tarea2

María José Hernández de Santos

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Tarea 2

Elabora un documento de RMarkdown con tus respuestas. Envía y/o sube a una liga de github tu respuesta debes incluir al menos el archivo con extensión Rmd y opcionalmente el archivo html. Los comentarios a los problemas, códigos y sobre todo discusión de tus resultados deben ir como texto de RMarkdown

- 1. (15) Considera las siguientes cantidades discute y justifica qué tipo de distribución de probabilidad pueden tener las siguientes variables:
- a. El número (talla) de calzado de adultos varones en México. Gaussiana, ya que la mayoría de los adultos varones poseen un número de calzado que ronda al rededor del promedio, mientras que unos pocos tendrán una talla de calzado muy grande o muy pequeña.
- b. La distribución de habitantes en asentamientos humanos de México. Distribución de cola larga, ya que hay pocas ciudades con muchos habitantes, mientras que la mayoría de las ciudades son medianas o pequeñas.
 - c. La velocidad promedio de los automóviles en Bernardo Quintana a las 9 de la mañana en un día laborable.

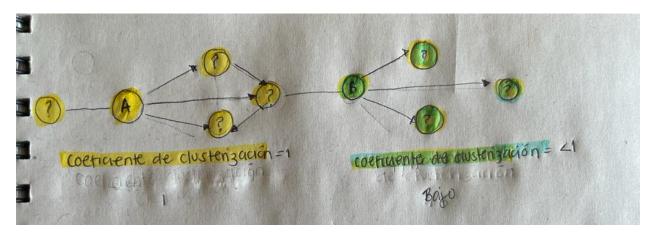
Poisson, ya que BQ, al ser una vialidad importante, cruza casi todo querétaro. Habrá segmentos de BQ en los que los haya embotellamientos, mientras que habrá otras automovilistas vayan más rápido debido a que ese segmento de la vialidad no está despejado. Además, considerando que la gente es desesperada, suele acelerar en los tramitos libres.

d. La velocidad promedio de los automóviles en Bernardo Quintana a las 3 de la mañana.

Logarítmica, ya que es casi un hecho de que a las tres de la mañana BQ está libre. Podría pensar también en que la urgencia de llegar a tu casa en la madrugada es mucha porque pues... está pegriloso.

5 Supongamos que tenemos dos nodos (A,B) en una red. El nodo A y B tiene el mismo degree, pero el A tiene un coeficiente de clusterización de 1 y el nodo B un coeficiente bajo. Dibuja está situación y explica cuál sería una mejor diana si quieres eliminarlos y afectar a la red.

La mejor diana sería el nodo B, ya que de esta manera estamos alterando toda la conectividad de la red, en otras palabras, si quitas a B, estás logrando que los nodos cercanos a este pierdan conectividad con el resto.



(olvidé marcar la linea que está en lapiz entre los signos de interrogación arriba y abajo del nodo a, pero se supone que así están conectados todos los nodos y por eso el coeficiente de clusterización es 1.

- 40 Elabora un programa en R que usando funciones calcule, a partir de una matriz de adyacencia (Sólo utiliza R base para resolver este problema)
- a. Si la red es dirigida o no.
- b. Si la red es pesada o no.
- c. El degree de los nodos.
- d. El histograma del degree.

```
#primero debo crear la matriz de adyacencia
lamasmatriz<-matrix(nrow=3, ncol=3)
#ahí se creó una matriz vacía, ahora la voy a llenar
lamasmatriz[1,1]<-0
lamasmatriz[1,2]<-2
lamasmatriz[2,1]<-2
lamasmatriz[2,1]<-2
lamasmatriz[2,2]<-0
lamasmatriz[2,3]<-2
lamasmatriz[3,1]<-3
lamasmatriz[3,3]<-0
lamasmatriz[3,3]<-0
lamasmatriz[3,3]<-0</pre>
```

```
## [,1] [,2] [,3]
## [1,] 0 2 3
## [2,] 2 0 2
## [3,] 3 2 0
```

la red es dirigida o no? si una red es dirigida, M

es distinto de Mji , mientras que si la red es dirigida, Mij

```
es igual a M
```

ji

. En esta función que acabo de crear, apartir de una matriz, siendo i los valores de las columnas y j el de las filas, se comparan las coordenadas en ij y ji, de ser iguales, se trata de una red no dirigida, de ser distintas, se trata de una red dirigida.

```
directedornot<-function(matriz){</pre>
    for(i in 1:ncol(matriz)){
    for( j in 1:nrow(matriz)){
    if ((matriz)[i,j] != (matriz)[j,i]){
      print ("red dirigida")} else{print("red no dirigida")}
}
 }
directedornot(lamasmatriz)
## [1] "red no dirigida"
```

La matriz es pesada? Una matriz es pesada cuando la conexión tiene un valor distinto de uno.

En este caso, si ij o ji son mayores que 1, se trata de una red pesada.

En la estructura de mi función, establezco que para un objeto matriz, y con ayuda de un ciclo for, dependiendo de que el valor de M

i,jy Mj,i

#mi red es no dirigida

cumpla ciertas condiciones, arroje si la red es pesada o no. Esto para todos los valores de i y j (1:ncol, 1:nrow).

Las condiciones están establecidadas con condicionales if, else if y else. Si la condición de que M

 $\begin{array}{c} i,j \\ \text{y M} \\ \\ j,i \end{array}$

sean mayores que 1, se imprimirá la frase "red pesada"; si son iguales a 1, se imprimirá la frase "Red no pesada", y si son iguales a 0, se ignora por la carencia de conexión (en este caso la interacción del nodo consigo mismo)

```
pesado<-function(matriz){</pre>
  for(i in 1:ncol(matriz)){
    for(j in 1:nrow(matriz)){
      if ((matriz)[i,j]>1){print("Red pesada")} else if ((matriz)[j,i]>1){print("Red pesada")} else if(
      else{print("red no pesada")}
  }
}
pesado(lamasmatriz)
## [1] "-"
## [1] "Red pesada"
## [1] "Red pesada"
## [1] "Red pesada"
## [1] "-"
## [1] "Red pesada"
## [1] "Red pesada"
## [1] "Red pesada"
## [1] "-"
di<-function(matriz){for(i in nrow(matriz)){ return(di<-c(sum(matriz[,i])))</pre>
}}
di(lamasmatriz)
Degree de nodos
## [1] 5
#no sé qué hice mal:c
htgrm<-function(di){hist(di)}</pre>
htgrm<-lamasmatriz
#no me saleeee:c
```

histograma del degree

(40) A partir de la red de interacción de proteínas alojada en la librería igraphdata, que puedes llamar mediante data(yeast) elabora un programa en R (acá sí puedes usar librerías especializadas de R) que:

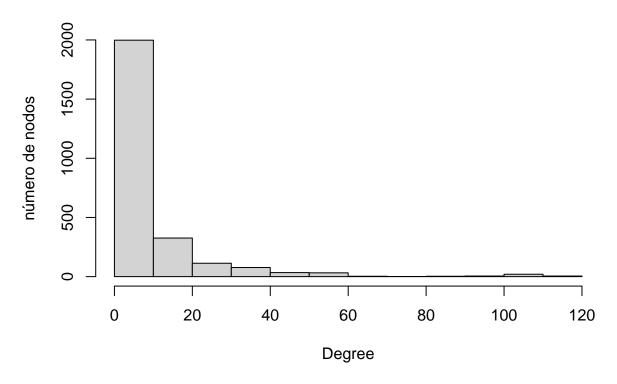
```
#llamar a la librería
library(igraphdata)
```

Warning: package 'igraphdata' was built under R version 4.1.2 library(igraph) ## Warning: package 'igraph' was built under R version 4.1.2 ## Attaching package: 'igraph' ## The following objects are masked from 'package:stats': ## ## decompose, spectrum ## The following object is masked from 'package:base': ## ## union data("yeast") distlev<-degree(yeast, mode = "all")</pre> mean(distlev) ## [1] 9.059992 #En promedio, cada nodo tiene 9 conexiones.

hist(distlev, main = "frecuencia de conectividad en la red Yeast", xlab="Degree", ylab="número de nodos

a. Calcule la distribución de conectividades y grafique esa distribución . Discute tu resultado.

frecuencia de conectividad en la red Yeast

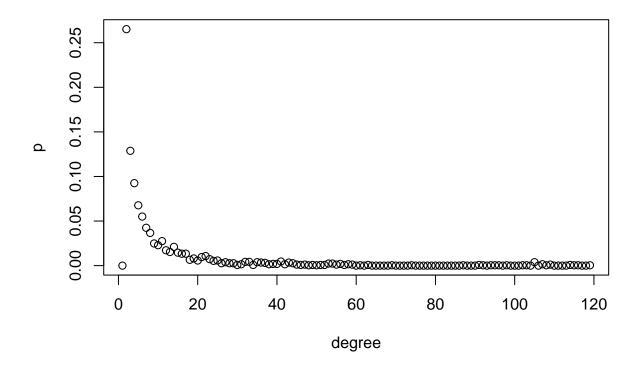


#se hace un histograma debido a que estamos hablando de frecuencias, y es más sencillo de entender en u #La mayoría de los nodos (2000) tienen un degree de 10, y la frecuencia cae drásticamente pasando el va

```
##### Distribución de la conectividad#####
dcl<-degree.distribution(yeast)

plot(dcl, main= "distribución de la conectividad",ylab="p" ,xlab = "degree")</pre>
```

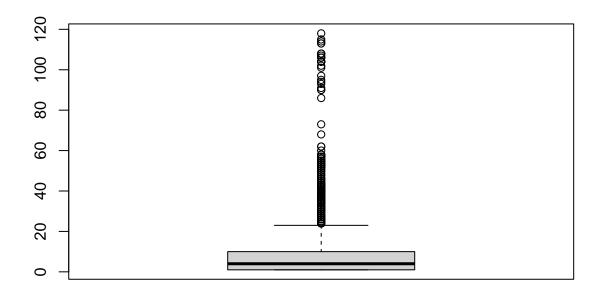
distribución de la conectividad



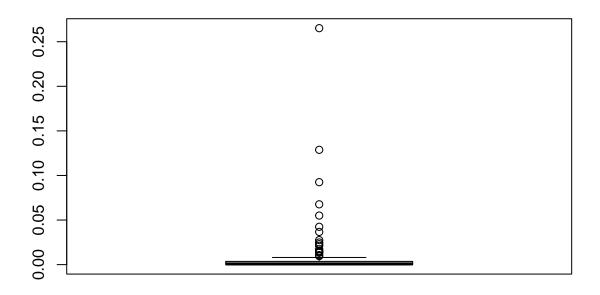
Es una distribución de cola larga. Se puede observar que la probabilidad más grande es que los nodos tengan degrees pequeños. Esto es común en las redes biológicas, como lo es el caso de Yeast.

boxplot(distlev)

b. Grafique el boxplot de la distribución de conectividades y discute tu resultado.



#El boxplot indica que al menos el 75% de los nodos tienen entre 1 y 25 conexiones, mientras que la med boxplot(dcl)



#la mayoría de los datos tienen probabilidades bajas de tener muchas conexiones, lo cual demuestra que

```
#Calcular el número de conexiones
cnxn <- as.table(degree(yeast))# estoy creando una tabla de frecuencias con los degrees de yeast.
sort(cnxn, decreasing=TRUE) #ordené en orden decreciente
```

c. Encuentre la proporción de nodos que tienen 15 o más conectividades.

##	YPR110C	YPL131W	YNL178W	YILO21W	YOL127W	YJL063C	YBR283C	YLR378C
##	118	115	114	113	113	108	108	108
##	YMR260C	YBR251W	YGL123W	YNL284C	YGL103W	YOLO40C	YGRO34W	YDL191W
##	107	106	106	106	106	104	104	104
##	YDL136W	YGR220C	YNRO37C	YORO63W	YIL018W	YLR344W	YEL050C	YPL183W-A
##	104	104	104	104	104	104	104	102
##	YDRO41W	YJR113C	YML010W	YBL038W	YLR075W	YGL068W	YHL015W	YNL189W
##	101	97	95	94	93	91	90	90
##	YJR123W	YBL004W	YDL014W	YLR175W	YBL092W	YNL132W	YDR101C	YNR016C
##	86	73	68	62	62	60	58	58
##	YIL147C	YPR010C	YJL109C	YER016W	YBR257W	YMR290C	YDL029W	YERO06W
##	58	57	57	57	57	56	56	55
##	YDR496C	YGR103W	YBR084C-A	YBL027W	YKL009W	YHR203C	YJR145C	YHRO52W
##	55	55	55	55	54	54	54	53

##	YPR016C	YGR090W	YBR146W	YDR237W	YNL271C	YOR116C	YPL093W	YPR187W
##	53	53	53	53	53	52	52	52
##	YOR207C	YMR310C	YGR283C	YNL002C	YPL012W	YMRO49C	YNL306W	YOR341W
##	52	52	52	51	51	50	50	49
##	YGL059W	YIL042C	YML025C	YOLO77C	YOR272W	YGL205W	YGL211W	YBR234C
##	48	48	47	46	46	46	45	45
##	YDR116C	YNLO61W	YHR147C	YDL140C	YPL043W	YGR145W	YMR158W	YDL061C
##	44	1NL001W 44	44	43	43	43	43	43
##	YPR166C	YLR388W	YDR036C	YGL147C	YNLO67W	YLR367W	YJL190C	YGR085C
##	43	1Lh300w	42	42	1NL007W 42	1LR307W	42	42
##	YPR102C	YBRO48W	YKL173W	42 YMR188C	YOR151C	42 YMR125W	YDRO25W	YLR197W
##	42	1Bh046W	42	41	41	1MR125W	1Dh023w	1LR197W
##	YML026C	YKL170W	YOR206W	YDR450W	YDRO12W	YNL177C	YJL177W	YKL180W
		1KL170W 40		1DR450W		40		40
##	40	YER117W	40 YBL087C	YDR127W	40 YBR208C		40 Vano 24 a	40 YJL191W
##	YBR031W					YNL081C	YCR031C	
##	40	40	40	39	39	39	39	39 YNL069C
##	YHR197W	YPL126W	YKR081C	YOR150W	YIL133C	YDR394W	YLR340W	
##	38	38	38	38	38	37	37	37
##	YKL113C	YLR409C	YDL185W	YKL145W	YDR449C	YPL231W	YMR143W	YDL083C
##	37	36	36	36	36	36	36	36
##	YPL212C	YKL104C	YEL054C	YDR418W	YPL220W	YGL135W	YHR148W	YNL292W
##	36	35	35	35	35	35	35	35
##	YGR118W	YNL185C	YLL008W	YNRO36C	YPR132W	YDL202W	YKL192C	YML049C
##	35	35	34	34	34	34	34	34
##	YFL001W	YGL063W	YDR117C	YBR247C	YDR337W	YER029C	YBR154C	YLR423C
##	34	34	34	34	33	33	32	32
##	YOR210W	YER082C	YDR324C	YER126C	YML009C	YNL244C	YPL227C	YNL110C
##	32	32	32	32	32	32	32	32
##	YHL004W	YKL014C	YDL031W	YKR060W	YPL211W	YCL059C	YKL024C	YDR226W
##	32	31	31	31	31	31	31	31
##	YER170W	YLR244C	YBL091C	YMR208W	YGR162W	YKL182W	YLR147C	YDL227C
##	31	31	31	31	30	30	30	30
##	YGL111W	YJR014W	YHLO3OW	YGL120C	YJR002W	YML054C	YJR008W	YPR183W
##	29	29	28	28	28	28	28	28
##	YDR162C	YMR314W	YLR129W	YNL236W	YER061C	YNL123W	YBR041W	YHR088W
##	28	27	27	27	27	27	27	27
##	YOLO41C	YLL036C	YGR245C	YOR180C	YAL035W	YHRO41C	YMR093W	YNL137C
##			26		26			
##					YLR284C			
##	26		25		25			
##					YHR200W			
##	25		24		24			
##			YBL013W		YDR283C		YIL035C	
##	24		24		24			
##					YOR174W			
##	23		23		23			
##					YOLO51W			
##	23		23		23			
##	YFR004W	YKL067W	YER069W	YJR109C	YIL061C	YLR002C	YPL217C	YDR427W
##	22		22		22			
##					YMR288W			
##	22		22		22			
##	YEL061C	YERO90W	YERO21W	YOR261C	YOR117W	YDR087C	YBR055C	YIL116W
##	22	21	21	21	21	21	21	21

##	YLR117C	YDR299W	YMR112C	YDL030W	YLR449W	YNL182C	YOR335C	YDR148C
##	21	21	21	21	21	21	21	21
##	YOL120C	YGL151W	YNL301C	YCR081W	YPR070W	YNR010W	YPR178W	YDR272W
##	21	21	21	21	21	21	21	21
##	YHR058C	YORO40W	YDR443C	YJR057W	YML004C	YDR280W	YER081W	YCL030C
##	21	21	21	21	21	20	20	20
##	YDL007W	YDL111C	YHR069C	YOR259C	YPR108W	YJRO07W	YOROO1W	YPR168W
##	20	20	20	20	20	20	20	20
##	YIL093C	YHR114W	YNL088W	YNR033W	YER133W	YPR067W	YLL027W	YNL005C
##	20	20	20	20	20	20	20	20
##	YHR208W	YIL154C	YOL142W	YDR292C	YJR148W	YCL054W	YORO39W	YDL097C
##	20	20	20	20	20	20	19	19
##	YGR013W	YDR240C	YPR190C	YOR145C	YKL060C	YKL012W	YDL087C	YPL213W
##	19	19	19	19	19	19	19	19
##	YKL216W	YPL252C	YPL042C	YGL025C	YGR128C	YOR326W	YBR221C	YIL125W
##	19	19	19	19	19	18	18	18
##	YLR447C	YDL147W	YBR160W	YPL266W	YKL144C	YKR002W	YFL002C	YER155C
##	18	18	18	18	18	18	18	18
##	YMRO24W	YMR262W	YBL055C	YAL054C	YBR115C	YNL168C	YHR206W	YFL033C
##	18	18	18	18	18	18	18	18
##	YLR006C	YJR017C	YNL113W	YGRO91W	YMRO47C	YER052C	YNLO75W	YLL011W
##	18	18	17	17	17	17	17	17
##	YJL130C	YLR424W	YDR454C	YOLO23W	YNL026W	YMR300C	YER110C	YJR070C
##	17	17	17	17	17	17	17	17
##	YJL020C	YLR276C	YGL048C	YMR061W	YJL203W	YER178W	YNLO71W	YGL112C
##	17	17	17	16	16	16	16	16
##	YFL018C	YCL017C	YJR093C	YLR355C	YLR153C	YDR308C	YDR416W	YML022W
##	16	16	16	16	16	16	16	16
##	YDL051W	YBL026W	YCL009C	YLR106C	YHRO26W	YDR064W	YLR231C	YPL234C
##	16	16	16	16	16	16	16	16
##	YGR214W	YLR048W	YPL214C	YHR189W	YJL218W	YNR053C	YDR235W	YELO21W
##	16	16	16	16	16	16	16	16 YFR001W
##	YPL148C	YPR113W	YDR441C	YGR193C	YOR221C	YGR194C	YGL026C	
##	16	16 YJL138C	16	16 YGL011C	16	16 YHR018C	15 VDD0E3U	15 YDR140W
## ##	YLR347C 15	15	YNROO3C 15		YGR263C 15		YBR253W 15	1DR140W
##	YHRO30C	YER127W	YDL239C	15 YDROO7W	YLR115W	15 YALO43C		Q0130
##			15					• • • • • •
##			YNRO74C					
##			15		17L091W			
##			YBR088C					
##	15		15		15			
##			YER094C					
##			14					
##			YOR111W					
##	14		14					-
##			YOR308C					
##	-		14					14
##			YMR240C					
##	14		14					
##			YHR062C					
##	14		14		14			13
##	YLR291C							
##	13	13	13	13	13	13	13	13

##	YML092C	YBR081C	YBR218C	YCR046C	YLR029C	YHR066W	YFR044C	YHR170W
##	13	13	13	13	13	13	13	13
##	YPL013C	YLR200W	YKL099C	YHR086W	YDR502C	YPR103W	YHR111W	YHR038W
##	13	13	13	13	13	13	13	13
##	YBR189W	YPL081W	YPR060C	YKR001C	YOR285W	YNR058W	Q0275	YNL232W
##	13	13	13	13	13	13	13	13
##	YPR107C	YCR003W	YOR274W	YGR244C	YGRO21W	YJL121C	YGR084C	YDR347W
##	13	13	13	13	13	13	13	13
##	YDR404C	YPL118W	YGL236C	YKL155C	YOR131C	YGL129C	YNL073W	YMR121C
##	13	13	13	13	13	13	13	13
##	YPL069C	YDR037W	YNL220W	YJL172W	YLR009W	YGL105W	YOL149W	YMR309C
##	13	13	13	13	13	13	12	12
##	YDR298C	YJR121W	YAL032C	YGR020C	YOL038W	YFR037C	YGL195W	YJL005W
##	12	12	12	12	12	12	12	12
##	YGR232W	YGR267C	YERO02W	YIL033C	YOL139C	YBR039W	YDL004W	YBL099W
##	12	12	12	12	12	12	12	12
##	YPR024W	YLR289W	YGL030W	YDR322W	YORO76C	YLR022C	YDR018C	YIRO42C
##	12	12	12	12	12	12	12	12
##	YDL043C	YNL222W	YKR009C	YPR073C	YBR003W	YJL167W	YER171W	YCL004W
##	12	12	12	12	12	12	12	12
##	YJL046W	YDR364C	YGR252W	YEL051W	YHRO20W	YBR042C	YDR328C	YLR208W
##	12 VDI 1600	12 YDL116W	12	12 YDR388W	12 YPL135W	12 YJL088W	11 VOD 1 4 OU	11 YGL009C
##	YDL160C 11	11 IOW	YDL060W 11	11	1PL135W 11	1JL088W	YOR142W 11	1GL009C
## ##	YMR239C	YBL041W	YNL262W	YGR218W	YOLOO4W	YCR053W	YBR200W	YMR229C
##	11	15L041W	1NL202W	11	10L004w	10h055w	15h200w	111111111111111111111111111111111111111
##	YDL100C	YDL226C		YCRO28C-A	YERO17C	YHRO25W	YDL168W	YDR236C
##	11	11	11 11	11	11	1111020W	11 11	11
##	YJRO47C	YMR294W	YIRO27C	YDL052C	YGR278W	YLR439W	YMR178W	YKL184W
##	11	11	11110210	11	11	11	11	11
##	YGR112W	YNL218W	YLR143W	YKR031C	YOLOO5C	YMR089C	YEL034W	YDR175C
##	11	11	11	11	11	11	11	11
##	YDL213C	YOR226C	YOR286W	YCR077C	YKR068C	YGL137W	YPL111W	YCR012W
##	11	11	11	10	10	10	10	10
##	YDL047W	YKR025W	YJR063W	YIL078W	YKL143W	YJL001W	YLR438W	YGL207W
##	10	10	10	10	10	10	10	10
##	YHR196W	YOR202W	YPL198W	YORO47C	YMR286W	YGL076C	Q0085	YPR004C
##	10	10	10	10	10	10	10	10
##	YBL080C	YBR002C	YMR101C	YDL193W	YER095W	YORO65W	YBR198C	YHR129C
##	10	10	10	10	10	10	10	10
##	YOR196C	YOR236W	YGL037C	YMR074C	YGR207C	YPL082C	YOR241W	YDL150W
##	10	10	10	10	10	10	10	10
##	YMR113W	Y0L121C	YJR024C	YGL062W	YGR274C	YJL189W	YGL018C	YPR101W
##	10	10		10		10		10
##	YKL194C	YKL151C	YJR117W	YPL178W	YCR072C	YMR242C	YOR312C	YML015C
##	10	10	10					10
##	YGR074W	YHR106W		YDR076W				
##	10	10	10					10
##		YEL024W		YBR288C				
##	10	10		10				10
##				YDR473C				
##	10	10	10					
##				YKR069W				
##	9	9	9	9	9	9	9	9

##	YGR155W	YDR167W	YALO33W	YLR288C	YDR311W	YBR025C	YDR074W	YBL007C
##	9	9	9	9	9	9	9	9
##	YGL127C	YMR118C	YKL141W	YOR128C	YGR180C	YCR036W	YGL143C	YIL103W
##	9	9	9	9	9	9	9	9
##	YOR278W	YDL045C	YIRO22W	YDL182W	YLR406C	YML110C	YERO74W	YIL069C
##	9	9	9	9	9	9	9	9
##	YKL211C	YLR328W	YDL075W	YDR145W	YDR196C	YGL128C	YMR287C	YDR462W
##	9	9	9	9	9	9	9	9
##	YGL091C	YLR281C	YLR359W	YBR019C	YOL114C	YMR315W	YNL151C	YILOO3W
##	9	9	9	9	9	9	9	9
##	YKL191W	YML051W	YDR293C	YBR196C	YBL105C	YDR054C	YOL140W	YMR193W
##	9	9	9	9	9	9	9	8
##	YHR107C	YOLO58W	YNL287W	YDL188C	YKR026C	YGL234W	YPL139C	YJR042W
##	8	8	8	8	8	8	8	8
##	YGR186W	YPL204W	YOL086C	YGR204W	YNL085W	YBR103W	YLL018C	YFL045C
##	8	8	8	8	8	8	8	8
##	YOR167C	YBR153W	YGR010W	YDR242W	Q0105	YGL221C	YHR168W	YBR176W
##	8	8	8	8	8	8	8	8
##	YARO15W	YNL162W	YHR141C	YHL032C	YOR108W	YBR270C	YGR019W	YML106W
##	8	8	8	8	8	8	8	8
##	YER157W	YMR271C	YDL055C	YNL241C	YML059C	YDL205C	YGR113W	YFR050C
##	8	8	8	8	8	8	8	8
##	YKR087C	YER087W	YDR004W	YCR019W	YJR105W	YER179W	YOR209C	YPR035W
##	8	8	8	8	8	8	8	8
##	YBR084W	YDR539W	YJL092W	YMR084W	YDL131W	YOR168W	YOLO33W	YKL156W
##	8	8 VDD04EQ	8	8 VI DO740	8	8	8	8
##	YOR122C	YBR245C	YDR432W	YLR074C	YGR120C	YMR293C	YHRO21C	YOL148C
##	8	8	8	8 VNI 4.47U	8	8 VNI 4400	8	8
##	YMR146C	YJL124C	YJL098W	YNL147W	YFRO40W	YNL118C	YFL022C	YNRO12W
##	7 YCL010C	7 YALO44C	7 YBL033C	7 YGR083C	7 YERO25W	7 YFR051C	7 YGR262C	7 YDR378C
## ##	7 TCL010C	7 ALU44C	7 TBLU33C	7	1 ERU 2 5 W	7	1 Gh 2020	1DR376C
##	YILO76W	YOR184W	YGL070C	YJR111C	YFL038C	YDL134C	YBR272C	YDL132W
##	7	7 TURIO4W	7	7	7	7	7	1DL132W
##	YNL112W	YLR212C	YOLOO6C	YIL126W	YOR323C	YJR068W	YMR217W	YDR510W
##	7	7	7	7	7	7	7	7
##	YDR115W	YDR259C	YMR267W	YPL124W	YILO20C	YPR088C	YLR295C	YMR153W
##	_	7	7	7	_	7	_	7
##		YER055C	YALO38W	YER154W				YBR117C
##		7						
##		YNL092W						
##	7			7				
##		YPR086W						
##	7	7	7	7	7	7	7	7
##	YOLO71W	YPL160W	YGR012W	YFL030W	YMR090W	YJR149W	YEROO4W	YLR107W
##	7	7	7	7	7	7	7	7
##	YBR166C	YDR341C	YIL074C	YGL094C	Y0L126C	YOL080C	YJR060W	YFL005W
##	7	7	7	7	7	7	7	7
##	YCL029C	YKR054C	YFL039C					
##	7				7			
##	YOR158W	YJL187C	YMR035W					
##	7				7			7
##	YIL106W	YIL062C	YGL220W					YDL225W
##	6	6	6	6	6	6	6	6

##	YFR030W	YDR354W	YJL026W	YJL014W	YBR256C	YOR270C	YNR035C	YALO16W
##	6	6	6	6	6	6	6	6
##	YJR065C	YBR079C	YOR304W	YCR093W	YKL013C	YBL002W	YKL001C	YMR213W
##	6	6	6	6	6	6	6	6
##	YDR385W	YMR116C	YPR137W	YGL099W	YPL254W	YKR067W	YMR172W	YMR268C
##	6	6	6	6	6	6	6	6
##	YHR059W	YBL039C	YGL092W	YNL016W	YMR223W	YPRO47W	YLR245C	YLR060W
##	6	6	6	6	6	6	6	6
##	YFL059W	YCL018W	YOR303W	YML125C	YDR487C	YDR408C	YMR054W	YGR144W
##	6	6	6	6	6	6	6	6
##	YOR361C	YGR210C	YNL122C	YDL235C	YHL014C	YGR286C	YPR002W	YGL031C
##	6	6	6	6	6	6	6	6
##	YDL112W	YOR201C	YLR167W	YPL070W	YOR133W	YGL133W	YPL011C	YGR005C
##	6	6	6	6	6	6	6	6
##	YDR336W	YMR023C	YKR072C	YJL140W	YMR263W	YGR175C	YAL062W	YDL201W
##	6	6	6	6	6	6	6	6
##	YGR169C	YDL174C	YDL178W	YELO71W	YBL061C	YLR011W	YDL036C	YLR382C
##	6	6	6	6	6	6	6	6
##	YOL095C	YLR308W	YDL078C	YDL141W	YLR165C	YLR307W	YBR023C	YGL252C
##	6	6	6	6	6	6	6	6
##	YBR011C	YKL085W	YJL095W	YEL003W	YGR092W	YOR290C	YDL102W	YNL079C
##	6	6	6	6	6	6	6	6
##	YGR078C	YNL153C	YPL235W	YER070W	YKL081W	YIL034C	YHR019C	YORO89C
##	6	6	6	6	6	6	6	6
##	YPL172C	YGR101W	YGR255C	YBL098W	YML086C	YLL057C	YDL143W	YPR029C
##	6	6	6	6	6	6	6	5
##	YGL115W	YOLO94C	YBL045C	YBR126C	YGL237C	YBR135W	YIROO1C	YKL103C
##	5	5	5	5	5	5	5	5
##	YIL142W	YLR025W	YNL330C	YGL156W	YPL181W	YMR199W	YER177W	YMR120C
##	5	5	5	5	5	5	5	5
##	YPL256C	YIL128W	YGL197W	YMR308C	YHR024C	YBR060C	YDR381W	YGR234W
##	5	5	5	5	5	5	5	5
##	YOR181W	YGR161C	YGR200C	YLR310C	YDR300C	YDL098C	YIL070C	YORO35C
##	5	5	5	5	5	5	5	5
##	YPL258C	YML069W	YJR104C	YGL198W	YCR086W	YJR049C	YNL200C	YGL153W
##	5 VII 0666	5 YJL093C	5 YDR429C	5 VND057C	5 VDD060U	5 YNLO86W	5 YPRO26W	5 VDI 0001
##	YIL066C			YNRO57C	YDR062W 5			
## ##					YGR134W			
##	1DR204C		1LRU20C		1GR134W 5		1BL076C	
##	YBR252W				YLR357W		YPL059W	
##	1BR252W		1BR016C		1LR357W 5		1FL059W	
##	YNL316C		YOLO59W		YNL288W		YLR386W	
##	1NL3100		10L039W		1NL200W			
##	YNRO73C				YMR130W			
##	5 TMILO 7 3 G		5		5 Time 100W		5	
##	YMROO9W				YDR268W		YGR094W	
##	5 Time		5		5 TD10200W			
##	YOLO97C				YOR390W		YLR089C	
##	5		5		5			
##					YPL110C			
##	5	5	5	5	5		5	
##					YALO41W			
##	5	5	5	5	5	5	5	5
ππ					_	-		

##	YFL037W	YHR118C	YORO98C	YLR234W	YDR212W	YER173W	YPL269W	YHR158C
##	5	5	5	5	5	5	5	5
##	YER107C	YJL061W	YGL106W	YNR052C	YHR099W	YGL100W	YBR249C	YDL153C
##	5	5	5	5	5	5	5	5
##	YLR337C	YDR023W	YELO41W	YDR489W	YDR232W	YMR296C	YKR037C	YOR356W
##	5	5	5	5	5	5	5	5
##	YML087C	YOL145C	YOL064C	YLR133W	YGR062C	YNL243W	YDL207W	YBR087W
##	5	5	5	5	5	5	5	4
##	YNL078W	YPR051W	YJL041W	YER174C	YLR314C	YJR076C	YNL207W	YAL021C
##	4	4	4	4	4	4	4	4
##	YHR166C	YDR359C	YHR033W	YOR244W	YPR181C	YJL081C	YKL007W	YGL241W
##	4	4	4	4	4	4	4	4
##	YFL024C	YJR022W	YPR023C	YJL080C	YKL218C		YML109W	YHR169W
##	4	4	4	4	4	4	4	4
##	YIROO2C	YDL108W	YNL138W	YPL086C	YDR386W		YBL003C	YDR071C
##	4	4	4	4	4	4	4	4
##	YOR269W	YGL061C	YJL045W	YJR051W	YKL148C	YPL255W	YBR072W	YDR174W
##	4 YBR217W	4 VCD126U	4 V ID100C	4 VDD 400C	4 VNI 000C	4 VDD070U	4 YGL040C	4 VDD007C
##	1BR217W	YGR136W 4	YJR102C 4	YDR488C 4	YNL022C 4	YDR270W 4	1GL040C	YBR227C 4
## ##	YBR295W	YML126C	YIL145C	YGR119C	YDI.065C	YOR119C	YDRO47W	YCROO9C
##	1 DR 2 9 5 W	1 ML 1 2 0 C	4	1GR119C	1DL003C	10K119C	1DR047W	1 CROUSC 4
##	YHRO42W	YERO91C	YOR327C	YPRO48W	YNL251C	=	YMRO48W	YLR035C
##	1111tO42W	4	4	4	1WE2510	4	11111040W	4
##	YGL136C	YDRO09W	YLR324W	YDR538W	YGL181W	_	YCL037C	YDL236W
##	4	4	4	4	4	4	4	4
##	YDL171C	YPL022W	YDL130W	YNLO36W	YPL188W	YPL190C	YMR250W	YPL164C
##	4	4	4	4	4	4	4	4
##	YDR294C	YBR020W	YNL129W	YER043C	YMR186W	YGR192C	YFR036W	YDR019C
##	4	4	4	4	4	4	4	4
##	YFR047C	YOROO4W	YOR137C	YHR028C	YOLO43C	YKR080W	YMR177W	YHR012W
##	4	4	4	4	4	4	4	4
##	YHL022C	YOR171C	YBR243C	YLR361C	YDR339C	YML075C	YHR179W	YAL015C
##	4	4	4	4	4	4	4	4
##	YKR079C	YCR024C	YNL011C	YOL123W	YGL213C	YHR089C	YBL079W	YKL079W
##	4	4	4	4	4		4	4
##	YGR208W		YJL194W		YPR141C		YOL115W	
##				4				4
##				YNL064C				
##	4	4		4				
##	YPR055W			YPL031C				
##	4	4		4				
## ##	YOR217W	YDR028C 4		YPR112C				
##	4 YMR231W			4 YEL047C				
##	171R231W			1 EL 04 / C				
##				YMR167W				
##	4			4				
##	YLR259C			YHRO11W				
##	4	4		4				
##				YGL178W				
##	4	4	4			4		
##				YNL099C				
##	3	3	3			3	3	

##	YBR260C	YDL126C	YHR216W	YER026C	YOR250C	YBR059C	YER086W	YAL029C
##	3	3	3	3	3	3	3	3
##	YDL006W	YDL192W	YNL333W	YPL049C	YNL261W	YKR014C	YGL022W	YORO43W
##	3	3	3	3	3	3	3	3
##	YNL124W	YEL002C	YJR101W	YDL220C	YOR340C	YNL290W	YERO31C	YMR105C
##	3	3	3	3	3	3	3	3
##	YNL154C	YPL001W	YDR472W	YBL058W	YBR282W	YDR507C	YMR139W	YMR108W
##	3	3	3	3	3	3	3	3
##	YHR174W	YER003C	YML091C	YLR293C	YLR127C	YMR095C	YAL023C	YER092W
##	3	3	3	3	3	3	3	3
##	YHR085W	YDL195W	YIL063C	YLR371W	YNL139C	YML032C	YHR023W	YBL090W
##	3	3	3	3	3	3		3
##	YOR144C	YNL135C	YGR040W	YPL153C	YER008C	YLR398C	YDR480W	YMR025W
##	3	3	3	3	3	3		3
##	YJR090C	YILO46W	YGR268C	YFL023W	YORO36W	YDR084C	YGR171C	YNL258C
##	3	3	3	3			3	3
##	YLL049W	YKL130C	YHR163W			YCR073W-A		YDR376W
##	3	3	3	3		3		3
##	YLR052W	YLR417W	YJL199C		YOLO69W	YER042W		YDR201W
##	3	3	3	3	-	3	3	3
##	YBR137W	YIL053W	YOL055C		YGL161C	YPR028W	YGR172C	YGR188C
##	3	3	3	3		3	3	3
##	YGL175C	YLR209C	YNL334C		YKR083C	YNLO44W		YPR131C
##	3	3	3	3		3	3	3
##	YKR092C	YGR246C	YKL088W		YMR077C	YBL036C		YBR279W
##	3	3	3	3	_	3		3
##	YPL045W	YLR396C	YDL058W	YPR173C	YORO54C	YNL097C	YIL083C	YGL256W
##	3	3	3	3	3	3	3	3
##	YBL022C	YIL167W	YBR191W	YLR418C	YBR024W	YNR069C	YNLO41C	YDL033C
##	3	3	3	3	3 VDD4.04.0	3 VDD0010	3	3
##	YNL192W	YPR201W	YLR401C	YLR405W	YBR121C	YPR081C	YML096W	YCR059C
## ##	3 YHRO13C	3 YNL155W	3 YLR105C	3 YPL079W	3 YNRO15W	3 YLR174W	3 YML080W	3 YLR109W
##	3 Inkoise	1NL155W	3	3 IFLO79W	1NR015W	1Ln1/4w	1 ML 000 W	1LK109W
##	YNL142W	YDL166C	YLR450W	YPR145W		YLR260W		YJR103W
##	1NL142W	3	3 TERESON	3				1311103W
##	YDL177C		YORO52C		YMR200W			
##						3		
##						YLR103C		
##	3	3	3		3			
##						YNL233W		
##	3	3		3			3	
##	YGR229C		YKL048C				YEL029C	
##	3	3	3		3		3	
##	YIL002C		YML103C			YOR358W	YGR250C	
##	3	3	3			3		
##	YDR490C	YNL032W	YFL008W			YKR024C		YDL066W
##	3	3	3	3	3	3	3	3
##	YHR135C	YJR132W			YHR064C	YDL002C	YMR096W	YBR098W
##	3	3	3			3		
##	YGR178C	YJL052W	YPR040W	YJR009C	YIL075C	YJL058C	YLR135W	YMR038C
##	3	3	3					
##	YGL172W	YNLO47C	YNRO41C	YMR001C	YPR175W	YPR041W	YBR037C	YGL043W
##	3	3	3	3	3	3	3	3

