.875	67.28395
IML2	YJL082W	14	13	3	40.97902	23.47267	28.85906	52.01401	56.70391
LTP1	YPR073C	14	13	4	5.384615	32.50774	12.45928	57.53425	60.6414
PRY1	YJL079C	14	13	5	12.30329	-14.7303	8.892482	50.44248	53.89049
	YPR071W	14	13	6	19.73899	46.72586	-10.2962	45.33074	55.48589
SOD2	YHR008C	14	13	7	40.3183	-12.9848	59.1954	45.95661	56.39344
MED1		14	13	8	59.18885	3.816794	20.02002	28.07692	44.08602
ARR3	YPR201W	14	13	9	48.25436	-9.46166	21.50171	53.30739	55.98802
SPE3	YPR069C	14	13	10	46.76674	-1.9697	40.90909	54.19223	55.49451
ARR2	YPR200C	14	13	11	51.51515	-25.3933	-12.1374	55.81818	47.00855
HOS1	YPR068C	14	13	12	51.88794	32.10526	38.90215	70.46632	66.83292
ARR1	YPR199C	14	13	13	54.23024	64.44223	2.155172	60.18018	43.15068
UBA3	YPR066W	14	13	14	62.01456	93.71462	11.94732	10.06424	44.55446
SGE1	YPR198W	14	13	15	40.78624	41.64811	37.62376	71.63636	60.39326
ROX1	YPR065W	14	13	16	61.06195	49.0625	61.20996	69.08463	59.8916
	YPR197C	14	13	17	68.84876	15.12915	61.51545	57.22656	54.48718
	YPR064W	14	13	18	56.50645	-34.1794	32.90598	58.76686	61.04651
	YPR196W	14	13	19	21.94805	75.59581	19.03987	48.14815	45.09804
	YPR063C	14	13	20	30.14493	55.07246	23.84259	61.66365	61.76471
	YPR195C	14	13	21	30.67568	60.88517	76.1811	54.01302	53.41463
FCY1	YPR062W	14	13	22	48.49885	25.1816	26.73267	62.94326	65.69579
OPT2	YPR194C	14	13	23	41.19782	41.80645	91.42857	55.88752	65.85366
HIS3	YOR202W	14	13	24	45.97586	-5.12821	-27.8607		
HIS3	YOR202W	14	14	1	79.7568	-7.70142	40.54054		
PTC2	YER089C	14	14	2	15.20958	-57.4297	29.32692	-6.16016	45.02618
SUE1	YPR151C	14	14	3	#DIV/0!	#DIV/0!	80.95238	9.306931	52.45399
SLF1	YDR515W	14	14	4	23.62093	-18.6199	32.86252	42.85714	49.54407
	YPR118W	14	14	5	37.64115	49.78587	46.94836	51.5873	58.48564
SAM2	YDR502C	14	14	6	31.47353	2.873563	25.89792	48.1203	54.79042
	YPR091C	14	14	7	47.67596	72.07373	36.72055	14.71861	44.44444
FMP36	YDR493W	14	14	8	49.50912	75.73801	6.666667	50.60484	51.69231
MDM36	YPR083W	14	14	9	24.71627	2.007299	26.19403	58.68465	52.17391
KRE2	YDR483W	14	14	10	58.59951	-14.6712	18.45494	40	62.67806
AGC1	YPR021C	14	14	11	56.7602	-15.9593	0	50.17668	50.14006
SNF1	YDR477W	14	14	12	42.44121	-35	76.08069	5.684755	34.24125

	YPR011C	14	14	13	57.44921	69.11608	28.21369	57.09091	45.68966
	YDR444W	14	14	14	55.7047	70.6044	51.38158	30.94688	66.11111
	YPL158C	14	14	15	45.78896	-13.8381	64.41718	42.47967	61.11111
	YDR326C	14	14	16	56.74699	57.24816	5.190931	47.75862	50.70423
	YML050W	14	14	17	35.00557	31.01952	38.57143	69.46429	65.65097
	YDR290W	14	14	18	36.70034	35.44304	100	18.16038	65.78249
CDA2	YLR308W	14	14	19	49.5356	-21.6274	70.33248	57.94769	47.69648
	YFL063W	14	14	20	3.6	31.36	13.11475	-14.4	43.35664
ADH1	YOL086C	14	14	21	59.60347	68.71239	56.62393	40	59.01639
RIM15	YFL033C	14	14	22	#DIV/0!	#DIV/0!	41.32231	23.35329	51.75202
MFA1	YDR461W	14	14	23	55.33742	40.29228	96.14035	68.28885	67.90123
HIS3	YOR202W	14	14	24	54.72837	36.13861	-25.5814		
HIS3	YOR202W	14	15	1	90.40541	-6.33147	27.51817		
SYT1	YPR095C	14	15	2	56.15305	1.333333	83.46457		
HIS3	YOR202W	14	15	3	10.54348	-3.09989	100		
ASR1	YPR093C	14	15	4	29.45205	30.61651	29.10714		
HIS3	YOR202W	14	15	5	60.83521	65.11278	63.74134		
	YPR092W	14	15	6	55.09434	-0.82919	46.89042		
HIS3	YOR202W	14	15	7	37.13188	7.745505	32.49759		
	YPR090W	14	15	8	57.08502	42.27994	44.41088		
COQ2	YNR041C	14	15	9	#DIV/0!	#DIV/0!	#DIV/0!		