##	YGR124W	YAROO8W	YJL129C	YDR035W	YIL162W	YKL094W	YOR216C	YARO19C
##	3	3	3	3	3	3	3	3
##	YBR229C	YMR235C	YLR079W	YBR237W	YJL030W	YOLO76W	YHROO4C	YLR268W
##	3	3	3	3	3	3	3	3
##	YNL106C	YML095C-A	YKL166C	YDR460W	YPL259C	YBL046W	YIL112W	YLR015W
##	3	3	2	2	2	2	2	2
##	YHL019C	YNL056W	YGR086C	YFR049W	YILO50W	YBL021C	YER059W	YMR189W
##	2	2	2	2	2	2	2	2
##	YPR066W	YGR048W	YLR170C	YJL164C	YNRO06W	YML100W	YJL074C	YBR130C
##	2	2	2	2	2	2	2	2
##	YLR432W	YCR033W	YNL201C	YORO56C	YEL056W		YDR188W	YDR001C
##	2	2	2	2	2	2	2	2
##	YER146W	YPR054W	YPL004C	YALOO3W	YOLO90W		YPL195W	
##	2	2	2	2	2	2	2	2
##	YBR254C	YKR085C	YLR352W	YER093C	YPR182W	YDR225W		
##	2	2	2	2	2	2	2	2
##	YAL012W	YGR150C	YOR329C	YOLO10W	YBR136W	YGL130W		
##	2	2 YLR229C	2	2	2	2	2 YBR017C	2
##	YLL034C 2	YLR229C 2	YDR130C	YDL175C 2	YGR270W 2	YNL311C 2	1BR017C 2	YHL011C 2
##	YDR049W	YNL312W	YAROO2W	YALO25C	YGL187C	YPL009C	YGL008C	_
##	1DR049W	1NL312W	1AR002W	1 ALUZUC 2	2	2	2	2
##	YDL167C	YPR105C	YDL161W	YJL036W	YPR046W	YER144C	YIL105C	-
##	1DL107C	2	1DL101W	13L030W	1F1t040W	2	2	2
##	YCR082W	YOR212W	YORO20C	YEL005C	YKL008C	YDL139C	YGL134W	-
##	2	2	2	2	2	2	2	2
##	YNROO7C	YMR124W	YBR228W	YIRO16W	YNL259C	_	YDR453C	_
##	2	2	2	2	2	2	2	2
##	YLR287C	YHR185C	YHR044C	YHR043C	YDR520C	YPR193C	YOR275C	YKRO07W
##	2	2	2	2	2	2	2	2
##	YDR229W	YML008C	YPL077C	YCL019W	YLR345W	YLR362W	YIL132C	YML057W
##	2	2	2	2	2	2	2	2
##	YKL061W	YMR068W	YHR171W	YLR125W	YLR182W	YORO59C	YNL263C	YKR022C
##	2	2	2	2	2	2	2	2
##	YGR285C	YHR176W	YDR113C	YGR024C	YDR318W	YFR008W	YER118C	YIL144W
##	2	2	2	2	2	2	2	2
##	YDR189W	YFR013W	YFL003C				YBR267W	
##		2				2		
##						YLR092W		
##	2		2			2		
	YER056C-A					YOLO39W		
##	2		2					
##						YERO60W-A		
##	2		2				2	
##				YCR010C		YGR256W 2		
##	2					2 YNL332W		
##	YHR183W 2		11R015W	YDR447C 2		1NL332W 2		
## ##	YDL244W					YHR100C		
##	1DL244W 2		10R176W			1HK100C		
##	YGL212W			YJR032W			YDR424C	
##	10L212W		1B10000W		1KL212W		2	
##		YHL007C				YDR192C		
##	2		2	2	2		2	
	-	_	_	_	-	_	_	_

##	YJL035C	YJR118C	YOR194C	YPL018W	YKR010C	YEL031W	YKL073W	YGL217C
##	2	2	2	2	2	2	2	2
##	YJL183W	YFL029C	YGR271W	YMR246W	YFR028C	YGL003C	YOR109W	YGL085W
##	2	2	2	2	2	2	2	2
##	YPL194W	YDR254W	YPR159W	YJL090C	YOR188W	YML124C	YER083C	YER149C
##	2	2	2	2	2	2	2	2
##	YMR307W	YGL240W	YNL250W	YLR189C	YBR289W	YGL251C	YMR129W	YJL099W
##	2	2	2	2	2	2	2	2
##	YPR025C	YEL053C	YPL003W	YPR160W	YCR052W	YPR119W	YPR018W	YDR075W
##	2	2	2	2	2	2	2	2
##	YDR099W	YDL124W	YDR422C	YLL022C	YHR098C	YAROO7C	YOLO78W	YJR074W
##	2	2	2	2	2	2	2	2
##	YJR064W	YBR175W	YLR321C	YBR225W	YLR262C	YJR006W	YJR144W	YGR233C
##	2	2	2	2	2	2	2	2
##	YLR384C	YDR179C	YDR139C	YDL204W	YKL095W	YDL208W	YDR166C	YJL115W
##	2	2	2	2	2	2	2	2
##	YKL080W	YPR189W	YIRO34C	YOR164C	YCL032W	YGR239C	YJR135C	YPL105C
##	2	2	2	2	2	2	2	2
##	YMR159C	YCL055W	YPL002C	YBL016W	YLR190W	YGR058W	YNL161W	YER071C
##	2	2	2	2	2	2	2	2
##	YBR108W	YER062C	YDR233C	YDR261W-A	YPL159C	YLR319C	YPL095C	YLR446W
##	2	2	2	2	2	2	2	2
##	YMR232W	YGR043C	YGR057C	YFL034C-B	YLR354C	YFL010C	YER014W	YLR373C
##	2	2	2	2	2	2	2	2
##	YLR249W	YOR317W	YGL084C	YLR453C	YPL169C	YER060W	YER056C	YGR125W
##	2	2	2	2	2	2	2	2
##	YJR141W	YHLOO3C	YNRO43W	YDR034C	YGR129W	YOROO6C	YML079W	YPL090C
##	2	2	2	2	2	2	2	2
##	YBR181C	YNLO40W	YDL200C	YIRO32C	YKL093W	YDL017W	YDR356W	YBR015C
##	2	2	2	2	2	2	2	2
##	YPR019W	YBR171W	YNL084C	YLR274W	YKL089W	YHR152W	YGR032W	YKL022C
##	2	2	2	2	2	2	2	2
##	YER111C	YER172C	YOR195W	YIL004C	YLR242C	YGL086W	YJL013C	YDR363W
##	2	2	2	2	2	2	2	2
##	YGL163C	YORO58C	YDR149C	YBL056W	YKL045W	YBR125C	YER099C	YDR190C
##	2	2	2	1	1	1	1	1
##	YIL104C	YJR050W	YHR005C	YBR216C	YGR261C	YEL011W	YMR261C	YGR173W
##		1		1		1		1
##				YIR005W				
##				1				
##				YDR407C				
##	1			1				
##				YCL014W				
##	1			1				
##				YGL150C				
##				1				
##				YOR276W				
##				1				
	YCR020C-A							
##				1				
##				YDL077C				
##				1				
##				YNL152W				
##	1	1	1	1	1	1	1	1

##	YML031W	YHR121W	YEL043W	YDR142C	YHL018W	YDR013W	YJL039C	YLR019W
##	1	1	1	1	1	1	1	1
##	YGL036W	YDR446W	YJR094C	YDL084W	YPR083W	YJL072C	YHR034C	YKL052C
##	1	1	1	1	1	1	1	1
##	YORO34C	YPL133C	YMR204C	YGL192W	YDR277C	YGR223C	YER141W	YBL006C
##	1 VDD 0.77C	1 YGR165W	1	1 YNL331C	1 YPROO1W	1 YGL015C	1 VNI 000G	_
## ##	YBR077C	1 GR 165W	YKL038W 1	YNL331C 1	1PROOIW 1	1GL015C	YNLO20C	YNROO1C
##	_	YCR087C-A	YLR049C	YCR014C	YCLO40W	YOR102W	YLR211C	YML056C
##	1 GROO4W	1 CROO7 C-A	1Ln0490	100140	10L040W	10x102w	1Lh211C	1 mL030C
##	YPL088W	YNRO39C	YIL109C	YML023C	YGL166W	YGL053W	YGL119W	YML034W
##	11 L000w	1	1	111110230	1 dL 100w	1 dL000 w	1	1 THE 054W
##	YFR017C	YGR071C	YDR479C	YJL086C	YPL109C	YCR095C	YGL125W	YDL165W
##	1	1	1	1	1	1	1	1
##	YML037C	YLR142W	YGL254W	YNR068C	YKL043W	YJL019W	YCR076C	YPL149W
##	1	1	1	1	1	1	1	1
##	YLR030W	YORO37W	YGR066C	YDL218W	YDL237W	YBL068W	YDR100W	YOR243C
##	1	1	1	1	1	1	1	1
##	YDR383C	YPL219W	YDL224C	YDR527W	YPL114W	YDR105C	YDR533C	YJL070C
##	1	1	1	1	1	1	1	1
##	YHR156C	YOR247W	YKR099W	YJR110W	YPR106W	YOL052C	YOR232W	YOR115C
##	1	1	1	1	1	1	1	1
##	YBR187W	YBR056W	YJR097W	YKL186C	YGR209C	YPR126C	YJR133W	YHL009C
##	1	1	1	1	1	1	1	1
##	YKL035W	YLR118C	YMR316W	YNL277W	YLR267W	YMR270C	YIRO38C	YJL176C
##	1	1	1	1	1	1	1	1
##	YGL189C	YNL054W-B	YER143W	YGR081C	YER151C	YDL044C	YCL063W	YJR048W
##	1	1	1	1	1	1	1	1
##	YNL199C	YML119W	YDR366C	YJR056C	YDR052C	YNL216W	YOR101W	YGR146C
##	1	1	1	1	1	1	1	1
##	YNL280C	YJR159W	YEL062W	YHL021C	YKR094C	YIL148W	YCR020C	YNL320W
##	1	1	1	1	1	1	1	1
##	YDRO44W	YHR029C	YLR177W	YORO92W	YBR287W	YOL137W	YHRO47C	YER078C
##	1 VED 1 100	1 YBR207W	1 VNI 0050	1 VMI 1050	1 VDD 403U	1	1	1
## ##	YER142C	1BR207W	YNLO95C 1	YML105C	YDR403W 1	YCR037C	YML060W 1	YFR006W 1
##	YLR152C	YOR311C	YNRO13C	YLL029W	YDR109C	YER145C	YOR143C	YIL137C
##		1		1LL029W				1
##		YGR070W						YJR010C-A
##	1		1					1
##		YCL027W				YGR082W		
##	1							1
##	YGRO06W		YOR254C			YCL061C		
##	1		1					1
##	YKL049C	YER114C	YMR149W	YPL065W	YLR206W	YER165W	YOR103C	YMR302C
##	1	1	1	1	1	1	1	1
##	YDL063C	YDL101C	YLL002W	YDR080W	YPL240C	YDR320C	YDL229W	YPL152W
##	1	1	1	1	1	1	1	1
##	YPL218W	YDL049C	YCR048W	YJR040W	YJL002C	YJL054W	YMR104C	YBR188C
##	1	1	1					1
##	YNRO19W	YMR109W	YMR198W	YCR038C		YNL119W	YLR139C	YML097C
##	1		1			1		1
##	YMR106C	YAL020C	YDR323C				YHL027W	YPR135W
##	1	1	1	1	1	1	1	1

##	YGL073W	YBL103C	YDR059C	YKR086W	YORO45W	YMR081C	YALO3OW	YCR034W
##	1	1	1	1	1	1	1	1
##	YNRO38W	YPR072W	YJL148W	YNL116W	YIRO33W	YHR103W	YHRO31C	YGR080W
##	1 VDI OE1C	1 YNL121C	1 YOR157C	1 YDR469W	1 YDR022C	1 YLR192C	1 VVI 1904	1 YGR196C
## ##	YBL051C	1 YNL121C	1011576	1DR469W	1DR022C	1LK192C	YKL189W 1	1 GR196C
##	YHLOO2W	YOR353C	YNL169C	YDR152W	YDR343C	YGL174W	YDL137W	YNRO46W
##	1 nL002w	1000000	1NL109C	1DR152W	1DR343C	1GL174W	1DL137W	1 NKO40W
##	YML065W	YCL028W	YML088W	YLR270W	YOL117W	YLL010C	YDL092W	YDR.097C
##	1 HE000 W	10L020W	171L000W	1 L1(27 0 W	101117W	1	1DE032W	1
##	YDR082W	YMR218C	YFR015C	YDR170C	YMLO77W	YOLO93W	YCR030C	YKL028W
##	1	1	1	1	1	1	1	1
##	YDR405W	YGR075C	YBR299W	YEL037C	YFL007W	YDR361C	YNL172W	YML112W
##	1	1	1	1	1	1	1	1
##	YGL060W	YKL082C	YNL242W	YNL210W	YDL090C	YAL036C	YGL158W	YDL095W
##	1	1	1	1	1	1	1	1
##	YFL042C	YDR227W	YJL024C	YBR091C	YGR154C	YKL152C	YEL022W	YPL085W
##	1	1	1	1	1	1	1	1
##	YJL033W	YMRO28W	YLL026W	YLR196W	YOLO54W	YOLO70C	YBR264C	YCR079W
##	1	1	1	1	1	1	1	1
##	YPL140C	YIL113W	YAL059W	YFR011C	YLR399C	YHR016C	YDL159W	YNL023C
##	1	1	1	1	1	1	1	1
##	YHRO51W	YHR084W	YCR066W	YDL216C	YDR365C	YPL036W	YOL108C	YNL208W
##	1	1	1	1	1	1	1	1
##	YJR055W	YBL081W	YOR264W	YIL008W	YHR057C	YLR254C	YDR078C	YLR126C
##	1	1	1	1	1	1	1	1
##	YJL184W	YGR122W	YKL197C	YOR159C	YKR088C	YJL151C	YLR440C	YJR125C
##	1	1	1	1	1 VDD0740	1 VED406U	1	1
## ##	YORO23C	YJR086W 1	YMLO14W 1	YJL048C 1	YDR271C	YER106W 1	YGL170C	YKR100C 1
##	YERO63W	YCRO60W	YBR239C	YKL050C	YCL033C	YJL185C	YBR255W	YDL121C
##	1 EROOS W	1 CROOOW	1Bh2390	1 1	1010330	1311000	1BR255W	1
##	YJL068C	YKL142W	YMR233W	YKR034W	YLR239C	YORO28C	YCR005C	YMR163C
##	1	1	1	1	1	1	1	1
##	YARO73W	YOR302W	YKL010C	YBR246W	YPL125W	YGR241C	YDR357C	YLRO31W
##	1	1	1	1	1	1	1	1
##	YGR163W	YORO97C	YFR025C	YJR083C	YPL201C	YDR261W-B	YGR170W	YGR161C-C
##	1	1	1	1	1	1	1	1
##	YKR082W	YORO74C	YIL039W	YLR253W	YHR184W	YDR273W	YDR026C	YDR205W
##	1	1	1	1	1	1	1	1
##	YDR252W	YGR189C	YPL023C	YJL153C	YER038C	YLR376C	YJL057C	YGR247W
##	1		1					1
##	YPR136C					YNL049C		
##	1	1	1			1		
##	YDL013W		YPR172W			YMR280C		
##	1			1		1		
##						YPR148C		
##	1	1		1		1		
##	YJR134C					YOR324C		
## ##	1 YMR133W	1 VII 1994	1 vpi วววน			1 YDR500C		
## ##	1MR133W	Y1L122W 1	1PL233W 1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		YELOISW 1
						YLR156W		
##	10L129W	1 1 1	1 ALO20W		1DL134w			
ic tt	1	1	1	1	1	1	1	1

## YBR212W YOR281C YFROOTW YDR529C YPL138C YGR110W YLROOSW YDR005C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YDR214W	YKL076C	YOR124C	YKL075C		YHR143W-A	YDL088C	YMR067C
## YGL145W YER128W YGL225W YLR112W YDR194C YGR185C YHR130C YLR303W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## YDL217C YHR180W YDR541C YLR059C YER039C YER180C YOR289W YNR048W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YGL145W	YER128W	YGL225W	YLR112W	YDR194C	YGR185C	YHR130C	YLR303W
## YALO60W YNR051C YBR223C YOR220W YIL092W YDR008C YNL042W YLL032C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YDL217C	YHR180W	YDR541C	YLR059C	YER039C	YER180C	YOR289W	YNRO48W
## YMR273C YKL044W YDL050C YKL107W YDR423C YOR112W YHR17TW YJR011C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YALO60W	YNRO51C	YBR223C	YOR220W	YIL092W	YDR008C	YNL042W	YLL032C
## YHR014W YML127W YPR118W YNL249C YLR056W YDR297W YGR060W YGR007W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YMR273C	YKL044W	YOLO50C	YKL107W	YDR423C	YOR112W	YHR177W	YJR011C
## YJL125C YQL008W YDR171W YHR144C YFL060C YKL157W YNL045W YGL017W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YHRO14W	YML127W	YPR118W	YNL249C	YLR056W	YDR297W	YGR060W	YGRO07W
## YOROOSC YGR202C YHR201C YML005W YHR070W YMR013C YJL198W YPR163C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YJL125C	YOLOO8W	YDR171W	YHR144C	YFL060C	YKL157W	YNLO45W	YGL017W
## YOROOSC YDR16OW YML062C YLR335W YIL095W YKR042W YMR039C YAL013W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YOROO5C	YGR202C	YHR201C	YML005W	YHRO70W	YMR013C	YJL198W	YPR163C
## YAL024C YIL009W YDR085C YMR168C YLR238W YHR115C YDR027C YDR200C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YOROO8C	YDR160W	YML062C	YLR335W	YIL095W	YKR042W	YMR039C	YAL013W
## YPR133W-A YPR111W YDR146C YBL085W YBL023C YEL032W YLR045C YKL139W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YAL024C	YILOO9W	YDR085C	YMR168C	YLR238W	YHR115C	YDR027C	YDR200C
## YGL038C YHR079C YLR116W YIR031C YLR195C YGL097W YNL299W YHR154W ## 1 1 1 1 1 1 1 1 1 1 1 1 ## YLR306W YBR021W YDR164C YNL209W YKL196C YIL153W YCR067C YJL174W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## Y0R297C YKL126W YGL226C-A YDR177W YMR022W YER015W YBR080C YBL050W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## Y0R257W YNL102W YBR097W YDR495C YGL095C YPL155C YHR202W YPL209C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YPR133W-A	YPR111W	YDR146C	YBL085W	YBL023C	YEL032W	YLR045C	YKL139W
## YLR306W YBR021W YDR164C YNL209W YKL196C YIL153W YCR067C YJL174W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YOR297C YKL126W YGL226C-A YDR177W YMR022W YER015W YBR080C YBL050W ## 1 1 1 1 1 1 1 1 1 1 1 1 ## YOR257W YNL102W YBR097W YDR495C YGL095C YPL155C YHR202W YPL209C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YGR238C YNL031C YGR116W YBL082C YHR134W YIL030C YNL006W YKL176C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YMR284W YGL027C YGR098C YBL069W YHR010W YPR116W YDR369C YDR217C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YBR215W YOL068C YOR025W YMR224C YNL171C YOR160W YAL026C YLR425W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YGL038C	YHR079C	YLR116W	YIRO31C	YLR195C	YGL097W	YNL299W	YHR154W
## YOR297C YKL126W YGL226C-A YDR177W YMR022W YER015W YBR080C YBL050W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##	YLR306W	YBR021W	YDR164C	YNL209W	YKL196C	YIL153W	YCR067C	YJL174W
## YOR257W YNL102W YBR097W YDR495C YGL095C YPL155C YHR202W YPL209C ## 1 1 1 1 1 1 1 1 1 1 1 ## YGR238C YNL031C YGR116W YBL082C YHR134W YIL030C YNL006W YKL176C ## 1 1 1 1 1 1 1 1 1 1 1 1 ## YMR284W YGL027C YGR098C YBL069W YHR010W YPR116W YDR369C YDR217C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YBR215W YOL068C YOR025W YMR224C YNL171C YOR160W YAL026C YLR425W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YNL289W YMR299C YOR153W YKR047W YIL159W YDL117W YLR381W YJR053W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YDR289C YBR095C YBR107C YNL170W YHR191C YBR231C YNL215W YNL307C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	##								
## YGR238C YNL031C YGR116W YBL082C YHR134W YIL030C YNL006W YKL176C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YMR284W YGL027C YGR098C YBL069W YHR010W YPR116W YDR369C YDR217C ## 1 1 1 1 1 1 1 1 1 1 1 1 1 ## YBR215W Y0L068C Y0R025W YMR224C YNL171C Y0R160W YAL026C YLR425W ## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
## 1 1 1 1 1 1 1 1 1 1 1 ## YMRO6OC									
	##								

 $\label{localization} \verb| mayork15 < -cnxn[cnxn>=15] | \textit{#un subset que selecciona sólo los que tienen 15 o más conexiones.} \\ \verb| length(mayork15) | \textit{#son 441 nodos con más de 15 conexiones.} \\ | ength(mayork15) | ength(mayork1$

[1] 441

```
total<-sum(cnxn)
sum(mayork15)
```

[1] 14848

```
proporcion<-((length(mayork15)/length(cnxn))*100)
proporcion</pre>
```

[1] 16.85136

```
#el 16% de los nodos tienen 15 o más conexiones.

pr<-(((sum(mayork15)/sum(cnxn))*100))
pr
```

[1] 62.62337

#los nodos con más de 15 conexiones contribuyen con el 62.62% de todas las conexiones de la red

```
degreemax<-sort(distlev, decreasing = TRUE)
degreemax</pre>
```

d. Calcule el degree máximo de la red.

##	YPR110C	YPL131W	YNL178W	YILO21W	YOL127W	YJL063C	YBR283C	YLR378C
##	118	115	114	113	113	108	108	108
##	YMR260C	YBR251W	YGL123W	YNL284C	YGL103W	YOLO40C	YGR034W	YDL191W
##	107	106	106	106	106	104	104	104
##	YDL136W	YGR220C	YNRO37C	YORO63W	YIL018W	YLR344W	YEL050C	YPL183W-A
##	104	104	104	104	104	104	104	102
##	YDRO41W	YJR113C	YML010W	YBL038W	YLR075W	YGL068W	YHL015W	YNL189W
##	101	97	95	94	93	91	90	90
##	YJR123W	YBL004W	YDL014W	YLR175W	YBL092W	YNL132W	YDR101C	YNR016C
##	86	73	68	62	62	60	58	58
##	YIL147C	YPR010C	YJL109C	YER016W	YBR257W	YMR290C	YDL029W	YERO06W
##	58	57	57	57	57	56	56	55
##	YDR496C	YGR103W	YBR084C-A	YBL027W	YKL009W	YHR203C	YJR145C	YHR052W
##	55	55	55	55	54	54	54	53
##	YPR016C	YGR090W	YBR146W	YDR237W	YNL271C	YOR116C	YPL093W	YPR187W
##	53	53	53	53	53	52	52	52
##	YOR207C	YMR310C	YGR283C	YNL002C	YPL012W	YMR049C	YNL306W	YOR341W
##	52	52	52	51	51	50	50	49
##	YGL059W	YIL042C	YML025C	YOLO77C	YOR272W	YGL205W	YGL211W	YBR234C
##	48	48	47	46	46	46	45	45
##	YDR116C	YNL061W	YHR147C	YDL140C	YPL043W	YGR145W	YMR158W	YDL061C
##	44	44	44	43	43	43	43	43
##	YPR166C	YLR388W	YDR036C	YGL147C	YNL067W	YLR367W	YJL190C	YGR085C

##	43	43	42	42	42	42	42	42
##	YPR102C	YBR048W	YKL173W	YMR188C	YOR151C	YMR125W	YDR025W	YLR197W
##	42	42	42	41	41	41	41	40
##	YML026C	YKL170W	YOR206W	YDR450W	YDR012W	YNL177C	YJL177W	YKL180W
##	40	40	40	40	40	40	40	40
##	YBR031W	YER117W	YBL087C	YDR127W	YBR208C	YNL081C	YCR031C	YJL191W
##	40	40	40	39	39	39	39	39
##	YHR197W	YPL126W	YKR081C	YOR150W	YIL133C	YDR394W	YLR340W	YNL069C
##	38	38	38	38	38	37	37	37
##	YKL113C	YLR409C	YDL185W	YKL145W	YDR449C	YPL231W	YMR143W	YDL083C
##	37	36	36	36	36	36	36	36
##	YPL212C	YKL104C	YEL054C	YDR418W	YPL220W	YGL135W	YHR148W	YNL292W
##	36	35	35	35	35	35	35	35
##	YGR118W	YNL185C	YLL008W	YNRO36C	YPR132W	YDL202W	YKL192C	YML049C
##	35	35	34	34	34	34	34	34
##	YFL001W	YGL063W	YDR117C	YBR247C	YDR337W	YER029C	YBR154C	YLR423C
##	34	34	34	34	33	33 YNL244C	32	32
##	YOR210W 32	YER082C 32	YDR324C 32	YER126C 32	YML009C 32	32	YPL227C 32	YNL110C 32
## ##	3∠ YHLOO4W	3Z YKL014C	3∠ YDL031W	YKR060W	3∠ YPL211W	YCL059C	YKL024C	YDR226W
##	32	31	31	31	31	31	31	31
##	YER170W	YLR244C	YBL091C	YMR208W	YGR162W	YKL182W	YLR147C	YDL227C
##	31	31	31	31	30	30	30	30
##	YGL111W	YJRO14W	YHL030W	YGL120C	YJROO2W	YML054C	YJR008W	YPR183W
##	29	29	28	28	28	28	28	28
##	YDR162C	YMR314W	YLR129W	YNL236W	YERO61C	YNL123W	YBRO41W	YHR088W
##	28	27	27	27	27	27	27	27
##	YOLO41C	YLL036C	YGR245C	YOR180C	YAL035W	YHRO41C	YMR093W	YNL137C
##	26	26	26	26	26	26	26	26
##	YORO93C	YBR222C	YMR012W	YMR128W	YLR284C	YDR060W	YHR009C	YJR016C
##	26	26	25	25	25	25	25	25
##	YLR275W	YGL049C	YGR158C	YGL019W	YHR200W	YGR095C	YGR195W	YOL021C
##	25	24	24	24	24	24	24	24
##	YCR057C	YER012W	YBL013W	YBR029C	YDR283C	YPR033C	YIL035C	YMR190C
##	24	24	24	24	24	24	24	24
##	YORO61W	YBR193C	YERO22W	YKL172W	YOR174W	YGL245W	YGR240C	YLR186W
##	23	23	23	23	23	23	23	23
##	YML064C	YNL256W	YPL151C	YOL135C	YOLO51W			
##	23	23	23	23	23	23	22	
##	YFR004W		YER069W		YIL061C			
##	22	22	22	22	22			
##	YJR091C		YIL160C		YMR288W			
##	22 VEL 0610	22 VED 0004	22 YER021W	22 V0D261C	22 YOR117W	22 VDB0976		
## ##	YEL061C						YBR055C	
##	22 YLR117C	21 YDR299W	21 YMR112C	21 YDL030W	21 YLR449W			
##	1LK117C 21	1DR299W 21	21	1DL030W	1LR449W 21			
##	YOL120C		YNL301C		YPRO70W			
##	21	21	21	21	21			
##	YHR058C		YDR443C			YDR280W	YERO81W	
##	21		21		21		20	
##				YOR259C				
##	20	20	20	20	20	20	20	
##				YNR033W				

##	20	20	20	20	20	20	20	20
##	YHR208W	YIL154C	YOL142W	YDR292C	YJR148W	YCL054W	YORO39W	YDL097C
##	20	20	20	20	20	20	19	19
##	YGR013W	YDR240C	YPR190C	YOR145C	YKL060C	YKL012W	YDL087C	YPL213W
##	19	19	19	19	19	19	19	19
##	YKL216W	YPL252C	YPL042C	YGL025C	YGR128C	YOR326W	YBR221C	YIL125W
##	19	19	19	19	19	18	18	18
##	YLR447C	YDL147W	YBR160W	YPL266W	YKL144C	YKROO2W	YFL002C	YER155C
##	18	18	18	18	18	18	18	18
##	YMRO24W	YMR262W	YBL055C	YALO54C	YBR115C	YNL168C	YHR206W	YFL033C
##	18	18	18	18	18	18	18	18
##	YLR006C	YJR017C	YNL113W	YGRO91W	YMRO47C	YER052C	YNLO75W	YLLO11W
##	18	18	17	17	17	17	17	17
##	YJL130C	YLR424W	YDR454C	YOLO23W	YNLO26W	YMR300C	YER110C	YJR070C
##	17	17	17	17	17	17	17	17
##	YJL020C	YLR276C	YGL048C	YMR061W	YJL203W	YER178W	YNLO71W	YGL112C
##	17	17	17	16	16	16	16	16
##	YFL018C	YCL017C	YJR093C	YLR355C	YLR153C	YDR308C	YDR416W	YML022W
##	16	16	16	16	16	16	16	16
##	YDL051W	YBL026W	YCL009C	YLR106C	YHRO26W	YDRO64W	YLR231C	YPL234C
##	16	16	16	16	16	16	16	16
##	YGR214W	YLR048W	YPL214C	YHR189W	YJL218W	YNRO53C	YDR235W	YELO21W
##	16	16	16	16	16	16	16	16
##	YPL148C	YPR113W	YDR441C	YGR193C	YOR221C	YGR194C	YGL026C	YFR001W
##	16	16	16	16	16	16	15	15
##	YLR347C	YJL138C	YNROO3C	YGL011C	YGR263C	YHR018C	YBR253W	YDR140W
##	15	15	15	15	15	15	15	15
##	YHR030C	YER127W	YDL239C	YDR007W	YLR115W	YAL043C	YEL027W	Q0130
##	15	15	15	15	15	15	15	15
##	YPL017C	YOLO66C	YNRO74C	YHL016C	YPL091W	YLR180W	YNLO72W	YML094W
##	15	15	15	15	15	15	15	15
##	YER050C	YLR058C	YBR088C	YDR428C	YDL142C	YDL209C	YOLO60C	YLR277C
##	15	15	15	15.712.00	15	15	15	15
##	YOR224C	YOR260W	YERO94C	YDR301W	YDR211W	YOR362C	YBR142W	YLR421C
##	15	14	14	14	14	14	14	14
##	YKL003C	YLL041C	YOR111W	YNL063W	YKL018W	YNL317W	YGR156W	Q0045
##	14	14	14	14	14	14	14	14
##	Q0250		YOR308C		YEL058W			
##	14		14		14			
##	YMR278W		YMR240C		YPR043W			
##	14		14		14			
##	YJR137C		YHR062C		YJL069C			
##	14		14			14		
##	YLR291C		YDR448W		YBR127C			
##	13	13	13			13		
##	YML092C		YBR218C		YLR029C			
##	13	13	13			13		
##	YPL013C		YKL099C		YDR502C			
##	13	13	13		13		13	
##	YBR189W		YPR060C		YOR285W			
##	13	13	13	13	13			
##	YPR107C		YOR274W		YGRO21W			
##	13		13		13			
##					YOR131C			
	12101010	11 21101	1422000	11121000	10101010	1421200	11.20.00	11111210

##	13	13	13	13	13	13	13	13
##	YPL069C	YDR037W	YNL220W	YJL172W	YLR009W	YGL105W	YOL149W	YMR309C
##	13	13	13	13	13	13	12	12
##	YDR298C	YJR121W	YAL032C	YGR020C	YOLO38W	YFR037C	YGL195W	YJL005W
##	12	12	12	12	12	12	12	12
##	YGR232W	YGR267C	YERO02W	YIL033C	YOL139C	YBR039W	YDL004W	YBL099W
##	12	12	12	12	12	12	12	12
##	YPRO24W	YLR289W	YGL030W	YDR322W	YORO76C	YLR022C	YDR018C	YIRO42C
##	12	12	12	12	12	12	12	12
##	YDL043C	YNL222W	YKR009C	YPR073C	YBR003W	YJL167W	YER171W	YCL004W
##	12	12	12	12	12	12	12	12
##	YJL046W	YDR364C	YGR252W	YELO51W	YHRO20W	YBR042C	YDR328C	YLR208W
##	12	12	12	12	12	12	11	11
##	YDL160C	YDL116W 11	YDL060W	YDR388W 11	YPL135W	YJL088W 11	YOR142W	YGL009C 11
## ##	11 YMR239C	YBLO41W	11 YNL262W	YGR218W	11 YOLOO4W	YCRO53W	11 YBR200W	YMR229C
##	1MR239C	16L041W	1NL262W	1Gh210W	10L004w	10R053W	1DR200W	11
##	YDL100C	YDL226C		YCR028C-A	YERO17C	YHRO25W	YDL168W	YDR236C
##	11	11	11 11	11	11	1111t025W	1DL100W	11
##	YJR047C	YMR.294W	YIRO27C	YDL052C	YGR278W	YLR439W	YMR178W	YKL184W
##	11	11	11	11	11	11	11	11
##	YGR112W	YNL218W	YLR143W	YKR031C	YOLOO5C	YMR089C	YEL034W	YDR175C
##	11	11	11	11	11	11	11	11
##	YDL213C	YOR226C	YOR286W	YCR077C	YKR068C	YGL137W	YPL111W	YCR012W
##	11	11	11	10	10	10	10	10
##	YDL047W	YKR025W	YJR063W	YIL078W	YKL143W	YJL001W	YLR438W	YGL207W
##	10	10	10	10	10	10	10	10
##	YHR196W	YOR202W	YPL198W	YORO47C	YMR286W	YGL076C	Q0085	YPR004C
##	10	10	10	10	10	10	10	10
##	YBL080C	YBR002C	YMR101C	YDL193W	YER095W	YORO65W	YBR198C	YHR129C
##	10	10	10	10	10	10	10	10
##	YOR196C	YOR236W	YGL037C	YMR074C	YGR207C	YPL082C	YOR241W	YDL150W
##	10	10	10	10	10	10	10	10
##	YMR113W	YOL121C	YJR024C	YGL062W	YGR274C	YJL189W	YGL018C	YPR101W
##	10	10	10	10	10	10	10	10
##	YKL194C 10	YKL151C 10	YJR117W	YPL178W 10	YCR072C 10	YMR242C 10	YOR312C	YML015C 10
##	YGRO74W	YHR106W	10 YGL169W				10 YER057C	
## ##	10R074W	100w	10L109W		10			17L008W
##		YEL024W		YBR288C		YMR236W		
##		10		10	10			10
##		YOL143C		YDR473C				
##	10	10	10		9			
##		YDL145C		YKR069W				
##	9	9		9				
##	YGR155W	YDR167W	YAL033W	YLR288C	YDR311W	YBR025C	YDR074W	YBL007C
##	9	9	9	9	9	9	9	9
##	YGL127C	YMR118C	YKL141W	YOR128C	YGR180C	YCR036W	YGL143C	YIL103W
##	9	9	9	9	9	9	9	9
##	YOR278W			YDL182W				
##	9			9				
##	YKL211C			YDR145W				
##	9	9		9			9	
##	YGL091C	YLR281C	YLR359W	YBR019C	YUL114C	YMR315W	YNL151C	YILOO3W

##	9	9	9	9	9	9	9	9
##	YKL191W	YML051W	YDR293C	YBR196C	YBL105C	YDR054C	YOL140W	YMR193W
##	9	9	9	9	9	9	9	8
##	YHR107C	YOLO58W	YNL287W	YDL188C	YKR026C	YGL234W	YPL139C	YJR042W
##	8	8	8	8	8	8	8	8
##	YGR186W	YPL204W 8	YOL086C 8	YGR204W 8	YNL085W	YBR103W 8	YLL018C 8	YFL045C 8
## ##	8 YOR167C	o YBR153W	YGR010W	YDR242W	8 Q0105	YGL221C	YHR168W	YBR176W
##	8	1DI(133W	1011010W 8	1D11242W 8	Q0103 8	8	11111100W 8	1DI(170W 8
##	YARO15W	YNL162W	YHR141C	YHL032C	YOR108W	YBR270C	YGRO19W	YML106W
##	8	8	8	8	8	8	8	8
##	YER157W	YMR271C	YDL055C	YNL241C	YML059C	YDL205C	YGR113W	YFR050C
##	8	8	8	8	8	8	8	8
##	YKR087C	YER087W	YDR004W	YCR019W	YJR105W	YER179W	YOR209C	YPR035W
##	8	8	8	8	8	8	8	8
##	YBR084W	YDR539W	YJL092W	YMR084W	YDL131W	YOR168W	YOLO33W	YKL156W
##	8 YOR122C	8 VDD04EQ	8	8 VI D0740	8	8	8	8
## ##	YUR1220 8	YBR245C 8	YDR432W 8	YLR074C 8	YGR120C 8	YMR293C 8	YHRO21C 8	YOL148C 8
##	YMR146C	YJL124C	YJL098W	YNL147W	YFR040W	YNL118C	YFL022C	YNRO12W
##	7	7	7	7	7	7	7	7
##	YCL010C	YALO44C	YBL033C	YGR083C	YERO25W	YFR051C	YGR262C	YDR378C
##	7	7	7	7	7	7	7	7
##	YIL076W	YOR184W	YGL070C	YJR111C	YFL038C	YDL134C	YBR272C	YDL132W
##	7	7	7	7	7	7	7	7
##	YNL112W	YLR212C	YOL006C	YIL126W	YOR323C	YJR068W	YMR217W	YDR510W
##	7	7	7	7	7	7	7	7
##	YDR115W	YDR259C	YMR267W	YPL124W	YILO20C	YPR088C	YLR295C	YMR153W
## ##	7 YMR150C	7 YER055C	7 YALO38W	7 YER154W	7 YLR264W	7 YDR086C	7 YPR074C	7 YBR117C
##	1MR150C	7 TERUSSC	TALUSOW 7	1ER154W	1Lh204w	7 TDRUOOC	1PR074C	1DR117C
##	YDR050C	YNLO92W	YGR231C	YPR082C	YGL148W	YKL040C	YLR342W	YER168C
##	7	7	7	7	7	7	7	7
##	YGR132C	YPR086W	YGR276C	YML021C	YHR046C	YORO14W	YIL084C	YDR287W
##	7	7	7	7	7	7	7	7
##	YOLO71W	YPL160W	YGR012W	YFL030W	YMR090W	YJR149W	YERO04W	YLR107W
##	7	7	7	7	7	7	7	7
##	YBR166C		YIL074C			YOLO80C		
##	7	7	7	7 YKRO28W		7		
## ##				1KKU28W 7				
##	YOR158W			YOR347C				
##	7			7				
##	YIL106W			YLR370C				
##	6	6	6	6	6	6	6	6
##	YFR030W	YDR354W	YJL026W	YJL014W	YBR256C	YOR270C	YNR035C	YAL016W
##								
##				YCR093W				
##	6			6		6		
##				YGL099W				
## ##	6 VHROSOW			6 YNLO16W		6 YPRO47W		
##		1 DL 0 3 9 C						
				YML125C				
	200011		- 51000011		-2101010	-2101000		- 2147 7 711

##	6	6	6	6	6	6	6	6
##	YOR361C	YGR210C	YNL122C	YDL235C	YHL014C	YGR286C	YPR002W	YGL031C
##	6	6	6	6	6	6	6	6
##	YDL112W	YOR201C	YLR167W	YPL070W	YOR133W	YGL133W	YPL011C	YGR005C
##	6	6	6	6	6	6	6	6
##	YDR336W	YMR023C	YKR072C	YJL140W	YMR263W	YGR175C	YAL062W	YDL201W
##	6	6	6	6	6	6	6	6
##	YGR169C	YDL174C	YDL178W	YEL071W	YBL061C	YLR011W	YDL036C	YLR382C
##	6	6	6	6	6	6	6	6
##	YOLO95C	YLR308W	YDL078C	YDL141W	YLR165C	YLR307W	YBR023C	YGL252C
##	6	6	6	6	6	6	6	6
##	YBR011C	YKL085W	YJL095W	YEL003W	YGR092W	YOR290C	YDL102W	YNL079C
##	6 Vapozoa	6 YNL153C	6 YPL235W	6 VED 0.7011	6	6 YILO34C	6	6
## ##	YGR078C 6	1NL153C	1PL235W	YERO70W 6	YKL081W 6	11L034C	YHRO19C	YORO89C
##	YPL172C	YGR101W	YGR255C	YBL098W	YML086C	YLL057C	YDL143W	YPR029C
##	6	1011101W	6	1BE030W	1 ML000C	6	1DL143W	5
##	YGL115W	YOLO94C	YBL045C	YBR126C	YGL237C	YBR135W	YIROO1C	YKL103C
##	5	5	5	5	5	5	5	5
##	YIL142W	YLR025W	YNL330C	YGL156W	YPL181W	YMR199W	YER177W	YMR120C
##	5	5	5	5	5	5	5	5
##	YPL256C	YIL128W	YGL197W	YMR308C	YHR024C	YBR060C	YDR381W	YGR234W
##	5	5	5	5	5	5	5	5
##	YOR181W	YGR161C	YGR200C	YLR310C	YDR300C	YDL098C	YIL070C	YORO35C
##	5	5	5	5	5	5	5	5
##	YPL258C	YML069W	YJR104C	YGL198W	YCR086W	YJR049C	YNL200C	YGL153W
##	5	5	5	5	5	5	5	5
##	YIL066C	YJL093C	YDR429C	YNRO57C	YDR062W	YNL086W	YPR026W	YDL089W
##	5	5	5	5	5	5	5	5
##	YDR264C	YGR148C	YLR028C	YDL203C	YGR134W	YJR010W	YBL076C	YKL150W
##	5	5	5	5	5	5	5	5
##	YBR252W	YIL043C	YBR018C	YBR213W	YLR357W	YALO46C	YPL059W	YDR296W
##	5 YNL316C	5 YELO70W	5 YOLO59W	5 YPL010W	5 YNL288W	5 YPL132W	5 YLR386W	5 YHR210C
## ##	1NL316C	1ELU/OW 5	10L059W	TPLOTOW 5	1NL200W	1PL132W 5	LILICOUM 5	1nn210C
##	YNRO73C	YERO37W	YDL022W	YKL002W	YMR130W	YFR009W	YDL081C	YNRO71C
##	5	5	5	5	5	5	5	5
##	YMROO9W	YNLO30W		_			_	_
##	5	5	5	5	5	5	5	5
##	Y0L097C	YJL060W	YEL038W	YPL279C	YOR390W	YNL037C	YLR089C	YGL224C
##	5	5	5	5	5	5	5	5
##	YOR375C	YPL206C	YHRO32W	YBR053C	YPL110C	YDR338C	YHR128W	YER183C
##	5	5	5	5	5	5	5	
##	YLR163C	YGL154C	YKR059W	YPL016W	YALO41W	YER125W	YDR389W	
##	5	5	5	5	5	5	5	
##	YFL037W	YHR118C	YORO98C				YPL269W	
##	5	5	5	5	5	5	5	
##	YER107C	YJL061W	YGL106W		YHRO99W		YBR249C	
##	5	5	5	5	5	5	5	5
##	YLR337C	YDR023W	YELO41W 5				YKR037C	
## ##	5 YML087C	5 YOL145C	YOLO64C	5 YLR133W	5 YGR062C		5 YDL207W	5 YBR087W
##	1ML007C	10L145C	10L064C	1LK133W 5	1 GRU02C	1NL243W 5	1DL207W	1 DRUO / W
##	_				YLR314C			
11	11110101	111001W	IOHOTIW	111111110	1110140	10100700	11411201W	11110210

##	4	4	4	4	4	4	4	4
##	YHR166C	YDR359C	YHR033W	YOR244W	YPR181C	YJL081C	YKL007W	YGL241W
##	4	4	4	4	4	4	4	4
##	YFL024C	YJR022W	YPR023C	YJL080C	YKL218C	YJR043C	YML109W	YHR169W
##	4	4	4	4	4	4	4	4
##	YIROO2C	YDL108W	YNL138W	YPL086C	YDR386W	YBR109C	YBL003C	YDR071C
##	4	4	4	4	4	4	4	4
##	YOR269W	YGL061C	YJL045W	YJR051W	YKL148C	YPL255W	YBR072W	YDR174W
##	4	4	4	4	4	4	4	4
##	YBR217W	YGR136W	YJR102C	YDR488C	YNL022C	YDR270W	YGL040C	YBR227C
##	4	4	4	4	4	4	4	4
##	YBR295W	YML126C	YIL145C	YGR119C	YDL065C	YOR119C	YDRO47W	YCR009C
##	4	4	4	4	4	4	4	4
##	YHRO42W	YER091C	YOR327C	YPR048W	YNL251C	YBR061C	YMRO48W	YLR035C
##	4 YGL136C	4 VDD000U	4 YLR324W	4 YDR538W	4 VCI 1011	4 YNLO82W	4 VCI 027C	4 YDL236W
## ##	1GL136C	YDROO9W 4	1LR324W	1DR536W	YGL181W 4	1NLU82W	YCL037C 4	1DL236W
##	YDL171C	YPL022W	YDL130W	YNLO36W	YPL188W	YPL190C	YMR250W	YPL164C
##	4	11 LOZZW	1DE130W	1NE030W	11 L100W	4	11111250W	4
##	YDR294C	YBR020W	YNI.129W	YERO43C	YMR.186W	YGR192C	YFRO36W	YDR019C
##	4	4	4	4	4	4	4	4
##	YFR047C	YOROO4W	YOR137C	YHR028C	YOLO43C	YKR080W	YMR177W	YHR012W
##	4	4	4	4	4	4	4	4
##	YHL022C	YOR171C	YBR243C	YLR361C	YDR339C	YML075C	YHR179W	YAL015C
##	4	4	4	4	4	4	4	4
##	YKR079C	YCR024C	YNL011C	YOL123W	YGL213C	YHR089C	YBL079W	YKL079W
##	4	4	4	4	4	4	4	4
##	YGR208W	YIROO6C	YJL194W	YGL206C	YPR141C	YGL216W	YOL115W	YER105C
##	4	4	4	4	4	4	4	4
##	YALOO9W	YNL298W	YDL020C	YNL064C	YDR138W	YNL272C	YIROO8C	YDR098C
##	4	4	4	4	4	4	4	4
##	YPR055W	YDL155W	YDR020C	YPL031C	YDR176W	YBR170C	YCR002C	YFL009W
##	4 VODO 1711	4 VDD000G	4 YML063W	4 YPR112C	4 YOR227W	4 YPL161C	4 VMD004U	4 YPR121W
## ##	YOR217W 4	YDR028C 4	1ML063W	1PR112C	1UR221W	4 A	YMRO94W 4	1PK121W 4
##	YMR231W	YMRO32W	YDR425W	YELO47C	YPL174C	YBL024W	YPL104W	YNL247W
##	11110201W	4	1D10420W	4	4	1DE024W	11 L104W	1NLZ-17W
##	=	YPL040C	YORO26W	_	YML117W		_	
##	4	4	4	4	4	4	4	4
##	YLR259C	YGR121C	YMR055C	YHRO11W	YOR219C	YLR441C	YKL029C	YNL305C
##	4	4	4	4	4	4	4	4
##	YPL224C	YDL219W	YMR234W	YGL178W	YGL173C	YPL084W	YLR330W	YDR150W
##	4	4	4	4	4	4	4	4
##	YERO27C	YPL203W	YGL208W	YNL099C	YML098W		YDR091C	
##	3	3	3	3	3	3	3	3
##	YBR260C	YDL126C	YHR216W		YOR250C			
##	3	3	3	3	3	3	3	3
##	YDL006W	YDL192W	YNL333W	YPL049C	YNL261W			
##	3	3	3	3	3	3	3 VED0010	3
## ##	YNL124W 3	YEL002C 3	YJR101W 3	YDL220C 3	YOR340C 3	YNL290W 3	YERO31C 3	YMR105C 3
##	YNL154C	YPL001W	3 YDR472W		ybr282W			
##	3 INL1540	1FL001W 3	1DR412W	3 JBL036W	1 DR 2 O 2 W	3	171A139W	171A100W
##				YLR293C				
							11110200	

##	3	3	3	3	3	3	3	3
##	YHR085W	YDL195W	YIL063C	YLR371W	YNL139C	YML032C	YHRO23W	YBL090W
##	3	3	3	3	3	3	3	3
##	YOR144C	YNL135C	YGR040W	YPL153C	YERO08C	YLR398C	YDR480W	YMR025W
##	3	3	3	3	3	3	3	3
##	YJR090C	YIL046W	YGR268C	YFL023W	YORO36W	YDR084C	YGR171C	YNL258C
##	3	3	3	3	3	3	3	3
##	YLL049W	YKL130C	YHR163W	YOR284W	YGR248W	YCR073W-A	YNRO34W	YDR376W
##	3	3	3	3	3	3	3	3
##	YLR052W	YLR417W	YJL199C	YDR016C	YOLO69W	YER042W	YLR377C	YDR201W
##	3	3	3	3	3	3	3	3
##	YBR137W	YIL053W	YOLO55C	YGL079W	YGL161C	YPR028W	YGR172C	YGR188C
##	3	3	3	3	3	3	3	3
##	YGL175C	YLR209C	YNL334C	YER096W	YKR083C	YNLO44W	YCL064C	YPR131C
##	3	3	3	3	3	3	3	3
## ##	YKR092C 3	YGR246C 3	YKL088W 3	YBL074C	YMR077C	YBL036C	YLR148W 3	YBR279W 3
##	YPL045W	YLR396C	YDL058W	YPR173C	YORO54C	YNLO97C	YIL083C	YGL256W
##	1FL045W	3	1DL036W	3	3	1 NL 0 9 7 C	3	1GL250W
##	YBI.022C	YIL167W	YBR191W	YLR418C	YBR024W	YNRO69C	YNLO41C	YDL033C
##	3	3	3	3	3	3	3	3
##	YNL192W	YPR201W	YLR401C	YLR405W	YBR121C	YPR081C	YML096W	YCR059C
##	3	3	3	3	3	3	3	3
##	YHR013C	YNL155W	YLR105C	YPL079W	YNRO15W	YLR174W	YML080W	YLR109W
##	3	3	3	3	3	3	3	3
##	YNL142W	YDL166C	YLR450W	YPR145W	YPR138C	YLR260W	YKR050W	YJR103W
##	3	3	3	3	3	3	3	3
##	YDL177C	YNL009W	YORO52C	YBR022W	YMR200W	YNRO27W	YBL062W	YBR034C
##	3	3	3	3	3	3	3	3
##	YDR392W	YOR349W	YNL070W	YJL034W	YDR156W	YLR103C	YKL205W	YKL074C
##	3	3	3	3	3	3	3	3
##	YCR088W	YGR009C	YHR142W	YPL241C	YBR082C	YNL233W	YDR245W	YKL068W
##	3	3	3	3	3	3	3	3
##	YGR229C	YGR140W	YKL048C	YFR019W	YERO07W	YJR075W	YEL029C	YNL126W
## ##	3 YILOO2C	3 YLR305C	3 YML103C	3 YKL135C	3 YDR477W	3 YOR358W	3 YGR250C	3 YOLO61W
##	3	3	3	3	3 JUN411W	1 UN 3 3 6 W	1 Gh 2 5 0 C	10L001W
##	YDR490C					YKR024C	_	
##	3		3	3	3		3	3
##	YHR135C		YMR091C					
##	3	3	3	3	3		3	3
##	YGR178C	YJL052W	YPR040W	YJR009C	YIL075C	YJL058C	YLR135W	YMR038C
##	3	3	3	3	3	3	3	3
##	YGL172W		YNRO41C	YMR001C	YPR175W	YPRO41W	YBR037C	YGL043W
##	3	3	3	3	3		3	3
##	YGR124W		YJL129C	YDR035W	YIL162W		YOR216C	YARO19C
##	3		3	3	3		3	3
##		YMR235C		YBR237W				
##	3		3		3		3	3
##		YML095C-A		YDR460W				
##	3 VIII 010C		2 VCD096C		2		VEROEOU.	2 VMD 1 90U
##		YNL056W 2		YFR049W 2				
## ##	VDB066W	YGRO48W	_		2 VNDOOGU	YML100W	2 V II 0740	
##	1110000	I GIVO40W	1 1111 1 00	1201040	1 1/11/00 O.M.	THLIOOM	120140	10111300

##	2	2	2	2	2	2	2	2
##	YLR432W	YCR033W	YNL201C	YORO56C	YEL056W	YML102W	YDR188W	YDR001C
##	2	2	2	2	2	2	2	2
##	YER146W	YPR054W	YPL004C	YALOO3W	YOL090W	YDLOO3W	YPL195W	YJL173C
##	2	2	2	2	2		2	2
##	YBR254C	YKR085C	YLR352W	YER093C	YPR182W	YDR225W	YOR368W	YOR204W
##	2	2	2	2	2		2	2
##	YAL012W	YGR150C	YOR329C	YOL010W	YBR136W		YHR119W	YEL055C
##	2	2	2	2	2	2	2	2
##	YLL034C	YLR229C	YDR130C	YDL175C	YGR270W	YNL311C	YBR017C	YHL011C
##	2	2	2	2	2	2	2	2
##	YDRO49W	YNL312W 2	YAROO2W	YAL025C 2	YGL187C	YPL009C	YGL008C	YIL068C 2
##	2 YDL167C	YPR105C	2 YDL161W	YJL036W	2 YPRO46W	YER144C	2 YIL105C	YOR155C
##	1DL167C	1PK105C 2	1DL161W	1JLU36W	1PR046W	1ER144C 2	11L105C 2	10K155C
##	YCR082W	YOR212W	YORO20C	YEL005C	YKL008C	YDL139C	YGL134W	YHR113W
##	101t002w	1010212W	2	2	1 KL000C	1DL1390 2	10L154w	11111113W 2
##	YNROO7C	YMR124W	YBR228W	YIRO16W	YNL259C	YEL066W	YDR453C	YCL020W
##	2	2	2	2	2	2	2	2
##	YLR287C	YHR185C	YHRO44C	YHRO43C	YDR520C	YPR193C	YOR275C	YKROO7W
##	2	2	2	2	2	2	2	2
##	YDR229W	YML008C	YPL077C	YCL019W	YLR345W	YLR362W	YIL132C	YML057W
##	2	2	2	2	2	2	2	2
##	YKL061W	YMR068W	YHR171W	YLR125W	YLR182W	YORO59C	YNL263C	YKR022C
##	2	2	2	2	2	2	2	2
##	YGR285C	YHR176W	YDR113C	YGR024C	YDR318W	YFR008W	YER118C	YIL144W
##	2	2	2	2	2	2	2	2
##	YDR189W	YFR013W	YFL003C	YBL102W	YIL052C	YOLO18C	YBR267W	YGL186C
##	2	2	2	2	2	2	2	2
##	YERO23W	YER148W	YPR003C	YBR065C	YDR121W	YLR092W	YML042W	YGL250W
##	2	2	2	2	2	2	2	2
	YERO56C-A	YDR382W	YML101C	YPL189W	YDR045C	YOLO39W		YJR077C
##	2	2	2	2	2	2	2	2
##	YHRO74W 2	YBR294W 2	YFR002W 2	YMR298W 2	1DR505C	YERO60W-A	YDL164C 2	YLR017W 2
##	YIL155C	YLR207W	YHR193C	YCR010C			_	YGL067W
##	2	1L1(207W	2	2	1F1t002w	1011230W	1ML024w	1GL007W
##		YDR384C	YIRO15W			YNL332W		
##	2	2	2	2	2		2	2
##	YDL244W	YMR114C	YOR176W	YNRO02C	YJL094C			
##	2	2	2	2	2		2	2
##	YGL212W	YGL023C	YBR085W	YJR032W	YKL212W	YLR111W	YDR424C	YPL242C
##	2	2	2	2	2	2	2	2
##	YLR210W	YHL007C	YDR310C	YNL322C	YHR101C	YDR192C	YJL213W	YOR208W
##	2	2	2	2	2	2	2	2
##	YJL035C	YJR118C	YOR194C	YPL018W	YKR010C		YKL073W	YGL217C
##	2	2	2	2	2		2	
##	YJL183W	YFL029C	YGR271W		YFR028C			
##	2	2	2	2	2		2	2
##	YPL194W	YDR254W	YPR159W		YOR188W			
##	2 VMD 20711	2	2 VNI 050U	2 VI D100G	2 VDD 0001		2 VMD 1 0 0 U	
##	YMR307W	YGL240W 2	YNL250W					
## ##	2 YPR025C	_	2 YPL003W	_	2 YCRO52W	_	2 YPR018W	
##	17110200	1550000	IL LOOSM	ILITIOOM	1 011002W	ILIVITAM	ILIMIOM	IDIOIOW

шш	0	0	0	0	0	0	0	0
## ##	2 YDRO99W	2 YDL124W	2 YDR422C	2 YLL022C	2 YHRO98C	2 YAROO7C	2 YOLO78W	∠ YJRO74W
	1DR099W 2	1DL124w 2	1DR422C	2	1 nr.096C	1 AROU / C	10L076W	1JR074w 2
##	_	_	_	_	_	_	_	_
##	YJR064W	YBR175W	YLR321C	YBR225W	YLR262C	YJR006W	YJR144W	YGR233C
##	2	2	2	2	2	2	2	2
##	YLR384C	YDR179C	YDR139C	YDL204W	YKL095W	YDL208W	YDR166C	YJL115W
##	2	2	2	2	2	2	2	2
##	YKL080W	YPR189W	YIRO34C	YOR164C	YCL032W	YGR239C	YJR135C	YPL105C
##	2	2	2	2	2	2	2	2
##	YMR159C	YCL055W	YPL002C	YBL016W	YLR190W	YGR058W	YNL161W	YER071C
##	2	2	2	2	2	2	2	2
##	YBR108W	YER062C	YDR233C	YDR261W-A	YPL159C	YLR319C	YPL095C	YLR446W
##	2	2	2	2	2	2	2	2
##	YMR232W	YGR043C	YGR057C	YFL034C-B	YLR354C	YFL010C	YER014W	YLR373C
##	2	2	2	2	2	2	2	2
##	YLR249W	YOR317W	YGL084C	YLR453C	YPL169C	YER060W	YER056C	YGR125W
##	2	2	2	2	2	2	2	2
##	YJR141W	YHL003C	YNRO43W	YDR034C	YGR129W	YOROO6C	YML079W	YPL090C
##	2	2	2	2	2	2	2	2
##	YBR181C	YNLO40W	YDL200C	YIR032C	YKL093W	YDL017W	YDR356W	YBR015C
##	2	2	2	2	2	2	2	2
##	YPR019W	YBR171W	YNL084C	YLR274W	YKL089W	YHR152W	YGR032W	YKL022C
##	2	2	2	2	2	2	2	2
##	YER111C	YER172C	YOR195W	YIL004C	YLR242C	YGL086W	YJL013C	YDR363W
##	2	2	2	2	2	2	2	2
##	YGL163C	YORO58C	YDR149C	YBL056W	YKL045W	YBR125C	YER099C	YDR190C
##	2	2	2	1	1	1	1	1
##	YIL104C	YJR050W	YHR005C	YBR216C	YGR261C	YEL011W	YMR261C	YGR173W
##	1	1	1	1	1	1	1	1
##	YPR104C	YDR342C	YBR195C	YIRO05W	YJL042W	YBR010W	YIL071C	YKL122C
##	1	1	1	1	1	1	1	1
##	YIL079C	YKL056C	YKL193C	YDR407C	YLR258W	YORO57W	YBL047C	YOR185C
##	1	1	1	1	1	1	1	1
##	YCL024W	YKR006C	YAROO3W	YCL014W	YGR292W	YER162C	YDR412W	YFL006W
##	1	1	1	1	1	1	1	1
##	YPL208W	YJL006C	YPL074W	YGL150C	YFR021W	YBL066C	YKL019W	YLR113W
##	1	1	1	1	1	1	1	1
##	YMR303C	YDL042C	YOR106W	YOR276W		YBR143C		
##	1		1		1	1	1	1
	YCRO2OC-A		YOR370C					
##	1		1		1	1	1	1
##			YDL070W		YGL058W		YEL060C	
##	1		1		1	1	1	1
##	YDR256C		YHL006C		YOR385W		YNL329C	
##	1		1		1	1	1	1
##	YML031W		YEL043W				YJL039C	
##	1		1		1	1	1	1
##	YGL036W		YJR094C		YPR083W			
##	1		1		1	1	1	1
##	YORO34C		YMR204C					
##	1		1		1	1	1 LICI 4 I W	1
##	YBR077C		YKL038W					
##	1		1 TKE000W		1	1	1	1
##		YCR087C-A						
ап	IGIGOGIW	1010010 A	12100-100	10110140	TOHOTOW	1 0101 0 Z W		1111000

##	1	1	1	1	1	1	1	1
##	YPL088W	YNRO39C	YIL109C	YML023C	YGL166W	YGL053W 1	YGL119W	YML034W 1
## ##	1 YFR017C	1 YGRO71C	1 YDR479C	1 YJL086C	1 YPL109C	YCR095C	1 YGL125W	YDL165W
##	11110170	1 1	10114190	1310000	111030	10110930	10L125W	1DL103W
##	YML037C	YLR142W	YGL254W	YNRO68C	YKL043W	YJL019W	YCR076C	YPL149W
##	1	1 L101 42 W	1GL254W	1	1KL045W	131013	10110700	11 L1 43 W
##	YLR030W	YORO37W	YGR066C	YDL218W	YDL237W	YBL068W	YDR100W	YOR243C
##	1	1	1	1	1	1	1	1
##	YDR383C	YPL219W	YDL224C	YDR527W	YPL114W	YDR105C	YDR533C	YJL070C
##	1	1	1	1	1	1	1	1
##	YHR156C	YOR247W	YKR099W	YJR110W	YPR106W	YOLO52C	YOR232W	YOR115C
##	1	1	1	1	1	1	1	1
##	YBR187W	YBR056W	YJR097W	YKL186C	YGR209C	YPR126C	YJR133W	YHL009C
##	1	1	1	1	1	1	1	1
##	YKL035W	YLR118C	YMR316W	YNL277W	YLR267W	YMR270C	YIRO38C	YJL176C
##	1	1	1	1	1	1	1	1
##	YGL189C	YNL054W-B	YER143W	YGR081C	YER151C	YDL044C	YCL063W	YJR048W
##	1	1	1	1	1	1	1	1
##	YNL199C	YML119W	YDR366C	YJR056C	YDR052C	YNL216W	YOR101W	YGR146C
##	1	1	1	1	1	1	1	1
##	YNL280C	YJR159W	YEL062W	YHL021C	YKR094C	YIL148W	YCR020C	YNL320W
##	1	1	1	1	1	1	1	1
##	YDRO44W	YHR029C	YLR177W	YORO92W	YBR287W	YOL137W	YHRO47C	YER078C
##	1	1	1	1	1	1	1	1
##	YER142C	YBR207W	YNL095C	YML105C	YDR403W	YCR037C	YML060W	YFR006W
##	1	VOD 244 C	1 VND012G	1	1 VDD100C	1 VED1450	1 VOD142C	1 VII 1270
## ##	YLR152C	YOR311C 1	YNRO13C 1	YLL029W 1	YDR109C	YER145C	YOR143C 1	YIL137C
##	YKL106W	YGRO70W	YML055W	YMR138W	YNL117W	YHR172W	_	YJR010C-A
##	1KL100W	1 GRO 7 OW	1ML055W	1 m 1 3 o w	1NL117W	1 nn 1 / 2 w	1Lh2100	13h0100-A
##	YOR182C	YCL027W	YER167W	YML104C	YORO33C	YGR082W	YBR202W	YOL100W
##	1	1	1	1	1	1	1	1
##	YGROO6W	YBR050C	YOR254C	YDL028C	YLLO43W	YCL061C	YLR085C	YML115C
##	1	1	1	1	1	1	1	1
##	YKL049C	YER114C	YMR149W	YPL065W	YLR206W	YER165W	YOR103C	YMR302C
##	1	1	1	1	1	1	1	1
##	YDL063C	YDL101C	YLL002W	YDR080W	YPL240C	YDR320C	YDL229W	YPL152W
##	1	1	1	1	1	1	1	1
##	YPL218W	YDL049C	YCR048W	YJR040W	YJL002C	YJL054W	YMR104C	YBR188C
##	1			1				1
##	YNRO19W	YMR109W	VMD 1 QQLI	ACDU38C	YGI.244W	VNII 1 1 QU	YLR139C	YML097C
##								
##	1	1	1	1	1	1	1	1
	YMR106C	1 YALO20C	1 YDR323C	1 YORO85W	1 YGL116W	1 YGL124C	1 YHLO27W	YPR135W
##	YMR106C 1	1 YALO2OC 1	1 YDR323C 1	1 YORO85W 1	1 YGL116W 1	1 YGL124C 1	1 YHLO27W 1	YPR135W 1
##	YMR106C 1 YGL073W	1 YALO20C 1 YBL103C	1 YDR323C 1 YDR059C	1 YORO85W 1 YKRO86W	1 YGL116W 1 YORO45W	1 YGL124C 1 YMR081C	1 YHLO27W 1 YALO30W	YPR135W 1 YCR034W
## ##	YMR106C 1 YGL073W 1	YALO20C 1 YBL103C	1 YDR323C 1 YDR059C	1 YORO85W 1 YKRO86W 1	1 YGL116W 1 YORO45W 1	1 YGL124C 1 YMR081C 1	1 YHLO27W 1 YALO30W 1	YPR135W 1 YCR034W 1
## ## ##	YMR106C 1 YGL073W 1 YNR038W	1 YAL020C 1 YBL103C 1 YPR072W	1 YDR323C 1 YDR059C 1 YJL148W	1 YORO85W 1 YKRO86W 1 YNL116W	1 YGL116W 1 YORO45W 1 YIRO33W	1 YGL124C 1 YMR081C 1 YHR103W	1 YHL027W 1 YAL030W 1 YHR031C	YPR135W 1 YCR034W 1 YGR080W
## ## ## ##	YMR106C 1 YGL073W 1 YNR038W	1 YAL020C 1 YBL103C 1 YPR072W	1 YDR323C 1 YDR059C 1 YJL148W	1 YORO85W 1 YKRO86W 1 YNL116W	1 YGL116W 1 YORO45W 1 YIRO33W	1 YGL124C 1 YMR081C 1 YHR103W	1 YHL027W 1 YAL030W 1 YHR031C	YPR135W 1 YCR034W 1 YGR080W
## ## ## ##	YMR106C 1 YGL073W 1 YNR038W 1 YBL051C	1 YAL020C 1 YBL103C 1 YPR072W 1 YNL121C	1 YDR323C 1 YDR059C 1 YJL148W 1 YOR157C	1 YORO85W 1 YKRO86W 1 YNL116W 1 YDR469W	1 YGL116W 1 YORO45W 1 YIRO33W 1 YDRO22C	1 YGL124C 1 YMR081C 1 YHR103W 1 YLR192C	1 YHL027W 1 YAL030W 1 YHR031C 1 YKL189W	YPR135W 1 YCR034W 1 YGR080W 1 YGR196C
## ## ## ## ##	YMR106C 1 YGL073W 1 YNR038W 1 YBL051C	1 YAL020C 1 YBL103C 1 YPR072W 1 YNL121C	1 YDR323C 1 YDR059C 1 YJL148W 1 YOR157C	1 YORO85W 1 YKRO86W 1 YNL116W 1 YDR469W	1 YGL116W 1 YORO45W 1 YIRO33W 1 YDRO22C	1 YGL124C 1 YMR081C 1 YHR103W 1 YLR192C 1	1 YHL027W 1 YAL030W 1 YHR031C 1 YKL189W	YPR135W 1 YCR034W 1 YGR080W 1 YGR196C
## ## ## ## ##	YMR106C 1 YGL073W 1 YNR038W 1 YBL051C 1 YHL002W	1 YAL020C 1 YBL103C 1 YPR072W 1 YNL121C 1 YOR353C	1 YDR323C 1 YDR059C 1 YJL148W 1 YOR157C 1 YNL169C	1 YORO85W 1 YKRO86W 1 YNL116W 1 YDR469W 1	1 YGL116W 1 YOR045W 1 YIR033W 1 YDR022C 1 YDR343C	1 YGL124C 1 YMR081C 1 YHR103W 1 YLR192C 1 YGL174W	1 YHL027W 1 YAL030W 1 YHR031C 1 YKL189W 1 YDL137W	YPR135W 1 YCR034W 1 YGR080W 1 YGR196C 1 YNR046W
## ## ## ## ##	YMR106C 1 YGL073W 1 YNR038W 1 YBL051C 1 YHL002W	1 YAL020C 1 YBL103C 1 YPR072W 1 YNL121C 1 YOR353C	1 YDR323C 1 YDR059C 1 YJL148W 1 YOR157C 1 YNL169C	1 YORO85W 1 YKRO86W 1 YNL116W 1 YDR469W 1 YDR152W	1 YGL116W 1 YORO45W 1 YIRO33W 1 YDRO22C 1 YDR343C	1 YGL124C 1 YMR081C 1 YHR103W 1 YLR192C 1 YGL174W	1 YHL027W 1 YAL030W 1 YHR031C 1 YKL189W 1 YDL137W	YPR135W 1 YCR034W 1 YGR080W 1 YGR196C 1 YNR046W

##	1	1	1	1	1	1	1	1
##	YDR082W 1	YMR218C 1	YFR015C	YDR170C 1	YMLO77W 1	YOLO93W 1	YCR030C	YKL028W 1
## ##	YDR405W	YGR075C	YBR299W	YEL037C	YFL007W	YDR361C	YNL172W	YML112W
##	1D10400W	1	1 DI (233 W	1	11 LOO7 W	1	1NL172W	1 THE 112W
##	YGL060W	YKL082C	YNL242W	YNL210W	YDL090C	YALO36C	YGL158W	YDL095W
##	1	1	1	1	1	1	1	1
##	YFL042C	YDR227W	YJL024C	YBR091C	YGR154C	YKL152C	YEL022W	YPL085W
##	1	1	1	1	1	1	1	1
##	YJL033W	YMR028W	YLL026W	YLR196W	YOLO54W	YOLO70C	YBR264C	YCR079W
##	1	1	1	1	1	1	1	1
##	YPL140C	YIL113W	YALO59W	YFR011C	YLR399C	YHR016C	YDL159W	YNL023C
##	1	1	1	1	1	1	1	1
##	YHR051W	YHR084W	YCR066W	YDL216C	YDR365C	YPL036W	YOL108C	YNL208W
##	1	1	1	1	1	1	1	1
##	YJR055W	YBL081W	YOR264W	YIL008W	YHRO57C	YLR254C	YDR078C	YLR126C
##	1	1	1	1	1	1	1	1
##	YJL184W	YGR122W	YKL197C	YOR159C	YKR088C	YJL151C	YLR440C	YJR125C
## ##	1 YORO23C	1 YJR086W	1 YMLO14W	1 YJL048C	1 YDR271C	1 YER106W	1 YGL170C	1 YKR100C
##	1000230	1 JRU00W	1ML014W	1310400	1DR2/10	1 ER 100 W	1611700	1 1
##	YERO63W	YCRO60W	YBR239C	YKL050C	YCL033C	YJL185C	YBR255W	YDL121C
##	1E11003W	1 C11000 W	1 1 1 1 1 1	1 KL050C	1010000	1311000	1D11233W	1
##	YJL068C	YKL142W	YMR233W	YKR034W	YLR239C	YORO28C	YCR005C	YMR163C
##	1	1	1	1	1	1	1	1
##	YARO73W	YOR302W	YKL010C	YBR246W	YPL125W	YGR241C	YDR357C	YLRO31W
##	1	1	1	1	1	1	1	1
##	YGR163W	YORO97C	YFR025C	YJR083C	YPL201C	YDR261W-B	YGR170W	YGR161C-C
##	1	1	1	1	1	1	1	1
##	YKR082W	YORO74C	YIL039W	YLR253W	YHR184W	YDR273W	YDR026C	YDR205W
##	1	1	1	1	1	1	1	1
##	YDR252W	YGR189C	YPL023C	YJL153C	YER038C	YLR376C	YJL057C	YGR247W
##	1	1	1	1	1	1	1	1
##	YPR136C	YLR420W	YPR184W	YBL078C	YEL018W	YNL049C	YBR284W	YBR155W
##	1 VDI 04 211	1	1 VDD 170U	1 VII 1000	1 YNL273W	1 VMD000C	VOD 24 OC	1 vwp.201
## ##	YDL013W 1	YLRO72W 1	YPR172W 1	YJL180C 1	1NL2/3W 1	YMR280C 1	YOR318C	YMRO30W 1
##	YCL056C	YOR330C	YEL048C	-				_
##	1	1	1					
##	YJR134C					YOR324C		
##	1	1	1			1		
##	YMR133W	YIL122W	YPL233W			YDR500C		
##	1	1	1	1	1	1	1	1
##	YOL129W	YLR026C	YAL028W	YDR504C	YDL154W	YLR156W	YLR223C	YNR050C
##	1					1		
##	YDR214W					YHR143W-A		
##	1					1		
##	YBR212W					YGR110W		
##	1			1		1		
##	YGL145W		YGL225W			YGR185C		
## ##	1 YDL217C	1 VHD 1 80W				1 YER180C		
## ##	YDL217C					YER180C		
##						YDR008C		YLL032C
	1111000W	11110010	11112200	1 016220W	1 1 1 0 0 2 W	1710000	INDUTAN	1 110020

шш	4	4	4	4	4	4	4	4
## ##	1 YMR273C	1 YKLO44W	1 YOLO50C	1 YKL107W	1 YDR423C	1 YOR112W	1 YHR177W	1 YJR011C
##	111112730	1KLU44W	1010500	1 KL107 W	1DR4230	1UR112W	1 I I I I I I I I I I I I I I I I I I I	1300110
##	YHRO14W	YML127W	YPR118W	YNL249C	YLRO56W	YDR297W	YGRO60W	YGROO7W
##	1 I I I I I I I I I I I I I I I I I I I	1ML12/W	irniiow 1	1 NL 249C	1LhUSOW	1 DR 29 1 W	1 GROOOW	1 GROO7 W
	-	_	_	-	-	_	_	-
##	YJL125C	YOLOO8W	YDR171W	YHR144C	YFL060C	YKL157W	YNLO45W	YGL017W
##	1	1	1	1	1	1	1	1 VDD4.020
##	YOROO5C	YGR202C	YHR201C	YML005W	YHRO70W	YMR013C	YJL198W	YPR163C
##	1	1 VDD4.60U	1 WWI 0000	1	1	1	1	1
##	YOROO8C	YDR160W	YML062C	YLR335W	YIL095W	YKR042W	YMR039C	YALO13W
##	1	1	1	1	1	1	1	1
##	YAL024C	YILOO9W	YDR085C	YMR168C	YLR238W	YHR115C	YDR027C	YDR200C
##	1	1	1	1	1	1	1	1
	YPR133W-A	YPR111W	YDR146C	YBL085W	YBL023C	YEL032W	YLR045C	YKL139W
##	1	1	1	1	1	1	1	1
##	YGL038C	YHR079C	YLR116W	YIRO31C	YLR195C	YGL097W	YNL299W	YHR154W
##	1	1	1	1	1	1	1	1
##	YLR306W	YBR021W	YDR164C	YNL209W	YKL196C	YIL153W	YCR067C	YJL174W
##	1	1	1	1	1	1	1	1
##	YOR297C		YGL226C-A	YDR177W	YMR022W	YER015W	YBR080C	YBL050W
##	1	1	1	1	1	1	1	1
##	YOR257W	YNL102W	YBR097W	YDR495C	YGL095C	YPL155C	YHR202W	YPL209C
##	1	1	1	1	1	1	1	1
##	YGR238C	YNL031C	YGR116W	YBL082C	YHR134W	YIL030C	YNLOO6W	YKL176C
##	1	1	1	1	1	1	1	1
##	YMR284W	YGL027C	YGR098C	YBL069W	YHRO10W	YPR116W	YDR369C	YDR217C
##	1	1	1	1	1	1	1	1
##	YBR215W	YOL068C	YORO25W	YMR224C	YNL171C	YOR160W	YAL026C	YLR425W
##	1	1	1	1	1	1	1	1
##	YNL289W	YMR299C	YOR153W	YKRO47W	YIL159W	YDL117W	YLR381W	YJR053W
##	1	1	1	1	1	1	1	1
##	YDR289C	YBR095C	YBR107C	YNL170W	YHR191C	YBR231C	YNL215W	YNL307C
##	1	1	1	1	1	1	1	1
##	YML016C	YCL016C	YJR143C	YOR321W	YKL092C	YLR372W	YORO27W	YER068W
##	1	1	1	1	1	1	1	1
##	YER122C	YKL020C	YDR351W	YLR433C	YKL190W	YLL050C	YLR235C	YNL098C
##	1	1	1	1	1	1	1	1
##	YMR060C							
##	1							

#el valor máximo de degree es 118, es decir que, el nodo correspondiente a YPR110C posee 118 conexiones

diameter(yeast) #la función diameter permite saber el máximo camino entre dos nodos, o sea, el diámetro

e. Calcule el diámetro

[1] 15

```
trayectoria<-(as.vector(distance_table(yeast)))</pre>
trayectoria
f. La trayectoria más larga.
```

```
## $res
## [1]
        11855 67910 276506 670068 786151 550965 274661 114390 43508 16152
         5473
## [11]
                1378
                        306
                                56
                                       16
## $unconnected
## [1] 603641
sort(trayectoria$res, decreasing = TRUE)
## [1] 786151 670068 550965 276506 274661 114390 67910 43508 16152 11855
## [11]
         5473
              1378
                        306
                                56
                                       16
#la trayectoria más larga es 786,151.
```

g. Elimine los 10 nodos más conectados de la red y determine el diámetro cada vez que lo haga.

usaré un objeto de un chunk pasado, que tiene los degrees en orden decreciente para saber cuáles son degreemax