	YPR089W	14	15	10	65.59428	-23.6476	48.63388		
PET191	YJR034W	14	15	11	54.19689	-26.8765	31.50685		
	YPR084W	14	15	12	69.41515	-32.0755	53.00146		
	YJL120W	14	15	13	88.18182	91.85049	90.73615		
MRL1	YPR079W	14	15	14	41.32918	-10.566	54.03226		
	YJL119C	14	15	15	55.16529	46.45833	27.8481		
	YPR078C	14	15	16	98.32776	74.84663	42.06897		
PHO86	YJL117W	14	15	17	37.75811	51.15766	50.61728		
	YPR077C	14	15	18	56.5625	25.12376	28.71917		
	YJL107C	14	15	19	58.24176	34.5679	19.75498		
	YPR076W	14	15	20	39.70917	33.49359	23.46185		
IME2	YJL106W	14	15	21	55.11945	41.15942	75.38462		
OPY2	YPR075C	14	15	22	67.10183	67.12598	56.8479		
HPR5	YJL092W	14	15	23	-16.2214	-19.9593	26.25871		
HIS3	YOR202W	14	15	24	-14.214	78.82177	18.35273		
HIS3	YOR202W	14	16	1	100	27.13755	-7.77202		
HIS3	YOR202W	14	16	2	80.09259	-8.30189	9.962264		
HIS3	YOR202W	14	16	3	39.63039	-8.71261	10.7943		
HIS3	YOR202W	14	16	4	-3.30882	-5.41612	6.517094		
HIS3	YOR202W	14	16	5	88.5918	-111.346	-2.0202		
HIS3	YOR202W	14	16	6	25.66265	-11.442	26.49007		
HIS3	YOR202W	14	16	7	30.69182	8.171206	63.38673		

HIS3	YOR202W	14	16	8	42.41417	28.62275	48.69888
HIS3	YOR202W	14	16	9	53.49162	19.86183	50
HIS3	YOR202W	14	16	10	55.94887	43.97727	58.01527
HIS3	YOR202W	14	16	11	54.04878	-0.14205	57.84173
HIS3	YOR202W	14	16	12	75.89641	25.30949	96.80851
HIS3	YOR202W	14	16	13	41.36657	27.06186	100
HIS3	YOR202W	14	16	14	55.11163	-10.6742	#DIV/0!
HIS3	YOR202W	14	16	15	57.25646	24.13793	55.75221
HIS3	YOR202W	14	16	16	47.67096	-14.0221	#DIV/0!
HIS3	YOR202W	14	16	17	51.54525	5.575326	#DIV/0!
HIS3	YOR202W	14	16	18	51.86916	33.54271	#DIV/0!
HIS3	YOR202W	14	16	19	42.93139	35.99062	#DIV/0!
HIS3	YOR202W	14	16	20	41.63347	34.80278	31.85841
HIS3	YOR202W	14	16	21	57.61006	-35.0734	3.680982
HIS3	YOR202W	14	16	22	47.51309	26.16633	-5.19952
HIS3	YOR202W	14	16	23	-14.0845	50.14837	15.59633
HIS3	YOR202W	14	16	24	99.45355	3.962264	3.231441