##	YPR110C	YPL131W	YNL178W	YILO21W	YOL127W	YJL063C	YBR283C	YLR378C
##	118	115	114	113	113	108	108	108
##	YMR260C	YBR251W	YGL123W	YNL284C	YGL103W	YOLO40C	YGR034W	YDL191W
##	107	106	106	106	106	104	104	104
##	YDL136W	YGR220C	YNR037C	YORO63W	YIL018W	YLR344W	YEL050C	YPL183W-A
##	104	104	104	104	104	104	104	102
##	YDRO41W	YJR113C	YML010W	YBL038W	YLR075W	YGL068W	YHL015W	YNL189W
##	101	97	95	94	93	91	90	90
##	YJR123W	YBL004W	YDL014W	YLR175W	YBL092W	YNL132W	YDR101C	YNR016C
##	86	73	68	62	62	60	58	58
##	YIL147C	YPR010C	YJL109C	YER016W	YBR257W	YMR290C	YDL029W	YERO06W
##	58	57	57	57	57	56	56	55
##	YDR496C	YGR103W	YBR084C-A	YBL027W	YKL009W	YHR203C	YJR145C	YHR052W
##	55	55	55	55	54	54	54	53
##	YPR016C	YGR090W	YBR146W	YDR237W	YNL271C	YOR116C	YPL093W	YPR187W
##	53	53	53	53	53	52	52	52
##	YOR207C	YMR310C	YGR283C	YNL002C	YPL012W	YMR049C	YNL306W	YOR341W
##	52	52	52	51	51	50	50	49
##	YGL059W	YIL042C	YML025C	YOLO77C	YOR272W	YGL205W	YGL211W	YBR234C
##	48	48	47	46	46	46	45	45
##	YDR116C	YNL061W	YHR147C	YDL140C	YPL043W	YGR145W	YMR158W	YDL061C
##	44	44	44	43	43	43	43	43
##	YPR166C	YLR388W	YDR036C	YGL147C	YNL067W	YLR367W	YJL190C	YGR085C

##	43	43	42	42	42	42	42	42
##	YPR102C	YBRO48W	YKL173W	YMR188C	YOR151C		YDRO25W	
##	42	1511046W	1KL173W 42	41	41	41		40
##	YML026C	YKL170W	YOR206W	YDR450W	YDRO12W	YNL177C	YJL177W	
##	40	40	40	1D11430W	1D1t012w 40	40	40	1KL100W
##	YBRO31W	YER117W	YBL087C	YDR127W	YBR208C	YNL081C		YJL191W
##	40	40	40	39	39	39	39	39
##	YHR197W	YPL126W	YKR081C	YOR150W	YIL133C	YDR394W		
##	38	38	38	38	38	1DR394W 37	37	37
##	YKL113C	YLR409C	YDL185W	YKL145W	YDR449C	YPL231W		
##	37	36	36	36	36	36	36	36
##	YPL212C	YKL104C	YEL054C	YDR418W	YPL220W	YGL135W		
##	36		35			1GL135W 35	35	35
	YGR118W							
##	1GR118W 35	YNL185C	YLL008W	YNR036C 34	YPR132W 34			
##	YFL001W	35	34 VDD117C	YBR247C		34	34 VDD154G	34 YLR423C
##	34	YGL063W	YDR117C		YDR337W	YER029C		
##		34 YER082C	34	34 YER126C	33	33 YNL244C	32 YPL227C	32 YNL110C
##	YOR210W 32		YDR324C 32		YML009C			
##	32 YHL004W	32			32 YPL211W	32	32 YKL024C	
##	32	YKL014C	YDL031W 31	YKR060W 31		YCL059C		
##	3∠ YER170W	31	31 YBL091C		31 YGR162W	31		31 YDL227C
##		YLR244C		YMR208W		YKL182W		
##	31 YGL111W	31	31	31	30	30	30	30
##		YJR014W	YHL030W	YGL120C	YJR002W	YML054C	YJR008W	
##	29	29	28	28	28	28	28	28
##	YDR162C	YMR314W 27	YLR129W 27	YNL236W 27	YER061C 27	YNL123W 27	YBR041W 27	YHR088W 27
##	28							
##	YOLO41C	YLL036C	YGR245C	YOR180C	YALO35W	YHRO41C	YMR093W	YNL137C
##	26	26	26	26	26	26	26	26
##	YORO93C	YBR222C 26	YMR012W	YMR128W	YLR284C	YDR060W		YJR016C
##	26		25 Variation	25	25	25		25
##	YLR275W	YGL049C 24	YGR158C	YGL019W 24	YHR200W	YGR095C	YGR195W	YOLO21C
##	25		24		24	24	24	24
##	YCR057C	YER012W 24	YBL013W	YBR029C	YDR283C	YPR033C	YIL035C	YMR190C
##	24		24	24	24 YOR174W	24	24	24
##	YORO61W	YBR193C 23	YERO22W	YKL172W 23		1GL245W 23	YGR240C	YLR186W 23
##	23		23		23		23	
##	YML064C	YNL256W	YPL151C	YOL135C	YOLO51W	YLR071C	YFR052W	
##	23	23	23	23	23	23	22 VDI 0470	22 VDD 407U
##	YFR004W	YKL067W	YER069W	YJR109C	YIL061C	YLR002C	YPL217C	YDR427W
##	22	22	22	22 VDD1440	22	22	22	22
##	YJR091C	YPL028W	YIL160C	YPR144C	YMR288W	YGR104C	YDL148C	YML007W
##	22 VEL 0616	22 VED 0004	22 VED 004 U	22 VOD 261 G	22 VOD 1 1 7 U	22 VDD007G	22 VDD0556	22 VII 116U
##	YEL061C	YERO90W	YERO21W	YOR261C	YOR117W	YDR087C	YBR055C	YIL116W
##	22 VI D1170	21	21 VMD 1 1 0 C	21	21	21 VNI 1996	21	21 VDD1400
##	YLR117C	YDR299W	YMR112C	YDL030W	YLR449W	YNL182C	YOR335C	YDR148C
##	21	21	21 VNI 2016	21	21	21	21 VDD 170U	21
##	YOL120C	YGL151W	YNL301C	YCR081W	YPR070W	YNRO10W	YPR178W	YDR272W
##	21	21	21	21	21	21	21	21
##	YHR058C	YORO40W	YDR443C	YJR057W	YML004C	YDR280W	YER081W	YCL030C
##	21	21 VDI 1110	21	21	21	20	20	20 VDD160U
##	YDL007W	YDL111C	YHR069C	YOR259C	YPR108W	YJROO7W	YOROO1W	
##	20	20	20	20	20	20	20	20
##	YIL093C	YHR114W	YNL088W	YNR033W	YER133W	YPR067W	YLL027W	YNL005C

##	20	20	20	20	20	20	20	20
##	YHR208W	YIL154C	YOL142W	YDR292C	YJR148W	YCL054W	YORO39W	YDL097C
##	20	20	20	20	20	20	19	19
##	YGR013W	YDR240C	YPR190C	YOR145C	YKL060C	YKL012W	YDL087C	YPL213W
##	19	19	19	19	19	19	19	19
##	YKL216W	YPL252C	YPL042C	YGL025C	YGR128C	YOR326W	YBR221C	YIL125W
##	19	19	19	19	19	18	18	18
##	YLR447C	YDL147W	YBR160W	YPL266W	YKL144C	YKR002W	YFL002C	YER155C
##	18	18	18	18	18	18	18	18
##	YMR024W	YMR262W	YBL055C	YAL054C	YBR115C	YNL168C	YHR206W	YFL033C
##	18	18	18	18	18	18	18	18
##	YLR006C	YJR017C	YNL113W	YGR091W	YMRO47C	YER052C	YNLO75W	YLL011W
##	18	18	17	17	17	17	17	17
##	YJL130C	YLR424W	YDR454C	YOLO23W	YNL026W	YMR300C	YER110C	YJR070C
##	17	17	17	17	17	17	17	17
##	YJL020C	YLR276C	YGL048C	YMR061W	YJL203W	YER178W	YNLO71W	YGL112C
##	17	17	17	16	16	16	16	16
##	YFL018C	YCL017C	YJR093C	YLR355C	YLR153C	YDR308C	YDR416W	YML022W
##	16	16	16	16	16	16	16	16
##	YDL051W	YBL026W	YCL009C	YLR106C	YHRO26W	YDRO64W	YLR231C	YPL234C
##	16	16	16	16	1111t020W	16	16	16
		YLR048W		YHR189W		YNRO53C		
##	YGR214W		YPL214C		YJL218W		YDR235W	YEL021W
##	16	16	16	16	16	16	16	16
##	YPL148C	YPR113W	YDR441C	YGR193C	YOR221C	YGR194C	YGL026C	YFR001W
##	16	16	16	16	16	16	15	15
##	YLR347C	YJL138C	YNR003C	YGL011C	YGR263C	YHR018C	YBR253W	YDR140W
##	15	15	15	15	15	15	15	15
##	YHR030C	YER127W	YDL239C	YDR007W	YLR115W	YAL043C	YEL027W	Q0130
##	15	15	15	15	15	15	15	15
##	YPL017C	YOL066C	YNR074C	YHL016C	YPL091W	YLR180W	YNL072W	YML094W
##	15	15	15	15	15	15	15	15
##	YER050C	YLR058C	YBR088C	YDR428C	YDL142C	YDL209C	YOL060C	YLR277C
##	15	15	15	15	15	15	15	15
##	YOR224C	YOR260W	YER094C	YDR301W	YDR211W	YOR362C	YBR142W	YLR421C
##	15	14	14	14	14	14	14	14
##	YKL003C	YLL041C	YOR111W	YNL063W	YKL018W	YNL317W	YGR156W	Q0045
##	14	14	14	1NE000W	14	14	14	14
	Q0250		YOR308C					
##	-							
##	14	14	14					
##	YMR278W			YJR069C			YDL104C	
##	14	14	14		14			
##	YJR137C		YHR062C				YBR248C	
##	14	14	14		14			
##	YLR291C	YOR310C	YDR448W	YDR158W	YBR127C	YDR195W	YGR135W	YCR035C
##	13	13	13	13	13	13	13	13
##	YML092C	YBR081C	YBR218C	YCR046C	YLR029C	YHR066W	YFR044C	YHR170W
##	13	13	13	13	13	13	13	13
##	YPL013C	YLR200W	YKL099C	YHR086W	YDR502C	YPR103W	YHR111W	YHR038W
##	13	13	13	13	13	13	13	13
##	YBR189W	YPL081W		YKR001C	YOR285W		Q0275	
##	13	13	13		13			
##			YOR274W				YGR084C	
##	13	13	13		13			
##					YOR131C		YNLO73W	
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##	13	13	13	13	13	13	13	13
##	YPL069C	YDR037W	YNL220W	YJL172W	YLR009W	YGL105W	YOL149W	YMR309C
##	13	13	13	13	13	13	12	12
##	YDR298C	YJR121W	YAL032C	YGR020C	YOLO38W	YFR037C	YGL195W	YJL005W
##	12	12	12	12	12	12	12	12
##	YGR232W	YGR267C	YERO02W	YIL033C	YOL139C	YBR039W	YDL004W	YBL099W
##	12	12	12	12	12	12	12	12
##	YPRO24W	YLR289W	YGL030W	YDR322W	YORO76C	YLR022C	YDR018C	YIRO42C
##	12	12	12	12	12	12	12	12
##	YDL043C	YNL222W	YKR009C	YPR073C	YBR003W	YJL167W	YER171W	YCL004W
##	12	12	12	12	12	12	12	12
##	YJL046W	YDR364C	YGR252W	YELO51W	YHRO20W	YBR042C	YDR328C	YLR208W
##	12	12	12	12	12	12	11	11
##	YDL160C	YDL116W 11	YDL060W	YDR388W 11	YPL135W	YJL088W 11	YOR142W	YGL009C 11
## ##	11 YMR239C	YBLO41W	11 YNL262W	YGR218W	11 YOLOO4W	YCRO53W	11 YBR200W	YMR229C
##	1MR239C	16L041W	1NL262W	1Gh210W	10L004w	10R053W	1DR200W	11
##	YDL100C	YDL226C		YCR028C-A	YERO17C	YHRO25W	YDL168W	YDR236C
##	11	11	11 11	11	11	1111t025W	1DL100W	11
##	YJR047C	YMR.294W	YIRO27C	YDL052C	YGR278W	YLR439W	YMR178W	YKL184W
##	11	11	11	11	11	11	11	11
##	YGR112W	YNL218W	YLR143W	YKR031C	YOLOO5C	YMR089C	YEL034W	YDR175C
##	11	11	11	11	11	11	11	11
##	YDL213C	YOR226C	YOR286W	YCR077C	YKR068C	YGL137W	YPL111W	YCR012W
##	11	11	11	10	10	10	10	10
##	YDL047W	YKR025W	YJR063W	YIL078W	YKL143W	YJL001W	YLR438W	YGL207W
##	10	10	10	10	10	10	10	10
##	YHR196W	YOR202W	YPL198W	YORO47C	YMR286W	YGL076C	Q0085	YPR004C
##	10	10	10	10	10	10	10	10
##	YBL080C	YBR002C	YMR101C	YDL193W	YER095W	YORO65W	YBR198C	YHR129C
##	10	10	10	10	10	10	10	10
##	YOR196C	YOR236W	YGL037C	YMR074C	YGR207C	YPL082C	YOR241W	YDL150W
##	10	10	10	10	10	10	10	10
##	YMR113W	YOL121C	YJR024C	YGL062W	YGR274C	YJL189W	YGL018C	YPR101W
##	10	10	10	10	10	10	10	10
##	YKL194C 10	YKL151C 10	YJR117W	YPL178W 10	YCR072C 10	YMR242C 10	YOR312C	YML015C 10
##	YGRO74W	YHR106W	10 YGL169W				10 YER057C	
## ##	10R074W	100w	10L109W		10			17L008W
##		YEL024W		YBR288C		YMR236W		
##		10		10	10			10
##		YOL143C		YDR473C				
##	10	10	10		9			
##		YDL145C		YKR069W				
##	9	9		9				
##	YGR155W	YDR167W	YAL033W	YLR288C	YDR311W	YBR025C	YDR074W	YBL007C
##	9	9	9	9	9	9	9	9
##	YGL127C	YMR118C	YKL141W	YOR128C	YGR180C	YCR036W	YGL143C	YIL103W
##	9	9	9	9	9	9	9	9
##	YOR278W			YDL182W				
##	9			9				
##	YKL211C			YDR145W				
##	9	9		9			9	
##	YGL091C	YLR281C	YLR359W	YBR019C	YUL114C	YMR315W	YNL151C	YILOO3W

##	9	9	9	9	9	9	9	9
##	YKL191W	YML051W	YDR293C	YBR196C	YBL105C	YDR054C	YOL140W	YMR193W
##	9	9	9	9	9	9	9	8
##	YHR107C	YOLO58W	YNL287W	YDL188C	YKR026C	YGL234W	YPL139C	YJR042W
##	8	8	8	8	8	8	8	8
##	YGR186W	YPL204W 8	YOL086C 8	YGR204W 8	YNL085W	YBR103W 8	YLL018C 8	YFL045C 8
## ##	8 YOR167C	o YBR153W	YGR010W	YDR242W	8 Q0105	YGL221C	YHR168W	YBR176W
##	8	1DI(133W	1011010W 8	1D11242W 8	Q0103 8	8	11111100W 8	1DI(170W 8
##	YARO15W	YNL162W	YHR141C	YHL032C	YOR108W	YBR270C	YGRO19W	YML106W
##	8	8	8	8	8	8	8	8
##	YER157W	YMR271C	YDL055C	YNL241C	YML059C	YDL205C	YGR113W	YFR050C
##	8	8	8	8	8	8	8	8
##	YKR087C	YER087W	YDR004W	YCR019W	YJR105W	YER179W	YOR209C	YPR035W
##	8	8	8	8	8	8	8	8
##	YBR084W	YDR539W	YJL092W	YMR084W	YDL131W	YOR168W	YOLO33W	YKL156W
##	8 YOR122C	8 VDD04EQ	8	8 VI D0740	8	8	8	8
## ##	YUR1220 8	YBR245C 8	YDR432W 8	YLR074C 8	YGR120C 8	YMR293C 8	YHRO21C 8	YOL148C 8
##	YMR146C	YJL124C	YJL098W	YNL147W	YFR040W	YNL118C	YFL022C	YNRO12W
##	7	7	7	7	7	7	7	7
##	YCL010C	YALO44C	YBL033C	YGR083C	YERO25W	YFR051C	YGR262C	YDR378C
##	7	7	7	7	7	7	7	7
##	YIL076W	YOR184W	YGL070C	YJR111C	YFL038C	YDL134C	YBR272C	YDL132W
##	7	7	7	7	7	7	7	7
##	YNL112W	YLR212C	YOL006C	YIL126W	YOR323C	YJR068W	YMR217W	YDR510W
##	7	7	7	7	7	7	7	7
##	YDR115W	YDR259C	YMR267W	YPL124W	YILO20C	YPR088C	YLR295C	YMR153W
## ##	7 YMR150C	7 YER055C	7 YALO38W	7 YER154W	7 YLR264W	7 YDR086C	7 YPR074C	7 YBR117C
##	1MR150C	7 TERUSSC	TALUSOW 7	1ER154W	1Lh204w	7 TDRUOOC	1PR074C	1DR117C
##	YDR050C	YNLO92W	YGR231C	YPR082C	YGL148W	YKL040C	YLR342W	YER168C
##	7	7	7	7	7	7	7	7
##	YGR132C	YPR086W	YGR276C	YML021C	YHR046C	YORO14W	YIL084C	YDR287W
##	7	7	7	7	7	7	7	7
##	YOLO71W	YPL160W	YGR012W	YFL030W	YMR090W	YJR149W	YERO04W	YLR107W
##	7	7	7	7	7	7	7	7
##	YBR166C		YIL074C			YOLO80C		
##	7	7	7	7 YKRO28W		7		
## ##				1KKU28W 7				
##	YOR158W			YOR347C				
##	7			7				
##	YIL106W			YLR370C				
##	6	6	6	6	6	6	6	6
##	YFR030W	YDR354W	YJL026W	YJL014W	YBR256C	YOR270C	YNR035C	YAL016W
##								
##				YCR093W				
##	6			6		6		
##				YGL099W				
## ##	6 VHROSOW			6 YNLO16W		6 YPRO47W		
##		1 DL 0 3 9 C						
				YML125C				
	200011		- 51000011		-2101010	-2101000		- 2147 7 714

##	6	6	6	6	6	6	6	6
##	YOR361C	YGR210C	YNL122C	YDL235C	YHL014C	YGR286C	YPR002W	YGL031C
##	6	6	6	6	6	6	6	6
##	YDL112W	YOR201C	YLR167W	YPL070W	YOR133W	YGL133W	YPL011C	YGR005C
##	6	6	6	6	6	6	6	6
##	YDR336W	YMR023C	YKR072C	YJL140W	YMR263W	YGR175C	YAL062W	YDL201W
##	6	6	6	6	6	6	6	6
##	YGR169C 6	YDL174C 6	YDL178W	YELO71W 6	YBL061C	YLR011W 6	YDL036C	YLR382C 6
## ##	YOLO95C	YLR308W	6 YDL078C	YDL141W	6 YLR165C	YLR307W	6 YBR023C	YGL252C
##	6	1L11300W	6	1DL141W	6	1LR307W	6	6
##	YBR011C	YKL085W	YJL095W	YELOO3W	YGRO92W	YOR290C	YDL102W	YNL079C
##	6	6	6	6	6	6	6	6
##	YGR078C	YNL153C	YPL235W	YERO70W	YKL081W	YIL034C	YHRO19C	YORO89C
##	6	6	6	6	6	6	6	6
##	YPL172C	YGR101W	YGR255C	YBL098W	YML086C	YLL057C	YDL143W	YPR029C
##	6	6	6	6	6	6	6	5
##	YGL115W	YOL094C	YBL045C	YBR126C	YGL237C	YBR135W	YIROO1C	YKL103C
##	5	5	5	5	5	5	5	5
##	YIL142W	YLR025W	YNL330C	YGL156W	YPL181W	YMR199W	YER177W	YMR120C
##	5	5	5	5	5	5	5	5
##	YPL256C	YIL128W	YGL197W	YMR308C	YHR024C	YBR060C	YDR381W	YGR234W
##	5	5	5	5	5	5	5	5
##	YOR181W	YGR161C	YGR200C	YLR310C	YDR300C	YDL098C	YIL070C	YORO35C
##	5	5	5	5	5	5	5	5
##	YPL258C	YML069W	YJR104C	YGL198W	YCR086W	YJR049C	YNL200C	YGL153W
## ##	5 YILO66C	5 YJL093C	5 YDR429C	5 YNRO57C	5 YDR062W	5 YNL086W	5 YPRO26W	5 YDL089W
##	5	13L093C	1DR429C	1 N K O O 7 C	1Dh002w	1NL000W	1FR020W	1DL009W
##	YDR264C	YGR148C	YLR028C	YDL203C	YGR134W	YJRO10W	YBL076C	YKL150W
##	5	5	5	5	5	5	5	5
##	YBR252W	YIL043C	YBR018C	YBR213W	YLR357W	YALO46C	YPL059W	YDR296W
##	5	5	5	5	5	5	5	5
##	YNL316C	YEL070W	YOLO59W	YPL010W	YNL288W	YPL132W	YLR386W	YHR210C
##	5	5	5	5	5	5	5	5
##	YNR073C	YERO37W	YDL022W	YKL002W	YMR130W	YFR009W	YDL081C	YNRO71C
##	5	5	5	5	5	5	5	5
##	YMR009W		YDR147W				YGR094W	
##	5	5	5	5	5	5		
##					YOR390W			
##			5		5 YPL110C			
## ##								
##					YALO41W			
##	5				5			
##					YDR212W			
##					5			
##					YHRO99W			
##					5			
##	YLR337C				YDR232W			
##					5			
##					YGR062C			
##					5			
##	YNL078W	YPR051W	YJL041W	YER174C	YLR314C	YJR076C	YNL207W	YAL021C

##	4	4	4	4	4	4	4	4
##	YHR166C	YDR359C	YHR033W	YOR244W	YPR181C	YJL081C	YKL007W	
##	4	4	4	4	4	4	4	4
##	YFL024C	YJR022W	YPR023C	YJL080C	YKL218C	YJR043C	YML109W	YHR169W
##	4 VTD000C	4 VDI 100U	4 VNI 1201	4 VDI 0060	4	4 VDD1000	4 VDI 002G	4 VDD071 <i>C</i>
##	YIROO2C 4	YDL108W	YNL138W 4	YPL086C 4	YDR386W	YBR109C 4	YBL003C 4	YDR071C 4
## ##	YOR269W	4 YGL061C	YJLO45W	YJRO51W	4 YKL148C	YPL255W	YBR072W	YDR174W
##	10h209w	1GL001C	13L045W	13R031W	1KL146C	1FL255W	1 BRO 7 2 W	1DR174W
##	YBR217W	YGR136W	YJR102C	YDR488C	YNL022C	YDR270W	YGL040C	YBR227C
##	4	4	4	4	4	1D10270W	4	4
##	YBR295W	YML126C	YIL145C	YGR119C	YDL065C	YOR119C	YDRO47W	YCR009C
##	4	4	4	4	4	4	4	4
##	YHRO42W	YER091C	YOR327C	YPR048W	YNL251C	YBR061C	YMR048W	YLR035C
##	4	4	4	4	4	4	4	4
##	YGL136C	YDRO09W	YLR324W	YDR538W	YGL181W	YNL082W	YCL037C	YDL236W
##	4	4	4	4	4	4	4	4
##	YDL171C	YPL022W	YDL130W	YNL036W	YPL188W	YPL190C	YMR250W	YPL164C
##	4	4	4	4	4	4	4	4
##	YDR294C	YBR020W	YNL129W	YER043C	YMR186W	YGR192C	YFR036W	YDR019C
##	4	4	4	4	4	4	4	4
##	YFR047C	YOROO4W	YOR137C	YHR028C	YOLO43C	YKR080W	YMR177W	YHR012W
##	4	4	4	4	4	4	4	4
##	YHL022C	YOR171C	YBR243C	YLR361C	YDR339C	YML075C	YHR179W	YAL015C
##	4	4	4	4	4	4	4	4
##	YKR079C	YCR024C	YNLO11C	YOL123W	YGL213C	YHR089C	YBL079W	YKL079W
##	4 YGR208W	4 VID006G	4 VII 104U	4 var 2000	4 VDD141C	4 VCI 016U	4 VOI 11EU	4 YER105C
## ##	1GR208W	YIROO6C 4	YJL194W 4	YGL206C 4	YPR141C 4	YGL216W 4	YOL115W 4	1ER105C
##	YALOO9W	YNL298W	YDL020C	YNL064C	YDR138W	YNL272C	YIROO8C	YDR098C
##	1 ALOO 9 W	1NL290W	4	1NL0040	1D11130W	1NL2720	4	1D1030C
##	YPR055W	YDL155W	YDR020C	YPL031C	YDR176W	YBR170C	YCR002C	YFL009W
##	4	4	4	4	4	4	4	4
##	YOR217W	YDR028C	YML063W	YPR112C	YOR227W	YPL161C	YMR094W	YPR121W
##	4	4	4	4	4	4	4	4
##	YMR231W	YMR032W	YDR425W	YEL047C	YPL174C	YBL024W	YPL104W	YNL247W
##	4	4	4	4	4	4	4	4
##	YPL171C	YPL040C	YORO26W	YMR167W	YML117W	YHL001W	YKL006W	YBR038W
##	4		4	4	4	4		
##				YHRO11W				
##	4		4		4			
##	YPL224C		YMR234W		YGL173C			
##			4		4			
##				YNL099C				
##				3 YERO26C				
## ##				1ERU26C				
##				YPL049C				
##	3			3				
##				YDL220C				
##				3				
##				YBL058W				
##					3			
##				YLR293C				

##	3	3	3	3	3	3	3	3
##	YHR085W		YIL063C	YLR371W		YML032C		YBL090W
##	3	3	3	3	3	3	3	3
##	YOR144C	YNL135C	YGRO40W	YPL153C	YER008C	YLR398C	YDR480W	YMR025W
##	3	3	3	3	3	3	3	3
##	YJR090C	YILO46W	YGR268C	YFL023W	YORO36W	YDR084C	YGR171C	YNL258C
##	3	3	3	3	3	3	3	3
##	YLL049W 3	YKL130C 3	YHR163W 3	YOR284W 3	1GR248W	YCR073W-A	YNRO34W 3	YDR376W 3
## ##	YLR052W	YLR417W	YJL199C	YDR016C	YOLO69W	YERO42W	YLR377C	YDR201W
##	1L11032W	3	3	3	10L003W	3 IEI	3	1D11201W
##	YBR137W	YILO53W	YOLO55C	YGL079W	YGL161C	YPR028W	YGR172C	YGR188C
##	3	3	3	3	3	3	3	3
##	YGL175C	YLR209C	YNL334C	YERO96W	YKR083C	YNLO44W	YCL064C	YPR131C
##	3	3	3	3	3	3	3	3
##	YKR092C	YGR246C	YKL088W	YBL074C	YMR077C	YBL036C	YLR148W	YBR279W
##	3	3	3	3	3	3	3	3
##	YPL045W	YLR396C	YDL058W	YPR173C	YORO54C	YNL097C	YIL083C	YGL256W
##	3	3	3	3	3	3	3	3
##	YBL022C	YIL167W	YBR191W	YLR418C	YBR024W	YNR069C	YNL041C	YDL033C
##	3	3	3	3	3	3	3	3
##	YNL192W	YPR201W	YLR401C	YLR405W	YBR121C	YPR081C	YML096W	YCR059C
##	3	3	3	3	3	3	3	3
##	YHR013C	YNL155W	YLR105C	YPL079W	YNRO15W	YLR174W	YML080W	YLR109W
##	3	3	3	3	3	3	3	3
##	YNL142W	YDL166C	YLR450W	YPR145W	YPR138C	YLR260W	YKR050W	YJR103W
## ##	3 YDL177C	3 YNLOO9W	3 YORO52C	3 YBRO22W	3 YMR200W	3 YNRO27W	3 YBL062W	3 YBR034C
##	3	1 N L O O 9 W	3	1 DRU 2 2 W	1MR200W	1 N K O Z 1 W	1 DL U 0 2 W	3
##	YDR392W	YOR349W	YNLO70W	YJL034W	YDR156W	YLR103C	YKL205W	YKL074C
##	3	3	3	3	3	3	3	3
##	YCR088W	YGR009C	YHR142W	YPL241C	YBR082C	YNL233W	YDR245W	YKL068W
##	3	3	3	3	3	3	3	3
##	YGR229C	YGR140W	YKL048C	YFR019W	YEROO7W	YJR075W	YEL029C	YNL126W
##	3	3	3	3	3	3	3	3
##	YIL002C	YLR305C	YML103C	YKL135C	YDR477W	YOR358W	YGR250C	YOLO61W
##	3	3	3	3	3	3	3	3
##	YDR490C						YMR226C	
##	3		3			3		
##		YJR132W				YDL002C		
##	3			3		3		
##		YJL052W				YJL058C		
## ##	3 VCI 170W					3 YPRO41W		
##		3				3		
##		YAROO8W				YKL094W		
##		3				3		
##						YOLO76W		
##						3		
##						YBL046W		
##		3				2		
##	YHL019C	YNL056W				YBL021C		
##		2				2		
##	YPR066W	YGR048W	YLR170C	YJL164C	YNRO06W	YML100W	YJL074C	YBR130C

##	2	2	2	2	2	2	2	2
##	YLR432W	YCR033W	YNL201C	YORO56C	YEL056W	YML102W	YDR188W	YDR001C
##	2	2	2	2	2	2	2	2
##	YER146W	YPR054W	YPL004C	YALOO3W	YOL090W	YDLOO3W	YPL195W	YJL173C
##	2	2	2	2	2		2	2
##	YBR254C	YKR085C	YLR352W	YER093C	YPR182W	YDR225W	YOR368W	YOR204W
##	2	2	2	2	2		2	2
##	YAL012W	YGR150C	YOR329C	YOL010W	YBR136W		YHR119W	YEL055C
##	2	2	2	2	2	2	2	2
##	YLL034C	YLR229C	YDR130C	YDL175C	YGR270W	YNL311C	YBR017C	YHL011C
##	2	2	2	2	2	2	2	2
##	YDRO49W	YNL312W 2	YAROO2W	YAL025C 2	YGL187C	YPL009C	YGL008C	YIL068C 2
##	2 YDL167C	YPR105C	2 YDL161W	YJL036W	2 YPRO46W	YER144C	2 YIL105C	YOR155C
##	1DL167C	1PK105C 2	1DL161W	1JLU36W	1PR046W	1ER144C 2	11L105C 2	10K155C
##	YCR082W	YOR212W	YORO20C	YEL005C	YKL008C	YDL139C	YGL134W	YHR113W
##	101t002w	1010212W	2	2	1 KL000C	1DL139C	10L154w	11111113W 2
##	YNROO7C	YMR124W	YBR228W	YIRO16W	YNL259C	YEL066W	YDR453C	YCL020W
##	2	2	2	2	2	2	2	2
##	YLR287C	YHR185C	YHRO44C	YHRO43C	YDR520C	YPR193C	YOR275C	YKROO7W
##	2	2	2	2	2	2	2	2
##	YDR229W	YML008C	YPL077C	YCL019W	YLR345W	YLR362W	YIL132C	YML057W
##	2	2	2	2	2	2	2	2
##	YKL061W	YMR068W	YHR171W	YLR125W	YLR182W	YORO59C	YNL263C	YKR022C
##	2	2	2	2	2	2	2	2
##	YGR285C	YHR176W	YDR113C	YGR024C	YDR318W	YFR008W	YER118C	YIL144W
##	2	2	2	2	2	2	2	2
##	YDR189W	YFR013W	YFL003C	YBL102W	YIL052C	YOLO18C	YBR267W	YGL186C
##	2	2	2	2	2	2	2	2
##	YERO23W	YER148W	YPR003C	YBR065C	YDR121W	YLR092W	YML042W	YGL250W
##	2	2	2	2	2	2	2	2
	YERO56C-A	YDR382W	YML101C	YPL189W	YDR045C	YOLO39W		YJR077C
##	2	2	2	2	2	2	2	2
##	YHRO74W 2	YBR294W 2	YFR002W 2	YMR298W 2	1DR505C	YERO60W-A	YDL164C 2	YLR017W 2
##	YIL155C	YLR207W	YHR193C	YCR010C			_	YGL067W
##	2	1L1(207W	2	2	1F1t002w	1 G112 3 G W	1ML024w	1GL007W
##		YDR384C	YIRO15W			YNL332W		
##	2	2	2	2	2		2	2
##	YDL244W	YMR114C	YOR176W	YNRO02C	YJL094C			
##	2	2	2	2	2		2	2
##	YGL212W	YGL023C	YBR085W	YJR032W	YKL212W	YLR111W	YDR424C	YPL242C
##	2	2	2	2	2	2	2	2
##	YLR210W	YHL007C	YDR310C	YNL322C	YHR101C	YDR192C	YJL213W	YOR208W
##	2	2	2	2	2	2	2	2
##	YJL035C	YJR118C	YOR194C	YPL018W	YKR010C		YKL073W	YGL217C
##	2	2	2	2	2		2	
##	YJL183W	YFL029C	YGR271W		YFR028C			
##	2	2	2	2	2		2	2
##	YPL194W	YDR254W	YPR159W		YOR188W			
##	2 VMD 20711	2	2 VNI 050U	2	2 VDD 0001		2 VMD 1 0 0 U	
##	YMR307W	YGL240W 2	YNL250W					
## ##	2 YPR025C	_	2 YPL003W	_	2 YCRO52W	_	2 YPR018W	
##	17110200	1550000	IL LOOSM	ILITIOOM	1 011002W	ILIVITAM	ILIMIOM	IDIOIOW

##	2	2	2	2	2	2	2	2
##	YDR099W	YDL124W	YDR422C	YLL022C	YHR098C	YAROO7C	YOLO78W	YJR074W
##	2	2	2	2	2	2	2	2
##	YJR064W	YBR175W	YLR321C	YBR225W	YLR262C	YJR006W	YJR144W	YGR233C
##	2	_	2	2	2	2	2	2
##	YLR384C	YDR179C	YDR139C	YDL204W	YKL095W	YDL208W	YDR166C	YJL115W
##	2	_	2	2	2	2	2	2
##	YKL080W		YIRO34C	YOR164C 2	YCL032W	YGR239C 2	YJR135C	YPL105C 2
##	2 YMR159C	_	2 YPL002C	-	2 YLR190W	YGR058W	2 YNL161W	YERO71C
##	17III.139C 2		1FL002C	1BL010W	1L11190W	1011030W	1NL101W	2
##	YBR108W		_	YDR261W-A		YLR319C	YPL095C	YLR446W
##	2		2	2	2	2	2	2
##	YMR232W	YGR043C	YGR057C	YFL034C-B	YLR354C	YFL010C	YERO14W	YLR373C
##	2	2	2	2	2	2	2	2
##	YLR249W	YOR317W	YGL084C	YLR453C	YPL169C	YER060W	YER056C	YGR125W
##	2	2	2	2	2	2	2	2
##	YJR141W	YHLOO3C	YNRO43W	YDR034C	YGR129W	YOROO6C	YML079W	YPL090C
##	2	_	2	2	2	2	2	2
##	YBR181C		YDL200C	YIR032C	YKL093W	YDL017W		YBR015C
##	2	_	2	2	2	2	2	2
##	YPR019W 2		YNL084C 2	YLR274W 2	YKL089W 2	YHR152W 2	YGRO32W 2	YKL022C 2
##	YER111C	_	YOR195W	YTI.004C	YLR242C	YGL086W	Y.JI.013C	YDR.363W
##	1EM1110 2		1011195W 2	2	2	1GL000W	2	1D1,303W
##	YGL163C	_	YDR149C	YBL056W	YKL045W	YBR125C	YERO99C	YDR190C
##	2		2	1	1	1	1	1
##	YIL104C	YJR050W	YHR005C	YBR216C	YGR261C	YELO11W	YMR261C	YGR173W
##	1	1	1	1	1	1	1	1
##	YPR104C	YDR342C	YBR195C	YIR005W	YJL042W	YBR010W	YIL071C	YKL122C
##	1	_	1	1	1	1	1	1
##	YIL079C	YKL056C	YKL193C	YDR407C	YLR258W	YORO57W	YBL047C	YOR185C
##	1	_	1	1	1	1	1	1
##	YCL024W 1		YAROO3W	YCLO14W 1	YGR292W 1	YER162C 1	YDR412W 1	YFL006W 1
##	YPL208W	_	1 YPL074W	YGL150C	YFRO21W	YBL066C	YKL019W	YLR113W
##	11 L200W		11 107 4	1	111.021	1	1111013W	1 LICI 10W
##	_	YDL042C	YOR106W	_	_	YBR143C		=
##	1		1		1	1	1	1
##	YCRO20C-A	YER089C	YOR370C	YDR395W	YML095C	YLR304C	YBR133C	YARO14C
##	1	1	1		1	1	1	1
##	YDR021W	YLR097C	YDL070W		YGL058W	YNR054C	YEL060C	YPL193W
##	1		1		1	1	1	
##	YDR256C		YHL006C					
##	1 VMI 02411		1 VEI 042U		1 VIII 010U		1	1 VI DO10U
## ##	YMLO31W 1		YELO43W 1		YHLO18W 1	YDR013W 1	YJL039C 1	YLR019W 1
##	YGL036W		YJR094C		YPR083W			
##	1 dL000w		13110340		11110000		1	1 1
##	YORO34C							
##	1		1		1		1	
##	YBR077C	YGR165W	YKL038W	YNL331C	YPR001W	YGL015C	YNL020C	YNRO01C
##	1		1		1	1	1	1
##	YGR004W	YCR087C-A	YLR049C	YCR014C	YCL040W	YOR102W	YLR211C	YML056C

##	1	1	1	1	1	1	1	1
##	YPL088W	YNR039C	YIL109C	YML023C	YGL166W	YGL053W	YGL119W	YML034W
##	1	1	1	1	1	1	1	1
##	YFR017C	YGR071C	YDR479C	YJL086C 1	YPL109C	YCR095C	YGL125W 1	YDL165W 1
## ##	YML037C	YLR142W	YGL254W	YNR068C	YKL043W	YJL019W	YCR076C	YPL149W
##	111110370	1 LIVI 42 W	1 0 L254w	1 1 1	1 KL043W	131.019	10110700	1FL143W
##	YLR030W	YORO37W	YGR066C	YDL218W	YDL237W	YBL068W	YDR100W	YOR243C
##	1	1	1	1	1	1	1	1
##	YDR383C	YPL219W	YDL224C	YDR527W	YPL114W	YDR105C	YDR533C	YJL070C
##	1	1	1	1	1	1	1	1
##	YHR156C	YOR247W	YKR099W	YJR110W	YPR106W	YOL052C	YOR232W	YOR115C
##	1	1	1	1	1	1	1	1
##	YBR187W	YBR056W	YJR097W	YKL186C	YGR209C	YPR126C	YJR133W	YHL009C
##	1	1	1	1	1	1	1	1
##	YKL035W	YLR118C	YMR316W	YNL277W	YLR267W	YMR270C	YIRO38C	YJL176C
## ##	1 VCI 190C	1 YNLO54W-B	1 YER143W	1 YGRO81C	1 YER151C	1 YDL044C	1 YCL063W	1 YJR048W
##	1011090	1NLO34W B	1E11145W	1 1	1	1	10L003W	1311040
##	YNL199C	YML119W	YDR366C	YJR056C	YDR052C	YNL216W	YOR101W	YGR146C
##	1	1	1	1	1	1	1	1
##	YNL280C	YJR159W	YEL062W	YHL021C	YKR094C	YIL148W	YCR020C	YNL320W
##	1	1	1	1	1	1	1	1
##	YDR044W	YHR029C	YLR177W	YORO92W	YBR287W	YOL137W	YHRO47C	YER078C
##	1	1	1	1	1	1	1	1
##	YER142C	YBR207W	YNL095C	YML105C	YDR403W	YCR037C	YML060W	YFR006W
##	1	1	1	1	1	1	1	1
##	YLR152C	YOR311C	YNRO13C	YLL029W	YDR109C	YER145C	YOR143C	YIL137C
## ##	1 YKL106W	1 YGRO70W	1 YMLO55W	1 YMR138W	1 YNL117W	1 YHR172W	1 VI P216C	YJR010C-A
##	1KL100W	1 G110 7 O W	1 mL000w	1 mi 1 30 w	1NL117W	11111112W	1	13110100 A
##	YOR182C	YCL027W	YER167W	YML104C	YORO33C	YGR082W	YBR202W	YOL100W
##	1	1	1	1	1	1	1	1
##	YGR006W	YBR050C	YOR254C	YDL028C	YLL043W	YCL061C	YLR085C	YML115C
##	1	1	1	1	1	1	1	1
##	YKL049C	YER114C	YMR149W	YPL065W	YLR206W	YER165W	YOR103C	YMR302C
##	1	1	1	1	1	1	1	1
##	YDL063C		YLL002W					
##	1 VDI 040U		1 YCRO48W		1 YJL002C		1 VMD104C	
## ##	YPL218W		1 CRU48W		131.0020			1861880
##	YNRO19W				YGL244W		YLR139C	
##	1			1		1		
##	YMR106C				YGL116W		YHL027W	
##	1	1	1	1	1	1	1	1
##	YGL073W	YBL103C	YDR059C	YKR086W	YORO45W	YMR081C	YAL030W	YCR034W
##	1		1					1
##	YNR038W				YIR033W			YGR080W
##	1			1				1
##	YBL051C				YDR022C		YKL189W	
## ##	1 YHLOO2W			1 VDR152W	YDR343C	1 YGL174W		
##	1 HL002w			1DR152W			1DL137W	
##		YCL028W						
		- 3232011						-2100010

##	1	1	1 VED-01-6	1 YDR170C	1 VMI 0771	1	1	1
## ##	YDR082W 1	YMR218C 1	YFR015C 1	1DR170C	YMLO77W 1	YOL093W 1	YCR030C	YKL028W 1
##	YDR405W	YGR075C	YBR299W	YEL037C	YFL007W	YDR361C	YNL172W	YML112W
##	1	1	1	1	1	1	1	1
##	YGL060W	YKL082C	YNL242W	YNL210W	YDL090C	YAL036C	YGL158W	YDL095W
##	1	1	1	1	1	1	1	1
##	YFL042C	YDR227W	YJL024C	YBR091C	YGR154C	YKL152C	YEL022W	YPL085W
##	1	1	1	1	1	1	1	1
##	YJL033W	YMR028W	YLL026W	YLR196W	YOLO54W	YOLO7OC	YBR264C	YCR079W
##	1	1	1	1	1	1	1	1
##	YPL140C 1	YIL113W	YALO59W	YFR011C 1	YLR399C 1	YHR016C	YDL159W	YNLO23C
## ##	YHRO51W	1 YHRO84W	1 YCRO66W	YDL216C	YDR365C	YPL036W	1 YOL108C	YNL208W
##	1111tO31w	11111004w	1 C11000w	1	1 1	1FL030W	1011000	1NL200W
##	YJR055W	YBL081W	YOR264W	YILOO8W	YHRO57C	YLR254C	YDR078C	YLR126C
##	1	1	1	1	1	1	1	1
##	YJL184W	YGR122W	YKL197C	YOR159C	YKR088C	YJL151C	YLR440C	YJR125C
##	1	1	1	1	1	1	1	1
##	YORO23C	YJR086W	YML014W	YJL048C	YDR271C	YER106W	YGL170C	YKR100C
##	1	1	1	1	1	1	1	1
##	YERO63W	YCR060W	YBR239C	YKL050C	YCL033C	YJL185C	YBR255W	YDL121C
##	1 V II 0600	1	1 xwp.2211	1	1 YLR239C	1 VODOOOG	1 VCDOOEC	1 YMR.163C
## ##	YJL068C 1	YKL142W 1	YMR233W 1	YKRO34W 1	1LR2390	YORO28C 1	YCR005C	1 MR 103C
##	YARO73W	YOR302W	YKL010C	YBR246W	YPL125W	YGR241C	YDR357C	YLRO31W
##	1	1	1	1	1	1	1	1
##	YGR163W	YORO97C	YFR025C	YJR083C	YPL201C	YDR261W-B	YGR170W	YGR161C-C
##	1	1	1	1	1	1	1	1
##	YKR082W	YORO74C	YIL039W	YLR253W	YHR184W	YDR273W	YDR026C	YDR205W
##	1	1	1	1	1	1	1	1
##	YDR252W	YGR189C	YPL023C	YJL153C	YER038C	YLR376C	YJL057C	YGR247W
##	1	1	1	1	1	1	1	1
## ##	YPR136C 1	YLR420W 1	YPR184W 1	YBL078C 1	YEL018W	YNLO49C	YBR284W 1	YBR155W 1
##	YDL013W	YLRO72W	YPR172W	YJL180C	YNL273W	YMR280C	YOR318C	YMRO30W
##	1	1	1110172W	1	1	1	1	11111000W
##	YCL056C	YOR330C	YEL048C	YOL131W	YLR451W	YPR148C	YLR263W	YBL010C
##	1	1	1	1	1			
##	YJR134C	YNL105W	YMR154C	YOR359W	YDR203W	YOR324C	YDR455C	YDL118W
##	1							1
##	YMR133W		YPL233W			YDR500C		
##	1							1
##						YLR156W		
## ##	VDP 21 / W					1 YHR143W-A		
##	1D11214W					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
##						YGR110W		
##	1					1		
##	YGL145W					YGR185C		
##	1					1		1
##						YER180C		YNR048W
##						1		
##	YAL060W	YNRO51C	YBR223C	YUR220W	YIL092W	YDR008C	YNLO42W	YLL032C

```
##
                  1
                          1
                                1
   YMR.273C
          YKI.044W
                 YOI.050C
                        YKL107W
                                YDR423C
                                              YHR177W
                                                     YJR011C
##
                                       YOR.112W
##
                  1
                        YNL249C
##
   YHRO14W
          YML127W
                YPR118W
                               YLR056W
                                       YDR297W
                                              YGR060W
                                                      YGRO07W
##
              1
##
   YJL125C
          YOLOO8W
                YDR171W
                        YHR144C
                                YFL060C
                                       YKL157W
                                              YNLO45W
                                                     YGL017W
##
             1
                                YHRO70W
   YOROO5C
          YGR202C
                 YHR201C
                         YML005W
                                                      YPR163C
##
                                       YMR013C
                                              YJL198W
                         1
                                1
##
    1
           1
                  1
                                       1
                                               1
   YOROO8C
##
          YDR160W YML062C
                         YLR335W
                                YIL095W
                                       YKR042W
                                              YMR039C
                                                      YAL013W
##
    1
           1
                  1
                         1
                                1
                                        1
                                               1
##
   YAL024C
          YILOO9W YDRO85C
                        YMR168C YLR238W
                                       YHR115C
                                              YDR027C
                                                      YDR200C
##
      1
             1
                  1
                         1
                                   1
                                          1
                                               1
 YPR133W-A
          YPR111W YDR146C
                         YBL085W
                                YBL023C
                                       YEL032W
                                              YLR045C
                                                      YKL139W
##
                                        1
##
    1
           1
                  1
                         1
                                1
                                               1
   YGL038C
          YHR079C
                         YIRO31C
                                              YNL299W
##
                 YLR116W
                                YLR195C
                                       YGL097W
                                                      YHR154W
                                       1
##
           1
                         1
                                1
                                               1
                                                      1
    1
                  1
                 YDR164C
                                              YCR067C
   YLR306W
          YBR021W
                         YNL209W
                                YKL196C
                                       YIL153W
                                                      YJL174W
##
                                               1
##
                         1
                                 1
    1
             1
                   1
                                        1
   YOR297C
          YKL126W YGL226C-A
                         YDR177W
                                YMR022W
                                       YER015W
                                              YBR080C
                                                      YBL050W
##
##
      1
              1
                  1
                          1
                                   1
                                           1
                                               1
##
   YOR257W
          YNL102W
                 YBR097W
                         YDR495C
                                YGL095C
                                       YPL155C
                                              YHR202W
                                                      YPL209C
                                        1
                         1
                                1
##
    1
           1
                  1
                                               1
   YGR238C
          YNL031C
                 YGR116W
                                YHR134W
##
                         YBL082C
                                       YIL030C
                                              YNLO06W
                                                      YKL176C
##
                         1
                                1
      1
             1
                  1
                                          1
                                               1
          YGL027C YGR098C
##
   YMR284W
                         YBL069W
                                YHR010W
                                       YPR116W
                                              YDR369C
                                                      YDR217C
##
    1
           1
                  1
                         1
                                1
                                               1
                                        1
##
   YBR215W
          YOLO68C YORO25W
                        YMR224C YNL171C
                                       YOR160W
                                              YAL026C
                                                      YLR425W
##
    1
           1
                 1
                         1
                                1
                                               1
                                        1
   YNL289W
          YMR299C
                 YOR153W
                         YKRO47W
                                YIL159W
                                       YDL117W
                                              YLR381W
                                                      YJR053W
                         1
                                       1
                                              1
                                                      1
          1
##
   1
                  1
                                1
##
   YDR289C
          YBR095C
                 YBR107C
                         YNL170W
                                YHR191C
                                       YBR231C
                                              YNL215W
                                                      YNL307C
##
   YML016C
          YCL016C
                                              YORO27W
##
                 YJR143C
                         YOR321W
                                YKL092C
                                       YLR372W
                                                      YER068W
##
           1
                  1
                                               1
   YER122C
          YKL020C
##
                 YDR351W
                         YLR433C
                                YKL190W
                                       YLL050C
                                              YLR235C
                                                      YNL098C
##
             1
                  1
                          1
                                 1
                                         1
                                                1
##
   YMR060C
##
   1
```

#los 10 más conectados son YPR110C, YPL131W, YNL178W, YIL021W, Y0L127W, YJL063C, YBR283C, YLR378C, YMR2 diameter(yeast) #diámetro antes de borrar = 15

```
## [1] 15
```

```
#Diametro -1 =15
meno1 <- delete.vertices(yeast, v = "YPR110C")
diameter(meno1)</pre>
```

[1] 15

```
#Diametro -2 = 15
meno2 <- delete.vertices(yeast, v = "YPL131W")</pre>
diameter(meno2)
## [1] 15
\#Diametro -3 = 15
meno3 <- delete.vertices(yeast, v = "YNL178W")</pre>
diameter(meno3)
## [1] 15
#diámetro -4= 15
meno4 <- delete.vertices(yeast, v = "YIL021W")</pre>
diameter(meno4)
## [1] 15
#diámetro -5= 15 YOL127W
meno5<- delete.vertices(yeast, v = "YOL127W")</pre>
diameter(meno5)
## [1] 15
#diámetro -6= 15
meno6<- delete.vertices(yeast, v = "YJL063C")</pre>
diameter(meno6)
## [1] 15
#diámetro -7= 15
meno7<- delete.vertices(yeast, v = "YBR283C")</pre>
diameter(meno7)
## [1] 15
#diámetro -8=15
meno8<- delete.vertices(yeast, v = "YLR378C")</pre>
diameter(meno8)
## [1] 15
#diámetro -9=15
meno9<- delete.vertices(yeast, v = "YMR260C")</pre>
diameter(meno9)
## [1] 15
```

```
#diametro -10=15
meno10<- delete.vertices(yeast, v = "YBR251W")
diameter(meno10)</pre>
```

[1] 15

h. Determine los diez nodos más importantes por al menos tres medidas de centralidad.

is.directed(yeast) #Dice que no, por lo que asumimos que la red es no dirigida.

[1] FALSE

excentricidad<-eccentricity(yeast)# calculo la excentricidad de la red, que es la distancia del nodo a sort(excentricidad, decreasing=FALSE)

YBL046W	YHR102W	YGR173W	YDR342C	YIRO05W	YNL201C	YDR188W	YIL071C
1	1	1	1	1	1	1	1
YKL122C	YDL220C	YDR407C	YLR258W	YBL047C	YCL014W	YGR292W	YER162C
1	1	1	1	1	1	1	1
YFL006W			YFR021W		YKL019W	YLR113W	YAL023C
1	1	_	1	_	1	1	1
YMR303C	YDL042C	YOR370C	YDR395W	YDL070W	YGL058W	YNR054C	YGL008C
1	1	1	1	1	1	1	1
YEL060C	YPL193W	YDL167C	YHL006C	YNL329C	YOR212W	YKL008C	YDL084W
1	1	1	1	1	1	1	1
YHR034C	YPL133C	YMR204C	YDR520C	YNL020C	YKROO7W	YCR014C	YNR039C
1	1	1	1	1	1	1	1
YML023C	YFR017C	YORO37W	YDL237W	YPL114W	YJL070C	YOR247W	YOL052C
1	1	1	1	1	1	1	1
YBR056W	YKL186C	YNL277W	YER151C	YML119W	YMR298W	YHR193C	YNL070W
1	1	1	1	1	1	1	1
YER114C	YDL229W	YPL152W	YPL218W	YDL049C	YJL054W	YMR104C	YBR082C
1	1	1	1	1	1	1	1
YLR139C	YCR034W	YPR072W	YIR033W	YHR103W	YGR080W	YNL121C	YBR170C
1	1	1	1	1	1	1	1
YDR152W	YDR343C	YGL174W	YDR075W	YOL117W	YDL092W	YMR218C	YFR015C
1	1	1	1	1	1	1	1
YCR030C	YDR405W	YBR299W	YEL037C	YFL007W	YDR361C	YML112W	YNL242W
1	1	1	1	1	1	1	1
YNL210W	YDL090C	YGL158W	YFL042C	YDR227W	YBR264C	YALO59W	YLR399C
1	1	1	1	1	1	1	1
YMR231W	YCR066W	YDR365C	YNL208W	YJR055W	YDR078C	YKL197C	YCL055W
1	1	1	1	1	1	1	1
YER063W	YCR060W	YBR239C	YJL185C	YGR241C	YFR025C	YDR205W	YER038C
1	1	1	1	1	1	1	1
YPR184W	YCL056C	YPR148C	YMR133W	YDR504C	YLR223C	YDR214W	YFR007W
1	1	1	1	1	1	1	1
YPL138C	YHL003C	YLR303W	YNR051C	YLL032C	YOROO6C	YKL029C	YDL200C
1	1	1	1	1	1	1	1
YBL085W	YNL209W	YIL153W	YCR067C	YJL174W	YLR242C	YOR297C	YKL126W
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##	YKL142W 4	YEL048C	YDR394W	YMRO49C 8	YDR127W	YKL145W 8	YOR272W 8	YMR290C 8
## ##	YHLO30W	4 YKL067W	8 YCL017C	o YJL138C	8 YPL135W	YGL245W	YALO35W	YJR109C
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##	YMR.012W	YGR240C	YILO33C	YNL085W	YNL189W	YLR231C	YPR067W	YDR283C
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##	YOR259C	YIL116W	YGR195W		YGL137W			
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## ##	YBL004W 9	1 GRO90W 9	YDR240C 9		YMR125W 9	YHR216W 9	YULU21C	
##				9 YDL031W	-			
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##	9 VDD000C	9 YMR.308C	9 VCD067C	9	9 VED 0 0 0 U	9 VI D404 G	9 YOL086C	9
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##		10R341W	YLR409C 10	10	YMRO61W		YBR251W	1LR370C
## ##	10 YLL036C	YBR135W	YILO21W	YOL149W	10 YJL098W	10 YPL126W	10 YDL060W	YDR228C
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##	YDL136W	YGR220C	YNRO37C	YOL127W	YLR340W		YBL038W	
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##	YGR118W	YML046W	YNR.058W	YDL112W	Q0275	YLR049C	YDL203C	YLR406C
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##	YOR201C	YPL213W	YOR236W	YML110C	YHL016C	YEL058W	YBR119W	YLR289W
##	10	10	10	10	10	10	10	10
##	YBR115C	YJR047C	YML106W	YIL132C	YJR002W	YML057W	YDR050C	YMR271C
##	10	10	10	10	10	10	10	10
##	YJL086C	YDL055C	YMR074C	YMR294W	YDL238C	YGL030W	YBR281C	YML054C
##	10	10	10	10	10	10	10	10
##	YNL301C	YPR107C	YDR322W	YPL151C	YDL075W	YMR278W	YML037C	YNL334C
##	10	10	10	10	10	10	10	10
##	YLR298C	YNL251C	YPL070W	YMR240C	YMR048W	YPR178W	YDR272W	YKL043W
##	10	10	10	10	10	10	10	10
##	YNL241C	YOR241W	YKR083C	YLR035C	YORO40W	YPR144C	YORO59C	YGR231C
##	10	10	10	10	10	10	10	10
##	YMR288W	YLR022C	YDL205C	YDR235W	YNL263C	YFL001W	YMR113W	YOR274W
##	10	10	10	10	10	10	10	10
##	YJR069C	YOL121C	YHROO9C	YPR043W	YIRO42C	YGL062W	YCL064C	YML094W
##	10	10 VCD074C	10	10	10	10	10	10 YJL189W
## ##	YLR439W 10	YGR274C 10	YER050C 10	YDL148C 10	YKR038C 10	YDL104C 10	YDL043C 10	1JL189W
##	YGL063W	YALO46C		YGR132C		YDR462W	YPL212C	
##	10L003W	10	10	10111320	10 10	1010402W	10	
##	YKR087C	YERO87W		YNL244C	YDR296W			
##	10	10	10	10	10	10		10
##	YNL222W	YKL151C	YCL037C		YGRO21W			
##	10	10	10	10	10	10		10
##	YDR004W	YKL184W			YNL185C			
##	10	10	10	10	10	10	10	10
##	YCR019W	YDL236W	YLR281C	YLR058C	YDL171C	YBR267W	YJR105W	YOR115C
##	10	10	10	10	10	10	10	10
##	YPR003C	YDR336W	YBR279W	YOLO59W	YDR347W	YJR097W	YCR072C	YMR023C
##	10	10	10	10	10	10	10	10
##	YML021C				YIL083C		YGL236C	YMR208W
##	10	10	10	10	10	10	10	
##	YGL256W	YDR428C	YGL250W	YER179W	YML007W	YPR073C	YPL190C	YKL035W

##	10	10	10	10	10	10	10	10
##	YHRO46C	YMR242C	YLR359W	YBR019C	YGL189C	YPL189W	YPL164C	YGR081C
##	10	10	10	10	10	10	10	10
##	YKL155C	YDR045C	YJR077C	YHRO74W	YKR072C	YBR003W	YPR035W	YJL167W
##	10	10	10	10	10	10	10	10
##	YBR294W	YOL114C	YORO14W	YDL022W	YGR112W	YOR312C	YBR084W	YIL167W
##	10	10	10	10	10	10	10	10
##	YDR505C	YER043C	YMR315W	YBR191W	YGL129C	YNL073W	YJR159W	YLR418C
##	10	10	10	10	10	10	10	10
##	YDR287W	YDR539W	YDR019C	YILOO3W	YNL218W	YMR121C	YPL069C	YGR074W
##	10	10	10	10	10	10	10	10
##	YNL030W	YBR094W	YJL092W	YNL192W	YDR111C	YMR084W	YGR175C	YLR143W
##	10	10	10	10	10	10	10	10
##	YAL062W	YDL164C	YDL201W	YJR137C	YHR106W	YDL131W	YOLO71W	YPL160W
##	10	10	10	10	10	10	10	10
##	YLR401C	YOR168W	YDR076W	YKL191W	YJR139C	YML051W	YLR177W	YOR137C
##	10	10	10	10	10	10	10	10
## ##	YHR028C 10	YLR405W 10	YNL168C 10	YGR012W 10	YDR441C 10	YLR207W 10	YGR169C 10	YDR292C 10
##	YML004C	YCRO10C	YOLO43C	YPR062W	YOLOO5C	YHRO47C	YJL060W	YDRO37W
##	10	1010100	1010430	171.002W	1010030	111110470	13L000w	1D1t037 W
##	YML096W	YBL061C	YML024W	YLRO11W	YGL067W	YER078C	YDR384C	YMRO90W
##	10 10	10	111E024W	10	10 10	10	10	1111030W
##	YHRO12W	YJR149W	YHL022C	YDL036C	YEROO4W	YOR171C	YPL279C	YDR353W
##	10	10	10	10	10	10	10	10
##	YDR447C	YOLO96C	YER057C	YOR390W	YLR382C	YEL050C	YLR105C	YLR361C
##	10	10	10	10	10	10	10	10
##	YNL037C	YML075C	YPL008W	YLR089C	YOLO33W	YPL092W	YPL079W	YNR015W
##	10	10	10	10	10	10	10	10
##	YLR174W	YHR179W	YAL015C	YOL060C	YJL172W	Y0L095C	YCR037C	YOR375C
##	10	10	10	10	10	10	10	10
##	YKL132C	YML080W	YLR109W	YJR008W	YFR006W	YPL206C	YCR024C	YLR308W
##	10	10	10	10	10	10	10	10
##	YBR053C	YDL166C	YIL074C	YOR311C	YLR450W	YPL110C	YPR145W	YLR165C
##	10	10	10	10	10	10	10	10
##	YLR307W	YKL156W	YIL051C	YOR176W	YLR260W	YNR013C	YBR023C	YMR089C
##	10	10	10	10	10	10	10	10 VDD0110
## ##	YNROO2C	YLL029W	YJL094C 10	YHR100C	YGL252C 10	YJR103W 10		
##	10 YIL137C	10 YER183C	10 YNLOO9W	10 YBR196C		YLR163C		
##	10	10	1003w	10	10112310		1011040	
##	YGL023C	YBR085W	YJR032W		YKL212W			
##	10	10	10	10	10	10	10	
##	YKL079W	YNRO27W	YJR060W		YHL007C			
##	10	10	10	10	10	10		
##	YGR208W	YBR034C	YJL213W	YOR208W	YMR149W	YJL035C	YJR118C	YIROO6C
##	10	10	10	10	10	10	10	10
##	YER165W	YKR010C	YEL031W	YFL037W	YFL005W	YBL105C	YKL205W	YOR103C
##	10	10	10	10	10	10	10	10
##	YORO98C	YJL183W	YFL029C	YGR271W	YDL101C	YNL298W	YCR088W	YGR009C
##	10	10	10	10	10	10	10	
##	YJR040W		YJL002C		YNL233W			
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##	YNL064C	YDR245W	YUR085W	YOR122C	YKL048C	YKL113C	YOR188W	YER083C

##	10	10	10	10	10	10	10	10
##	YER149C	YGR078C	YJR075W	YGL073W	YNL250W	YNL271C	YEL029C	YLR189C
##	10	10	10	10	10	10	10	10
##	YDR162C	YNL272C	YBR234C	YNL116W	YLR305C	YHRO31C	YIR008C	YGL251C
##	10	10	10	10	10	10	10	10
##	YJL099W	YNL153C	YJL020C	YKR028W	YGL044C	YJL069C	YPR055W	YDL155W
##	10	10	10	10	10	10	10	10
##	YGR250C	YKR048C	YEL051W	YOL140W	YDR238C	YPL237W	YBR247C	YEL034W
##	10	10	10	10	10	10	10	10
##	YGL106W	YPR119W	YGL233W	YGR128C	YNR052C	YDR175C	YDL124W	YNL248C
##	10	10	10	10	10	10	10	10
##	YKR024C	YDL066W	YDR028C	YDR422C	YLR074C	YLR275W	YDL213C	YML063W
##	10240	10L000w	10110200	10114220	10/40	1L1t275w	1012130	1003w
##	YIL034C	YAROO7C	YDR170C	YBR249C	YLR044C	YGR253C	YJR064W	YOR158W
##	10	10	10	10	10	10	10	10
##	YDL153C	YHR019C	YGL060W	YKL082C	YLR337C	YMR096W	YGR233C	YBR098W
##	10	10	10	10	10	10	10	10
##	YDR179C	YOLO54W	YCR079W	YPR121W	YDR166C	YHR016C	YDR023W	YJL115W
##	10	10	10	10	10	10	10	10
##	YOL108C	YIL008W	YJL184W	YGR178C	YMR293C	YJR125C	YLR277C	YOR221C
##	10	10	10	10	10	10	10	10
##	YJL048C	YJL052W	YPR040W	YJR009C	YIL075C	YOL143C	YBL024W	YDR232W
##	10	10	10	10	10	10	10	10
##	YMR296C	YGR058W	YLR135W	YOR224C	YKR037C	YHRO21C	YMR035W	YDR233C
##	10	10	10	10	10	10	10	10
##	YORO89C	YKL010C	YPL125W	YPL171C	YIL039W	YOR356W	YMR232W	YGR043C
##	10	10	10	10	10	10	10	10
##	YLR354C	YJR017C	YORO26W	YNL302C	YNRO41C	YJL180C	YOR330C	YER014W
##	10	10	10102011	10	10	10	10	10
##	YLR249W	YLR263W	YMR167W	YILOO7C	YPRO41W	YML117W	YJRO14W	YGL084C
##	1L1t249W	1L11203W	1mit107 w	10070	1041	10	1014w	100040
		YBR038W						
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##	10	10	10	10	10	10	10	10
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##	YDR297W	YGR060W	YMR234W	YKL094W	YKL157W			
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##	YGL178W	YDL143W	YPR163C	YML085C	YDL017W	YBR171W	YNL084C	YIL095W
##	10	10	10	10	10			
##	YKR042W	YAL013W	YOR216C	YLR330W	YMR235C	YLR238W	YHR115C	YDR200C
##	10	10	10	10	10	10	10	10
##	YGR032W	YBR237W	YKL139W	YER172C	YHR154W	YBR021W	YGL226C-A	YDR363W
##	10	10	10	10	10	10	10	10
##	YHR134W	YORO27W	YLR433C	YKL190W	YDR473C	YGL115W	YLR208W	YHR107C
##	10	10	10	10	11	11	11	11
##	YGL237C	YDL160C	YGL122C				YER112W	
##	11	11	11		11			
##	YNL147W	YNL118C	YNRO12W					
##	1NL147W	11	1111012		11			
##	YIL104C	YALO32C	YJL014W		YNLO78W			
##	1111040	11	13L014w					
##	YBR216C	YGR261C	INKOOOW	YER025W	YMR261C	1 NRU26C	YMR112C	YOR250C

##	11	11	11	11	11	11	11	11
##	YOR304W	YJL041W	YDR378C	YNL330C	YOR174W	YLR314C	YGL234W	YKR025W
##	11	11	11	11	11	11	11	11
##	YJR076C	YDL006W	YNL207W	YPR168W	YBR130C	YMR213W	YBR253W	YKL144C
##	11	11	11	11	11	11	11	11
##	YDR308C	YPL181W	YGR186W	YORO56C		YDR416W	YAL021C	YOR150W
##	11	11	11	11		11	11	11
##	YML102W	YER177W	YJL042W	YGL197W		YBR010W	YBR060C	YFL038C
##	11	11	11	11	11	11	11	11
##	YBL026W	YKL193C	YPL195W	YGL241W		YJL173C	YGR204W	YBR254C
##	11	11	11	11	11	11	11	11
##	YKR085C	YLR352W	YDR167W	YJR022W		YLR288C	YBR282W	YDR507C
##	11	11	11	11	11	11	11	11
##	YMR139W	YER003C 11	YNL236W	YPR182W 11	YGR200C	YCL024W	YOR368W	YLR310C 11
## ##	11 YML091C	YDL098C	11 YDR412W	YALO12W	11 YML109W	11 YHR169W	11 YIROO2C	YDL132W
##	1ML091C 11	11	1DR412W	1ALU12W 11	1ML109W	11 1109w	11R002C	1DL132W
##	YDL108W	YPL086C	YMR268C	YERO92W		YEL055C	YBR143C	YOR110W
##	1DL100W	11	11	11.032w		11	11	1011110
##	YLR212C	YLR229C	YIL126W	YNL311C	YARO14C	YDRO21W	YBL090W	YLR398C
##	11	11	11	11		11	11	11
##	YMR025W	YDR071C	YJR090C	YIL068C	YJR068W	YGL127C	YGL198W	YGR268C
##	11	11	11	11		11	11	11
##	YDR256C	YFL023W	YNL081C	YDR450W		YOR269W	YDR012W	YDR025W
##	11	11	11	11		11	11	11
##	YNL177C	YJL177W	YKL180W	YBR031W	YER117W	YBL087C	YJR049C	YBR048W
##	11	11	11	11	11	11	11	11
##	YORO36W	YPL198W	YJL036W	YJL191W	YORO47C	YHR060W	YML031W	YHR121W
##	11	11	11	11		11	11	11
##	YMR286W	YBR039W	YGL061C	YGL076C	YDL004W	Q0085	Q0105	YLL049W
##	11	11	11	11		11	11	11
##	YOR128C	YCR082W	YJL039C	YBL099W	YDL139C	YKL024C	YDR226W	YBR189W
##	11	11	11	11		11	11	11
##	YBR217W	YER170W	YPL081W	YLR052W		YDR016C	YARO15W	YNRO57C
##	11	11	11	11		11 VPD007G	11	11 VDD0770
##	YOLO69W	YPR083W	YKL052C	YORO65W				YDR277C
##	11 YPRO26W	11 YMR143W	11 YDL089W	11 VCP222C	11 YNL069C	11 VI D207C	11 YILO53W	11 YDL083C
## ##	11 11 11 11 11 11 11 11 11 11 11 11 11	111143W	1DE009W	10112230				
##		YBR198C			YIL133C			
##	11	11	11					11
##	YGR119C		YPR001W		YCR087C-A			
##	11	11	11			11		11
##	YPL077C				YML056C			
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##	YER091C	YMR310C	YGL053W	YER157W	YGL119W	YOR327C	YIL069C	YPR048W
##	11	11	11	11	11	11	11	11
##	YBR252W	YPL109C	YGR188C	YGL151W	YLR167W	YGR283C	YCR081W	YPL082C
##	11	11	11	11	11	11	11	11
##	YMR068W	YPR070W	YNR010W			YGL254W	YBR061C	YBR018C
##	11	11	11	11		11		11
##	YHR058C		YDR009W			YDL218W		
##	11	11	11	11		11		11
##	YGL128C	YLR324W	YGR278W	YBR213W	YOR243C	YGR104C	YGR285C	YJR024C

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##	YHR176W		YLR357W			YDR538W		
##	11	11						
##	YMR287C	YGL133W					YFR013W	
##	11	11						11
##	YBL074C	YOLO51W	YKR099W		YBL036C	YGL186C	YER148W	YEL070W
##	11	11	11	11	11	11	11	11
##	YPL022W	YDL130W	YBR065C	YNL036W	YDR404C	YDR121W	YDL058W	YPL010W
##	11	11				11		11
##	YNL097C	YPL188W	YPR126C	YMR250W		YDR382W		YML101C
##	11	11				11		11
##	YMR270C	YNL288W	YPL132W	YPL042C		YNL054W-B		
##	11	11		11		11		11
##	YOLO39W	YNR032W				YERO37W		
##	11	11				11		11
##	YNL199C	YFR002W					YNL129W	
##	11	11		11		11		11
##	YDR052C		YNL280C	YNL151C 11				
##	11	11				11		11
##	YMR263W	YML015C 11	YERO60W-A	YDR147W 11	YCR020C	YNL320W 11	YGR094W	
##	11 YHR029C		11 YIL155C		YKR080W			11 YEL038W
## ##	11 11	11 11		10L137W				1ELU38W
##	YFL030W		YCR059C					
##	17L030W	11 11				15R207W		
##	YJR156C		YKR079C					
##	11	11		11 11				11
##	YNLO11C	YKR050W		YER145C				
##	11	11		11			11	
##	YGL212W	YOL123W		YGL213C				
##	11	11	11	11	11	11	11	11
##	YNL117W	YLR216C	YJR010C-A	YER125W	YBL079W	YOR182C	YDR424C	YORO33C
##	11	11		11			11	11
##	YMR200W	YLR210W	YBR050C					
##	11	11				11		
##	YKL049C		YOR265W			YDR156W		
##	11	11	11	11	11		11	11
##	YPL018W	YDR364C			YGL217C			
##	11	11	11	11	11		11	11
##	YDL063C	YLL002W	YOL115W	YDR080W	YKR054C		YPL240C	
##	11	11	11	11	11		11	11
##	YDR212W	YPL241C	YBR188C	YMR109W	YER173W		YMR198W	
##	11 YOR290C	11	11 VI DO71C	11 VNI 110U	11 VMI 007C		11	11 VIID1E00
## ##	10k290C	YGL244W	YLR071C	YNL119W	YML097C 11		YKL068W	
##	YALO20C	11 YDR323C	11 YDL102W	11 YDR254W	YGR229C		11 YFRO19W	11 YJL090C
##	11	11	1DL102W	1DR254w	19.2290		11 11	11
##	YGL116W	YGL124C	YEROO7W	YER107C	YHLO27W		YMR307W	
##	11	11	11	11	111		11 11	10L240W
##	YBL103C	YNL126W	YALO40C	YNRO38W	YIL002C		YBL051C	
##	11	11	11	11	11		11	11
##	YDR020C	YMR236W	YDR022C	YLR192C	YDR176W		YPR160W	
##	11	11	11	11	11		11	11
##	YCR052W	YBR245C	YJL061W		YNRO46W		YMR226C	

##	11	11	11	11	11	11	11	11
##	YHR098C	YHR135C	YMR091C	YJR074W	YHR064C	YKL028W	YLR321C	YLR262C
##	11	11	11	11	11	11	11	11
##	YJR006W	YPR112C	YGR154C	YKL152C	YJL033W	YLL026W	YKL095W	YPL161C
##	11	11	11	11	11	11	11	11
##	YPL140C	YIL113W	YFR011C	YNL023C	YKL080W		YIRO34C	YHR057C
##	11	11	11	11	11	11	11	11
##	YGR120C	YELO41W	YMRO32W	YLR126C	YOR164C	YCL032W	YGR239C	YJR135C
##	11	11	11	11	11		11	11
##	YKR088C	YJL151C	YPL105C	YLR190W	YPL174C		YJL058C	YKR100C
##	11	11	11	11	11	11	11	11
##	YKL050C	YCL033C	YERO71C	YDL121C		YDR261W-A		YPL172C
##	11 VDI 1500	11	11 VI D020G	11	11	11	11	11
##	YPL159C	YMR233W 11	YLR239C	YORO28C 11	YCR005C	YMR163C 11	YARO73W	YLR319C 11
## ##	11 YLRO31W	YNL247W	11 YJR083C	YLR446W	11 YGR170W		11 YLR253W	YHR184W
##	11 11	1NL247W 11	11	1LR440W	1GR170W	11	1LR253W	11 11
##	YDR273W	YDR026C	YGR189C	YJL153C	YLR376C	YJL057C	YPR136C	YNLO47C
##	1D1(275W	11	11	11	11		11 11 1300	11
##	YLR420W	YNL049C	YBR284W	YBR155W	YDL013W		YPR172W	
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##	YOR318C	YLR373C	YJR134C	YNL105W	YOR317W		YDR203W	
##	11	11	11	11	11		11	11
##	YOR324C	YDR455C	YDL118W	YPL233W	YKL023W		YOL129W	YAL028W
##	11	11	11	11	11		11	11
##	YBR037C	YDL154W	YHL001W	YKL006W	YLR156W	YNR050C	YKL076C	YHR143W-A
##	11	11	11	11	11	11	11	11
##	YDL088C	YMR067C	YER060W	YLR005W	YDR005C	YER056C	YDR194C	YGR185C
##	11	11	11	11	11	11	11	11
##	YHR130C	YGR121C	YHR180W	YLR059C	YER039C	YER180C	YOR289W	YMR055C
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##	YNRO43W	YNRO48W	YAL060W	YDR008C	YNL042W	YMR273C	YDR034C	YOL050C
##	11	11	11	11	11		11	
##	YDR423C	YOR112W	YGR101W	YML127W	YLR133W		YJL129C	YLL057C
##	11	11	11	11	11		11	
##	YNL305C	YGROO7W	YIL162W	YOLOO8W	YDR171W			YGR062C
##	11	11 VID020G	11 VCD000C	11 VIIDO01G	11 VMI 00EU	11	11 VCI 1720	11 VOI 1400
## ##	YGLO17W	YIR032C 11	YGR202C 11	YHR201C 11				
##	11 YKL093W			YOROO8C		YMRO39C		
##	1KL093W	11	11			11		1DL207 W
##	YILOO9W	YKL089W	YMR168C			YER111C		
##	11	11		11		11		11
##	YIRO31C		YDR164C				YER015W	
##	11	11		11		11		11
##	YBL050W		YDR495C			YGL086W		
##	11	11	11	11		11		11
##	YGR238C	YBL082C	YHR010W	YPR116W	YDR369C	YGL163C	YDR217C	YBR215W
##	11	11	11	11	11	11	11	11
##	YOL068C	YORO25W	YMR224C	YNL171C	YAL026C	YLR425W	YNL289W	YMR299C
##	11	11	11	11	11	11		11
##	YKRO47W	YIL159W	YORO58C	YDR149C		YLR381W	YJR053W	YDR289C
##	11	11	11	11				11
##	YBR095C	YBR107C	YNL170W	YHR191C	YBR231C	YNL215W	YNL307C	YML095C-A

##	11	11	11	11	11	11	11	11
##	YML016C	YCL016C	YER122C	YLR235C	YNL098C	YDR328C	YOLO94C	YDR460W
##	11	11	11	11	11	12	12	12
##	YER027C	YBL056W	YKL057C	YBR125C	YGL208W	YBR087W	YML098W	YIL050W
##	12	12	12	12	12	12	12	12
##	YJR050W	YBL021C	YPR066W	YCL010C	YELO11W	YBR059C	YBR081C	YJR042W
##	12	12	12	12	12	12	12	12
##	YNL261W	YKR014C	YMR120C	YDR001C	YDR359C	YER146W	YOR244W	YIL079C
##	12	12	12	12	12	12	12	12
##	YOLO90W	YNL290W	YERO31C	YJL081C	YFL024C	YPL254W	YOR185C	YKR006C
##	12	12	12	12	12	12	12	12
##	YLR127C	YOR106W	YALO27W	YER089C	YGL092W	YML095C	YBR017C	YNL312W
##	12	1011100w	1ALO27W	12	1GL092W	12	12	1NL312W
##	YOR144C	YGL187C	YMR223W	YILO46W	YCR086W	YNL152W	YOR385W	YDR084C
##	12	12	12	12	12	12	12	12
##	YEL043W	YDR142C	YPR046W	YER144C	YDR408C	YGL134W	YJR102C	YJR094C
##	12	12	12	12	12	12	12	12
##	YNL086W	YER141W	YKL038W	YGL015C	YGL079W	YGL161C	YPR028W	YML008C
##	12	12	12	12	12	12	12	12
##	YLR028C	YLR211C	YCL019W	YLR345W	YLR362W	YGR071C	YKL061W	YDR479C
##	12	12	12	12	12	12	12	12
##	YGL125W	YDL165W	YHR171W	YPL149W	YLR125W	YLRO30W	YLR182W	YDR113C
##	12	12	12	12	12	12	12	12
##	YFR008W	YIL144W	YDR189W	YBL102W	YIL052C	YMR077C	YOR232W	YERO23W
##	12	12	12	12	12	12	12	12
##	YBR187W		YERO56C-A	YMR316W	YIRO38C	YJL176C	YER143W	YDL044C
##	12	12	12	12	12	12	12	12
##	YJR048W	YDR366C	YOR101W	YGR146C	YMROO9W	YHL021C	YNRO69C	YNLO41C
##	1311048	12	1011101W	12	17111009W	111111111111111111111111111111111111111	12	12
##	YOROO4W	YNL155W	YDR339C	YDR403W	YDR109C	YORO52C	YCL027W	YER167W
##	12	12	12	12	12	12	12	12
##	YML104C	YPL242C	YGR006W	YOR254C	YLL043W	YHR101C	YOR194C	YJL194W
##	12	12	12	12	12	12	12	12
##	YLR103C	YHR118C	YGL206C	YPR141C	YKL073W	YAL009W	YOR109W	YPR159W
##	12	12	12	12	12	12	12	12
##	YML124C	YKR086W	YMR081C	YALO3OW	YBR289W	YJL148W	YML103C	YPR025C
##	12	12	12	12	12	12	12	12
##	YDR477W	YOR358W	YEL053C	YPL003W	YHL002W	YFL008W	YGR061C	YPR018W
##	12	12	12	12	12	12	12	12
##	YER136W	YDR099W	YFL009W	YGL100W	YOR217W	YML077W	YOLO93W	YBR225W
##	12	12	12	12	12	12	12	12
##	YGR075C	YDL002C					YDR139C	
##	12	12						
##	YPL085W	YDL204W				YDL216C		
##	12	12						
##	YOR159C					YGL172W		
##	12	12				12		
		YKR082W				YFL034C-B		
##	YPL201C							
##	12	12			12			
##	YMR280C	YMR001C				YDR500C		
##	12	12			12			
##	YOR220W					YGR129W		
##	12	12			12			
##	YDL219W	YOROO5C	YDR356W	YPR019W	YLR335W	YDR027C	YKL022C	YLR116W

##	12	12	12	12	12	12	12	12
##	YLR195C	YHROO4C	YNL299W	YLR306W	YKL196C	YNL102W	YHR202W	YNL031C
##	12		12					
##	YGR116W	YNLO06W	YKL176C	YOR153W	YKL092C	YIL106W	YLR170C	YJL074C
##	12	12	12	12	12	13	13	13
##	YBR195C	YDL192W	YDL003W	YORO57W	YGL150C	YIL136W	YCRO2OC-A	YLR097C
##	13	13	13	13	13	13	13	13
##	YDR439W	YDR013W	YEL005C	YLR417W	YNROO7C	YJL072C	YIRO16W	YBL006C
##	13	13	13	13	13	13	13	13
##	YGRO04W	YIL109C	YML034W	YNR068C	YJL019W	YJR110W	YML105C	YHR172W
##	13	13	13	13	13	13	13	13
		YPL031C						
##	13	13	13	13	13	13	13	13
##	YOR264W	YML014W	YPL002C	YER106W	YDR357C	YORO97C	YDR261W-B	YGR161C-C
##	13	13	13	13	13	13	13	13
##	YMR030W	YOL131W	YLR026C	YLR453C	YPL169C	YOR281C	YJR011C	YPL090C
##	13	13	13	13	13	13	13	13
##	YBR181C	YLR274W	YDR085C	YLR079W	YBL023C	YEL032W	YGL038C	YHR079C
##	13	13	13	13	13	13	13	13
		YGR098C						
##	13	13	13	14	14	14	14	14
		YGL003C						
		14						
##	YAL024C	YPL259C	YHL019C	YFR043C	YDL224C	YKL135C	YHR152W	YPR111W
##	14	15	15	15	15	15	15	15
	YDR146C							
##	15							

#necesito ordenarlo en forma creciente, y el comando sort no puede usarse en este objeto, por lo que t # de esta manera puedo otorgarle un número a cada nodo, sort(excentricidad, decreasing=FALSE)

##	YBL046W	YHR102W	YGR173W	YDR342C	YIROO5W	YNL201C	YDR188W	YIL071C
##	1	1	1	1	1	1	1	1
##	YKL122C	YDL220C	YDR407C	YLR258W	YBL047C	YCL014W	YGR292W	YER162C
##	1	1	1	1	1	1	1	1
##	YFL006W	YPL208W	YJL006C	YFR021W	YBL066C	YKL019W	YLR113W	YAL023C
##	1	1	1	1	1	1	1	1
##	YMR303C	YDL042C	YOR370C	YDR395W	YDL070W	YGL058W	YNR054C	YGL008C
##	1	1	1	1	1	1	1	1
##	YEL060C	YPL193W	YDL167C	YHL006C	YNL329C	YOR212W	YKL008C	YDL084W
##	1	1	1	1	1	1	1	1
##	YHR034C	YPL133C	YMR204C	YDR520C	YNL020C	YKROO7W	YCR014C	YNR039C
##	1	1	1	1	1	1	1	1
##	YML023C	YFR017C	YORO37W	YDL237W	YPL114W	YJL070C	YOR247W	YOL052C
##	1	1	1	1	1	1	1	1
##	YBR056W	YKL186C	YNL277W	YER151C	YML119W	YMR298W	YHR193C	YNL070W
##	1	1	1	1	1	1	1	1
##	YER114C	YDL229W	YPL152W	YPL218W	YDL049C	YJL054W	YMR104C	YBR082C
##	1	1	1	1	1	1	1	1
##	YLR139C	YCR034W	YPR072W	YIR033W	YHR103W	YGR080W	YNL121C	YBR170C
##	1	1	1	1	1	1	1	1
##	YDR152W	YDR343C	YGL174W	YDR075W	YOL117W	YDL092W	YMR218C	YFR015C
##	1	1	1	1	1	1	1	1

##	YCR030C	YDR405W	YBR299W	YEL037C	YFL007W	YDR361C	YML112W	YNL242W
##	1	1	1	1	1	1	1	1
##	YNL210W	YDL090C	YGL158W	YFL042C	YDR227W	YBR264C	YALO59W	YLR399C
##	1	1	1	1	1	1	1	1
##	YMR231W	YCR066W	YDR365C	YNL208W	YJR055W	YDR078C	YKL197C	YCL055W
##	1	1	1	1	1	1	1	1
##	YER063W	YCR060W	YBR239C	YJL185C	YGR241C	YFR025C	YDR205W	YER038C
##	1	1	1	1	1	1	1	1
##	YPR184W	YCL056C	YPR148C	YMR133W	YDR504C	YLR223C	YDR214W	YFR007W
##	1 VDI 4200	1	1 VI D202U	1	1	1	1	1 VDI 000G
##	YPL138C	YHL003C	YLR303W	YNRO51C	YLL032C	YOROO6C	YKL029C	YDL200C
##	1 VDI 00EU	1 VNI 2001	1 VII 152U	1 YCR067C	1	1 VI DO 40C	1 YOR297C	1 VVI 106U
##	YBL085W	YNL209W	YIL153W		YJL174W 1	YLR242C 1	10R297C	YKL126W 1
## ##	1 YILO3OC	1 YLR372W	1 YER068W	1 YKL020C	YDR351W	YLL050C	YMRO60C	YHROO5C
##	1110300	1LR3/2W	1En000w	1 1	1 LTCSTM	1 1	1 1	2 nn
##	YGRO48W	YDL126C	YLRO25W	YPL049C	YBL058W	YHR119W	YHLO11C	YDR049W
##	1Gh040W	1DL126C	1Ln025w	1PL049C 2	1 DL U50W	1nn119w 2	1 mL011C	1DR049W
##	YDL077C	YNL258C	YGL036W	YGL192W	YBR077C	YOR275C	YKR022C	YLR148W
##	2	2	1GL030W	10L132W	2	2	1Mt0220	1L11140W
##	YPL045W	YLR396C	YPR173C	YKR094C	YIL148W	YORO92W	YBR287W	YER142C
##	11 E040W	2	2	2	2	2	1D1(201 W	2
##	YNLO95C	YML060W	YLR152C	YGR082W	YCRO48W	YNRO19W	YMR106C	YDR059C
##	2	2	2	2	2	1W10013W	2	2
##	YORO45W	YOLO61W	YDR490C	YNL032W	YKL189W	YOR353C	YCL028W	YDR.082W
##	2	2	2	2	2	2	2	2
##	YDL095W	YMRO28W	YPL036W	YBL081W	YJR086W	YKRO34W	YBR246W	YGR163W
##	2	2	2	2	2	2	2	2
## ##	2 YBR212W	2 YJL125C	_	2 YPR133W-A	2 YDR177W	2 YMRO22W	2 YOR257W	2 YMR284W
			_	-		_		
##	YBR212W	YJL125C	YML062C	YPR133W-A	YDR177W	YMR022W	YOR257W	YMR284W
## ##	YBR212W 2	YJL125C 2	YML062C 2	YPR133W-A 2	YDR177W 2	YMRO22W 2	YOR257W 2	YMR284W 2
## ## ##	YBR212W 2 YBL069W	YJL125C 2 YJR143C	YML062C 2 YOR321W	YPR133W-A 2 YER099C	YDR177W 2 YLR015W	YMRO22W 2 YNLO56W	YOR257W 2 YGR086C	YMR284W 2 YNL099C
## ## ## ##	YBR212W 2 YBL069W 2	YJL125C 2 YJR143C 2	YML062C 2 YOR321W 2	YPR133W-A 2 YER099C 3	YDR177W 2 YLR015W 3	YMRO22W 2 YNLO56W 3	YOR257W 2 YGR086C 3	YMR284W 2 YNL099C 3
## ## ## ##	YBR212W 2 YBL069W 2 YOR043W	YJL125C 2 YJR143C 2 YPL004C	YML062C 2 YOR321W 2 YGR040W	YPR133W-A 2 YER099C 3 YDR480W	YDR177W 2 YLR015W 3 YBL068W	YMR022W 2 YNL056W 3 YOL100W	YOR257W 2 YGR086C 3 YBR175W	YMR284W 2 YNL099C 3 YGR122W
## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3	YJL125C 2 YJR143C 2 YPL004C 3	YML062C 2 YOR321W 2 YGR040W 3	YPR133W-A 2 YER099C 3 YDR480W 3	YDR177W 2 YLR015W 3 YBL068W 3	YMRO22W 2 YNLO56W 3 YOL100W 3	YOR257W 2 YGR086C 3 YBR175W 3	YMR284W 2 YNL099C 3 YGR122W 3
## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W	YML062C 2 YOR321W 2 YGR040W 3 YBL010C	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W	YMRO22W 2 YNLO56W 3 YOL100W 3 YGL145W	YOR257W 2 YGR086C 3 YBR175W 3 YER128W	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3
## ## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W	YMRO22W 2 YNLO56W 3 YOL100W 3 YGL145W 3	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W
## ## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W
## ## ## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3 YLR44OC 3 YAR003W 4 YKL142W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8
## ## ## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8
## ## ## ## ## ## ## ##	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 8	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 8 YLR197W	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C 8	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 8 YLR197W 9	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W 9
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR44OC 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YER021W	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C 8 YOR061W	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8 YGL049C	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 8 YGR158C	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 8 YLR197W 9 YPR010C	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W 9 YPL093W
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W 9	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YER021W 9	YML062C 2 YOR321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C 9	YPR133W-A 2 YER099C 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C 8 YOR061W 9	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8 YGL049C 9	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 8 YGR158C 9	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 9 YPR010C 9	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W 9 YPL093W 9
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W 9 YER006W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YER021W 9 YFR052W	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C 9 Y0R261C	YPR133W-A 2 YER099C 3 YDR480W 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YJL138C 8 YNL085W 8 YGL018C 8 YOR061W 9 YHR052W	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8 YGL049C 9 YDR280W	YMR022W 2 YNL056W 3 YOL100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 8 YGR158C 9 YGR162W	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 8 YLR197W 9 YPR010C 9 YDR101C	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YJR109C 9 YPL093W 9 YPL093W 9 Y0L041C
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W 9 YER006W 9	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YPR033C 9 YFR052W 9	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C 9 Y0R261C	YPR133W-A 2 YER099C 3 YDR480W 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C 8 YGL018C 8 YOR061W 9 YHR052W 9	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 9 YDR280W 9	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 9 YGR158C 9 YGR162W 9	Y0R257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 Y0R272W 8 YAL035W 8 YPR067W 8 YLR197W 9 YPR010C 9 YDR101C	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W 9 YPL093W 9 YPL093W 9 YOL041C
######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W 9 YER006W 9 YHR197W	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YPR033C 8 YPR052W 9 YLL008W	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C 9 YOR261C 9 YPL043W	YPR133W-A 2 YER099C 3 YDR480W 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C 8 YOR061W 9 YHR052W 9 YOR117W	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8 YGL049C 9 YDR280W 9 YOR310C	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 8 YGR158C 9 YGR162W 9 YNL002C	YOR257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 YOR272W 8 YAL035W 8 YPR067W 8 YLR197W 9 YPR010C 9 YDR101C 9 YBR126C	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W 9 YPL093W 9 YPL093W 9 YOL041C 9 YKL014C
#######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W 9 YER006W 9 YHR197W 9	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YPR033C 9 YFR052W 9 YLL008W 9	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C 9 YOR261C 9 YPL043W 9	YPR133W-A 2 YER099C 3 YDR480W 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YNL085W 8 YGL018C 8 YOR061W 9 YHR052W 9 YOR117W 9	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8 YGL049C 9 YDR280W 9 YOR310C 9	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 8 YGR158C 9 YGR162W 9 YNL002C 9	Y0R257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 Y0R272W 8 YAL035W 8 YPR067W 8 YLR197W 9 YPR010C 9 YDR101C 9 YBR126C 9	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YOR039W 9 YPL093W 9 YPL093W 9 YOL041C 9 YKL014C
#######################################	YBR212W 2 YBL069W 2 YOR043W 3 YLR440C 3 YAR003W 4 YKL142W 4 YHL030W 8 YMR012W 8 YLL027W 8 YER090W 9 YER006W 9 YHR197W 9	YJL125C 2 YJR143C 2 YPL004C 3 YBL016W 3 YPL074W 4 YEL048C 4 YKL067W 8 YGR240C 8 YPR033C 8 YPR033C 9 YFR052W 9 YLL008W 9	YML062C 2 Y0R321W 2 YGR040W 3 YBL010C 3 YLR019W 4 YDR394W 8 YCL017C 8 YIL033C 8 YPL252C 8 YKL166C 9 YOR261C 9 YPL043W 9	YPR133W-A 2 YER099C 3 YDR480W 3 YDR480W 3 YMR154C 3 YCR095C 4 YMR049C 8 YJL138C 8 YJL138C 8 YNL085W 8 YGL018C 8 YOR061W 9 YHR052W 9 YOR117W 9 YLR222C	YDR177W 2 YLR015W 3 YBL068W 3 YKL181W 3 YDR469W 4 YDR127W 8 YPL135W 8 YNL189W 8 YIL094C 8 YGL049C 9 YDR280W 9 YOR310C 9	YMR022W 2 YNL056W 3 Y0L100W 3 YGL145W 3 YLL010C 4 YKL145W 8 YGL245W 8 YLR231C 8 YOR226C 8 YGR158C 9 YGR162W 9 YNL002C 9	Y0R257W 2 YGR086C 3 YBR175W 3 YER128W 3 YDL159W 4 Y0R272W 8 YAL035W 8 YPR067W 8 YLR197W 9 YPR010C 9 YDR101C 9 YBR126C 9	YMR284W 2 YNL099C 3 YGR122W 3 YDR541C 3 YHR084W 4 YMR290C 8 YJR109C 8 YJR109C 8 YDR283C 8 YDR283C 9 YPL093W 9 YPL093W 9 YPL091C 9 YKL014C 9 YDR496C

##	YMR205C	YDR087C	YGR145W	YOR326W	YMR309C	YDR388W	YER178W	YNLO71W
##	9	9	9	9	9	9	9	9
##	YKL103C	YBR221C	YJL026W	YDL185W	YNR016C	YKL182W	YGR103W	YGL019W
##	9	9	9	9	9	9	9	9
##	YIL125W	YDL097C	YPR016C	YFL018C	YCL030C	YBR256C	YFR004W	YDL007W
##	9	9	9	9	9	9	9	9
##	YDL111C	YLR175W	YHR200W	YHR069C	YNL132W	YOR206W	YNL061W	YGR095C
##	9	9	9	9	9	9	9	9
##	YOR259C	YIL116W	YGR195W	YLR347C	YGL137W	YJR093C	YJL164C	YPR108W
##	9	9	9	9	9	9	9	9
##	YBL004W	YGR090W	YDR240C	YGL111W	YMR125W	YHR216W	YOLO21C	YDL029W
##	9	9	9	9	9	9	9	9
##	YJL109C	YDL147W	YMR314W	YDL031W	YGR135W	YCR035C	YPL111W	YBR208C
##	9	9	9	9	9	9	9	9
##	YKL172W	YOR136W	YKL104C	YLR355C	YOR142W	YER174C	YCR012W	YGL011C
##	9	9	9	9	9	9	9	9 VDD4.60U
##	YKL009W 9	YGR245C 9	YGL009C 9	YERO12W 9	YGL195W 9	YOR184W 9	YOROO1W 9	YBR160W 9
## ##	YMR239C	YPL266W	YOR180C	YDL014W	YLR449W	YDR337W	YOR362C	yJL005W
##	1 MR 2390	1FL200W	9	1DL014W	1LR449W 9	1DR337W 9	9	13L003W
##	YPL211W	YDR385W	YBR142W	YIL128W	YER126C	YER052C	YGR218W	YGR232W
##	17LZ11W 9	1D1.303W	1DIV142W 9	9	9	9	1011210W	1 G11232W
##	YBR009C	YMR308C	YGR267C	YHRO33W	YEROO2W	YLR421C	YOL086C	YKROO2W
##	9	9	9	11111000W	9	9	9	9
##	YALOO3W	YGR234W	YILO61C	YDR036C	YOR181W	YPR191W	YLR002C	YGL207W
##	9	9	9	9	9	9	9	9
##	YGR155W	YDL134C	YHRO66W	YFL002C	YMR108W	YBR272C	YMR172W	YER155C
##	9	9	9	9	9	9	9	9
##	YOR202W	YORO35C	YBR103W	YDR427W	YBR025C	YHR114W	YCL009C	YBR136W
##	9	9	9	9	9	9	9	9
##								
##	YHR086W	YBR109C	YBL039C	YCL059C	YDR502C	YOL139C	YDR130C	YNL139C
##	YHRO86W 9		YBL039C 9	YCL059C 9	YDR502C 9	YOL139C 9	YDR130C 9	YNL139C 9
		YBR109C						
##	9	YBR109C 9	9	9	9	9	9	9
## ##	9 YML032C	YBR109C 9 YOR323C	9 YDL175C	9 YLR106C	9 YMR229C	9 YBL007C	9 YFL045C	9 YAROO2W
## ## ##	9 YML032C 9	YBR109C 9 YOR323C 9	9 YDL175C 9	9 YLR106C 9	9 YMR229C 9	9 YBL007C 9	9 YFL045C 9	9 YAROO2W 9
## ## ## ##	9 YML032C 9 YNL088W	YBR109C 9 YOR323C 9 YHR111W	9 YDL175C 9 YOR167C	9 YLR106C 9 YML064C	9 YMR229C 9 YLR245C 9	9 YBL007C 9 YNR033W 9	9 YFL045C 9 YJL045W	9 YAROO2W 9 YJRO51W
## ## ## ##	9 YML032C 9 YNL088W 9 YLL041C	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C	9 YDL175C 9 YOR167C 9	9 YLR106C 9 YML064C 9 YFL059W	9 YMR229C 9 YLR245C 9 YGR010W	9 YBL007C 9 YNR033W 9 YMR118C	9 YFL045C 9 YJL045W 9 YPR004C	9 YAROO2W 9 YJRO51W 9 YDR115W
## ## ## ## ##	9 YML032C 9 YNL088W 9 YLL041C	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9	9 YDL175C 9 YOR167C 9 YDR510W	9 YLR106C 9 YML064C 9 YFL059W	9 YMR229C 9 YLR245C 9 YGR010W	9 YBL007C 9 YNR033W 9 YMR118C	9 YFL045C 9 YJL045W 9 YPR004C	9 YAROO2W 9 YJRO51W 9 YDR115W
## ## ## ## ##	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C	9 YAROO2W 9 YJRO51W 9 YDR115W 9 YGL221C 9
## ## ## ## ## ##	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C	9 YAROO2W 9 YJRO51W 9 YDR115W 9 YGL221C 9
## ## ## ## ## ##	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9	9 YAROO2W 9 YJRO51W 9 YDR115W 9 YGL221C 9 YILO2OC 9
## ###################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C	9 YAROO2W 9 YJRO51W 9 YDR115W 9 YGL221C 9 YILO2OC 9 YOR284W
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9	9 YAROO2W 9 YJRO51W 9 YDR115W 9 YGL221C 9 YILO2OC 9 YOR284W 9
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C	9 YAROO2W 9 YJRO51W 9 YDR115W 9 YGL221C 9 YILO2OC 9 YOR284W 9 YPL017C
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 YOL023W	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9 YDR064W	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C 9 YML009C	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGL205W	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9 YGL211W	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 YOL023W 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9 YDR064W 9	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C 9 YML009C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGL205W 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9 YGL211W 9	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W 9
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 Y0L023W 9 YGL040C	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9 YDR064W 9 YBR295W	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C 9 YEL066W	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W 9 YDR453C	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YGR180C 9 YML009C 9 YLR284C	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGL205W 9 YGR214W	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9 YGL211W 9 YLR377C	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W 9 YPL028W
##########################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 Y0L023W 9 YGL040C 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9 YDR064W 9 YBR295W 9	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C 9 YEL066W 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W 9 YDR453C 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YGR180C 9 YML009C 9 YLR284C 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGL205W 9 YGR214W 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9 YGL211W 9 YLR377C 9	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W 9 YPL028W 9
######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 YOL023W 9 YGL040C 9 YHR025W	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9 YDR487C 9 YDR064W 9 YBR295W 9 YLR048W	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C 9 YEL066W 9 YBR029C	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W 9 YDR453C 9 YDR201W	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C 9 YML009C 9 YLR284C 9 YOR285W	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGR214W 9 YGR214W 9 YBR137W	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9 YGL211W 9 YLR377C 9 YNL026W	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W 9 YPL028W 9 YHR129C
##############################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 YOL023W 9 YGL040C 9 YHR025W 9	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YOR020C 9 YDR487C 9 YDR487C 9 YDR064W 9 YBR295W 9 YLR048W 9	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C 9 YEL066W 9 YBR029C 9	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W 9 YDR453C 9 YDR201W 9	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C 9 YML009C 9 YLR284C 9 YOR285W 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGR214W 9 YGR214W 9 YBR137W 9	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL093C 9 YJL199C 9 YGL211W 9 YLR377C 9 YNL026W 9	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W 9 YPL028W 9 YHR129C 9
#######################################	9 YML032C 9 YNL088W 9 YLL041C 9 YBL080C 9 YOR111W 9 YOR303W 9 YML125C 9 YOL023W 9 YGL040C 9 YHR025W 9 YNL292W	YBR109C 9 YOR323C 9 YHR111W 9 YKL148C 9 YHL018W 9 YDL193W 9 YDR020C 9 YDR487C 9 YDR487C 9 YDR064W 9 YBR295W 9 YLR048W 9 YIL160C	9 YDL175C 9 YOR167C 9 YDR510W 9 YKL141W 9 YBR072W 9 YIL066C 9 YHR168W 9 YPR060C 9 YEL066W 9 YER055C	9 YLR106C 9 YML064C 9 YFL059W 9 YKL192C 9 YHR038W 9 YPL231W 9 YBR176W 9 YGR144W 9 YDR453C 9 YDR201W 9 YAL054C	9 YMR229C 9 YLR245C 9 YGR010W 9 YDR148C 9 YJL130C 9 YGR180C 9 YDR454C 9 YML009C 9 YLR284C 9 YOR285W 9	9 YBL007C 9 YNR033W 9 YMR118C 9 YBR002C 9 YDR174W 9 YKL130C 9 YGR136W 9 YGR214W 9 YGR214W 9 YBR137W 9 YNL331C	9 YFL045C 9 YJL045W 9 YPR004C 9 YMR101C 9 YOR155C 9 YJL199C 9 YJL199C 9 YGL211W 9 YLR377C 9 YNL026W 9 YPR193C	9 YAR002W 9 YJR051W 9 YDR115W 9 YGL221C 9 YIL020C 9 YOR284W 9 YPL017C 9 YDR270W 9 YPL028W 9 YHR129C 9 YGR148C

##	YAL038W	YER154W	YIL042C	YGL031C	YLR264W	YDR060W	YCL040W	YDR047W
##	9	9	9	9	9	9	9	9
##	YJL218W	YPL088W	YCR009C	YNR053C	YKL216W	YDR236C	YNL005C	YJR010W
##	9	9	9	9	9	9	9	9
##	YPR074C	YGL166W	YBR117C	YBL076C	YKL150W	YGL037C	YHR208W	YNL232W
##	9	9	9	9	9	9	9	9
##	YKL211C	YGR207C	YLR328W	YNL123W	YGL175C	YIL147C	YIL043C	YNL092W
##	9	9	9	9	9	9	9	9
##	YORO93C	YBR222C	YLR209C	YER096W	YORO76C	YER110C	YIRO27C	YCR003W
##	9	9	9	9	9	9	9	9
##	YDL052C	YCR076C	YIL154C	YOR133W	YDR196C	YNL044W	YML059C	YPL091W
##	9	9	9	9	9	9	9	9
##	YLR180W	YDR100W	YGL148W	YGR244C	YDR383C	YDR018C	YGR024C	YKL040C
##	9	9	9	9	9	9	9	9
##	YNLO72W	YDR318W	YLR342W	YEL021W	YER168C	YFR050C	YPL059W	YPL148C
##	9	9	9	9	9	9	9	9
##	YDR533C	YIL035C	YOL142W	YNL316C	YOL018C	YPR113W	YDL227C	YGR276C
##	9	9	9	9	9	9	9	9
##	YBR088C	YML042W	YJR133W	YHL009C	YDL142C	YOR209C	YOR131C	YBRO41W
##	9	9	9	9	9	9	9	9
##	YJR056C	YMR186W	YFR009W	YGR192C	YJRO57W	YFR047C	YDL033C	YDR268W
##	9	9	9	9	9	9	9	9
##	YJR070C	YPR201W	YOLO97C	YPL227C	YGL169W	YDRO44W	YKR031C	YBR121C
##	9	9	9	9	9	9	9	9
##	YDL174C	YDL178W	YPR081C	YELO71W	YMR177W	YJR148W	YHR206W	YHR088W
##	9	9	9	9	9	9	9	9
##	YER171W	YBR243C	YNL220W	YFL033C	YLR107W	YBR166C	YDR341C	YHRO32W
##	9 VDI 0700	9	9 VDD2200	9 VDD400U	9	9	9	9
##	YDL078C 9	YCL004W 9	YDR338C 9	YPR183W 9	YGL094C 9	YOL126C 9	YKL085W 9	Y0L080C 9
## ##	yJL046W	YKRO59W	YCL029C	YDR129C	YMR190C	YLR234W	YFL039C	YDR138W
##	13L040W	1 KRO59 W	10L0290 9	1DR129C	9	1Lh254w	9	1DR130W
##	YNLO79C	YDR098C	YNL110C	YLROO9W	YGL105W	YOLO82W	YGR193C	YPL235W
##	1NL079C	1DR096C	1NL110C	1LR009W	1GL105W	10L062W	1011930	1FL233W
##	YERO70W	YJR016C	YDR432W	YCL054W	YLR276C	YHRO20W		YJR132W
##	9	9	1D10432W	10L004W	9	1111t020W	1KL001W	131t132w
##	YOLO78W		YOR227W	YJL187C	YDL208W		_	YBR248C
##					9			
##					YPL104W			
##					9			
##					YHRO91C			
##	9	9	9	9	9	9	9	
##	YPL224C				YGL026C			
##	9	9	9	10	10	10	10	10
##	YOR116C	YIL062C	YOR260W	YMR193W	YPR187W	YBL045C	YOR207C	YGL220W
##	10	10	10	10	10	10	10	10
##	YCR077C	YOR341W	YLR409C	YMR146C	YMR061W	YIL112W	YBR251W	YLR370C
##	10	10	10	10	10	10	10	10
##	YLL036C	YBR135W	YILO21W	YOL149W	YJL098W	YPL126W	YDL060W	YDR228C
##	10	10	10	10	10	10	10	10
##	YDL225W	YLR166C	YNL113W	YFR040W	YIRO01C	YER081W	YER094C	YLR423C
##	10	10		10				
##			YML025C	YOLO40C	YGR034W	YMR188C	YDL191W	YFR030W
##	10	10	10	10	10	10	10	10

##	YDL136W	YGR220C	YNRO37C	YOL127W	YLR340W	YFL022C	YBL038W	YDRO41W
##	10	10	10	10	10	10	10	10
##	YHL015W	YGR264C	YFR049W	YDR354W	YJL063C	YPL183W-A	YDR190C	YDR116C
##	10	10	10	10	10	10	10	10
##	YDR091C	YOR151C	YGR013W	YMR189W	YDR301W	YKR068C	YBR055C	YAL044C
##	10	10	10	10	10	10	10	10
##	YOLO58W	YBL033C	YDR158W	YGR020C	YBR127C	YOR270C	YOR210W	YPR167C
##	10	10	10	10	10	10	10	10
##	YLR447C	YDR211W	YNR035C	YLR117C	YGR091W	YDR195W	YAL016W	YBR260C
##	10	10	10	10	10	10	10	10
##	YER069W	YJR065C	YNL287W	YJR113C	YGL190C	YOL038W	YERO22W	YML100W
##	10	10	10	10	10	10	10	10
##	YDR299W	YDL145C	YER026C	YDL188C	YJL088W	YDR449C	YFR037C	YER082C
##	10	10	10	10	10	10	10	10
##	YBR079C	YFR051C	YGR262C	YML092C	YJR007W	YNROO3C	YPR110C	YCR057C
##	10	10	10	10	10	10	10	10
##	YPR104C	YBR146W	YER016W	YCR093W	YER086W	YKL013C	YAL029C	YGR263C
##	10	10	10	10	10	10	10	10
##	YHR203C	YMRO47C	YDR324C	YDLO47W	YIL076W	YPL139C	YDL030W	YHR018C
##	10	10	10	10	10	10	10	10
##	YLR153C	YKR060W	YJR063W	YBL002W	YGL068W	YGL120C	YKL001C	YLR129W
##	10	10	10	10	10	10	10	10 YKL143W
##	YGL156W	YLR432W	YBLO41W	YIL093C	YILO78W	YCR033W	YEL054C	
##	10	10 YMR199W	10 VDD140U	10 YNL333W	10	10 YNL262W	10 YPL204W	10 YPL256C
##	YKR069W	1MR199W 10	YDR140W		YNL182C			10
## ##	10 YNL104C	YGL022W	10 YGL070C	10 YJR111C	10 YML022W	10 YBR218C	10 YDL051W	YHRO24C
##	1040	1GL022W	10	10	1ML022W	10	10L031w	10
##	YJLOO1W	YPR054W	YNL124W	YPR181C	YDR381W	YOR335C	YGL171W	YOLOO4W
##	13L001w	17RO34W	1NL124W 10	10	1DR301W	10.3330	1GL171W	10L004w
##	YEL002C	YLR438W	YJR101W	YKL056C	YOR340C	YPL217C	YCR046C	YCR053W
##	10	10 10	10	10	10113400	10	10110400	101.003%
##	YGR161C	YLR029C	YKLOO7W	YMR105C	YNLO75W	YMR116C	YPR137W	YGL099W
##	10	10	10 10	10	10	10	11 10 10 W	10L033W
##	YPL001W	YAL033W	YMR128W	YFR044C	YHR170W	YER029C	YPR023C	YER093C
##	10	10	10	10	10	10	10	10
##	YHR174W	YKR067W	YJL080C	YDR225W	YDR311W		YDR300C	YOR204W
##		10				10		
##		YLL011W		YKL218C		YIL070C		
##		10		10		10		10
##		YPL013C	YOR145C			YLR200W		YNL138W
##	10	10	10	10	10	10	10	10
##	YOLO10W	YGL130W	YKL099C	YDR386W	YHRO59W	YHR085W	YPL258C	YKL060C
##	10	10	10	10	10	10	10	10
##	YOR276W	YLL034C	YDR074W	YNL112W	YIL063C	YLR371W	YOLOO6C	YML069W
##	10	10	10	10	10	10	10	10
##	YBL003C	YHR030C	YNL016W	YLR304C	YHRO41C	YGR270W	YBR133C	YHR023W
##	10	10	10	10	10	10	10	10
##	YLR186W	YJR104C	YNL135C	YPL153C	YAL025C	YER008C	YPR103W	YPL009C
##	10	10	10	10		10		10
##		YER127W		YPRO47W		YDL100C		
##	10	10	10	10		10		10
##						YGL147C	YNL067W	YLR367W
##	10	10	10	10	10	10	10	10

##	YJL190C	YIL018W	YGL103W	YLR344W	YGR085C	YPR102C	YNL178W	YBR283C
##	10	10	10L103W	10	10	1020	10 10	10
##	YLR378C	YMR217W	YDL061C	YDR237W	YPR166C	YLR388W	YDR418W	YDL161W
##	10	10	10	10	10	10	1010410W	10
##	YML010W	YLR075W	YPL220W	YGL135W	YKL003C	YLR060W	YNL306W	YEL015W
##	1010W	10/3W	11 L220W	101133	10	10000W	10L300W	10 10
##	YNL200C	YGR171C	YBR153W	YDL202W	YPL255W	YHRO26W	YGL153W	YDR242W
##	10	101(1710	1011133W	10L202W	17 L 2 3 3 W	1111t020w	10L133W	1D1t242W
##	YDR259C	YMR267W	YDROO7W	YIL105C	YPL124W	YLR115W	YCL018W	YALO43C
##	10112390	10 10	1011007 W	1030	10	10 10	101010	10430
##		YCRO28C-A	YLR424W	YHR163W	YEL027W	YCRO36W	YNL063W	YKL018W
##	10010	1011020C A	10	11111103W	166027W	101.030W	10L003w	10 10 10 m
##	YGR248W	Q0130	YGL143C		YCRO73W-A	YNRO34W	YGR156W	YMR260C
##	1GR246W	40130 10	1011430	1NL317W	10n0/3w-A	10x034w	10.130	10
##	YDR429C	YHR148W	YDR376W	Q0045	YKL173W	YHR113W	YNL137C	Q0250
##	1014290	10 10	10R376W	ψ0043 10	10	10 10	10	10
##	YML049C	YIL103W	YPR088C	YMRO54W	YDR446W	YKL059C	YMR124W	YER133W
		11L103w		1MR054W		10090		10 10
## ##	10 YLR295C	YNL022C	10 YBL013W	YERO95W	10 YDR062W	YOR278W	10 YBR228W	YMR153W
##	1LR295C	10220	10L013W	1ER095W	10k062w	101270	10n220w	1MR153W
##	YOR361C	YERO42W	YDL045C	YPR024W	YNL259C	YJR091C	YERO17C	YOLO66C
	10.3010	16h042w	1010450	1PR024w 10	10	10	10	1010000
##	YPL234C			YNL162W		YNL122C	YKR001C	YOL120C
##		1GR210C	YBR084C-A		YBL092W			1011200
##	10	YDL235C	10	10 YMR150C	10	10 YCL020W	10	YHL032C
##	YMRO24W		YMR262W		YHR141C		YIRO22W	1032C
##	10 YML126C	10 YPL214C	10 YHR189W	10 YDL168W	10 YOR108W	10 YKL012W	10 YBL055C	YIL145C
##	10	10	10 10	10L100W		1 KLU12 W	10	1111450
##		YOLO55C		YDL182W	10 VOD1060			YGRO19W
##	YLR147C		YHL014C		YOR196C	YJR145C	YBL027W	1GR019W
##	10	10 YBR257W	10 VND074C	10 YPR002W	10 VDI 06EG	10 YNL256W	10 VOD110C	YDL087C
##	YGR286C		YNRO74C		YDL065C		YOR119C	
##	10	10 YMLO46W	10	10	10	10 YLR049C	10	10 YLR406C
##	YGR118W		YNRO58W	YDL112W	Q0275		YDL203C	
##	10	10 YPL213W	10	10	10	10 YELO58W	10 VDD110U	10 YLR289W
##	YOR201C		YOR236W	YML110C	YHL016C		YBR119W	
##	10	10 V ID047C	10 VMI 106U	10	10 YJR002W	10 YML057W	10	10 VMD071C
##	YBR115C	YJR047C	YML106W	YIL132C			YDR050C 10	YMR271C
##		10 YDL055C		10		10		
##				YMR294W			YBR281C	
##	10			10		10	10 YML037C	10
##		YPR107C		YPL151C				
##	10							10
##	YLR298C						YDR272W	
##	10		10			10		10
##		YOR241W		YLR035C				
##	10			10		10		
##	YMR288W			YDR235W			YMR113W	
##	10		10			10		
##	YJR069C			YPR043W			YCL064C	
##	10		10			10		
##		YGR274C		YDL148C			YDL043C	
##	10			10		10		
##		YAL046C			YNL082W			
##	10	10	10	10	10	10	10	10

##	YKR087C	YER087W	YMR178W	YNL244C	YDR296W	YHR156C	YKL194C	YDR117C
##	10	10	10	10	10	10	10	10
##	YNL222W	YKL151C	YCL037C	YFL003C	YGRO21W	YGR246C	YJL121C	YKL088W
##	10	10	10	10	10	10	10	10
##	YDR004W	YKL184W	YJR117W	YPL178W	YNL185C	YKR009C	YGR084C	YGL091C
##	10	10	10	10	10	10	10	10
##	YCR019W	YDL236W	YLR281C	YLR058C	YDL171C	YBR267W	YJR105W	YOR115C
##	10	10	10	10	10	10	10	10
##	YPR003C	YDR336W	YBR279W	YOLO59W	YDR347W	YJR097W	YCR072C	YMR023C
##	10	10	10	10	10	10	10	10
##	YML021C	YORO54C	YBR263W	YLR092W	YIL083C	YPL118W	YGL236C	YMR208W
##	10	10	10	10	10	10	10	10
##	YGL256W	YDR428C	YGL250W	YER179W	YML007W	YPR073C	YPL190C	YKL035W
##	10	10	10	10	10	10	10	10
##	YHR046C	YMR242C	YLR359W	YBR019C	YGL189C	YPL189W	YPL164C	YGR081C
##	10	10	10	10	10	10	10	10
##	YKL155C	YDR045C	YJR077C	YHRO74W	YKR072C	YBR003W	YPR035W	YJL167W
##	10	10	10	10	10	10	10	10
##	YBR294W	YOL114C	YORO14W	YDL022W	YGR112W	YOR312C	YBR084W	YIL167W
##	10	10	10	10	10	10	10	10
##	YDR505C	YER043C	YMR315W	YBR191W	YGL129C	YNL073W	YJR159W	YLR418C
##	10	10	10	10	10	10	10	10
##	YDR287W	YDR539W	YDR019C	YILOO3W	YNL218W	YMR121C	YPL069C	YGR074W
##	10	10	10	10	10	10	10	10
##	YNL030W	YBR094W	YJL092W	YNL192W	YDR111C	YMR084W	YGR175C	YLR143W
##	10	10	10	10	10	10	10	10
##	YAL062W	YDL164C	YDL201W	YJR137C	YHR106W	YDL131W	YOLO71W	YPL160W
##	10	10	10	10	10	10	10	10
##	YLR401C	YOR168W	YDR076W	YKL191W	YJR139C	YML051W	YLR177W	YOR137C
##	10	10	10	10	10	10	10	10
##	YHR028C	YLR405W	YNL168C	YGRO12W	YDR441C	YLR207W	YGR169C	YDR292C
##	10	10	10	10	10	10	10	10
##	YML004C	YCR010C	YOLO43C	YPR062W	YOLOO5C	YHRO47C	YJL060W	YDRO37W
##	10 YML096W	10 YBL061C	10	10	10 YGL067W	10 YER078C	10 YDR384C	10 YMRO90W
## ##	1ML096W	10	YML024W	YLRO11W 10		10		1MR090W 10
##	YHRO12W	YJR149W	10 YHL022C	YDL036C	10 YEROO4W	YOR171C	10 YPL279C	YDR353W
				1010360				
## ##				YOR390W				
##		1010900		101.390W		10		
##		YML075C		YLR089C		YPL092W		
##		10		10		10 10 10		
##	YLR174W	YHR179W		YOLO60C			YCR037C	
##	10	10		10		10		10
##		YML080W		YJR008W		YPL206C		
##	10	10		10		10		10
##	YBR053C	YDL166C		YOR311C				
##	10	10		10		10		10
##	YLR307W	YKL156W		YOR176W			YBR023C	
##	10	10		10		10		10
##		YLL029W		YHR100C		YJR103W		
##	10	10		10		10		
##		YER183C		YBR196C				
##	10	10	10	10	10	10	10	10

##	YGL023C	YBR085W	YJR032W	YALO41W	YKL212W	YJL095W	YLR111W	YEL003W
##	10	10	10	10	10	10	10	10
##	YKL079W	YNRO27W	YJR060W	YDR389W	YHL007C	YDR310C	YBL062W	YNL322C
##	10	10	10	10	10	10	10	10
##	YGR208W	YBR034C	YJL213W	YOR208W	YMR149W	YJL035C	YJR118C	YIROO6C
##	10	10	10	10	10	10	10	10
##	YER165W	YKR010C	YEL031W	YFL037W	YFL005W	YBL105C	YKL205W	YOR103C
##	10	10	10	10	10	10	10	10
##	YORO98C	YJL183W	YFL029C	YGR271W	YDL101C	YNL298W	YCR088W	YGR009C
##	10	10	10	10	10	10	10	10
##	YJRO40W	YHR142W	YJL002C	YDL020C	YNL233W	YBR288C	YEL061C	YPL269W
##	10	10	10	10	10	10	10	10
##	YNL064C	YDR245W	YORO85W	YOR122C	YKL048C	YKL113C	YOR188W	YER083C
##	10	10	10	10	10	10	10	10
##	YER149C	YGR078C	YJR075W	YGL073W	YNL250W	YNL271C	YEL029C	YLR189C
##	10	10	10	10	10	10	10	10
##	YDR162C	YNL272C	YBR234C	YNL116W	YLR305C	YHRO31C	YIROO8C	YGL251C
##	10	10	10	10	10	10	10	10
##	YJL099W	YNL153C	YJL020C	YKR028W	YGL044C	YJL069C	YPR055W	YDL155W
##	10	10	10	10	10	10	10 VDD0470	10 YEL034W
##	YGR250C	YKR048C 10	YELO51W	YOL140W	YDR238C	YPL237W	YBR247C	
##	10	YPR119W	10	10 YGR128C	10 YNR052C	10 YDR175C	10 YDL124W	10 YNL248C
## ##	YGL106W 10	19K119W	YGL233W 10	10.1200	10	1011730	10L124w	1NL240C
##	YKR024C	YDL066W	YDR028C	YDR422C	YLR074C	YLR275W	YDL213C	YML063W
##	10	10L000w	1DR028C	1004220	1LR074C	1LR275W	1012130	1ML003W
##	YILO34C	YAROO7C	YDR170C	YBR249C	YLR044C	YGR253C	YJR064W	YOR158W
##	10040	10	10	10	10	10112000	101004w	1011100
##	YDL153C	YHRO19C	YGL060W	YKL082C	YLR337C	YMRO96W	YGR233C	YBR098W
##	10	10	10	10	10	10	10	10
##	YDR179C	YOLO54W	YCR079W	YPR121W	YDR166C	YHRO16C	YDRO23W	YJL115W
##	10	10	10	10	10	10	10	10
##	YOL108C	YILOO8W	YJL184W	YGR178C	YMR293C	YJR125C	YLR277C	YOR221C
##	10	10	10	10	10	10	10	10
##	YJL048C	YJL052W	YPR040W	YJR009C	YIL075C	YOL143C	YBL024W	YDR232W
##	10	10	10	10	10	10	10	10
##	YMR296C	YGR058W	YLR135W	YOR224C	YKR037C	YHRO21C	YMR035W	YDR233C
##	10	10	10	10	10	10	10	10
##	YORO89C	YKL010C	YPL125W	YPL171C	YIL039W	YOR356W	YMR232W	YGR043C
##	10	10	10	10	10	10	10	10
##	YLR354C	YJR017C	YORO26W	YNL302C	YNRO41C	YJL180C	YOR330C	YER014W
##	10	10	10	10	10	10	10	10
##	YLR249W	YLR263W	YMR167W	YIL007C	YPRO41W	YML117W	YJR014W	YGL084C
##	10	10		10	10			10
##	YOL145C	YBR038W	YDR529C	YGR110W	YGR125W	YJR141W	YGL225W	YLR112W
##	10	10			10			10
##	YDL217C	YGR194C	YBR223C	YGL043W	YHRO11W	YGR124W	YARO08W	YGR255C
##	10	10	10		10			10
##	YOR219C			YDR035W	YBL019W			
##	10	10	10	10	10			10
##		YGR060W		YKL094W	YKL157W			
##	10	10	10		10			10
##					YDL017W			
##	10	10	10	10	10	10	10	10

##	YKR042W	YAL013W	YOR216C	YLR330W	YMR235C	YLR238W	YHR115C	YDR200C
##	10	10	10	10	10	10	10	10
##	YGR032W	YBR237W	YKL139W	YER172C	YHR154W	YBR021W	YGL226C-A	YDR363W
##	10	10	10	10	10	10	10	10
##	YHR134W	YORO27W	YLR433C	YKL190W	YDR473C	YGL115W	YLR208W	YHR107C
##	10	10	10	10	11	11	11	11
##	YGL237C	YDL160C	YGL122C	YDR448W	YJL124C	YKL045W	YER112W	YDL116W
##	11	11	11	11	11	11	11	11
##	YNL147W	YNL118C	YNRO12W	YDR298C	YML026C	YJR121W		YGL112C
##	11	11	11	11	11	11	11	11
##	YIL104C	YAL032C	YJL014W	YIL142W	YNL078W	YPR051W	YBR193C	YGR083C
##	11	11	11	11	11	11	11	11
##	YBR216C	YGR261C	YNROO6W	YERO25W	YMR261C	YKR026C		YOR250C
##	11	11	11	11	11	11	11	11
##	YOR304W	YJL041W	YDR378C	YNL330C	YOR174W	YLR314C	YGL234W	YKR025W
##	11	11	11	11	11	11	11	11
##	YJR076C	YDL006W	YNL207W	YPR168W	YBR130C	YMR213W		YKL144C
##	11 VDD2000	11 VDI 10111	11	11	11	11 VDD 44 CU	11	11
##	YDR308C 11	YPL181W 11	YGR186W 11	YOR056C 11	YEL056W 11	YDR416W 11	YALO21C 11	YOR150W 11
## ##	YML102W	YER177W	YJL042W	YGL197W	YHR166C	YBR010W		YFL038C
##	1ML102W	1ER177W	1JL042W	1GL197W 11	11	15R010W	11	11
##	YBL026W	YKL193C	YPL195W	YGL241W	YNL154C	YJL173C	YGR204W	YBR254C
##	1BL020W	11	17L195W	1GL241W	11	1311730	1Gh204w	11
##	YKR085C	YLR352W	YDR167W	YJRO22W	YDR472W	YLR288C	YBR282W	YDR507C
##	11	11	1DICIO7 W	131.022W	1D10472W	11		11
##	YMR139W	YEROO3C	YNL236W	YPR182W	YGR200C	YCL024W	YOR368W	YLR310C
##	11	11	11	11	11	11	11	11
##	YML091C	YDL098C	YDR412W	YALO12W	YML109W	YHR169W	YIROO2C	YDL132W
##	11	11	11	11	11	11		11
##	YDL108W	YPL086C	YMR268C	YER092W	YDL195W	YEL055C	YBR143C	YOR110W
##	11	11	11	11	11	11	11	11
##	YLR212C	YLR229C	YIL126W	YNL311C	YARO14C	YDRO21W	YBL090W	YLR398C
##	11	11	11	11	11	11	11	11
##	YMR025W	YDR071C	YJR090C	YIL068C	YJR068W	YGL127C	YGL198W	YGR268C
##	11	11	11	11	11	11	11	11
##	YDR256C	YFL023W	YNL081C	YDR450W	YCR031C	YOR269W	YDR012W	YDR025W
##	11	11	11	11	11	11	11	11
##	YNL177C	YJL177W	YKL180W	YBR031W	YER117W	YBL087C	YJR049C	YBR048W
##	11	11	11	11	11	11	11	11
##	YORO36W	YPL198W	YJL036W	YJL191W	YORO47C	YHR060W	YML031W	
##	11							11
##	YMR286W					•	Q0105	
##				11				11
##							YDR226W	
##	11			11				11
##							YARO15W	
##	11			11				11
##							YOR308C	
##	11			11				11
##							YILO53W	
##	11 VDD 270C			11				11 VDD0646
##							YGR165W	
##	11	11	11	11	11	11	11	11

##	YGR119C	YLR244C	YPR001W	YNRO01C	YCR087C-A	YGR172C	YBL091C	YDR229W
##	11	11	11	11	11	11	11	11
##	YPL077C	YOR102W	YDR086C	YMR300C	YML056C	YHRO42W	YGR134W	YERO74W
##	11	11	11	11	11	11	11	11
##	YER091C	YMR310C	YGL053W	YER157W	YGL119W	YOR327C	YIL069C	YPR048W
##	11	11	11	11		11	11	11
##	YBR252W	YPL109C	YGR188C	YGL151W	YLR167W	YGR283C	YCR081W	YPL082C
##	11	11	11	11		11	11	11
##	YMR068W	YPR070W	YNR010W	YDR145W		YGL254W	YBR061C	YBR018C
##	11	11	11	11	11	11	11	11
##	YHR058C	YGL136C	YDR009W	YDL150W		YDL218W	YOL135C	YPR082C
##	11	11	11	11	11	11	11	11
##	YGL128C	YLR324W	YGR278W	YBR213W	YOR243C	YGR104C	YGR285C	YJR024C
##	11	11	11	11	11	11	11	11
##	YHR176W	YGR113W	YLR357W	YDR527W	YER118C	YDR538W	YGL181W	YPR131C
##	11	11	11	11	11	11	11	11
##	YMR287C	YGL133W	YDR443C	YPR101W	YPL011C	YDR105C	YFR013W	YGR005C
##	11	11	11	11	11	11	11	11
##	YBL074C	YOLO51W	YKR099W	YPR106W		YGL186C	YER148W	YELO70W
##	11 YPL022W	11 YDL130W	11 YBR065C	11		11 YDR121W	11 YDL058W	11 VDI 010U
## ##	1PLU22W 11	1DL130W	11	YNLO36W 11				YPL010W 11
##	YNLO97C	YPL188W	YPR126C	YMR250W		YDR382W	11 YLR267W	YML101C
##	11	11	11	17h250w		1DR362W		11
##	YMR270C	YNL288W	YPL132W	YPL042C		YNLO54W-B		YDR294C
##	11	1NL200W	11 L132W	11 10420		11		11
##	YOLO39W	YNRO32W	YHR210C	YCL063W	YNR073C	YERO37W	YDL209C	YJL140W
##	11	11	11	11			11	11
##	YNL199C	YFR002W	YKL002W	YBL022C	YIL084C	YBR020W	YNL129W	YMR130W
##	11	11	11	11		11	11	11
##	YDR052C	YDL081C	YNL280C	YNL151C	YNRO71C	YFR036W	YEL062W	YBR024W
##	11	11	11	11	11	11	11	11
##	YMR263W	YML015C	YERO60W-A	YDR147W	YCR020C	YNL320W	YGR094W	YPL246C
##	11	11	11	11	11	11	11	11
##	YHR029C	YLR017W	YIL155C	YOL137W	YKR080W	YGR256W	YDR293C	YEL038W
##	11	11	11	11	11	11	11	11
##	YFL030W	YHR183W	YCR059C	YIRO15W	YHR013C	YBR207W	YNL332W	YGL224C
##		11						11
##	YJR156C	YDL244W	YKR079C	YEL024W	YNL142W	YMR114C	YDL141W	YPR138C
##		11						11
##			YDL177C					
##	11				11			
##	YGL212W		YGR070W					
##	11				11			11
##			YJR010C-A					
##		11			11			11
##			YBR050C					
##	11				11			11
##		YOR349W			YJL034W			
##	11 VDI 019U		11 YGL216W		11 VCI 017C			VCDOEOU
## ##	YPL018W 11				YGL217C 11			
##		YLL002W			YKR054C			
##		1LL002w		1DR000W		1DR054C		11
πĦ	11	11	11	11	11	11	11	11

##	YDR212W	YPL241C	YBR188C	YMR109W	YER173W	YGL085W	YMR198W	YCR038C
##	11	11	11	11	11	11	11	11
##	YOR290C	YGL244W	YLR071C	YNL119W	YML097C	YPL194W	YKL068W	YHR158C
##	11	11	11	11	11	11	11	11
##	YAL020C	YDR323C	YDL102W	YDR254W	YGR229C	YGR140W	YFR019W	YJL090C
##	11	11	11	11	11	11	11	11
##	YGL116W	YGL124C	YERO07W	YER107C	YHL027W	YPR135W	YMR307W	YGL240W
##	11	11	11	11	11	11	11	11
##	YBL103C	YNL126W	YAL040C	YNR038W	YIL002C	YMR129W	YBL051C	YOR157C
##	11	11	11	11	11	11	11	11
##	YDR020C	YMR236W	YDR022C	YLR192C	YDR176W	YGR196C	YPR160W	YNL169C
##	11	11	11	11	11	11	11	11
##	YCR052W	YBR245C	YJL061W	YCR002C	YNRO46W	YHR099W	YMR226C	YLL022C
##	11	11	11	11	11	11	11	11
##	YHR098C	YHR135C	YMR091C	YJR074W	YHR064C	YKL028W	YLR321C	YLR262C
##	11	11	11	11	11	11	11	11
##	YJR006W	YPR112C	YGR154C	YKL152C	YJL033W	YLL026W	YKL095W	YPL161C
##	11	11	11	11	11	11	11	11
##	YPL140C	YIL113W	YFR011C	YNL023C	YKL080W	YPR189W	YIRO34C	YHR057C
##	11	11	11	11	11	11	11	11
##	YGR120C	YELO41W	YMR032W	YLR126C	YOR164C	YCL032W	YGR239C	YJR135C
##	11	11	11	11	11		11	11
##	YKR088C	YJL151C	YPL105C	YLR190W	YPL174C	YGL170C	YJL058C	YKR100C
##	11	11	11	11	11	11	11	11
##	YKL050C	YCL033C	YERO71C	YDL121C		YDR261W-A		YPL172C
##	11 YPL159C	11 YMR233W	11 YLR239C	11 YORO28C	11 YCROO5C	11 YMR163C	11 YARO73W	11 YLR319C
##								11 11
##	11 YLR031W	11 YNL247W	11 YJR083C	11 YLR446W	11 YGR170W	11 YORO74C	11 YLR253W	YHR184W
## ##	11 11	1NL247W 11	11		1GR170W		1LR253W	11n104w
##	YDR273W	YDR026C	YGR189C	11 YJL153C	YLR376C	11 YJL057C	YPR136C	YNLO47C
##	1DR273W	1DR0200	11	11	11	11	11	11
##	YLR420W	YNLO49C	YBR284W	YBR155W	YDL013W	YLRO72W	YPR172W	YNL273W
##	1L1(420W	11	1D1t204w	1DR133W	1DL013w	11.1072W	1FIL172W	1NL273W
##	YOR318C	YLR373C	YJR134C	YNL105W	YOR317W	YOR359W	YDR203W	YPR175W
##	11	11	13111340	1NL103W	101.517 w			11 11 11 11 11 11 11 11 11 11 11 11 11
##	YOR324C	YDR455C	YDL118W	YPL233W	YKL023W			
##		11		11 E200W				11
##								YHR143W-A
##		11		11				11
##								YGR185C
##								11
##						YER180C		
##	11	11				11		11
##						YMR273C		YOL050C
##	11	11	11	11	11	11	11	11
##	YDR423C	YOR112W	YGR101W	YML127W	YLR133W	YML079W	YJL129C	YLL057C
##	11	11	11	11	11	11	11	11
##	YNL305C	YGRO07W	YIL162W	YOL008W	YDR171W	YHR144C	YFL060C	YGR062C
##	11	11	11	11	11	11	11	11
##	YGL017W	YIR032C	YGR202C	YHR201C	YML005W	YHR070W	YGL173C	YOL148C
##	11	11	11			11		11
##	YKL093W	YBR015C	YPL084W	YOROO8C	YDR160W	YMR039C	YBR229C	YDL207W
##	11	11	11	11	11	11	11	11

##	YIL009W	YKL089W	YMR168C	YLR045C	YDR150W	YER111C	YOR195W	YJL030W
##	11	11	11	11	11	11	11	11
##	YIRO31C	YGL097W	YDR164C	YIL004C	YLR268W	YNL106C	YERO15W	YBR080C
##	11	11	11	11	11	11	11	11
##	YBL050W	YBR097W	YDR495C	YGL095C	YPL155C	YGL086W	YJL013C	YPL209C
##	11	11	11	11	11	11	11	11
##	YGR238C	YBL082C	YHR010W	YPR116W	YDR369C	YGL163C	YDR217C	YBR215W
##	11	11	11	11	11	11	11	11
##	YOL068C	YORO25W	YMR224C	YNL171C	YAL026C	YLR425W	YNL289W	YMR299C
##	11	11	11	11	11	11	11	11
##	YKRO47W	YIL159W	YORO58C	YDR149C	YDL117W	YLR381W	YJR053W	
##	11	11	11	11	11	11	11	11
##	YBR095C	YBR107C	YNL170W	YHR191C	YBR231C	YNL215W		YML095C-A
##	11	11	11	11	11	11	11	11
##	YML016C	YCL016C	YER122C	YLR235C	YNL098C	YDR328C	YOL094C	YDR460W
##	11	11	11	11	11	12	12	
##	YER027C	YBL056W	YKL057C	YBR125C	YGL208W	YBR087W	YML098W	YIL050W
##	12	12	12	12	12	12	12	12
##	YJR050W	YBL021C	YPR066W	YCL010C	YELO11W	YBR059C	YBR081C	YJR042W
##	12	12	12	12	12	12	12	12
##	YNL261W	YKR014C	YMR120C	YDR001C	YDR359C	YER146W	YOR244W	YIL079C
##	12	12	12	12	12	12	12	12
##	YOLO90W	YNL290W	YERO31C	YJL081C	YFL024C	YPL254W	YOR185C	YKR006C
##	12 VI D4 07 0	12	12	12	12	12	12	12
##	YLR127C	YOR106W 12	YALO27W	YER089C 12	YGL092W	YML095C 12	YBR017C 12	YNL312W 12
## ##	12 YOR144C	YGL187C	12 YMR223W	YILO46W	12 YCR086W	YNL152W	YOR385W	YDR084C
##	1001440	12	17th 223w	11L040W	12	1NL152W	100.303	12
##	YELO43W	YDR142C	YPRO46W	YER144C	YDR408C	YGL134W	YJR102C	YJR094C
##	1EL043W	12	12	12	12	1GL134W	1311020	
##	YNL086W	YER141W	YKL038W	YGL015C	YGL079W	YGL161C	YPR028W	YML008C
##	1NL000W	12 12	1KL036W	10130	1GL079W	1911010	12	
##	YLR028C	YLR211C	YCL019W	YLR345W	YLR362W	YGRO71C	YKL061W	YDR479C
##	12	12	12	12 12	12	12	12	
##	YGL125W	YDL165W	YHR171W	YPL149W	YLR125W	YLR030W	YLR182W	YDR113C
##	12	12	12	12	12	12	12	
##	YFR008W	YIL144W	YDR189W	YBL102W	YIL052C	YMR077C	YOR232W	
##	12	12						12
##			YERO56C-A					
##	12	12	12	12	12	12	12	12
##	YJR048W	YDR366C	YOR101W	YGR146C	YMR009W	YHL021C	YNR069C	YNLO41C
##	12	12	12	12	12	12	12	12
##	YOROO4W	YNL155W	YDR339C	YDR403W	YDR109C	YORO52C	YCL027W	YER167W
##	12	12	12	12	12	12	12	12
##	YML104C	YPL242C	YGR006W	YOR254C	YLL043W	YHR101C	YOR194C	YJL194W
##	12	12	12	12	12	12	12	12
##	YLR103C	YHR118C	YGL206C	YPR141C	YKL073W	YALOO9W	YOR109W	YPR159W
##	12	12	12	12	12	12	12	12
##	YML124C	YKR086W			YBR289W	YJL148W	YML103C	YPR025C
##	12	12		12		12		12
##		YOR358W			YHL002W			
##	12	12	12			12		12
##		YDR099W			YOR217W			
##	12	12	12	12	12	12	12	12

##	YGR075C	YDL002C	YJR144W	YLR384C	YJL024C	YBR091C		
##	12	12	12	12	12			
##	YPL085W	YDL204W	YLR196W	YOL070C	YMR094W		YLR254C	YDR425W
##	12	12	12	12	12		12	
##	YOR159C	YDR489W	YORO23C	YDR271C	YMR159C	YGL172W	YOR302W	
##	12	12	12	12	12	12	12	
##	YPL201C	YKR082W	YDR252W	YPL023C		YFL034C-B		
##	12	12	12	12	12	12	12	
##	YMR280C	YMR001C	YLR451W	YIL122W	YLR185W	YDR500C	YOR124C	
##	12	12	12	12	12	12	12	
##	YOR220W	YIL092W	YKL044W	YKL107W	YHR177W	YGR129W	YHR014W	YNL249C
##	12	12	12	12	12	12	12	12
##	YDL219W	YOROO5C	YDR356W	YPR019W	YLR335W	YDR027C	YKL022C	YLR116W
##	12	12	12	12	12	12	12	12
##	YLR195C	YHR004C	YNL299W	YLR306W	YKL196C	YNL102W	YHR202W	YNL031C
##	12	12	12	12	12	12	12	12
##	YGR116W	YNLO06W	YKL176C	YOR153W	YKL092C	YIL106W	YLR170C	YJL074C
##	12	12	12	12	12	13	13	13
##	YBR195C	YDL192W	YDLOO3W	YORO57W	YGL150C	YIL136W	YCR020C-A	YLR097C
##	13	13	13	13	13	13	13	13
##	YDR439W	YDR013W	YEL005C	YLR417W	YNROO7C	YJL072C	YIRO16W	YBL006C
##	13	13	13	13	13	13	13	13
##	YGRO04W	YIL109C	YML034W	YNR068C	YJL019W	YJR110W	YML105C	YHR172W
##	13	13	13	13	13	13	13	13
##	YFR028C	YPL031C	YML065W	YML088W	YLR270W	YDR097C	YNL172W	YHRO51W
##	13	13	13	13	13	13	13	13
##	YOR264W	YML014W	YPL002C	YER106W	YDR357C	YORO97C	YDR261W-B	YGR161C-C
##	13	13	13	13	13	13	13	13
##	YMR030W	YOL131W	YLR026C	YLR453C	YPL169C	YOR281C	YJR011C	YPL090C
##	13	13	13	13	13	13	13	13
##	YBR181C	YLR274W	YDR085C	YLR079W	YBL023C	YEL032W	YGL038C	YHR079C
##	13	13	13	13	13	13	13	13
##	YGL027C	YGR098C	YOR160W	YPR029C	YERO59W	YPL219W	YNL216W	YBR202W
##	13	13	13	14	14	14	14	14
##	YGR092W	YGL003C	YDR320C	YDL137W	YNL161W	YBR255W	YBL078C	YARO19C
##	14	14	14	14	14			14
##	YAL024C	YPL259C	YHL019C	YFR043C	YDL224C	YKL135C	YHR152W	YPR111W
##	14	15	15	15	15	15	15	15
##	YDR146C							
##	15							

#ordenar en orden creciente, ya que la excentricidad, entre más baja, indica que el nodo es más central # por excetricidad los nodos más importantes son YBL046W YHR102W YGR173W YDR342C YIR005W YNL

digri<-degree(yeast)# no se indica si in o out, o total, debido a que es una red no dirigida.
sort(digri, decreasing =TRUE) #se ordena de manera decreciente, porque entre mayor el valor del degree,

##	YPR110C	YPL131W	YNL178W	YILO21W	YOL127W	YJL063C	YBR283C	YLR378C
##	118	115	114	113	113	108	108	108
##	YMR260C	YBR251W	YGL123W	YNL284C	YGL103W	YOLO40C	YGR034W	YDL191W
##	107	106	106	106	106	104	104	104
##	YDL136W	YGR220C	YNR037C	YORO63W	YIL018W	YLR344W	YEL050C	YPL183W-A
##	104	104	104	104	104	104	104	102
##	YDRO41W	Y.JR.113C	YMI.O10W	YBI.038W	YI.RO75W	YGI.068W	YHI.015W	YNT.189W

##	101	97	95	94	93	91	90	90
##	YJR123W	YBL004W	YDL014W	YLR175W	YBL092W	YNL132W	YDR101C	YNRO16C
##	86	73	68	62	62	60	58	58
##	YIL147C	YPR010C	YJL109C	YER016W	YBR257W	YMR290C	YDL029W	YEROO6W
##	58	57	57	57	57	56	56	55
##	YDR496C	YGR103W	YBR084C-A	YBL027W	YKL009W	YHR203C	YJR145C	YHR052W
##	55	55	55	55	54	54	54	53
##	YPR016C	YGR090W	YBR146W	YDR237W	YNL271C	YOR116C	YPL093W	YPR187W
##	53	53	53	53	53	52	52	52
##	YOR207C	YMR310C	YGR283C	YNL002C	YPL012W	YMR049C	YNL306W	YOR341W
##	52	52	52	51	51	50	50	49
##	YGL059W	YIL042C	YML025C	YOLO77C	YOR272W	YGL205W	YGL211W	YBR234C
##	48	48	47	46	46	46	45	45
##	YDR116C	YNL061W	YHR147C	YDL140C	YPL043W	YGR145W	YMR158W	YDL061C
##	44	44	44	43	43	43	43	43
##	YPR166C	YLR388W	YDR036C	YGL147C	YNL067W	YLR367W	YJL190C	YGR085C
##	43	43	42	42	42	42	42	42
##	YPR102C	YBR048W	YKL173W	YMR188C	YOR151C	YMR125W	YDR025W	YLR197W
##	42	42	42	41	41	41	41	40
##	YML026C	YKL170W	YOR206W	YDR450W	YDR012W	YNL177C	YJL177W	YKL180W
##	40	40	40	40	40	40	40	40
##	YBR031W	YER117W	YBL087C	YDR127W	YBR208C	YNL081C	YCR031C	YJL191W
##	40	40	40	39	39	39	39	39
##	YHR197W	YPL126W	YKR081C	YOR150W	YIL133C	YDR394W	YLR340W	YNL069C
##	38	38	38	38	38	37	37	37
##	YKL113C	YLR409C	YDL185W	YKL145W 36	YDR449C	YPL231W	YMR143W	YDL083C
## ##	37 YPL212C	36 YKL104C	36 YEL054C	YDR418W	36 YPL220W	36 YGL135W	36 YHR148W	36 YNL292W
##	36	35	35	35	35	35	35	1NL292W 35
##	YGR118W	YNL185C	YLL008W	YNRO36C	YPR132W	YDL202W	YKL192C	YML049C
##	35	35	34	34	34	34	34	34
##	YFL001W	YGL063W	YDR117C	YBR247C	YDR337W	YERO29C	YBR154C	YLR423C
##	34	34	34	34	33	33	32	32
##	YOR210W	YER082C	YDR324C	YER126C	YML009C	YNL244C	YPL227C	YNL110C
##	32	32	32	32	32	32	32	32
##	YHLOO4W	YKL014C	YDL031W	YKR060W	YPL211W	YCL059C	YKL024C	YDR226W
##	32	31	31	31	31	31	31	31
##	YER170W	YLR244C	YBL091C		YGR162W		YLR147C	
##	31	31	31	31	30	30	30	30
##	YGL111W	YJR014W	YHLO30W	YGL120C	YJR002W	YML054C	YJR008W	YPR183W
##	29	29	28	28	28	28	28	28
##	YDR162C	YMR314W	YLR129W	YNL236W	YER061C	YNL123W	YBR041W	YHR088W
##	28	27	27		27		27	27
##	YOLO41C	YLL036C	YGR245C	YOR180C	YAL035W	YHRO41C	YMR093W	YNL137C
##	26	26	26		26			26
##	YORO93C			YMR128W				
##	26	26	25	25	25			
##	YLR275W	YGL049C			YHR200W			
##	25	24		24	24			
##	YCR057C				YDR283C		YIL035C	
##	24	24			24			
##			YERO22W		YOR174W			
##	23	23		23	23		23	
##	YML064C	YNL256W	YPL151C	YUL135C	YOLO51W	YLKO71C	YFR052W	YLR222C

##	23	23	23	23	23	23	22	22
##	YFR004W	YKL067W	YER069W	YJR109C	YIL061C	YLR002C	YPL217C	YDR427W
##	22	22	22	22	22	22	22	22
##	YJR091C	YPL028W	YIL160C	YPR144C	YMR288W	YGR104C	YDL148C	YML007W
##	22	22	22	22	22	22	22	22
##	YEL061C	YERO90W	YERO21W	YOR261C	YOR117W	YDR087C	YBR055C	YIL116W
##	22	21	21	21	21	21	21	21
##	YLR117C	YDR299W	YMR112C	YDLO30W	YLR449W	YNL182C	YOR335C	YDR148C
##	21	21	21	21	21	21	21	21
##	YOL120C	YGL151W	YNL301C	YCR081W	YPR070W	YNRO10W	YPR178W	YDR272W
##	21	21	21	21	21	21	21	21
##	YHR058C	YORO40W	YDR443C	YJR057W	YML004C	YDR280W	YER081W	YCL030C
##	21	21	21	21	21	20	20	20
##	YDL007W	YDL111C	YHR069C	YOR259C	YPR108W	YJR007W	YOROO1W	YPR168W
##	20	20	20	20	20	20	20	20
##	YIL093C	YHR114W	YNL088W	YNRO33W	YER133W	YPR067W	YLL027W	YNL005C
##	20	20	20	20	20	20	20	20
##	YHR208W 20	YIL154C 20	YOL142W 20	YDR292C 20	YJR148W 20	YCL054W 20	YORO39W 19	YDL097C 19
## ##	YGRO13W	YDR240C	YPR190C	YOR145C	YKL060C	YKL012W	YDL087C	YPL213W
##	1GR013W	1DR240C	19 19	1011450	1810000	1KL012W	19	1PL213W 19
##	YKL216W	YPL252C	YPL042C	YGL025C	YGR128C	YOR326W	YBR221C	YIL125W
##	1KL210W	19	19	19	19	1016520W	18	11L125W
##	YLR447C	YDL147W	YBR160W	YPL266W	YKL144C	YKROO2W	YFL002C	YER155C
##	18	18	18	11 L200W	18	18	18	18
##	YMRO24W	YMR262W	YBL055C	YALO54C	YBR115C	YNL168C	YHR206W	YFL033C
##	18	18	18	18	18	18	18	18
##	YLR006C	YJR017C	YNL113W	YGRO91W	YMRO47C	YER052C	YNL075W	YLLO11W
##	18	18	17	17	17	17	17	17
##	YJL130C	YLR424W	YDR454C	YOLO23W	YNL026W	YMR300C	YER110C	YJR070C
##	17	17	17	17	17	17	17	17
##	YJL020C	YLR276C	YGL048C	YMR061W	YJL203W	YER178W	YNLO71W	YGL112C
##	17	17	17	16	16	16	16	16
##	YFL018C	YCL017C	YJR093C	YLR355C	YLR153C	YDR308C	YDR416W	YML022W
##	16	16	16	16	16	16	16	16
##	YDL051W	YBL026W	YCL009C	YLR106C	YHRO26W	YDR064W	YLR231C	YPL234C
##	16	16	16	16	16	16	16	16
##	YGR214W		YPL214C					
##	16	16	16	16		16		16
##			YDR441C		YOR221C			
##	16		16		16			15
##	YLR347C		YNR003C		YGR263C			
##	15		15		15			
##					YLR115W			-
##			15 VND074C		15 YPL091W			15 VMI 004U
## ##								1ML094w 15
##	15 VEROFOC		15 VDD000C		15 YDL142C			
##	15		15		15			15
##			YERO94C		YDR211W			
##	15		14		10h211w			
##					YKL018W			
##	14		14		14		14	-
					YEL058W			
	40200							

##	14	14	14	14	14	14	14	14
##	YMR278W	YLR298C	YMR240C		YPRO43W	YKR038C	YDL104C	YBR263W
##	14	14	14		14	14	14	14
##	YJR137C	YIL094C	YHR062C	YDR129C	YJL069C	YKR048C	YBR248C	YOR332W
##	14	14	14		14	14	14	13
##	YLR291C	YOR310C	YDR448W	YDR158W	YBR127C	YDR195W	YGR135W	YCR035C
##	13	13	13	13	13	13	13	13
##	YML092C	YBR081C	YBR218C	YCR046C	YLR029C	YHRO66W	YFR044C	YHR170W
##	13	13	13	13	13	13	13	13
##	YPL013C	YLR200W	YKL099C	YHR086W	YDR502C	YPR103W	YHR111W	YHRO38W
##	13	13	13	13	13	13	13	13
##	YBR189W	YPL081W	YPR060C	YKR001C	YOR285W	YNRO58W	Q0275	YNL232W
##	13	13	13	13	13	13	13	13
##	YPR107C	YCR003W	YOR274W	YGR244C	YGRO21W	YJL121C	YGR084C	YDR347W
##	13	13	13	13	13	13	13	13
##	YDR404C	YPL118W	YGL236C	YKL155C	YOR131C	YGL129C	YNL073W	YMR121C
##	13	13	13	13	13	13	13	13
##	YPL069C	YDR037W	YNL220W	YJL172W	YLR009W	YGL105W	YOL149W	YMR309C
##	13	13	13	13	13	13	12	12
##	YDR298C	YJR121W	YAL032C	YGR020C	YOLO38W	YFR037C	YGL195W	YJL005W
##	12	12	12	12	12	12	12	12
##	YGR232W	YGR267C	YERO02W	YIL033C	YOL139C	YBR039W	YDL004W	YBL099W
##	12	12	12	12	12	12	12	12
##	YPRO24W	YLR289W	YGL030W	YDR322W	YORO76C	YLR022C	YDR018C	YIRO42C
##	12	12	12	12	12	12	12	12
##	YDL043C	YNL222W	YKR009C	YPR073C	YBR003W	YJL167W	YER171W	YCL004W
##	12	12	12	12	12	12	12	12
##	YJL046W	YDR364C	YGR252W	YEL051W	YHR020W	YBR042C	YDR328C	YLR208W
##	12	12	12	12	12	12	11	11
##	YDL160C	YDL116W	YDL060W	YDR388W	YPL135W	YJL088W	YOR142W	YGL009C
##	11	11	11	11	11	11	11	11
##	YMR239C	YBL041W	YNL262W	YGR218W	YOLOO4W	YCR053W	YBR200W	YMR229C
##	11	11	11	11	11	11	11	11
##	YDL100C	YDL226C	YEL015W	YCR028C-A	YER017C	YHRO25W	YDL168W	YDR236C
##	11	11	11	11	11	11	11	11
##	YJR047C	YMR294W	YIRO27C	YDL052C	YGR278W	YLR439W	YMR178W	YKL184W
##	11	11	11		11	11	11	11
##	YGR112W	YNL218W	YLR143W					YDR175C
##	11	11	11		11			
##	YDL213C		YOR286W			YGL137W		
##	11	11	11			10		10
##	YDL047W	YKR025W	YJR063W				YLR438W	
##	10	10	10		10			10
##	YHR196W	YOR202W	YPL198W				Q0085	
##	10	10	10			10		10
##	YBL080C		YMR101C					
##	10	10	10			10		10
##	YOR196C	YOR236W	YGL037C					
##	10	10	10			10		10
##	YMR113W	YOL121C	YJR024C		YGR274C			
##	10 VVI 104C	10	10 V ID 1 1 7 U			10 VMD 40C		
##	YKL194C			YPL178W				
##	10 VCD 07411	10	10		10 V ID 1 20C		10 VEDOE7C	
##	IGKU/4W	YHR106W	1GL169W	YDR076W	YJR139C	IDK353W	I EKOD/C	YPL008W

##	10	10	10	10	10	10	10	10
##	YKL132C	YEL024W	YIL051C	YBR288C	YALO40C	YMR236W	YPL237W	YNL248C
##	10	10	10	10	10	10	10	10
##	YGR253C	YOL143C	YNL302C	YDR473C	YER112W	YLR166C	YMR205C	YPR167C
##	10	10	10	9	9	9	9	9
##	YGL190C	YDL145C	YOR136W	YKR069W	YNL104C	YBR009C	YGL171W	YPR191W
##	9	9	9	9	9	9	9	9
##	YGR155W	YDR167W	YALO33W	YLR288C	YDR311W	YBR025C	YDR074W	YBL007C
##	9	9	9	9	9	9	9	9
##	YGL127C	YMR118C	YKL141W	YOR128C	YGR180C	YCR036W	YGL143C	YIL103W
##	9	9	9	9	9	9	9	9
##	YOR278W	YDL045C	YIRO22W	YDL182W	YLR406C	YML110C	YERO74W	YIL069C
##	9	9	9	9	9	9	9	9
##	YKL211C	YLR328W 9	YDL075W	YDR145W	YDR196C	YGL128C	YMR287C	YDR462W
## ##	9 YGL091C	YLR281C	9 YLR359W	9 YBR019C	9 YOL114C	9 YMR315W	9 YNL151C	9 YILOO3W
##	1GL091C 9	1Ln201C	1LR359W	1BR019C	10L114C	1MR313W 9	1NL151C	11L003W
##	YKI.191W	YML051W	YDR293C	YBR196C	YBL105C	YDR054C	YOL140W	YMR193W
##	1KL131W 9	111L001W	9	9	9	9	10L140W	1711(135W 8
##	YHR107C	YOLO58W	YNL287W	YDL188C	YKR026C	YGL234W	YPL139C	YJRO42W
##	8	8	8	8	8	8	8	8
##	YGR186W	YPL204W	YOL086C	YGR204W	YNL085W	YBR103W	YLL018C	YFL045C
##	8	8	8	8	8	8	8	8
##	YOR167C	YBR153W	YGR010W	YDR242W	Q0105	YGL221C	YHR168W	YBR176W
##	8	8	8	8	8	8	8	8
##	YARO15W	YNL162W	YHR141C	YHL032C	YOR108W	YBR270C	YGR019W	YML106W
##	8	8	8	8	8	8	8	8
##	YER157W	YMR271C	YDL055C	YNL241C	YML059C	YDL205C	YGR113W	YFR050C
##	8	8	8	8	8	8	8	8
##	YKR087C	YER087W	YDR004W	YCR019W	YJR105W	YER179W	YOR209C	YPR035W
##	8	8	8	8	8	8	8	8
##	YBR084W	YDR539W	YJL092W	YMR084W	YDL131W	YOR168W	YOLO33W	YKL156W
##	8 V0D1000	XDD 0.4EC	8 1100 A 201	8 YLR074C	8 YGR120C	8 YMR293C	8	8 YOL148C
## ##	YOR122C 8	YBR245C 8	YDR432W 8	1LR074C 8	1GK120C 8	1MR293C 8	YHRO21C 8	10L148C
##	YMR146C	YJL124C	YJL098W	YNL147W	YFR040W	YNL118C	YFL022C	YNRO12W
##	7	7	7 TSE030W	7	7	7	7	7 TNICO12W
##	•	•	•	•	•	YFR051C		•
##	7	7	7	7	7	7	7	7
##	YIL076W	YOR184W		YJR111C	YFL038C		YBR272C	YDL132W
##	7	7	7		7		7	
##	YNL112W	YLR212C	YOL006C	YIL126W	YOR323C	YJR068W	YMR217W	YDR510W
##	7	7	7	7	7	7	7	7
##	YDR115W	YDR259C	YMR267W		YIL020C		YLR295C	YMR153W
##	7	7	7			7	7	
##	YMR150C	YER055C	YAL038W		YLR264W			
##	7	7	7			7	7	
##	YDR050C	YNL092W		YPR082C	YGL148W			
##	7	7	7	7		7	7	
##	YGR132C	YPR086W	YGR276C 7		YHRO46C 7			
## ##	7 YOLO71W	7 YPL160W	/ YGRO12W		•	7 YJR149W	7 YEROO4W	
## ##	YULO71W 7	1PL160W	1GR012W			1JR149W 7	1 EROU4W 7	
##						YOLO80C		
	12111000	10100110	1110140	100040	1011200	1010000	101000W	11 10000

##	7	7	7	7	7	7	7	7
##	YCL029C	YKR054C	YFL039C	YKR028W	YGL044C	YOL082W	YDR238C	YGR061C
##	7	7	7	7	7	7	7	7
##	YOR158W	YJL187C	YMR035W	YOR347C	YHR091C	YORO95C	YBL019W	YML085C
##	7	7	7	7	7	7	7	7
##	YIL106W	YIL062C	YGL220W	YLR370C	YKL057C	YGL122C	YDR228C	YDL225W
##	6	6	6	6	6 VDD0E66	6	6	6
## ##	YFRO30W 6	YDR354W 6	YJL026W 6	YJL014W 6	YBR256C 6	YOR270C 6	YNRO35C 6	YALO16W 6
##	YJR065C	YBR079C	YOR304W	YCRO93W	YKL013C	YBL002W	YKL001C	YMR.213W
##	6	6	6	6	6	6	6	6
##	YDR385W	YMR116C	YPR137W	YGL099W	YPL254W	YKR067W	YMR172W	YMR268C
##	6	6	6	6	6	6	6	6
##	YHR059W	YBL039C	YGL092W	YNL016W	YMR223W	YPR047W	YLR245C	YLR060W
##	6	6	6	6	6	6	6	6
##	YFL059W	YCL018W	YOR303W	YML125C	YDR487C	YDR408C	YMR054W	YGR144W
##	6	6	6	6	6	6	6	6
##	YOR361C	YGR210C	YNL122C	YDL235C	YHL014C	YGR286C	YPR002W	YGL031C
##	6	6	6	6	6	6	6	6
##	YDL112W	YOR201C	YLR167W	YPL070W	YOR133W	YGL133W	YPL011C	YGR005C
## ##	6 YDR336W	6 YMR.023C	6 YKR072C	6 YJL140W	6 YMR.263W	6 YGR175C	6 YALO62W	6 YDI.201W
##	1DK336W	1MRU23C	1KKU12C	1JL140W	1MR263W	1GR175C	1 ALU62W	1DL201W
##	YGR169C	YDI.174C	YDL178W	YELO71W	YBL061C	YLRO11W	YDL036C	YLR382C
##	6	6	6	6	6	6	6	6
##	YOLO95C	YLR308W	YDL078C	YDL141W	YLR165C	YLR307W	YBR023C	YGL252C
##	6	6	6	6	6	6	6	6
##	YBR011C	YKL085W	YJL095W	YEL003W	YGR092W	YOR290C	YDL102W	YNL079C
##	6	6	6	6	6	6	6	6
##	YGR078C	YNL153C	YPL235W	YER070W	YKL081W	YIL034C	YHR019C	YORO89C
##	6	6	6	6	6	6	6	6
##	YPL172C	YGR101W	YGR255C	YBL098W	YML086C	YLL057C	YDL143W	YPR029C
##	6	6	6	6	6	6	6	5
##	YGL115W	YOLO94C	YBL045C	YBR126C	YGL237C	YBR135W	YIROO1C	YKL103C
## ##	5 YIL142W	5 YLRO25W	5 YNL330C	5 YGL156W	5 YPL181W	5 YMR199W	5 YER177W	5 YMR120C
##	11L142W	1L11025W	1NL3300	10L130W	1FL101W	1mii 99w 5	1ER177W	5
##	YPL256C		YGL197W				YDR381W	
##	5	5	5	5	5		5	5
##					YDR300C	YDL098C	YIL070C	YORO35C
##	5	5	5	5	5	5	5	5
##	YPL258C	YML069W	YJR104C	YGL198W	YCR086W	YJR049C	YNL200C	YGL153W
##					5			
##					YDR062W			
##					5			
##					YGR134W			
##					5			
##					YLR357W			
## ##					5 YNL288W			
##					1NL200W			
##					YMR130W			
##					5			
					YDR268W			

##	5	5	5	5	5	5	5	5
##	YOLO97C	YJL060W	YEL038W	YPL279C	YOR390W	YNL037C	YLR089C	YGL224C
##	5	5	5	5	5	5	5	5
##	YOR375C	YPL206C	YHR032W	YBR053C	YPL110C	YDR338C	YHR128W	YER183C
##	5	5	5	5	5	5	5	5
##	YLR163C	YGL154C	YKR059W	YPL016W	YALO41W	YER125W	YDR389W	YOR265W
##	5	5	5	5	5	5	5	5
##	YFL037W	YHR118C	YORO98C	YLR234W	YDR212W	YER173W	YPL269W	YHR158C
##	5	5	5	5	5	5	5	5
##	YER107C	YJL061W	YGL106W	YNR052C	YHR099W	YGL100W	YBR249C	YDL153C
##	5	5	5	5	5	5	5	5
##	YLR337C	YDR023W	YELO41W	YDR489W	YDR232W	YMR296C	YKR037C	YOR356W
##	5	5	5	5	5	5	5	5
##	YML087C	YOL145C	YOLO64C	YLR133W	YGR062C	YNL243W	YDL207W	YBR087W
##	5 VNI 070U	5 VDD05411	5	5 VED 4 7 4 G	5 VI DO4 40	5	5 VNI 007U	4
##	YNLO78W	YPRO51W 4	YJLO41W	YER174C 4	YLR314C	YJR076C 4	YNL207W	YALO21C 4
## ##	4 YHR166C	YDR359C	4 YHR.033W	4 YOR244W	4 YPR181C	YJL081C	4 YKLOO7W	YGL241W
##	11hx100C	1DR359C	1 nr.033 w	10R244W	4	4	1 KLOO7 W	1GL241W
##	YFL024C	YJRO22W	YPR023C	YJL080C	YKL218C	YJR043C	YML109W	YHR169W
##	4	4	4	4	4	4	4	4
##	YTROO2C	YDL108W	YNL138W	YPL086C	YDR386W	YBR109C	YBL003C	YDR071C
##	4	4	4	4	4	4	4	4
##	YOR269W	YGL061C	YJL045W	YJRO51W	YKL148C	YPL255W	YBR072W	YDR174W
##	4	4	4	4	4	4	4	4
##	YBR217W	YGR136W	YJR102C	YDR488C	YNL022C	YDR270W	YGL040C	YBR227C
##	4	4	4	4	4	4	4	4
##	YBR295W	YML126C	YIL145C	YGR119C	YDL065C	YOR119C	YDRO47W	YCR009C
##	4	4	4	4	4	4	4	4
##	YHR042W	YER091C	YOR327C	YPR048W	YNL251C	YBR061C	YMR048W	YLR035C
##	4	4	4	4	4	4	4	4
##	YGL136C	YDR009W	YLR324W	YDR538W	YGL181W	YNL082W	YCL037C	YDL236W
##	4	4	4	4	4	4	4	4
##	YDL171C	YPL022W	YDL130W	YNL036W	YPL188W	YPL190C	YMR250W	YPL164C
##	4	4	4	4	4	4	4	4
##	YDR294C	YBRO20W 4	YNL129W	YERO43C 4	YMR186W	YGR192C	YFR036W	YDR019C
## ##	4 YFRO47C	YOROO4W	4 YOR137C	=	4 YOLO43C	4 YKRO80W	4 YMR177W	4 YHRO12W
##	1FR047C	10004w	4	1 HKO26C	4	1 KROOOW 4	1 TIRI / / W	1111012W
##	YHL022C	YOR171C	YBR243C	YLR361C	YDR339C			
##	4	4	4	4	4		4	4
##	YKR079C	YCR024C	YNLO11C	YOL123W	YGL213C		YBL079W	
##	4	4	4	4	4		4	4
##	YGR208W	YIROO6C	YJL194W	YGL206C	YPR141C		YOL115W	
##	4	4	4	4	4	4	4	4
##	YALOO9W	YNL298W	YDL020C	YNL064C	YDR138W	YNL272C	YIROO8C	YDR098C
##	4	4	4	4	4	4	4	4
##	YPR055W	YDL155W	YDR020C	YPL031C	YDR176W	YBR170C	YCR002C	YFL009W
##	4	4	4	4	4		4	4
##	YOR217W	YDR028C	YML063W		YOR227W		YMR094W	
##	4	4	4	4	4		4	4
##	YMR231W	YMR032W	YDR425W		YPL174C			
##	4	4	4	4	4		4	4
##	YPL171C	YPL040C	YORO26W	YMR167W	YML117W	YHLOO1W	YKL006W	YBR038W

##	4	4	4	4	4	4	4	4
##	YLR259C	YGR121C	YMR055C	YHR011W	YOR219C	YLR441C	YKL029C	YNL305C
##	4	4	4	4	4	4	4	4
##	YPL224C	YDL219W	YMR234W	YGL178W	YGL173C	YPL084W	YLR330W	YDR150W
##	4	4	4	4	4	4	4	4
##	YER027C	YPL203W	YGL208W	YNL099C	YML098W	YGR264C	YDR091C	YHR102W
##	3	3	3	3	3	3	3	3
##	YBR260C	YDL126C	YHR216W	YER026C	YOR250C	YBR059C	YER086W	YAL029C
##	3	3 YDL192W	3 VNI 2221	3 YPL049C	3 VNI 06411	3 YKR014C	3 YGLO22W	3 VODO4311
## ##	YDL006W 3	1DL192W	YNL333W 3	1PL049C	YNL261W 3	1 K K U 1 4 C	1GLU22W	YORO43W 3
##	YNL124W	YEL002C	YJR101W	YDL220C	YOR340C	YNL290W	YERO31C	YMR105C
##	3	3	1311101W	3	3	1NL290W	3	3
##	YNL154C	YPL001W	YDR472W	YBL058W	YBR282W	YDR507C	YMR139W	YMR108W
##	3	3	3	3	3	3	3	3
##	YHR174W	YEROO3C	YML091C	YLR293C	YLR127C	YMR095C	YAL023C	YERO92W
##	3	3	3	3	3	3	3	3
##	YHR085W	YDL195W	YIL063C	YLR371W	YNL139C	YML032C	YHRO23W	YBL090W
##	3	3	3	3	3	3	3	3
##	YOR144C	YNL135C	YGR040W	YPL153C	YERO08C	YLR398C	YDR480W	YMR025W
##	3	3	3	3	3	3	3	3
##	YJR090C	YILO46W	YGR268C	YFL023W	YORO36W	YDR084C	YGR171C	YNL258C
##	3	3	3	3	3	3	3	3
##	YLL049W	YKL130C	YHR163W	YOR284W		YCR073W-A	YNRO34W	YDR376W
##	3	3	3	3	3	3	3	3
##	YLR052W	YLR417W	YJL199C	YDR016C	YOLO69W	YERO42W	YLR377C	YDR201W
##	3	3	3	3	3	3	3	3
##	YBR137W	YIL053W	YOLO55C	YGL079W	YGL161C	YPR028W	YGR172C	YGR188C
## ##	3 YGL175C	3 YLR209C	3 YNL334C	3 YERO96W	3 YKR083C	3 YNLO44W	3 YCL064C	3 YPR131C
##	1GL175C	1LR209C	1NL334C	3 IERU90W	3	1NL044W	3	3
##	YKR092C	YGR246C	YKL088W	YBL074C	YMR077C	YBL036C	YLR148W	YBR279W
##	3	3	3	3	3	3	3	3
##	YPL045W	YLR396C	YDL058W	YPR173C	YORO54C	YNLO97C	YIL083C	YGL256W
##	3	3	3	3	3	3	3	3
##	YBL022C	YIL167W	YBR191W	YLR418C	YBR024W	YNR069C	YNLO41C	YDL033C
##	3	3	3	3	3	3	3	3
##	YNL192W	YPR201W	YLR401C	YLR405W	YBR121C	YPR081C	YML096W	YCR059C
##	3	3	3					
##	YHR013C					YLR174W		
##	3	3	3			3		
##	YNL142W					YLR260W		
##	3	3		3		3		
##	YDL177C	YNL009W 3				YNRO27W		
## ##	3 YDR392W		3 VNI 070U			3 YLR103C		
##	1DR392W	10h349w 3	3 INLO70W			3 JERIUSC		
##	YCR088W					YNL233W		
##	3	3		3			3	
##						YJR075W		
##	3	3		3			3	
##						YOR358W		
##	3	3	3			3		
##	YDR490C	YNL032W	YFL008W	YGL233W	YER136W	YKR024C	YMR226C	YDL066W

##	3	3	3	3	3	3	3	3
##	YHR135C	YJR132W	YMR091C	YLR044C	YHR064C	YDL002C	YMR096W	YBR098W
##	3	3	3	3	3	3	3	3
##	YGR178C	YJL052W	YPR040W	YJR009C	YIL075C	YJL058C	YLR135W	YMR038C
##	3	3	3	3	3	3	3	3
##	YGL172W	YNLO47C	YNRO41C	YMR001C	YPR175W	YPR041W	YBR037C	YGL043W
##	3	3	3	3	3	3	3	3
##	YGR124W	YAROO8W	YJL129C	YDR035W	YIL162W	YKL094W	YOR216C	YAR019C
##	3 YBR229C	3 YMR235C	3 YLRO79W	3 YBR237W	3 YJLO3OW	3 YOLO76W	3 YHROO4C	3 YLR268W
##	1 DR 2 2 9 C	1MR255C	1LR0/9W	1DR25/W	1JL030W	10L076W	3	1Lh200W
##		YML095C-A	YKL166C	YDR460W	YPL259C	YBL046W	YIL112W	YLRO15W
##	3	3	2	1D10400W	2	1DE040W	2	2
##	YHL019C	YNL056W	YGR086C	YFR049W	YILO50W	YBL021C	YERO59W	YMR189W
##	2	2	2	2	2	2	2	2
##	YPR066W	YGRO48W	YLR170C	YJL164C	YNROO6W	YML100W	YJL074C	YBR130C
##	2	2	2	2	2	2	2	2
##	YLR432W	YCR033W	YNL201C	YORO56C	YEL056W	YML102W	YDR188W	YDR001C
##	2	2	2	2	2	2	2	2
##	YER146W	YPR054W	YPL004C	YALOO3W	YOL090W	YDLOO3W	YPL195W	YJL173C
##	2	2	2	2	2	2	2	2
##	YBR254C	YKR085C	YLR352W	YER093C	YPR182W	YDR225W	YOR368W	YOR204W
##	2	2	2	2	2	2	2	2
##	YAL012W	YGR150C	YOR329C	YOLO10W	YBR136W	YGL130W		YEL055C
##	2	2	2	2	2	2	2	2
##	YLL034C 2	YLR229C 2	YDR130C 2	YDL175C 2	YGR270W 2	YNL311C 2	YBR017C	YHL011C 2
##	YDR049W	YNL312W	YAROO2W	YALO25C	YGL187C	YPL009C	YGL008C	YIL068C
##	1Dh049W	1NL312W	1 AROO 2 W	1 ALUZUC 2	2	2	2	2
##	YDL167C	YPR105C	YDL161W	YJL036W	YPR046W	YER144C	YIL105C	YOR155C
##	2	2	2	2	2	2	2	2
##	YCR082W	YOR212W	YORO2OC	YEL005C	YKL008C	YDL139C	YGL134W	YHR113W
##	2	2	2	2	2	2	2	2
##	YNROO7C	YMR124W	YBR228W	YIRO16W	YNL259C	YEL066W	YDR453C	YCL020W
##	2	2	2	2	2	2	2	2
##	YLR287C	YHR185C	YHR044C	YHR043C	YDR520C	YPR193C	YOR275C	YKR007W
##	2	2	2	2	2	2	2	2
##				YCL019W		YLR362W		
##	2		2	2	2		2	2
##	YKL061W		YHR171W					
## ##	2 YGR285C		2 VDB112C	2 YGRO24C	2101		2 VED1100	2 VTI 1///LI
##	1 GR 200C		YDR113C 2	1 GRU 240 2	YDR318W 2		YER118C 2	YIL144W 2
##	YDR189W		YFL003C		YIL052C			
##	2		2	2	2		2	
##			YPR003C					
##	2		2	2	2		2	
##	YERO56C-A	YDR382W	YML101C	YPL189W	YDR045C	YOLO39W	YNR032W	YJR077C
##	2	2	2	2	2	2	2	2
##	YHR074W	YBR294W	YFR002W			YERO60W-A	YDL164C	YLR017W
##	2		2	2	2		2	
##	YIL155C					YGR256W		
##	2		2	2	2		2	
##	YHR183W	YDR384C	YIKO15W	YDK447C	YUL096C	YNL332W	YPL092W	YJR156C

##	2	2	2	2	2	2	2	2
##	YDL244W	YMR114C	YOR176W		YJL094C	_	_	_
##	2	2	2	2	2	2	2	2
##	YGL212W	YGL023C	YBR085W	YJR032W	YKL212W	YLR111W	YDR424C	YPL242C
##	2	2	2	2	2	2	2	2
##	YLR210W	YHL007C	YDR310C	YNL322C	YHR101C	YDR192C	YJL213W	YOR208W
##	2	2	2	2	2	2	2	2
##	YJL035C	YJR118C	YOR194C	YPL018W	YKR010C	YEL031W	YKL073W	YGL217C
##	2	2	2	2	2	2	2	2
##	YJL183W	YFL029C	YGR271W	YMR246W	YFR028C	YGL003C	YOR109W	YGL085W
##	2 VDI 104U	2 YDR254W	2 VDD1 F 0 U	2	2 VOD 1 00U	2 YML124C	2 YER083C	2 VED 1 40 C
## ##	YPL194W 2	1DR254W	YPR159W 2	YJL090C 2	YOR188W 2	1ML124C 2	1ERU83C	YER149C 2
##	YMR307W	YGL240W	YNL250W	YLR189C	YBR289W	YGL251C	YMR129W	YJL099W
##	11111307W	10L240W	1NL250W	2	1 D1 (203 W	2	11111123W	13L033W
##	YPR025C	YEL053C	YPL003W	YPR160W	YCR052W	YPR119W	YPR018W	YDR075W
##	2	2	2	2	2	2	2	2
##	YDR099W	YDL124W	YDR422C	YLL022C	YHR098C	YAROO7C	YOLO78W	YJR074W
##	2	2	2	2	2	2	2	2
##	YJR064W	YBR175W	YLR321C	YBR225W	YLR262C	YJR006W	YJR144W	YGR233C
##	2	2	2	2	2	2	2	2
##	YLR384C	YDR179C	YDR139C	YDL204W	YKL095W	YDL208W		YJL115W
##	2	2	2	2	2	2	2	2
##	YKL080W	YPR189W	YIRO34C	YOR164C	YCL032W	YGR239C	YJR135C	YPL105C
##	2	2	2	2	2	2	2	2
## ##	YMR159C 2	YCL055W 2	YPL002C	YBL016W 2	YLR190W 2	YGR058W 2	YNL161W 2	YER071C 2
##	YBR108W	YER062C	_	YDR261W-A	_	YLR319C	YPL095C	YLR446W
##	2	2	2	2	2	2	2	2
##	YMR232W	YGR043C	YGR057C	YFL034C-B	YLR354C	YFL010C	YERO14W	YLR373C
##	2	2	2	2	2	2	2	2
##	YLR249W	YOR317W	YGL084C	YLR453C	YPL169C	YER060W	YER056C	YGR125W
##	2	2	2	2	2	2	2	2
##	YJR141W	YHLOO3C	YNRO43W	YDR034C	YGR129W	YDRO06C	YML079W	YPL090C
##	2	2	2	2	2	2	2	2
##	YBR181C	YNL040W	YDL200C		YKL093W	YDL017W		YBR015C
##	2 VDD010U	2	2 VNI 004C	2	2	2	2	2
## ##	YPRO19W 2	YBR171W 2	YNL084C 2	YLR274W 2	1 NLU89W	YHR152W 2	1GRU32W	YKL022C 2
##	YER111C	YER172C	YOR195W		YLR242C			
##	2	2	2		2	2	2	2
##	YGL163C	YORO58C	YDR149C		YKL045W			
##	2	2	2	1	1	1	1	1
##	YIL104C	YJR050W	YHR005C	YBR216C	YGR261C	YEL011W	YMR261C	YGR173W
##	1	1	1	1	1	1	1	
##	YPR104C	YDR342C	YBR195C		YJL042W		YIL071C	
##	1	1	1		1	1	1	
##	YIL079C	YKL056C	YKL193C		YLR258W			
##	1	1 VVD006G	1		1 VCD0001		1 VDD 410U	
## ##	YCL024W 1	YKR006C 1	YAROO3W 1	YCL014W 1	YGR292W 1	YER162C 1	YDR412W 1	
##	YPL208W	YJL006C	YPL074W		YFRO21W			
##	1	1	1		1	1	1	
##	YMR303C			YOR276W			YALO27W	

##	1	1	1	1	1 VMI 00EG	1	1	1
##	YCRO2OC-A	YER089C 1	YOR370C 1	YDR395W 1	YML095C 1	YLR304C	YBR133C	YARO14C
##	YDRO21W	YLR097C	YDL070W	YDL077C	YGL058W	YNRO54C	YEL060C	YPL193W
##	1D1021W	1110970	1DL070W	1010776	1GL030W	1 1 1	1	1FL195W
##	YDR256C	YDR439W	YHL006C	YNL152W	YOR385W	YFR043C	YNL329C	YHRO60W
##	1	1D1(433W	1	1NL102W	1011303W	11110430	1NL0230	11111000W
##	YML031W	YHR121W	YELO43W	YDR142C	YHL018W	YDRO13W	YJL039C	YLR019W
##	1	1	1EE040W	1	1	1D1.010W	13110030	1
##	YGL036W	YDR446W	YJR094C	YDL084W	YPR083W	YJL072C	YHRO34C	YKL052C
##	1	1	1	1	1	1	1	1
##	YORO34C	YPL133C	YMR204C	YGL192W	YDR277C	YGR223C	YER141W	YBL006C
##	1	1	1	1	1	1	1	1
##	YBR077C	YGR165W	YKL038W	YNL331C	YPRO01W	YGL015C	YNL020C	YNRO01C
##	1	1	1	1	1	1	1	1
##	YGR004W	YCR087C-A	YLR049C	YCR014C	YCL040W	YOR102W	YLR211C	YML056C
##	1	1	1	1	1	1	1	1
##	YPL088W	YNR039C	YIL109C	YML023C	YGL166W	YGL053W	YGL119W	YML034W
##	1	1	1	1	1	1	1	1
##	YFR017C	YGR071C	YDR479C	YJL086C	YPL109C	YCR095C	YGL125W	YDL165W
##	1	1	1	1	1	1	1	1
##	YML037C	YLR142W	YGL254W	YNR068C	YKL043W	YJL019W	YCR076C	YPL149W
##	1	1	1	1	1	1	1	1
##	YLR030W	YORO37W	YGR066C	YDL218W	YDL237W	YBL068W	YDR100W	YOR243C
##	1	1	1	1	1	1	1	1
##	YDR383C	YPL219W	YDL224C	YDR527W	YPL114W	YDR105C	YDR533C	YJL070C
##	1	1	1	1	1	1	1	1
##	YHR156C	YOR247W	YKR099W	YJR110W	YPR106W	YOLO52C	YOR232W	YOR115C
##	1 VDD4.07U	VDDOECU	1	1	1 Vapooog	1 VDD1000	1	1
##	YBR187W	YBR056W	YJR097W	YKL186C	YGR209C	YPR126C	YJR133W	YHL009C
##	1 YKL035W	1 YLR118C	1 YMR316W	1 YNL277W	1 YLR267W	1 YMR270C	1 YIRO38C	YJL176C
##	1 KLO35W	1	171K310W	1NL277W	1Lh207W	111112700	1110300	1311700
##	_	YNL054W-B	YER143W	YGR081C	YER151C	YDL044C	YCL063W	YJRO48W
##	1	1NL004W B	1ERT 45W	1	1	1	10L003W	1311040W
##	YNL199C	YML119W	YDR366C	YJR056C	YDR052C	YNL216W	YOR101W	YGR146C
##	1	1	1	1	1	1	1	1
##	YNL280C	YJR159W	YEL062W	YHL021C	YKR094C	YIL148W	YCR020C	YNL320W
##	1		1		1			
##	YDRO44W	YHR029C	YLR177W	YORO92W	YBR287W	YOL137W	YHRO47C	YER078C
##	1	1	1	1	1	1	1	1
##	YER142C	YBR207W	YNL095C	YML105C	YDR403W	YCR037C	YML060W	YFR006W
##	1							1
##	YLR152C	YOR311C			YDR109C	YER145C	YOR143C	YIL137C
##	1							1
##					YNL117W			
##	1			1				1
##					YORO33C			
##	1							1
##					YLL043W			
##	1 VVI 040C			VDI OGEN				1 VMD202C
## ##		YER114C 1						
##	1 VDI 063C	YDL101C						1 VDI 150W
##	וספסר	וחדוחור	ILLUUZW	MOOOM	1712400	IDROZUU	IDLZZ9W	1LT197M

##	1	1	1	1	1	1	1	1
##	YPL218W	YDL049C	YCR048W	YJRO40W	YJL002C	YJL054W	YMR104C	YBR188C
##	1	1	1	1 vanona	1	1 VNI 440U	1	1 VWI 0070
## ##	YNRO19W 1	YMR109W 1	YMR198W 1	YCR038C	YGL244W 1	YNL119W 1	YLR139C	YML097C
##	YMR106C	YALO20C	YDR323C	YORO85W	YGL116W	YGL124C	YHLO27W	YPR135W
##	1	1	1	1	1	1	1	1
##	YGL073W	YBL103C	YDR059C	YKR086W	YORO45W	YMR081C	YAL030W	YCR034W
##	1	1	1	1	1	1	1	1
##	YNR038W	YPR072W	YJL148W	YNL116W	YIR033W	YHR103W	YHR031C	YGR080W
##	1	1	1	1	1	1	1	1
##	YBL051C	YNL121C	YOR157C	YDR469W	YDR022C	YLR192C	YKL189W	YGR196C
## ##	1 YHLOO2W	1 YOR353C	1 YNL169C	1 YDR152W	1 YDR343C	1 YGL174W	1 YDL137W	1 YNRO46W
##	111L002w	10113336	1NL1090	1DIV132W	10110400	10L174W	1DL137W	1 NILO40W
##	YML065W	YCL028W	YML088W	YLR270W	YOL117W	YLL010C	YDL092W	YDR097C
##	1	1	1	1	1	1	1	1
##	YDR082W	YMR218C	YFR015C	YDR170C	YML077W	YOLO93W	YCR030C	YKL028W
##	1	1	1	1	1	1	1	1
##	YDR405W	YGR075C	YBR299W	YEL037C	YFL007W	YDR361C	YNL172W	YML112W
##	1	1	1	1	1 VDI 0000	1	1	1 VDI 005U
## ##	YGL060W 1	YKL082C 1	YNL242W 1	YNL210W 1	YDL090C	YALO36C	YGL158W	YDL095W
##	YFI.042C	YDR227W	YJL024C	YBR091C	YGR154C	YKL152C	YEL022W	YPL085W
##	1	1	1	1	1	1	1	1
##	YJL033W	YMR028W	YLL026W	YLR196W	YOLO54W	YOLO70C	YBR264C	YCR079W
##	1	1	1	1	1	1	1	1
##	YPL140C	YIL113W	YAL059W	YFR011C	YLR399C	YHR016C	YDL159W	YNL023C
##	1	1	1	1	1	1	1	1
##	YHRO51W	YHRO84W	YCR066W	YDL216C	YDR365C	YPL036W	YOL108C	YNL208W 1
## ##	1 YJR055W	1 YBL081W	1 YOR264W	1 YILOO8W	1 YHRO57C	1 YLR254C	1 YDR078C	YLR126C
##	1	1	1	1	1	1	1	1
##	YJL184W	YGR122W	YKL197C	YOR159C	YKR088C	YJL151C	YLR440C	YJR125C
##	1	1	1	1	1	1	1	1
##	YORO23C	YJR086W	YML014W	YJL048C	YDR271C	YER106W	YGL170C	YKR100C
##	1	1	1	1	1	1	1	1
##	YERO63W 1	YCRO60W 1	YBR239C					
## ##	YJL068C					YORO28C		
##	1	1	1111t200W			1		
##	YARO73W					YGR241C		
##	1	1	1	1	1	1	1	1
##	YGR163W	YORO97C	YFR025C	YJR083C	YPL201C	YDR261W-B	YGR170W	YGR161C-C
##	1	1				1		
##	YKR082W					YDR273W		
## ##	1 YDR252W	1 VCR180C	YPL023C			1 YLR376C		
##	1D11252W	1 1				1		
##	YPR136C		YPR184W		YEL018W		YBR284W	
##	1	1		1		1		
##	YDL013W		YPR172W	YJL180C	YNL273W	YMR280C	YOR318C	YMR030W
##	1	1		1		1		
##	YCL056C	YOR330C	YEL048C	YOL131W	YLR451W	YPR148C	YLR263W	YBL010C

##	1	1	1	1	1	1	1	1
##	YJR134C	YNL105W	YMR154C	YOR359W	YDR203W	YOR324C	YDR455C	YDL118W
##	1	1	1	1	1	1	1	1
##	YMR133W	YIL122W	YPL233W	YIL007C	YLR185W	YDR500C	YKL023W	YEL013W
##	1	1	1	1 VDD=04G	1	1	1	1
##	YOL129W	YLR026C	YALO28W	YDR504C	YDL154W	YLR156W	YLR223C	YNR050C
##	1 YDR214W	1 VVI 0760	YOD 104G	1 VVI 07EC	1 VVI 1011	1 VIID 1 4 2 1 A	1 VDI 000G	1 VMD067G
##	1DK214W 1	YKL076C	YOR124C 1	YKL075C 1	INLISIW	YHR143W-A 1	YDL088C	YMR067C
##	YBR212W	YOR281C	YFROO7W	YDR529C	YPL138C	YGR110W	YLRO05W	YDR005C
##	1 DICZ 1 Z W	10112010	111007W	1	11 11 1300	1011110W	1 LILOUS W	1
##	YGL145W	YER128W	YGL225W	YLR112W	YDR194C	YGR185C	YHR130C	YLR303W
##	1	1	1	1	1	1	1	1
##	YDL217C	YHR180W	YDR541C	YLR059C	YER039C	YER180C	YOR289W	YNRO48W
##	1	1	1	1	1	1	1	1
##	YALO60W	YNRO51C	YBR223C	YOR220W	YILO92W	YDR008C	YNL042W	YLL032C
##	1	1	1	1	1	1	1	1
##	YMR273C	YKL044W	YOLO50C	YKL107W	YDR423C	YOR112W	YHR177W	YJR011C
##	1	1	1	1	1	1	1	1
##	YHR014W	YML127W	YPR118W	YNL249C	YLR056W	YDR297W	YGR060W	YGR007W
##	1	1	1	1	1	1	1	1
##	YJL125C	YOL008W	YDR171W	YHR144C	YFL060C	YKL157W	YNL045W	YGL017W
##	1	1	1	1	1	1	1	1
##	YOROO5C	YGR202C	YHR201C	YML005W	YHR070W	YMR013C	YJL198W	YPR163C
##	1	1	1	1	1	1	1	1
##	YOROO8C	YDR160W	YML062C	YLR335W	YIL095W	YKR042W	YMR039C	YAL013W
##	1	1	1	1	1	1	1	1
##	YAL024C	YIL009W	YDR085C	YMR168C	YLR238W	YHR115C	YDR027C	YDR200C
##	1	1	1	1	1	1	1	1
##	YPR133W-A	YPR111W	YDR146C	YBL085W	YBL023C	YEL032W	YLR045C	YKL139W
##	1	1	1	1	1	1	1	1
##	YGL038C	YHR079C	YLR116W	YIRO31C	YLR195C	YGL097W	YNL299W	YHR154W
##	1	1 VDD004U	1 VDD4.C4G	1	1	1	1 VGD067G	1
##	YLR306W 1	YBR021W	YDR164C 1	YNL209W 1	YKL196C	YIL153W 1	YCR067C	YJL174W 1
##	YOR297C	_	YGL226C-A	YDR177W	YMR022W	YERO15W	YBR080C	YBL050W
##	10112370	1KL120W	1 dL2200 A	1D1t177W	1 mto 2 2 w	1L11013W	1	1 DL000 W
##	YOR257W	YNL102W	_			_	_	_
##	1	1			1			
##	YGR238C					YIL030C		
##	1	1				1		
##	YMR284W	YGL027C			YHR010W	YPR116W	YDR369C	YDR217C
##	1	1				1	1	1
##	YBR215W	YOL068C	YORO25W	YMR224C	YNL171C	YOR160W	YAL026C	YLR425W
##	1	1	1	1	1	1	1	1
##	YNL289W	YMR299C	YOR153W	YKRO47W	YIL159W	YDL117W	YLR381W	YJR053W
##	1	1		1	1	1	1	1
##	YDR289C	YBR095C	YBR107C	YNL170W	YHR191C	YBR231C	YNL215W	YNL307C
##	1	1		1		1		1
##	YML016C					YLR372W		
##	1					1		
##						YLL050C		
##	1	1	1	1	1	1	1	1
##	YMR060C							

```
## 1
```

clo<-closeness(yeast)</pre>

```
## Warning in closeness(yeast): At centrality.c:2874 :closeness centrality is not
## well-defined for disconnected graphs
#cercanía de la centralidad, también es una medida de centralidad. Suma todas las distancias, y este va
  #sort(yeast, decreasing=TRUE) #no lo corrí porque mi computadora colapsa horrible, pero...
# ordenamos de modo decreciente, por lo que así sabremos cuales son los nodos con mayor closeness centr
2. Clusterizar la red por al menos dos métodos y determinar el tamaño del clúster más grande.
#Finding community structure by multi-level optimization of modularity (louvain)
metd1 <- cluster_louvain(yeast)</pre>
c1<-table(membership(metd1)) #En total hay 114 clusters,</pre>
#y el tamaño del cluster más grande es de 460 nodos
sort(c1, decreasing = TRUE)
##
##
       11 12
                  8
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                                                    18
                                                             31
                                                                   3
                                                                      16
                                                                            9
                                                                                6
                                                                                   30
                                                                                        14
                       1
                                                         17
   460 325 187 180 173 157 116 110
                                           90
                                                83
                                                    83
                                                         59
                                                             54
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                                                                      34
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                                                                          98 107
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##
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                                       21
                                           26
                                                    68
                                                         94
                                                             24
                                                                  39
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                                                                                   13
##
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              7
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                       7
                           6
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                                           97 104
##
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                 69
                     70
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                                   93
                                       95
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##
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                 47
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##
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##
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##
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##
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##
    99 100 101 102 103 105 106 108 109 110 111 112 113 114
##
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              2
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                       2
                           2
                               2
                                    2
                                        2
#Community strucure via short random walks
                                               (walktrap)
mtd2<- cluster_walktrap(yeast)</pre>
c2<-table(membership(mtd2))</pre>
sort(c2, decreasing=TRUE)
##
##
                              18
                                   75
                                                43
                                                         20
                                                             53 110 101
                                                                                        15
     6 106
            13
                     17
                          12
                                       37
                                             8
                                                    11
                                                                            3
                                                                                9 118
                  1
## 438 184 123
                 83
                                   32
                                                28
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                     58
                          46
                              41
                                       30
                                           28
                                                    26
                                                         24
                                                             24
                                                                  24
                                                                      22
                                                                               21
                                                                                        19
  100
        29
            28
                 42 102
                          87
                               4
                                   52
                                       58
                                           67 193
                                                     7
                                                         10 163
                                                                  31
                                                                      74 104 219 275
                                                                                        41
                              14
                                   14
                                                14
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##
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##
    66
        78
             97 105 112 280
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                                   61
                                       62 114
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                                                    22
                                                         71 203 223 267
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## 108 124 132 145 174 199 220 224
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                                                                               77
                                                                                       86
                                           14
                                                             44
                                                                      49
                                                                          57
                                                                                   83
```

278 279 95 111 125 ## ## 138 141 268 273 ## 233 234 ## ## ## 152 172 192 196 198 ## 113 116 ## 238 239 ## ## 282 307 ## ## ## 131 133 134 135 ## ## 157 158 159 160 161 164 165 167 168 169 ## ## 183 184 185 ## 208 210 216 252 265 283 284 286 287 290 291 293 294 ## ## 298 299 301 302 303 304 305 306 308 309 310 312 313 314 315 316 317 ## 318 319 ## 320 321 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 ## ## 341 342 352 353 ##

#el cluster más grande comprende 438 nodos, y en total son 353 clusters.

j. Determine si la red es de mundo pequeño, ultra pequeño u otra. Para saber si la red es de mundo pequeño, debemos saber la media de la distancia, entre más pequeña, es más certero que la red es de mundo pequeño, además, también debe calcularse el coeficiente de clusterización ot transitividad, en el que se espera obtener valores grandes, si se trata de una red de mundo pequeño.

Primero la distancia media, que arroja un valor cercano a 5.1, no es pequeño.

```
#primero la distancia media
mean_distance(yeast)
```

[1] 5.095629

Este comando sirve para calcular la transitividad, cuyo valor es de 0.4668, un valor pequeño.

```
transitivity(yeast)
```

[1] 0.4686178

#

No se trata de una red de mundo pequeño. Me parece que es una red free-scale, debido a que algunos nodos están altamente conectados, mientras que otros tienen un degree pequeño.